



City of Nedlands

Agenda

Special Council Meeting 4 March 2021

Dear Council member

A Special Meeting of the City of Nedlands is to be held on Tuesday 4 March 2021 in the Council Chamber, 71 Stirling Highway, Nedlands commencing at 8.00 pm for the purpose of considering the following items:

1. Joint Development Assessment Panel Application for Mixed Use Development - comprising 22 multiple dwellings and office – No. 105 (Lot 544) Broadway, Nedlands
2. Any Available Responsible Authority Reports

Please be aware COVID-19 2m² restrictions with 1.5m social distancing rules apply. Once the venue is at capacity no further admission into the room will be permitted. Prior to entry, attendees will be required to register using the SafeWA App or by completing the manual contact register prior to entry - as stipulated by Department of Health mandatory requirements.

The public can continue to participate by submitting questions and addresses via the required online submission forms at:

<http://www.nedlands.wa.gov.au/intention-address-council-or-council-committee-form>

<http://www.nedlands.wa.gov.au/public-question-time>

Jim Duff
Acting Chief Executive Officer
26 February 2021

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City of Nedlands

Notice of a special meeting of Council to be held in Council Chamber, 71 Stirling Highway, Nedlands on Tuesday 4 March 2021 at 8.00 pm for the purpose of considering the following items:

1. Joint Development Assessment Panel Application for Mixed Use Development - comprising 22 multiple dwellings and office – No. 105 (Lot 544) Broadway, Nedlands
 2. Any Available Responsible Authority Reports
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Special Council Agenda

Declaration of Opening

The Presiding Member will declare the meeting open at 8.00 pm and will draw attention to the disclaimer below.

Present and Apologies and Leave of Absence (Previously Approved)

Leave of Absence None.
(Previously Approved)

Apologies None as at distribution of this agenda.

Disclaimer

Members of the public who attend Council meetings should not act immediately on anything they hear at the meetings, without first seeking clarification of Council's position. For example, by reference to the confirmed Minutes of Council meeting. Members of the public are also advised to wait for written advice from the Council prior to taking action on any matter that they may have before Council.

Any plans or documents in agendas and minutes may be subject to copyright. The express permission of the copyright owner must be obtained before copying any copyright material.

1. Public Question Time

A member of the public wishing to ask a question should register that interest by notification in writing to the CEO in advance, setting out the text or substance of the question.

The order in which the CEO receives registrations of interest shall determine the order of questions unless the Mayor determines otherwise. Questions must relate to a matter affecting the City of Nedlands.

2. Addresses by Members of the Public

Addresses by members of the public who have completed Public Address Session Forms to be made at this point.

3. Disclosures of Financial Interest

The Presiding Member to remind Councillors and Staff of the requirements of Section 5.65 of the *Local Government Act* to disclose any interest during the meeting when the matter is discussed.

A declaration under this section requires that the nature of the interest must be disclosed. Consequently, a member who has made a declaration must not preside, participate in, or be present during any discussion or decision-making procedure relating to the matter the subject of the declaration.

However, other members may allow participation of the declarant if the member further discloses the extent of the interest. Any such declarant who wishes to participate in the meeting on the matter, shall leave the meeting, after making their declaration and request to participate, while other members consider and decide upon whether the interest is trivial or insignificant or is common to a significant number of electors or ratepayers.

4. Disclosures of Interests Affecting Impartiality

The Presiding Member to remind Councillors and Staff of the requirements of Council's Code of Conduct in accordance with Section 5.103 of the *Local Government Act*.

Councillors and staff are required, in addition to declaring any financial interests to declare any interest that may affect their impartiality in considering a matter. This declaration does not restrict any right to participate in or be present during the decision-making procedure.

The following pro forma declaration is provided to assist in making the disclosure.

"With regard to the matter in item x I disclose that I have an association with the applicant (or person seeking a decision). This association is (nature of the interest).

As a consequence, there may be a perception that my impartiality on the matter may be affected. I declare that I will consider this matter on its merits and vote accordingly."

The member or employee is encouraged to disclose the nature of the association.

5. Declarations by Members That They Have Not Given Due Consideration to Papers

Members who have not read the business papers to make declarations at this point.

6. Lot 544 (No. 105) Broadway, Nedlands – Mixed Use Development comprising 22 Multiple Dwellings and Office – Responsible Authority Report

Council	4 March 2021 – Special Council Meeting
Applicant	Planning Solutions
Employee Disclosure under section 5.70 Local Government Act 1995 and section 10 of the City of Nedlands Code of Conduct for Impartiality	The author, reviewers and authoriser of this report declare they have no financial or impartiality interest with this matter. There is no financial or personal relationship between City staff and the proponents or their consultants. Whilst parties may be known to each other professionally, this relationship is consistent with the limitations placed on such relationships by the Codes of Conduct of the City and the Planning Institute of Australia.
Director	Tony Free – Planning & Development
Acting CEO	Jim Duff
Attachments	1. Responsible Authority Report and Attachments

1.0 Executive Summary

The purpose of this report is for Council to consider the Development Assessment Panel application (DAP/20/01871) that proposes a mixed-use development comprising 22 dwellings and office at Lot 544 (No.105_ Broadway, Nedlands and make its recommendation to the Joint Development Assessment Panel as the Responsible Authority. Council's recommendation will be incorporated into the Responsible Authority Report (RAR) and lodged with the DAP Secretariat on 5 March 2021.

The application was advertised in accordance with the *Planning and Development (Local Planning Schemes) Regulations 2015* and the City's Consultation of Planning Proposals Local Planning Policy. The City provided a request for further information and modifications on 12 December 2020. The plans being considered by Council were received on 8 February 2021.

Despite several improvements, there remains deficient design elements that will negatively impact the adjoining properties, streetscape and locality.

The recommendation of this report is for refusal.

Recommendation to Council

Council:

- 1. notes Administration's recommendation that the proposed mixed-use development at Lot 544 (No. 105) Broadway, Nedlands be refused by the Metro Inner-North Joint Development Assessment Panel in the Responsible Authority Report (Attachment 1);**

2. **considers the information in Attachment 1 relating to the proposed mixed-use development at Lot 544 (No.105) Broadway, Nedlands and makes its recommendation to the Metro Inner-North Joint Development Assessment Panel as the Responsible Authority;**
3. **incorporates its recommendation into the Responsible Authority Report (Attachment 1) for the proposed mixed-use development at Lot 544 (No.105) Broadway, Nedlands; and**
4. **agrees to appoint Councillor (insert name) and Councillor (insert name) to coordinate Council's submission and presentation to the Metro Inner-North JDAP.**

2.0 Background

Site Description, Development Context and Landscape Features

The site is located at No. 105 Broadway, Nedlands at the north-west corner of the street block bounded by Elizabeth Street, Broadway, Princess Road and Kingsway. Broadway forms part of the City's western boundary. On the eastern side of the Broadway, lies the City of Perth.

The site is 880.2m² in area, is oriented east-west, and has its primary street frontage to Broadway and secondary street frontage to Elizabeth Street. The site experiences a fall in natural ground level of approximately 5m from the rear boundary to the primary street.

Located on the western side of Broadway, the site is currently occupied by a two-storey office building. To the south-west, the site adjoins a Place of Worship. On the western side of Kingsway, lies Nedlands Primary School. To the immediate south, is a grouped dwelling development comprising 16 dwellings with individual owners. Directly opposite the site on the eastern side of Broadway lies the Broadway Fair shopping centre. A location plan, aerial and contour map are contained in **Attachment 1**.

The existing commercial building is not on the City's Municipal Heritage Inventory (MI) or the City's Heritage List.

Existing Character

The existing neighbourhood character is varied. This locality has a mix of single, grouped and multiple dwellings as well as commercial and civic buildings. The site to the south of the site, is a grouped dwelling development comprising 16 dwellings. The properties to the north and immediate west are single houses, although three are the result of subdivision. Although the area is mixed, the character is described as one of significant separation between buildings, high amenity, generous landscaped streetscape character.

The properties located on the eastern side of Broadway, proximate to the site have been redeveloped with multiple dwellings and grouped dwellings, the most recent approvals being two 6-7 storey multiple dwelling developments comprising of 29 apartments at 150 Broadway and 27 multiple dwellings 147 Fairway, Crawley within the R80 code in the City of Perth.

Future Character

At the time of finalising this report policy work is underway to define the desired future character. Council adopted Local Planning Policy Interim Built Form Guidelines for Broadway Mixed Use Zone (Interim Guidelines). Work is also underway on the preparation of a policy which addresses the built form.

The City engaged consultants Hassell to complete a local distinctiveness study, context analysis and built form modelling to inform built form controls within the Broadway Precinct Local Plan. The focus has been to uncover elements that make a positive contribution to local distinctiveness and the opportunities for enhancement. The local distinctiveness study and context analysis is intended to inform a draft policy that is to be referred to Council in early 2021. The study will also be used to inform built form modelling, which will test different development scenarios for the precinct. Once these development scenarios are reviewed through community engagement, a policy will be drafted for the precinct, which will define appropriate built form controls that may form an amendment to the Scheme.

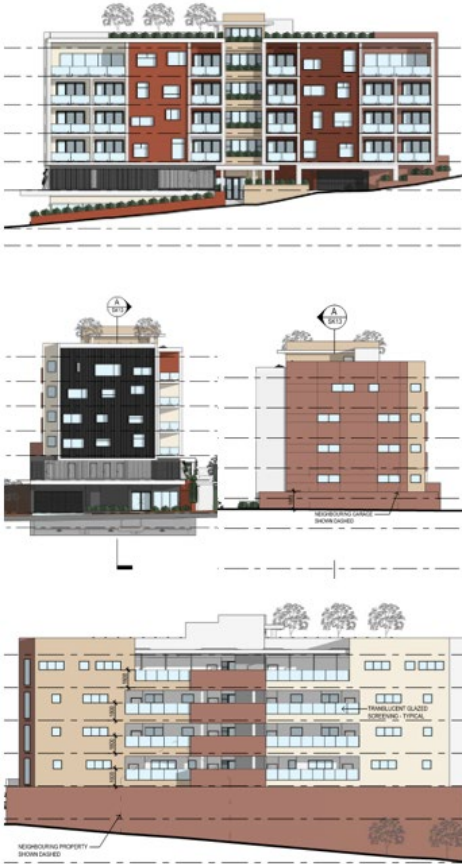

It is expected that built form controls will seek to ameliorate the impacts of the transitions in density coding, such as on this site which is coded R-AC3 and interfaces with R60 to the west and equates to a default interface of 6 storey down to 3 storey height. It is noted that the local planning framework is currently unresolved, and that minimal weight should be afforded to a Council-adopted local planning policy which either seeks to vary built form provisions contrary to the Local Planning Scheme 3 and/or requires Western Australian Planning Commission (WAPC) approval.

Reference can be made to the desired streetscape character outlined and illustrated in Appendix 2 of the Residential Design Codes Volume 2 – Apartments (R-Codes Vol. 2). Being Mixed Use R-AC3, adjacent to Residential R60, the streetscape character is designated as a ‘mid-rise urban centre’, before transitioning to a ‘medium-rise residential setting’ at the rear. Proposed buildings are to reflect the prevailing or planned pattern of side and street setbacks and take advantage of the location, aspect and orientation of the site. For the site, pedestrianised street frontages are encouraged to achieve pedestrian scale at the street frontage.

Application history

There are no recent planning approvals or decisions relevant to the application.

A preliminary assessment was submitted to the City in October 2019 and a second in November 2019. The City has provided consistent advice to the applicant in relation to the concerns about the design, bulk, scale, form, parking and landscaping. Only minor modifications have been made to the proposal, demonstrated by the figures below:

Elevation	October 2019	November 2019
North, east, west and south elevations.		

The key issues identified and communicated to the applicant prior to lodgement are consistent with the reasons cited in the RAR for refusal.

Referrals/consultation with Government/Service Agencies

The application did not warrant referral to State Government or service agencies.

Design Review Panel Advice (DRP)

In lieu of a Design Review Panel, the elements of the R-Codes Vol. 2 that require architectural and landscape consideration were referred to a consultant architect and landscape architect. The City's architectural and landscape design review and an applicant response to the review is provided in **Attachment 1**.

The architectural peer review assessment against State Planning Policy 7.0 is outlined below. The peer review uses ratings between 0-3, with 0 being not supported and 3 being fully supported. The development received a rating of 9 out of a possible 30.

Assessment of SPP 7.0		
Design Principle	Peer Review Comment based on initial plans and revised plans received 3 April 2020	Rating
Context and character	<p>Unfortunately, the amended application has not made any modifications to the design to warrant a change in the assessment. The design still lacks a concept or attempt to demonstrate a clear and logical understanding of context. The applicant suggest context is diverse therefore the design proposal should similarly be diverse.</p> <p>Good Design is the creation of design outcomes that have a consistency of thought and thoroughness of consideration in the developed outcome. A random and mixed position without a clear logic, as demonstrated in the additional information provided by the applicants Synthesis diagram (p99) does not constitute a design strategy, nor does it show any clear approach to building a connection to character.</p> <p>Further to this, additional photographs of a range of surrounding buildings were provided (pages 84 – 95). However, there was a significant lack of analysis or interpretation. As such they add little value to the understanding of the applicant's approach to context and place. The applicants have not addressed the importance of the corner treatment within the design. The ground level is poorly resolved with no consideration to the quality of the street level experience. The minimal setback, lack of pedestrian facilities and cheap commercial aesthetics are contrary to the area.</p> <p>Creating user friendly pedestrian experiences will have a significant impact on the quality of the development. The additional advice provided with the amended documents suggest that a vital interface will be provided. The ground floor elevation to Broadway has only one set of doors to the commercial office space of approximately 150m². At best this could accommodate 12 – 15 people. There is minimal setback and no opportunity for alternative uses to be considered. Combined with a lack of pedestrian amenity its</p>	0

	<p>arguable that the development will contribute anything to the area that could be considered an improvement and a contribution to a sense of place.</p> <p>Application is not supported. No additional information was provided that helped demonstrate a clear interpretation of context and place that would enhance the distinctive character of the area. A complete redesign is recommended to address these concerns.</p>	
Landscape Quality	<p>It is acknowledged that quite a few minor changes have been made with regard to the landscape on this project and in addition to that other items have been further clarified. Hence the comments below are those points still found to be outstanding.</p> <p>The duplication of the vehicular access points is still an issue (in so far as they compromise the streetscape - primarily through limiting the extent of active frontage and hence passive surveillance as well as detrimentally affecting the aesthetics of the building on two facades).</p> <p>No existing vegetation has been retained on site. As such there is a requirement in SPP7.3 to provide at least 10% true deep soil area, i.e., not on slab. This amounts to 88.24m². Where the 10% 'true' deep soil area cannot be provided the shortfall is required to be doubled with 'on-slab deep soil' area(s). They now calculate that only 6m² of 'true' deep soil area is being provided, hence the total 'on-slab' deep soil required on this site to make up the balance is 164.48m². It should also be noted that deep soil 'on-slab' must be at least 1.0m deep and at least 2.0m wide where trees are being provided, refer to Fig 3.3f and Table 3.3b in SPP7.3 respectively. The landscape plans indicate that a total of 166.5m² 'deep soil on-slab' has been provided. Whilst some of this is paved the landscape could be considered to be compliant in meeting the deep soil requirements of SPP7.3.</p> <p>One tree is shown on the landscape plan as being proposed to be removed from the verge in order to allow for one of the two driveway access/egress points. This is an unfortunate outcome. However, even if the number of driveway access points were limited to one, it is likely that this would come off Elizabeth Street in which case it is probable that</p>	1

	<p>this tree would be 'lost' anyway. To relocate the driveway would almost certainly cause a significant reduction in efficiency to the car parking layout which is hard to justify in this context. No details of the tree have been provided. However, it appears to be an immature <i>Grevillea robusta</i> 'Silky Oak' (an east coast tree). This species tends to be rather short lived in WA and the landscape plans indicate that its loss will be made up by its replacement with <i>Agonis flexuosa</i> 'WA Peppermint' (an endemic / local species).</p> <p>Further to the above the site survey and Google Street View appear to indicate that the information about the number of verge trees, as shown on the landscape plan, is not accurate. Rather than the four nominated on plan it would appear that there are seven trees in total. Most of these appear to be of moderate size only.</p> <p>However, it is recommended that the retention of these trees be conditioned and that any replacement tree takes these existing trees into consideration.</p> <p>Some of the planter areas, particularly on the Ground Floor Upper level, appear to be barely wide enough to support any meaningful planting and in fact they could struggle to support any planting at all.</p> <p>The configuration of the main landscape area on the first floor still compromises the privacy of Unit 1. It could be argued that this location is inappropriate for communal use (and should therefore logically be accessible only from Unit 1).</p> <p>Further to the above it should be noted that SPP7.3 requires that developments of over 10 dwellings in size provide 6m² of 'communal open space' per dwelling. If the abovementioned first floor landscape area were to become private, then technically this development would no longer comply with the 'communal open space' requirement. This 'predicament' is a product of the original site planning and without changing it neither of the outcomes represented above meet the criteria of 'design excellence'.</p>	
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	<p>Drawing SK09 has a note on the eastern edge stating 'glazing for safety' which points to a line inside the outer edge of the planter in this same vicinity. The same detail appears to continue around the northern side of the building. This detail would appear to hinder ease of access and hence the ability to maintain this planting.</p> <p>Overall, the landscape plans propose a reasonable range of plant species for each of the various physical locations with their respective microclimatic conditions.</p> <p>The provision of the 'Residents Terrace' is a significant positive attribute of the proposal. Though the narrow strip of landscape on the southern side of the walkway leading to this area may be problematic due to its narrowness for most of its length plus the fact that it will be in shade for much of the time and as such it will be difficult to maintain and prone to failure.</p> <p>Further explanation should be provided with regard to the chosen rationale for what appears to be the public art as shown on the Elizabeth Street elevation. No consideration seems to have been given as to the implications regarding the angle of the street and its impact upon the 'artwork', i.e., it is not 'purpose commissioned' and as such it is not effectively integrated into the architectural expression.</p> <p>Notwithstanding the issues raised above, some of which could be conditioned, with one exception, the quality of the landscape is considered to be of a sufficiently high standard to warrant supporting the proposal. That one exception relates to item 2g above which is really a site planning issue, i.e., the close proximity of the main landscape area on the first floor in relation to compromising the privacy of Unit 1.</p>	
Built form and scale	<p>The applicants have made no adjustment to the design and as such all of the prior concerns are still applicable. The development is excessive in bulk and scale. Every aspect of the development is significantly out of scale with the area. This is created by a combination elements. The plot ratio is significantly over the allowable ratio. The minimum building setbacks on all sides have not been achieved. The size and extent of parapet</p>	0

	walls to the west and south further enhance the oversized scale of the development. Further to this the building design has an enhanced sense of verticality through the repetitive building articulation. Greater sophistication in the articulation of built form is required.	
Functionality and build quality	The applicant has not significantly amended the design and therefore the previous concerns are still applicable. There are considerable concerns about the functionality of this design. The applicant has advised that the office space has only been provided as a sleeve to the podium carparking. This is a poor justification for a design and is not an appropriate reason for poorly considered design and inefficient layout. Unusable commercial space is unlikely to be leased, which could in turn lead it being empty for extended periods of time. Given the significance of the commercial space as the interface of the building to Broadway empty office would be undesirable. The overall development has used minimum standards for circulation, movement and room sizes throughout.	1
Sustainability	The development has been designed to maximise access to the northern orientation. The overall design has achieved the minimum requirements for sustainable design. There is concern about the quality of the office space with its extensive glazing to the east and north. Given the small size of this space the heat loads are likely to create a high energy demand to create a comfortable space. The design of the office space needs to be redesigned to address considerable heat gain issues which will have serious impacts on the comfort of the spaces and be entirely inefficient in its energy usage.	2
Amenity	<p>The applicant has not made any effort to adjust the design. The bulk and scale of this development creates significant compromises to the amenity of the surrounding property. The size of the boundary walls to the south and west will have significant negative impacts on the neighbours. The height of the development will ensure that at least 2 of the units to the south will receive no natural light. Further to this the 5 and half storey elevation facing the property on the western boundary will have a significant impact.</p> <p>Application is not supported. The impacts it will have on the adjoining properties will be significant. A complete redesign is required.</p>	0

Legibility	Circulation width to a number of the apartments do not meet the minimum standards of SPP7.3. There are also some units that have openings to bedrooms and kitchen spaces facing onto common circulation spaces. Additional information required to demonstrate how the requirements of SPP 7.3 have been met. Consider the redesign of the units to create better separation of common areas and private spaces	1
Safety	No comments. Application supported.	3
Community	The applicant has made no effort to address the previous review comments. The development has filled the site, creating little space at street level for public engagement. Given the prominent location the development has not maximised the design opportunity provided by its corner location. There is no space for public engagement on either street at ground level. The poor design of the commercial space has no potential for adaption. The application is not supported.	0
Aesthetics	The applicants have made very little adjustments to the design aesthetics. All of the previous concerns are still relevant to meet the requirements of Design WA. The design needs considerable work in order to create an elegant composition. There is a general lack of co-ordination in the elevational treatment. Fenestration is seemingly random in its placement and size. There is no clear logic that is driving the choice or distribution of materials. The top of the building lacks a clear resolution. The south elevation in particular is very imposing with large featureless expanses of brickwork separated by open walkways that is visually similar to public housing blocks. The aesthetics are also negatively impacted by the excessive bulk and scale creating a heavy and imposing building that is in extreme contrast to the surround area and its desired future character.	0

Planning Assessment

The proposal has been assessed against all the relevant legislative requirements of LPS 3, State and Local Planning Policies outlined in the legislation and Policy section of this report. In determining the application, the following matters have been identified as either design deficiencies, matters raised in public consultation or require a condition to meet the relevant provision:

Summary of Planning Assessment				
Element	Satisfies Objectives	Condition needed to satisfy objectives	Modifications needed to satisfy Objectives	Substantial redesign required
Building height			✓	
Street setback			✓	
Side and rear setback			✓	
Plot ratio			✓	
Building separation			✓	
Orientation				✓
Tree Canopy	✓			
Communal open space	✓			
Visual Privacy	✓			
Public Domain Interface			✓	
Pedestrian access and entries			✓	
Vehicle Access			✓	
Parking				✓
Private open space			✓	
Circulation and common spaces				✓
Noise		✓		
Universal design		✓		
Façade design				✓
Roof design				✓
Landscape design			✓	
Mixed Use				✓
Water Management		✓		
Waste Management		✓		
Traffic	✓			
Amenity				✓

The full assessment is contained in **Attachment 1**. Editing and formatting changes may occur before the RAR is lodged with DAP to bolster the rationale for the refusal recommendation.

4.0 Consultation

In accordance with the City's Local Planning Policy – Consultation of Planning Proposals, the development was advertised for a period of 21 days, commencing 31 October 2020 and concluding 21 November 2020. Public consultation consisted of:

- Letters sent to all City of Nedlands and City of Perth landowners and occupiers within a 200m radius of the site (letters);
- A sign on site was installed at the site's frontage for the duration of the advertising period;
- An advertisement was published on the City's website with all documents relevant to the application made available for viewing during the advertising period;
- An advertisement was placed in The Post newspaper published on 31 October 2020;
- A Social media post was made on one of the City's Social Media platforms;
- A notice was affixed to the City's Noticeboard at the City's Administration Offices; and
- A community information session was held by City Officers on 11 November 2020, where approximately 30 residents and elected members were present.

At the close of the advertising period, the City received a total of 103 submissions, of which 2 submissions were in support of the application, and the remaining 101 submissions objected to the proposal.

A summary of the key issues raised in public consultation are tabled below.

Issue Raised	Officer comments
<ul style="list-style-type: none"> • Building Height 	<p>Objection partially supported.</p> <p>While the number of stories is supported, the City does not support the proposed massing of the development which results in an imposing facade when viewed from Kingsway. The proposed massing does not adequately provide for a transition towards the land coded R60.</p> <p>Further discussion of building height is provided in in the Officer Comments of the RAR.</p>
<ul style="list-style-type: none"> • Plot ratio / Bulk and Scale 	<p>Objection supported.</p> <p>The City notes that the R-Codes Vol. 2 is a performance-based policy, which promotes good design over rigid development controls. However, the City is of the view that the additional plot ratio has not been justified and is not supported on design grounds.</p>

Issue Raised	Officer comments
	Further discussion of plot ratio is provided in in the Officer Comments of the RAR.
<ul style="list-style-type: none"> • Side/rear setback 	<p>Objection supported.</p> <p>The side and rear setbacks have not been adequately justified. The City requested the applicant to make modifications to both the side and rear setback due to the adverse amenity impacts associated with the open access walkways and of the separation needed to the rear. The City is of the view that the revised plan does not address these issues.</p> <p>Further discussion of side and rear boundary is provided in in the Officer Comments of the RAR.</p>
<ul style="list-style-type: none"> • Overshadowing 	<p>Objection partially supported.</p> <p>The development requires increased setback from the rear boundary to increase solar and daylight access to the rear of the southern adjoining property.</p> <p>Further discussion of overshadowing is provided in in the Officer Comments of the RAR.</p>
<ul style="list-style-type: none"> • Visual Privacy 	<p>The development features appropriate screening or setback to mitigate visual privacy impacts.</p> <p>Further discussion of privacy is provided in in the Officer Comments of the RAR.</p>
<ul style="list-style-type: none"> • Vehicle access 	<p>Objection supported.</p> <p>The Elizabeth Street access to the residential visitor bays is not supported by the City's Technical Services.</p>
<ul style="list-style-type: none"> • Traffic 	<p>Objection not supported.</p> <p>The applicant's Transport Impact Statement (TIS) concludes that the development does not adversely affect the road capacity. The TIS has been reviewed by the City's Technical Services is supported.</p> <p>Further discussion of traffic is provided in in the Officer Comments of the RAR.</p>
<ul style="list-style-type: none"> • Parking 	<p>Objection is supported.</p> <p>The application does not provide sufficient parking for the office land use.</p> <p>The residential dwellings are not provided with sufficient visitor parking bays.</p>

Issue Raised	Officer comments
	Further discussion of parking is provided in in the Officer Comments of the RAR.
<ul style="list-style-type: none"> • Amenity 	<p>Objection supported.</p> <p>The proposal's character, form, massing, bulk and scale will adversely affect the amenity of the adjoining properties and streetscape. The development has not adequately mitigated this amenity impact.</p> <p>Further discussion of amenity is provided in in the Officer Comments of the RAR.</p>
<ul style="list-style-type: none"> • Design 	<p>Objection supported.</p> <p>The City has sought peer review of the architectural design and landscape design. Both the architectural peer review and landscape review do not the support the application. The peer review comments are contained as Attachment 1.</p>
<ul style="list-style-type: none"> • Land use 	<p>Objection partially supported.</p> <p>The City acknowledges the office layout requires further modification to ensure it is an adaptable commercial space. An assessment of the land use, scheme objectives and clause 32.4 of LPS 3 is provided in the Officer Comments of the RAR.</p>
<ul style="list-style-type: none"> • Development bonus 	<p>Objection not supported.</p> <p>A common objection was raised by residents relating to the application of the Acceptable Outcomes. The basis of the objection was that neither Administration nor the decision-maker should allow any development to exceed the Acceptable Outcome as there is no planning instrument that sets out the desired metrics for development bonus. While the City acknowledges there is no such adopted policy, the R-Codes Vol. 2 is a performance-based policy, the intent of which is to promote good design over rigid development controls.</p>
<ul style="list-style-type: none"> • Tree canopy / Deep Soil / Landscaping 	<p>Objection partially supported.</p> <p>The proposal does not currently meet Element 4.12 – Landscaping. Although some objectives (impact on neighbouring trees) could be achieved through conditions, there are fundamental concerns with the landscape response.</p> <p>Further discussion of Design Element 3.3 and 4.12 are provided in the Officer Comments of the RAR.</p>

BROADWAY, NO. 105 (LOT 544) NEDLANDS – MIXED USE DEVELOPMENT COMPRISING 22 MULTIPLE DWELLINGS AND OFFICE

Form 1 – Responsible Authority Report (Regulation 12)

DAP Name:	Metro Inner North Joint Development Assessment Panel	
Local Government Area:	City of Nedlands	
Applicant:	Planning Solutions	
Owner:	James Mackenzie Hall and Evelyn Ann Hall	
Value of Development:	\$6.85 million <input type="checkbox"/> Mandatory (Regulation 5) <input checked="" type="checkbox"/> Opt In (Regulation 6)	
Responsible Authority:	City of Nedlands	
Authorising Officer:	Tony Free – Director Planning & Development	
LG Reference:	DA20-55469	
DAP File No:	DAP/20/01871	
Application Received Date:	14 October 2020	
Report Due Date:	5 March 2021	
Application Statutory Process Timeframe:	90 days (52 additional days including extension of time requests [Reg 12(4)])	
Attachment(s):	1. Development plans and elevations stamped received 8 February 2021 2. Location aerial and site planning context 3. Existing site plan 4. Schedule of submissions 5. Consultant architect and landscape architect design review 6. Applicant justification report 7. SPP 7.2 – Precinct Design Assessment 8. R-Codes Volume 2 – Apartments Assessment 9. Landscape Plan dated 4 February 2021 (Rev E) 10. Acoustic Report dated 5 October 2020 (Rev A) 11. Waste Management Plan dated 15 September 2020 (1a) 12. Transport Impact Statement dated 5 February 2021 (R01B)	
Is the Responsible Authority Recommendation the same as the Officer Recommendation?	<input type="checkbox"/> Yes	Complete Responsible Authority Recommendation section
	<input checked="" type="checkbox"/> N/A	
	<input type="checkbox"/> No	Complete Responsible Authority and Officer Recommendation sections

Responsible Authority Recommendation

The Responsible Authority Recommendation of the Council will be provided following its 4 March 2021 Special Council Meeting (and prior to submission of this RAR to the Metro Inner-North JDAP).

Details: outline of development application

Region Scheme	Metropolitan Region Scheme
Region Scheme - Zone/Reserve	Urban
Local Planning Scheme	City of Nedlands Local Planning Scheme No. 3
Local Planning Scheme - Zone/Reserve	Mixed Use (R-AC3)
Structure Plan/Precinct Plan	Not Applicable
Structure Plan/Precinct Plan - Land Use Designation	Site is located within an identified Specialised Activity Centre (UWA /QEII) [There is no adopted plan]
Use Class and permissibility:	Residential (P) Office (P)
Lot Size:	880.2m ²
Existing Land Use:	Office
State Heritage Register	No
Local Heritage	<input checked="" type="checkbox"/> N/A
Design Review	<input checked="" type="checkbox"/> Other
Bushfire Prone Area	No
Swan River Trust Area	No

Proposal:

Proposed Land Use	Residential (Multiple Dwelling) and Office
Proposed Plot Ratio	Approximately 2.8:1
Proposed Net Lettable Area Office	130m ²
Proposed No. Storeys	6 storeys and basement
Proposed No. Dwellings	22

The applicant seeks approval for the demolition of the existing office and the construction of a six storey (7 floors) mixed-use development comprising 22 multiple dwellings and an office. The development plans are contained as **Attachment 1**.

Basement 1

- 2 x stacker pits
- Fire pump
- Fire tank

Lower Ground

- Residential Lobby, stairs and lift
- Office (ground floor)
- Plant room
- Commercial bin store

- Residential bin store
- Bulk storage
- Commercial storeroom
- 8 x residential storerooms
- 8 x double car stackers (equating to 16 bays)
- 3 x bicycle storerooms
- 3 x car parking bays
- 1 x ACROD bay
- Loading zone
- Plant room

Upper ground floor

- Office – upper floor
- 14 x residential storerooms
- 14 x resident car parking bays
- 2 x visitor car parking bays
- 2 x visitor motorcycle bays
- Residential lobby, stairs and lift

First floor

- 1 x two bedroom, two bathroom multiple dwelling
- 2 x two bedroom, one bathroom multiple dwellings
- 2 x one bedroom, one bathroom multiple dwellings

Second Floor

- 2 x two bedroom, two bathroom multiple dwellings
- 3 x one bedroom, one bathroom multiple dwellings

Third floor

- 2 x two bedroom, two bathroom multiple dwellings
- 3 x one bedroom, one bathroom multiple dwellings

Fourth floor

- 1 x three bedroom, three bathroom multiple dwelling
- 2 x two bedroom, two bathroom multiple dwellings
- 1 x one bedroom, one bathroom multiple dwelling

Fifth floor

- 2 x two bedroom, two bathroom multiple dwellings
- 1 x one bedroom, one bathroom multiple dwelling

Background:

Site Description, Development Context and Landscape Features

The site is located at No. 105 Broadway, Nedlands at the north-west corner of the street block bounded by Elizabeth Street, Broadway, Princess Road and Kingsway. Broadway forms part of the City's western municipal boundary. On the eastern side of Broadway lies the City of Perth.

The site is 880.2m² in area, is oriented east-west, and has its dual street frontage - Broadway and Elizabeth Street. The site experiences a fall in natural ground level of approximately 5m from the rear boundary down to the Broadway frontage.

Located on the western side of Broadway, the site is currently occupied by a two-storey office building. To the south-west, the site adjoins a Place of Worship. On the western side of Kingsway lies Nedlands Primary School. To the south, the site abuts a grouped dwelling development comprising 16 dwellings with individual titles. Directly opposite the site on the eastern side of Broadway lies the Broadway Fair shopping centre. A location plan, aerial and contour map are contained in **Attachment 2**.

The existing commercial building on-site has no identified heritage value. The existing site plan is contained as **Attachment 3**.

Existing Character

The existing neighbourhood character is varied. This locality has a mix of housing typologies (single, grouped and multiple dwellings) as well as land use (commercial and civic buildings). The site to the south of the site, is a grouped dwelling development comprising 16 dwellings. The properties to the north and immediate west are single houses, although three are the result of subdivision. Although the area is mixed, the existing character features significant separation between buildings, high amenity, generous landscaped streetscape character. The properties located on the eastern side of Broadway, proximate to the site have been redeveloped with multiple dwellings and grouped dwellings.

Future Character

At the time of finalising this report, policy work is still underway to define the desired future character. In the interim, Council adopted Local Planning Policy Interim Built Form Guidelines for Broadway Mixed Use Zone (Interim Guidelines). This policy is discussed later in this report.

The City engaged consultants at Hassell to complete a local distinctiveness study, context analysis and built form modelling to inform built form controls for Broadway. The focus has been to identify elements that make a positive contribution to local distinctiveness and the opportunities for enhancement. Hassell's study informs LPP – Context and Character, which was adopted by Council at the February 2021 Ordinary Council Meeting. The study also informs the built form modelling work completed by Hassell, which will test different development scenarios for the precinct. Once these development scenarios are reviewed through community engagement, a policy will be drafted for the precinct, which will define appropriate built form controls and may form the basis of an amendment to the Scheme. A draft policy is due to be presented to Council in mid-2021.

It is expected that built form controls will seek to ameliorate the impacts of abrupt density transitions on sites such as the subject development site. The site is coded R-AC3 and interfaces with R60 to the west, equating to a default height control interface of 6 storey down to 3 storey height. It is noted that the local planning framework is currently unresolved and that minimal weight should be afforded to a Council-adopted local planning policy which either seeks to vary built form provisions contrary to the Local Planning Scheme 3 and/or requires Western Australian Planning Commission (WAPC) approval.

In the absence of a fully resolved policy position, reference can be made to the desired streetscape character outlined and illustrated in Appendix 2 of the Residential Design Codes Volume 2 – Apartments (R-Codes Vol. 2). Being Mixed Use R-AC3 adjacent to Residential R60, the streetscape character is designated as a ‘mid-rise urban centre’, that transitions to a ‘medium-rise residential setting’ at the rear. Proposed buildings are to reflect the prevailing or planned pattern of side and street setbacks and take advantage of the location, aspect and orientation of the site. For this site, pedestrianised street frontages are encouraged to achieve a pedestrian scale at the street frontage.

Application history

A preliminary schematic design was submitted to the City for comment in October 2019 followed by a second review in November 2019. The City has provided consistent advice to the applicant in relation to the concerns about the design, bulk, scale, form, parking and landscaping. Only minor modifications have been made to the proposal, demonstrated by the figures below:

Changes made to development proposal prior to lodgement		
Elevation	October 2019	November 2019
North, east, west and south elevations.		

The key issues identified and communicated to the applicant prior to lodgement have been consistently reiterated during the application assessment and ultimately in the refusal recommendation.

During the development application stage, the applicant responded to the City’s request for further modification and information, making the following changes:

- The majority of the southern walkway setback has been increased to 4.58m and the southern planter box increased in area from 19m² to 32m²;
- The entry to unit 1 has been increased in width from 1.450m to 1.5m;
- The seating area in the communal courtyard and screen removed, more on-structure planting to provide privacy to bedroom 2 of unit 1;
- A small tree has been added to the communal courtyard area, replacing the seating in the south-west corner of the site;
- 1.67m high laser cut metal fencing has been incorporated around the edge of the communal area, with a small reduction in the southern boundary wall height
- The setback of the south-facing building frontage (setback of 4.62m from southern boundary to walkway) has been increased from 1.62m to 4.71m for a 15m long portion;
- Internal voids adjacent to walkway have been removed, and the planter located on the southern side of the walkway has been increased in area from 29m² to 35m² and filled with shade tolerant species;
- The internal planter reduced in size from 12.8m² to 5.7m²; and
- On-structure landscaping area has been increased on the southern side of the resident's terrace where a fourth small tree added.

Due to the nature and scale of the amendments proposed, the amended plans were not advertised. All submissions on the proposal have been given due regard in this assessment and recommendation for refusal.

Legislation and Policy:

Legislation

- *Planning and Development Act 2005*
- *Planning and Development (Local Planning Schemes) Regulations 2015*
- *Planning and Development (Development Assessment Panels) Regulations 2011*
- Metropolitan Region Scheme
- City of Nedlands Local Planning Scheme

Proposed Scheme Amendment No.7

At its meeting held on 25 February 2020, Council resolved to advertise Scheme Amendment No.7. The amendment seeks to reduce the density coding of some mixed use and residential land parcels in the area identified as 'South Broadway'. It also proposed to reduce the density along Broadway and sections of Elizabeth Street and Edward Street from R-AC3 to R-AC4 and west of Kingsway and Hillway from R-AC3-R60 to R40. The subject lot is affected by this Amendment. The site is proposed to be rezoned from Mixed Use to Residential and the density code modified from R-AC3 to R-AC4. The following background is provided for JDAPs consideration:

- At its meeting held on 28 April 2020, Council resolved to adopt Scheme Amendment No.7 for the purpose of advertising with modifications to areas and the extent of the coding. It also modified the amendment type, reclassifying the amendment as a "Standard" amendment contrary to the City's recommended "Complex" classification.
- Advertising of the standard amendment concluded on 25 July 2020 receiving a total of 252 submissions with 92% in support of the amendment changes.

- The WAPC advised the City in September 2020 that Amendment No. 7 was deemed a 'complex' scheme amendment and required advertising as such.
- Advertising commenced on 31 October and concluded on 31 January 2021.
- The amendment is scheduled to be presented to Council at the March 2021 Council meeting.

Clause 67(2) of the *Planning and Development (Local Planning Schemes) Regulations 2015* sets out matters to which a local government is to have due regard in consideration of an application for development approval and includes at (b):

“the requirements of orderly and proper planning including any proposed local planning scheme or amendment to this Scheme that has been advertised under the Planning and Development (Local Planning Schemes) Regulations or any other proposed planning instrument that the local government is seriously considering adopting or approving”

By virtue of its advertising status, a scheme amendment would usually be classified as a seriously entertained planning proposal to which due regard should be applied. However, in this instance whilst the amendment be given due regard, the weight that should be assigned to proposed Amendment No.7, and its status as a seriously entertained planning proposal, is challenged by uncertainties relating to whether the WAPC and the Minister will approve the Amendment given inconsistencies with the City of Nedlands Local Planning Strategy and absent strategic justification.

State Government Policies

- State Planning Policy 7.0 – Design of the Built Environment (SPP7.0)
- State Planning Policy 7.3 – Residential Design Codes Volume 2 – Apartments (R-Codes Vol. 2)

Structure Plans/Activity Centre Plans

- Specialised Activity Centre Plan – QEII Medical Centre / UWA / Broadway (being prepared)

Local Policies

- Local Planning Policy – Waste Management
- Local Planning Policy – Consultation of Planning Proposals
- Local Planning Policy – Parking
- Local Planning Policy – Interim Built Form Design Guidelines – Broadway Mixed Use Zone

Strategies

- City of Nedlands Local Planning Strategy

Consultation:

Public Consultation

In accordance with the City's Local Planning Policy – Consultation of Planning Proposals, the development was advertised for a period of 21 days, from 31 October 2020 until 21 November 2020. Public consultation consisted of:

- Letters sent to all City of Nedlands and City of Perth landowners and occupiers within a 200m radius of the site (letters);
- A sign on site was installed at the site's street frontage for the duration of the advertising period;
- An advertisement was published on the City's website with all documents relevant to the application made available for viewing during the advertising period;
- An advertisement was placed in The Post newspaper published on 31 October 2020;
- A Social media post was made on one of the City's Social Media platforms;
- A notice was affixed to the City's Noticeboard at the City's Administration Offices; and
- A community information session was held by City Officers on 11 November 2020, where approximately 30 residents and elected members were present.

The City received a total of 103 submissions at the close of the advertising period, with 2 submissions were in support of the application, and the remaining 101 submissions objected to the proposal. A Schedule of submissions is contained in **Attachment 4**.

A summary of the key issues raised in public consultation are tabled below.

Issue Raised	Officer comments
Building Height	<p>Objection partially supported.</p> <p>While the number of storeys is supported, the City does not support the proposed massing of the development which results in an imposing facade when viewed from Kingsway. The proposed massing does not adequately provide for a transition towards the land coded R60. Further discussion of building height is provided in in the Officer Comments of the RAR.</p>
Plot ratio, bulk and scale	<p>Objection supported.</p> <p>The City notes that the R-Codes Vol. 2 is a performance-based policy, which promotes good design over rigid development controls. However, the City is of the view that the additional plot ratio has not been justified and is not supported on design grounds. Further discussion of plot ratio is provided in in the Officer Comments of the RAR.</p>
Side/rear setback	<p>Objection supported.</p> <p>The side and rear setbacks have not been adequately justified. The City requested modifications to both the side and rear setbacks due to the adverse amenity impacts associated with the open access walkways and need for separation to the rear and south at the upper levels. The City is of the view that the revised plans do not address these issues. Further discussion of side and rear boundary is provided in in the Officer Comments of the RAR.</p>
Overshadowing	<p>Objection partially supported</p> <p>The development requires increased setback from the rear boundary to improve solar and daylight access to the rear of the</p>

Issue Raised	Officer comments
	southern adjoining property or further justification. Further discussion of overshadowing is provided in in the Officer Comments of the RAR.
Visual Privacy	Objection partially supported The development features appropriate screening or setback to mitigate visual privacy impacts. Minor modifications are needed to the 1 st floor open access walkway. Further discussion of privacy is provided in in the Officer Comments of the RAR.
Vehicle access	Objection supported The Elizabeth Street access to the residential visitor bays is not supported by the City's Technical Services.
Traffic	Objection not supported. The applicant's Transport Impact Statement (TIS) concludes that the development does not adversely affect the road capacity. The TIS has been reviewed by the City's Technical Services is supported. Further discussion of traffic is provided in in the Officer Comments of the RAR.
Parking	Objection is supported The application does not provide sufficient parking for the office land use or residential visitor parking bays. Further discussion of parking is provided in in the Officer Comments of the RAR.
Amenity	Objection supported. The proposal's character, form, massing, bulk and scale will adversely affect the amenity of the adjoining properties and streetscape. The development has not adequately mitigated these amenity impacts. Further discussion of amenity is provided in in the Officer Comments of the RAR.
Design	Objection supported The City sought design review of the application. The application received 9 out of a possible score of 30. The design review comments are contained as Attachment 5
Land use	Objection partially supported The City acknowledges the office layout requires further modification to ensure it is an adaptable commercial space. An assessment of the land use, scheme objectives and clause 32.4 of LPS 3 is provided in the Officer Comments of the RAR.
Development bonus	Objection not supported. A common objection raised by residents related to the application of the Acceptable Outcomes. The basis of the objection was that neither Administration nor the decision-maker should allow any development to exceed the Acceptable Outcome as there is no planning instrument that sets out the desired metrics for development bonus. While the City acknowledges there is no such adopted policy, the R-Codes Vol. 2 is a performance-based policy, the intent of which is to promote good design over rigid development controls.
Tree canopy / Deep Soil / Landscaping	Objection partially supported The proposal does not currently meet Element 4.12 – Landscaping. Although some objectives (impact on

Issue Raised	Officer comments
	neighbouring trees) could be achieved through conditions, there are fundamental concerns with the landscape response. Further discussion of Design Elements 3.3 and 4.12 are provided in the Officer Comments of the RAR.

Referrals/consultation with Government/Service Agencies

The application did not warrant referral to State Government or service agencies.

Design Review Panel Advice

At the December 2020 Council meeting, Council resolved to defer the adoption of the LPP – Design Review Panel and the selection the panel members until the March 2021 Council meeting. The application, therefore, was not able to be reviewed by a Design Review Panel.

In lieu of a Design Review Panel, the elements of the R-Codes Vol. 2 that require architectural and landscape consideration were referred to a consultant architect and landscape architect. The City's consultant architect and landscape architect design review is contained as **Attachment 5**.

The peer review uses ratings between 0-3, with 0 being not supported and 3 being fully supported. The development received a rating of 9 out of a possible 30.

3	Supported	
2	Supported with conditions	
2	Pending further attention	
1	Not yet supported	
	Original Lodged Development Plans (14 October 2020)	Amended Plans dated 8 February 2021 (27 November 2020)
Principle 1 - Context and Character		
Principle 2 - Landscape Quality		
Principle 3 - Built Form and Scale		
Principle 4 - Functionality and Built Quality		
Principle 5 - Sustainability		
Principle 6 - Amenity		
Principle 7 - Legibility		
Principle 8 - Safety		
Principle 9 - Community		
Principle 10 - Aesthetics		

Other Advice

The application was referred to the following internal departments of the City:

- Technical Services
- Waste Services
- Building Services
- Health and Environmental Services

Except for Technical Services and Waste Services, all other departments had no objection subject to standard conditions and advice notes. It is further noted that the applicant sought feedback from the City's internal departments prior to the application being lodged. However, there are several items which continue to not be adequately addressed to the City's satisfaction and are summarised below.

Technical Services

Technical Services advises that modifications are needed with respect to:

- Additional visual and sightline devices such as convex mirrors to assist the overall parking operation.
- Both Visitor & Office bays are classified as 'high turnover bays' compared to Residential bays. The shortfall of 3 visitor bays and 5 office bays raises serious concerns for the City.
- The location of the Visitor Bays requires access via Elizabeth Street which is a Safe Active Street. The objectives of the Safe Active Street are to discourage non local traffic. It is recommended that these bays are re-located to the lower ground floor in order to minimise the potential safety impacts.

Waste Services

Waste Services advises that modifications are needed with respect to:

- Residential bin enclosure is undersized. The minimum length required is 6.1m and the proposal measures 5.2m.
- Minimum requirement in length 4.6m and diagram show approximately 4m.
- Minimum requirement in length 1.7m and diagram show approximately 1.4m.

The City is of the view that with modifications and appropriate conditions the application is capable of support from the City's internal departments, however, the above items must be addressed.

Planning Assessment:

The proposal has been assessed against all the relevant legislative requirements of LPS 3, State and Local Planning Policies outlined in the Legislation and Policy section of this report. In assessing the application, the matters below have been identified as being either design deficiencies, key issues raised in public consultation or requiring a condition to meet the relevant provision. Due to the number of elements listed a summary is provided below

Summary of Planning Assessment				
Element	Satisfies Objectives	Condition needed to satisfy objectives	Modifications needed to satisfy Objectives	Substantial redesign required
Clause 67(2) of deemed provisions				✓
Scheme Provisions			✓	
SPP 7.0				✓
R-Codes Vol. 2:				
• Building height			✓	

Summary of Planning Assessment				
Element	Satisfies Objectives	Condition needed to satisfy objectives	Modifications needed to satisfy Objectives	Substantial redesign required
• Street setback			✓	
• Side and rear setback			✓	
• Plot ratio			✓	
• Building separation			✓	
• Orientation				✓
• Tree Canopy		✓		
• Communal open space		✓		
• Visual Privacy			✓	
• Public Domain Interface			✓	
• Pedestrian access and entries			✓	
• Vehicle Access			✓	
• Parking				✓
• Private open space			✓	
• Circulation and common spaces				✓
• Noise		✓		
• Universal design		✓		
• Façade design				✓
• Roof design				✓
• Landscape design			✓	
• Mixed Use				✓
• Water Management		✓		
• Waste Management		✓		
Traffic	✓			
Local Planning Strategy				✓
LPP – Parking			✓	

The applicant's justification report is contained as **Attachment 6**.

Planning and Development (Local Planning Schemes) Regulations 2015

The City has assessed the application in accordance with clause 67(2) of *Planning and Development (Local Planning Schemes) Regulations 2015*. Where relevant, these matters are discussed in the following assessment.

LPS Regulation Schedule 2 – Clause 67(2) Assessment	
Provision	Assessment
(a) <i>The aims and provisions of this Scheme and any other local planning scheme operating within the Scheme area</i>	<p>Not satisfied</p> <p>Refer to assessment of clause 9 of LPS – Aims of Scheme and objectives of the Mixed Use Zone.</p>

<p><i>(b) the requirements of orderly and proper planning including any proposed local planning scheme or amendment to this Scheme that has been advertised under the Planning and Development (Local Planning Schemes) Regulations 2015 or any other proposed planning instrument that the local government is seriously considering adopting or approving</i></p>	<p>Not satisfied</p> <p>The development proposal has not achieved all relevant Element Objectives of the R-Codes Vol. 2. The development is not consistent with built form, siting, external and internal amenity controls for a site coded R-AC3, abutting the R60 density Code.</p> <p>The City has resolved to initiate a scheme amendment to rezone the site from Mixed Use to Residential and reduce the density code from R-AC3 to R40. At the time of finalising this report, this amendment is soon to be referred to the Environmental Protection Authority for review prior to advertising. Given it not been advertised, it cannot be considered at this time.</p> <p>The City has prepared the draft Local Planning Policy – Interim Built Form Design Guidelines – Broadway Mixed Use Zone. This draft Policy has been advertised and is to be considered for final adoption in late May 2020. This policy is discussed in further detail later in this report.</p>
<p><i>(c) Any approved State Planning Policy</i></p>	<p>Not satisfied</p> <p>There are various Principles and Elements which have not been achieved in SPP7.0 and R-Codes Vol 2.</p>
<p><i>(l) The effect of the proposal on the cultural heritage significance of the area in which the development is located</i></p>	<p>Satisfied</p> <p>There are no places of heritage significance within the street block on Hillway. There is an existing residence to the northeast on Broadway that is identified in the Municipal Heritage Inventory. However, this development does not impact on this property.</p>
<p><i>(m) the compatibility of the development with its setting including the relationship of the development to development on adjoining land or on other land in the locality including, but not limited to, the likely effect of the height, bulk, scale, orientation and appearance of the development;</i></p>	<p>Not satisfied</p> <p>The design of the building is not considered compatible with its setting with respect to its massing, bulk and scale. The property directly west of the site would be adversely impacted by the proposal due to the design deficiencies and poor interface. The building is poorly oriented and does not address the Broadway frontage.</p> <p>The City's design review gave the development proposal nil points for Design principle 10 – Aesthetics contained within the SPP – Design of the Built Environment.</p> <p>The overshadowing of the property to the south will have a significant impact on the grouped dwelling to the immediate south. The development is considered to have a detrimental impact on the streetscape of the locality given the lack of landscaping, communal space, seating and connection to the street. The layout of the</p>

	commercial space is not flexible and does not provide the degree of activation needed at this commercial node.
(n) <i>the amenity of the locality including the following — (i) environmental impacts of the development; (ii) the character of the locality; (iii) social impacts of the development;</i>	Not satisfied The City is of the view that the proposed façade design, roof design, landscape design, bulk, scale, materiality and overshadowing will detrimentally impact the character of this locality and streetscape.
(p) <i>whether adequate provision has been made for landscaping of the land to which the application relates and whether any trees or other vegetation on the land should be preserved</i>	Partly satisfied The development is provided with adequate on-structure planting and soil volume. However, the landscape plan itself is deficient and does not add to the internal or external amenity to the extent expected in this locality.
(s) <i>the adequacy of — (i) the proposed means of access to and egress from the site; and (ii) arrangements for the loading, unloading, manoeuvring and parking of vehicles;</i>	Not satisfied The Elizabeth Street access to the visitor bays is not supported by the City's Technical Services department.
(t) <i>the amount of traffic likely to be generated by the development, particularly in relation to the capacity of the road system in the locality and the probably effect on traffic flow and safety</i>	Satisfied The Traffic Impact Statement has been reviewed by the City and is accepted not to have an adverse impact on the local road network.
(u) <i>the availability and adequacy for the development of the following — (iii) Storage, management, and collection of waste.</i>	Partly satisfied The proposed WMP is currently not consistent with the City's adopted guidelines. However, minor modifications may make the WMP capable of support.
(x) <i>the impact of the development on the community as a whole notwithstanding the impact of the development on particular individuals</i>	Not applicable The development is not considered to be of a scale that impacts the wider community. The issues noted in the assessment apply to this locality.
(y) <i>any submissions received on the application</i>	Noted The City received 103 submissions, all of which have been given due consideration in the assessment of this application.
zb) <i>any other planning consideration the local government considers appropriate</i>	Not applicable
zc) <i>any advice of the Design Review Panel</i>	Not applicable The City does not have a Design Review Panel. An Architectural landscape design review was undertaken and are included as an attached to this report.

Local Planning Scheme No. 3

The City provides the following assessment of the application in accordance with relevant LPS 3 provisions.

Local Planning Scheme No. 3			
Provision	Requirement	Proposal	Assessment
9 – Aims of Scheme	<i>Protect and enhance local character and amenity</i>	There is little attempt to ameliorate the building's bulk, whilst overshadowing of the southern neighbouring property does not meet R-Code element objectives. It is noted that the transitioning from RAC3 to R60 does not afford an appropriate built form transition which impacts the protection of character and amenity.	Does not Satisfy
	<i>Respect the community vision for the development of the district</i>	<p>The community vision is provided under Section 8.1.2 City of Nedlands Strategic Community Plan (2013) on page 49 of the Local Planning Strategy). It is as follows:</p> <p><i>"Our overall vision is of a harmonious community. We will have easy access to quality health and educational facilities and lively local hubs consisting of parks, community and sporting facilities and shops where a mix of activities will bring people together, strengthening local relationships. Our gardens, streets, parks will be well maintained, green and tree-lined and we will live sustainably within the natural environment. We will work with neighbouring Councils and provide leadership to achieve an active, safe, inclusive community enjoying a high standard of local services and facilities. We will live in a beautiful place."</i></p> <p>The proposed multiple dwelling development is consistent with the community vision outlined above as it does not adversely affect any of the objectives contained within the vision statement.</p>	Satisfies
	<i>Achieve quality residential built form outcomes for the growing population;</i>	Informed by the rating the development received by the independent consultant architect and landscape architect and the assessment of SPP 7.0, the development is not considered high-quality.	Does not Satisfy
	<i>To develop and support a hierarchy of activity centres</i>	The proposal seeks to place a higher density residential development within an identified mixed use zone.	Satisfies
	<i>To integrate land use and transport systems</i>	The site is located in close proximity to several high frequency public transport routes	
	<i>Facilitate improved multi-modal access</i>	The development includes bicycle parking (racks) for residents and visitors.	Satisfies

	<i>into and around the district</i>		
	Maintain and enhance the network of open space	The development does not impact the City's network of open space.	Satisfies
	Facilitate good public health outcomes	The development will not adversely affect the desired public health outcomes.	Satisfies
	Facilitate a high-quality provision of community services and facilities	The development does not feature any community facilities, such as seating. The community Design Principle received a score of nil from the City's consultant architect.	Does not satisfy
	Encourage local economic development and employment opportunities	Whilst being built, the development will positively contribute to local businesses.	
	To maintain and enhance natural resources	Overall, the building will reduce energy and water use.	Satisfies
	Respond to the physical and climatic conditions	Th development captures northern light and prevailing wind.	Satisfies
	Facilitate efficient supply and use of essential infrastructure	The development does not negatively impact this aim.	Satisfies
16. – Zone Objectives	To provide for a significant residential component as part of any new development.	The development proposes 22 multiple dwellings.	Satisfies
	To facilitate well designed development of an appropriate scale which is sympathetic to the desired character of the area	Having regard to the peer review comments and assessment of SPP 7.0 and R-Codes Vol. 2, the City is of the view that the design requires further work to reduce the bulk and scale and to meet the objective of well design development.	Satisfies
	To provide for a variety of active uses on street level which are compatible with residential and other non-active uses on upper levels	The office land use is supported.	Satisfies

	To allow for the development of a mix of varied but compatible land uses such as housing, offices, showrooms, amusement centres and eating establishments which do not generate nuisances detrimental to the amenity of the district or to the health, welfare and safety of its residents	The office land use is consistent with this objective.	Satisfies
16.2 – <i>Land Use</i>	Not applicable	Residential (Multiple dwellings) – P Use Office – P Use	Satisfies
32.1(1) - <i>Parking</i>	Except for development to which the R-Codes apply, every development shall provide on-site car parking spaces in accordance with any applicable local planning policy adopted by the local government.	The City's LPP – Parking prescribes the following car parking ratio for office:	N/A
32.1(2-6) - <i>Parking</i>	Cash-in-lieu of parking	N/A	N/A – the City does not have a Car Parking Strategy to guide cash-in-lieu. Therefore, these scheme provisions cannot be applied.
32.4(2)	Residential uses are not permitted on the ground floor facing	Office is proposed at ground level.	Satisfies.

	primary or secondary streets, except where the use faces a right-of-way or laneway in the Mixed Use zone, or where identified in an approved local planning policy.		
32.4(3)	Buildings are to have active frontages to the primary and/or secondary street, except where a use faces a right-of-way or laneway.	The office features street-facing windows, however, overall, the office does not connect with the street. The purpose of this clause is to ensure that the street is enlivened and passive surveillance is provided. Minor modifications are needed.	Partially satisfies
32.4(4)	Minimum tenancy depth facing a street is 10m.	The proposed office tenancy is 10m in length.	Satisfies.
32.4(5) – <i>Development Standards</i>	In relation to developments that are not subject to the R-Codes, where development standards are not specified in an approved structure plan, local development plan, and/or activity centre plan, the development standards are subject to the applicable R-Code.	The application has been assessed in accordance with the relevant provisions of the R-Codes Vol. 2.	The application has been assessed in accordance with the relevant R-Codes provisions. These are provided in Attachment 8 and Officer Comments below.

Local Planning Strategy

The City's *Local Planning Strategy* was endorsed by the WAPC on 26 September 2017. The subject site is located within the 'Hampden/Broadway' Precinct. The relevant objectives of the Local Planning Strategy are tabled below.

Strategy Provision	Officer Response
<i>Plan Hampden/Broadway as a medium intensity, low to medium rise Urban Growth Area within the City of Nedlands.</i>	Not Satisfied

Strategy Provision	Officer Response
	<p>The development is not consistent with the R-AC3 coding with respect to its massing, bulk, scale and separation.</p> <p>The additional plot ratio is considered to have an unreasonable impact on the amenity of the locality and streetscape.</p>
<p><i>Provide a Transition Zone abutting Hampden/Broadway to quickly lower development intensity into the surrounding precincts.</i></p> <p><i>Where applicable on Broadway, the significant east-west topography variation will function as the Transition Zone.</i></p>	<p>Not Satisfied</p> <p>Kingsway has a density coding of R60 to transition from the higher R-AC3 density along Broadway.</p> <p>The development provides a five and half storey interface to the abutting rear R60 coded lots due, which will have a detrimental impact on the property to the rear.</p>
<p><i>Focus compatible development around identified residential and non-residential pockets, acknowledging that the intensity of redevelopment will vary in response to the predominant land use.</i></p> <p><i>Broadway is encouraged to provide greater residential development which may consist of a component of non-residential use.</i></p> <p><i>In light of the above, provide flexibility to consider any redevelopment which demonstrates exemplar urban design and is sympathetic to the existing character of the area.</i></p>	<p>Not Satisfied</p> <p>The development was assessed by the City's architect consultant and it was considered unsympathetic to the existing character of the area.</p> <p>The intensity of development has not been justified. The application is not considered to provide exemplar urban design.</p>
<p><i>Careful consideration will be given to short stay and alternative stay accommodation</i></p>	<p>Not Applicable</p> <p>No short-term accommodation is proposed.</p>
<p><i>In appropriate and identified locations, consider a range of uses (particularly knowledge based uses) and accommodation types that complement the Health/Education/Research function of the UWA-QEII Specialised Centre on a scale that will not detract from other centres in the hierarchy</i></p>	<p>Satisfied</p> <p>An 'Office' is a permitted use and is consistent with this objective. A 'Residential' use is also permitted and, given the various proposed apartments sizes, could provide accommodation options for downsizers, or university students.</p>
<p><i>Ensure strategic planning of the UWA-QEII Specialised Centre and its boundaries is completed in partnership with the affected local governments and State government instrumentalities.</i></p>	<p>Noted and Ongoing (future planning required)</p>

Further to the above, the LPS identifies the site and the surrounding area, as a Neighbourhood Centre. The LPS identifies an additional Neighbourhood Centre at the intersection of Broadway and Stirling Highway. A Local Centre also exists, approximately 700m south of the site at the intersection of Broadway and The Avenue.

Based on the above, it is clear the proposal is not consistent with the intent of the LPS for this strategically important site.

SPP7.0 – Design of the Built Environment

The City's consultant Architect and landscape architect have provided the following assessment of the proposal in accordance with SPP 7.0,

Assessment of SPP 7.0		
Design Principle	Peer Review Comment based on initial plans and revised plans received 3 April 2020	Rating
1. Context and character	<p>Unfortunately, the amended application has not made any modifications to the design to warrant a change in the assessment. The design still lacks a concept or attempt to demonstrate a clear and logical understanding of context. The Applicant suggested the context is diverse and therefore the design proposal should similarly be diverse.</p> <p>Good Design is the creation of design outcomes that have a consistency of thought and thoroughness of consideration in the developed outcome. A random and mixed position without a clear logic, as demonstrated in the additional information provided by the Applicants Synthesis diagram (p99), does not constitute a design strategy, nor does it show any clear approach to building a connection to character.</p> <p>Further to this, additional photographs of a range of surrounding buildings were provided (pages 84 – 95). However, there was a significant lack of analysis or interpretation. As such they add little value to the Applicant's understanding of and approach to context and place. The Applicant has not addressed the importance of the corner treatment within the design. The ground level is poorly resolved with no apparent consideration given to the quality of the street level experience. The minimal setback, lack of pedestrian facilities and cheap commercial aesthetics are contrary to the area.</p> <p>Creating user friendly pedestrian experiences will have a significant impact on the quality of the development. The additional advice provided with the amended documents suggest that a vital interface will be provided. The ground floor elevation to Broadway has only one set of doors to the commercial office space of approximately 150m². At best this could accommodate 12 – 15 people. There is minimal setback and no opportunity for alternative uses/ adaptive reuse to be considered. Combined with a lack of pedestrian amenity the development struggles to make a meaningful positive contribution to the area or its sense of place.</p> <p>The application is not supported. No additional information was provided to demonstrate a clear interpretation of context and place that would enhance the distinctive character of the area. A substantial redesign is recommended to address these concerns.</p>	0

<p>2. Landscape Quality</p>	<p>It is acknowledged that the Applicant made several, albeit relatively minor, changes to the proposed landscape design. Hence the comments below reflect those points that remain outstanding.</p> <p>The duplication of the vehicular access points remains an issue. The duplicated vehicle access compromises the streetscape - primarily by limiting the extent of an active frontage and hence opportunity for passive surveillance, as well as detrimentally affecting the aesthetics of the building on two facades.</p> <p>No existing vegetation has been retained on site. As such there is a requirement under SPP7.3 to provide at least 10% true deep soil area, i.e. not on slab. This amounts to 88.24m². Where the 10% 'true' deep soil area cannot be provided the shortfall is required to be doubled with 'on-slab deep soil' area(s). The Applicant calculates that only 6m² of 'true' deep soil area is being provided, hence the total 'on-slab' deep soil required to make up the balance is 164.48m². It should also be noted that deep soil 'on-slab' must be at least 1.0m deep and at least 2.0m wide where trees are being provided, refer to Fig 3.3f and Table 3.3b in SPP7.3 respectively. The landscape plans indicate that a total of 166.5m² 'deep soil on-slab' has been provided. Whilst some of this is paved, the landscape area could be considered to be compliant with the deep soil requirements of SPP7.3.</p> <p>The landscape plan shows one verge tree as being proposed for removal in order to allow for one of the two driveway access/egress points. This is an unfortunate outcome. However, even if the number of driveway access points were limited to one, it is likely that access would be taken from Elizabeth Street in which case it is probable that this tree would be 'lost' anyway. To relocate the driveway would almost certainly cause a significant reduction in efficiency to the car parking layout which is hard to justify in this context. No details of the tree have been provided. However, it appears to be an immature <i>Grevillea robusta</i> 'Silky Oak' (an east coast tree). This species tends to be relatively short lived in WA and the landscape plans indicate that its loss can be compensated by its replacement with <i>Agonis flexuosa</i> 'WA Peppermint' (an endemic / local species).</p> <p>Further to the above, the site survey and Google Street View appear to indicate inaccuracies in the number of verge trees, as shown on the landscape plan. Rather than the four nominated on plan, it would appear that there are seven trees in total. Most of these appear to be of moderate size only. However, it is recommended that the retention of these street trees be conditioned and that any replacement tree takes these existing trees into consideration.</p> <p>Some of the planter areas, particularly on the Ground Floor upper level, appear to be barely wide enough to support</p>	<p>2</p>
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	<p>any meaningful planting and in fact they could struggle to support any planting at all.</p> <p>The configuration of the main landscape area on the first floor also continues to compromise the privacy of Unit 1. It could be argued that this location is inappropriate for communal use (and should therefore logically be accessible only from Unit 1).</p> <p>Further to the above it should be noted that SPP7.3 requires that developments proposing in excess of 10 dwellings must provide 6m² of 'communal open space' per dwelling. If the abovementioned first floor landscape area were to become private, then technically this development would no longer comply with the 'communal open space' requirement. This 'predicament' is a product of deficiencies in the original site planning without modifications, the proposal does not meet the 'design excellence' criteria for either of the outcomes represented above'.</p> <p>Drawing SK09 has a note on the eastern edge stating 'glazing for safety' which points to a line inside the outer edge of the planter in this same vicinity. The same detail appears to continue around the northern side of the building. This detail would appear to hinder ease of access and hence the ability to maintain this planting.</p> <p>Overall, the landscape design proposes a reasonable range of plant species for each of the various physical locations with their respective microclimatic conditions.</p> <p>The provision of the 'Residents Terrace' is a significant positive attribute of the proposal. That said, the narrow strip of landscape on the southern side of the walkway leading to this area may be problematic due to its limited width and its shady location. As such it will be difficult to maintain and prone to failure.</p> <p>Further explanation should be provided with regard to the chosen rationale for what appears to be the public art as shown on the Elizabeth Street elevation. No consideration appears to have been given as to the implications regarding the angle of the street and its impact upon the 'artwork', i.e. it is not 'purpose commissioned' and as such it is not effectively integrated into the architectural expression.</p> <p>Notwithstanding the issues raised above, some of which could be conditioned, with one exception, the quality of the landscape is considered to be of a sufficiently high standard to warrant supporting the proposal. That one exception relates to the close proximity of the main landscape area on the first floor which will likely compromise the privacy of Unit 1. This deficiency is really a site planning issue.</p>	
3. Built form and scale	<p>The Applicants have made no adjustment to the design and as such all prior concerns remain applicable. The development is excessive in bulk and scale and</p>	0

	significantly exceeds the existing character and default control expectations for the area. This is due to a combination elements. The plot ratio is significantly exceeds the default plot ratio control. The minimum side boundary setbacks have not been achieved on all sides. The size and extent of parapet walls to the west and south further enhance the oversized scale of the development. Further to this, the building design has an enhanced sense of verticality through the use of repetitive building articulation. Greater sophistication in the articulation of built form is required.	
4. Functionality and build quality	The Applicant has not significantly amended the original design and therefore the previous concerns are still applicable. There are considerable concerns about the functionality of this design. The office space has been principally provided in order to sleeve podium carparking without adequate consideration given to its future use. The office space has a poor spatial design and inefficient layout. Poorly designed commercial space has limited capacity for adaptation, will likely struggle to meet market demand and be readily leased. This which could in turn result in extended vacancies. Given the significance of the commercial space as the interface of the building to Broadway, an empty office tenancy would be undesirable. The overall development has applied minimum standards for circulation, movement and room sizes throughout.	1
5. Sustainability	The development has been designed to maximise access to the northern orientation. The overall design has achieved the minimum requirements for sustainable design. There is concern about the quality of the office space with its extensive glazing to the east and north. Given the small size of this space the heat loads are likely to create a high energy demand to create a comfortable space. The design of the office space needs to be redesigned to address considerable heat gain issues which will have serious impacts on the comfort of the spaces and be entirely inefficient in its energy usage.	2
6. Amenity	<p>The Applicant has not made any effort to adjust the design. The bulk and scale of this development creates significant compromises to the amenity of the surrounding property. The size of the boundary walls to the south and west will have significant negative impacts on the neighbours. The height of the development will ensure that at least 2 of the units to the south will receive no natural light. Further to this, the five and half storey elevation facing the property on the western boundary will have a significant impact.</p> <p>The application is not supported. The impacts on the adjoining properties will be significant and unreasonable. Substantial redesign is required.</p>	0
7. Legibility	The width of circulation areas leading to several apartments do not meet the minimum standards of SPP7.3. There are also some units that have openings to bedrooms and kitchen spaces facing onto common circulation spaces. Additional information is required to demonstrate how the requirements of SPP 7.3 have been met. The unit design should be reconsidered to create better separation of common areas and private spaces.	1
8. Safety	No comments. The application is supported.	3

9. Community	The Applicant has made no effort to address earlier review comments. The development has filled the site, creating little space at street level for public realm engagement. The development has not maximised the site's prominent corner location and related design opportunity. There is no space for public realm engagement on either street at ground level. The poor design of the commercial space has no potential for adaption. The application is not supported.	0
10. Aesthetics	The Applicants have made minimal adjustments to the design aesthetics. All of the previous concerns are still relevant to meeting the requirements of Design WA. The design needs considerable rework to achieve an elegant composition. There is a general lack of co-ordination in the elevational treatment. Fenestration is seemingly random in its placement and size. There is no clear logic that is driving the choice or distribution of materials. The top of the building lacks a clear resolution. The south elevation in particular is very imposing with large featureless expanses of brickwork separated by open walkways that is visually similar to public housing blocks. The aesthetics are also negatively impacted by the excessive bulk and scale creating a heavy and imposing building that is in extreme contrast to the surrounding area and its desired future character.	0

State Planning Policy 7.2 – Precinct Design

Given the site's status as a Specialised Activity Centre, the City has completed an assessment of the relevant provisions and is contained as **Attachment 7**.

State Planning Policy 7.3 - Residential Design Codes Volume 2 – Apartments

The purpose of State Planning Policy 7.3 - Residential Design Codes Volume 2 - Apartments (R-Codes Vol. 2) is to provide planning and design standards for residential apartments, including those within a mixed use context. In this regard, the R-Codes Vol. 2 specifies a series of elements, with associated objectives, which developments are to achieve.

This can generally be achieved by meeting the acceptable outcomes; however, these are not to be read as prescribed deemed-to-comply standards as they do not necessarily guarantee a positive design outcome. Alternatively, or in addition to the acceptable outcomes, a proposal can also seek consideration based on achieving the related Design Guidance.

An assessment of the proposal against the R-Codes Vol. 2 is detailed in full in **Attachment 8**. Those elements that remain deficient, were raised as key areas of concern during public consultation or which require the imposition of conditions are detailed either in the below.

Element 2.2 - Building height

02.2.1 - The height of development responds to the desired future scale and character of the street and local area, including existing buildings that are unlikely to change.

Whilst the development is consistent with the Acceptable Outcome, the proposal is not considered to meet this objective. The massing and height of the development when viewed from the south (and rear) does not respond to the existing future scale and character of the local area.

The property to the south is a grouped dwelling development comprising 16 dwellings on individual strata titles. Other than heritage properties, there is no guidance on which forms of development are considered “unlikely to change”. It is clear, however, that the probability of 16 separate landowners, agreeing to sell or redevelop at any one time is low compared to a single house or a smaller grouped dwelling development. Therefore, the City is of the view that the grouped dwelling development at 109 Broadway is unlikely to change for some time. With that in mind, the subject development fails to respond to its context and does not appropriately transition the built form down to the two storey grouped dwellings to the immediate south.

The property to the west is a single house, which is zoned Residential (R60). The proposed massing of the development toward the western boundary is problematic as this is the most sensitive interface. The emerging character of Broadway is informed by recent development approvals. JDAP has only approved development with a much lower western interface of four storeys where development is setback a minimum of 6m. The upper levels are centrally located, away from the rear boundary.

The development is not consistent with its context or emerging character. This element objective has not been met.

O2.2.2 – The height of buildings within a development responds to changes in topography

There is an approximate 5m difference in NGL from the rear boundary down to the Broadway frontage. There is, however, minimal change in building height across the site. In order to achieve this element objective the City would expect the development to respond to changes in topography or for the top floor to be reduced in area to reduce its visibility from the site’s surrounds.

Further improvements are needed in order to meet this element objective.

O2.2.3 – Development incorporates articulated roof design and/or roof top communal open space where appropriate.

The upper floor addresses Broadway and features communal space that includes landscaping, communal facilities and. This element objective has been met.

O2.2.4 – The height of development recognises the need for daylight and solar access to adjoining and nearby residential development, communal open space and in some cases, public spaces.

It is acknowledged that due to the lot orientation and arrangement on Broadway, development will have a significant overshadowing impact on properties to the south. However, the design of the proposal with its sheer 5 storey rear interface and 5.11m setback exacerbates the overshadowing impact on the grouped dwellings that lie to the immediate south.

Broadway's emerging character includes generous rear setbacks at a minimum of 6m to reduce the bulk, scale, privacy and solar access impact of new development, with significant separation provided at the upper floors.

The City considers the current rear setback arrangement to be unreasonable and capable of further improvement. A greater western lot boundary setback for the 1st to 3rd floor of 6m and greater separation above would improve daylight and solar access to the rear garden spaces to the adjoining property at 109 Broadway.

Modifications are needed to meet this element objective.

Element 2.3 - Street setback

O2.3.1 – The setback of the development from the street reinforces and/or complements the existing or proposed landscape character of the street.

In accordance with the primary controls, the City promotes nil setback at ground level within commercial or mixed use areas, with recessed areas to allow for high quality landscaping and alfresco seating. Moreover, the majority of mixed use developments approved on Broadway have these streetscape characteristics.

However, due to building (and balconies) orientation to Elizabeth Street, there is limited on-structure landscaping opportunity on Broadway. Similar proposals on Broadway have had substantial and meaningful on structure or canopy tree planting that is integrated with the overall design. The subject landscape plan offers little in this regard. The proposed landscaping on Broadway does not positively contribute to the existing landscape character of Broadway.

At ground level, the subject application will result in a poorer pedestrian experience at this important corner location, located opposite Broadway's main retail and commercial shopping centre. The vehicle access occupies a significant proportion of the ground level façade. Unlike other development on Broadway, the subject site is afforded a secondary street frontage ideal for provide vehicle access. The City's landscape architect noted the unnecessary duplication of vehicle access points as a reason for the lack of landscaping at street level.

Based on the current design, the landscaping proposed at ground level reduces the development's potential activation of Broadway by setting the development back behind a narrow landscaping strip. The current design contradicts the principles of activated frontages, by virtue of its design. The Broadway façade is dominated by solid materials instead of the intended open, glazed facades. In its current form, it is difficult to see how the current office design would be converted into an adaptive active land use, such as café or restaurant, consulting room, gym due to its poor layout.

Having regard to the Streetscape character outlined in A2 of the R-Codes Vol. 2, the street frontage is not considered attractive or coherent.

O2.3.2 – The street setback provides a clear transition between the public and private realm.

The landscaping, and walls with landscaping on top provides a clear transition between the public and private realm.

This element objective has been achieved.

O2.3.3 – The street setback assists in achieving visual privacy to apartments from the street.

The apartments on the first floor are provided with solid balustrading, to maintain privacy. This element objective has been achieved.

O2.3.4 – The setback of the development enables passive surveillance and outlook to the street.

Setting aside the ground floor office, the development's windows and balconies provide opportunity for passive surveillance of and outlook to the street.

Overall, this element objective has been achieved.

Element 2.4 - Side and rear setback

O2.4.1 – Building boundary setbacks provide for adequate separation between neighbouring properties.

The increased setback of the open access walkway from 1.62m to 2.85m, has improved the separation provided between the subject site and the adjoining southern property (No. 109 Broadway)

The western interface has not been modified to the extent that it could be supported. It remains problematic due to the consistent setback applied from the 1st to the 5th floor. One of the principal objectives of separation is that as buildings get taller, more separation is needed to maintain amenity. This is important given the western interface addresses the lower density code. Further setback of the 4th and 5th floor is required to meet this element objective.

O2.4.2 – Building boundary setbacks are consistent with the existing streetscape pattern or the desired streetscape character.

Attached development forms are encouraged within mid-rise urban corridors at the lower levels, in order to create a podium typology.

At the upper levels, although minimal, the setback is not inconsistent with similar proposals approved by JDAP.

Turning to the secondary street, the setback of the rear interface requires improvement but is not inconsistent with the existing streetscape pattern, which features infill housing and minimal setback.

This element has been achieved.

O2.4.3 – The setback of development from side and rear boundaries enables retention of existing trees and provision of deep soil areas that reinforce the landscape character of the area, support tree canopy and assist with stormwater management.

The emerging landscape character of Broadway is informed by approved and existing development. Generally, lots contain significant deep soil area along the rear boundary that support medium to large tree canopy species which provide visual relief and a

physical buffer between abrupt density code transitions. Due to the encroachment of the basement design, this proposal does not include any deep soil planting along the rear boundary. However, adequate tree canopy and vegetation are proposed within the first floor communal garden area, which is broadly consistent with the landscape character of the area.

The proposed landscaping plan is, supported by the City's independent landscape review and is considered to meet this objective.

O2.4.4 –The setback of development from side and rear boundaries provides a transition between sites with different land uses or intensity of development.

The site has two sensitive interfaces it must consider. The first being the adjoining single house located to the west within the Residential zone (R60), and the second being the adjoining grouped dwelling development to the south which is unlikely to change and is of a much lower intensity and scale than the subject proposal.

In terms of the rear interface, increased setbacks have not been incorporated into the design on the upper 4th and 5th floors, despite consistent feedback from the City. The proposed setback is considered minimal for a mixed use development of this scale and intensity. If approved, the development would have the weakest public realm response of all recently approved Broadway developments.

To achieve this element objective, the 1st-3rd floors require further setback and 4th and 5th floor require much greater setback to provide an appropriately graduated interface with the western neighbour.

The 4th and 5th floors also require additional setbacks to the southern interface for the same reasons identified above and to increase light and solar access.

This element objective has not been achieved.

Element 2.5 - Plot ratio

O2.5.1 – *The overall bulk and scale of development is appropriate for the existing or planned character of the area.*

At 2.8:1 the proposal exceeds the default control for bulk and scale in the R-AC3 density code. Rather, it is consistent the default standard plot ratio for the R-AC1 density code, the highest plot ratio afforded under the R-Codes. It is acknowledged that whilst plot ratio in and of itself can be poor measure of bulk and scale, in this instance the assessed plot ratio directly correlates with the building bulk impact attributed to the proposal. The development has not provided the requisite setbacks or separation needed to adequately ameliorate the impact of the development's bulk and scale. The scale and impact at the rear interface cannot be ameliorated by the landscape plan. The design elements which have been used to articulate the building add to its verticality, exacerbating the impact of the building's scale on every elevation.

Unlike other recently approved developments on Broadway, the design of this building has not adequately reduced the bulk and scale of the development. The City has not been able to identify any acceptable rationale that would warrant such a large departure from the intended default built form control and intended bulk and scale.

This element objective has not been achieved.

Element 2.7 - Separation

O2.7.1 – New development supports the desired future streetscape character with spaces between buildings.

The acceptable outcomes for this element provide for a 9m separation where above 4 storeys. In this case, a 1.543m separation is provided. It is contended that a greater separation for the 4th and 5th floors would ameliorate other areas of concern, including bulk and to a lesser degree overshadowing.

This element objective has not been achieved.

O2.7.2 – Building separation is in proportion to building height.

The separation provided at the upper levels is not proportional to building height. There is no additional separation provided at the upper floors. This results in a poorly articulated and massed design, which runs counter to this urban design based objective.

The 4th and 5th floor setback of habitable space of between 1.543m-2.053m is not considered sufficient to moderate the bulk as viewed from the southern adjoining property.

The 5.11m setback of the 4th and 5th floor is not sufficient to moderate the bulk as viewed from the western adjoining property.

This element objective has not been achieved.

O2.7.3 – Buildings are separated sufficiently to provide for residential amenity including visual and acoustic privacy, natural ventilation, sunlight and daylight access and outlook.

The 1st floor open access walkway is sited too close to the side boundary to maintain acoustic privacy. Open access walkways are less desirable than integrated circulation spaces due to the associated nuisance, light and acoustic issues. The City acknowledges the improvements made by the Applicant with respect to the 2nd – 5th floor walkways which have increased the setback of the internal side of the walkway from 2.6m to 5m.

Internally, the separation between the kitchen of Unit 3 and Bedroom 2 of Unit 4 is not sufficient to maintain internal amenity of those apartments. One or both of these windows will remain shut to prevent acoustic noise, odour transfer.

This element has not been achieved.

O2.7.4 – Suitable areas are provided for communal and private open space, deep soil areas and landscaping between buildings.

The development provides adequate on-structure planting and on-structure soil to support the species selected. The landscape plan is adequate.

This element objective has been achieved.

Element 3.2 - Orientation

03.2.1 – Building layouts respond to the streetscape, topography and site attributes while optimising solar and daylight access within the development.

All apartments are oriented towards Elizabeth Street instead of Broadway. The Broadway frontage has smaller windows and the design of the balconies demonstrates that Broadway is treated as the secondary street. In terms of site attributes, the design does not take advantage of the prominent corner site found opposite an important commercial node on Broadway,. The design has missed an opportunity to appropriately address both frontages and provide a landmark building.

The City acknowledges the Applicant's response to this objective, however, taking advantage of the northern aspect should not be at the expense of the streetscape interface.

The building needs to be redesigned to respond to the streetscape and site attributes.

This objective has not been achieved.

03.2.2 – Building form and orientation minimises overshadowing of the habitable rooms, open space and solar collectors of neighbouring properties during mid-winter.

The property to the south is a 16 grouped dwelling development. The acceptable outcome for the proportion of land to be free of overshadowing is nil which acknowledges that development at the intended scale will cast significant overshadowing.

However, the element objective requires development to be designed to minimise its overshadowing impact. In this instance, the development has a smaller rear setback, significantly more bulk and scale than other development applications recently approved in this locality. DG3.2.3 notes measures such as increasing the setback of upper levels, breaking up the building mass (cut outs) and right-angled orientation to reduce the impacts of overshadowing. Based on the overshadowing analysis provided by the Applicant at least one dwelling on the southern site will be subject to unreasonable overshadowing of the rear garden area and habitable windows. Further improvements are needed to meet this objective.

Element 3.3 – Tree canopy and deep soil areas

03.3.1 – Site planning maximises retention of existing healthy and appropriate and protects the viability of adjoining trees.

The site only building onsite is a commercial premises. The parking area takes up a large proportion of the site area and as a result the site is not afforded significant tree canopy. However, the proposed removal of trees is supported due to the small size and location which would otherwise unreasonably constrain the development of the site.

03.3.2 – Adequate measures are taken to improve tree canopy (long term) or to offset reduction of tree canopy from pre-development condition.

The two medium trees and seven small trees are proposed to replace the current on-site trees.

Although these are to be on-structure plantings, this is considered acceptable.

This element objective has been achieved.

03.3.3 – *Development includes deep soil areas, or other infrastructure to support planting on structures, with sufficient area and volume to sustain healthy plant and tree growth.*

The Applicant has provided a report which outlines the suitability of the selected species and the soil volume proposed for the trees. This report has been reviewed by the City's independent landscape architect consultant. Although there are some deficiencies, on balance, it is supported.

This element objective has been achieved.

Element 3.4 – Communal open space

03.4.3 – *Communal open space is designed and oriented to minimise impacts on the habitable rooms and private open space within the site and of neighbouring properties.*

Whilst changes made to the communal open space on the first floor are an improvement, in the event of an approval, it is recommended that this area be for the sole use of Unit 1 to prevent privacy issues.

This element objective can be achieved with minor modifications.

Element 3.5 – Visual privacy

03.5.1 – *The orientation and design of buildings, windows and balconies minimises direct overlooking of habitable rooms and private outdoor living areas within the site and of neighbouring properties, while maintaining daylight and solar access, ventilation and the external outlook of habitable rooms.*

The south-facing major openings are screened or are hi-light windows, most habitable rooms that address the side boundary and rely on some form of privacy screening have a second window for outlook, ventilation, and light.

Only one habitable room has a relatively poor outlook. Unit 16, Bedroom 2 features one south-facing hi-light window with limited outlook. However, this can be addressed by way of condition, to require a second window be added to the western wall of the room.

The west-facing edge of the balconies, located on the western side of the building are screened to prevent direct overlooking of the property to the rear.

The City requested changes with respect to the communal open access walkways as the previous 1.543m setback was not sufficient to ameliorate the amenity impact. While the setback has been improved, it remains a suboptimal design solution.

Further improvements and or redesign is recommended with respect to the open access walkway to achieve this objective.

Element 3.6 – Public Domain Interface

O3.6.1 – The transition between the private and public domain enhances the privacy and safety of residents.

Due to the ground floor having two frontages the transition is less prominent than other residential developments. Privacy and safety are provided through solid balustrading on the first floor.

This element objective has been achieved.

O3.6.2 – Street facing development and landscape design retains and enhances the amenity and safety of the adjoining public domain, including the provision of shade.

Although many acceptable outcomes have been met for this design element, the current set of plans do not optimise the site's Broadway frontage and do not appropriately address the street. The landscaping as viewed from Broadway is minimal and does not enhance the amenity in this locality. If approved in its current form, the development would detract from the streetscape.

This element objective has not been met.

Element 3.7 - Pedestrian access and entries

O3.7.1 – Entries and pathways are universally accessible, easy to identify and safe for residents and visitors.

Both the commercial and residential entries are universally accessible, and identifiable from the street. This element objective has been achieved.

O3.7.2 – Entries to the development connect to and address the public domain with an attractive street presence.

The residential entry is consistent with the expectations of a higher density residential development.

The office entry design and external façade treatments are overly simplistic. Further resolution of the design is warranted to improve the connection with the street.

This element objective has been partly achieved.

Element 3.8 – Vehicle access

O3.8.1 – Vehicle access points are designed and located to provide safe access and egress for vehicles and to avoid conflict with pedestrians, cyclists and other vehicles.

Both vehicle access points have been designed for two-way access and are provided with appropriate sightlines.

The City's Technical Services does not support the vehicle access for the visitor bays via Elizabeth Street, due to the potential conflict between unfamiliar drivers and the Safe Active Street. Further information about this advice is provided in the assessment of Element 3.9 – Parking.

O3.8.2 – Vehicle access points are designed and located to reduce visual impact on the streetscape.

The City would have preferred the Applicant rationalise the vehicle access points, to reduce their cumulative impact on the streetscape, however, as per A3.8.1, there is scope for development to have dual access points if they are located on different street frontages, which in this case it does. The Applicant has added visually permeable gates, addressing the issue raised in the City's RFI.

This element objective has been achieved.

Element 3.9 – Car and bicycle parking

O3.9.1 – Parking and facilities are provided for cyclists and other modes of transport.

Adequate cyclists bays are proposed on site. The visitor cycling bays are located in close proximity to the street and are easily identifiable. The resident cycle bays are located internally.

O3.9.2 – Car parking provision is appropriate to the location, with reduced provision possible in areas that are highly walkable and/or have good public transport or cycle networks and/or are close to employment centres.

The site is located in close proximity to two bus routes that stop frequently. The site is close to the identified UWA-QEII Specialised Activity Centre, the boundaries of which are yet to be defined. Whilst, under the provisions of the Draft Medium Density Codes the site would be considered Location A, under the current framework it remains Location B.

In light of the above, the City takes a pragmatic approach to parking on Broadway. Consideration is given to the City's Technical Services (Traffic Engineering) advice which in this case has deemed the development's provision of parking bays is deficient. With only two visitor bays, the development will rely on street parking. A development of this size requires more on-site bays that are readily accessible to avoid visitors to the building utilising the surrounding area's on-street parking bays.

In addition to the above, the development provides only 3 office bays and one ACROD bay. Further bays are needed to meet this element objective and avoid office staff and visitors utilising on-street parking bays. There is also concern that with limited parking, alternative active land uses such as café, restaurant, or shop may not be feasible.

This Element Objective is not met.

O3.9.3 – Car parking is designed to be safe and accessible.

The City's Technical Services does not currently support the location of the visitor bays accessed from Elizabeth Street. This is due to the Safe Active Street which was recently constructed on Elizabeth Street. The Safe Active Street was a joint initiative by the City and the Department of Transport and City to encourage non-motorised transport and discourage non-local traffic. Having high turnover bays (such as visitor bays) accessed from Elizabeth does not meet the road design objectives. Elizabeth Street has a modified street dimension and a speed limit of 30km/hour. Technical

Services is concerned about the safety of users of the Safe Active Street and visitors to the site who are unfamiliar with lower speed limit. The City requests that the visitor bays be relocated to the lower ground floor, which is accessed from Broadway.

Minor modifications are required to address this objective.

O3.9.4 – *The design and location of car parking minimises negative visual and environmental impacts on amenity and the streetscape.*

In terms of the streetscape impact of the car parking area, the City acknowledges the modifications made by the Applicant to reduce the impact of above-ground parking area. The upper ground floor is now sleeved with a narrow office screening the parking area from view.

However, this element objective also requires consideration of the negative visual impacts caused by parking areas on the amenity of the area. The emerging character of Broadway includes basement parking, which reduces the overall height, bulk and scale of development. By locating the parking area below ground, the rear interface is lowered and the built form can be appropriately transitioned down.

If the Applicant seeks to maintain the current height and massing, the City is of the view that the development should have both levels of parking at basement level. The City's peer reviewer noted the upper ground floor parking area as an issue as it presents as a storey to the rear and results in greater bulk and scale than it otherwise would if it were located below ground. Unless the development is modified the current parking area design has a negative impact on the amenity of the western adjoining neighbour.

Further improvements are needed for this element objective to be met.

Element 4.1 – Solar access and daylight

O4.1.2 – *Windows are designed and positioned to optimise daylight access for habitable rooms.*

Although many of the windows are small, they are proportional to the room sizes they are appurtenant to.

With the exception of Unit 16, bedroom 2, habitable rooms receive appropriate daylight and solar access. Should JDAP be of a mind to approve the development the City recommends a condition to include a second window on the western elevation to improve daylight access.

This element has been achieved, via condition.

Element 4.4 – Private open space

O4.4.3 – *Private open space and balconies are integrated into the overall architectural form and detail of the building.*

The City has concern with the façade design and the lack of landscaping provided to the building.

The Applicant provides almost no landscaping to the north, east or west elevation. Landscaping has been used successfully in other approved developments on Broadway to provide visual relief and soften the bulk of the building.

To achieve this element objective, the proposed development requires minor modifications.

Element 4.5 – Circulation and common spaces

O4.5.2 – *Circulation and common spaces are attractive, have good amenity and support opportunities for social interaction between residents.*

The common space on the 5th floor is supported as it meets the design guidance and acceptable outcome.

However, as per DG4.5.1, the open access walkways located on the southern elevation will have an unreasonable adverse impact on the internal and external amenity of proposed dwellings.

As per DG4.5.5, light spill and noise transfer will impact the habitable rooms that address the walkway. On each floor there are at least 3-4 habitable rooms (kitchen and bedrooms) that will be impacted by noise and light. Several habitable rooms have their only external window oriented to the walkway. Although some habitable rooms are separated by planter boxes (providing some separation), the City's independent Landscape reviewer was concerned that limited daylight would prevent these plants from thriving and thus not provide the intended landscape screening.

Open access walkways are a common feature of apartment buildings built in the 1960s and 1970s. Today, open access walkways may be appropriate for lower scaled commercial and residential development, however, it is an unusual design feature for a 6-level mixed development with minimal separation. This aspect of the design is not supported due to the future adverse and unreasonable amenity impact it will have.

Regarding the functionality of the corridors, Units 4 and 5 have entry doors that open into one another. As per DG 4.5.4, this is a poor design response and will cause congestion in this part of the building.

In the event JDAP approves the subject application, a condition requiring a lighting plan addressing light spill is recommended.

This element objective has not been achieved.

Element 4.7 – Managing the impact of noise

O4.7.1 – The siting and layout of development minimises the impact of external noise sources and provides appropriate acoustic privacy to dwellings and on-site open space.

Neither Broadway nor Elizabeth Street are roads that trigger additional noise protection in accordance SPP 5.4.

Notwithstanding the above, dwellings are oriented north, away from Broadway which is the busier road, within the Acoustic report it warrants only 2db to the assessment.

The City's Health Services has reviewed the Acoustic Report and the potential noise sources. The City supports its findings and recommendations. In the event the JDAP approves the development, the acoustic report and the recommendations contained therein is to form a condition of approval.

This element is capable of being achieved via condition.

Element 4.9 – Universal design

O4.9.1 – *Development includes dwellings with universal design features providing dwelling options for people living with disabilities or limited mobility and/or to facilitate ageing in place.*

A condition of approval will ensure that the minimum number of apartments are design to achieve Silver Level requirements as defined in the Liveable Housing Design Guidelines (Liveable Housing Australia).

A condition of approval will ensure that all circulation and common spaces are universally accessible.

Should JDAP approve the development, a condition of approval is recommended to ensure this element objective has been achieved.

The City's design review notes that the development does not appropriately consider the local area and the emerging character of Broadway which is informed by recent approvals on Broadway.

The key issues relevant to this design element are summarised below:

Windows

The placement of windows is an important driver of character and aesthetics and have an important impact on the overall appearance. The submitted design has randomly placed windows to the all the facades except the southern. This random placement does not create any alignments or seek to establish any relationships within the overall building form. The outcome is a façade treatment that lacks co-ordination, appears unfinished and has no connections to the surrounding buildings. The treatment of the commercial windows to the north and east elevations are overly complex and do not appear to be relate to the broader context of the area.

Materials

The development uses a diverse palette of materials and colours that contributes to the overall heavy and imposing appearance. This diversity also creates a discordant overall appearance and which lacks a unified overall appearance.

Open Access Walkways

Despite several iterations, the City contends that the southern elevation remains commercial in character, as it features open access walkways, small windows and high boundary walls.



Figure 1 - Southern Elevation

Broadway Frontage (Ground floor office)

The ground floor office is not considered to provide an activated frontage consistent with the expectations of the Scheme. The external façade does not adequately interact with the street or create a positive pedestrian experience.

Balconies

The balconies have an important impact on the facade. The central balconies combined with the external expression of the lift lobby areas contribute to the fragmentation and lack of cohesion in the overall façade resolution.

Overall structure

Overall the building appears to be trying to 'squeeze' too much on to the site. In accordance with A4.10.2, the development lacks a clear and unified façade and elevation without a clear base, middle and top. Further to this the recent introduction of another cladding material to the top level further enhances the appearance of being 'unresolved'. The significant difference in height and scale of the building with the surrounding area combined with the material palette establishes an unfortunate reference to social housing blocks built around the Lake Claremont area in the 1960s.

The above are critical design issues which make the development inconsistent with its locality.

Element 4.10 – Façade design

04.10.2 – *Building façades express internal functions and provide visual interest when viewed from the public realm.*

The City's design review noted several issues with the façade design. Overall, it was found to lack an elegant composition, as a result of poor site planning.

The site is located on a prominent corner, at a commercial node on Broadway. The City is of the view that a more considered response to this site's character and context is needed.

The front elevation is treated as a secondary street, with small windows and balconies addressing Broadway. The development's orientation is problematic and contributes to this design issue. Overall, the front, rear and southern elevations require significant modifications to reduce the imposing bulk proposed.

The random placement of windows do not meet the aspiration of this objective. There is not a clear logic to their composition and do not provide an appropriate level of visual interest.

This element has not been achieved.

Element 4.11 – Roof design

O4.11.1 – Roof forms are well integrated into the building design and respond positively to the street.

The roof design does not complement the façade design. The City's design review found that the top of the building is fragmented and lacks a clear resolution. The mixture of horizontal awning elements with different wall cladding finishes is not a clearly defined or recognisable roof element. This outcome contributes to the lack of connection to the character and streetscape of the areas. Due to the issues with the façade design, cumulatively, the roof design is not considered to positively contribute to the overall aesthetic or streetscape.

Element 4.12 – Landscape design

O4.12.1 – Landscape design enhances streetscape and pedestrian amenity; improves the visual appeal and comfort of open space areas; and provides an attractive outlook for habitable rooms.

The proposed landscape plan does little to enhance the Broadway streetscape. The landscaping provided at ground level on Broadway is considered minimal, when compared to past approvals on Broadway. The landscaping plan will not improve pedestrian amenity.

While there is a small section of landscaping provided at upper ground level, it is not integrated into the design and at 0.5m in width it is unlikely to provide any meaningful vegetation to meet this objective.

Landscaping is generally limited to the communal areas. With the exception of Unit 1 and 2, there is no landscaping provided at balcony edges to enhance outlook.

This element objective has not been achieved.

O4.12.2 – Plant selection is appropriate to the orientation, exposure and site conditions and is suitable for the adjoining uses.

Minor improvements to the soil volume and dimension of the planter boxes outlined in red below, located on the upper ground floor:

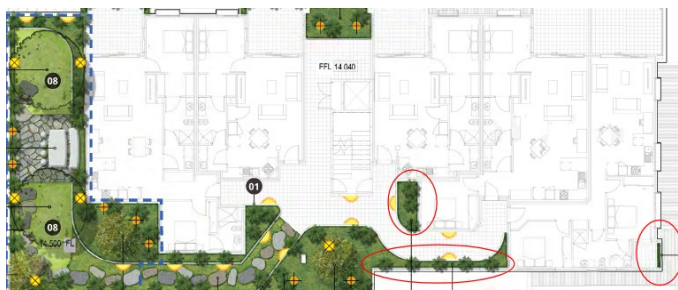


Figure 2 – 1st floor landscape plan

There is concern with respect to the planter boxes located on the 2nd to 5th floors and outlined in red below:



Figure 3 - 2nd to 5th floors landscape plan

With some minor modifications, this element will be achieved.

04.12.3 – *Landscape design includes water efficient irrigation systems and where appropriate incorporates water harvesting or water re-use technologies.*

Irrigation is provided to all landscaped areas.

The development also provides:

- moisture sensors throughout, to ensure water use is minimised
- low water use emitters to ensure only sufficient water is provided to irrigate planting areas
- in-line fertilisation unit to ensure fertilising and moisture retention is controlled
- use of pop - up flood bubblers to suit size of garden beds to ensure any over-spray and wastage is mitigated, and;
- a detailed design and specification will be provided at building license application stage.

A condition is required to ensure that at Building Permit stage, the development includes the above features.

This element has been achieved, with a condition required for compliance.

04.12.4 – *Landscape design is integrated with the design intent of the architecture including its built form, materiality, key functional areas and sustainability strategies.*

Although there are aspects of the landscape plan that have merit, the landscape plan appears to be an afterthought to address the Acceptable outcomes. It is the City's view that despite improvements, it doesn't integrate with the overall design intent. There are opportunities for landscaped areas to reduce the bulk of the development, which have not been employed. Unlike other development applications the City has supported, the application does not provide a landscape plan that is consistent with previous approvals on Broadway. This element objective has not been achieved.

04.14.1 – *Mixed use development enhances the streetscape and activates the street.*

The ground floor office is not considered to enhance the streetscape as it does not provide an activated frontage, consistent with the expectations of the Scheme.

The office land use is not adaptable, as it is not functional, with the upper floor being 2m wide at its narrowest point. The City's design reviewer is concerned that the constrained layout may make the space difficult to lease. No action has been taken to address the flawed layout.

There is also insufficient parking for the office which will lower the leasing potential of the office and may prevent active land uses such as café from operating at this site.

This element objective has not been achieved.

O4.15.1 – Reduce energy consumption and greenhouse gas emissions from the development

The City's Building Services reviewed the NatHERS report and noted that it appears to be incomplete, with only 5 apartments modelled.

In the event JDAP approves the development the City recommends the imposition of a condition that requires all dwellings to be modelled to ensure the development achieves this element objective.

O4.17.1 – Waste storage facilities minimise negative impacts on the streetscape, building entries and the amenity of residents.

The development locates waste storage facilities within the car parking area, away from the street, office and dwellings. This element objective has been met.

The City has reviewed the WMP and with minor modifications requested, it is likely the WMP will be supported.

Should JDAP approve the development, a condition to require changes to the bin store area and an updated WMP is required.

O4.17.2 – Waste to landfill is minimised by providing safe and convenient bins and information for the separation and recycling of waste.

The bin store area requires modification before support is provided by the City. However, overall, the bin store is appropriately located to meet this objective.

Local Planning Policies

At its January meeting, Council adopted the Draft Local Planning Policy – Interim Built Form Design Guidelines – Broadway Mixed Use Zone for the purpose of advertising, with consultation occurring between 15 February and 7 March 2020. The Draft LPP provisions include the following modifications to the Acceptable Outcomes in R-Codes Vol 2:

- A maximum Building height of 12.5m above the road level to significant planning proposals within the policy area.
- 2m primary street setback
- 2m side setback (north)
- 4.5m setback (south)
- 6m rear setback
- 7-8m visual privacy setbacks for living rooms and private open space

- 6m visual privacy setback for habitable rooms (bedrooms)
- At least 50% of the required deep soil area being located in the rear setback where abutting an R60 property
- Adding an objective to the policy regarding visual privacy

Clause 67 of the deemed provisions of the *Planning and Development (Local Planning Schemes) Regulations 2015* sets out the matters the local authority is to have due regard to when considering an application, including paragraph (g) any local planning policy for the Scheme area. Although a seriously entertained planning proposal by virtue of its advertising status, Administration has afforded limited weight to this LPP for the following reasons:

1. Legal advice has been received that casts significant doubt over the validity of the policy in its current form and its ability to stand up at SAT.
2. The policy was considered by the State Design Review Panel, which noted that the policy provisions required further work and recommended the policy be informed by built form modelling.
3. The policy amends the R-Codes definition of building height, by relating the permitted height to the site's frontage, instead of natural ground level. This amendment is likely to be invalid.
4. As a consequence of the altered building height definition, the policy limits development to three-four storeys, depending if there is a commercial ground floor with greater ceiling height.
5. Due to the 7m natural ground level differential, the policy limits development within a Mid-Rise Urban Centre to a single storey at the rear of the site, 5m below the permitted building height of a single house in Residential R10.
6. As per Section 1 of the R-Codes Vol. 2, any policy seeking to augment the Acceptable Outcomes must be consistent with the provisions of the R-Codes Vol 2 and is encouraged to be consistent with the local planning framework. Administration is of the view that the policy undermines the intent of the R-AC3 density code, which contemplates development 21m above natural ground level.
7. The objective for the residential floor space is not articulated within the policy properly for it to be considered.
8. There is significant doubt as to whether the built form standards of Draft LPP – Interim Built Form Design Guidelines – Broadway Mixed Use Zone satisfy sub-clause 3(3) of the deemed provisions, which requires all local planning policies to be based on sound town planning principles, for the reasons cited above.

In making a determination under the Scheme, the decision-maker should only have regard to the local planning policy, to the extent that the policy is consistent with the Scheme. Clearly, Draft LPP – Interim Built Form Design Guidelines – Broadway Mixed Use Zone, is inconsistent with the Scheme, as it fundamentally undermines the intent of the Mixed-Use Zone and is inconsistent with Scheme provisions.

Local Planning Policy – Waste Management

The City's *Local Planning Policy - Waste Management* and its accompanying *Waste Management Guidelines* ("Guidelines") sets out requirements for the management of waste for mixed use developments, which are to be considered in addition to Element 4.17 - Waste Management of the *R-Codes Volume 2*.

It is noted that LPP – Waste Management still requires approval by the WAPC. Nonetheless, it is considered appropriate to have due regard to the *Policy* as it does not change the Acceptable Outcomes of Element 4.17 (Waste Management) of the *R-Codes Volume 2*. Rather, it clarifies that the “local government requirements” of A4.17.1-4.17.3 of the *R-Codes Volume 2* are to be read as “the City’s requirements”.

In this regard, LPP – Waste Management and accompanying Guidelines provide criteria for bin access and storage as well as specifying waste generation rates, number of bins required to service the development and the resultant frequency of waste collection.

The City’s Technical Services has assessed the application in accordance with LPP – Waste Management and has requested minor changes to the waste storage areas. Given the nature of the changes, the City is of the view that this issue is capable of being addressed by way of condition in the event JDAP approves the development.

Local Planning Policy – Parking

Land Use	Car parking Ratio	Required	Provided	Difference
Office	4.75 per 100m ² of net lettable area. 2 spaces in every 3 to be set aside for employees.	6	2	4

The City has undertaken an assessment of the Office land use in accordance with the City’s Local Planning Policy – Parking (LPP – Parking). The assessed net lettable area is slightly less than what has been noted in the Applicant’s report. However, the office shortfall remains problematic as only two bays are provided onsite. The development overall is not supported by the City as it does not satisfy the objectives of LPP – Parking

Landscaping

Whilst the City’s Local Planning Policy - Landscaping references clauses of the City’s now-superseded Local Planning Scheme No.2, it nonetheless still has effect and specifies that a landscaping plan is to accompany all multiple dwelling applications.

In this regard, a Landscape Concept Plan and associated Design Report has been prepared in accordance with the *Policy* and is contained in **Attachment 9**. This Plan identifies those areas within the development to be landscaped.

Specialised Activity Centre Plan

Land within the Crawley-Nedlands neighbourhood, which includes the University of WA (UWA) and associated colleges, Broadway, Queen Elizabeth II Medical Centre (QEII MC) and Hollywood Hospital is identified as a Specialised Activity Centre under the State Government’s Central Sub-Regional Planning Framework. Planning and development within the Centre requires coordination between the Cities of Perth and Nedlands, Department of Planning Lands and Heritage, in collaboration with other state agencies.

To achieve coordination, the City of Perth are leading the preparation of a Specialised Centre Plan (SCP) to ensure the potential of the Centre can be fully realised and the

future growth and development coordinated. The SCP would balance the opportunity to unlock future growth and investment opportunities, with consideration of existing and emerging issues as they relate to built form outcomes, density, transport, environment, and heritage.

The timing of preparation of the SCP is currently being determined, however work has begun on this plan. The subject site is located at the western edge of the Centre. Once prepared, the future SCP will affect the future planning and development of the site.

There are currently no provisions that the application can be assessed against.

Local Planning Strategy

The City's *Local Planning Strategy* was endorsed by the WAPC on 26 September 2017. The subject site is located within the 'Hampden/Broadway' Precinct. The relevant objectives of the Local Planning Strategy are tabled below.

Strategy Provision	Officer Response
<i>Plan Hampden/Broadway as a medium intensity, low to medium rise Urban Growth Area within the City of Nedlands.</i>	Not Satisfied The development is not consistent with the R-AC3 coding with respect to its massing, bulk, scale and separation. The additional plot ratio is considered to have an unreasonable impact on the amenity of the locality and streetscape.
<i>Provide a Transition Zone abutting Hampden/Broadway to quickly lower development intensity into the surrounding precincts.</i> <i>Where applicable on Broadway, the significant east-west topography variation will function as the Transition Zone.</i>	Not Satisfied Kingsway has a density coding of R60 to transition from the higher R-AC3 density along Broadway. The development provides a five and half storey interface to the abutting rear R60 coded lots due, which will have a detrimental impact on the property to the rear.
<i>Focus compatible development around identified residential and non-residential pockets, acknowledging that the intensity of redevelopment will vary in response to the predominant land use.</i> <i>Broadway is encouraged to provide greater residential development which may consist of a component of non-residential use.</i> <i>In light of the above, provide flexibility to consider any redevelopment which demonstrates exemplar urban design and is sympathetic to the existing character of the area.</i>	Not Satisfied The development was assessed by the City's architect consultant and it was considered unsympathetic to the existing character of the area. The intensity of development has not been justified. The application is not considered to provide exemplar urban design.
<i>Careful consideration will be given to short stay and alternative stay accommodation</i>	Not Applicable No short-term accommodation is proposed.

Strategy Provision	Officer Response
<i>In appropriate and identified locations, consider a range of uses (particularly knowledge based uses) and accommodation types that complement the Health/Education/Research function of the UWA-QEII Specialised Centre on a scale that will not detract from other centres in the hierarchy</i>	Satisfied An 'Office' is a permitted use and is consistent with this objective. A 'Residential' use is also permitted and, given the various proposed apartments sizes, could provide accommodation options for downsizers, or university students.
<i>Ensure strategic planning of the UWA-QEII Specialised Centre and its boundaries is completed in partnership with the affected local governments and State government instrumentalities.</i>	Noted and Ongoing (future planning required)

Further to the above, the LPS identifies the site and the surrounding area, as a Neighbourhood Centre. The LPS identifies an additional Neighbourhood Centre at the intersection of Broadway and Stirling Highway. A Local Centre also exists, approximately 700m south of the site at the intersection of Broadway and The Avenue.

Based on the above, it is clear the proposal is not consistent with the intent of the LPS for this strategically important site.

Conclusion:

The City acknowledges the modifications made by the Applicant in response to two preliminary reviews, the architectural and landscape architect reviews, and the City's initial assessment as part of the application. However, the changes made do not materially address the concerns relating to bulk and scale, lack of site planning, orientation, façade and roof design, all of which have an impact on the character of the locality and impact on the adjoining property to the south and west.

In its current form, the City is of the view that substantial modifications are required to the upper levels in order to address setbacks, building separation and overshadowing. Another matter to be addressed relates to the need for appropriate transitioning given the property abuts the Residential Zone (R60). The current proposal presents as a 'hard edge' rather than as a transitional development.

The upper ground floor is dominated by parking which adds an additional storey to the rear interface. The development has not provided an appropriate response to its corner location and fails to include a materials and colours schedule that is consistent with the locality.

The cumulative effect of a significant number of element objectives that have not been fully addressed indicates that the development is exceeding its yield potential to the detriment of the streetscape, adjoining properties and internal apartments.

Overall, the proposal has many lower-quality design features which do not positively contribute to the emerging character of Broadway. While many of the City's requested modifications can be accommodated within this current application, there are multiple that may require a new application to be made.

For the reasons cited above, the City recommends the application be refused.

Officer Recommendation

1. **Refuse** DAP Application reference DAP/20/01871 and accompanying plans (stamped received 8 February 2021) in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, and the provisions of the City of Nedlands Local Planning Scheme No. 3, for the following reasons:

1. Having regard to State Planning Policy 7.3 Residential Design Codes Volume 2 – Apartments, the form, bulk and scale of the proposed development is inappropriate to the context and local character and will result in unreasonable adverse external amenity impacts given that:

- a. It does not achieve an appropriate building envelope and massing as the development does not adequately satisfy:

- i. Element 2.2 (Building Height) Element Objectives O2.2.1, O2.2.2 and O2.2.4 as it creates a bulk and scale that adversely affects the amenity of the property to the west at No.36 Kingsway, Nedlands and No.109 Broadway, Nedlands.
- ii. Element 2.3 (Street Setbacks) Element Objective O2.3.1 as the building is not consistent with the landscape character of Broadway; and
- iii. Element 2.4 (Side and Rear Setbacks) Element Objectives O2.4.1 and O2.4.4 as there are insufficient side boundary setbacks to the south-western, north-eastern and north-western boundaries at Level 6. The insufficient side and rear boundary setbacks are not supported given they:
 - Do not provide for adequate separation or transition between the site and neighbouring properties which are affected by different density codes and development intensity; and
- iv. Element 2.5 (Plot Ratio) Element Objective O2.5.1 as it far exceeds the bulk and scale of a building coded R-AC3 and its massing will unreasonably impact the Residential (R60) single house to the west (No. 36 (Lot 571) Kingsway) and the grouped dwelling development to the south (No. 109 Broadway); and
- v. Element 2.7 (Building Separation) Element Objective O2.7.1, O2.7.2 and O2.7.3 as there is insufficient separation at Level 6, to provide for reasonable external residential amenity including natural ventilation, and sunlight and daylight access.
- vi. Element 3.2 (Orientation) Objectives O3.2.2 as there is insufficient evidence that the building form minimises shadow impacts on the adjoining property (No. 109 Broadway) in mid-winter;

- b. It does not respond appropriately to the streetscape as the development does not adequately satisfy:

- i. Element 3.2 (Orientation) Objective O3.2.1 due to the building's poor design response to its context and streetscape.

- ii. Element 3.6 (Public domain interface) Objective O3.6.2 as the Broadway frontage is not appropriately activated and has a poor landscape response.
 - iii. Element 3.7 (Pedestrian access and entries) Objective O3.7.2 as the internal layout of the ground floor office results that does not adequately address the public domain.
 - iv. Element 3.9 (Car and bicycle parking) Objective 3.9.1 and 3.9.4 as the oversupply of car parking at levels 1 and 2 diminishes the development's opportunity to provide an appropriate pedestrian-scale, activated streetscape interface and results in negative visual amenity and streetscape impacts.
 - v. Element 4.10 (Façade design) Element Objectives O4.10.1 and O4.10.2 as the development does not provide a resolved façade treatment that aesthetically aligns with the quality and character of the area. It does not incorporate a sophisticated composition of materials and finishes to define the 'top' of the building, articulate the side facades or reduce the dominance of the upper levels.
 - vi. Element 4.11 (Roof design) Objective O4.11.1 the roof form has not been appropriately defined to reduce perceived bulk and scale and does not therefore positively to the street.
 - vii. Element 4.12 (Landscaping) Objective O4.12.1, O4.12.2 and O4.12.4 the development has failed to provide landscaping that: is consistent with the area; enhances the streetscape or internal amenity of the dwellings.
 - viii. Element 4.14.1 (Mixed use) Objective 4.14.1 as the ground floor office does not enhance the streetscape or appropriately activate the street.
2. The proposed development is inconsistent with Clause 67 of the *Planning and Development (Local Planning Scheme) Regulations 2015* as the:
- a. The proposed height, bulk, scale and façade design does not accord with the aims and provisions of the City of Nedlands Local planning Scheme No. 3 (cl.67 (a)).
- The development does not meet the requirements of orderly and proper planning in that it does not meet all element objectives of State planning policies SPP7.0 and SPP7.2 (cl.67 (b)). The development does not satisfy the design principle 1 – Context and character; Design Principle 3 – Built form and scale; Design Principle 6 – Amenity; and Design Principle 10 – Aesthetics of State Planning Policy 7.0 – Design of the Built Environment and Elements 2.2, 2.3, 2.4, 2.5, 2.7, 3.1, 3.6, 3.7, 3.8, 3.9, 4.4, 4.5, 4.10, 4.11, 4.12, 4.14 of State Planning Policy 7.3 – Residential Design Codes – Volume 2 – Apartments (cl. 67(c)).
- b. The development is considered to be incompatible with its setting with respect to height, bulk, scale, orientation and appearance given its relationship with the development located on adjoining land (cl. 67(m)); and

- c. The development is not consistent with the character both emerging and existing due to the façade design (orientation, windows, materials and colours), roof design, landscaping and the location of circulation areas (open-access walkways) along the southern boundary. It would result in a compromised design outcome with internal and external amenity impacts that are incompatible with the character of the locality (cl. 67(n)).
 - d. The proposed residential visitor parking access from Elizabeth Street is not supported as it will contradict the objectives of the recently completed Safe Active Street initiative (cl. 67 (s)).
3. The proposed development is inconsistent with the City of Nedlands Local Planning Scheme No. 3 as the development does not achieve an appropriate building envelope and building massing or an appropriate level of internal and external amenity. It therefore:
- a. Does not satisfy the following aims and objectives of the Scheme, being to:
 - i. Protect and enhance local character and amenity.
 - ii. Achieve quality residential built form outcomes for the growing population.
 - iii. Maintain and enhance natural resources.
 - iv. Respond to the physical and climatic conditions.
 - b. Is inconsistent with the following 'Mixed Use' zone objectives of the Scheme:
 - i. To facilitate well designed development of an appropriate scale which is sympathetic to the desired character of the area.
 - c. Fails to provide an activated frontage pursuant to clause 32.4(3)
4. The development does not achieve the relevant objectives of the City of Nedlands Local Planning Strategy, as the current design exceeds the intended built form and streetscape response.

5.0 Recommendation to JDAP

Refusal. See **Attachment 1** for refusal reasons.

6.0 Conclusion

The City acknowledges the modifications made by the applicant in response to two preliminary reviews, the architectural and landscape architect reviews, and the City's assessment as part of the application. However, the changes made do not materially address the concerns relating to bulk and scale, lack of site planning, orientation, façade and roof design, all of which have an impact on the character of the locality, streetscape and impact on the amenity of the adjoining property to the south and west.

In its current form, the City is of the view that substantial modifications are required to the upper levels in order to address the amenity impacts.

For the reasons cited in the report and **Attachment 1**, the City recommends the application be refused.



RENDERED IMAGE FROM CORNER OF BRAODWAY AND ELIZABETH ST.

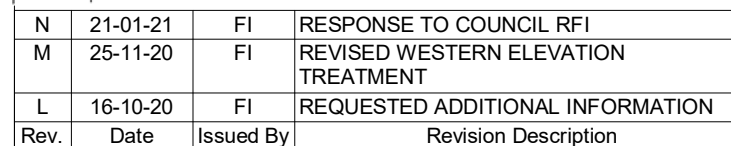
DRAWING SCHEDULE

DWG No.	DRAWING NAME
SK00	EXISTING SITE INFORMATION
SK01	SURVEY
SK02	CONTEXT PLAN
SK02.1	SITE PLAN
SK02.2	SITE SECTION
SK02.3	BUILDING ENELOPE PLAN
SK02.4	3D CUT AND FILL DRAWINGS
SK03.1	BASEMENT/SERVICES PLAN
SK03.2	GROUND FLOOR PLAN - LOWER
SK04	GROUND FLOOR PLAN - UPPER
SK05	FIRST FLOOR PLAN
SK06	SECOND FLOOR PLAN
SK07	THIRD FLOOR PLAN
SK08	FOURTH FLOOR PLAN
SK09	FIFTH FLOOR PLAN
SK10	ROOF PLAN
SK11	NORTHERN ELEVATION
SK12	EAST ELEVATION
SK13	SOUTH ELEVATION
SK15	SHADOW DIAGRAMS
SK16	SECTION
SK16.1	SECTION
SK17	PERSPECTIVE 1
SK18	PERSPECTIVE 2
SK19	PERSPECTIVES 3 + 4
SK20	SOLAR STUDIES
SK21	VENTILATION STUDIES
SK22	PLOT RATIO - LOWER GROUND FLOOR
SK23	PLOT RATIO - UPPER GROUND
SK24	PLOT RATIO - FIRST FLOOR
SK25	PLOT RATIO - SECOND + THIRD FLOOR PLAN
SK26	PLOT RATIO - FOURTH FLOOR
SK27	PLOT RATIO - FIFTH FLOOR
SK28	DIRECT SUNLIGHT STUDIES - FIRST FLOOR
SK29	DIRECT SUNLIGHT STUDIES - SECOND FLOOR
SK30	DIRECT SUNLIGHT STUDIES - THIRD FLOOR
SK31	DIRECT SUNLIGHT STUDIES - FOURTH FLOOR
SK32	DIRECT SUNLIGHT STUDIES - FIFTH FLOOR
SK33	LANDSCAPING PLANS - UPPER AND LOWER GROUND FLOORS
SK34	LANDSCAPING PLANS - APARTMENTS

Underground services have been completely obtained from a Dial-Before-You-Dig service and have not been verified by MNG. Alignments are to coincide with located surface features and markers but are considered indicative. Prior to demolition, excavation or construction, refer to the currency of services, altered or new services installed on or near the project. Refer to the date and method of acquisition. This note is an integral part of this plan.

Existing boundaries have been extracted from the Cadastral Database, which is only a model of the depicted boundary locations are a graph and as they have not been re-established, they are not guaranteed the position unless stated otherwise. Re-establishment of lot boundaries by a surveyor is recommended for any works on or about the lot. This note is an integral part of this plan.

Surface features and levels have been requested scope of works accuracy. This to depict topography or defined only by hard copy some level information is not. Above ground indicators (markers) of ur services are located where visible. Third parties utilising this information sh capture accuracies meet requirements p. This note is an integral part of this plan.



This survey has been completed to CLASS 2 Accuracy
Horizontal Accuracy $\pm 20\text{mm}$
Vertical Accuracy $\pm 20\text{mm}$
This note is an integral part of this plan.

Existing boundaries have been extracted from Landgate's Spatial Cadastral Database, which is only a model of the cadastre. The depicted boundary locations are a graphical representation only and as they have not been re-established by survey, MNG does not guarantee the position unless stated otherwise. Re-establishment of lot boundaries by a Licensed Surveyor is recommended for any works on or about a boundary. This note is an integral part of this plan.

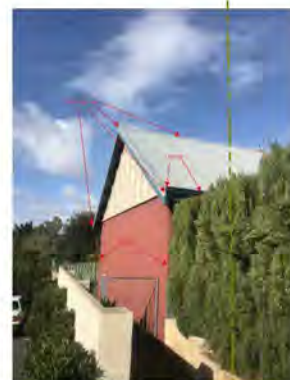
Underground services have been compiled from information obtained from a Dial-Before-You-Dig search. Service locations have not been verified by MNG. Alignments have been adjusted to coincide with located surface features such as manholes, valves or markers but are considered indicative only. Prior to demolition, excavation or construction, users should satisfy themselves to the currency of services, which may have been altered or new services installed on or near the subject site. Refer to the date and method of acquisition. This note is an integral part of this plan.

Surface features and levels have been surveyed to meet the requested scope of works accuracy. The surface may be contoured to depict topography or defined only by spot heights. For clarity on hard copy some level information is not shown, refer to 3D digital file. Above ground indicators (markers) of underground services are located where visible. Third parties utilising this information should confirm the capture accuracies meet requirements prior to use. This note is an integral part of this plan.

Approx. Position of Water Main (DBYD)

Approx. Position of Sewer Main (DBYD)

BROADWAY



Single Storey
Brick Garage
Tin Roof

571

Area Inaccessible
Approx. Ground Level of 12.0m

Rendered Brick Ret Wall

20.12

Bitumen
Carpark

T.O.W= 13.03
T.O.W= 13.64
T.O.W= 12.62
T.O.W= 13.04

Overhang

Drainage Gully

1.8m High Colorbond Fence

Window and Awning
Inaccessible

Double Storey
Brick Building
Tile Roof

1

Second Storey
Floor Level
11.74



544

Double Storey
Rendered Brick Building
Tin Roof

Balcony

Bitumen Carpark

Brick Paving

Brick Paved
Crossover



**OLDFIELD KNOTT
ARCHITECTS PTY LTD**

Project Number: 18020 Rev: N Drawing No: SK01

**105 BROADWAY, NEDLANDS
Lot 544 on Plan 2948 / CT 1461-700
Feature and Contour Survey**

CLIENT:

**OLDFIELD KNOTT
ARCHITECTS PTY LTD**

Project Mgr: Mark Dobson Datum: PG94 / AHD

102511 - DE - 001 - A
Number Type Plan Number Revision

0 2 4 6 8 10
SCALE 1:200 @ A3
ALL DISTANCES ARE IN METRES

For a true to scale reproduction of this plan, plot it to A3 with the Paging Scaling set to None.

The contents of this plan are current and correct as of the date stated within the revision 03/10/19. Clients and persons wishing to utilise this data should satisfy themselves of this plan's currency by contacting the McMullen Nolan Group.

Surveyor: PLJ
Survey Date: 30/08/2019
Precal/Cad: SCDB

ISO 9001
Quality Management
AS/NZS 4803:2001
Occupational Health and Safety Management
FS 565311 OSH 591267



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

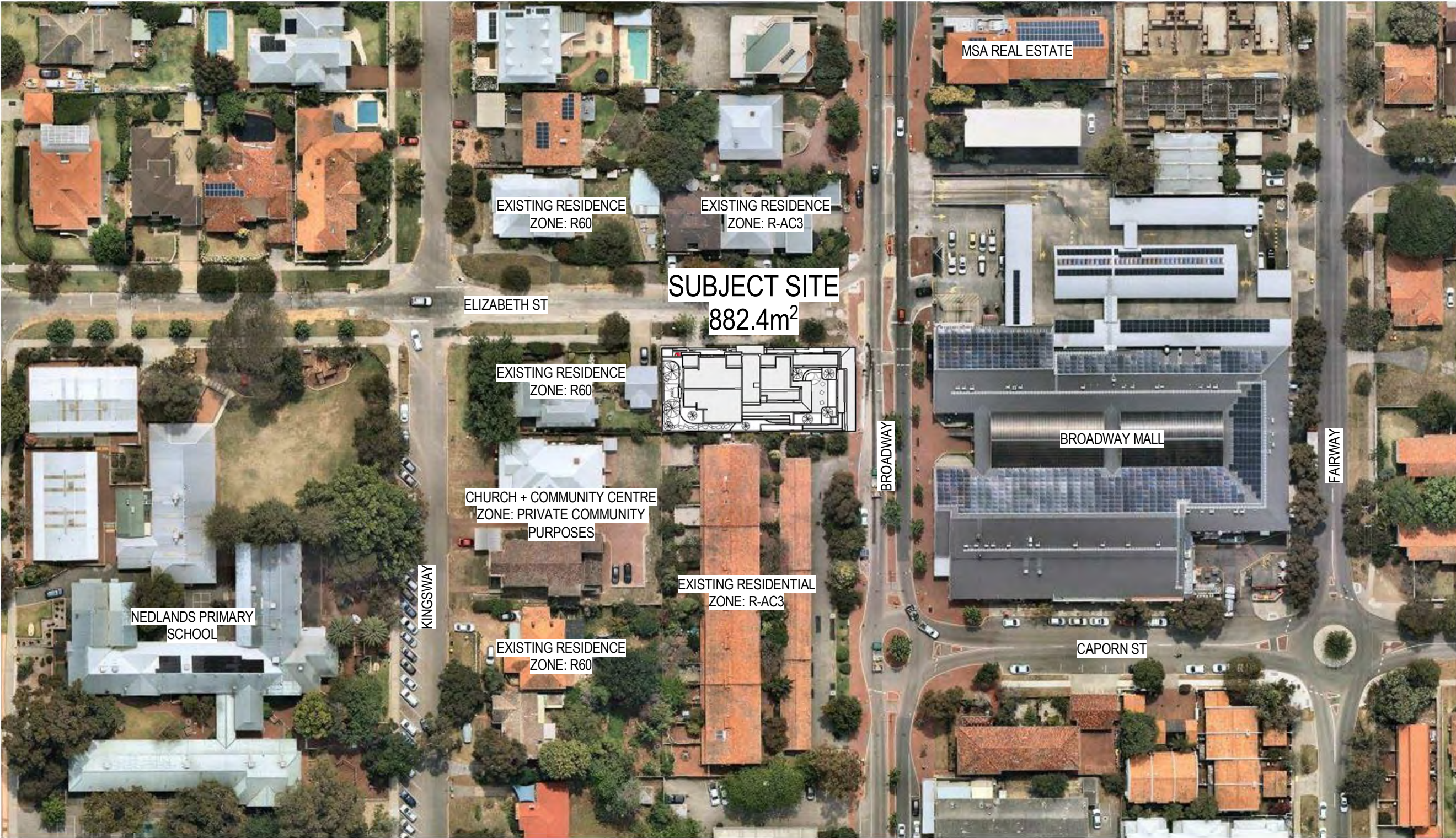


MNG

McMULLEN NOLAN GROUP
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Jandakot, W.A. 6164
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info@mngsurvey.com.au
www.mngsurvey.com.au
ABN 90 009 363 311

Rev.	Description	Drawn	Date	Checked
A	PRELIMINARY PLANNING APPROVAL APPLICATION	PLJ	03/09/2019	MD
A	Initial Issue			



CONTEXT PLAN
SCALE: 1 : 1000

N	21-01-21	FI	RESPONSE TO COUNCIL RF1
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description



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ARCHITECTS PTY LTD**

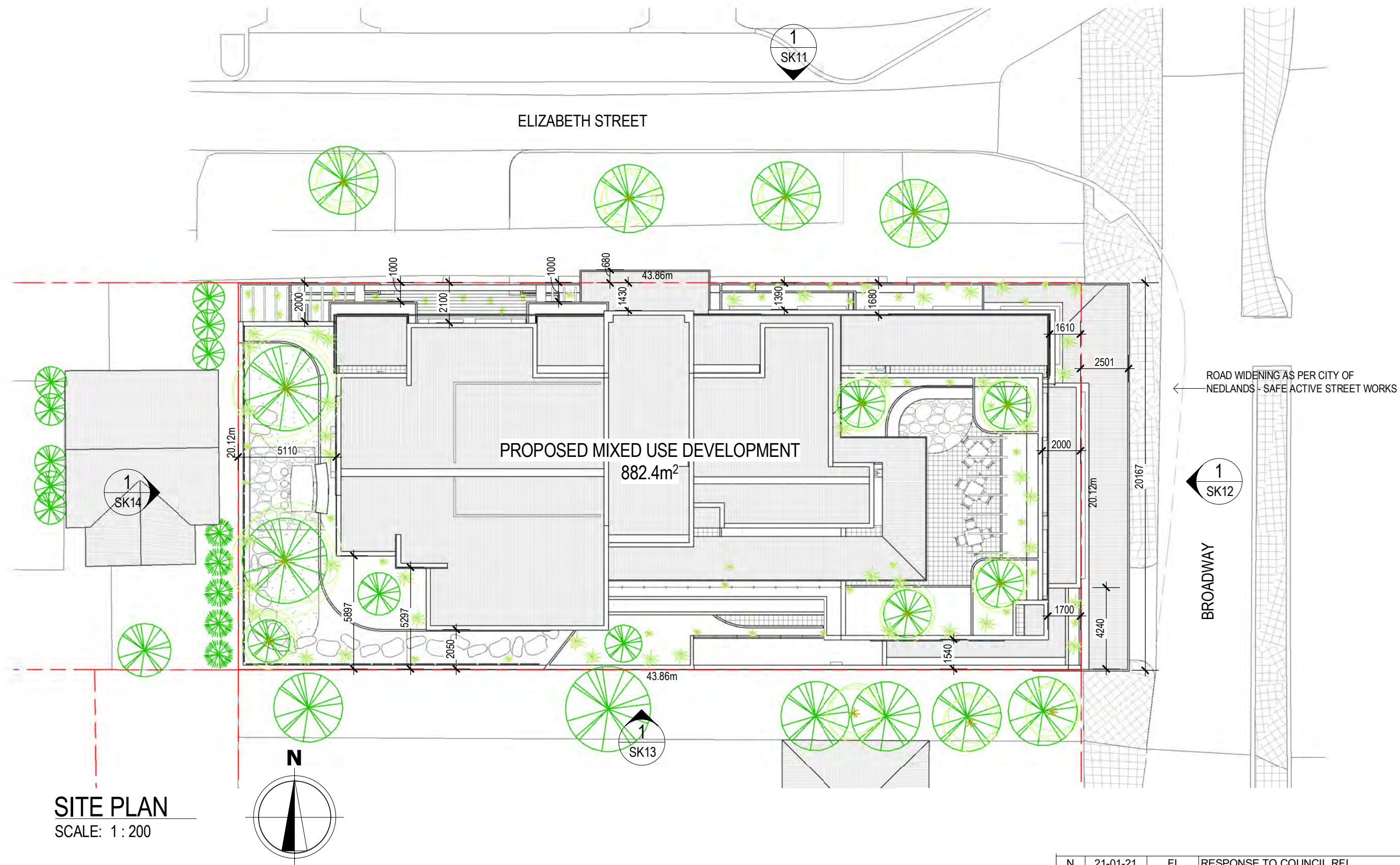
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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
CONTEXT PLAN

Project Number
18020

Drawing No. Rev.
SK02 N



N	21-01-21	FI	RESPONSE TO COUNCIL RFI
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description



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Project Name
Proposed Mixed Use Development, 105 Broadway, Nedlands 6009

Drawing Name
SITE PLAN

Project Number
18020

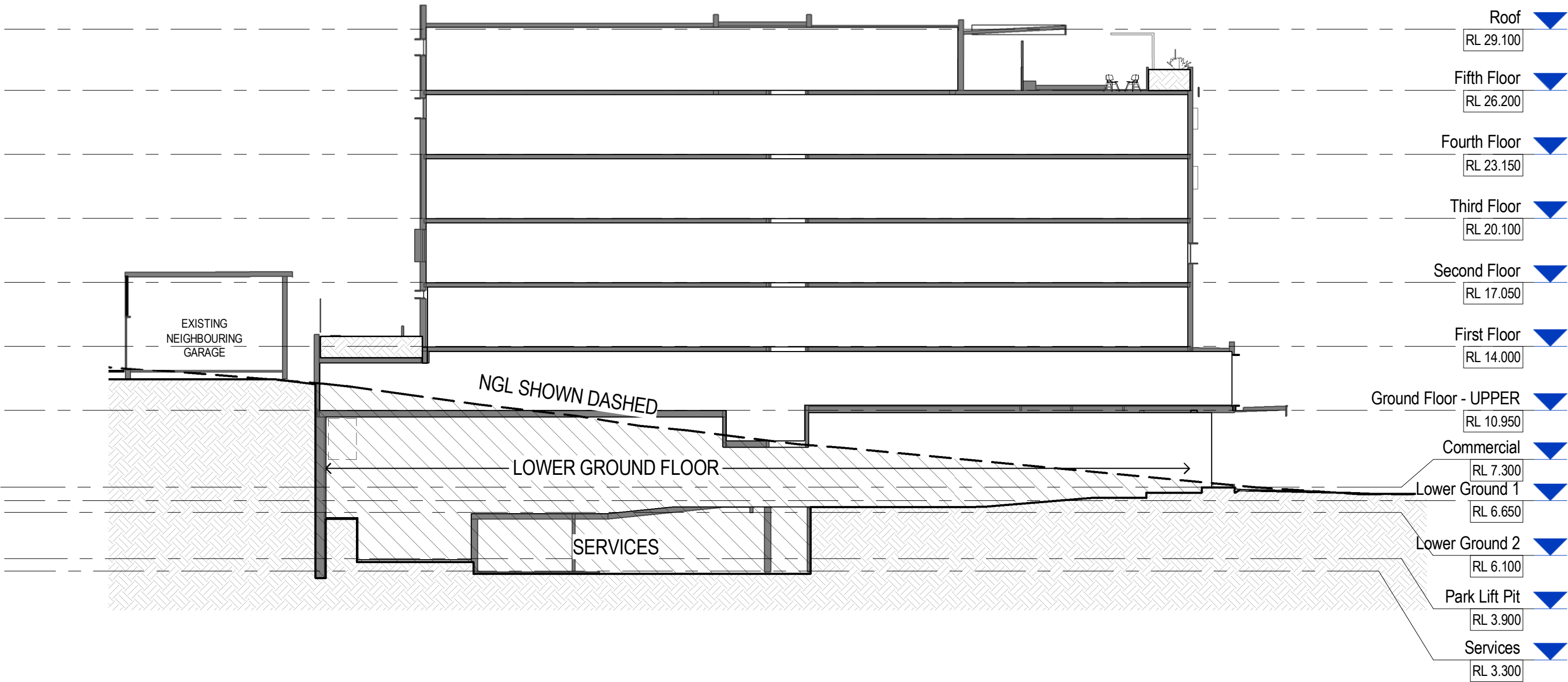
Drawing No. **SK02.1** Rev. **N**

Reduction 25mm on A3 | Scale

1 : 200 | Date

OCT 2019 | Drawn **JR** | Checked **FI**

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A SECTION A
SCALE: 1 : 200

VOLUME CALCULATION - LOWER GROUND FLOOR	
m ³ BELOW NGL:	2695.88m ³
m ³ TOTAL:	3838.09m ³
% OF VOLUME BELOW NGL	70.24%

>50% OF VOLUME REQUIRED TO BE BELOW NGL FOR STOREY TO BE DEEMED A BASEMENT AS PER SPP 7.3

N	21-01-21	FI	RESPONSE TO COUNCIL RFI
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description

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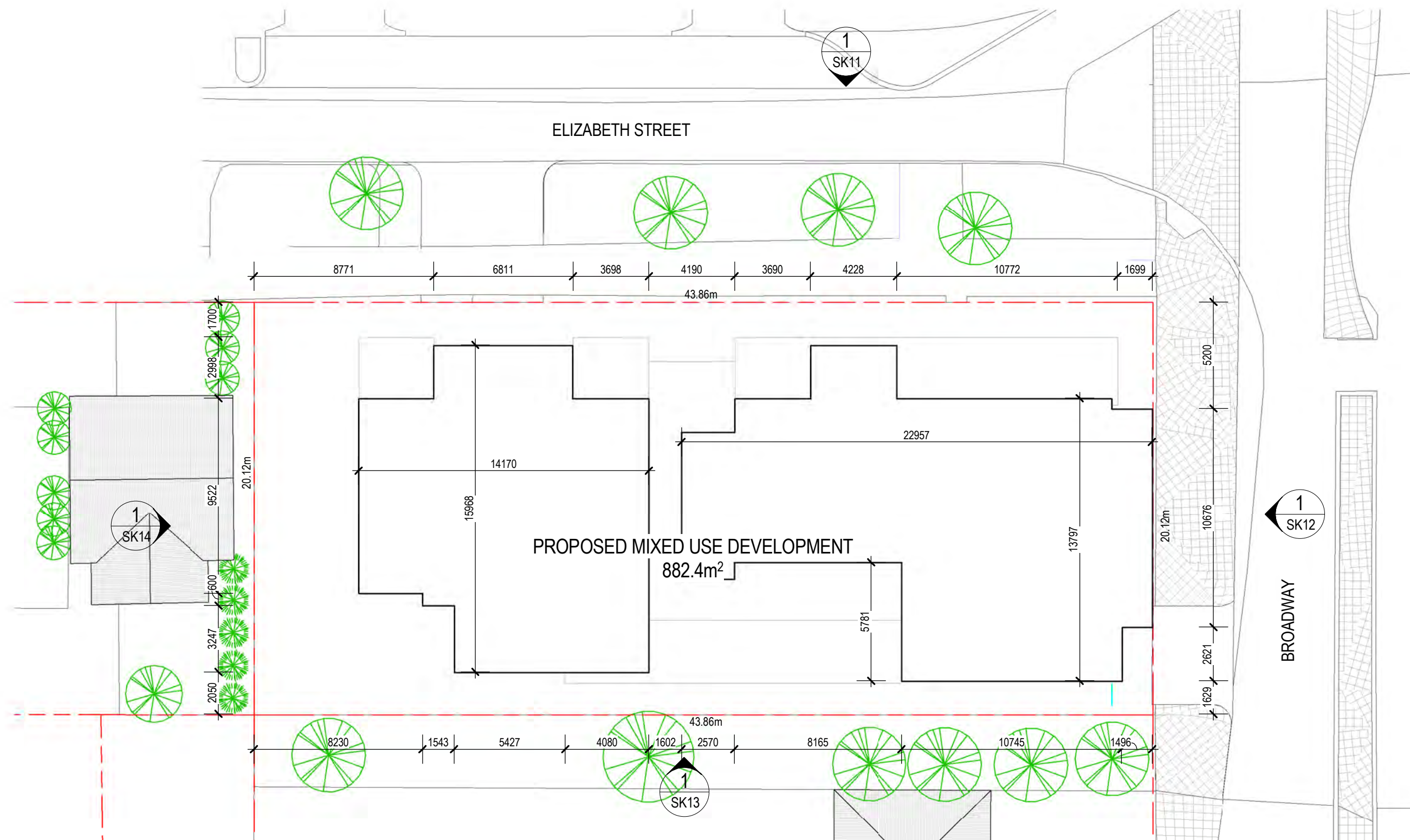
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Project Name
Proposed Mixed Use Development, 105 Broadway, Nedlands 6009

Drawing Name
SITE SECTION

Project Number
18020

Drawing No. **SK02.2** Rev. **N**



BUILDING ENVELOPE PLAN
SCALE: 1 : 200

N	21-01-21	FI	RESPONSE TO COUNCIL RFI
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description



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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
BUILDING ENVELOPE PLAN

Project Number

18020

Drawing No.

SK02.3

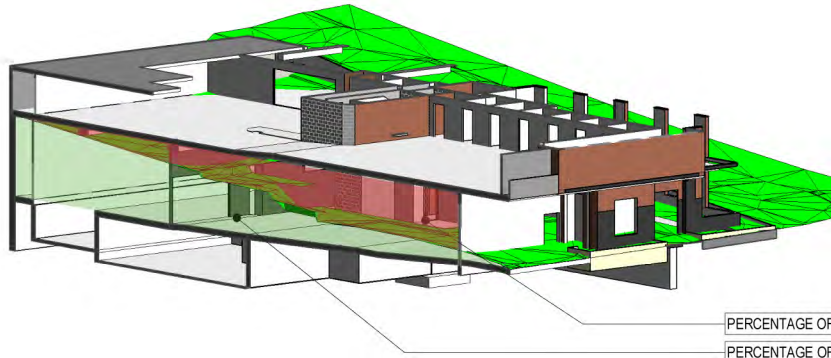
Rev.

N

Reduction 25mm on A3 | Scale

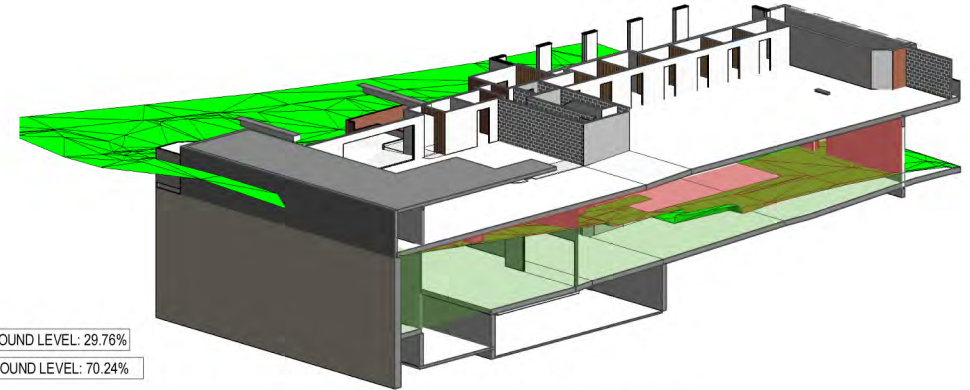
1 : 200 | Date

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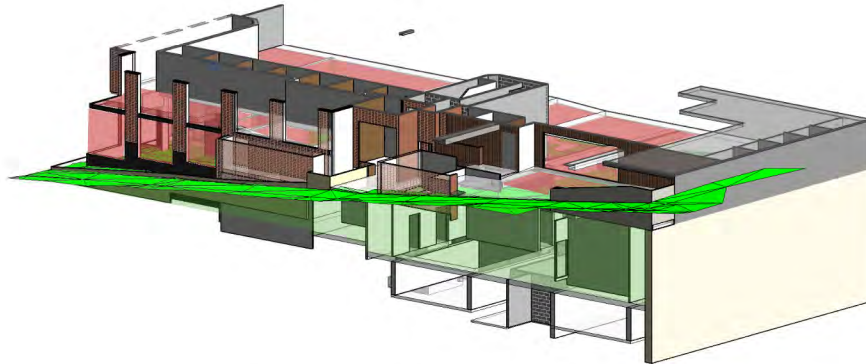


PERCENTAGE OF BASEMENT ABOVE NATURAL GROUND LEVEL: 29.76%
PERCENTAGE OF BASEMENT BELOW NATURAL GROUND LEVEL: 70.24%

1 3D CUT AND FILL - SOUTH EAST CORNER
NTS



2 3D CUT AND FILL - SOUTH WEST CORNER
NTS



3 3D CUT AND FILL - NORTH WEST CORNER
SCALE:



4 3D CUT AND FILL - NORTH EAST CORNER
SCALE:

VOLUME CALCULATION - LOWER GROUND FLOOR	
m³ BELOW NGL:	2695.88m³
m³ ABOVE NGL:	1142.21m³
m³ TOTAL:	3838.09m³
% OF VOLUME BELOW NGL	70.24%

Rev.	Date	Issued By	Revision Description
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT



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Project Name
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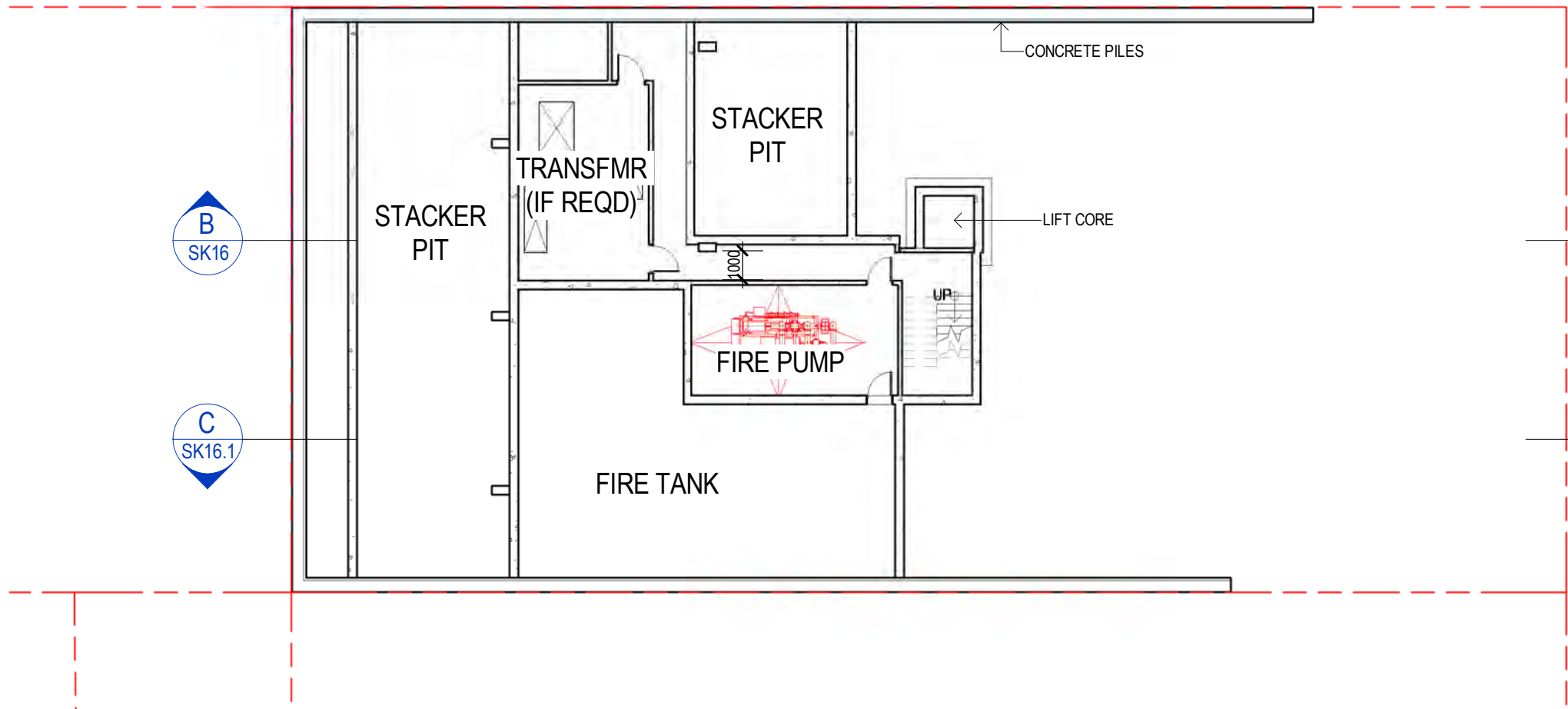
Drawing Name
3D CUT AND FILL DRAWINGS

Project Number
18020

Drawing No. **SK02.4** Rev. **M**

Reduction 25mm on A3 Scale

Date **OCT 2019** Drawn **JR** Checked **FI**
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SERVICES PLAN
SCALE: 1 : 200

N	21-01-21	FI	RESPONSE TO COUNCIL RFI
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description

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Project Name
Proposed Mixed Use Development, 105
Broadway, Nedlands 6009

Drawing Name
BASEMENT/SERVICES PLAN

Project Number
18020

Drawing No. Rev.
SK03.1 N

PLOT RATIO: AREA CALCULATION

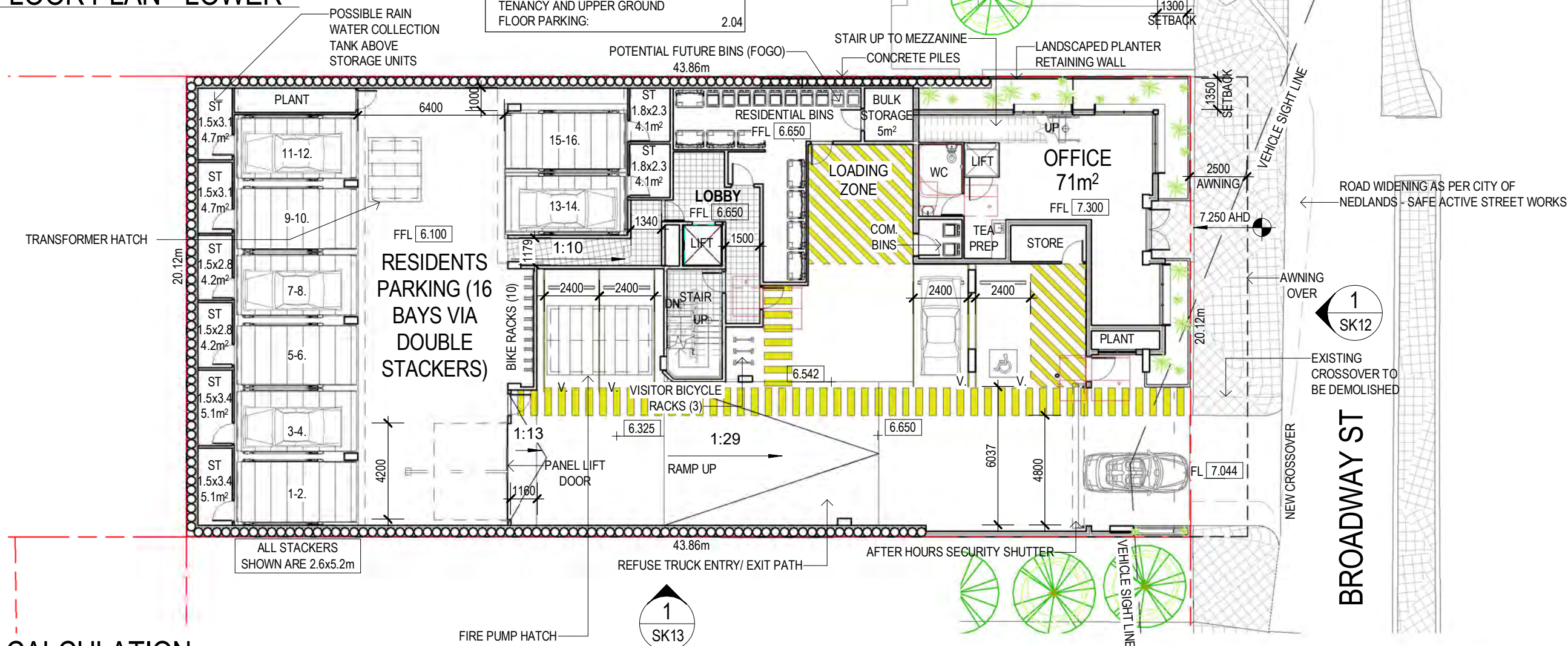
G - LOWER:		G - UPPER:		1FL:	2FL:	3FL:	4FL:	5FL:
OFFICE	71m²	OFFICE	95m²	UNITS 1-5: 398m²	UNITS 6-10: 383m²	UNITS 11-15: 383m²	UNITS 16-19: 386m²	UNITS 20-22: 282m²
		PARKING	356m²					
	71m²		451m²	398m²	383m²	383m²	386m²	256m²

*SEE SK22-SK27 FOR
PLOT RATIO DRAWINGS

TOTAL:	2328m ²
SITE AREA:	882.4m ²
PLOT RATIO:	2.64
PLOT RATIO EXCLUDING UPPER GROUND FLOOR PARKING ONLY:	2.23
PLOT RATIO EXCLUDING OFFICE TENANCY AND UPPER GROUND FLOOR PARKING:	2.04

GROUND FLOOR PLAN - LOWER

SCALE: 1 : 200



DEEP SOIL CALCULATION

TRUE DEEP SOIL AREA	
LOWER GROUND FLOOR:	6m ²
TOTAL:	6m ²

DEEP SOIL AREA ON STRUCTURE	
UPPER GROUND FLOOR:	10.5m ²
FIRST FLOOR:	110m ²
FIFTH FLOOR:	46m ²
TOTAL:	166.5m ²

88.2m² REQUIRED (10% OF SITE AREA)
SHORT FALL = 82.2m²
THEREFOR 2x82.2m² (164.4) REQ ON STRUCTURE

APARTMENT SCHEDULE		RESIDENT PARKING	RESIDENTIAL VISITOR /COMMERCIAL PARKING
1 BED 1 BATH:	11 Units	11 Bays	Commercial (Office Use) - 166 sqm requires 08 car bays (under old scheme - 4.75 bays per 100sqm GLA)
2 BED 1 BATH:	2 Units	02 Bays	
2 BED 2 BATH:	7 Units	13 Bays	
3 BED 3 BATH:	2 Units	04 Bays	
	22 Units	30 Bays Provided	<u>12 Bays Available / Proposed on reciprocal basis:</u> 06 bays on-site (incl. disabled persons & visitor bays, plus 02 Proposed on street Parking Bays on the northern side of Elizabeth Street, as per City of Nedlands - Safe Active Street Proposal). Also available are 03 on-street public parking bays in front of neighbouring property at 109 Broadway - within 20m walking distance. Note: Additional on-street parking available further south along Broadway & in Caporn St.
		03 Motorcycle bays	
*18/22 APARTMENTS MEET SILVER LEVEL REQUIREMENTS AS DEFINED IN THE 'LIVEABLE HOUSING		18 Bicycle Racks	
			04 Visitor Bicycle Racks provided

*18/22 APARTMENTS MEET SILVER
LEVEL REQUIREMENTS AS DEFINED
IN THE 'LIVEABLE HOUSING
AUSTRALIA' GUIDELINES

N	21-01-21	FI	RESPONSE TO COUNCIL RFI
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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
GROUND FLOOR PLAN - LOWER

| Project Number

18020

Drawing No.

SK03.2

Rev.

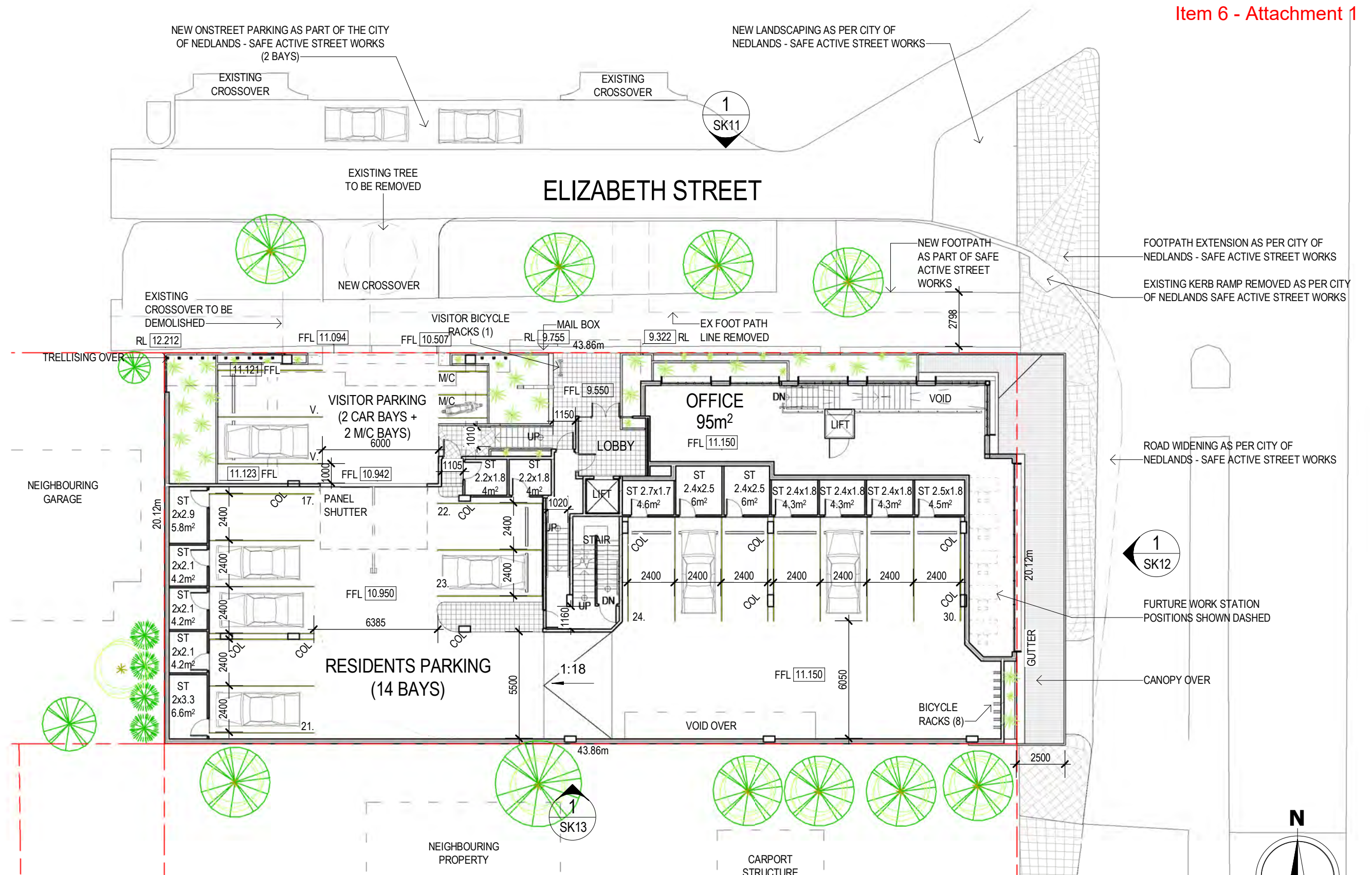
N

Reduction 25mm on A3 | Scale

1 : 200 | Date

OCT 2019	Drawn	JR	Checked	FI
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GROUND FLOOR PLAN - UPPER
SCALE: 1 : 200

DEEP SOIL AREA:	
UPPER GROUND FLOOR:	10.5m²
(REFER SK33)	

N	21-01-21	FI	RESPONSE TO COUNCIL RFI
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Rev.	Date	Issued By	Revision Description



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Project Name
Proposed Mixed Use Development, 105 Broadway, Nedlands 6009

Drawing Name
GROUND FLOOR PLAN - UPPER

Project Number
18020

Drawing No. **SK04** Rev. **N**

Reduction 25mm on A3 | Scale

1 : 200 | Date

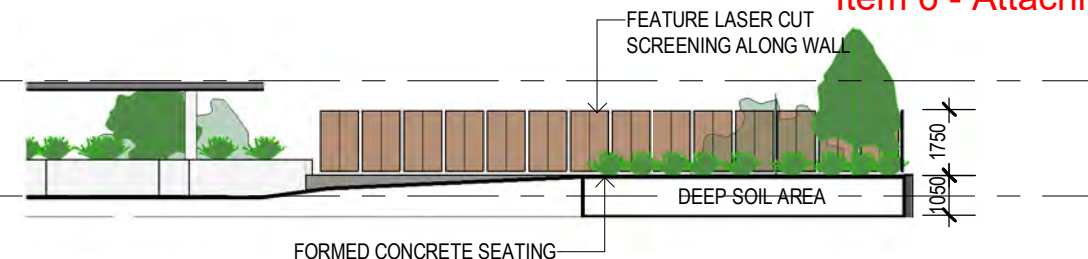
OCT 2019 | Drawn **JR** | Checked **FI**
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Second Floor

RL 17.050

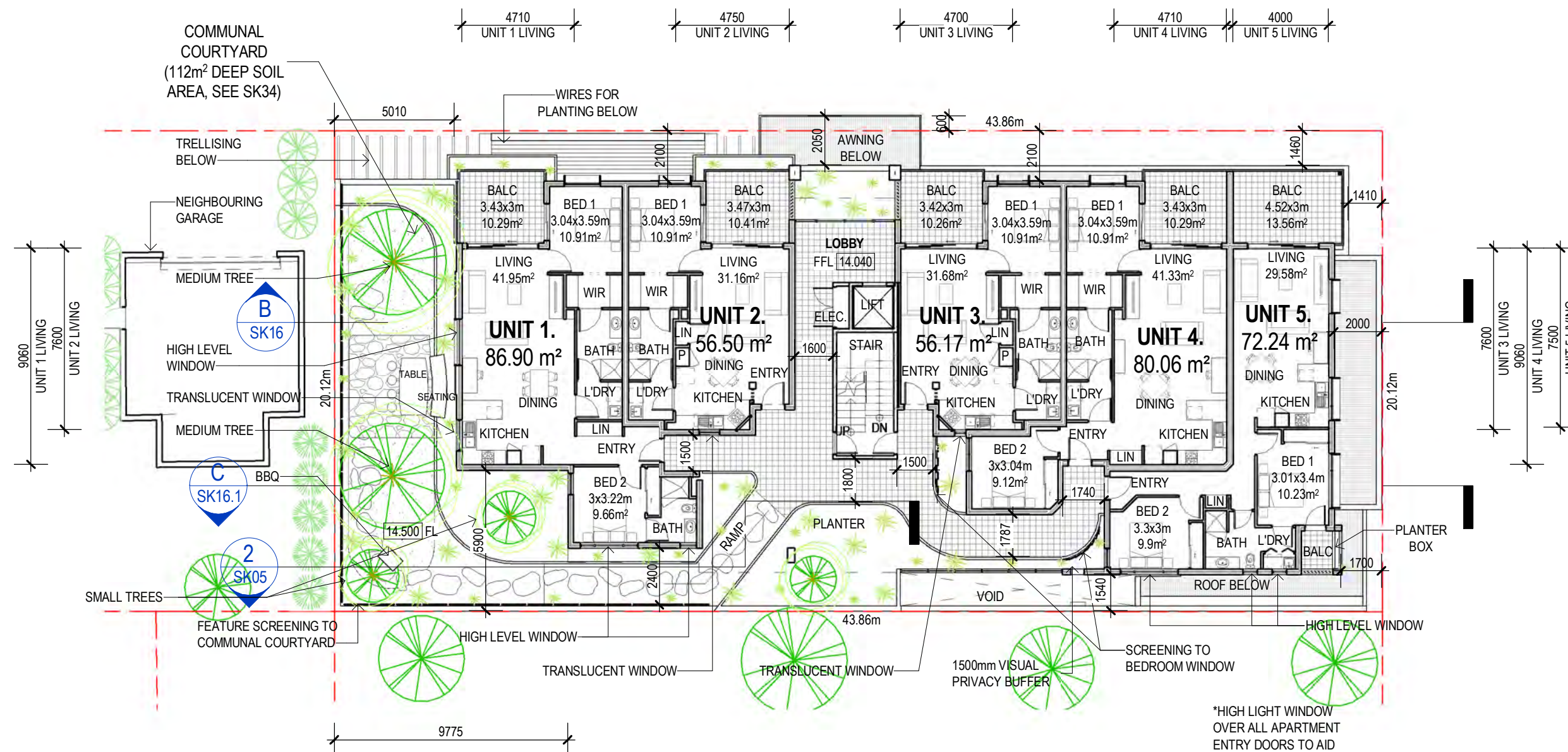
First Floor

RL 14.000



FIRST FLOOR COMMUNAL SPACE ENTRY

SCALE: 1 : 200



FIRST FLOOR

SCALE: 1 : 200

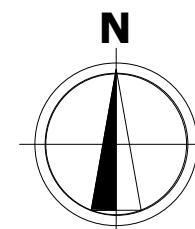
*ALL HABITABLE ROOMS INCLUDE GLAZING IN AN EXTERNAL WALL WHICH IS >10% OF THE FLOOR AREA.

1 st FL AREA: STRATA AREA	
*UNIT 1: (2BED / 2BATH)	86.90m ² + Balc : 10.29m ²
*UNIT 2: (1BED / 1BATH)	56.50m ² + Balc : 10.41m ²
*UNIT 3: (1BED / 1BATH)	56.17m ² + Balc : 10.26m ²
*UNIT 4: (2BED / 1BATH)	80.06m ² + Balc : 10.29m ²
UNIT 5: (2BED / 1BATH)	72.24m ² + Balc : 13.56m ²

DEEP SOIL AREA:	
FIRST FLOOR:	110m ²
(REFER SK34)	

*DWELLING MEETS SILVER LEVEL REQUIREMENTS AS DEFINED IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

*HIGH LIGHT WINDOW OVER ALL APARTMENT ENTRY DOORS TO AID CROSS VENTILATION



N	21-01-21	FI	RESPONSE TO COUNCIL RFI
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description



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Project Name
Proposed Mixed Use Development, 105 Broadway, Nedlands 6009

Drawing Name
FIRST FLOOR PLAN

Project Number

18020

Drawing No.

SK05

Rev.

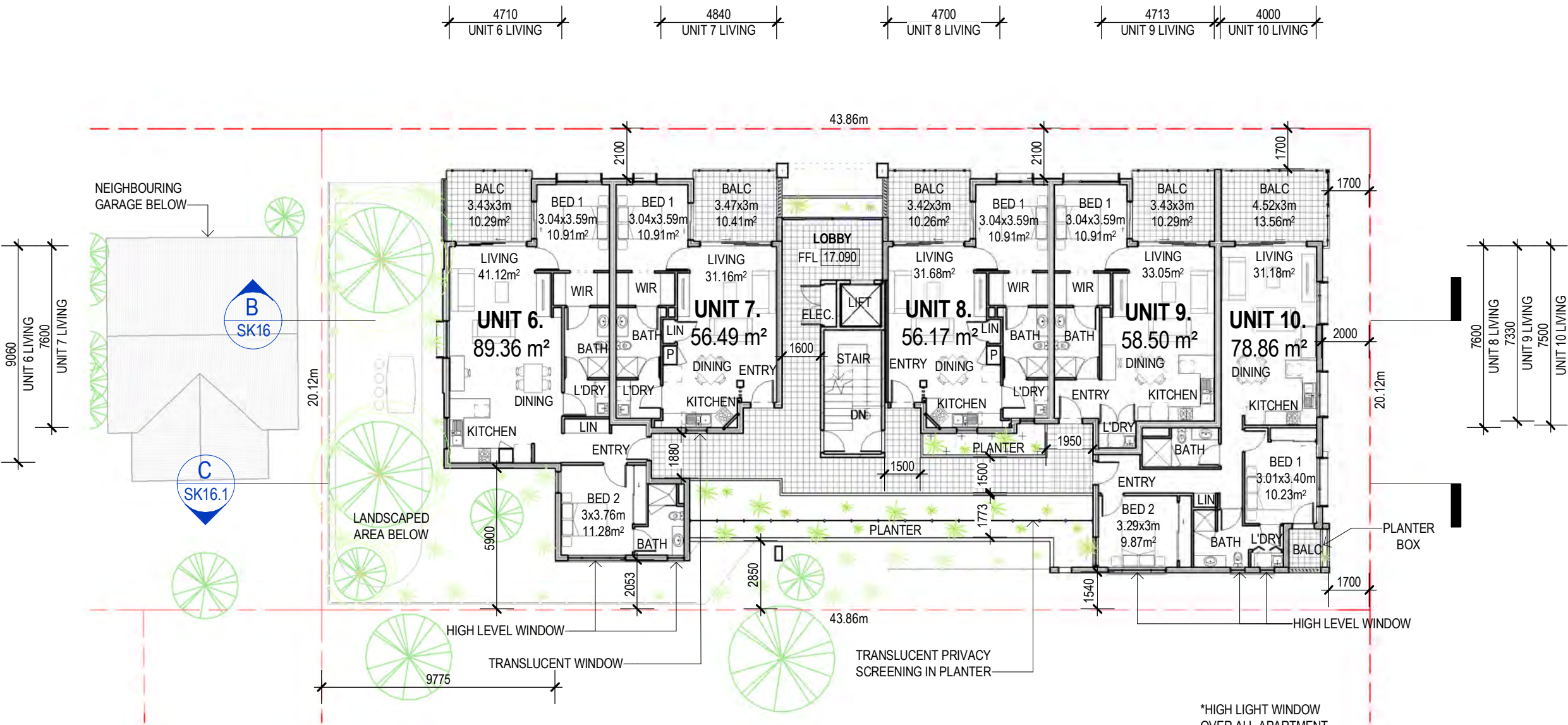
N

Reduction 25mm on A3 | Scale

1 : 200 | Date

OCT 2019 | Drawn JR | Checked FI

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SECOND FLOOR PLAN
SCALE: 1 : 200

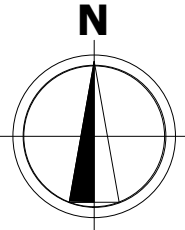
*ALL HABITABLE ROOMS INCLUDE
GLAZING IN AN EXTERNAL WALL
WHICH IS >10% OF THE FLOOR AREA.

2nd FL AREA: STRATA AREA	
*UNIT 6: (2BED / 2BATH)	89.36m ² + Balc : 10.29m ²
*UNIT 7: (1BED / 1BATH)	56.49m ² + Balc : 10.41m ²
*UNIT 8: (1BED / 1BATH)	56.17m ² + Balc : 10.26m ²
*UNIT 9: (1BED / 1BATH)	58.50m ² + Balc : 10.29m ²
UNIT 10: (2BED / 2BATH)	78.86m ² + Balc : 13.56m ²

DEEP SOIL AREA:	
SECOND FLOOR:	0m ²
(REFER SK34)	

*DWELLING MEETS SILVER LEVEL REQUIREMENTS AS DEFINED
IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

*HIGH LIGHT WINDOW
OVER ALL APARTMENT
ENTRY DOORS TO AID
CROSS VENTILATION



N	21-01-21	FI	RESPONSE TO COUNCIL RFI
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description



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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
SECOND FLOOR PLAN

Project Number
18020

Drawing No. **SK06** Rev. **N**



THIRD FLOOR PLAN
SCALE: 1 : 200

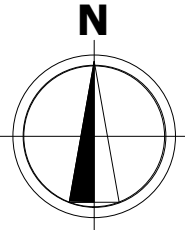
*ALL HABITABLE ROOMS INCLUDE
GLAZING IN AN EXTERNAL WALL
WHICH IS >10% OF THE FLOOR AREA.

3 rd FL AREA: STRATA AREA			
*UNIT 11:	(2BED / 2BATH)	89.36m ² + Balc : 10.29m ²	
*UNIT 12:	(1BED / 1BATH)	56.49m ² + Balc : 10.41m ²	
*UNIT 13:	(1BED / 1BATH)	56.17m ² + Balc : 10.26m ²	
*UNIT 14:	(1BED / 1BATH)	58.50m ² + Balc : 10.29m ²	
UNIT 15:	(2BED / 2BATH)	78.86m ² + Balc : 13.56m ²	

DEEP SOIL AREA:	
THIRD FLOOR:	0m ²
(REFER SK34)	

*DWELLING MEETS SILVER LEVEL REQUIREMENTS AS DEFINED
IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

*HIGH LIGHT WINDOW
OVER ALL APARTMENT
ENTRY DOORS TO AID
CROSS VENTILATION



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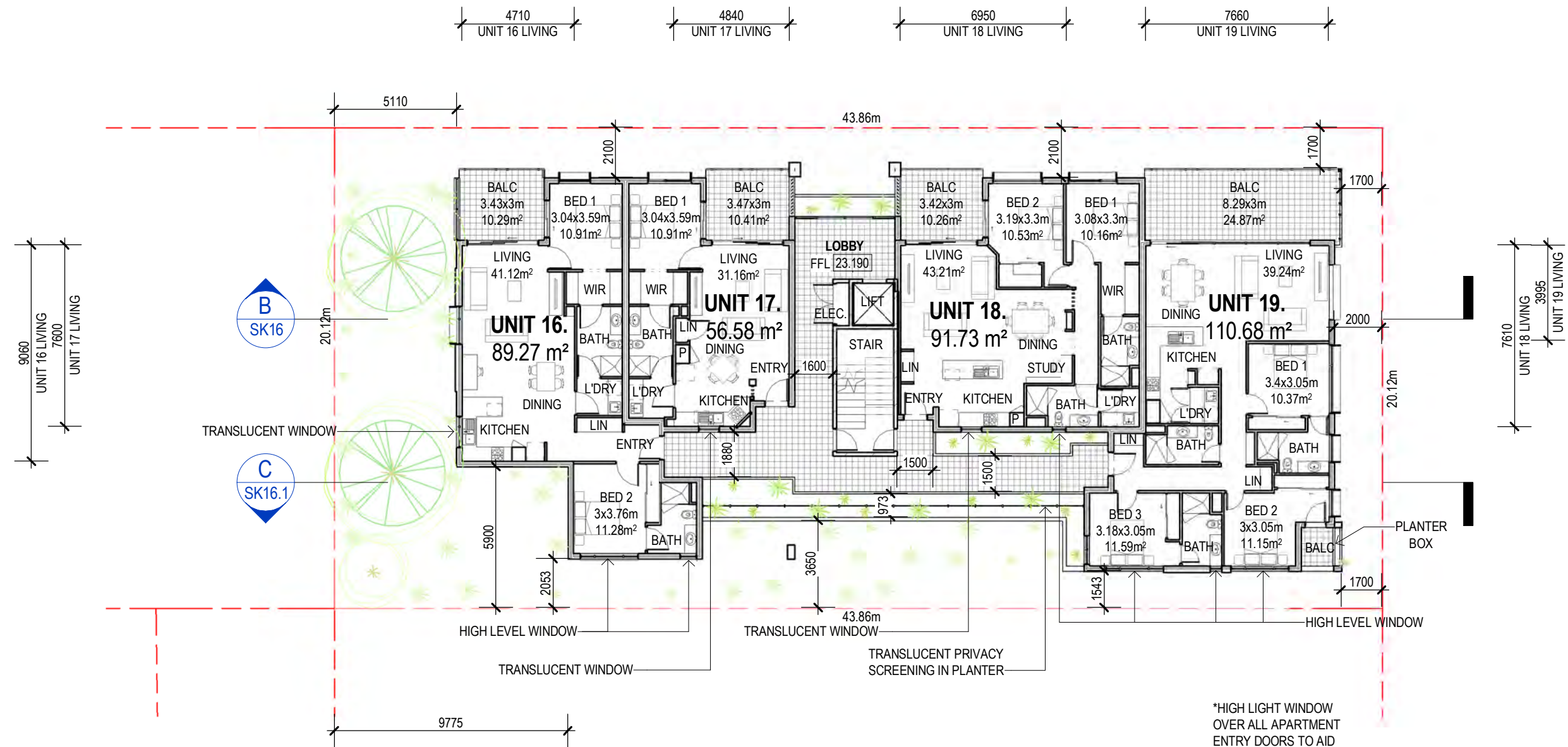
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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
THIRD FLOOR PLAN

Project Number
18020

Drawing No. Rev.
SK07 N



FOURTH FLOOR PLAN
SCALE: 1 : 200

*ALL HABITABLE ROOMS INCLUDE
GLAZING IN AN EXTERNAL WALL
WHICH IS >10% OF THE FLOOR AREA.

4 th FL AREA: STRATA AREA	
*UNIT 16: (2BED / 2BATH)	89.27m ² + Balc : 10.29m ²
*UNIT 17: (2BED / 2BATH)	56.58m ² + Balc : 10.41m ²
*UNIT 18: (2BED / 2BATH)	91.73m ² + Balc : 10.26m ²
UNIT 19: (3BED / 3BATH)	110.68m ² + Balc : 24.87m ²

DEEP SOIL AREA:	
FOURTH FLOOR:	0m ²
(REFER SK34)	

*DWELLING MEETS SILVER LEVEL REQUIREMENTS AS DEFINED
IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

*HIGH LIGHT WINDOW
OVER ALL APARTMENT
ENTRY DOORS TO AID
CROSS VENTILATION

Rev.	Date	Issued By	Revision Description
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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
FOURTH FLOOR PLAN

Project Number
18020

Drawing No. Rev.
SK08 N



FIFTH FLOOR PLAN
SCALE: 1 : 200

*ALL HABITABLE ROOMS INCLUDE
GLAZING IN AN EXTERNAL WALL
WHICH IS >10% OF THE FLOOR AREA.

5 th FL AREA: STRATA AREA
*UNIT 20: (3BED / 3BATH) 110.31m ² + Balc : 10.29m ²
*UNIT 21: (1BED / 1BATH) 57.15m ² + Balc : 10.41m ²
*UNIT 22: (1BED / 1BATH) 59.86m ² + Balc : 10.26m ²

DEEP SOIL AREA:
FIFTH FLOOR: 46m ²
(REFER SK34)

*DWELLING MEETS SILVER LEVEL REQUIREMENTS AS DEFINED
IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

*HIGH LIGHT WINDOW
OVER ALL APARTMENT
ENTRY DOORS TO AID
CROSS VENTILATION

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Project Name
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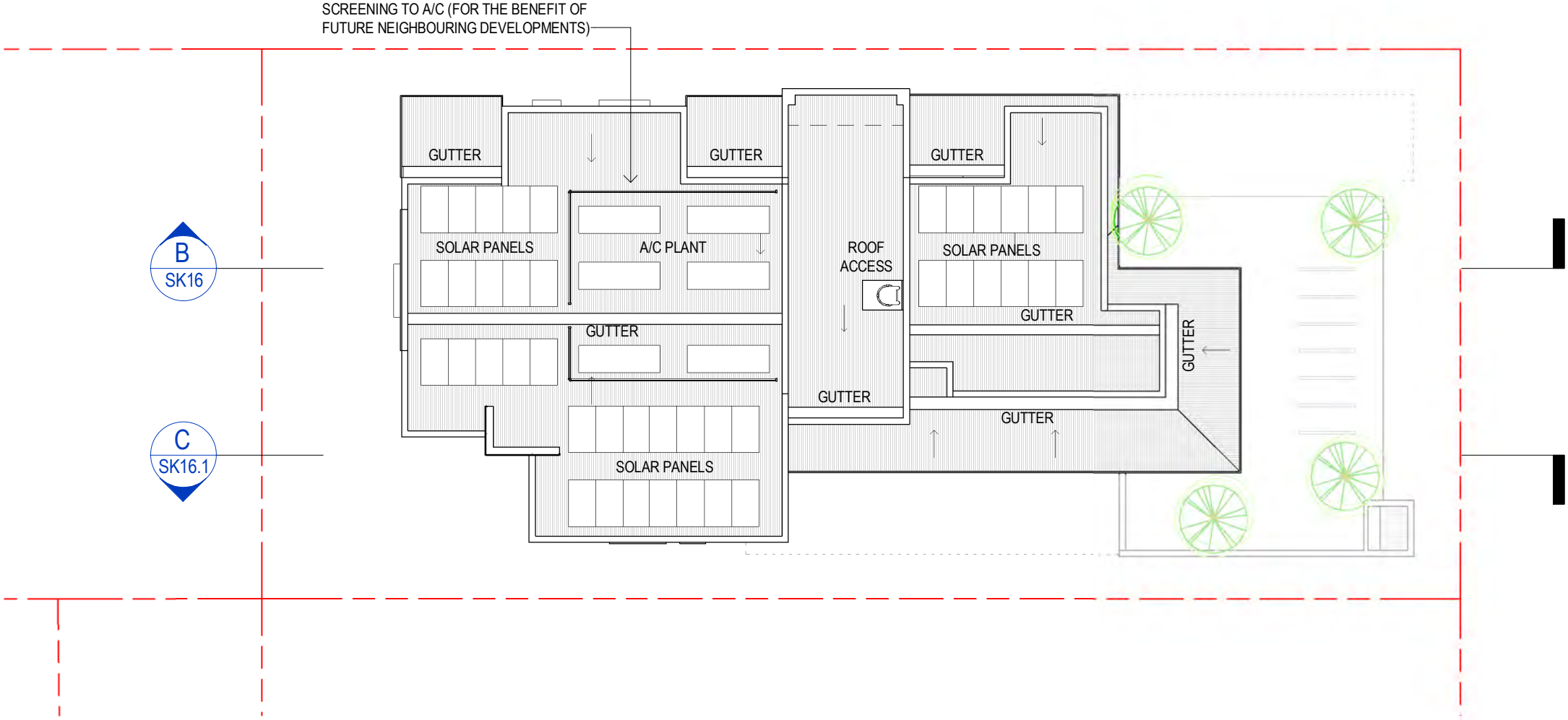
Drawing Name
FIFTH FLOOR PLAN

Reduction 25mm on A3 | Scale 1 : 200 | Date

Project Number
18020

Drawing No. Rev.
SK09 N

OCT 2019 | Drawn JR | Checked FI
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ROOF PLAN
SCALE: 1 : 200

N	21-01-21	FI	RESPONSE TO COUNCIL RFI
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Project Name
Proposed Mixed Use Development, 105
Broadway, Nedlands 6009

Drawing Name
ROOF PLAN

Project Number
18020

Drawing No. Rev.
SK10 N



NORTH ELEVATION - ELIZABETH ST
 SCALE: 1 : 200

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Project Name
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Drawing Name
NORTHERN ELEVATION

Project Number
18020

Drawing No. **SK11** Rev. **N**

Reduction 25mm on A3 | Scale

1 : 200 | Date

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EAST ELEVATION - TO BROADWAY

SCALE: 1 : 200

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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
EAST ELEVATION

Project Number
18020

Drawing No. **SK12** Rev. **N**

Reduction 25mm on A3 | Scale

1 : 200 | Date

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SOUTH ELEVATION

SCALE: 1 : 200

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Project Name
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Drawing Name
SOUTH ELEVATION

Project Number
18020

Drawing No. **SK13** Rev. **N**

Reduction 25mm on A3 | Scale

1 : 200 | Date

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WEST ELEVATION

SCALE: 1 : 200

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Project Name
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Drawing Name
WEST ELEVATION

Project Number
18020

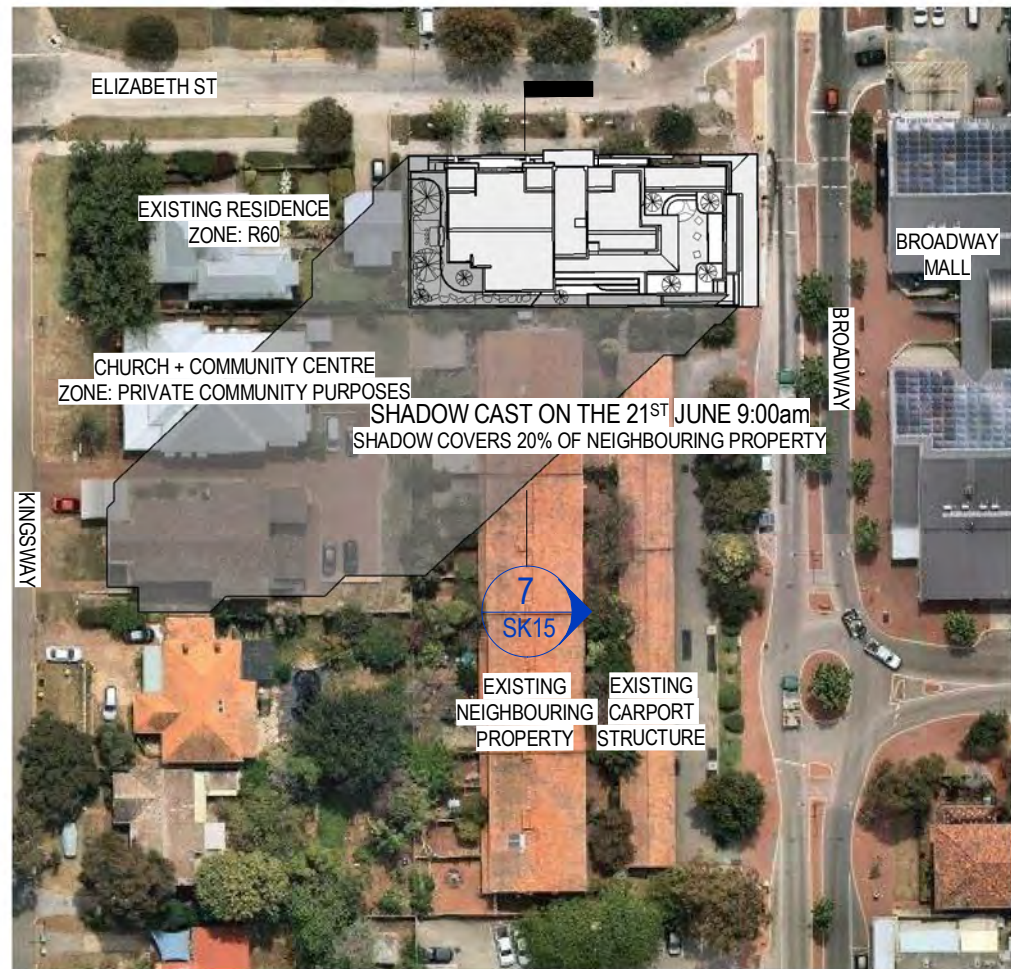
Drawing No. **SK14** Rev. **N**

Reduction 25mm on A3 | Scale

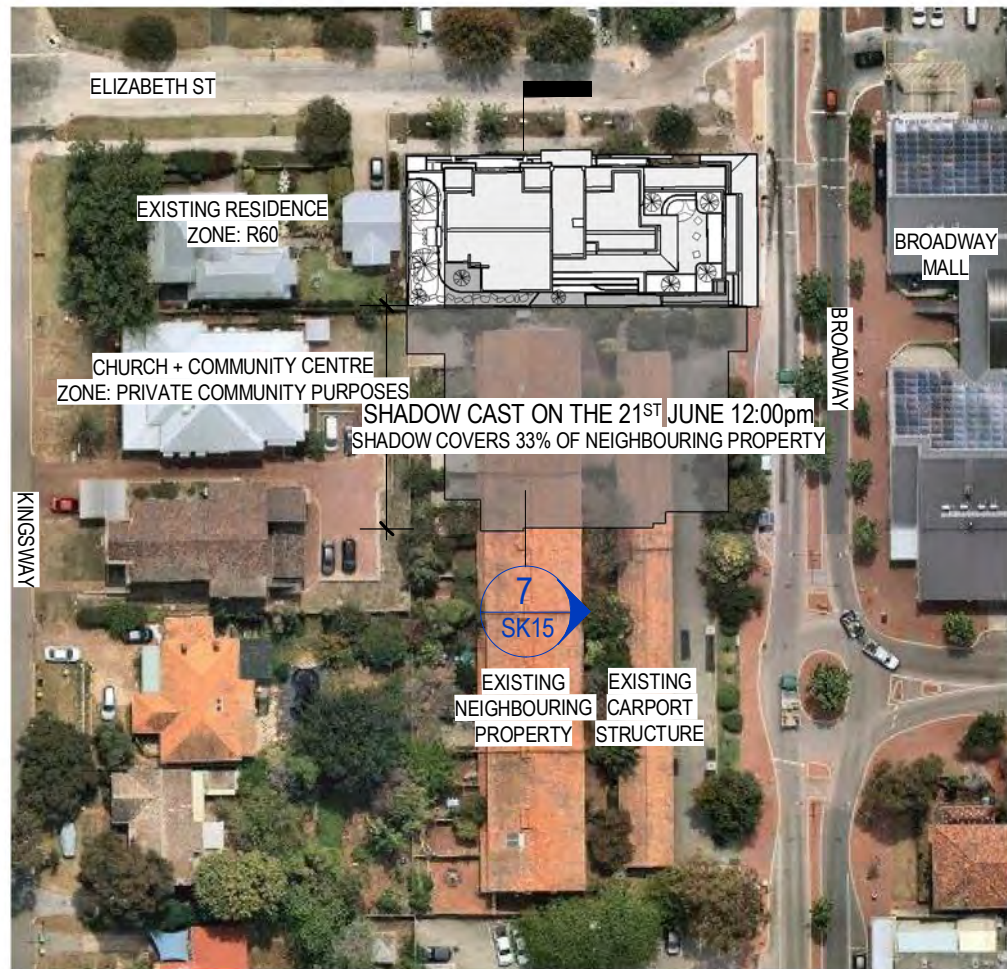
1 : 200 | Date

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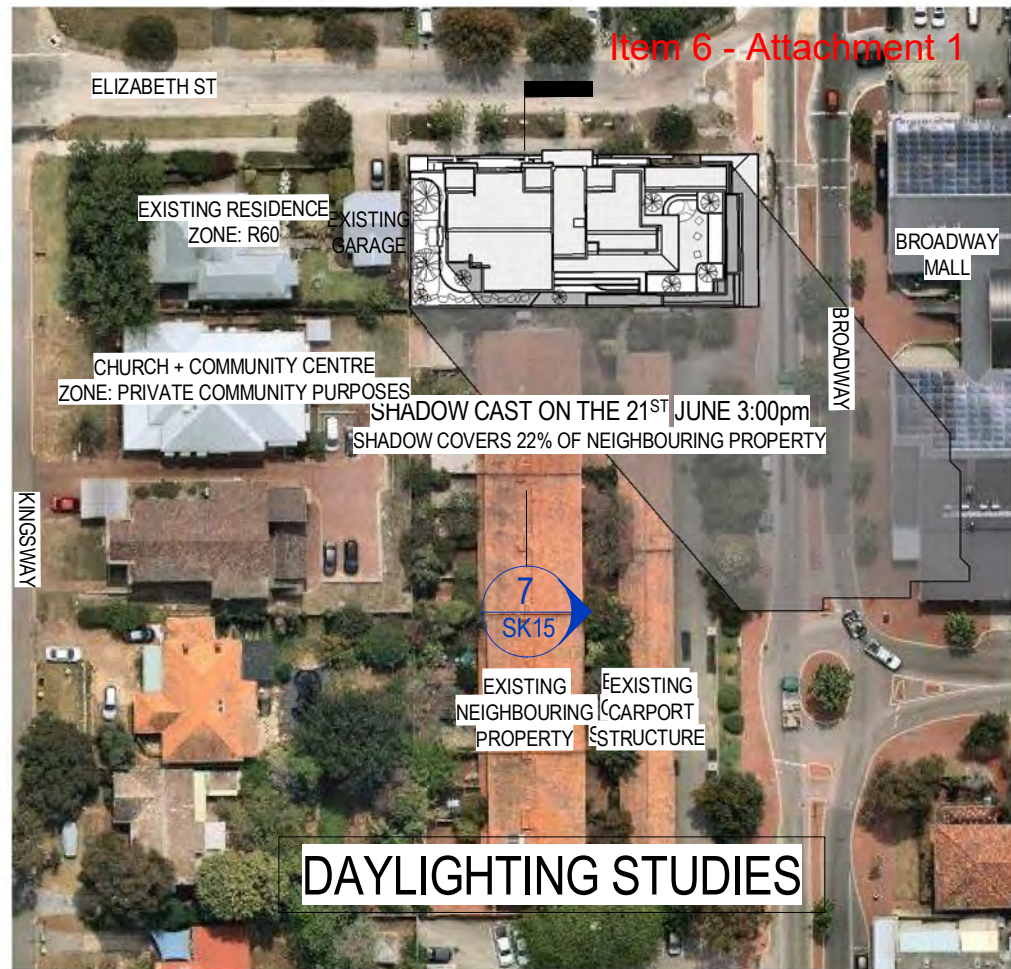
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SHADOW DIAGRAM - 9AM

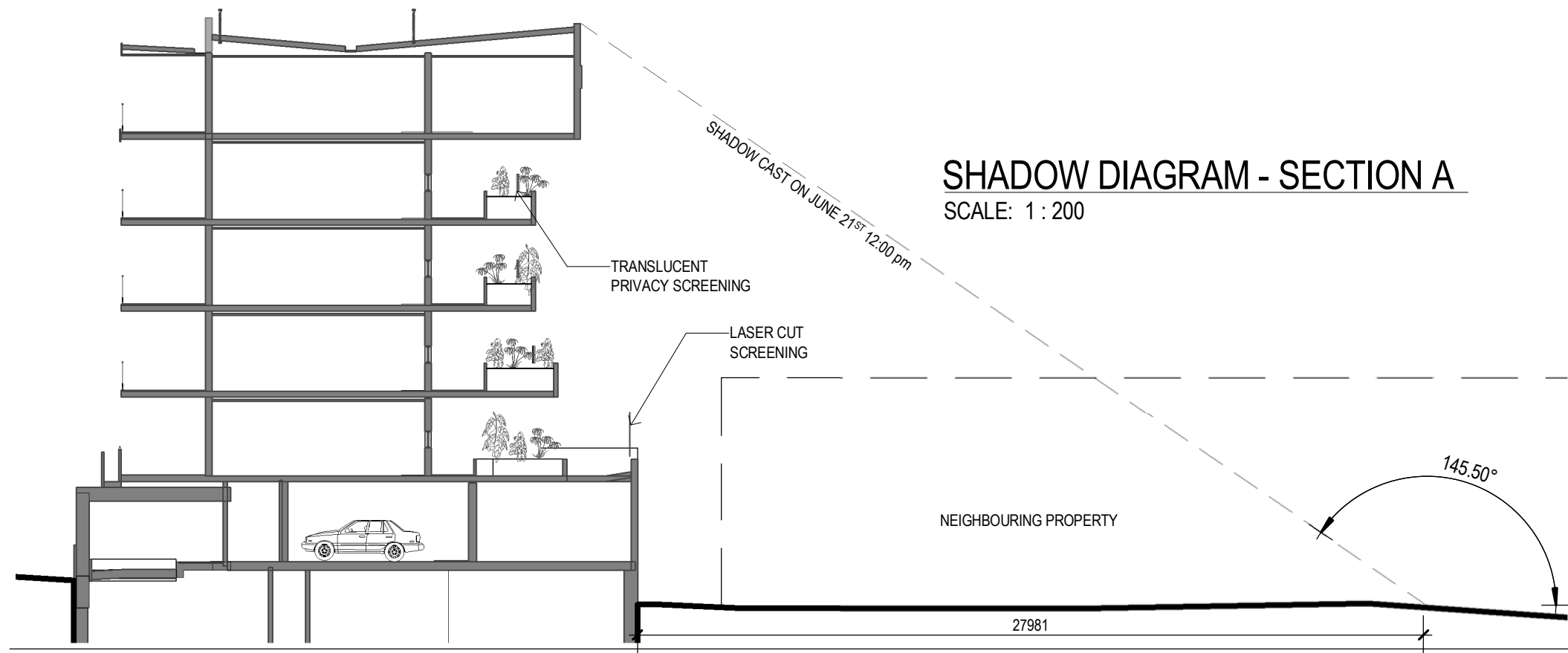


SHADOW DIAGRAM - 12PM

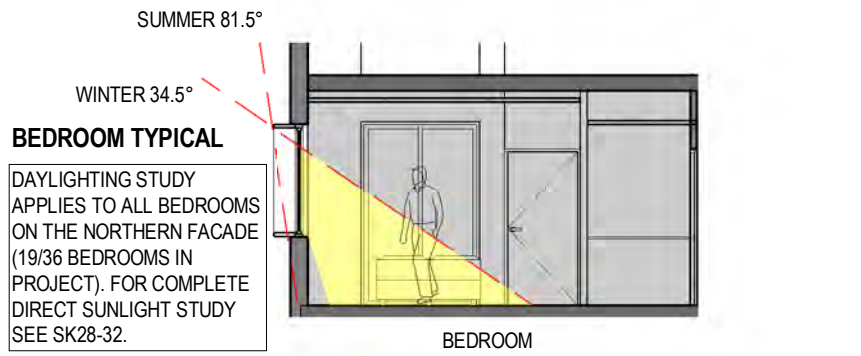
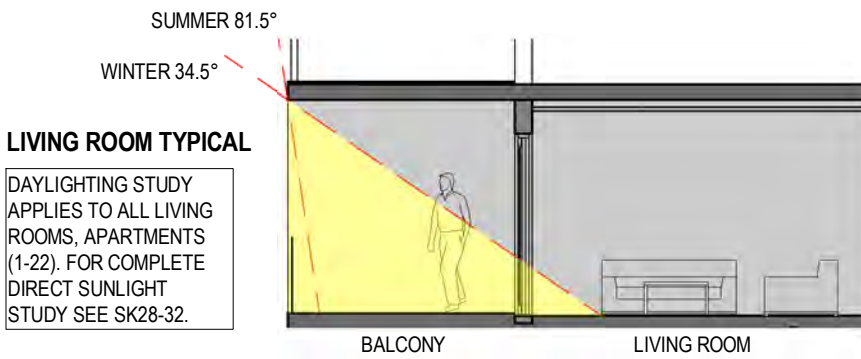


SHADOW DIAGRAM - 3PM

DAYLIGHTING STUDIES



SHADOW DIAGRAM - SECTION A
SCALE: 1 : 200



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Project Name
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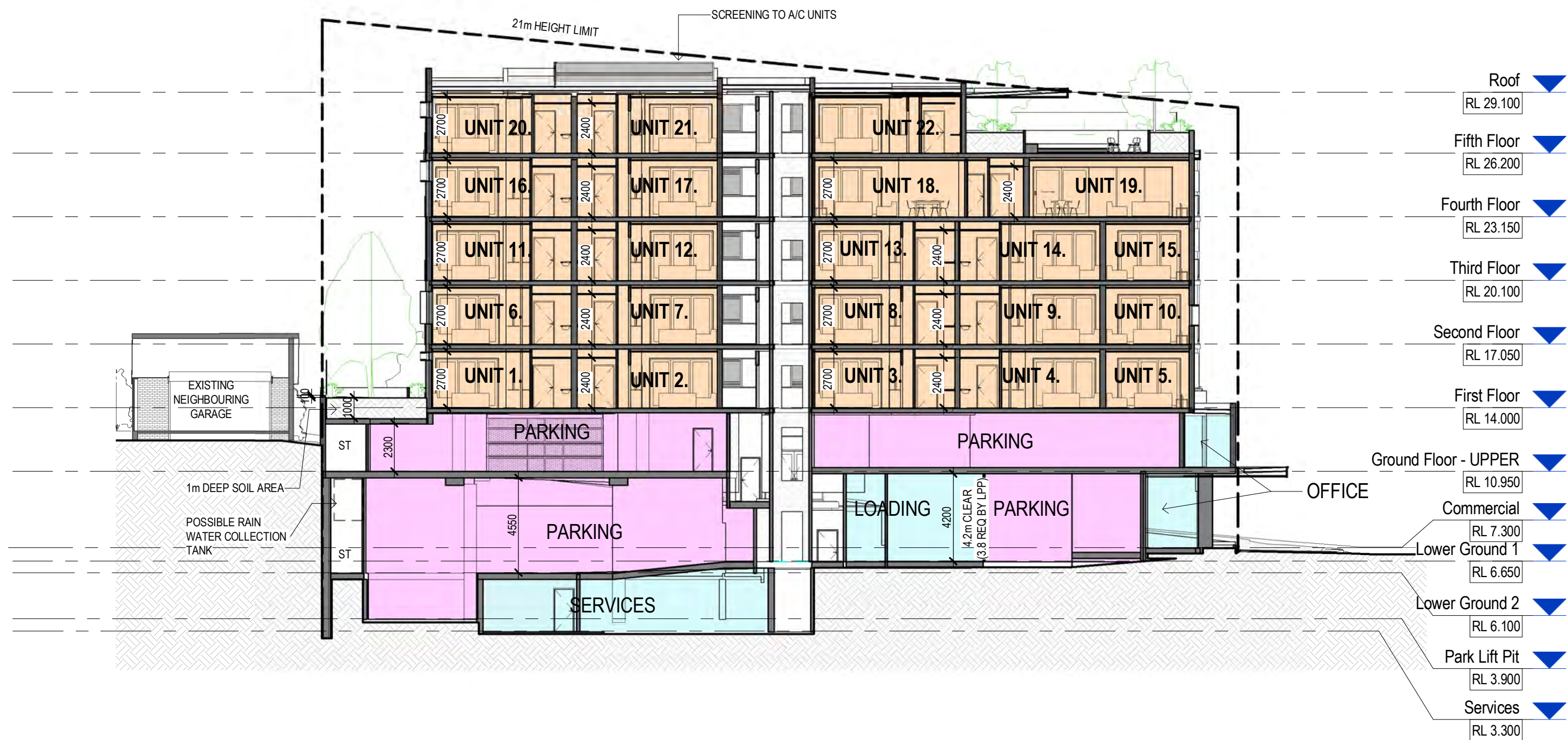
Drawing Name
SHADOW DIAGRAMS

Reduction 25mm on A3 | Scale As indicated | Date

Project Number
18020

Drawing No. **SK15** Rev. **N**

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B SECTION B
SK03.1 SCALE: 1 : 200

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Project Name
**Proposed Mixed Use Development, 105
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Drawing Name
SECTION

Project Number
18020

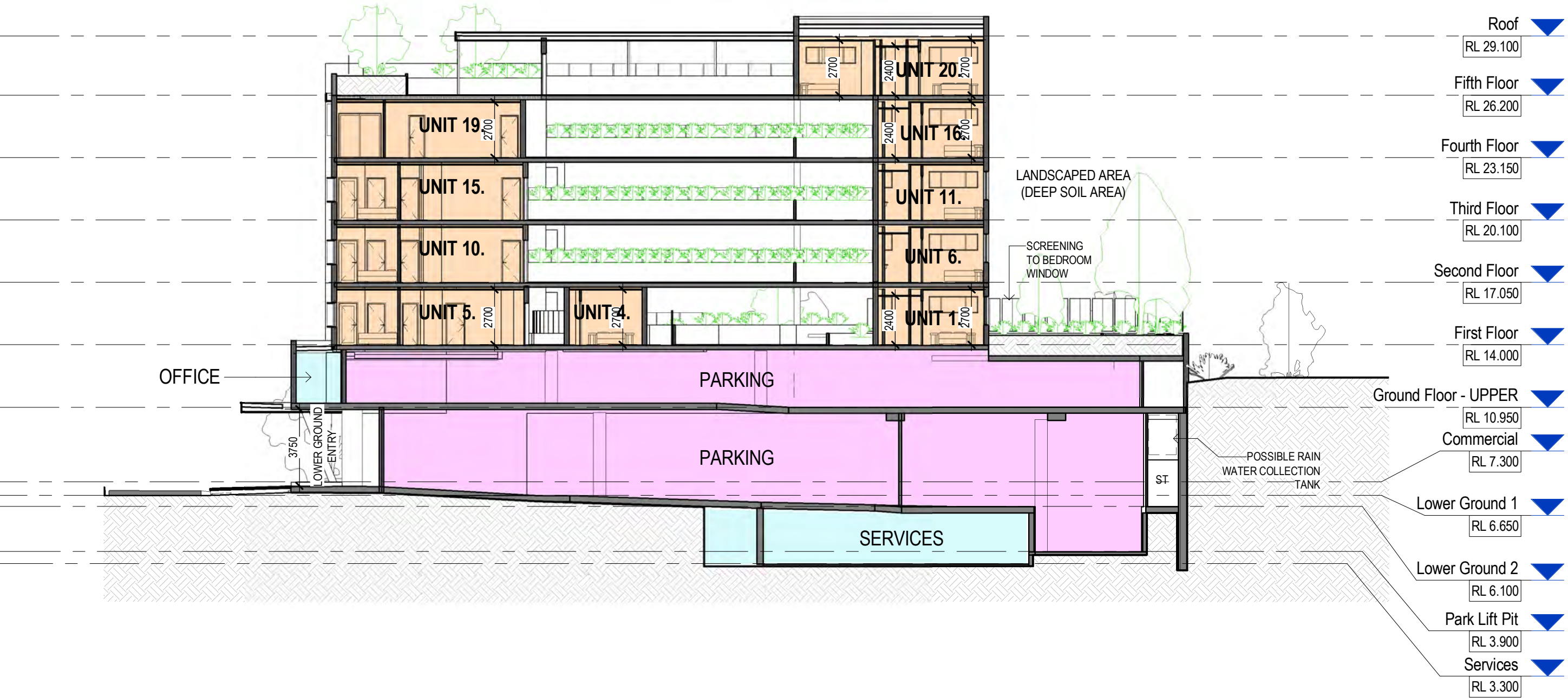
Drawing No. **SK16** Rev. **N**

Reduction 25mm on A3 | Scale

1 : 200 | Date

OCT 2019 | Drawn **JR** | Checked **FI**

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C SECTION C
SK03.1 SCALE: 1 : 200

N	21-01-21	FI	RESPONSE TO COUNCIL RFI
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Project Name
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Drawing Name
SECTION

Project Number
18020

Drawing No. Rev.
SK16.1 N



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Project Name
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Drawing Name
PERSPECTIVE 1

Project Number
18020

Drawing No. Rev.
SK17 N

Reduction  25mm on A3 | Scale

Date **OCT 2019** | Drawn **JR** | Checked **FI**
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Project Name
**Proposed Mixed Use Development, 105
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Drawing Name
PERSPECTIVE 2

Reduction  25mm on A3 | Scale

Project Number
18020

Drawing No. **SK18** Rev. **N**

Date **OCT 2019** Drawn **JR** | Checked **FI**

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1 PERSPECTIVE 3
NTS



2 PERSPECTIVE 4
NTS

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Project Name
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Drawing Name
PERSPECTIVES 3 + 4

Project Number
18020

Drawing No. Rev.
SK19 N

Reduction  25mm on A3 | Scale

Date **OCT 2019** | Drawn **JR** | Checked **FI**

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SOLAR ACCESS DIAGRAM

LIVING ROOM TYPICAL



21st JUNE 9am

21st JUNE 12pm

21st JUNE 3pm

BEDROOM TYPICAL



21st JUNE 9am

21st JUNE 12pm

21st JUNE 3pm

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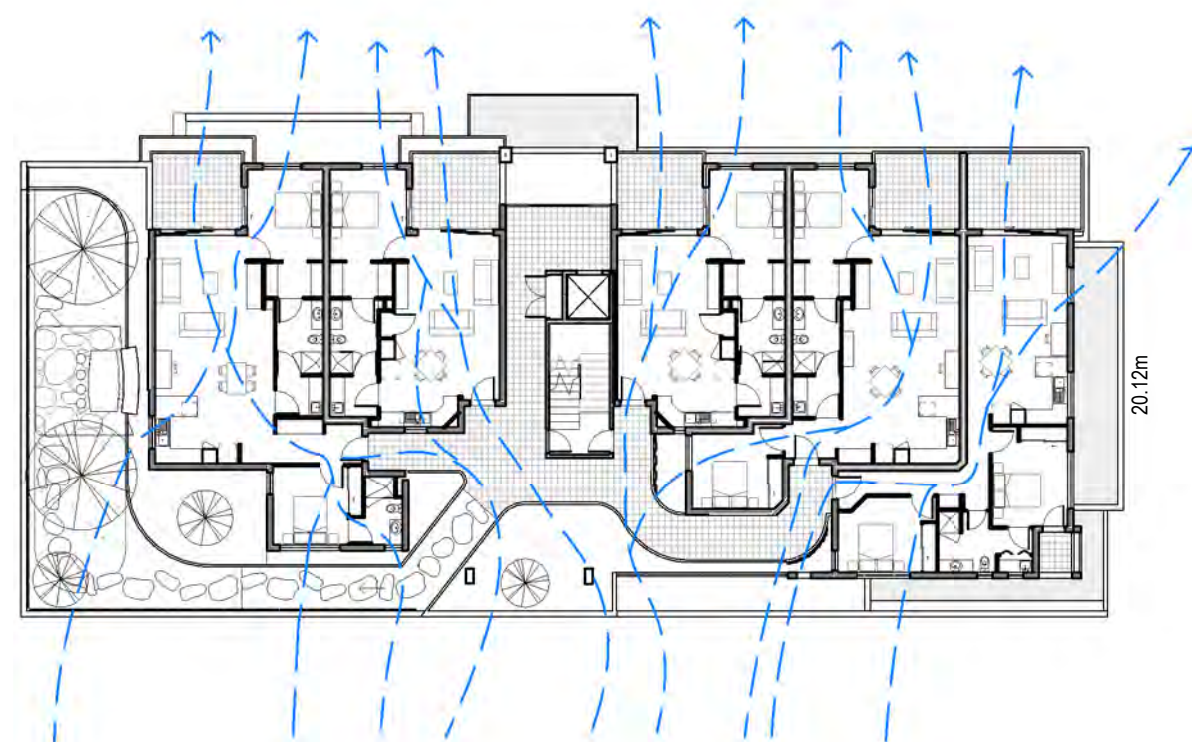
Project Name
Proposed Mixed Use Development, 105 Broadway, Nedlands 6009

Drawing Name
SOLAR STUDIES

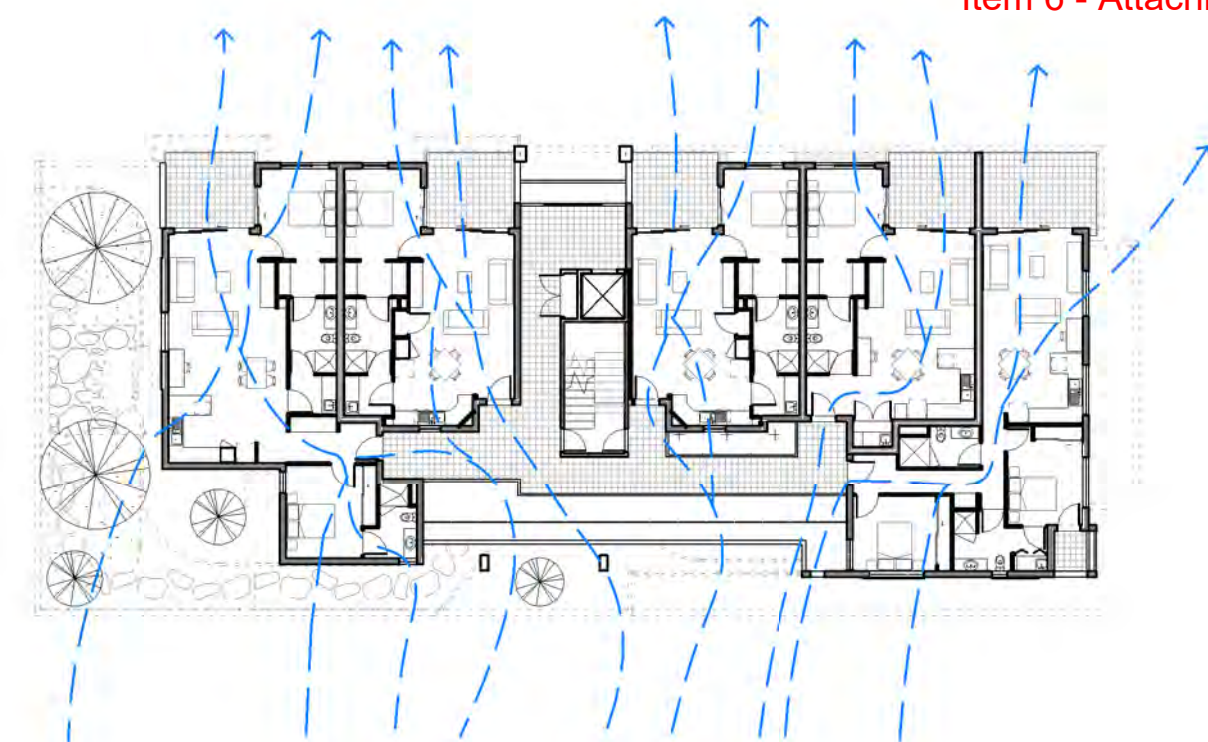
Project Number
18020

Drawing No.
SK20

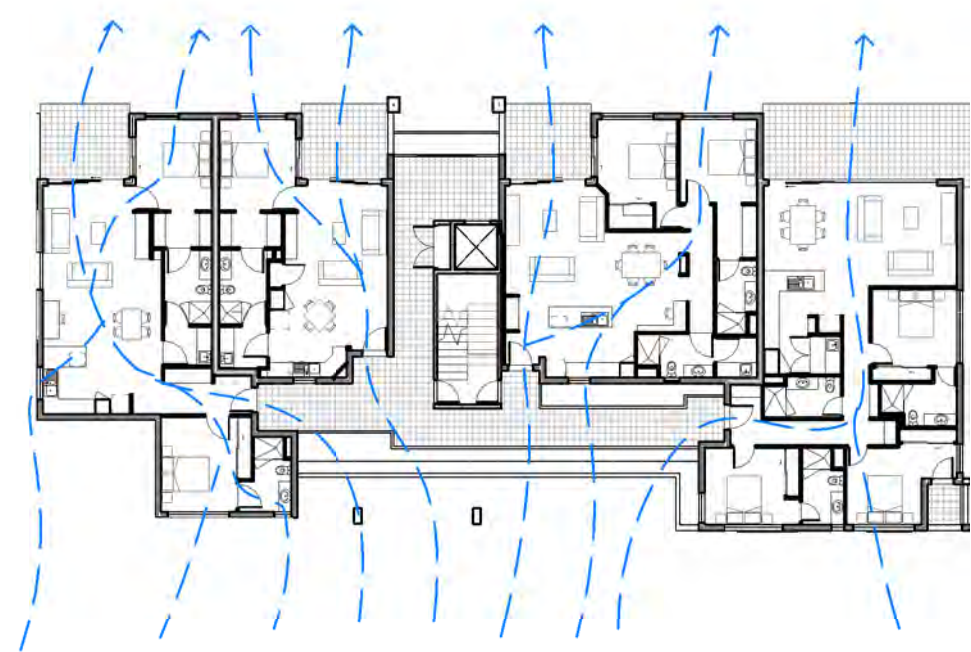
Rev.
N



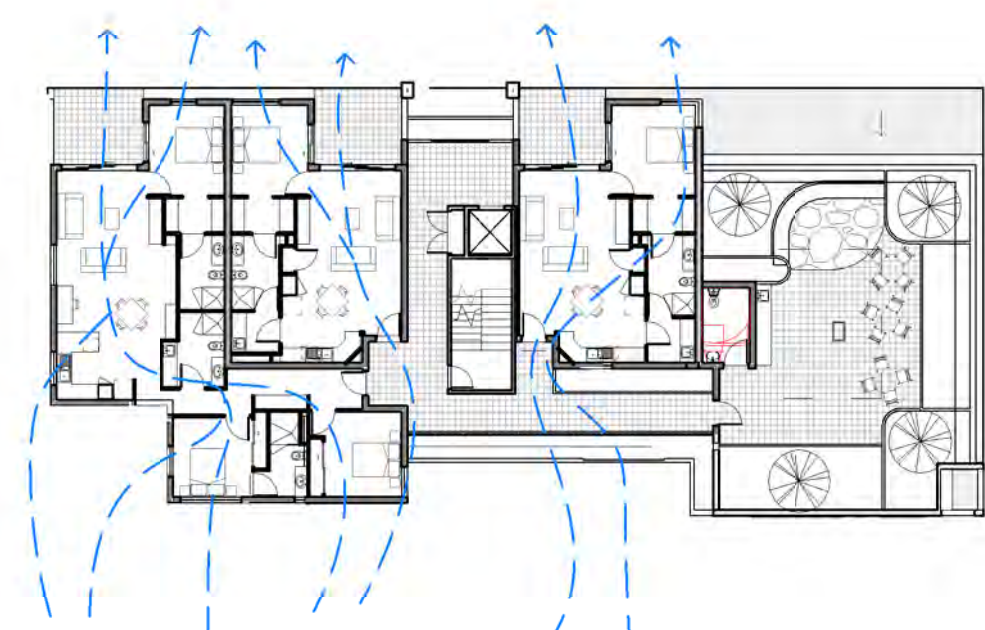
FIRST FLOOR



SECOND + THIRD FLOOR



FOURTH FLOOR



FIFTH FLOOR

N	21-01-21	FI	RESPONSE TO COUNCIL RFI
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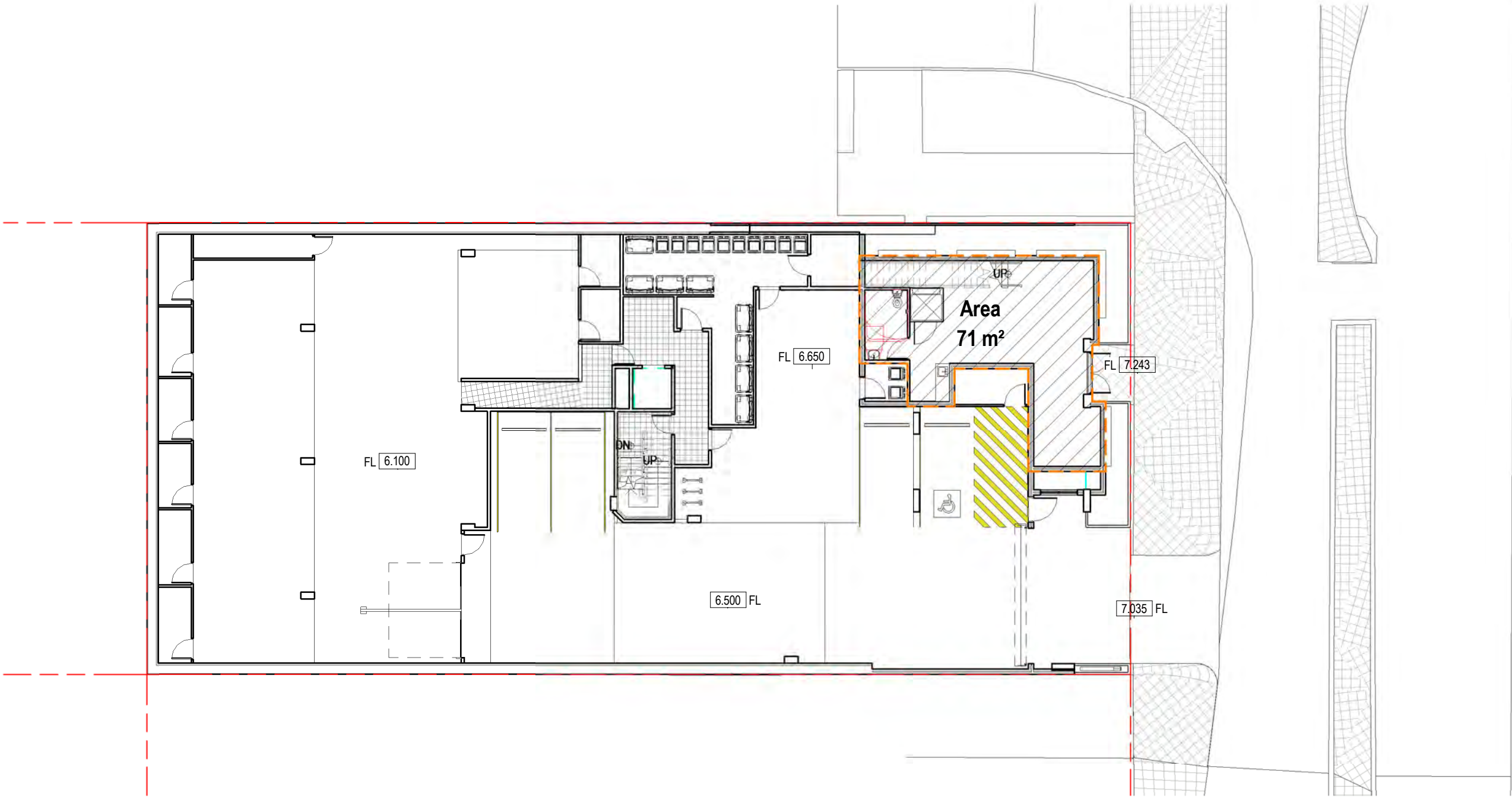
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Project Name
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Drawing Name
VENTILATION STUDIES

Project Number
18020

Drawing No. **SK21** Rev. **N**



LOWER GROUND FLOOR
SCALE: 1 : 200

TOTAL PLOT RATIO = 71m²

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Project Name
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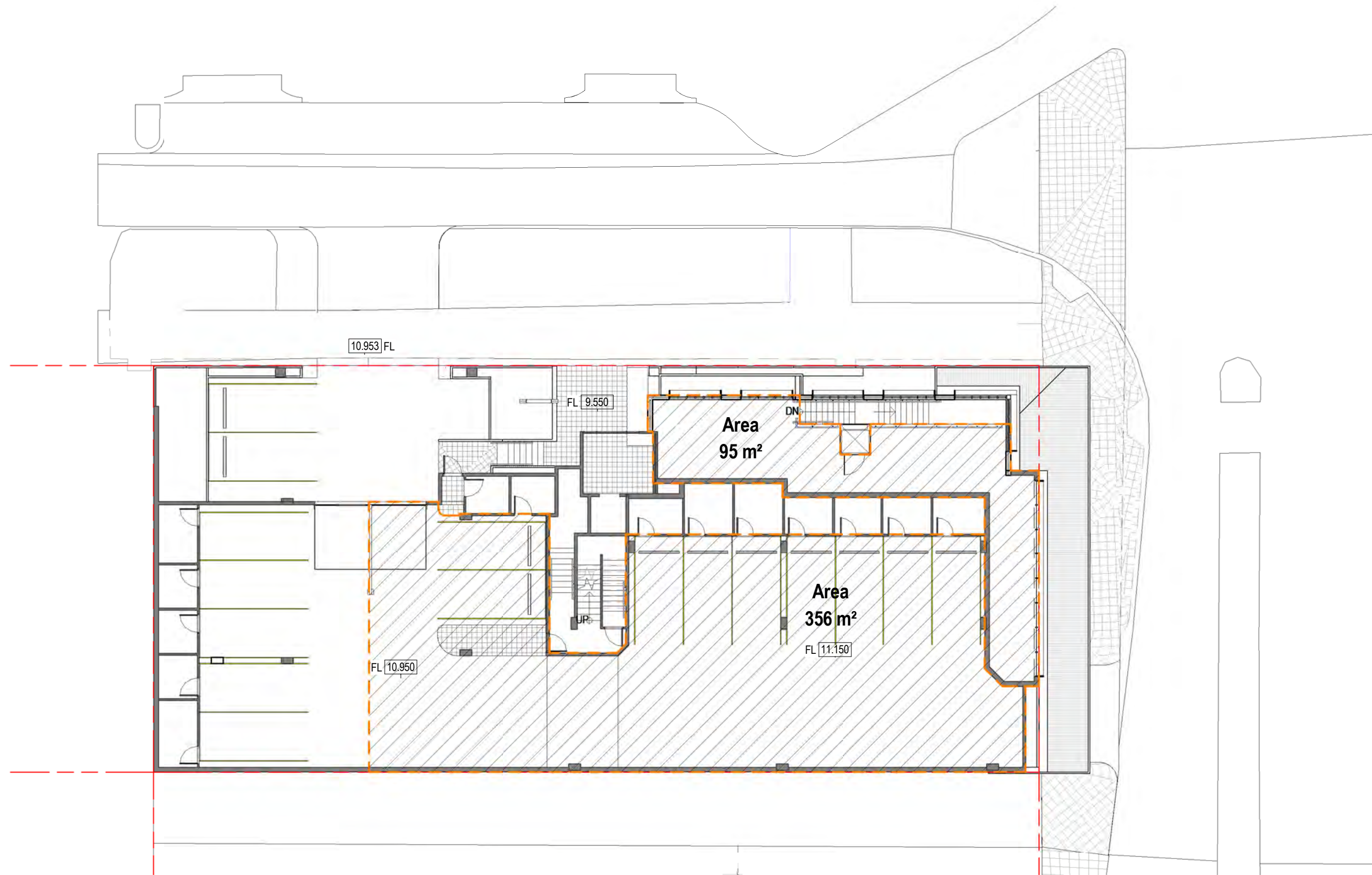
Drawing Name
PLOT RATIO - LOWER GROUND FLOOR

Project Number
18020

Drawing No. **SK22** Rev. **N**

Reduction  25mm on A3 | Scale **1 : 200** | Date

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UPPER GROUND FLOOR

SCALE: 1 : 200

TOTAL PLOT RATIO = 451m²

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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
PLOT RATIO - UPPER GROUND

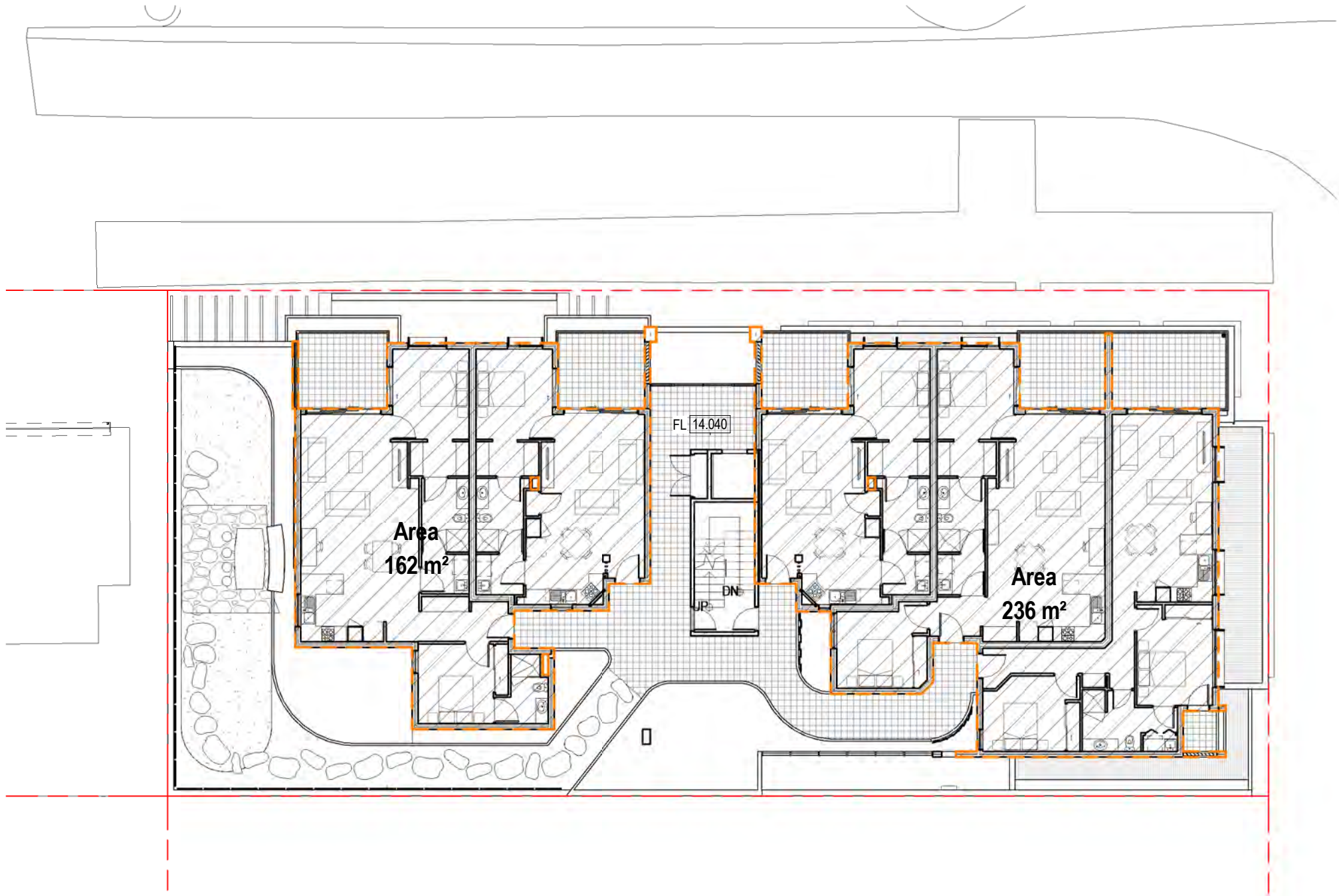
Project Number
18020

Drawing No. Rev.
SK23 N

Reduction  25mm on A3 | Scale

1 : 200 | Date

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FIRST FLOOR

SCALE: 1 : 200

TOTAL PLOT RATIO = 398m²

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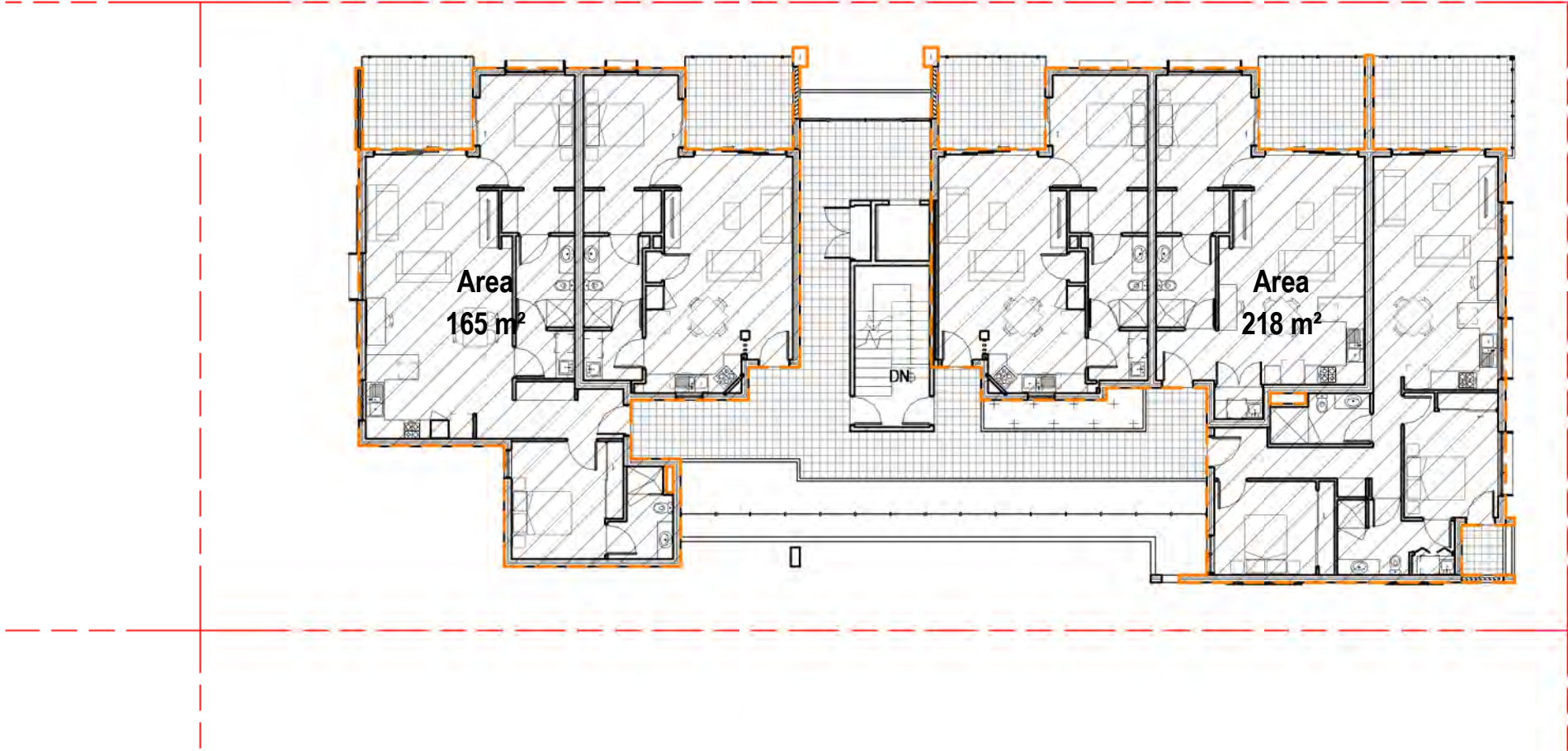
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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
PLOT RATIO - FIRST FLOOR

Project Number
18020

Drawing No. Rev.
SK24 N



SECOND + THIRD FLOOR
SCALE: 1 : 200

TOTAL PLOT RATIO = 383m²

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Rev.	Date	Issued By	Revision Description

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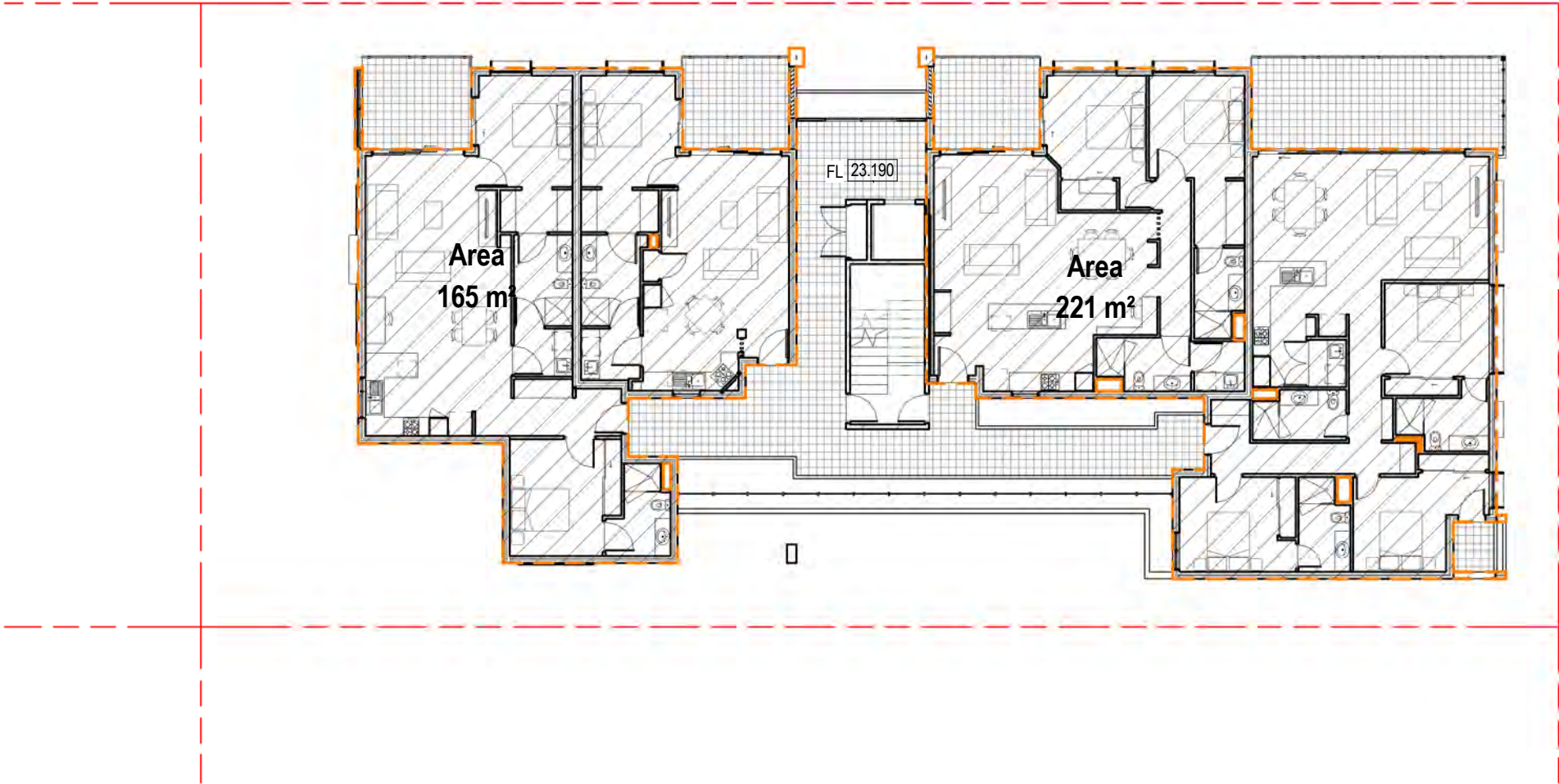
567 Hay Street DAGLISH WA 6008 | PO Box 849 SUBIACO WA 6904
T: (08) 9381 6788 | F: (08) 9381 4619 | E: oka@okarch.com.au

Project Name
Proposed Mixed Use Development, 105
Broadway, Nedlands 6009

Drawing Name
PLOT RATIO - SECOND + THIRD FLOOR
PLAN

Project Number
18020

Drawing No. Rev.
SK25 N



FOURTH FLOOR
SCALE: 1 : 200

TOTAL PLOT RATIO = 386m²

N	21-01-21	FI	RESPONSE TO COUNCIL RFI
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description

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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

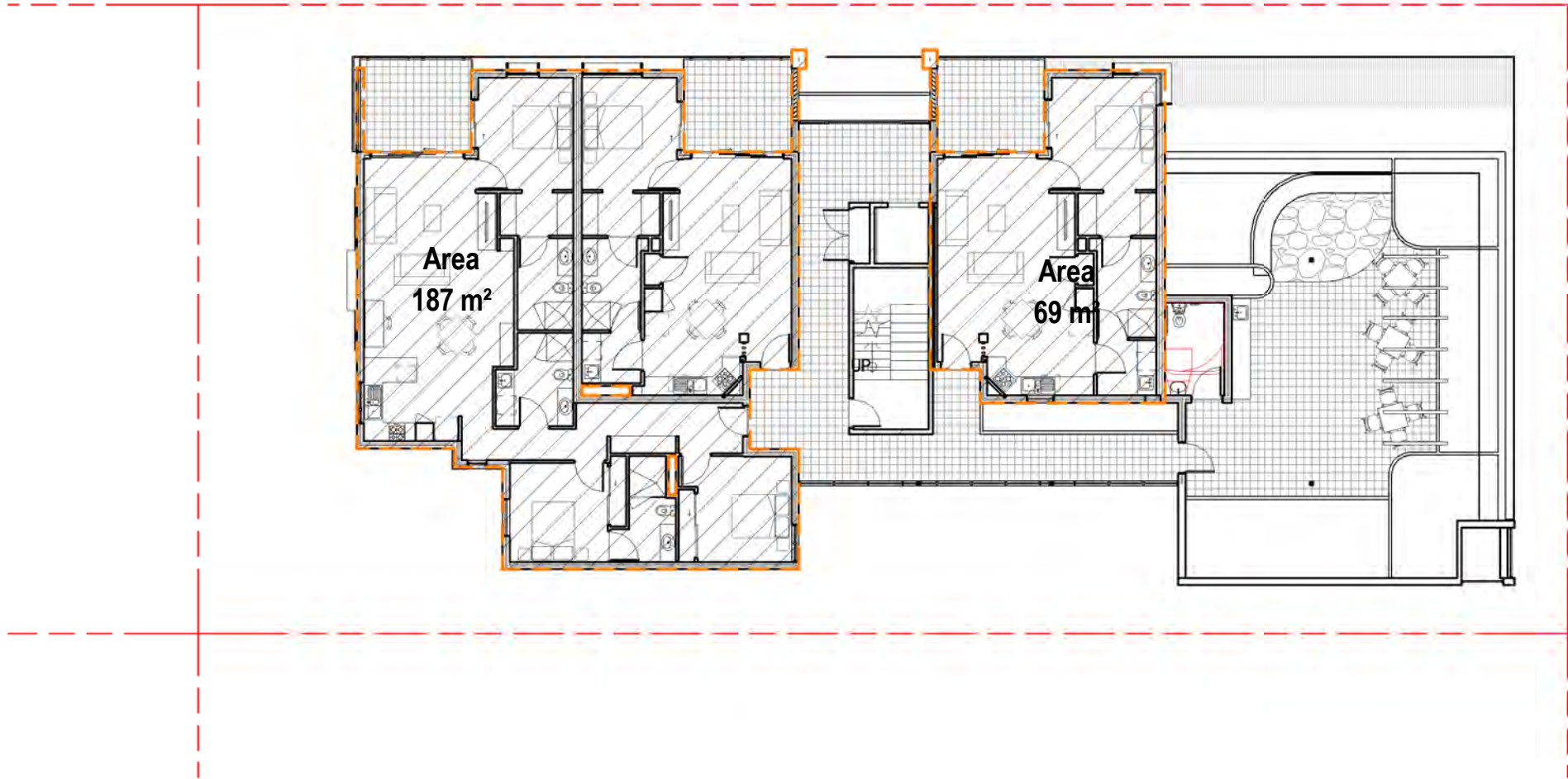
Drawing Name
PLOT RATIO - FOURTH FLOOR

Project Number
18020

Drawing No. Rev.
SK26 N

Reduction  25mm on A3 | Scale 1 : 200 | Date

OCT 2019 | Drawn **JR** | Checked **FI**
C:\Revit Temp\18020 Mixed Use Development_gross94M7S.rvt



FIFTH FLOOR

SCALE: 1 : 200

TOTAL PLOT RATIO = 256m²

N	21-01-21	FI	RESPONSE TO COUNCIL RFI
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description

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Project Name
Proposed Mixed Use Development, 105
Broadway, Nedlands 6009

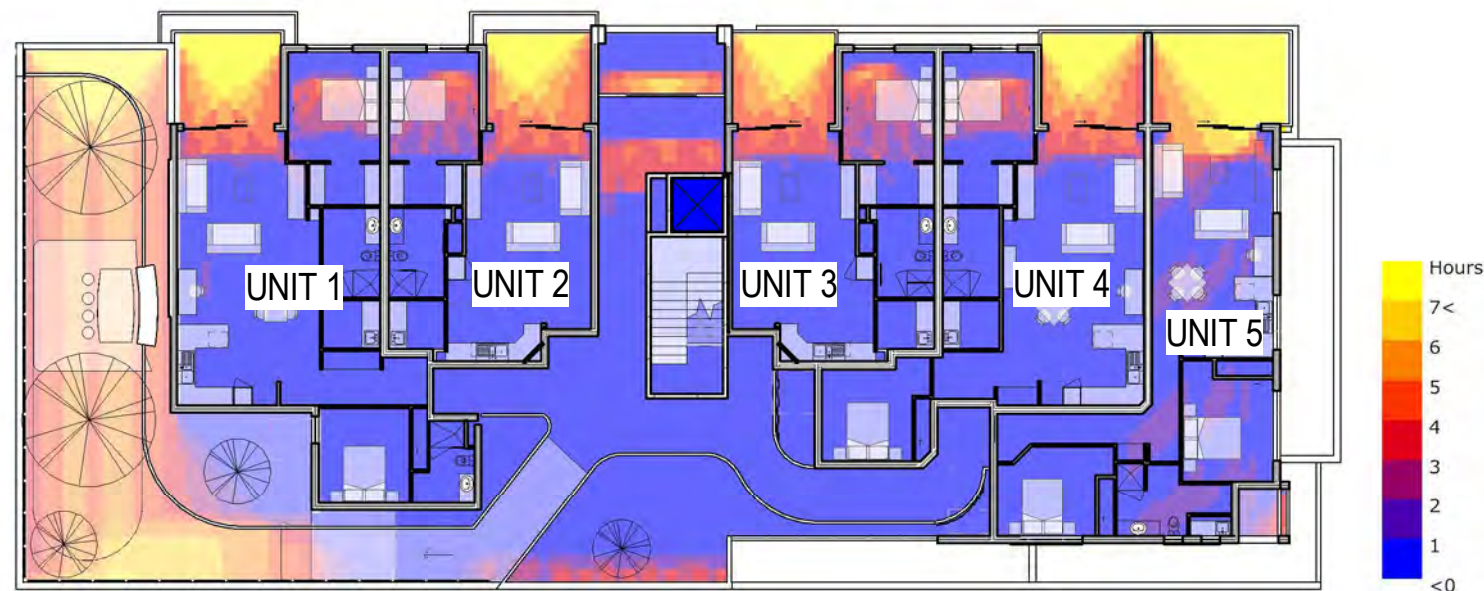
Drawing Name
PLOT RATIO - FIFTH FLOOR

Project Number
18020

Drawing No. Rev.
SK27 N

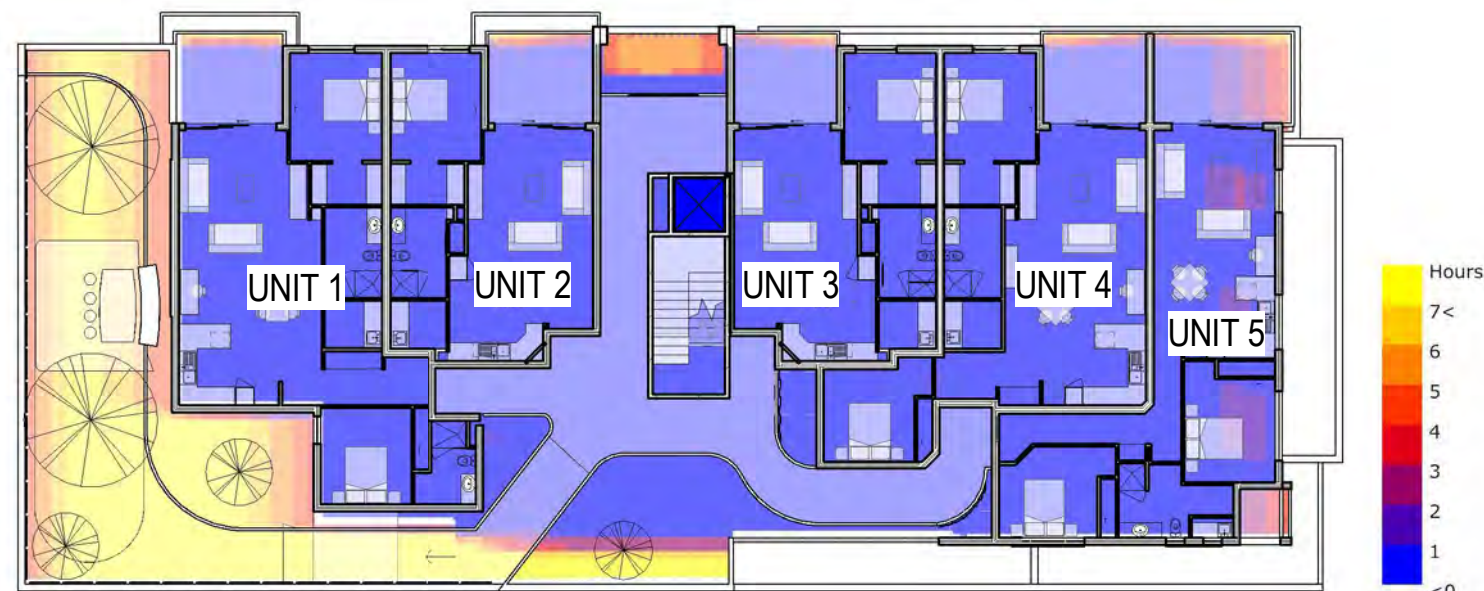
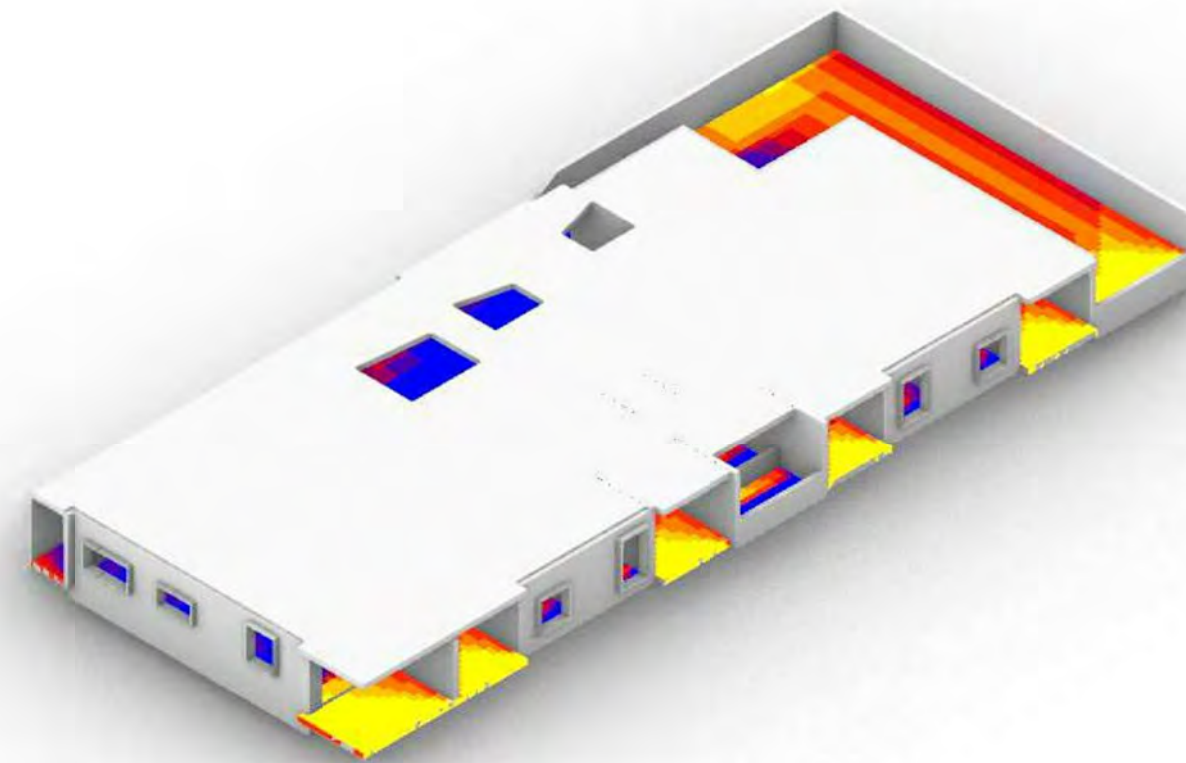
Reduction 25mm on A3 | Scale 1 : 200 | Date

OCT 2019 | Drawn JR | Checked FI
C:\Revit Temp\18020 Mixed Use Development_gross94M7S.rvt

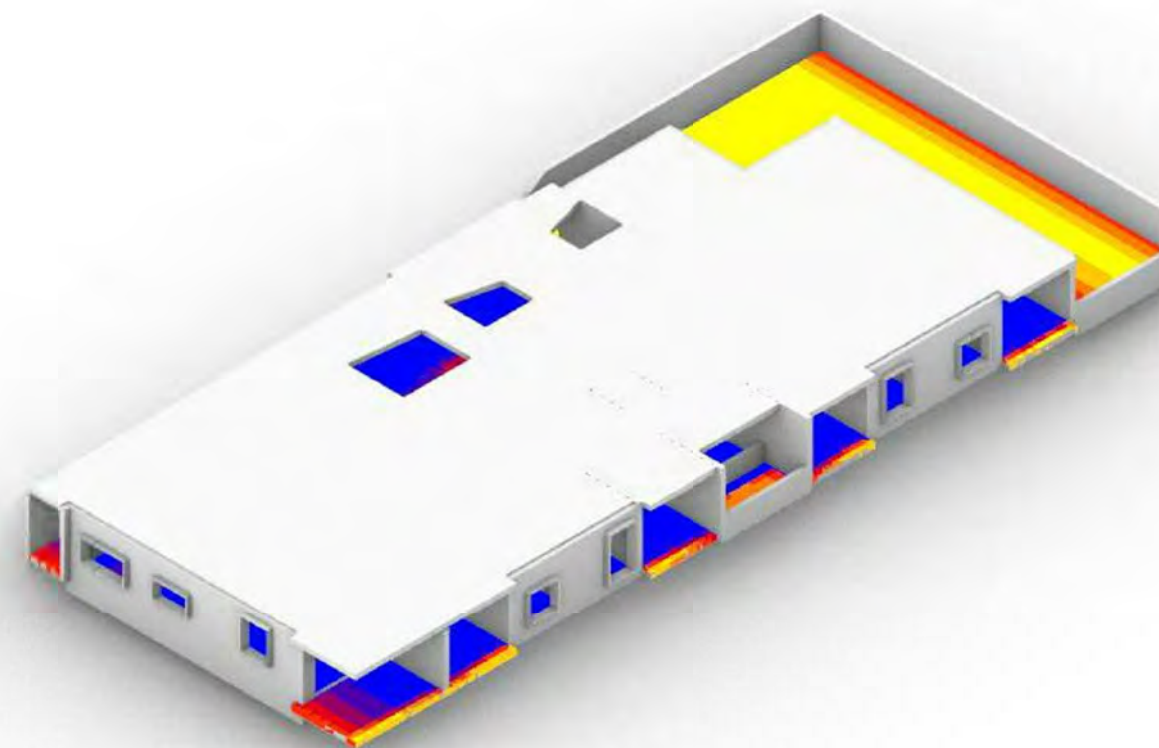


DIRECT SUNLIGHT FIRST FLOOR
21ST JUNE: 9AM - 3PM

*LIVING AREAS AND PRIVATE OPEN SPACES FOR ALL UNITS SHOWN (1-5) RECEIVE >2 HOURS DIRECT SUNLIGHT BETWEEN 9am AND 3pm ON THE 21ST JUNE



DIRECT SUNLIGHT FIRST FLOOR
21ST DECEMBER: 9AM - 3PM



N	21-01-21	FI	RESPONSE TO COUNCIL RFI
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description



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Project Name
Proposed Mixed Use Development, 105 Broadway, Nedlands 6009

Drawing Name
DIRECT SUNLIGHT STUDIES - FIRST FLOOR

Project Number
18020

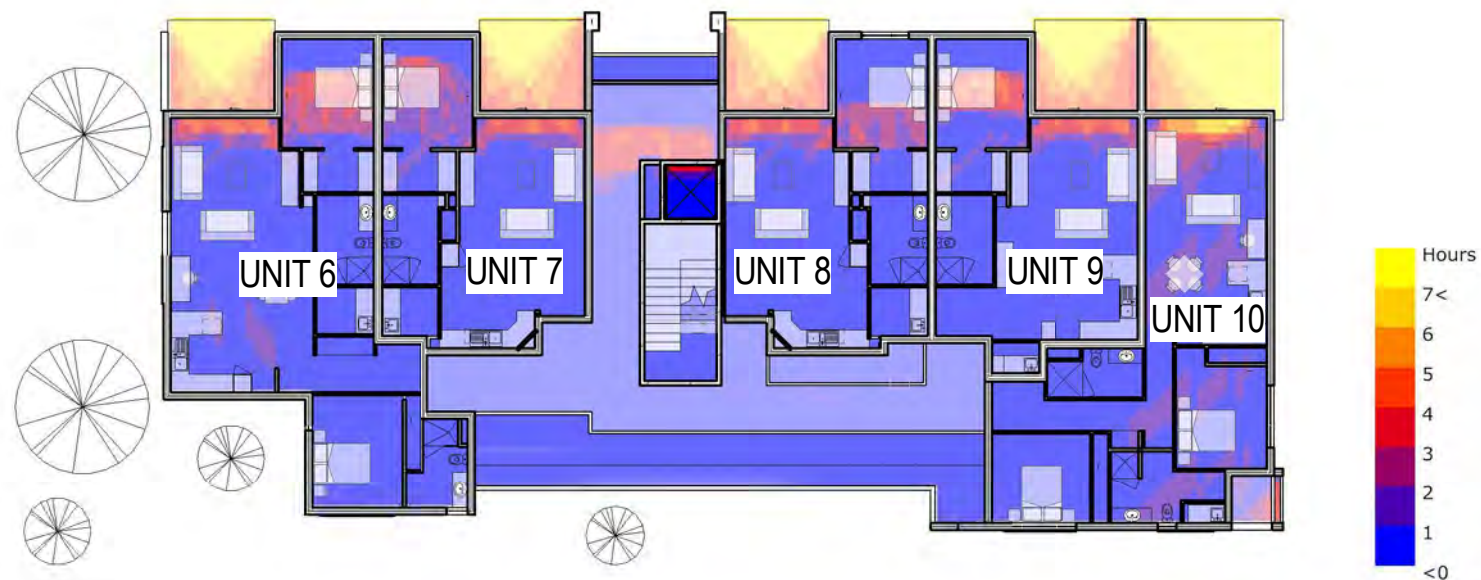
Drawing No.
SK28

Rev.
N

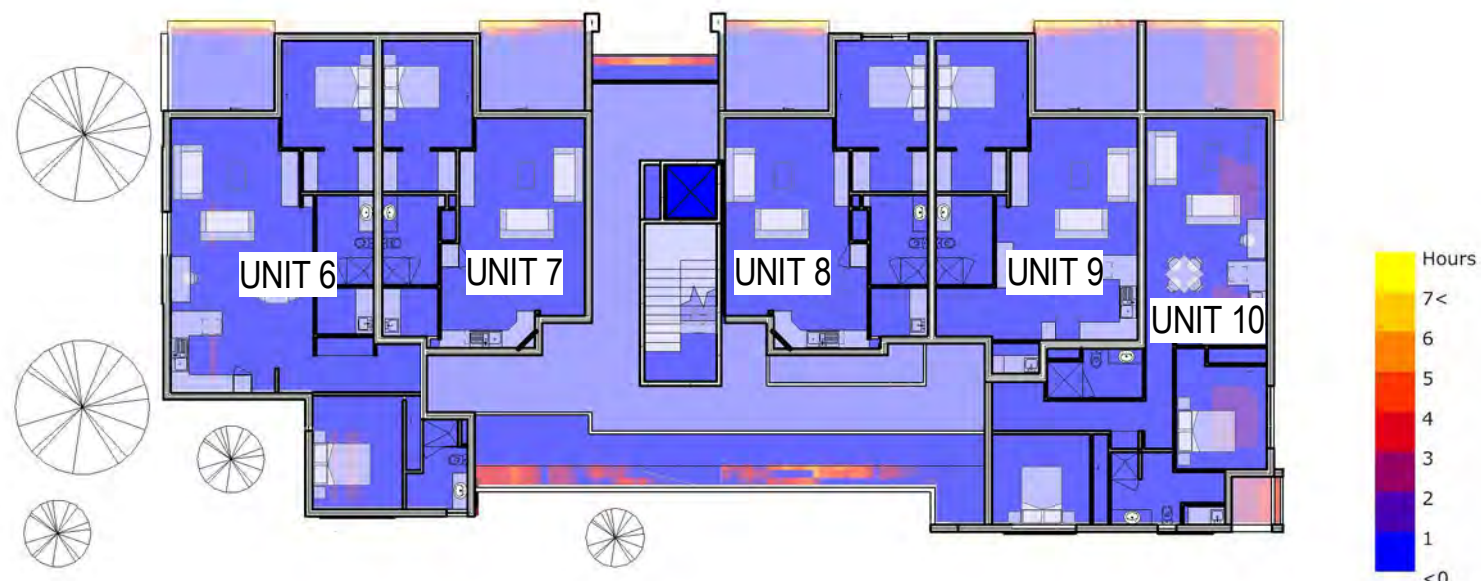
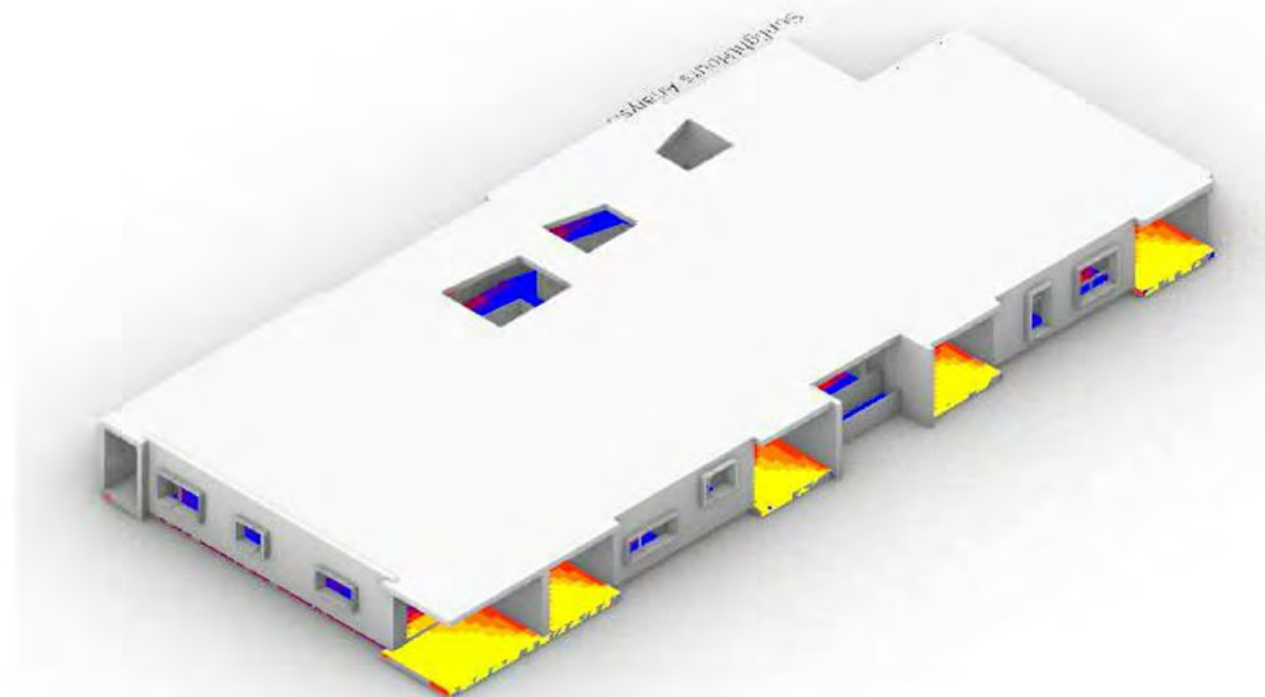
Reduction 25mm on A3 | Scale

1 : 250 | Date

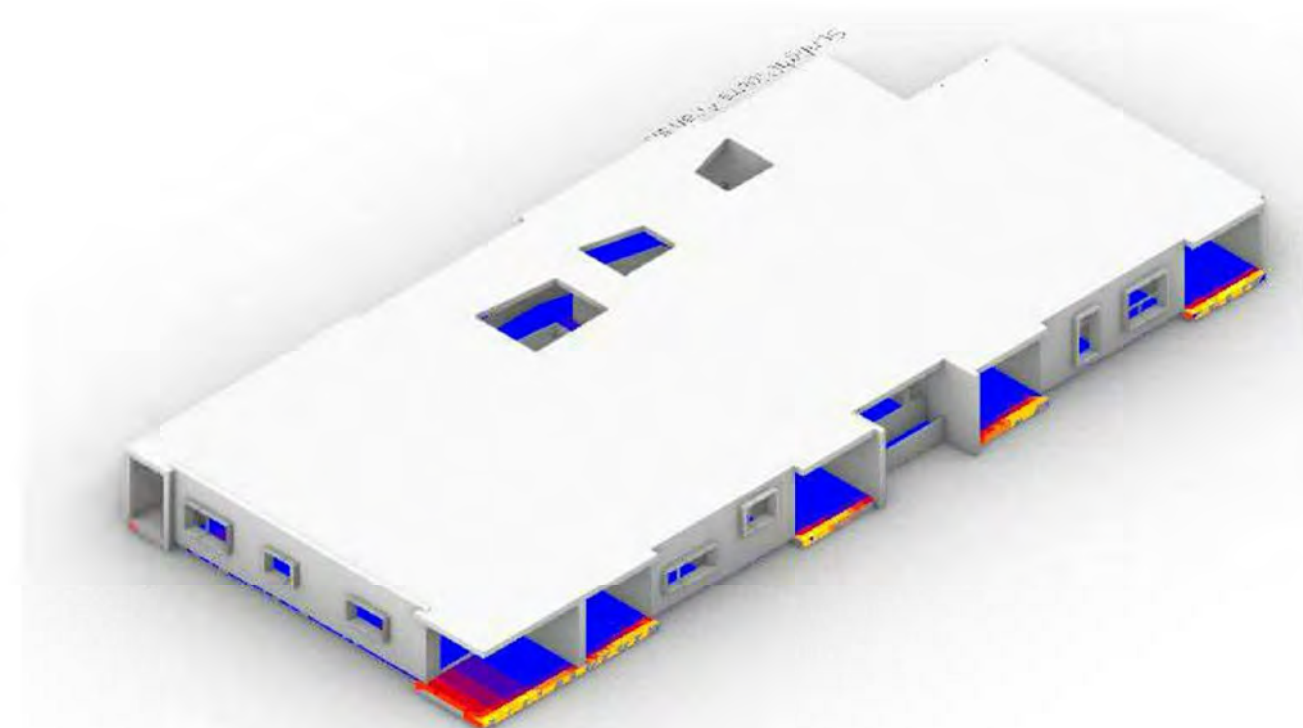
OCT 2019 | Drawn JR | Checked FI
C:\Revit Temp\18020 Mixed Use Development_jross94M7S.rvt



DIRECT SUNLIGHT - SECON FLOOR
21ST JUNE: 9AM - 3PM
*LIVING AREAS AND PRIVATE OPEN SPACES FOR ALL UNITS SHOWN (6-10) RECEIVE >2 HOURS DIRECT SUNLIGHT BETWEEN 9am AND 3pm ON THE 21ST JUNE



DIRECT SUNLIGHT - SECON FLOOR
21ST DECEMBER: 9AM - 3PM



N	21-01-21	FI	RESPONSE TO COUNCIL RFI
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description



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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
**DIRECT SUNLIGHT STUDIES - SECOND
FLOOR**

Project Number
18020

Drawing No. **SK29** Rev. **N**

Reduction 25mm on A3 | Scale

1 : 250 | Date

OCT 2019 | Drawn **JR** | Checked **FI**

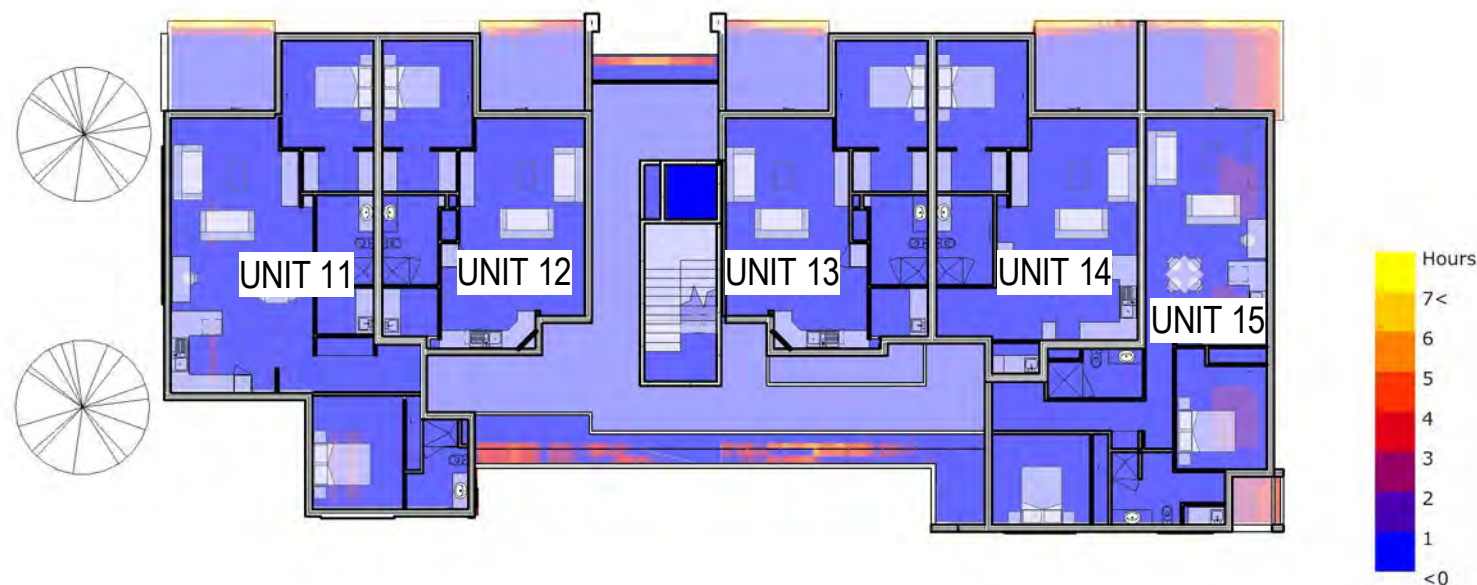
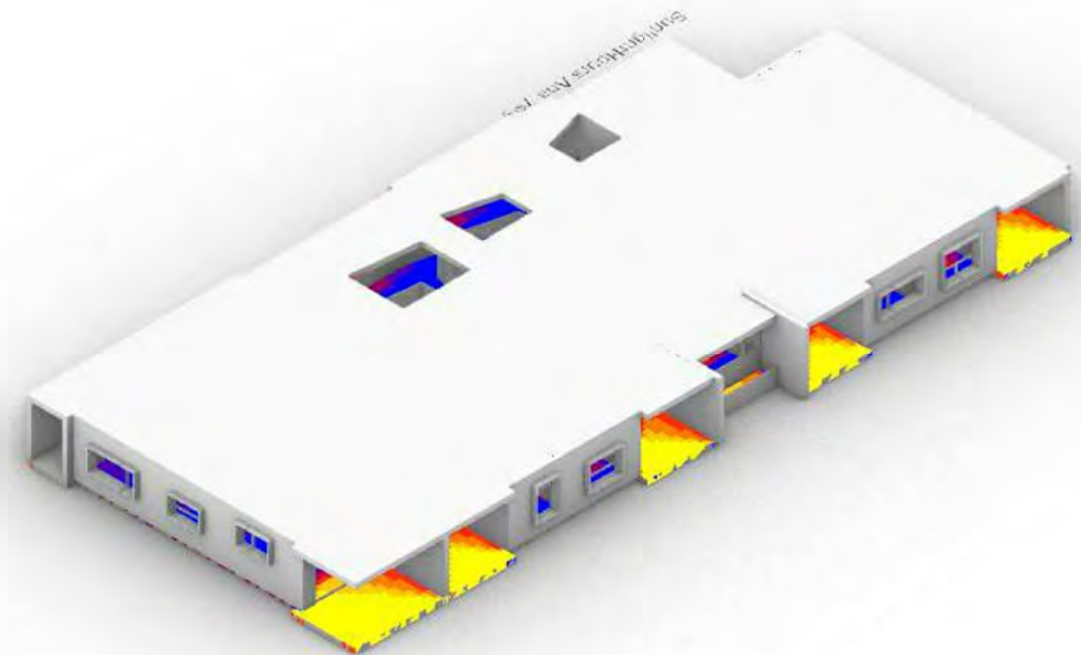
C:\Revit Temp\18020 Mixed Use Development_jross94M7S.rvt



DIRECT SUNLIGHT THIRD FLOOR

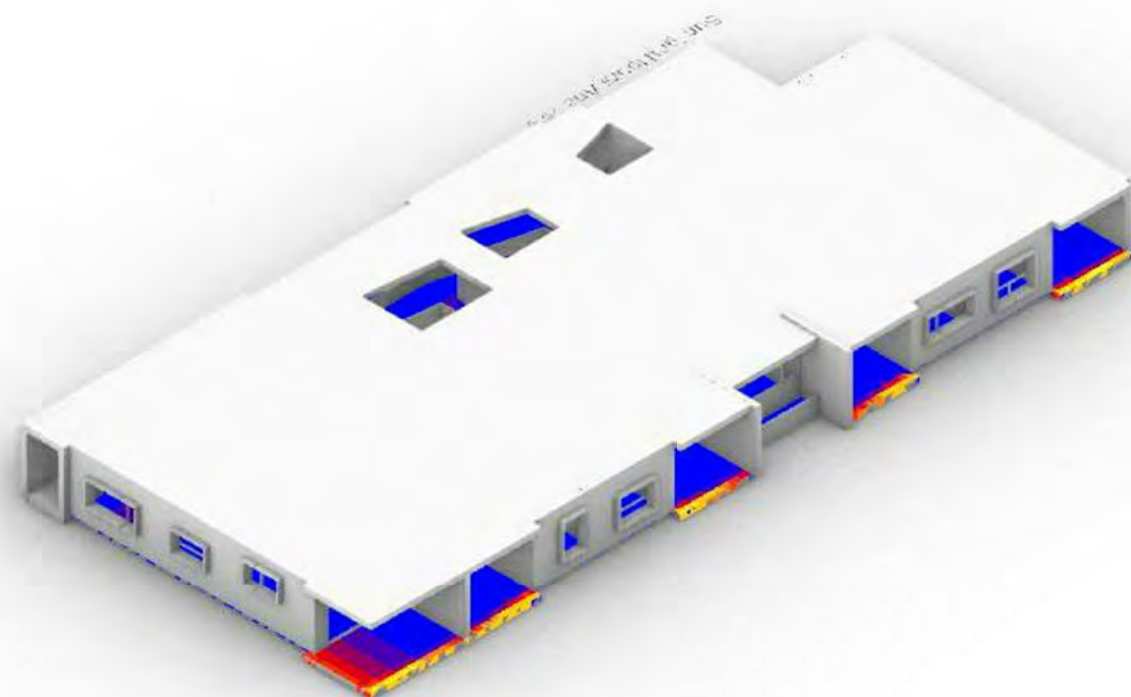
21ST JUNE: 9AM - 3PM

*LIVING AREAS AND PRIVATE OPEN SPACES FOR ALL UNITS SHOWN (11-15) RECEIVE >2 HOURS DIRECT SUNLIGHT BETWEEN 9am AND 3pm ON THE 21ST JUNE



DIRECT SUNLIGHT THIRD FLOOR

21ST DECEMBER: 9AM - 3PM



N	21-01-21	FI	RESPONSE TO COUNCIL RFI
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description



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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
DIRECT SUNLIGHT STUDIES - THIRD FLOOR

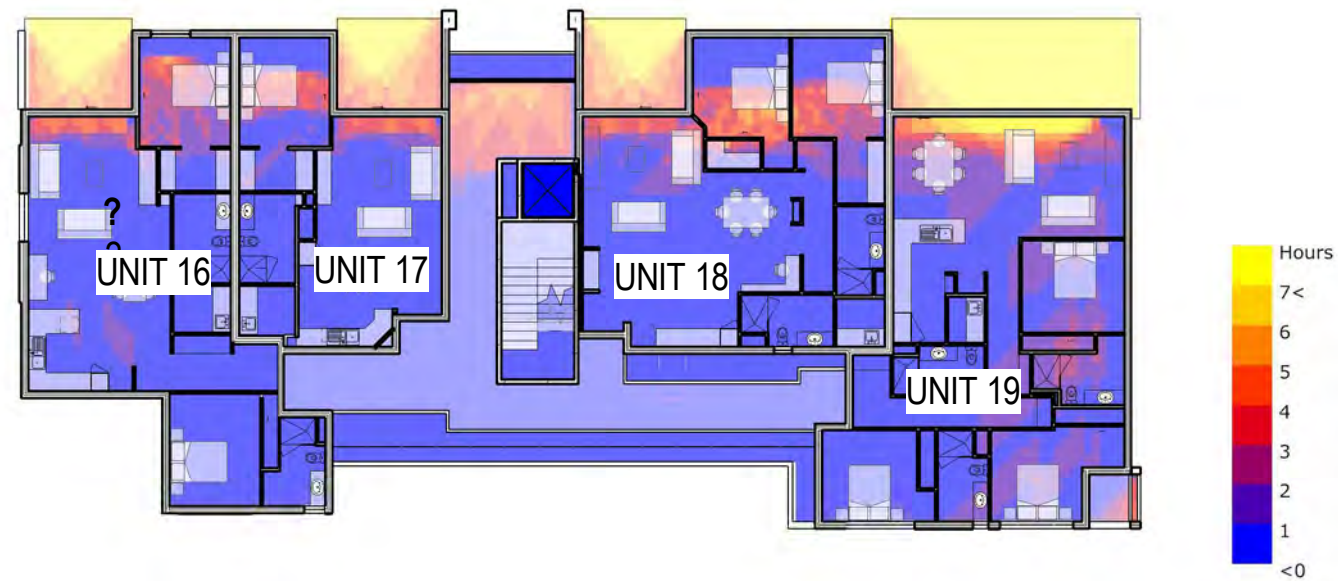
Project Number
18020

Drawing No. **SK30** Rev. **N**

Reduction 25mm on A3 | Scale

1 : 250 | Date

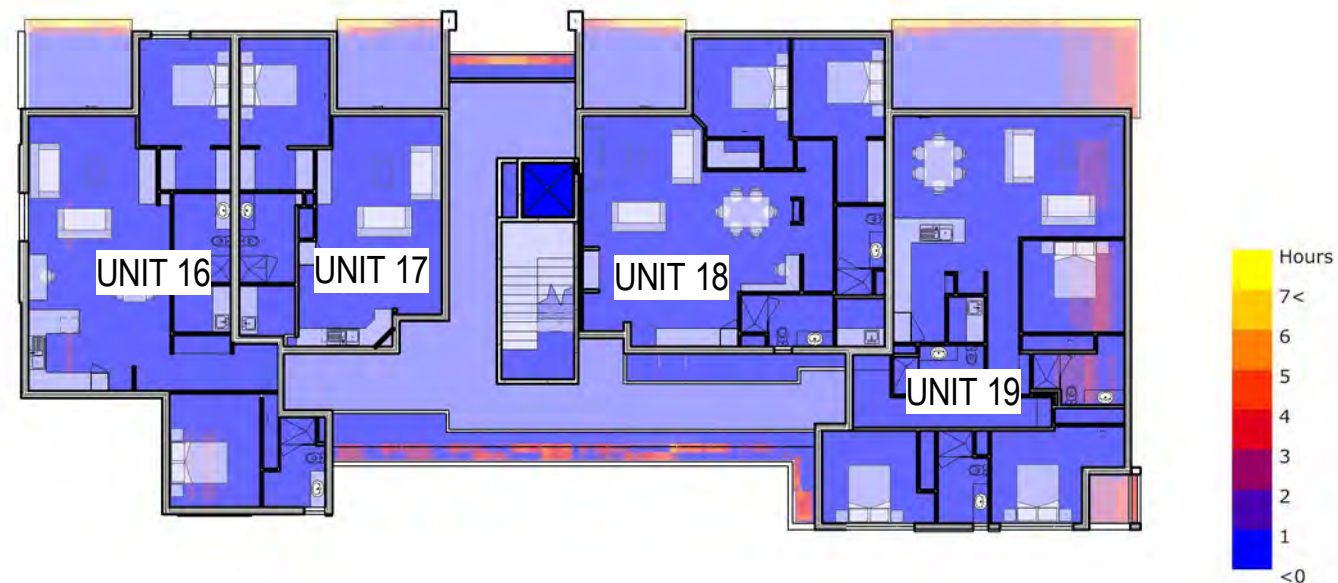
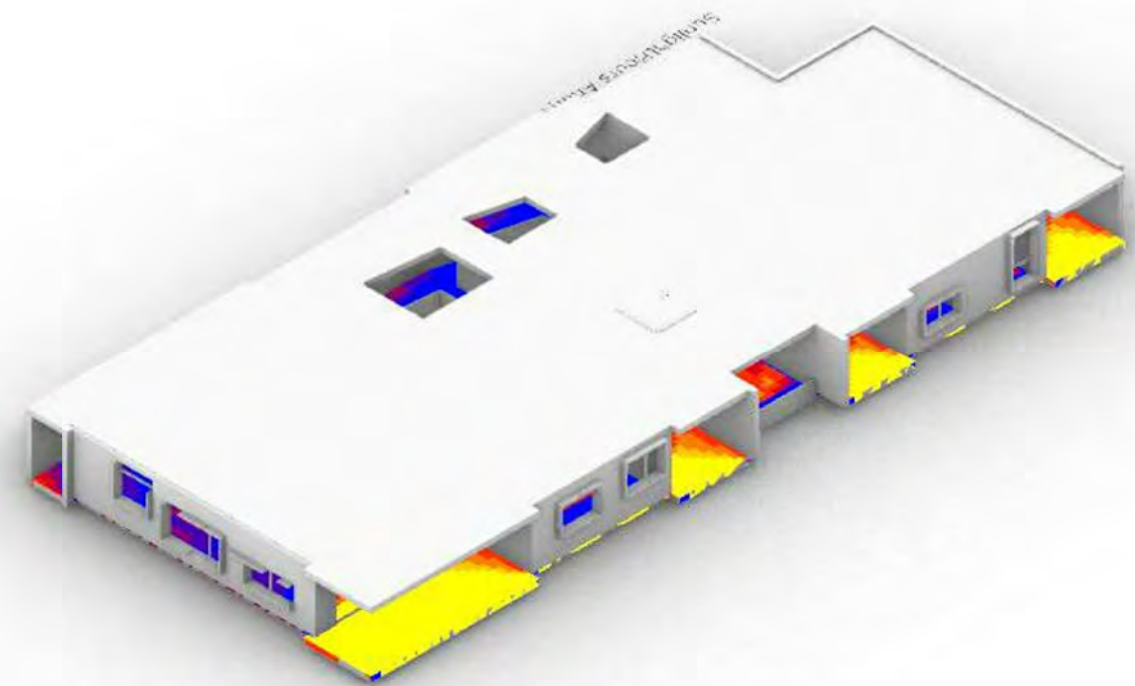
OCT 2019 | Drawn **JR** | Checked **FI**
C:\Revit Temp\18020 Mixed Use Development_jross94M7S.rvt



DIRECT SUNLIGHT - FOURTH FLOOR

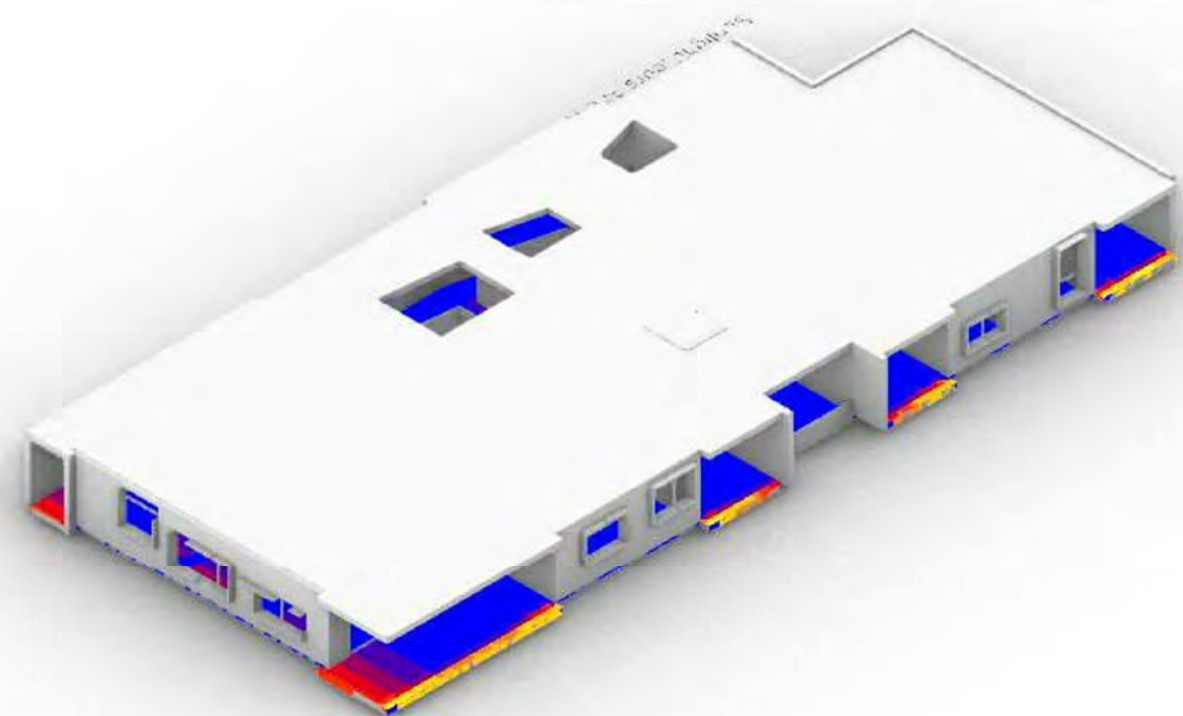
21ST JUNE: 9AM - 3PM

*LIVING AREAS AND PRIVATE OPEN SPACES FOR ALL UNITS SHOWN (16-19) RECEIVE >2 HOURS DIRECT SUNLIGHT BETWEEN 9am AND 3pm ON THE 21ST JUNE



DIRECT SUNLIGHT - FOURTH FLOOR

21ST DECEMBER: 9AM - 3PM



N	21-01-21	FI	RESPONSE TO COUNCIL RFI
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description



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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
**DIRECT SUNLIGHT STUDIES - FOURTH
FLOOR**

Project Number
18020

Drawing No. Rev.
SK31 N

Reduction 25mm on A3 | Scale

1 : 250 | Date

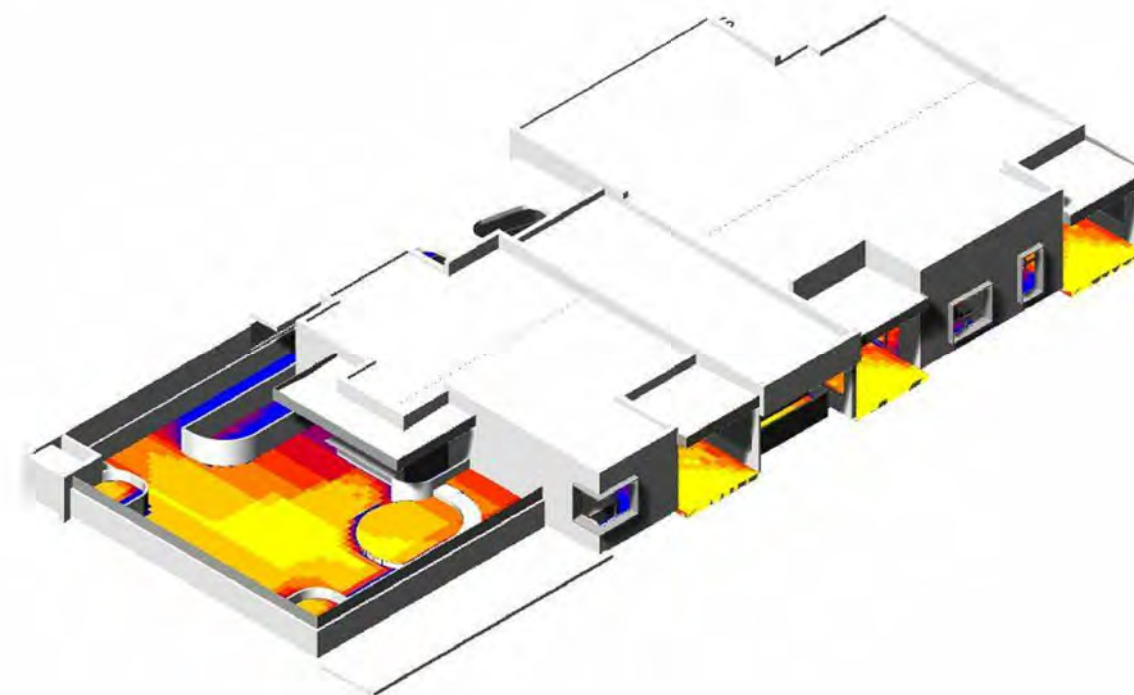
OCT 2019 | Drawn JR | Checked FI

C:\Revit Temp\18020 Mixed Use Development_jross94M7S.rvt

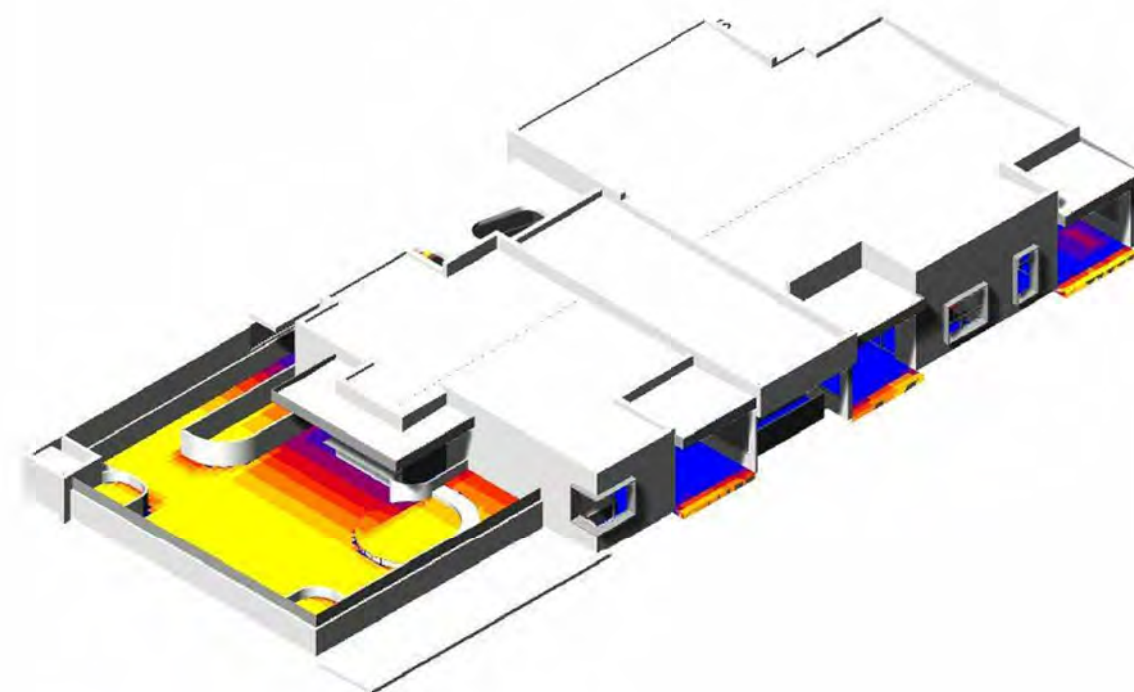


DIRECT SUNLIGHT - FIFTH FLOOR
21ST JUNE: 9AM - 3PM

*LIVING AREAS AND PRIVATE OPEN SPACES FOR ALL UNITS SHOWN (20-22) RECEIVE >2 HOURS DIRECT SUNLIGHT BETWEEN 9am AND 3pm ON THE 21ST JUNE



DIRECT SUNLIGHT - FIFTH FLOOR
21ST DECEMBER: 9AM - 3PM



N	21-01-21	FI	RESPONSE TO COUNCIL RFI
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description



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Project Name
Proposed Mixed Use Development, 105 Broadway, Nedlands 6009

Drawing Name
DIRECT SUNLIGHT STUDIES - FIFTH FLOOR

Project Number
18020

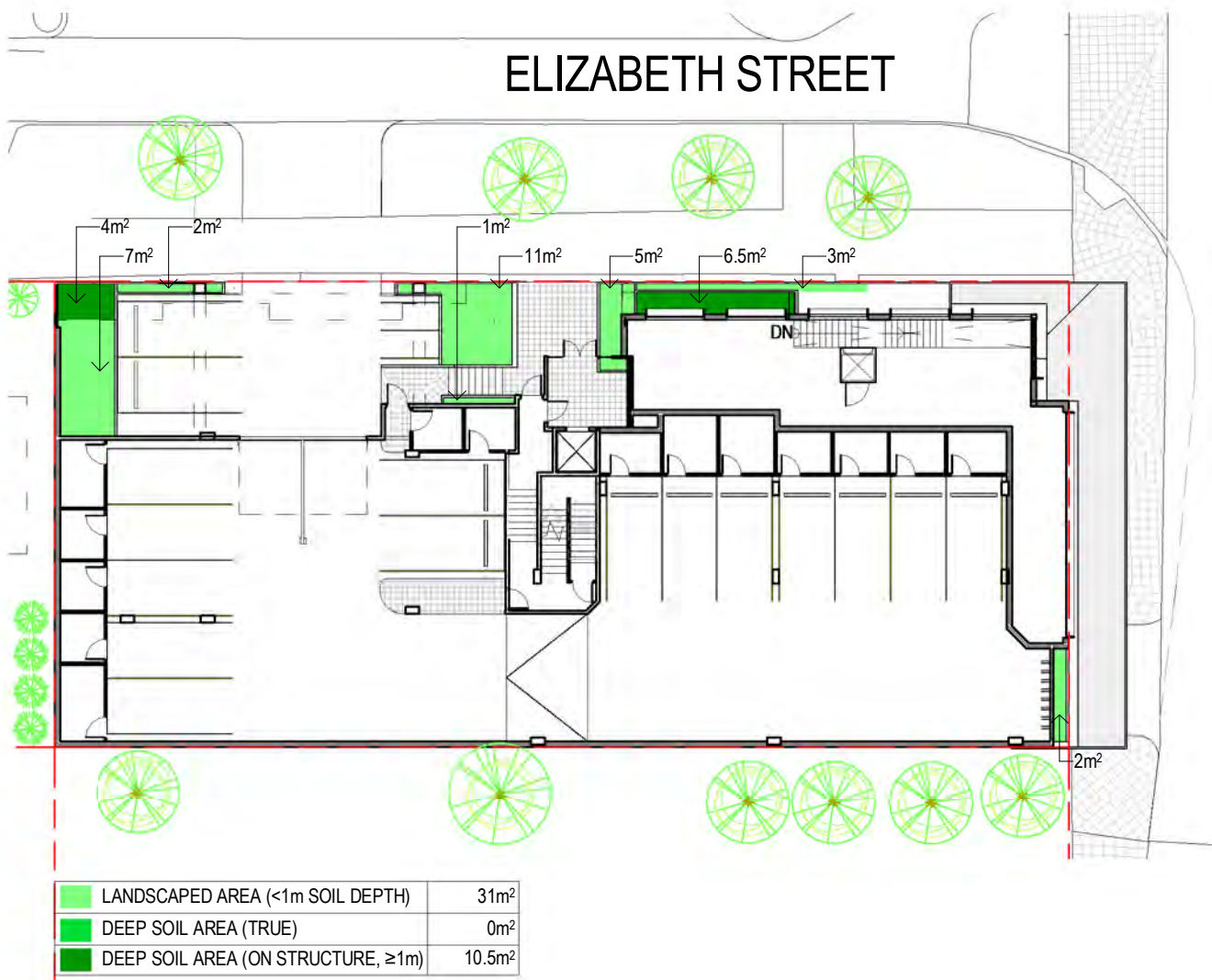
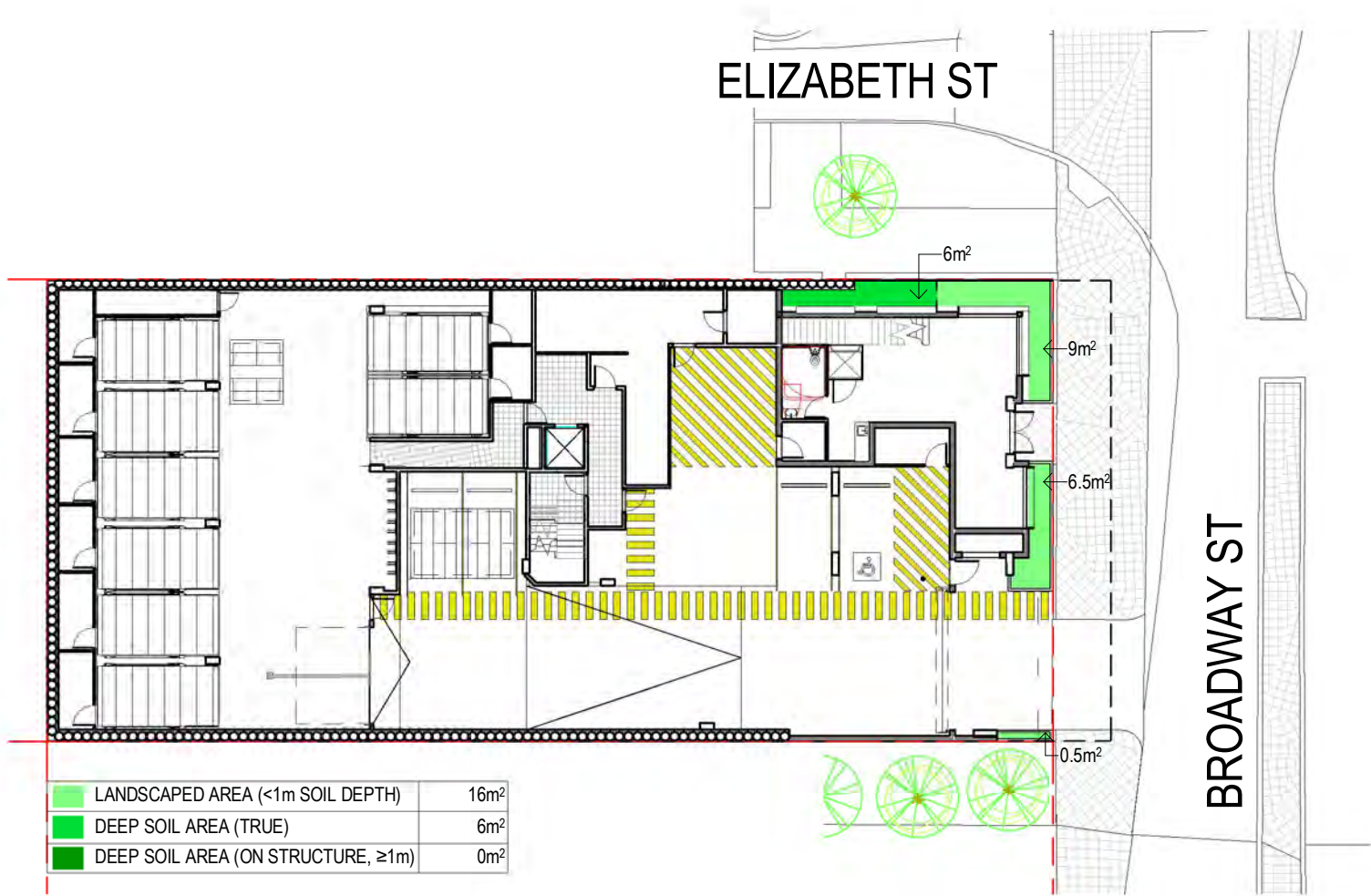
Drawing No. **SK32** Rev. **N**

Reduction 25mm on A3 | Scale

1 : 250 | Date

OCT 2019 | Drawn **JR** | Checked **FI**

C:\Revit Temp\18020 Mixed Use Development_jross94M7S.rvt



GROUND FLOOR PLAN - LOWER

GROUND FLOOR PLAN - UPPER

DEEP SOIL CALCULATION

TRUE DEEP SOIL AREA	
LOWER GROUND FLOOR:	6m²
TOTAL:	6m²

88.2m² REQUIRED (10% OF SITE AREA)
SHORT FALL = 82.2m²
THEREFOR 2x82.2m² (164.4) REQ ON STRUCTURE

DEEP SOIL AREA ON STRUCTURE	
UPPER GROUND FLOOR:	10.5m²
FIRST FLOOR:	110m²
FIFTH FLOOR:	46m²
TOTAL:	166.5m²

LANDSCAPED AREA	
LOWER GROUND FLOOR:	16m²
UPPER GROUND FLOOR:	31m²
FIRST FLOOR:	56m²
SECOND FLOOR:	43m²
THIRD FLOOR:	43m²
FOURTH FLOOR:	27m²
FIFTH FLOOR:	14.5m²
TOTAL:	230.5m²

N	21-01-21	FI	RESPONSE TO COUNCIL RFI
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description



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Project Name
Proposed Mixed Use Development, 105
Broadway, Nedlands 6009

Drawing Name
LANDSCAPING PLANS - UPPER AND LOWER
GROUND FLOORS

Project Number

18020

Drawing No.

SK33

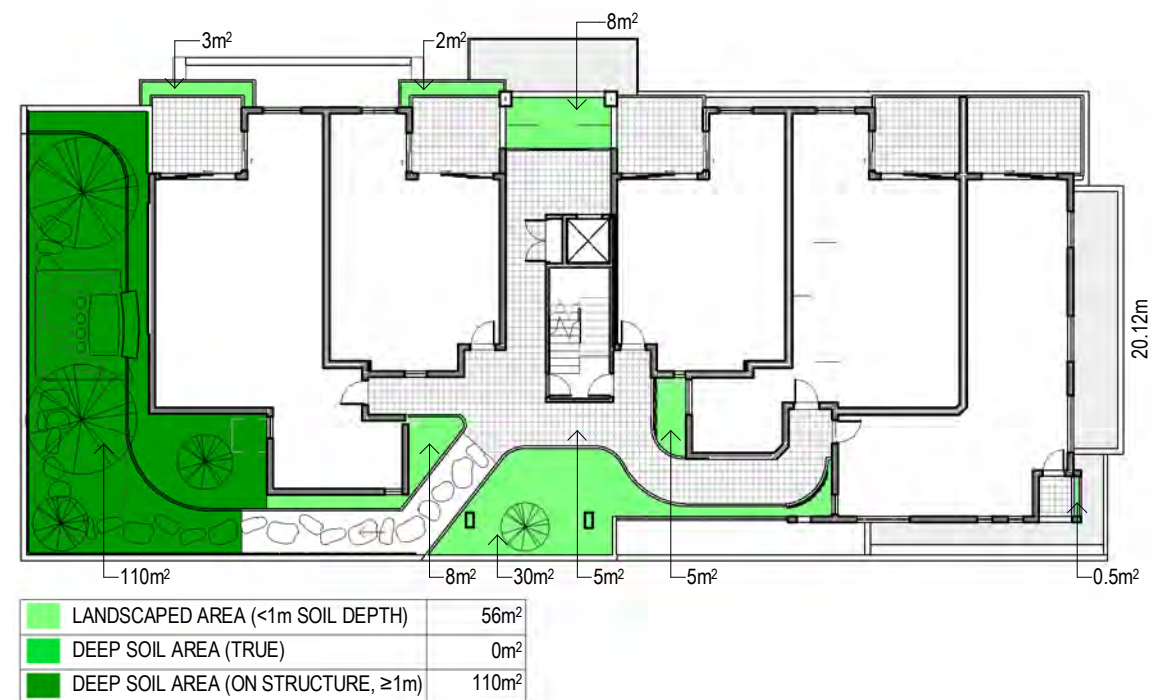
Rev.

N

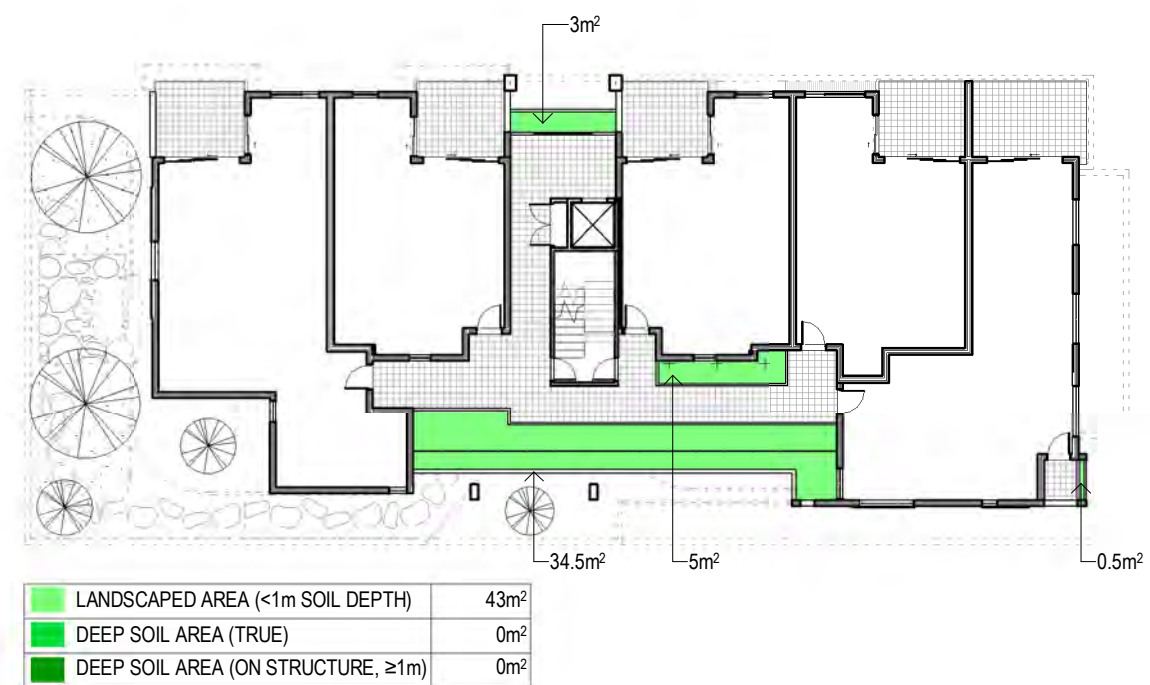
Reduction 25mm on A3 | Scale

1 : 300 | Date

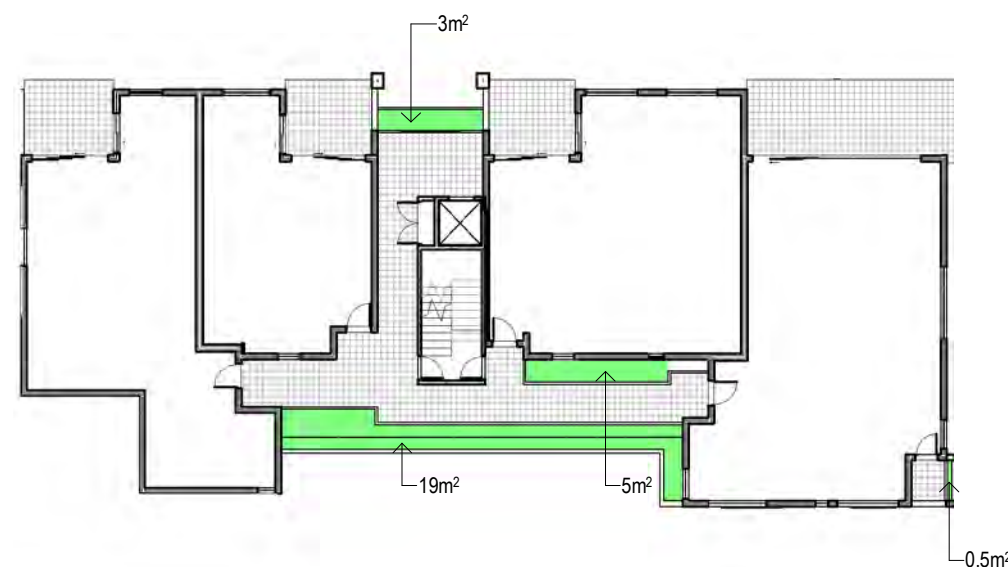
OCT 2019 | Drawn JR | Checked FI
C:\Revit Temp\18020 Mixed Use Development_jross94M7S.rvt



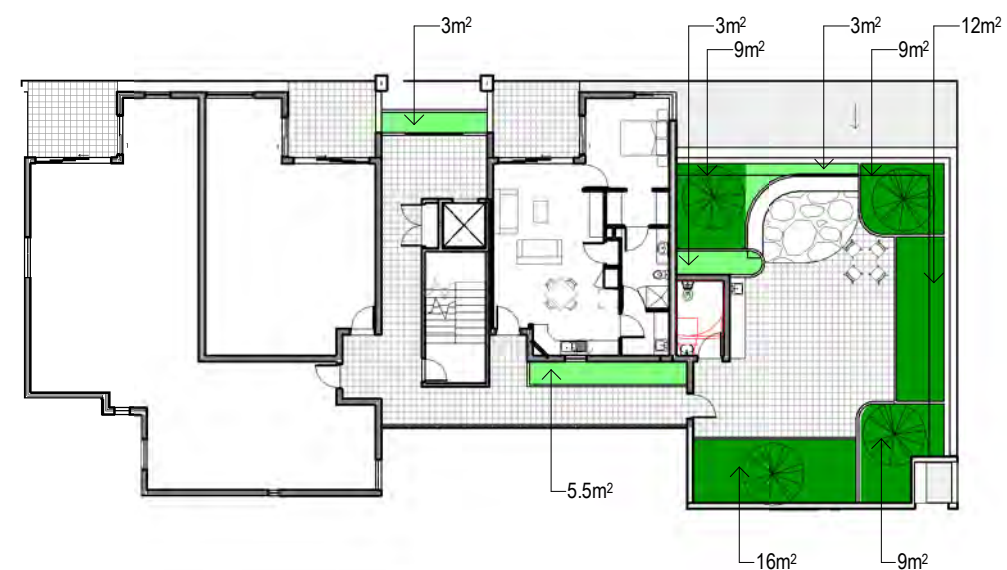
FIRST FLOOR



SECOND + THIRD FLOOR



FOURTH FLOOR



FIFTH FLOOR

N	21-01-21	FI	RESPONSE TO COUNCIL RFI
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description



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Project Name
Proposed Mixed Use Development, 105 Broadway, Nedlands 6009

Drawing Name
LANDSCAPING PLANS - APARTMENTS

Project Number
18020

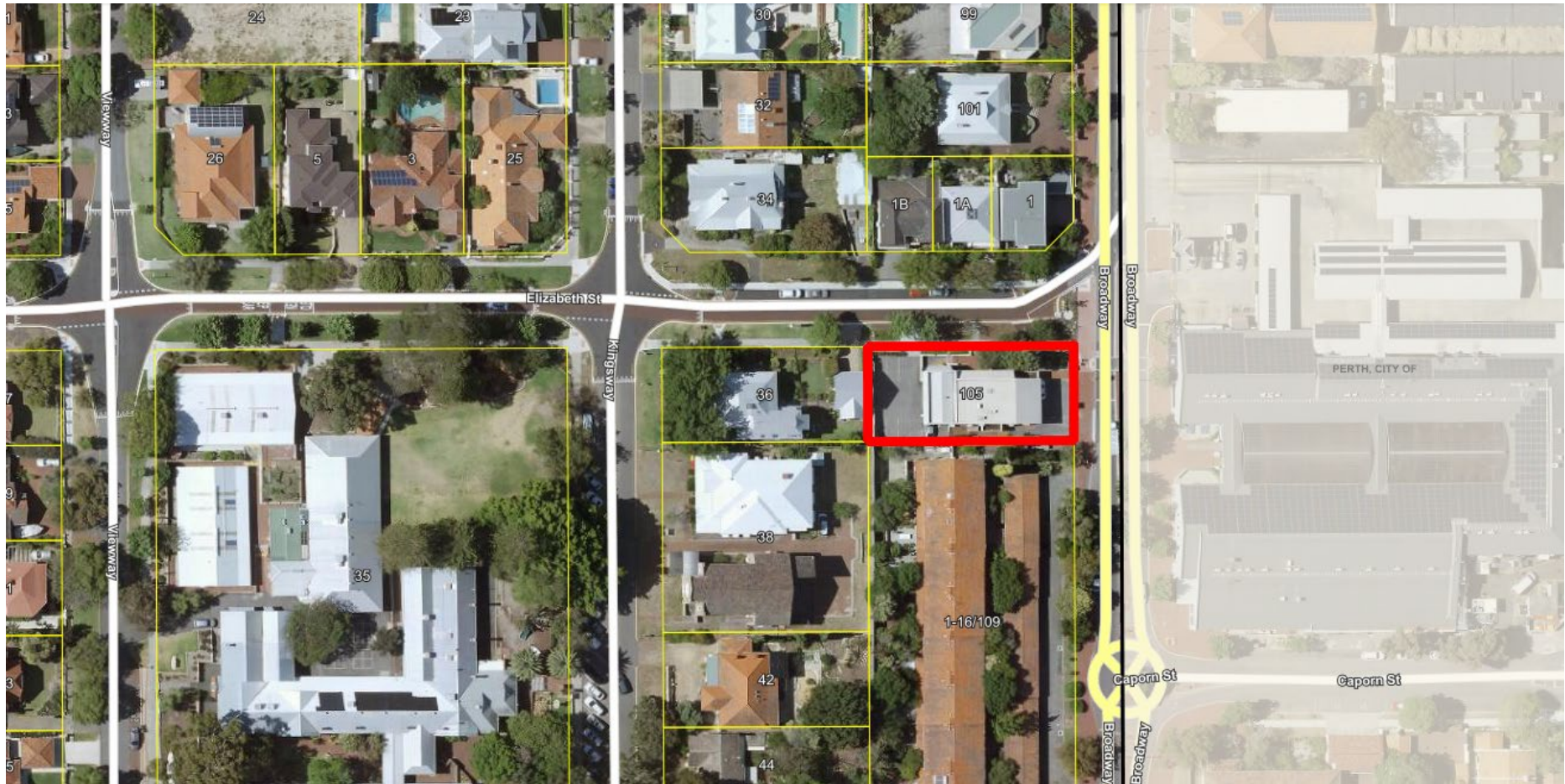
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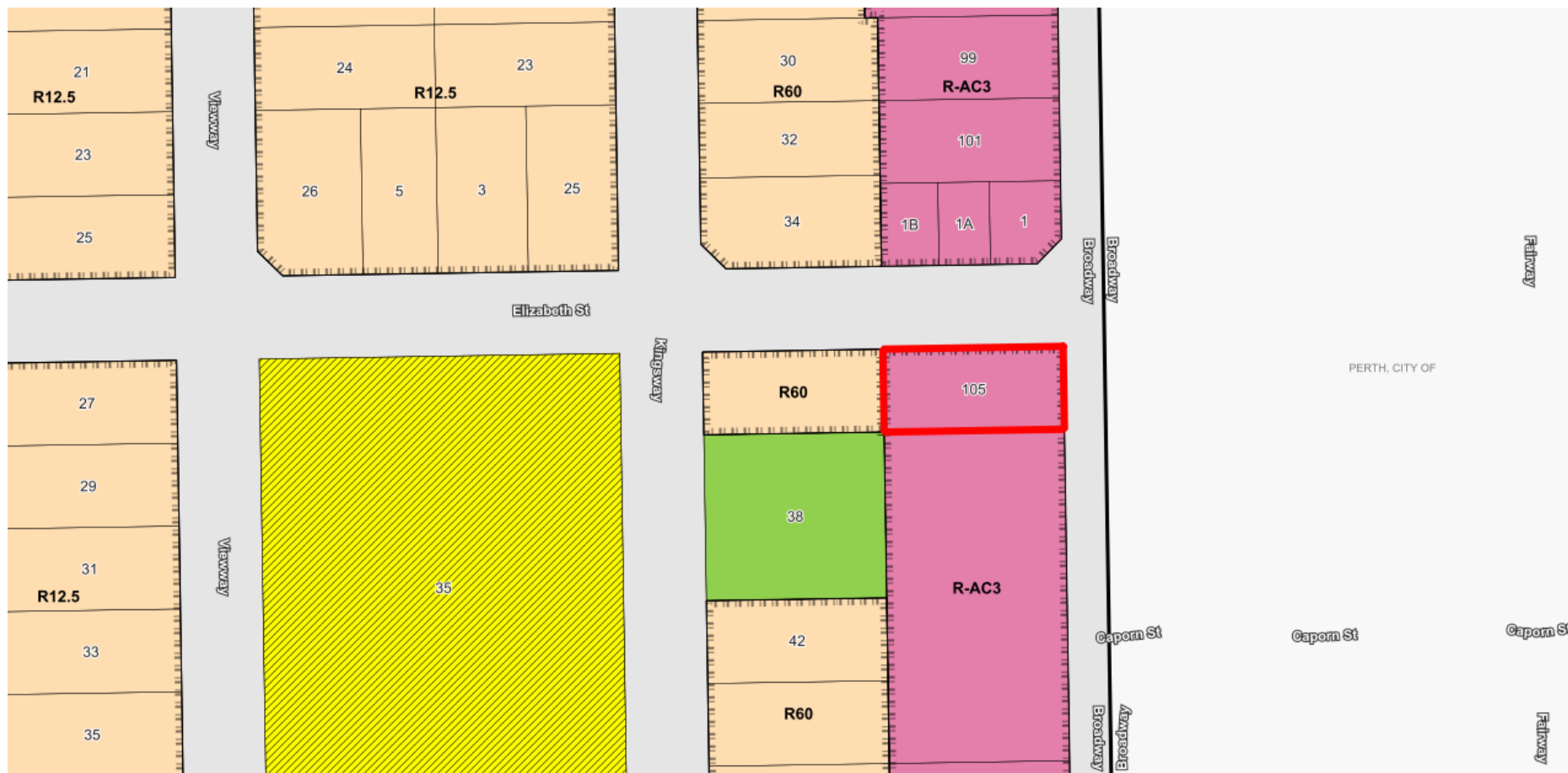
1 : 300 | Date

OCT 2019 | Drawn **JR** | Checked **FI**
C:\Revit Temp\18020 Mixed Use Development_jross94M7S.rvt

Aerial



Site Planning Context



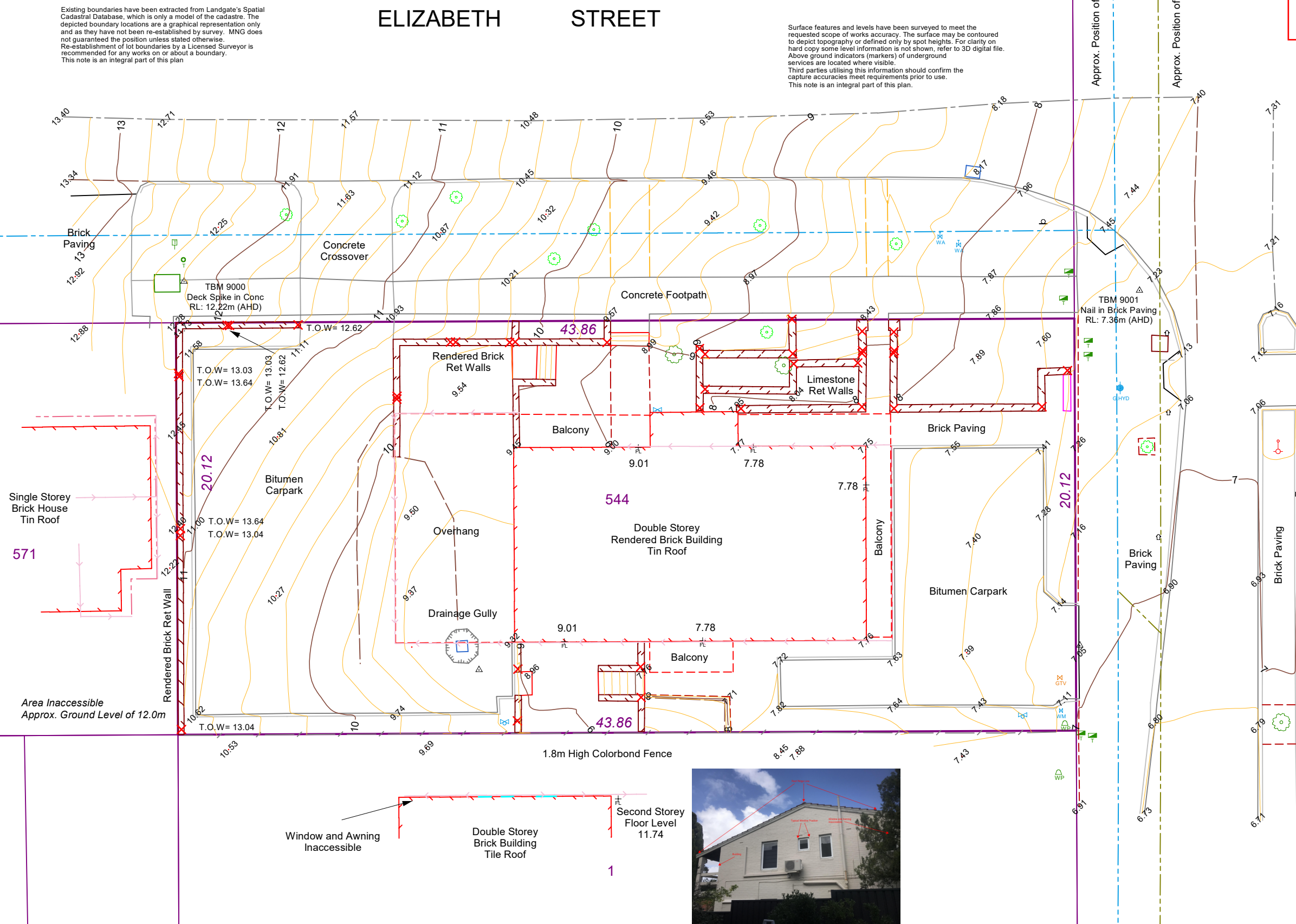
City of Nedlands
Received
14 October 2020

This survey has been completed to CLASS 2 Accuracy
Horizontal Accuracy $\pm 20\text{mm}$
Vertical Accuracy $\pm 20\text{mm}$
This note is an integral part of this plan.

Existing boundaries have been extracted from Landgate's Spatial Cadastral Database, which is only a model of the cadastre. The depicted boundary locations are a graphical representation only and as they have not been re-established by survey. MNG does not guarantee the position unless stated otherwise. Re-establishment of lot boundaries by a Licensed Surveyor is recommended for any works on or about a boundary. This note is an integral part of this plan.

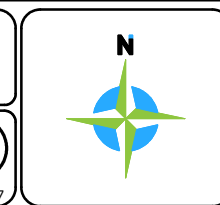
Underground services have been compiled from information obtained from a Dial-Before-You-Dig search. Service locations have not been verified by MNG. Alignments have been adjusted to coincide with located surface features such as manholes, valves or markers but are considered indicative only. Prior to demolition, excavation or construction, users should satisfy themselves to the currency of services, which may have been altered or new services installed on or near the subject site. Refer to the date and method of acquisition. This note is an integral part of this plan.

Surface features and levels have been surveyed to meet the requested scope of works accuracy. The surface may be contoured to depict topography or defined only by spot heights. For clarity on hard copy some level information is not shown, refer to 3D digital file. Above ground indicators (markers) of underground services are located where visible. Third parties utilising this information should confirm the capture accuracies meet requirements prior to use. This note is an integral part of this plan.



Rev.	Description	Drawn	Date	Checked
A	Initial Issue	PLJ	03/09/2019	MD

0	2	4	6	8	10
SCALE 1:200 @ A3					
ALL DISTANCES ARE IN METRES					
For a true to scale reproduction of this plan, plot it to A3 with the Paging Scaling set to None.					
Surveyor:-	PLJ	AS/NZS 9001:2001	Occupational Health and Safety Management	FS 565311	OSH 591267
Survey Date:-	30/08/2019				
Precal/Cad:-	SCDB				



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



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www.mngsurvey.com.au
ABN 90 009 363 311

CLIENT:

OLDFIELD KNOTT
ARCHITECHS PTY LTD

Project Mngr: Mark Dobson

Datum:

PCG94 / AHD

102511 - DE - 001 - A

Job Number Type Plan Number Revision

BROADWAY

105 Broadway Architectural Peer Review - February 11 2021
(State Planning Policy 7.0 Design of the Built Environment; Schedule 1 - Design Principles)

Design quality evaluation

Apply the applicable rating to each Design Principle	3	<i>Supported</i>
	2	<i>Supported with conditions</i>
	1	<i>Further information required</i>
	0	<i>Not supported</i>
Principle 1 - Context and character	0	<p><i>Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.</i></p> <p><i>As informed by SPP7.3 Element Objectives 3.2, 3.3, 3.4, 3.6, 3.9, 4.10, 4.11, 4.12 as relevant.</i></p>
	0	<p>1a. Unfortunately, the amended application has not made any modifications to the design to warrant a change in the assessment. The design still lacks a concept or attempt to demonstrate a clear and logical understanding of context. The applicant suggest context is diverse therefore the design proposal should similarly be diverse. Good Design is the creation of design outcomes that have a consistency of thought and thoroughness of consideration in the developed outcome. A random and mixed position without a clear logic, as demonstrated in the additional information provided by the applicants Synthesis diagram (p99) does not constitute a design strategy, nor does it show any clear approach to building a connection to character. Further to this, additional photographs of a range of surrounding buildings were provided (pages 84 – 95) However there was a significant lack of analysis or interpretation. As such they add little value to the understanding of the applicants approach to context and place. The applicants have also not addressed the importance of the corner treatment within the design. The ground level is poorly resolved with no consideration to the quality of the street level experience. The minimal setback, lack of pedestrian facilities and cheap commercial aesthetics are contrary to the area. Creating user friendly pedestrian experiences will have a significant impact on the quality of the development. The additional advice provided with the amended documents suggest that a vital interface will be provided. The ground floor elevations to Broadway has only one set of doors to the commercial office space of approximately 150m². At best this could accommodate 12 – 15 people. There is minimal setback and no opportunity for alternative uses to be considered. Combined with a lack of pedestrian amenity its arguable that the development will contribute anything to the area that could be considered an improvement and a contribution to a sense of place.</p> <p>0 1b. Application is not supported. No additional information was provided that helped demonstrate a clear interpretation of context and place that would enhance the distinctive character of the area. A complete redesign is recommended to address these concerns.</p>
Principle 2 - Landscape quality	0	<p><i>Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.</i></p> <p><i>As informed by SPP7.3 Element Objectives 3.2, 3.3, 3.4, 3.6, 4.12 and 4.16 as relevant.</i></p>
	0	<p>2a. The applicants have made no effort to address the major concerns that were raised in the previous assessment. The bulk of the landscape and all of the deep soil</p>

		provisions are located on an elevated roof deck above the ground. There is minimal landscape at the ground level or following the contours of the site which in large part is influenced by the excessive bulk and scale of the building. Given the landscaped character in the immediate vicinity and of Nedlands more generally, this is an important element that needs to be integrated into the design.
	0	2b. Application is not supported. Its unfortunate the applicant chose to reply to these queries via glib insults as opposed to trying to consider changes that could improve the design. A significant adjustment to the scale of the building will help create more space for landscape. This is particularly important for the pedestrian experience at ground level. There needs to much more space provided as a threshold. An alternative strategy for parking was encouraged which unfortunately was not understood and misinterpreted. It is recommendation a basement level to the carpark be introduced to release the pressure on the floor plate at ground level and give greater opportunity for more useable floor space for commercial or residential. The basement carpark has been adopted by a number of other applicants in the immediate vicinity as a method to achieve this and a reduction in height.
Principle 3 - Built form and scale	0	<i>Good design ensures that the massing and height of development is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.</i> <i>As informed by SPP7.3 Element Objectives 3.2, 3.3, 4.10 and 4.11 as relevant.</i>
	0	3a. The applicants have made no adjustment to the design and as such all of the prior concerns are still applicable. The development is excessive in bulk and scale. Every aspect of the development is significantly out of scale with the area. This is created by a combination elements. The plot ratio is significantly over the allowable ratio. The minimum building setbacks on all sides have not been achieved. The size and extent of parapet walls to the west and south further enhance the oversized scale of the development. Further to this the building design has an enhanced sense of verticality through the repetitive building articulation. Greater sophistication in the articulation of built form is required
	0	3b. Application is not supported.
Principle 4 - Functionality and build quality	1	<i>Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full life-cycle.</i> <i>As informed by SPP7.3 Element Objectives 4.3, 4.4, 4.6, 4.7, 4.12, 4.15, 4.17, 4.18 as relevant.</i>
	1	4a. The applicant has not significantly amend the design and therefore the previous concerns are still applicable. There are considerable concerns about the functionality of this design. The applicant has advised that the office space has only been provided as a sleeve to the podium carparking. This is a poor justification for a design and is not an appropriate reason for poorly considered design and inefficient layout. Unusable commercial space is unlikely to be leased, which could in turn lead it being empty for extended periods of time. Given the significance of the commercial space as the interface of the building to Broadway empty office would be undesirable. The overall development has used minimum standards for circulation, movement and room sizes throughout.

	1	4b. Further detail is required. The office space requires redesign to create a functional space. It is recommended a basement carpark be introduced to allow more space for functional commercial space or residential units. The size and efficiency of the building layout overall requires further consideration.
Principle 5 - Sustainability	2	<p><i>Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.</i></p> <p><i>As informed by SPP7.3 Element Objectives 3.2, 3.3, 3.9, 4.1, 4.2, 4.3, 4.11, 4.12, 4.15, 4.16, 4.17 as relevant.</i></p>
	2	5a. The development has been designed to maximise access to the northern orientation. The overall design has achieved the minimum requirements for sustainable design. There is concern about the quality of the office space with its extensive glazing to the east and north. Given the small size of this space the heat loads are likely to create a high energy demand to create a comfortable space.
	2	5b The design of the office space needs to be redesigned to address considerable heat gain issues which will have serious impacts on the comfort of the spaces and be entirely inefficient in its energy usage.
Principle 6 - Amenity	0	<p><i>Good design optimises internal and external amenity for occupants, visitors and neighbours, providing environments that are comfortable, productive and healthy.</i></p> <p><i>As informed by SPP7.3 Element Objectives 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3,4.4, 4.5, ,4.7, 4.9, 4.11, 4.12, 4.15, 4.16, 4.17,4.18 as relevant.</i></p>
	0	6a. The applicant has not made any effort to adjust the design. The bulk and scale of this development creates significant compromises to the amenity of the surrounding property. The size of the boundary walls to the south and west will have significant negative impacts on the neighbours. The height of the development will ensure that at least 2 of the units to the south will receive no natural light. Further to this the 5 and half storey elevation facing the property on the western boundary will have a significant impact.
	0	6b Application is not supported. The impacts it will have on the adjoining properties will be significant. A complete redesign is required.
Principle 7 - Legibility	1	<p><i>Good design results in buildings and places that are legible, with clear connections and easily identifiable elements to help people find their way around.</i></p> <p><i>As informed bySPP7.3 Element Objectives 3.1, 3.4,3.6, 3.7, 3.8, 3.9, 4.5 as relevant.</i></p>
	1	7a. Circulation width to a number of the apartments do not meet the minimum standards of SPP7.3. There are also some units that have openings to bedrooms and kitchen spaces facing onto common circulation spaces.
	1	7b. Additional information required to demonstrate how the requirements of SPP 7.3 have been met. Consider the redesign of the units to create better separation of common areas and private spaces
Principle 8 - Safety	3	<p><i>Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.</i></p> <p><i>As informed by SPP7.3 Element Objectives 3.1,3.4, 3.6, 3.7, 3.8,3.9, 4.5 as relevant.</i></p>

	3	8a. No comments
		8b. Application is supported
Principle 9 - Community	0	<p><i>Good design responds to local community needs as well as the wider social context, providing environments that support a diverse range of people and facilitate social interaction.</i></p> <p><i>As informed by SPP7.3 Element Objectives 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 4.5, 4.9, 4.18 as relevant.</i></p>
	0	9a. The applicant has made no effort to address the previous review comments. The development has filled the site, creating little space at street level for public engagement. Given the prominent location the development has not maximised the design opportunity provided by its corner location. There is no space for public engagement on either street at ground level. The poor design of the commercial space has no potential for adaption.
	0	9b. The application is not supported.
Principle 10 Aesthetics	0	<p><i>Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.</i></p> <p><i>As informed by SPP7.3 Element Objectives 3.1, 3.4, 4.8 as relevant.</i></p>
	0	10a The applicants have made very little adjustments to the design aesthetics. All of the previous concerns are still relevant to meet the requirements of Design WA. The design needs considerable work in order to create an elegant composition. There is a general lack of co-ordination in the elevational treatment. Fenestration is seemingly random in its placement and size. There is no clear logic that is driving the choice or distribution of materials. The top of the building lacks a clear resolution. The south elevation in particular is very imposing with large featureless expanses of brickwork separated by open walkways that is visually similar to public housing blocks. The aesthetics are also negatively impacted by the excessive bulk and scale creating a heavy and imposing building that is in extreme contrast to the surround area and its desired future character.
	0	10b. Application is not supported. A clear design concept is needed that has been generated out of thoughtful and considered interpretation of context and character. The bulk and scale is required to be reduced. The applicants are also encouraged to study the local area to understand pre-existing formal, material and spatial patterns. Other creative opportunities should also be considered such as public art.

Unfortunately the applicants have not attempted to address any of the concerns raised in the previous review. All of the concerns previously identified are still applicable.

Due to the number of submissions received, the schedule is issues based. Respondents raised their concern are noted against each issue.

The applicant has provided a response to each issue in Attachment

Reason for support	Submitter	City Response
Dwelling diversity		
<ul style="list-style-type: none"> The development provides much needed housing. 	36	Noted
Design		
<ul style="list-style-type: none"> The building is well presented and modern 	36	Noted

*1 submission supported but did not provide a reason.

Reason for objection	Submitter	City Response
Building Height		
<ul style="list-style-type: none"> The development is too tall 	3, 4, 7, 43, 70, 71, 78, 91	Objection partially supported. Refer to the assessment of building height and Plot ratio in the RAR.
<ul style="list-style-type: none"> The development will block the outlook of the property to the rear 	7	Noted Refer to the assessment of Building height in the RAR.
<ul style="list-style-type: none"> The scale of the development is not consistent with the surrounding area 	7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 23, 24, 25, 26, 27, 28, 29, 30, 33, 37, 38, 39, 40, 41, 42, 44, 48, 49, 52, 55, 56, 57, 58, 59, 60, 62, 63, 64, 65, 66, 67, 68, 69, 72, 73, 74, 75, 77, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 99, 100, 101	Objection Supported Refer to the assessment of building height and Plot ratio in the RAR.
<ul style="list-style-type: none"> The proposed development is over-height by 16% or one storey per the primary controls of the R-codes. 	7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 31, 34, 35, 37, 38, 39, 40, 41, 42, 44, 45, 46, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 62, 63, 64, 65,	Objection not supported The height of the building is consistent with the contemplated heights under R-AC3. Refer to the assessment of building height.

	66, 67, 68, 69, 72, 73, 74, 75, 77, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 99, 100, 101	
<ul style="list-style-type: none"> The proposed development does not take account of adjacent buildings that will not be replaced (objective 2.2.4) 	7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 37, 38, 40, 53, 55, 56, 59, 60, 62, 63, 64, 65, 66, 67, 68, 69, 73, 74, 77, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 99, 100, 101	<p>Objection supported</p> <p>Refer to the assessment of building height and Plot ratio in the RAR.</p>
<ul style="list-style-type: none"> Due to its corner location the additional storey will be seen from both the rear and from Elizabeth Street. 		<p>Objection supported</p> <p>Refer to the assessment of building height.</p>
<ul style="list-style-type: none"> Refutes the notion of the lower ground being a basement. 	55, 56, 62, 63, 64, 65, 66	<p>Objection not supported</p> <p>Refer to the assessment of building height.</p>
<ul style="list-style-type: none"> The overall bulk and scale of development is not appropriate for the existing or planned character of the area. 	61	<p>Objection is supported</p> <p>Refer to the assessment of building height and Plot ratio in the RAR.</p>
<ul style="list-style-type: none"> building height does not meet intent of SPP 7.3 – Vol 2 Section 2.2. 	61	<p>Objection supported</p> <p>Refer to the assessment of building height and Plot ratio in the RAR.</p>
Plot ratio		

<ul style="list-style-type: none"> The development is too large 	3, 44, 54, 81,		<p>Objection supported</p> <p>Refer to the assessment of building height, plot ratio and separation in the RAR.</p>
<ul style="list-style-type: none"> The bulk and scale of the development will visually overwhelm and overshadow the adjoining properties 	7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 22, 24, 25, 27, 28, 29, 30, 33, 35, 37, 38, 39, 40, 41, 42, 44, 48, 49, 51, 53, 54, 55, 56, 58, 59, 62, 63, 64, 65, 66, 67, 68, 69, 72, 73, 74, 77, 78, 79, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 99, 100, 101		<p>Objection supported</p> <p>Refer to the assessment of building height, plot ratio and separation in the RAR.</p>
<ul style="list-style-type: none"> The development is well above (30% over) the intended plot ratio, and closer to R-AC2 	7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 58, 59, 60, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 99, 100, 101		<p>Objection supported</p> <p>Refer to the assessment of plot ratio.</p>
Vehicle Access			
<ul style="list-style-type: none"> The development conflicts with Safe Active Streets Initiative and poses a safety risk 	2, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 22, 23, 24, 25, 26, 27, 28, 29, 30, 33, 34, 38, 41, 42, 44, 48, 49, 52, 53, 54, 55, 56, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 76, 77, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90,		<p>Objection partially supported</p> <p>Refer to the assessment of vehicle access in the RAR.</p>

	91, 92, 93, 94, 95, 96, 97, 99, 100, 101,		
<ul style="list-style-type: none"> Only one crossover should be allowed. 	62, 63, 64, 65, 66		<p>Objection not supported</p> <p>The R-Codes Vol. 2 contemplates dual vehicle access. However, the design has had a negative impact on the streetscape.</p>
Parking			
<ul style="list-style-type: none"> The development relies on on-street parking, which if approved will further exacerbate parking shortages in this locality. 	3, 4, 5, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 24, 25, 29, 61, 62, 63, 64, 65, 66		<p>Objection supported</p> <p>Refer to the discussion of parking in the RAR.</p>
<ul style="list-style-type: none"> The development is not provided with sufficient parking. 	3, 4, 5, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 24, 25, 29, 61, 62, 63, 64, 65, 66		<p>Objection supported</p> <p>Refer to the discussion of parking in the RAR.</p>
<ul style="list-style-type: none"> The development does not include any provision for electric vehicles. 			<p>Objection not supported</p> <p>There is no statutory requirement for this request.</p>
Traffic			
<ul style="list-style-type: none"> Development should not take place until the City's traffic study has been completed. 	2, 26, 54		<p>Objection not supported</p> <p>There is no legal mechanism to preventing development applications from being proposed.</p>
<ul style="list-style-type: none"> There are errors in the applicant's TIS (speed limit on Elizabeth Street) 	2		<p>Objection partially supported</p> <p>The City has reviewed the TIS and does not support visitor bay access from Elizabeth Street.</p>
<ul style="list-style-type: none"> The development will exacerbate traffic congestion in the locality 	3, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 22, 23, 24, 25, 26, 28, 29, 30, 31, 34, 38, 40, 41, 42, 44, 48, 49, 50, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65,		<p>Objection not supported</p> <p>The TIS was assessed and the development does not have a detrimental impact on the road network.</p>

	66, 67, 68, 69, 72, 73, 74, 75, 77, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 99, 100, 101,		
<ul style="list-style-type: none"> Vehicles accessing and egressing the development will adversely affect safety of and could pose safety issues for pedestrians / cyclists / vehicles in this sensitive locality (Nedlands Primary School and UWA). 	3, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 22, 23, 24, 25, 26, 28, 29, 30, 31, 34, 38, 40, 41, 42, 44, 48, 49, 50, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 73, 74, 75, 77, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 99, 100, 101		<p>Objection partially supported</p> <p>The City has reviewed the TIS and does not support visitor bay access from Elizabeth Street.</p>
Side and rear setbacks / Separation			
<ul style="list-style-type: none"> The development is not provided with sufficient setback at the side and rear to maintain solar access, light and ventilation. 	6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 21, 22, 23, 24, 25, 27, 28, 29, 30, 33, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 48, 49, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60		<p>Objection supported</p> <p>Refer to the planning assessment in the RAR.</p>
<ul style="list-style-type: none"> The development does not meet the primary control for rear setback (5.1m in lieu of 6m / 15% less than prescribed) 	6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 21, 22, 23, 24, 25, 27, 28, 29, 30, 33, 37, 38, 39, 40, 41, 42, 44, 45, 46, 47, 48, 49, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 62, 63, 64, 65, 66, 67, 68, 70, 72, 73, 74, 76, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 99, 100, 101,		<p>Objection supported</p> <p>Refer to the planning assessment in the RAR.</p>
<ul style="list-style-type: none"> Nil/Minimal side setbacks do not support large mature tree canopy / adversely affects adjoining trees 	54, 62, 63, 64, 65, 66		Objection Not supported

			There is limited scope to provide meaningful tree canopy on a single lot in the side setbacks.
<ul style="list-style-type: none"> The intended separation is not provided. For floors above 15m (and less than 28m) the setback to adjoining boundaries is required to be a minimum of 9m 	61		Objection supported Refer to the planning assessment in the RAR.
<ul style="list-style-type: none"> The proposed setbacks are unacceptable and if approved will have a detrimental effect on the residential amenity of the adjoining properties with respect to visual privacy, sunlight and daylight access and outlook 	61		Objection supported Refer to the planning assessment in the RAR.
Amenity			
<ul style="list-style-type: none"> The development does not contribute to / detracts from the amenity of the area/ or an enlivened neighbourhood. 	6, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 21, 22, 23, 24, 25, 27, 28, 29, 30, 33, 37, 38, 48, 49, 53, 54, 56, 59, 60, 62, 63, 64, 65, 66, 67, 68, 72, 73, 74, 75, 76, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 99, 100, 101		Objection supported Refer to the planning assessment in the RAR.
<ul style="list-style-type: none"> The development relies on the setback of the development of the south, in lieu of providing adequate setback on its own property. 	38		Objection supported Refer to the planning assessment in the RAR.
<ul style="list-style-type: none"> The colour and material palette is not sympathetic to the surrounding area 			Objection supported Refer to the planning assessment in the RAR and R-Codes Vol. 2 assessment.
<ul style="list-style-type: none"> The development will adversely affect the amenity of adjacent and surrounding properties as defined by the R-Codes. 	61		Objection supported Refer to the planning assessment in the RAR.

Communal open space			
<ul style="list-style-type: none"> The development is not afforded with appropriate communal open space 	54		<p>Objection not supported.</p> <p>The development provides adequate communal open space.</p>
Dwelling mix / layout			
<ul style="list-style-type: none"> There are too many small / 1-bedroom apartments 	1, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 22, 23, 24, 25, 28, 29, 30, 33, 41, 42, 44, 48, 49, 53, 54, 58, 59, 60, 62, 63, 64, 65, 66, 67, 68, 69, 72, 73, 74, 76, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 99, 100, 101		<p>Objection not supported.</p> <p>The development provides excellent dwelling diversity in accordance with R-Codes Vol. 2.</p>
<ul style="list-style-type: none"> 1 bedroom apartments are more likely to be rented out or used as short term accommodation. 	7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 23, 24, 25, 28, 29, 30, 33, 41, 42, 44, 48, 49, 53, 54, 56, 58, 59, 60, 62, 67, 68, 69, 72, 73, 74, 76, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 99, 100, 101		<p>Objection not supported.</p> <p>The development provides excellent dwelling diversity in accordance with R-Codes Vol. 2.</p>
<ul style="list-style-type: none"> The apartment layout and design is poor especially with respect to the room size and layout 	62, 63, 64, 65, 66		<p>Objection not supported.</p> <p>The development has met the relevant objectives of R-Codes Vol. 2.</p>
Streetscape			
<ul style="list-style-type: none"> The building is too large for a narrow street characterised by low rise buildings. 	4, 70		<p>Objection supported</p> <p>Refer to the planning assessment in the RAR and R-Codes Vol. 2 assessment.</p>
Noise			

<ul style="list-style-type: none"> The development will exacerbate noise on Broadway 	3,		<p>Objection not supported.</p> <p>The development has met the relevant objectives of R-Codes Vol. 2.</p>
<ul style="list-style-type: none"> The acoustic impact of the car stackers will negatively impact the area. 	31		<p>Objection not supported.</p> <p>The development has met the relevant objectives of R-Codes Vol. 2.</p>
<ul style="list-style-type: none"> Questions the ability of the development to direct noise and fumes to Broadway 	61		Noted
<ul style="list-style-type: none"> The acoustic report is incomplete / Concerned that the development does not detail the mechanical equipment associated with the development. 	61		<p>Objection not supported.</p> <p>The acoustic report has been reviewed multiple times, before and during the application. The development has met the relevant objectives of R-Codes Vol. 2.</p>
Visual Privacy			
<ul style="list-style-type: none"> The development will overlook the adjoining properties 	7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 22, 24, 25, 27, 28, 29, 30, 33, 35, 37, 38, 39, 40, 41, 42, 44, 48, 49, 51, 53, 54, 55, 56, 58, 59, 62, 63, 64, 65, 66, 67, 68, 69, 72, 73, 74, 76, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 99, 100, 101		<p>Objection not supported.</p> <p>The development has met the relevant objectives of R-Codes Vol. 2.</p>
<ul style="list-style-type: none"> The development's balconies are oriented north, overlooking the properties on the northern side of Elizabeth Street. 	61		<p>Objection not supported.</p> <p>The development has met the relevant objectives of R-Codes Vol. 2.</p>
Solar access			

<ul style="list-style-type: none"> The development will cast shadow onto the properties located directly east, southern and wester side of Broadway 	3		<p>Objection supported</p> <p>Refer to the planning assessment in the RAR and R-Codes Vol. 2 assessment.</p>
<ul style="list-style-type: none"> The development will block light to the properties to the rear 	3, 4, 5, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 24, 25, 26, 30		<p>Objection not supported</p> <p>Shadow is assessed mid-winter and at noon, which doesn't affect the western lots.</p>
<ul style="list-style-type: none"> The development will cast shadow on the units to the south of the site. 	11, 23, 31, 55, 56, 59, 60		<p>Objection supported</p> <p>Refer to the planning assessment in the RAR and R-Codes Vol. 2 assessment.</p>
<ul style="list-style-type: none"> Refutes the shadow %, as nearly 5 dwellings are totally overshadowed 	55		<p>Partially supported</p> <p>Refer to the planning assessment in the RAR and R-Codes Vol. 2 assessment.</p>
Crime			
<ul style="list-style-type: none"> The development will add to crime 	3		Objection not supported
<ul style="list-style-type: none"> The development will attract diverse demographics to the area 	3		Objection not supported
Design			
<ul style="list-style-type: none"> Any new building on Broadway should reference the character of that street or precinct, not the adjacent residential area. 	3, 4, 5, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 24, 25, 28, 30, 37, 38, 39, 40, 41, 42, 44, 48, 49, 53, 59, 60, 62, 63, 65, 65, 66, 67, 68, 69, 72, 73, 74, 76, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 99, 100, 101		<p>Objection supported</p> <p>Refer to the planning assessment in the RAR and R-Codes Vol. 2 assessment</p>

<ul style="list-style-type: none"> The material palette (brick and timber) is not consistent with landmark buildings on Broadway. 	7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 28, 30, 37, 38, 39, 40, 41, 42, 44, 48, 49, 53, 59, 60, 62, 63, 64, 65, 66, 67, 68, 69, 72, 73, 74, 76, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 99, 100, 101		<p>Objection supported</p> <p>Refer to the planning assessment in the RAR and R-Codes Vol. 2 assessment</p>
<ul style="list-style-type: none"> The development does not represent good design. 	22, 29, 47, 75, 78, 79, 98		<p>Objection supported</p> <p>Refer to the planning assessment in the RAR and R-Codes Vol. 2 assessment</p>
<ul style="list-style-type: none"> The rectangular development looks like a much older design/ is not contemporary/ detracts from the predominant character of the surrounding area 	23, 29, 47, 62, 63, 75, 78		<p>Objection supported</p> <p>Refer to the planning assessment in the RAR and R-Codes Vol. 2 assessment</p>
Future Planning of Broadway			
<ul style="list-style-type: none"> The City of Perth should contribute to the development of Broadway 	3		Noted
<ul style="list-style-type: none"> The City of Nedlands should work with the City of Perth to plan for the future of Broadway 	3		Noted
Local Planning Strategy			
<ul style="list-style-type: none"> The development is not consistent with the LPS, which provides for Hampden/Broadway to be planned as a medium intensity, low to medium rise Urban Growth Area. 	26		<p>Objection supported</p> <p>Refer to the planning assessment in the RAR and R-Codes Vol. 2 assessment</p>
Land Use			
<ul style="list-style-type: none"> The proposed development does not contribute to the development of an enlivened neighbourhood centre on Broadway. Two small commercial tenancies will not 	7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 22, 23, 24, 25, 27, 28, 29, 30, 31, 38, 41, 42, 44, 48, 49, 53, 57, 59, 60, 62, 63, 64, 65, 66, 67,		<p>Objection supported</p> <p>Refer to the planning assessment in the RAR and R-Codes Vol. 2 assessment</p>

increase connectivity with the life of the street.	68, 72, 73, 74, 76, 76, 77, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 99, 100, 101		
Development Bonus			
<ul style="list-style-type: none"> The development should strictly adhere to the Primary Controls in R-Codes Volume 2. The decision maker should not award any development bonuses as there is not a policy/scheme amendment in place to define good design. 	7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 33, 37, 38, 41, 42, 44, 48, 49, 52, 53 54, 55, 56, 58, 59, 60, 62, 63, 64, 65, 66, 67, 68, 69, 72, 73, 74, 76, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 99, 100, 101		Noted The City does not currently have a development bonus policy. It therefore relies on the objectives of the R-Codes.
<ul style="list-style-type: none"> Good design should be determined using rigid, defined measurements. 	7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 33, 37, 38, 41, 42, 44, 48, 49, 52, 53 54, 55, 56, 59, 60, 62, 63, 64, 65, 66, 67, 68, 69, 72, 73, 74, 76, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 99, 100, 101		Noted The City does not currently have a local planning policy for this area. It therefore relies on the provisions of the R-Codes.
<ul style="list-style-type: none"> The City's Administration does not have authority to award design bonus as good design has not been defined. 	7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25, 27, 28, 29, 30, 38, 41, 42, 44, 48, 49, 50, 52, 53, 55, 56, 59, 60, 62, 63, 64, 65, 66, 67, 68, 69, 72, 73, 74, 76, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 92, 93, 94, 95, 96, 97, 99, 100, 101		Noted The City does not currently have a development bonus policy. The City assesses each application on its merits, taking into account architectural and landscape advice from its independent consultants.
LPP – Broadway Interim Policy			
<ul style="list-style-type: none"> The development does not comply with the LPP 	7, 40, 54		Objection Not supported

			Refer to planning assessment in the RAR.
Scheme Amendment 7			
<ul style="list-style-type: none"> No development should take place until Scheme amendment 7 is in place 	57, 92, 93, 94		<p>Objection Not supported</p> <p>Refer to planning assessment in the RAR.</p>
Landscaping			
<ul style="list-style-type: none"> Landscaping is inadequate. 	38, 47, 50, 58, 62, 63, 64, 65, 66, 75, 98		<p>Objection Supported</p> <p>Refer to planning assessment in the RAR.</p>
<ul style="list-style-type: none"> Deep soil is inadequate 	38, 47, 50, 54, 58, 62, 63, 64, 65, 75		<p>Objection Not supported</p> <p>Refer to planning assessment in the RAR.</p>
<ul style="list-style-type: none"> Tree canopy / Tree species / Tree size is inadequate 	38, 47, 50, 58, 62, 63, 64, 65, 66, 75, 98		<p>Objection Not supported</p> <p>Refer to planning assessment in the RAR.</p>
<ul style="list-style-type: none"> No retention of trees onsite 	62, 63, 64, 65, 66, 75		
Waste			
<ul style="list-style-type: none"> The waste report does not seem to be factually based. 	61		<p>Objection Not supported</p> <p>Refer to planning assessment in the RAR.</p>
<ul style="list-style-type: none"> The bulk waste is too low for a development of this size 	61		<p>Objection Not supported</p> <p>Refer to planning assessment in the RAR.</p>
<ul style="list-style-type: none"> No details of the use are given, therefore the waste estimates are not able to be estimated. 	61		<p>Objection Not supported</p> <p>Refer to planning assessment in the RAR.</p>
<ul style="list-style-type: none"> The waste truck poses a safety issue as it enters and egresses the building. 	61		Objection Not supported

			Refer to planning assessment in the RAR
Miscellaneous			
<ul style="list-style-type: none"> Concerned about the loss in property values in close proximity of the site. 	61		Noted Not a planning consideration.
<ul style="list-style-type: none"> The car stacker is impractical 	62, 63, 64, 65, 66		Noted Not a planning consideration
<ul style="list-style-type: none"> Objects to the street tree being removed. 	61		Objection not supported The city supports the tree removal for vehicle access.

Landscape Peer Review Assessment #2
(State Planning Policy 7.0 Design of the Built Environment; Schedule 1 - Design Principles)

Design quality evaluation

Apply the applicable rating to each Design Principle	3	<i>Supported</i>
	2	<i>Supported with conditions</i>
	1	<i>Further information required</i>
	0	<i>Not supported</i>
Principle 1 - Context and character		<p><i>Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.</i></p> <p><i>As informed by SPP7.3 Element Objectives 3.2, 3.3, 3.4, 3.6, 3.9, 4.10, 4.11, 4.12 as relevant.</i></p>
		<p>1a.[Comments]</p> <p>1b. [Recommendations]</p>
Principle 2 - Landscape quality		<p><i>Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.</i></p> <p><i>As informed by SPP7.3 Element Objectives 3.2, 3.3, 3.4, 3.6, 4.12 and 4.16 as relevant.</i></p>
		<p>2a. It is acknowledged that quite a few minor changes have been made with regard to the landscape on this project and in addition to that other items have been further clarified. Hence the comments below are those points still found to be outstanding.</p> <p>2b. The duplication of the vehicular access points is still an issue (in so far as they compromise the streetscape - primarily through limiting the extent of active frontage and hence passive surveillance as well as detrimentally affecting the aesthetics of the building on two facades).</p> <p>2c. No existing vegetation has been retained on site. As such there is a requirement in SPP7.3 to provide at least 10% true deep soil area, ie not on slab. This amounts to 88.24m². Where the 10% 'true' deep soil area cannot be provided the shortfall is required to be doubled with 'on-slab deep soil' area(s). They now calculate that only 6m² of 'true' deep soil area is being provided, hence the total 'on-slab' deep soil required on this site to make up the balance is 164.48m². It should also be noted that deep soil 'on-slab' must be at least 1.0m deep and at least 2.0m wide where trees are being provided, refer to Fig 3.3f and Table 3.3b in SPP7.3 respectively. The landscape plans indicate that a total of 166.5m² 'deep soil on-slab' has been provided. Whilst some of this is paved the landscape could be considered to be compliant in meeting the deep soil requirements of SPP7.3.</p> <p>2d. One tree is shown on the landscape plan as being proposed to be removed from the verge in order to allow for one of the two driveway access/egress points. This is an unfortunate outcome. However, even if the number of driveway access points were limited to one, it is likely that this would come off Elizabeth Street in which case it is probable that this tree would be 'lost' anyway. To relocate the driveway would almost certainly cause a significant reduction in efficiency to the car parking layout which is hard to justify in this context. No details of the tree have been provided. However, it appears to be an immature <i>Grevillea robusta</i> 'Silky Oak' (an east coast tree). This species tends to be rather short lived in WA and the landscape plans indicate that its loss will be made up by its replacement with <i>Agonis flexuosa</i> 'WA Peppermint' (an endemic / local species).</p> <p>2e. Further to the above the site survey and Google Street View appear to indicate that the information about the number of verge trees, as shown on the landscape plan, is not accurate. Rather than the four nominated on plan it would appear that</p>

	<p>there are seven trees in total. Most of these appear to be of moderate size only. However, it is recommended that: a) the retention of these trees be conditioned; and b) that any replacement tree takes these existing trees into consideration.</p> <p>2f Some of the planter areas, particularly on the Ground Floor Upper level, appear to be barely wide enough to support any meaningful planting and in fact they could struggle to support any planting at all.</p> <p>2g. The configuration of the main landscape area on the first floor still compromises the privacy of Unit 1. It could be argued that this location is inappropriate for communal use (and should therefore logically be accessible only from Unit 1).</p> <p>2h. Further to the above it should be noted that SPP7.3 requires that developments of over 10 dwellings in size provide 6m² of 'communal open space' per dwelling. If the abovementioned first floor landscape area were to become private, then technically this development would no longer comply with the 'communal open space' requirement. This 'predicament' is a product of the original site planning and without changing it neither of the outcomes represented above meet the criteria of 'design excellence'.</p> <p>2i. Drawing SK09 has a note on the eastern edge stating 'glazing for safety' which points to a line inside the outer edge of the planter in this same vicinity. The same detail appears to continue around the northern side of the building. This detail would appear to hinder ease of access and hence the ability to maintain this planting.</p> <p>2j. Overall the landscape plans propose a reasonable range of plant species for each of the various physical locations with their respective microclimatic conditions.</p> <p>2k. The provision of the 'Residents Terrace' is a significant positive attribute of the proposal. Though the narrow strip of landscape on the southern side of the walkway leading to this area may be problematic due to its narrowness for most of its length plus the fact that it will be in shade for much of the time and as such it will be difficult to maintain and prone to failure.</p> <p>2l. Further explanation should be provided with regard to the chosen rationale for what appears to be the public art as shown on the Elizabeth Street elevation. No consideration seems to have been given as to the implications regarding the angle of the street and its impact upon the 'artwork', ie it is not 'purpose commissioned' and as such it is not effectively integrated into the architectural expression.</p> <p>2m. Notwithstanding the issues raised above, some of which could be conditioned, with one exception, the quality of the landscape is considered to be of a sufficiently high standard to warrant supporting the proposal. That one exception relates to item 2g above which is really a site planning issue, ie the close proximity of the main landscape area on the first floor in relation to compromising the privacy of Unit 1.</p>
Principle 3 - Built form and scale	<p><i>Good design ensures that the massing and height of development is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.</i></p> <p><i>As informed by SPP7.3 Element Objectives 3.2, 3.3, 4.10 and 4.11 as relevant.</i></p>
	<p>3a. [Comments]</p> <p>3b. [Recommendations]</p>
Principle 4 - Functionality and build quality	<p><i>Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full life-cycle.</i></p> <p><i>As informed by SPP7.3 Element Objectives 4.3, 4.4, 4.6, 4.7, 4.12, 4.15, 4.17, 4.18 as relevant.</i></p>

	4a. [Comments] 4b. [Recommendations]
Principle 5 - Sustainability	<i>Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.</i> <i>As informed by SPP7.3 Element Objectives 3.2, 3.3, 3.9, 4.1, 4.2, 4.3, 4.11, 4.12, 4.15, 4.16, 4.17 as relevant.</i>
	5a. [Comments] 5b.[Recommendations]
Principle 6 - Amenity	<i>Good design optimises internal and external amenity for occupants, visitors and neighbours, providing environments that are comfortable, productive and healthy.</i> <i>As informed by SPP7.3 Element Objectives 3.2, 3.3, 3.4, 3.5, 4.1, 4.2, 4.3,4.4, 4.5, ,4.7, 4.9, 4.11, 4.12, 4.15, 4.16, 4.17,4.18 as relevant.</i>
	6a. [Comments] 6b.[Recommendations]
Principle 7 - Legibility	<i>Good design results in buildings and places that are legible, with clear connections and easily identifiable elements to help people find their way around.</i> <i>As informed bySPP7.3 Element Objectives 3.1, 3.4,3.6, 3.7, 3.8, 3.9, 4.5 as relevant.</i>
	7a. [Comments] 7b.[Recommendations]
Principle 8 - Safety	<i>Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.</i> <i>As informed by SPP7.3 Element Objectives 3.1,3.4, 3.6, 3.7, 3.8,3.9, 4.5 as relevant.</i>
	8a.[Comments] 8b.[Recommendations]
Principle 9 - Community	<i>Good design responds to local community needs as well as the wider social context, providing environments that support a diverse range of people and facilitate social interaction.</i> <i>As informed by SPP7.3 Element Objectives 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 4.5, 4.9,4.18 as relevant.</i>
	9a.[Comments] 9b.[Recommendations]
Principle 10 Aesthetics	<i>Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.</i> <i>As informed by SPP7.3 Element Objectives 3.1, 3.4, 4.8 as relevant.</i>
	10a.[Comments] 10b.[Recommendations]

PS ref: 6434

8 February 2021

City of Nedlands
 PO Box 9
 NEDLANDS WA 6909

Attention: Joshua Scrutton, Planning Services

Dear Sir,

**DEVELOPMENT APPLICATION – PROPOSED MIXED USE DEVELOPMENT
 LOT 544 (105) BROADWAY, NEDLANDS
 RESPONSE TO REQUEST FOR FURTHER INFORMATION & RESPONSE TO PUBLIC
 SUBMISSIONS & RESPONSE TO PEER REVIEW COMMENTS**

Planning Solutions acts on behalf of James Mackenzie Hall and Evelyn Ann Hall, the registered proprietors of Lot 544 (105) Broadway, Nedlands (**subject site**). This application seeks approval for a mixed use development including 22 multiple dwellings and a ground floor office.

We refer to the request for further information, summary of public submissions and Peer Review comments received from the City of Nedlands (**the City**) by email on 17 December 2020. We are pleased to enclose in this additional information package, revised development and landscaping plans; updated traffic reporting; and other supporting documents including a landscaping technical note, response to Peer Review comments, and context and character analysis in response to the items listed.

1. UPDATED DEVELOPMENT PLANS AND INFORMATION

1. Attachment 1 – Amended development drawings prepared by Oldfield Knott Architects.
2. Attachment 2 – Response to Peer Review comments prepared by Urban Designer, Malcolm Mackay.
3. Attachment 3 – Landscaping technical note prepared by Emerge Associates.
4. Attachment 4 – Context and character analysis prepared by Malcolm Mackay.
5. Attachment 5 – Amended landscaping plans prepared by Emerge Associates.
6. Attachment 6 – Amended Transport Impact Statement prepared by Transcore.

2. AMENDMENTS TO PLANS

The plans have been amended to incorporate the following changes:

First Floor:

- a) Majority of the southern walkway setback has been increased to 4.58m and the southern planter box increased in area from 19m² to 32m².
- b) Entry to unit 1 has been increased in width from 1.450m to 1.5m.

- c) Seating area in communal courtyard and screen removed, more on-structure planting to provide privacy to bedroom 2 of unit 1.
- d) Small tree has been added to the communal courtyard area, replacing the seating in the south-west corner of the site.
- e) 1.67m high laser cut metal fencing has been incorporated around the edge of the communal area, with a reduction in the southern boundary wall height from 5.7 – 6.5m at the rear of the site, to 4 – 4.8m.

Second – Fourth Floor:

- f) Setback increased from 1.62m to 4.71m for 15m long portion of the south-facing building frontage (setback of 4.62m from southern boundary to walkway).
- g) Internal voids adjacent to walkway removed, planter south of walkway increased in area from 29m² to 35m² and filled with shade tolerant species.
- h) Internal planter reduced in size from 12.8m² to 5.7m².

Fifth Floor:

- i) Setback increased from 1.62m to 4.71m for 15m long portion of the south-facing building frontage.
- j) On-structure landscaping area has been increased on the southern side of the residents terrace a fourth small tree added.

Refer **Attachment 1** for the amended plans.

3. RESPONSE AND JUSTIFICATION

Refer to **Table 1** below for the response to the City's request for further information.

Table 1 – Response to City's RFI dated 17 December 2020

No.	City's comment	Applicant response
	State Planning Policy 7.3 – Residential Design Codes Volume 2 - Apartments	
1	<p><u>Element 2.2 – Building Height</u></p> <ul style="list-style-type: none"> Further information/improvements (FI): the scale seems to be off. The intended building envelope is 22m not 21m. The development is therefore slightly over the intended building height. O2.2.1 – Not Met. Unlike past applications on Broadway, this site abuts a grouped dwelling development that contains buildings that are unlikely to change. The massing of the building is especially problematic with respect to the west and south elevation. Within building height there is scope to consider street walls/podium (superscript note 3). Improvements to be made with respect to this. Refer to architecture peer review. O2.2.2 – Not met. There is a 5m difference in NGL, but minimal change in building height across the site. Further improvements to be made. Refer to Peer review comments. O2.2.3 – Achieved. O2.2.4 – further improvements to be made with respect to the rear elevation setback. Development approved on Broadway has had generous setbacks to maintain solar access at the rear. Refer to Peer review comments. 	<p>FI – Scale is correct from our measurements. City to provide clarification.</p> <p>O2.2.1 – The development potential of the adjoining site is significant as it is coded R-AC3 and has area of 3,528sqm. The adjoining site has a dwelling yield estimate of 65 apartments at 90m² each (2m front setback, nil side setbacks, and 5.11m rear setback). The existing sixteen grouped dwellings were constructed sometime between 1965 and 1973, making the development more than 48 years old and therefore approaching the end of its lifecycle. The southern adjoining building is therefore likely to change and has significant development potential.</p> <p>O2.2.2 – The top of the building height clearly transitions from Broadway to the rear of the site, ranging from 20.21m at Broadway to 18.7m at the rear. The use of partially subterranean parking areas is a response to the topography by maximising the efficient use of land while minimising building bulk. Refer Attachment 2 for response to Peer Review comments.</p> <p>O2.2.4 – The western elevation is set back 5.11m, which is only 81cm short of the 6m minimum stipulated in the City's built form policy. Notwithstanding, the</p>

		<p>overshadowing impacts on the western property are minimal, with the adjoining dwelling's garage being located adjacent to the boundary. The shadow cast by the proposed development is therefore not over any habitable rooms or outdoor living spaces. The western adjoining property will therefore still have solar access most parts of the day, and direct sunlight from late morning onwards. Landscaping has been provided along the rear boundary, including two medium trees. In addition, the drawings have been modified to soften the western façade and the boundary wall on the southern boundary has been reduced, improving the visual amenity, and reducing building bulk.</p> <p>Refer Attachment 1 for amended plans and Appendix 1 of the DA report.</p>
2	<p><u>Element 2.3 – Street Setback</u></p> <ul style="list-style-type: none"> • FI: Given its corner location, the City is of the view improvements can be made with respect to how the development addresses both frontages. There is an opportunity to deliver a podium development with tower element above by pulling the upper floors (Level 1+) development away from the frontages. • O2.3.1 – Improvements to be made as there is a proportion of the frontage that is occupied by vehicle access owing to the dual access. Refer to the landscape peer review. • O2.3.2 – Achieved. • O2.3.3 – Achieved. • O2.3.4 – Achieved. 	<p>FI – Primary controls table of SPP7.3 allows nil setbacks for R-AC3 coded sites and the planning controls do not require the podium or further setback.</p> <p>O2.3.1 – Plans have been amended to soften the Broadway carpark entrance through the addition of further landscaping and articulation of the street frontage. Additionally, the security shutter has been changed to a laser cut, dark grey material which is more attractive and less imposing. Refer Attachment 1.</p>
3	<p><u>Element 2.4 – Side setbacks</u></p> <ul style="list-style-type: none"> • FI: Improvements to be made with respect to the upper floor separation, although the open walkways are screened the setback of them are problematic given their setback. The City agrees with the peer review advice: <i>The applicant should consider introduction of a basement carpark to reduce the height and the scale of the boundary walls (as has been delivered in other recently approved developments) All boundary setbacks need to be amended and pulled away from the boundary. The architects are encouraged to consider a more layered approach to the building articulation. Given the highly visible nature of this site the resolution of the bulk and scale is critical to creating a high quality outcome for the area.</i> • O2.4.1 – Adequate separation is not provided with respect to the south and north. • O2.4.2 – The attached development form is supported at the ground level. The upper floors require further setback to be consistent with recent approvals on Broadway. • O2.4.3 – There is not enough landscaping / deep soil area currently provided to meet this objective. • O2.4.4 – the development abuts a grouped dwelling development which is unlikely to change. 	<p>FI – City to clarify why the walkways are problematic if they are screened. Southern walkway has been set back to reduce building bulk. In addition, the walkways have been sleeved with landscaping and set back an additional 1.23m from the original plans. Refer Attachment 1 – amended plans. Refer response from Urban Designer, Malcolm Mackay, which is included in Attachment 2:</p> <p><i>“Because of the topography the lower ground floor parking is largely contained within a basement. It could be assumed that if the first-floor parking were located in a sub-basement, the remainder of the building could be reduced by one-storey. However, this would be a naïve assumption as the logical design response would be to maintain the current building height (which is within the height limit) and use the upper ground floor for additional residential units (which would help pay for the sub-basement). In practise, this was the outcome at 135 Broadway... It is misleading to state that there is a ‘need’ to amend the setbacks because there is no statutory requirement to do so.”</i></p> <p>O2.4.1 – City to please clarify why adequate separation is not provided. Is this in regard to bulk, overshadowing, ventilation?</p>

	<p>Little regard has been given to the transition between the development and the southern site.</p>	<p>The southern walkway has been set back a further 1.23m to reduce building bulk and perceived visual privacy concerns.</p> <p>The existing neighbouring property has no major openings facing the proposed development and there is substantial vegetation and trees within the setback area. As stated above, the southern adjoining property is also likely to be developed in the future given its lot area, zoning, developability and location. Refer Appendix 1 of the DA report for further justification.</p> <p>O2.4.2 – Currently no consistent side/rear setbacks in this streetscape with different styles of development having occurred over time. There is no requirement for the upper levels to be set back further than the lower levels. The required setback to R-AC3 coded adjoining sites is nil. The plans have been amended to increase the southern boundary setback of the walkway, further reducing building bulk. The northern setback of 2.1m exceeds the nil requirement under the R-Codes. In addition, orderly and proper planning is about site specific design outcomes. The western rear setback of 5.11m is only slightly less than the approved 6m setback of 137-139 Broadway. Only the top level of this approved development is set back further than 6m.</p> <p>O2.4.3 - The 5.11m rear setback allows for a significant 112m² landscaped area on the western boundary of the subject site. Two medium mature trees and two small trees are proposed in this area. One small tree on the southern boundary on the first floor, and four small trees are included in the residents' terrace fronting Broadway and the southern boundary. The plans have therefore been amended to include an additional two small trees.</p> <p>O2.4.4 – Refer response to O2.2.1 above.</p>
4	<p><u>Element 2.5 – Plot Ratio</u></p> <ul style="list-style-type: none"> FI: The measured plot ratio is 2.8:1; this should be discussed further to finalise the correct ratio. O2.5.1 – Both the building envelope and massing of the development is problematic. The bulk will negatively impact the streetscape and adjoining properties. Refer to the peer review. 	<p>FI – The plot ratio is 2.64. Some of the plot ratio area relates to lower-level car parking area, which are not visible and do not realistically create building bulk.</p> <p>O2.5.1 – The southern walkway has been set back, reducing the building bulk on the southern adjoining neighbour. The building is a suitable size for an R-AC3 zoned site. In addition to the southern walkway setback, further landscaping has been added along the street frontages, the built form has been further articulated and now incorporates integrated colours and materials (timber composite panels, rendered paint, stack bonded face brick, metal sheeting), two additional trees have been included in the communal areas, and the boundary wall has been reduced in height. Refer response to peer review comments in Attachment 2 below.</p>
5	<p><u>Element 2.7 – Building Separation</u></p> <ul style="list-style-type: none"> The assessment of A2.7.1 shows differences in the intended separation at the upper floors. The City does not expect the full separation per Table 2.7, however the upper floors need pulling back to 	<p>FI and O2.7.1 – Refer response to E2.4 above.</p> <p>O2.7.2 – The subject site is zoned R-AC3, the development meets the height and setbacks permitted in the primary controls table of SPP7.3.</p>

	<p>achieve this element. Refer to comments with respect to side and rear setback and peer review.</p> <ul style="list-style-type: none"> • O2.7.1 – Not met. The development does not achieve the same separation of the upper floors as recent approvals. • O2.7.2 – Not met. The development is not proportional, the tower element is larger than what would be expected on a single site. • O2.7.3 – Not met. The separation provided on the southern elevation is not adequate to provide acoustic privacy (open access walkways). • O2.7.4 – Not met. Deep soil area to be provided at the rear of the property. The development currently builds to all boundaries. 	<p>O2.7.3 – The southern walkway has been set back a further 1.23m (total of 4.6m from the boundary to the walkway). In addition, a landscaping buffer has been added along the edge of the walkway. Refer Attachment 1 – amended plans. It is important to note, there is no specified separation distance outlined in the R-Codes for external walkways, as they are not a balcony or a habitable room. Most of the first floor is screened, with a slight open area servicing two units – therefore the likelihood of noise at a noticeable level is miniscule. The remaining levels are significantly set back, and the existing adjoining building is only 2 storeys, so noise will not be impactful.</p> <p>O2.7.4 – Adequate on-structure planting has been provided over the entire development site, including at the rear. A technical note has been prepared by Emerge (Attachment 3) which provides evidence that the trees will have sufficient conditions to grow sustainably and to full growth, within the planters. These trees will provide a buffer between the western and southern adjoining neighbours.</p>
6	<p><u>Element 3.2 – Orientation</u></p> <ul style="list-style-type: none"> • O3.2.1 – Not met. The development orients to Elizabeth Street instead of Broadway. Broadway effectively becomes the secondary street, with only smaller windows and balconies addressing Broadway. Given its prominence as a corner site, there is a missed opportunity to address both frontages and provide a landmark building on a prominent part of Broadway. Refer to peer review comments. • O3.2.2 – Not met. further separation at the upper levels from the south and rear would help improve solar access. 	<p>O3.2.1 – Disagree. The ground floor office has an entry to Broadway, and the existing office on the site is oriented towards Elizabeth Street. Both frontages are therefore addressed appropriately at ground level. At the upper levels, it is entirely appropriate for dwellings to have north facing balconies and openings. East facing openings and balconies are also provided to an acceptable extent.</p> <p>O3.2.2 – The percentage overshadowing does not exceed the acceptable outcomes of SPP7.3. Additionally, the western adjoining neighbour does not have any habitable rooms or outdoor living areas adjacent to the boundary and is therefore not negatively impacted by overshadowing. The southern adjoining neighbour only has one townhouse which is impacted by the overshadowing; however, the site is also zoned R-AC3 and is likely to be redeveloped in the future. There is also dense vegetation along the southern boundary, which would already restrict solar access.</p>
7	<p><u>Element 3.3 – Tree Canopy and Deep Soil Areas</u></p> <ul style="list-style-type: none"> • The City has supported past application where there is a small section at the rear which is designated DSA. • O3.3.2 – Not met. Why doesn't the survey detail the existing onsite trees shown on the aerial? Is there scope to retain the trees through careful site planning? The City does not believe that the development features enough medium or large trees to meet this objective. None of the trees constitute a medium tree. Past applications have used large trees as landscape screening to mitigate some of the bulk. Refer to landscape review. 	<p>On site tree positions are shown on the survey, which was submitted with the original DA package.</p> <p>We disagree. This element objective is about improving tree canopy and has been addressed through on-structure deep soil areas and planter beds that are spread throughout the development. The most notable of these are the 1st floor communal courtyard and the 5th floor resident's terrace, which contain 110m² and 46m² of on-structure deep soil respectively. Each other level has at least 40m² of planting area which has been integrated into the design the visible to both the future residents internally and the wider community externally.</p>

	<ul style="list-style-type: none"> • O3.3.3 – Not met. There is a deficiency in the provision of deep soil areas due to the narrow dimensions, location on structure and area proposed. The calculations do not factor in the minimum dimension needed for deep soil, also the City also questions some of the DSA that is noted as DSA versus just landscaped areas. For instance, how do these areas differ: As a consequence, the development does not achieve the intended on-structure area (20%). • O3.3.3 – more information is needed regarding the soil depth/volume to ascertain which areas meet the DSA. 	<p>Emerge has provided an assessment of the proposed trees and determined that the trees that are to be removed are non-native and small, therefore making them easily replaceable (5-10 years to grow a new tree to similar size). Emerge has determined that the removal of the trees is considered to be inconsequential and could be 'easily compensated'.</p> <p>The landscaping plans have been amended so include different species of trees which meet the height requirements under table 3.3 of SPP7.3. Given their position at the rear of the site they do help relieve the bulk of the building from the perspective of the western neighbour.</p> <p>All dimensions of deep soil areas have been reviewed and/or adjusted and are in accordance with Element 3.3. True deep soil area indicated on lower ground floor plan is supplemented by 'additional rootable soil zone' under adjacent footpath.</p> <p>In terms of the image the area noted as 'landscaping' did have adequate depth to be considered deep soil, however there was structure above part of the planter which disqualifies the area from being classified as deep soil. Diagrams have been reviewed and adjusted.</p> <p>Additional soil area calculations have been provided for clarity.</p>
8	<p><u>Element 3.4 – Communal Open Space</u></p> <ul style="list-style-type: none"> • O3.4.1 – Met. • O3.4.2 – Met. • O3.4.3 – Not met. +Improvements to be made with respect to first floor. Unit 1 will be particularly impacted by the communal open space adjacent to it. 	<p>Where integration between walkways, communal open space and dwellings is proposed, the use of landscape planting, highlight windows, and shading devices maintain appropriate levels of amenity for all users.</p>
9	<p><u>Element 3.5 – Visual Privacy</u></p> <ul style="list-style-type: none"> • O3.5.1 – Not met. Per A3.5.4 – development relies on screening to avoid appropriate setback. The open access walkways are not setback per the visual privacy standards. Although screened, the walkways are problematic with noise and light being emitted. Bedrooms and living rooms etc. should be separated from walkway. Communal open space should be separated bedroom windows, living rooms etc. Refer to DG3.5.3 – screening in the form of wither hi-lite, translucent glazing etc. should not be used to justify a reduction in the privacy setback. Further setback from the side and rear boundaries is needed. 	<p>Circulation areas have been altered to reduce the amount of screening needed between habitable rooms and walkways. Where necessary, highlight windows have been implemented and landscaping provided to create a noise and visual privacy buffer.</p> <p>Refer Attachment 1 – amended plans.</p>
10	<p><u>Element 3.6 – Public Domain Interface</u></p> <ul style="list-style-type: none"> • O3.6.2 – Not met. refer to the peer review comments. The Broadway interface needs further improvements, given the site's prominence. The City would seek to have the vehicle access rationalised. 	<p>The Broadway interface has been altered to soften the impact of the vehicle access and enhance the visual amenity of the façade. This has been achieved through changes in materials, further landscaping and making the vehicle entrance a laser cut patten on panel lift door, the same as Elizabeth Street.</p>

		Refer Attachment 1 – amended plans.												
11	<p><u>Element 3.8 – Vehicle Access</u></p> <ul style="list-style-type: none">• FI: Please address the internal referral comments.• O3.8.1 – Not currently met - Technical Services Advises - additional information is required from the applicant to ensure Elizabeth Street can function as a Safe Active Street.• O3.8.2 – Not currently met. The City seeks to have the vehicle access points rationalised to reduce the visual impact at ground level. Refer to design guidance.	Vehicle access addressed below in response to Technical Services comments.												
12	<p><u>Element 3.9 – Parking</u></p> <ul style="list-style-type: none">• FI: Please address the internal referral comments.• O3.9.1 – Not met. The development is not provided with enough car parking bays, per the requirements of LPP – Parking. Insufficient number of car parking bays proposed – it is classified as being in Location B & insufficient number of car parking bays proposed for office tenancy – Refer to internal comments and high frequency bus route calculations. Refer to internal referral comments.• O3.9.2 – Not met. The development is not provided with enough car parking bays, per the requirements of LPP – Parking. Insufficient number of car parking bays proposed – it is classified as being in Location B & insufficient number of car parking bays proposed for office tenancy – Refer to internal comments and high frequency bus route calculations. Refer to internal referral comments.• O3.9.3 – Not met. Further justification needed for the modifications to the safe active streets. Refer to Internal referral comments.• O3.9.4 – Not met; due to dual vehicle access points. Refer to Peer review.	<p>FI – Addressed below.</p> <p>O3.9.1 – City to provide clarification of high frequency bus calculations. The 96 and 24 bus routes run every 5-10 mins, which in accordance with the definition of “high frequency” under the R-Codes, makes the subject site Location A.</p> <p>Table 5: Assessment against the parking policy</p> <table><tr><th>Land Use</th><th>Minimum no. of Car Parking Bays Required</th><th>Parking Calculation</th><th>Parking Provision</th></tr><tr><td>Office</td><td>4.75 bays per 100m² of net lettable area. 2 spaces in every 3 to be set aside for employees.</td><td>8 bays required</td><td>3 bays provided on site</td></tr><tr><td>Multiple dwelling</td><td colspan="2">As per R-Codes Volume 2 requirements</td><td></td></tr></table> <p>As demonstrated in Table 5 above, the proposed development provides a 5-bay shortfall from the policy requirements.</p> <p>On street parking is available within 20m of the subject site along Elizabeth Street and Broadway (total of 5 bays). In addition, there is significant public transport and cycling access to the site. Broadway is a high frequency bus route with buses (96, 24) running every 5-10 minutes connecting the site to Elizabeth Quay Bus Station, Claremont Station and Leederville Station as well as a number of landmark points including Claremont, QEII Hospital.</p> <p>The policy ratio of 4.75 bays per 100m² NLA is higher than the ratio recommended even for retail floorspace in an activity centre by State Planning Policy 4.2, and is</p>	Land Use	Minimum no. of Car Parking Bays Required	Parking Calculation	Parking Provision	Office	4.75 bays per 100m ² of net lettable area. 2 spaces in every 3 to be set aside for employees.	8 bays required	3 bays provided on site	Multiple dwelling	As per R-Codes Volume 2 requirements		
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Multiple dwelling	As per R-Codes Volume 2 requirements													

		<p>considered excessive for an office in the context of an inner suburban activity corridor such as Broadway.</p> <p>O3.9.3 – Visitor bays are clearly marked with a V. Refer Attachment 1 – amended plans.</p> <p>O3.9.4 – Both car park entrances are screened and detailed with an attractive laser cut gate. Additionally, landscaping, and other façade treatments reduce the impact the car entrances pose on the streetscape. Both entrances are necessary, due to substantial change in topography of the site.</p>
13	<p><u>Element 4.1 – Solar and Daylight Access</u></p> <ul style="list-style-type: none"> FI: Please double check the solar diagrams, there are some apartments with windows that have not been assessed as such. There are rooms that should receive light that appear not to: O4.1.2 – Unit 2 – Bed 2 appears to have poor internal amenity. O4.1.3 – Minor modifications to satisfy. The west facing windows could benefit from shading and glare control. 	<p>FI – Noted.</p> <p>O4.1.2 – Plans have been amended so that Unit 2 now only has one bedroom.</p> <p>O4.1.3 – Noted. Windows are hooded and provide some glare control.</p>
14	<p><u>Element 4.3 – Size and Layout of Dwellings</u></p> <ul style="list-style-type: none"> FI: Unit 5 appears to have an undersized dimension and the space is not very usable due to the room shape. Is there any reason why this needs to be laid out in that way? Although the minimum dimensions are met, it is noted that most dwellings have the minimum 3m bedroom dimension. A reduction in the number of apartments could help provide more diversity with respect to this element. Refer to the peer review comments. 	<p>FI – Unit 5 meets the adequate size dimensions and receives dual access ventilation and sunlight. Refer Attachment 1 – amended plans.</p>
15	<p><u>Element 4.4 – Private Open Space and Balconies</u></p> <ul style="list-style-type: none"> FI: are there any services or fixtures proposed to be located on the balcony? O4.4.3 – Not met. Private open space could be better designed with more detailing and architectural features to improve the façade and make it more residential in appearance. 	<p>FI – No.</p> <p>O4.4.3 – Façade treatments have been further reviewed and material changes have been implemented to improve the visual amenity. Refer Attachment 1 – amended plans.</p>
16	<p><u>Element 4.5 – Circulation and Common Spaces</u></p> <ul style="list-style-type: none"> O4.5.1 – Not met. Minor modifications to the width of hallways to meet this objective. O4.5.2 – Not met. A number of apartments have windows to habitable rooms that either abut or are adjacent to circulation and common spaces. This will inevitably result in those windows being permanently closed, reducing natural ventilation and resulting in poorer internal amenity. 	<p>O4.5.1 – Width of walkways has been amended from a minimum of 1.45m to minimum of 1.5m.</p> <p>O4.5.2 – Plans have been amended to reduce the number of windows from habitable rooms which look onto circulation and common spaces. Where necessary, highlight windows and landscaping buffers have been implemented.</p> <p>Refer Attachment 1 – amended plans.</p>
17	<p><u>Element 4.7 – Managing the Impact of Noise</u></p> <ul style="list-style-type: none"> O4.7.1 – Not met. The siting of the common areas adjacent to habitable room windows requires further consideration. O4.7.2 – Refer to Internal Referral comments. 	<p>O4.7.1 – Refer SK09 of amended plans. Bed 2 of Unit 22 has been removed to ensure no habitable rooms are adjacent to common areas.</p>

18	<p><u>Element 4.10 – Façade Design</u></p> <ul style="list-style-type: none"> • O4.10.1-O4.10.2 – Not met. the development does not reflect the character or context of Broadway. Further improvements to make the development consistent with the expectations of a large residential building in a prominent location of this corridor. Please address the peer review comments. 	<p>O4.10.1 – O4.10.2 – Refer response against Peer Review comments in Attachment 2 below and Context and Character Analysis in Attachment 4 below.</p> <p>The façade treatment on all frontages has been amended with changes in setbacks, materials, colours and architectural features to enhance the visual amenity of the building and bring it further in line with other residential developments of the same scale.</p>
19	<p><u>Element 4.11 – Roof Design</u></p> <ul style="list-style-type: none"> • O4.11.1 – Not Met. Refer to the peer review comments. • O4.11.2 –Met. Solar panels are proposed. Condition. 	<p>O4.11.1 – Response to Peer Review comments in Attachment 2 below.</p>
20	<p><u>Element 4.12 – Landscape Design</u></p> <ul style="list-style-type: none"> • FI: The predominant size for a LAGERSTROEMIA INDICA 'NATCHEZ' TREES is 4-6m. The trees noted in the landscape plan do not meet the minimum landscape requirements. • O4.12.1 – Not met. Due to the orientation of the development – towards the street, the landscaped areas are in general do not improve outlook to habitable rooms. Additionally, it doesn't add to the visual appeal of the development. More integration with the building design is needed. • O4.12.2 – Refer to landscape review. • O4.12.3 – Are there any further efficiency measures that can be employed? • O4.12.4 – Not met. Refer to Landscape review. 	<p>FI – Landscaping plans have been amended to replace the Lagerstroemia Indica 'Natchez' trees with Cupaniopsis Anacardioides 'Tuckeroo' trees. These species easily meet the height requirement for medium trees. Refer Attachment 5 – amended landscaping plans.</p> <p>The design intent in general of the landscaping/planters is to improve the amenity of shared/ public spaces, as opposed to individual rooms. Within the development the communal areas (1st floor courtyard and 5th floor terrace) have been designed to include large amounts of deep soil planters to support tree growth. Circulation spaces have also been designed to incorporate planter beds which improve the amenity for the residents.</p> <p>Planter beds make up most of the street interface which softens the edges of the building and fits in with the local context which is generally leafy and green along property boundaries.</p> <p>Tree species selection has been justified by Emerge in their drawing package (refer Attachment 5). Planter bed widths/depths, these have been reviewed and increased on the 5th floor and in circulation spaces. The first-floor communal courtyard has also been adjusted to increase the privacy to Unit 1's bedroom 2.</p> <p>Irrigation requirements are detailed in the landscaping plans lodged in the original DA package as well as the amended landscaping plans in Attachment 5 below. Water tanks are shown as a mean of water collection/ re-use.</p> <p>As previously mentioned, the landscaping/planter beds have been designed to enhance the amenity of the public spaces of the proposal i.e., communal courtyard, communal terrace, and walkways/circulation spaces. The planting in each of these areas has been adjusted to provide adequate width and depth to support significant plant growth and truly integrate greenery into each respective space.</p>

21	<u>Element 4.14 – Mixed Use</u> <ul style="list-style-type: none">O4.14.1 – the design/layout of the office is problematic and may result in a tenancy that is not commercially viable (based on architectural review), which would impact on the activation of this important location.	O4.14.1 – Disagree. The office space has been designed so that it is commercially viable.
22	<u>Element 4.16 – Water Management</u> <ul style="list-style-type: none">O4.16.1 – Further information to address this objective.	O4.16.1 – The development achieves a NATHERS rating 0.4 stars higher than the minimum required. Refer sustainability report prepared by CADDs Group in the original DA package.
23	<u>Element 4.17</u> <ul style="list-style-type: none">FI: refer to waste comments.	Refer response to waste comments below.
24	<u>Clause 4.2.2.1</u> <ul style="list-style-type: none">The ‘dormer’ windows are required to be removed from Unit 1, 3, 5 and 7.	Refer Attachment 1 – amended plans. The plans have been amended to alter the colours and materials used throughout the development.
25	<u>Clause 4.2.2.7</u> <ul style="list-style-type: none">The ‘light grey’ concrete elements are to be amended to white or cream;	
26	<u>Clause 4.2.2.1</u> <ul style="list-style-type: none">The roofing colour/material is to be terracotta or zincalume.	
Internal Referrals		
27	<u>Building</u> Please have the applicant confirm the following in prior to the DA being recommended for determination.	
	<ul style="list-style-type: none">Car stackers in basement. How does the applicant propose to deal with the additional fire load these will present?	We are aware of the DFES guidelines on fire loads presented by car stackers in basements and fire load will be dealt with in accordance the NCC.
	<ul style="list-style-type: none">Please have the applicant confirm the construction methodology of basement i.e. what type of piling.	Bored contiguous piles.
	<ul style="list-style-type: none">Insufficient detail to conduct assessment of and confirm compliance however appears works can comply. Details to be confirmed in BP should DA be approved.	Noted.
	<ul style="list-style-type: none">If there are concerns regarding this design element from planning perspective, please request the applicant demonstrate compliance with this part and the relevant FRL of the wall and Building will review further.	Wall FRL’s will be fully compliant with the current NCC requirements.
	<ul style="list-style-type: none">Applicant has provided a NatHERS report that appears to be incomplete, only 5 apartments have been modelled (1, 5, 19,20, 22)?	A full energy assessment is not required as part of a planning approval. The report provided by CADDs Group states that the 5 apartments that were modelled represent ‘typical’ typologies. Given the fact that exact construction has not yet been designed the specified requirements can be applied to all apartments in principle in order for the apartment to achieve the required energy rating.
28	<u>Technical Services (Traffic)</u> <u>Safe Active Streets</u>	<u>Crossovers</u> The upper car park is exclusively residential parking therefore traffic is directional at Elizabeth Street

- Additional information is required from the applicant to ensure Elizabeth Street can function as it is designed for.

Crossovers

- The applicant indicates that the development will have a directional type of flow. However, the City disagrees with the above statement since the office trips will have opposite directional flows compared to the residential traffic. Additional mitigation measures should be identified and shown on the plans to assist the proposed access and mitigate any potential issues.
- Manoeuvring clearance as per Chapter 5.4 of AS2890.2 to be demonstrated. Any departure from the standards should be clearly explained and justified for the City's further review.

Parking

- The development is not provided with adequate parking for residential visitors and the commercial premises.
- The TIS needs to include assessment of parking provision in accordance with the City's LPP and R-codes. The proposed number of parking bays indicate a significant office parking shortfall, as well as a visitor parking bay shortfall. Parking spaces should be adequately provided to accommodate the development demands within the site.
- Visitor parking should be clearly marked.
- Wheel stop distance to be a minimum 820mm in accordance with Table 2.1 of AS2890.1.
- The clearance height of 4.5 metres for MRV is required at truck circulation areas. Current plans show an insufficient clearance between the lower and upper ground floors at the ramp. The departure from the standards should be identified and fully assessed and justified on the TIS.

Traffic

- Proposed peak hour traffic numbers do not match the trip distribution shown in Figure 2. An Update is required.
- Provide an explanation for the proposed traffic distribution. The Daily distribution indicates the applicant did not consider the fact that two levels are not connected, and Broadway frontage is left in left out.
- Elizabeth Street is Safe Active Street that is designed to encourage a low number of traffic flows (below 1,000 VPD at present to allow people to get used to the concept and up to 1,500 VPD in the future). The City's traffic counts from 2019 indicate Elizabeth Street carries 880 vehicles per day, indicating it is already very close to its target vehicle numbers.

crossover. The lower car park is office/residential traffic mix, however, traffic volumes in peak periods are so low that there is minimal chance of conflict movements occurring at Broadway crossover.

No issues are anticipated as very low traffic activity is estimated for the development in general. Any mitigating measures required in the car park can be prepared as part of the detailed design stage.

An updated service truck turn templates using 8.0m long truck with appropriate clearances for robustness (CoN waste collection vehicle template is a smaller 7.5m truck). Refer **Attachment 6** for updated TIS.

Parking

Residential - Visitor

Two bays within the car park will be allocated to commercial tenancy visitors and 2 bays for residential visitors. Four residential visitor's car bays are required under the Acceptable Outcomes. In support of the provision of visitor parking, the following is noted:

There are further opportunities for visitor parking in this location noting the availability of on-street parking available in the immediate vicinity. On-street parking is permitted on both Elizabeth Street (northern side) and Broadway (western side). Peak visitor demand is typically in the evenings when the on-street bays are not likely to be occupied by commercial visitors.

Commercial

The development provides a 5-bay shortfall from the policy requirements. On street parking is available within 20m of the subject site along Elizabeth Street and Broadway (total of 5 bays). In addition, there is significant public transport and cycling access to the site. Broadway is a high frequency bus route with buses running every 5-10 minutes. The site is located in close proximity to route N21, the Perth bicycle network which runs along the Swan River foreshore and provides access to Perth CBD and the wider metropolitan area.

The visitor bays have been clearly marked with a 'V'. Wheel stops have been adjusted to meet the requirement. Refer amended DA drawings in **Attachment 1**.

City to clarify where 4.5m requirement has come from. City's waste policy specifies height clearance of 3.8m when lifting bins.

Traffic

Figure 2 updated – Refer **Attachment 6** – updated TIS. Updated trip distribution included in the updated TIS. The trip distribution applied in the TIS takes into account crossover formats and road network functionality as well as location of the site in wider context.

- 10-year future scenario should be included to assess the daily volume changes.

Waste

- Submitted WMP has not adequately addressed the minimum requirement.
- it is noted that some internal sections of the bin enclosure (wall to wall) are not complying with the City's minimum requirement. Please confirm the above minimum compliance.

The development is estimated to add only about 42vpd on Elizabeth Street west of the site so impact is marginal.

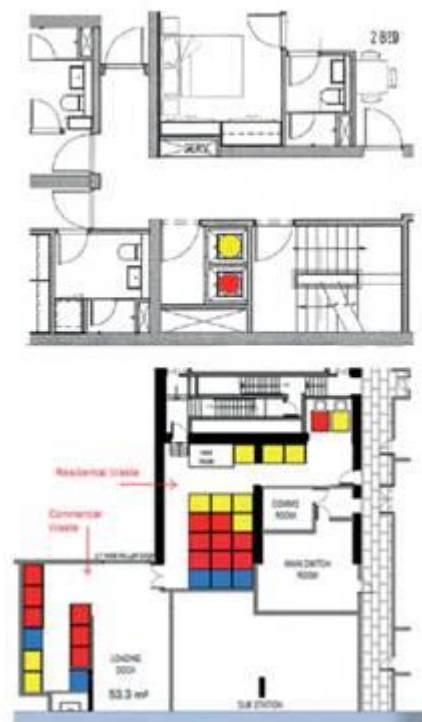
TIS scope does not involve any capacity assessment as developments generate moderate level of traffic. Hence, no 10-year future scenarios are required in this case.

Waste

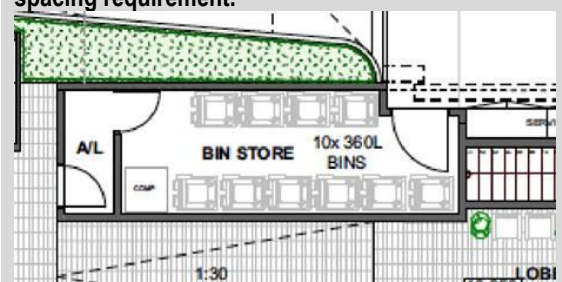
Internal sections of the bin enclosure (wall to wall distances) are not specified within the City's Local Planning Policy – Waste Management. The diagram shown in this policy (below) shows bins stacked with no spacing.

The development has shown spacing between bins and walls for both the commercial and residential bin store. If bins are required to have spacing of 0.25m for 240L bins and 0.5m between 660L bins the bin storage areas will need to be increased.

22.3 Example of waste bin and recycling bin layout at bin storage area levels



Note: development at 13 Vincent Street which was recently approved does not appear to have this spacing requirement.



4. RESPONSE TO PUBLIC SUBMISSIONS

Refer to **Table 1** below for the response to submissions received during public advertising.

Table 1 – Response to schedule of public submissions received 17 December 2020

Summary	Matter	Applicant Response
Building Height	The development is too tall	The proposed development is of a height which is consistent with the primary controls (Table 2.1 of SPP7.3) for R-AC3 coded sites, which allow up to 6 storeys (21 metres). As viewed from the street – the development is only 6 storeys and does not exceed 21 metres in height. The development is of consistent height of recent approvals along Broadway, namely 79-81 Broadway, 137-139 Broadway, 93-95 Broadway, and 135 Broadway.
	The development will block the outlook of the property to the rear	
	The scale of the development is not consistent with the surrounding area	
	The proposed development is over-height by one storey under the R-code primary controls	
	The proposed development does not take account of adjacent buildings that will not be replaced (objective 2.2.4)	
	Due to its corner location the additional storey will be seen from both the rear and from Elizabeth Street	
	The development is too tall	
Plot Ratio	The development is too large	Careful consideration has been given to the neighbouring properties as well as the street in terms of building bulk. Bulk to the southern boundary has been mitigated through the setting back of the southern walkway on the southern boundary. Building bulk to the western boundary is mitigated through the generous 5.1m setback and extensive landscaping, including two large trees. The Elizabeth St and Broadway frontages have been softened through further landscaping and articulation of ground and first floor levels. Additionally, most of the plot ratio which is over the permitted is within the carparking area which is not visible from the street. Significant landscaping and trees have been selected to soften the building edges and provide a high level of visual amenity for residents, neighbours and pedestrians.
	The bulk and scale of the development will visually overwhelm and overshadow the adjoining properties	
	The development is well above (30% over) the intended plot ratio	
Vehicle Access	The development conflicts with Safe Active Streets Initiative and poses a safety risk	Refer TIS prepared by Transcore (Attachment 6). The number of traffic generated from the proposed development is negligible and the speeds they will be entering and exiting from on Elizabeth Street will not pose any safety risk to local residents.
Parking	The development will further exacerbate a parking shortfall in this locality.	2-bay residential visitor bay shortfall. There are further opportunities for visitor parking in this location noting the availability of on-street parking available in the immediate vicinity. On-street parking is permitted on both Elizabeth Street (northern side) and Broadway (western side). Peak visitor demand is typically in the evenings when the on-street bays are not likely to be occupied by commercial visitors. 5-bay commercial bay shortfall. On street parking is available within 20m of the subject site along Elizabeth Street and Broadway (total of 5 bays). In addition, there is significant public transport and cycling access to the site. Broadway is a high frequency bus route with buses running every 5-10 minutes. The site is located in close proximity to route N21, the Perth bicycle network which runs
	The development is not provided with sufficient parking	

		along the Swan River foreshore and provides access to Perth CBD and the wider metropolitan area.
Traffic	Development should not take place until the City's traffic study has been completed.	Disagree. Private development cannot be halted due to external traffic studies carried out by the City. An independent traffic consultant has been engaged and has prepared a sufficient traffic report which addresses all aspects of traffic safety and parking.
	There are errors in TIS (speed limit on Elizabeth Street)	
	The development will exacerbate traffic congestion in the locality	
Side and Rear Setbacks	The development is not provided with sufficient setback at the side and rear to maintain solar access, light and ventilation.	Setbacks are greater than what is outlined as the minimum for RAC-3 zoned sites in the primary controls table of the R-Codes. Light and ventilation for adjoining properties is not unduly impacted by the development.
Amenity	The development does not contribute to the amenity of the area/ or an enlivened neighbourhood.	The southern walkway which makes up a large percentage of the southern building edge has been set back further to reduce building bulk and increase privacy to the southern adjoining property. The façade treatments have been further refined to increase the 'residential' feel and make the overall appearance of the development more refined and complimentary, within its own building elements and with the wider area. Refer Attachment 4 for an in-depth context and character analysis of the site.
	The development relies on the setback of the development of the south, in lieu of providing adequate setback on its own property.	
	The colour and material palette is not sympathetic to the surrounding area	
Dwelling Mix	Too many 1 bedroom apartments	The dwelling mix is in accordance with the acceptable outcomes of the R-Codes. 1-bedroom apartments are a favourable option in areas close to universities, hospitals and public transport – as this site is.
	1 bedroom apartments are more likely to be rented out or used as short term accommodation.	
Streetscape	The building is too large for a narrow street characterised by low rise buildings.	The building is considered to be an adequate size for the lot and for the street, which is rapidly evolving and has already seen four six storey developments of equal or larger size approved within a 1km area. All sites on the western side of Broadway which front Broadway are coded R-AC3, meaning the desired future character of the strip is 'mid-rise' under the R-Codes.
Noise	The development will exacerbate noise on Broadway	The noise generated from traffic and commercial uses at Broadway Fair etc. will generate more noise than the proposed residential development. An acoustic report has been prepared as part of the development application package by an acoustic engineer which adequately addresses both internal and external noise receptors.
	The acoustic impact of the car stackers will negatively impact the area.	
Visual Privacy	The development will overlook the adjoining properties	Overlooking has been mitigated through a number of measures including adequate setbacks, highlight windows, screening and positioning of habitable rooms and balconies. All measures have been taken in accordance with the R-Codes to screen or set back major openings and balconies. In addition, trees have been selected for the rear boundary to aid in providing privacy for residents and the western neighbours. The southern boundary walkway is set back to provide privacy to the southern neighbouring property. A boundary wall

		and landscaping also assists with privacy the southern adjoining neighbour.
Solar Access	The development will cast shadow onto the properties located on eastern side of Broadway	The overshadowing produced by the proposed development does not exceed the percentage outlined in the R-Codes acceptable outcomes. Additionally, the eastern properties located on the other side of Broadway are of commercial nature, therefore any shadow which does reach these properties is unlikely to be adversely impacted.
	The development will block light to the properties to the rear	
	The development will cast shadow on the units to the south of the site.	
Crime	The development will add to crime	<p>The proposed development will provide passive surveillance along Elizabeth Street and Broadway. There are no areas which could result in entrapment or concealment, with security doors blocking both vehicle entrances. In addition, the office will only be open during the daytime hours compared with a restaurant which could lead to loitering in the evening hours.</p> <p>Attraction of diverse demographics to an area adds to vibrancy and social cohesion, which is a positive outcome.</p> <p>There is no tangible evidence to justify that this development will "add to crime".</p>
	The development will attract diverse demographics to the area	
Design	Any new building on Broadway should reference the character of that street or precinct, not the adjacent residential area.	A context and character analysis has been prepared by a leading urban designer – refer Attachment 4 of this response. Careful consideration of the current and future design elements has been taken when refining and bringing together the overall design of the building.
	The material palette is not consistent with landmark buildings on Broadway.	
	The development does not represent good design.	
	The development looks like a much older design/ is not contemporary	
Miscellaneous	The City of Perth should contribute to the development of Broadway	The eastern side of Broadway is within the City of Perth.
	The City of Nedlands should work with the City of Perth to plan for the future of Broadway	Noted.
	The development is not consistent with the LPS, which provides for Hampden/Broadway to be planned as a medium intensity, low to medium rise Urban Growth Area.	6 storeys is considered to be mid-rise development and the site is zoned R-AC3 under the LPS, which permits building height up to 6 storeys.
	The proposed development does not contribute to the development of an enlivened neighbourhood centre on Broadway. Two tiny commercial tenancies will not increase connectivity with the life of the street.	The site is zoned Mixed-Use and is not identified to form part of any neighbourhood centre. The Broadway Fair site on the opposite side of Broadway is the neighbourhood centre and is located in the City of Perth.
	The development should strictly adhere to the Primary Controls in R-Codes Volume 2. The decision maker should not award any development bonuses as there is not a policy/scheme amendment in place to define good design.	The R-Codes Volume 2 is not a deemed-to-comply document. The development achieves the element objectives through addressing each of the design principles. Exceedances of the primary controls i.e., plot ratio is justified through screening of car parking, building articulation and setbacks, and abundant landscaping.

	The City's Administration does not have authority to award design bonus as good design has not been defined.	Subjective response. The design team has worked together to provide a proposal which both meets the design principles of the R-Codes, and provides an attractive, spacious, and well laid out development. Through the provision of abundant landscaping, good solar access and ventilation, well designed communal spaces, and well-articulated and designed façade treatments – the design carries high amenity for both it's residents and the wider community.
	The development does not comply with the LPP	The local planning policies are due regard documents only, with the R-Codes (SPP7.3) being the overarching design guidance document. In terms of waste, the development complies with the provisions set out in the City's waste policy.
	Landscaping is inadequate.	20% of the site is landscaped, which meets the acceptable outcomes under the R-Codes. Emerge have prepared landscaping plans and a technical note which address the required landscaping and deep soil requirements, with the technical note providing further justification that the on-structure planters will sustainably hold the trees on the site. Refer Attachments 3 and 5 .
	Deep soil is inadequate	
	Tree canopy / Tree species / Tree size is inadequate	The selected trees are of adequate size and the species have been selected which will have sustainable conditions to support their growth to maturity. The quantity of trees exceeds the current number of trees on the site and meets the acceptable outcomes under the R-Codes.
	The car stacker is impractical	Car stackers are commonly implemented in many new mixed use and residential developments across the country.

5. CONCLUSION

We trust the information provided above, and enclosed, addresses the City's request for further information, schedule of public submissions, and Peer Review comments dated 17 December 2020.

Overall, the modifications to improve the façade treatments to better align with the character of the area, increase the setback of the southern walkway and decrease the southern boundary wall height to reduce building bulk and other minor modifications and additions have been made to the DA drawings to address the City's RFI with the remaining points being addressed through the provision of further information and supporting documents.

Noting the justification contained in this letter and in the initial development application submission, we consider the proposed development warrants approval.

Should you have any queries or require further clarification in regard to the proposal, please do not hesitate to contact the writer.

Yours faithfully,



ABBEY GOODALL
PLANNING CONSULTANT

Attachment 1
Amended Development Drawings



RENDERED IMAGE FROM CORNER OF BRAODWAY AND ELIZABETH ST.

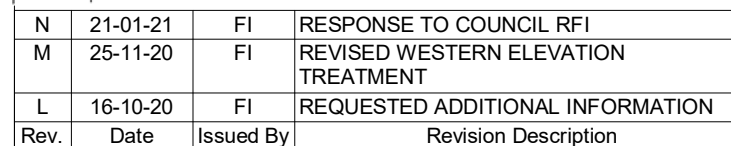
DRAWING SCHEDULE

DWG No.	DRAWING NAME
SK00	EXISTING SITE INFORMATION
SK01	SURVEY
SK02	CONTEXT PLAN
SK02.1	SITE PLAN
SK02.2	SITE SECTION
SK02.3	BUILDING ENELOPE PLAN
SK02.4	3D CUT AND FILL DRAWINGS
SK03.1	BASEMENT/SERVICES PLAN
SK03.2	GROUND FLOOR PLAN - LOWER
SK04	GROUND FLOOR PLAN - UPPER
SK05	FIRST FLOOR PLAN
SK06	SECOND FLOOR PLAN
SK07	THIRD FLOOR PLAN
SK08	FOURTH FLOOR PLAN
SK09	FIFTH FLOOR PLAN
SK10	ROOF PLAN
SK11	NORTHERN ELEVATION
SK12	EAST ELEVATION
SK13	SOUTH ELEVATION
SK15	SHADOW DIAGRAMS
SK16	SECTION
SK16.1	SECTION
SK17	PERSPECTIVE 1
SK18	PERSPECTIVE 2
SK19	PERSPECTIVES 3 + 4
SK20	SOLAR STUDIES
SK21	VENTILATION STUDIES
SK22	PLOT RATIO - LOWER GROUND FLOOR
SK23	PLOT RATIO - UPPER GROUND
SK24	PLOT RATIO - FIRST FLOOR
SK25	PLOT RATIO - SECOND + THIRD FLOOR PLAN
SK26	PLOT RATIO - FOURTH FLOOR
SK27	PLOT RATIO - FIFTH FLOOR
SK28	DIRECT SUNLIGHT STUDIES - FIRST FLOOR
SK29	DIRECT SUNLIGHT STUDIES - SECOND FLOOR
SK30	DIRECT SUNLIGHT STUDIES - THIRD FLOOR
SK31	DIRECT SUNLIGHT STUDIES - FOURTH FLOOR
SK32	DIRECT SUNLIGHT STUDIES - FIFTH FLOOR
SK33	LANDSCAPING PLANS - UPPER AND LOWER GROUND FLOORS
SK34	LANDSCAPING PLANS - APARTMENTS

Underground services have been compiled from a Dial-Before-You-Dig search and have not been verified by MNG. Alignments coincide with located surface features or markers but are considered indicative. Prior to demolition, excavation or construction, refer to the currency of services, altered or new services installed on or near the project. Refer to the date and method of acquisition. This note is an integral part of this plan.

Existing boundaries have been extracted from the Cadastral Database, which is only a model of the depicted boundary locations are a graph and as they have not been re-established, they are not guaranteed the position unless stated otherwise. Re-establishment of lot boundaries by a surveyor is recommended for any works on or about the lot. This note is an integral part of this plan.

Surface features and levels have been requested scope of works accuracy. To depict topography or defined only by hard copy some level information is not. Above ground indicators (markers) of un services are located where visible. Third parties utilising this information should capture accuracies meet requirements p. This note is an integral part of this plan.



This survey has been completed to CLASS 2 Accuracy
Horizontal Accuracy $\pm 20\text{mm}$
Vertical Accuracy $\pm 20\text{mm}$
This note is an integral part of this plan.

Existing boundaries have been extracted from Landgate's Spatial Cadastral Database, which is only a model of the cadastre. The depicted boundary locations are a graphical representation only and as they have not been re-established by survey. MNG does not guarantee the position unless stated otherwise. Re-establishment of lot boundaries by a Licensed Surveyor is recommended for any works on or about a boundary. This note is an integral part of this plan

Underground services have been compiled from information obtained from a Dial-Before-You-Dig search. Service locations have not been verified by MNG. Alignments have been adjusted to coincide with located surface features such as manholes, valves or markers but are not considered indicative of actual location. Prior to demolition, excavation or construction, users should satisfy themselves to the currency of services, which may have been altered or new services installed on or near the subject site. Refer to the date and method of acquisition.

This note is an integral part of this plan.

Surface features and levels have been surveyed to meet the requested scope of works accuracy. The surface may be contoured to depict topography or defined only by spot heights. For clarity on hard copy some level information is not shown, refer to 3D digital file. Above ground indicators (markers) of underground services are located where visible.

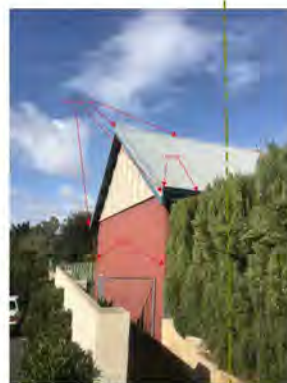
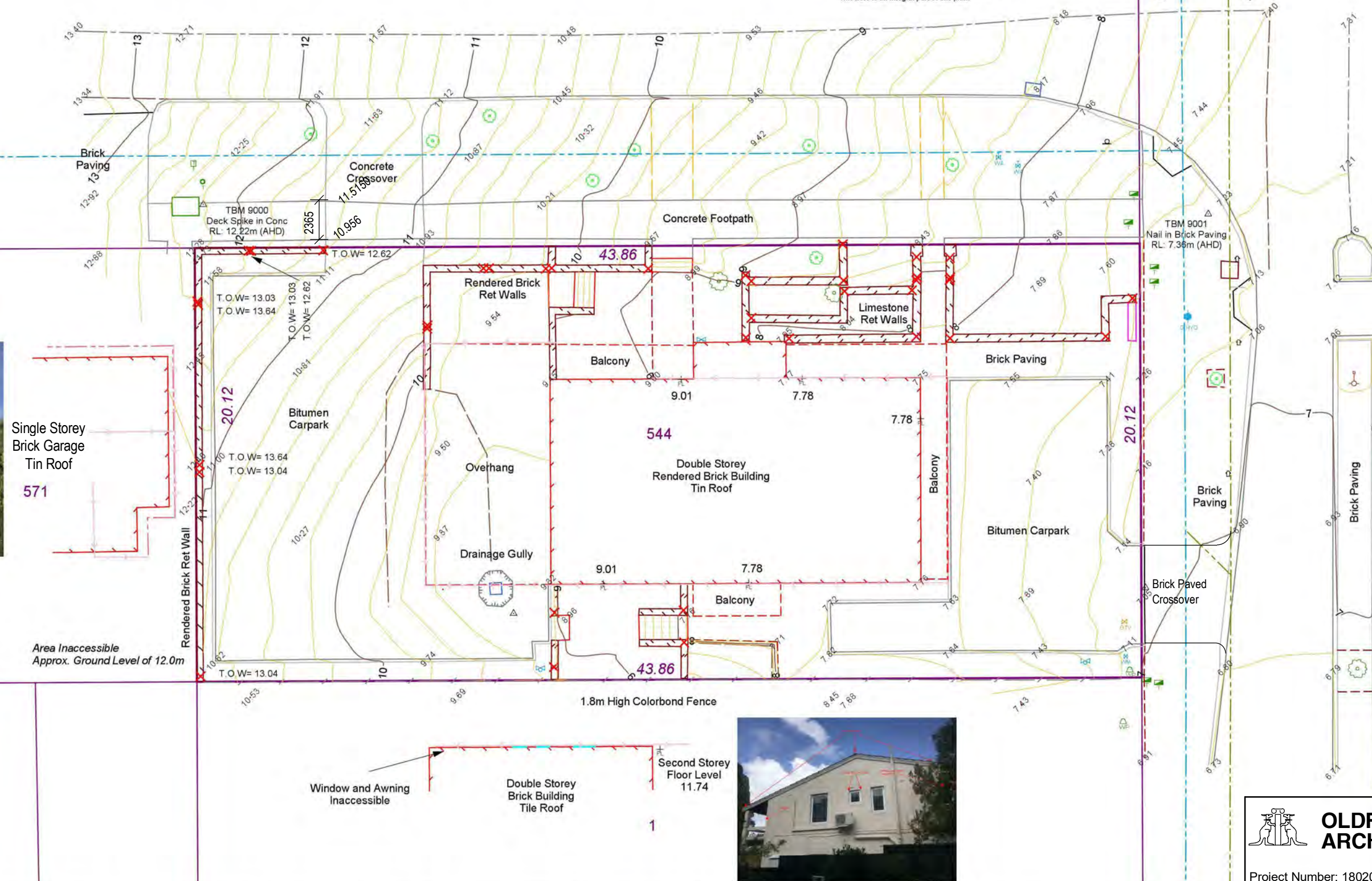
Third parties utilising this information should confirm the capture accuracies meet requirements prior to use.

This note is an integral part of this plan.

Approx. Position of Water Main (DBYD)

Approx. Position of Sewer Main (DBYD)

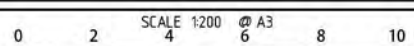
BROADWAY



**OLDFIELD KNOTT
ARCHITECTS PTY LTD**

Project Number: 18020 Rev: N Drawing No: SK01

A	PRELIMINARY PLANNING APPROVAL APPLICATION			
A	Initial issue		PLJ	03/09/2019 MD
Rev.	Description	Drawn	Date	Checked,



ALL DISTANCES ARE IN METRES

For a true to scale reproduction of this plan, plot it to A3 with the Paging Scaling set to None.



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



MCMULLEN NOLAN GROUP
Level 1, 2 Sabre Crescent
Jandakot, W.A. 6164
PO Box 3526, Success
W.A. 6964, Australia
Offices in: Broome, Bunbury,

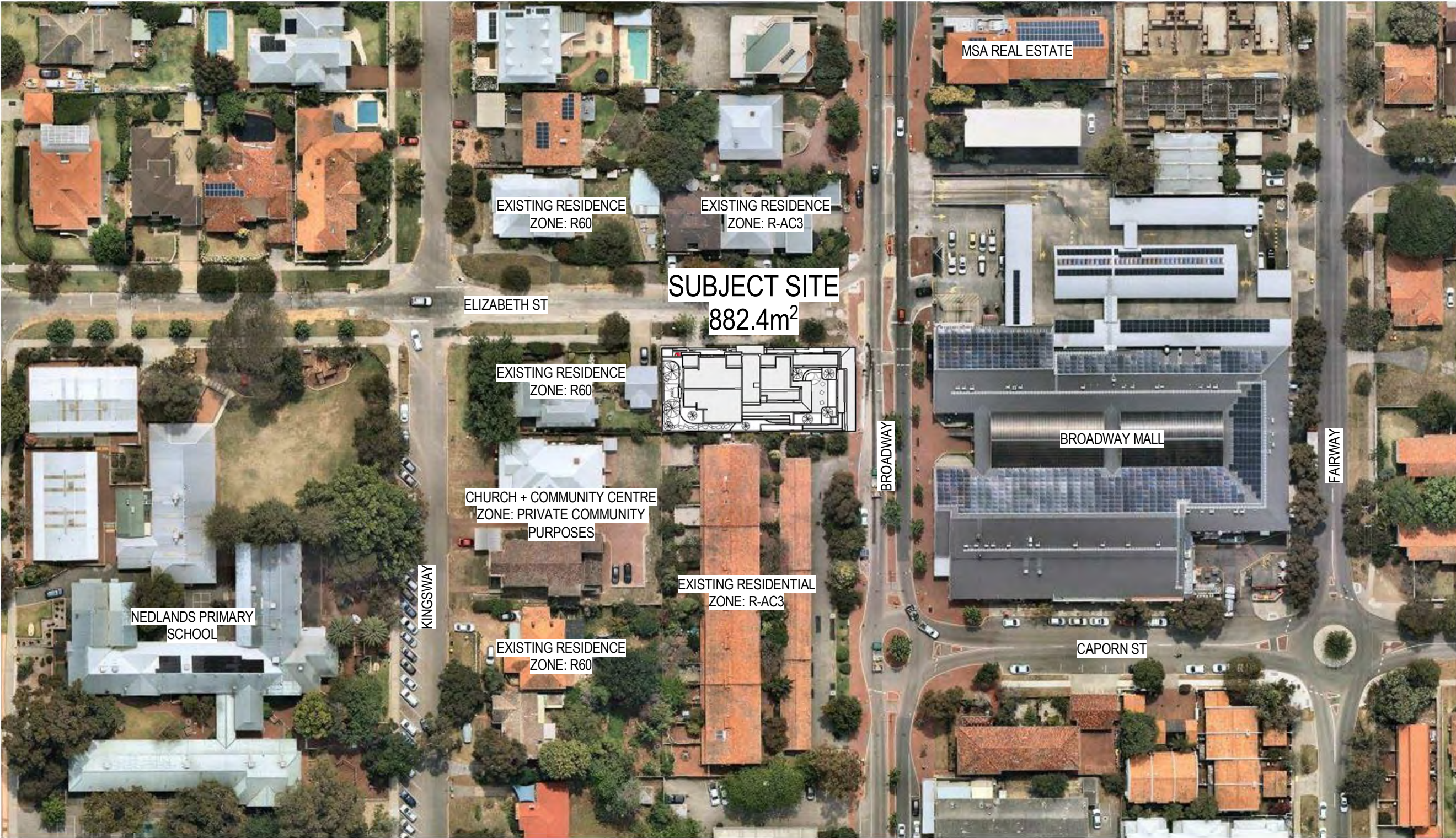
Tel: (08) 6436 1599
Fax: (08) 6436 1500
info@mngsurvey.com.au
www.mngsurvey.com.au
ABN 90 009 363 311
Warrnambool, Port Hedland

CLIENT:

**OLDFIELD KNOTT
ARCHITECHS PTY LTD**

Project Mngr.	MArk Dobson	Datum	PCG94 / AHD
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102511 - DE - 001 - A



CONTEXT PLAN
SCALE: 1 : 1000

N	21-01-21	FI	RESPONSE TO COUNCIL RFI
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description

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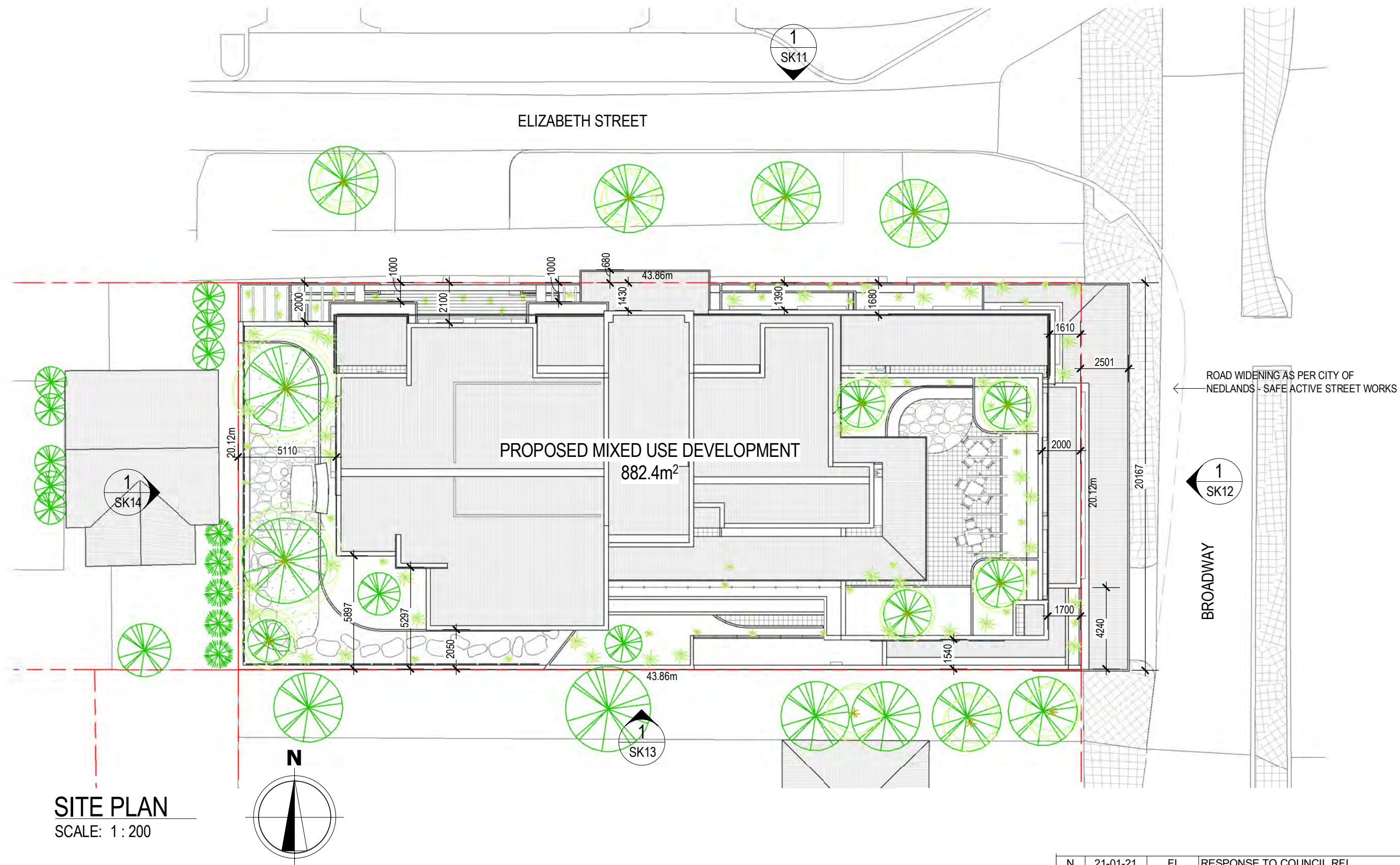
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Project Name
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Drawing Name
CONTEXT PLAN

Project Number
18020

Drawing No. Rev.
SK02 N



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Project Name
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Drawing Name
SITE PLAN

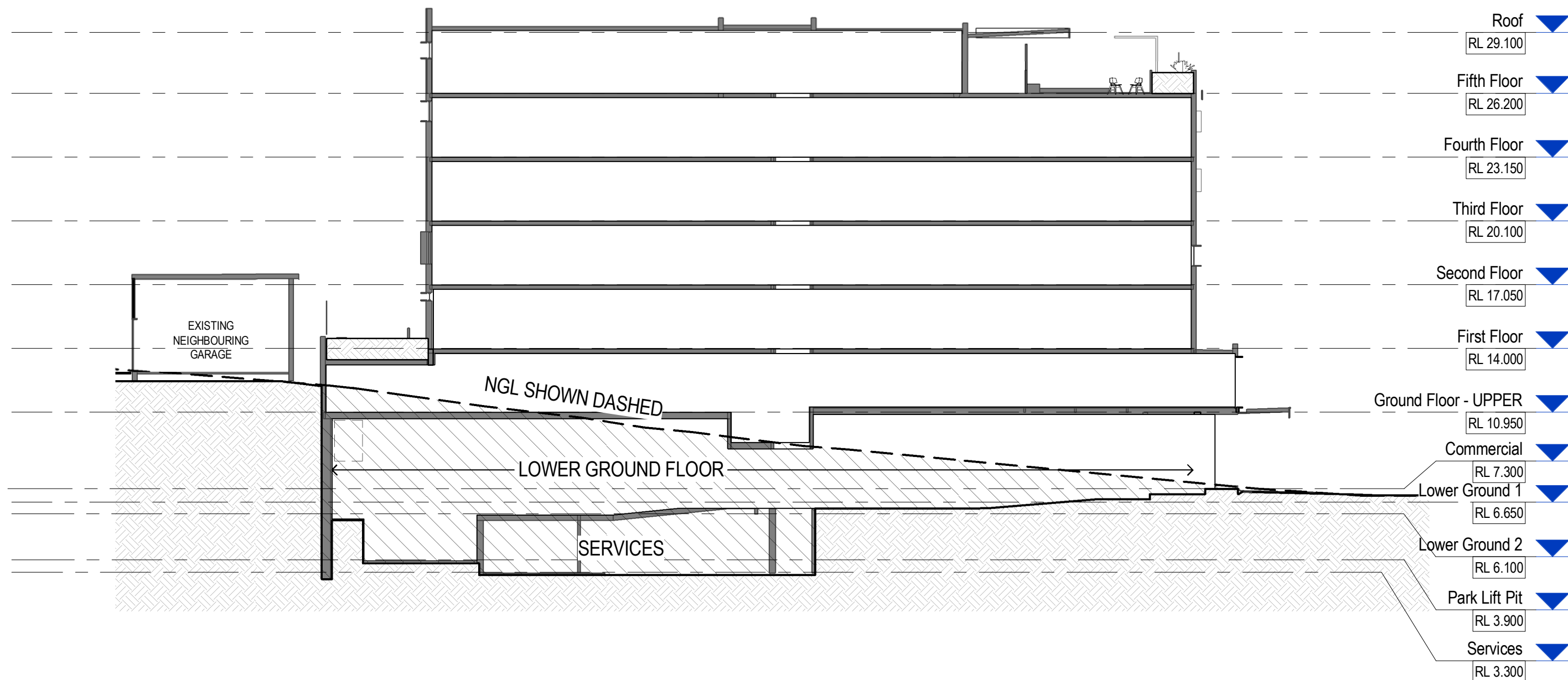
Project Number
18020

Drawing No. **SK02.1** Rev. **N**

Reduction 25mm on A3 | Scale

1 : 200 | Date

OCT 2019 | Drawn **JR** | Checked **FI**
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A SECTION A
SCALE: 1 : 200

VOLUME CALCULATION - LOWER GROUND FLOOR	
m ³ BELOW NGL:	2695.88m ³
m ³ TOTAL:	3838.09m ³
% OF VOLUME BELOW NGL	70.24%

>50% OF VOLUME REQUIRED TO BE BELOW NGL FOR STOREY TO BE DEEMED A BASEMENT AS PER SPP 7.3

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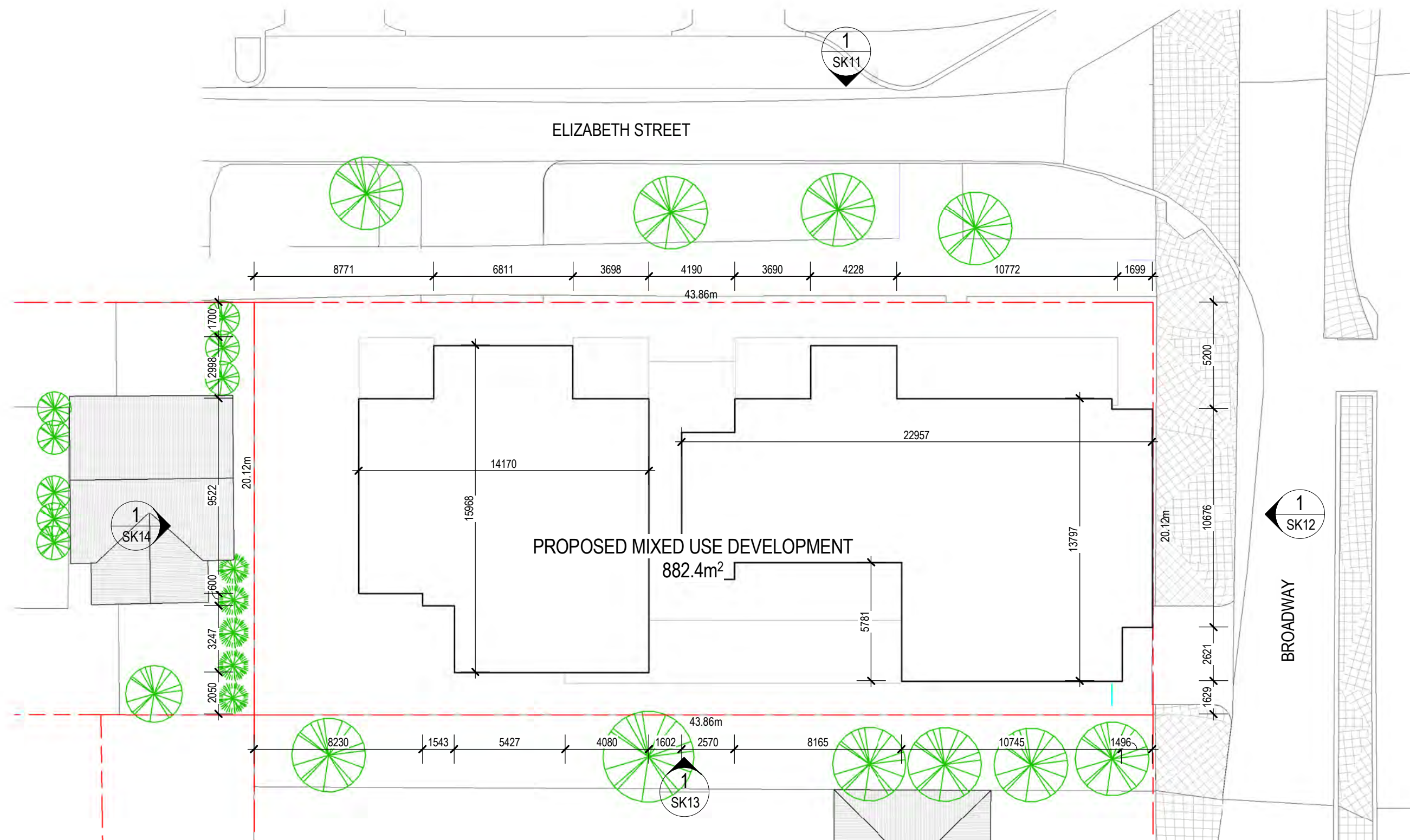
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Project Name
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Drawing Name
SITE SECTION

Project Number
18020

Drawing No. **SK02.2** Rev. **N**



BUILDING ENVELOPE PLAN
SCALE: 1 : 200

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Project Name
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Drawing Name
BUILDING ENVELOPE PLAN

Project Number

18020

Drawing No.

SK02.3

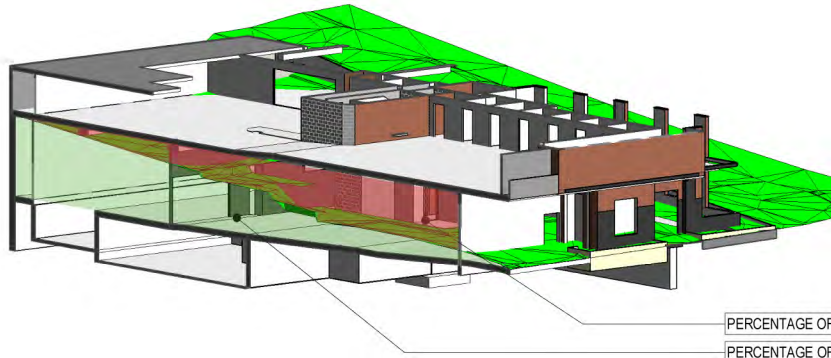
Rev.

N

Reduction 25mm on A3 | Scale

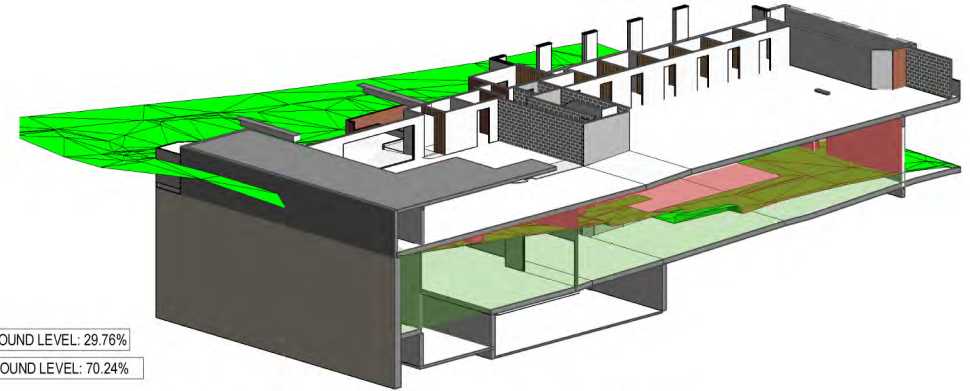
1 : 200 | Date

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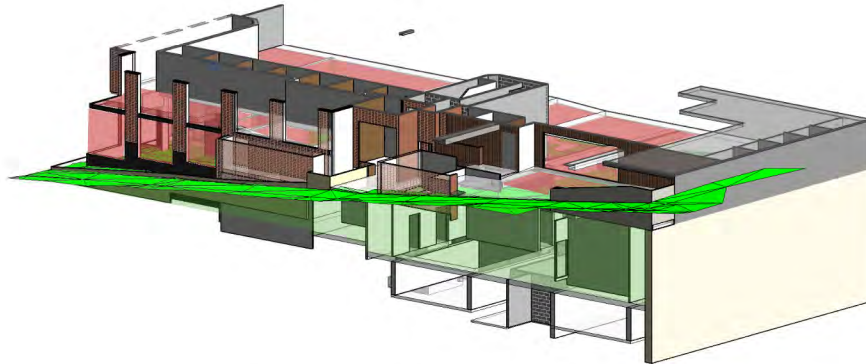


PERCENTAGE OF BASEMENT ABOVE NATURAL GROUND LEVEL: 29.76%
PERCENTAGE OF BASEMENT BELOW NATURAL GROUND LEVEL: 70.24%

1 3D CUT AND FILL - SOUTH EAST CORNER
NTS



2 3D CUT AND FILL - SOUTH WEST CORNER
NTS



3 3D CUT AND FILL - NORTH WEST CORNER
SCALE:



4 3D CUT AND FILL - NORTH EAST CORNER
SCALE:

VOLUME CALCULATION - LOWER GROUND FLOOR	
m³ BELOW NGL:	2695.88m³
m³ ABOVE NGL:	1142.21m³
m³ TOTAL:	3838.09m³
% OF VOLUME BELOW NGL	70.24%

Rev.	Date	Issued By	Revision Description
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT



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Project Name
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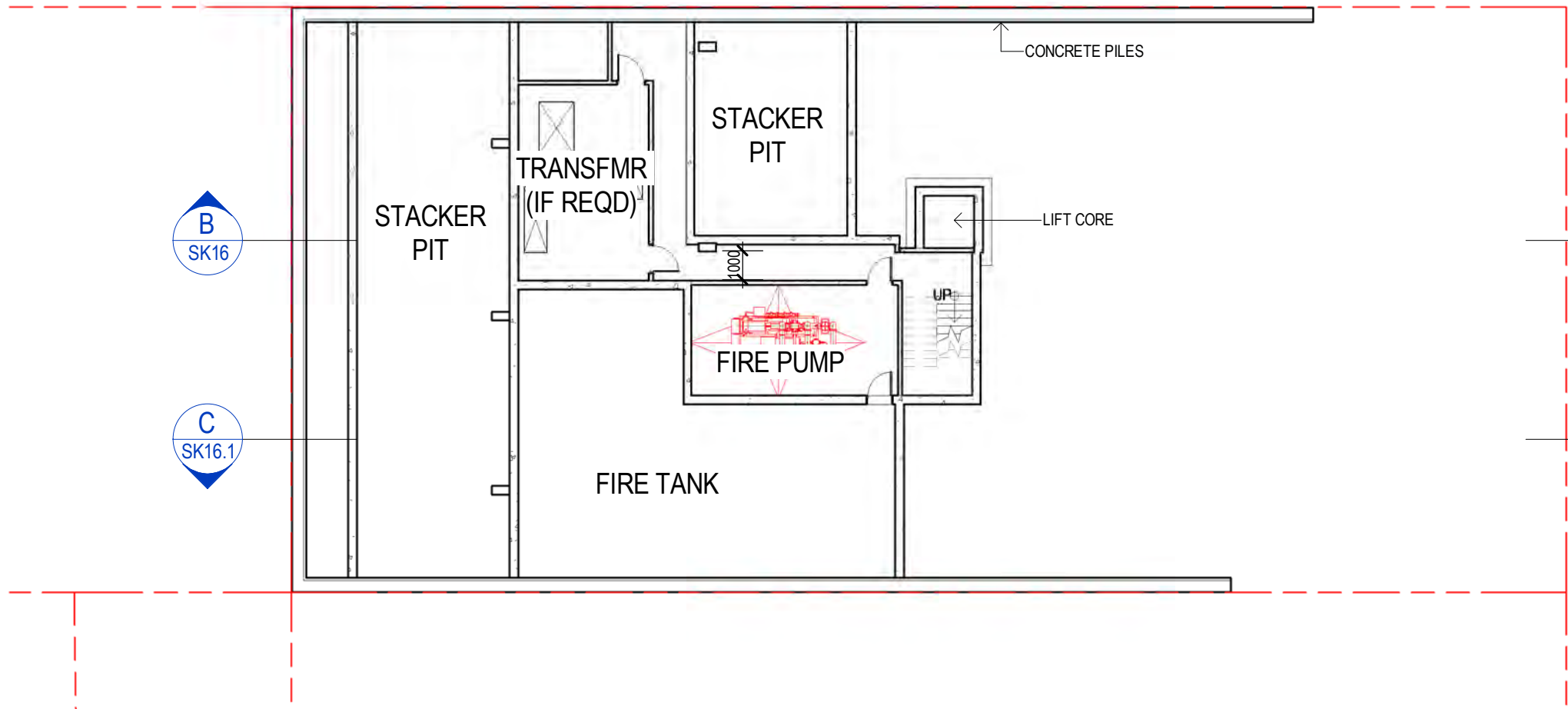
Drawing Name
3D CUT AND FILL DRAWINGS

Project Number
18020

Drawing No. **SK02.4** Rev. **M**

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Date **OCT 2019** Drawn **JR** Checked **FI**
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SERVICES PLAN
SCALE: 1 : 200

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Project Name
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Drawing Name
BASEMENT/SERVICES PLAN

Project Number
18020

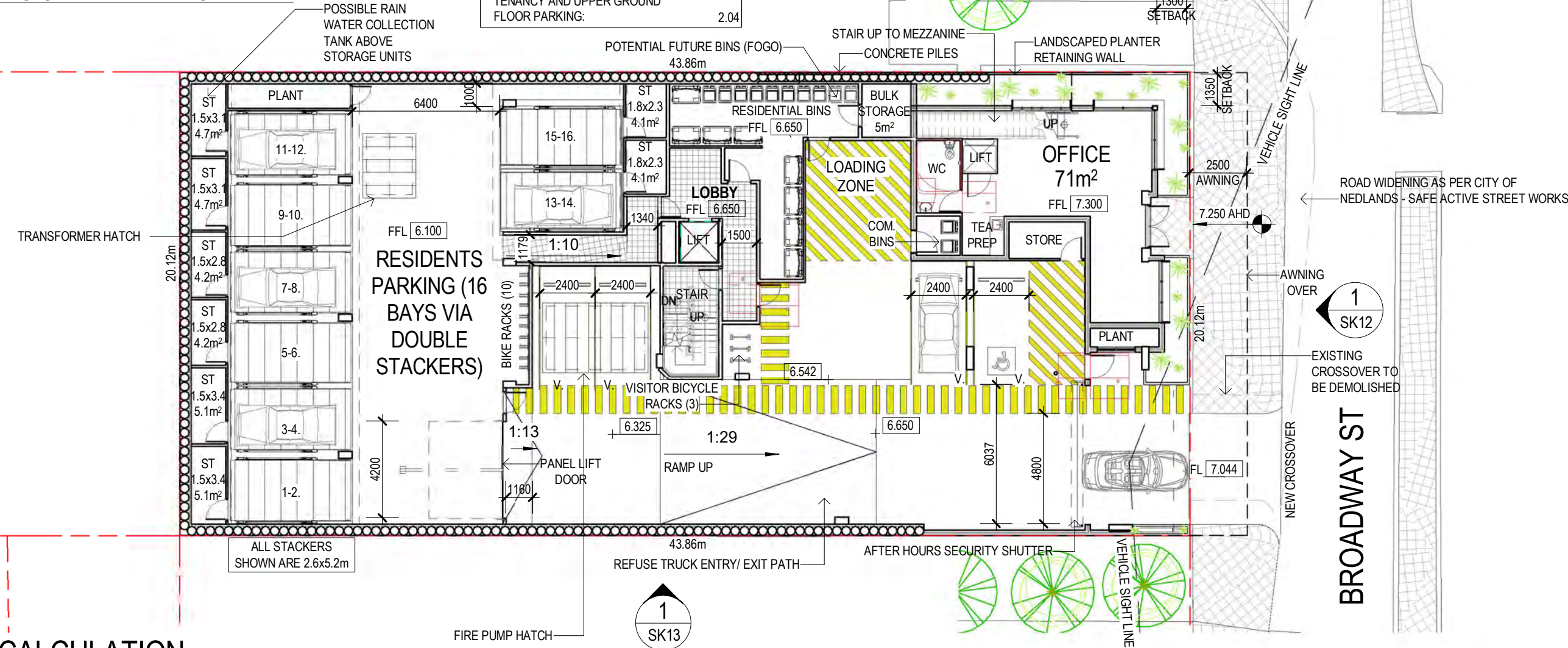
Drawing No. Rev.
SK03.1 N

PLOT RATIO: AREA CALCULATION

G - LOWER:	G - UPPER:	1FL:	2FL:	3FL:	4FL:	5FL:
OFFICE 71m ²	OFFICE 95m ² PARKING 356m ²	UNITS 1-5: 398m ²	UNITS 6-10: 383m ²	UNITS 11-15: 383m ²	UNITS 16-19: 386m ²	UNITS 20-22: 282m ²
71m ²	451m ²	398m ²	383m ²	383m ²	386m ²	256m ²
*SEE SK22-SK27 FOR PLOT RATIO DRAWINGS						TOTAL: 2328m ²
						SITE AREA: 882.4m ²
						PLOT RATIO: 2.64
						PLOT RATIO EXCLUDING UPPER GROUND FLOOR PARKING ONLY: 2.23
						PLOT RATIO EXCLUDING OFFICE TENANCY AND UPPER GROUND FLOOR PARKING: 2.04

GROUND FLOOR PLAN - LOWER

SCALE: 1 : 200



DEEP SOIL CALCULATION

TRUE DEEP SOIL AREA		DEEP SOIL AREA ON STRUCTURE	
LOWER GROUND FLOOR:	6m ²	UPPER GROUND FLOOR:	10.5m ²
		FIRST FLOOR:	110m ²
		FIFTH FLOOR:	46m ²
TOTAL:	6m ²	TOTAL:	166.5m ²

88.2m² REQUIRED (10% OF SITE AREA)
SHORT FALL = 82.2m²
THEREFOR 2x82.2m² (164.4) REQ ON STRUCTURE

APARTMENT SCHEDULE		RESIDENT PARKING	RESIDENTIAL VISITOR /COMMERCIAL PARKING
1 BED 1 BATH:	11 Units	11 Bays	Commercial (Office Use) - 166 sqm requires 08 carbays (under old scheme - 4.75 bays per 100sqm GLA) <u>12 Bays Available / Proposed on reciprocal basis:</u> 06 bays on-site (incl. disabled persons & visitor bays, plus 02 Proposed on street Parking Bays on the northern side of Elizabeth Street, as per City of Nedlands - Safe Active Street Proposal). Also available are 03 on-street public parking bays in front of neighbouring property at 109 Broadway - within 20m walking distance. Note: Additional on-street parking available further south along Broadway & in Caporn St.
2 BED 1 BATH:	2 Units	02 Bays	
2 BED 2 BATH:	7 Units	13 Bays	
3 BED 3 BATH:	2 Units	04 Bays	
	22 Units	30 Bays Provided	
		03 Motorcycle bays	
		18 Bicycle Racks	04 Visitor Bicycle Racks provided

*18/22 APARTMENTS MEET SILVER LEVEL REQUIREMENTS AS DEFINED IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

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L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
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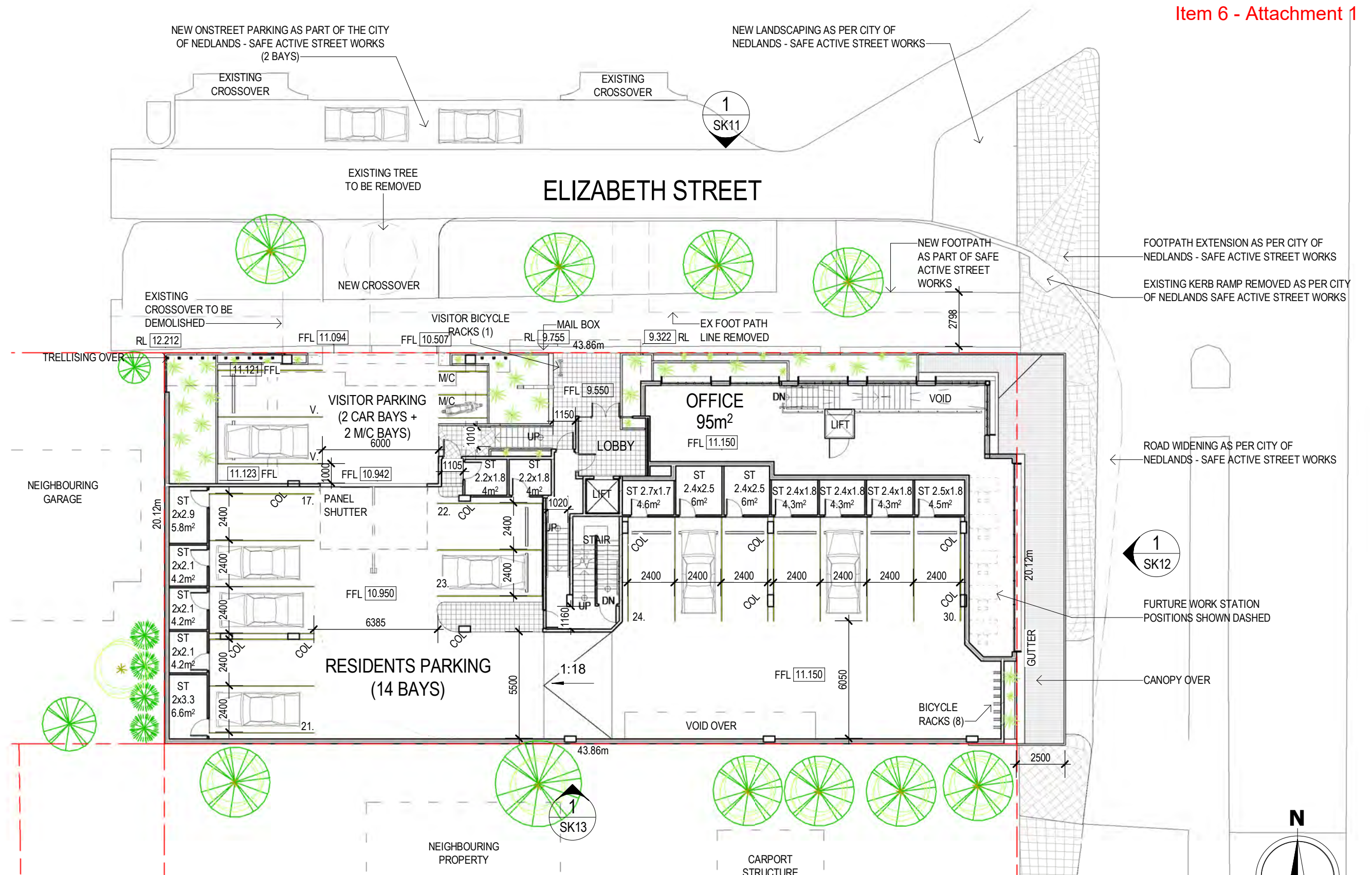
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Project Name
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Drawing Name
GROUND FLOOR PLAN - LOWER

Project Number
18020

Drawing No. **SK03.2** Rev. **N**



GROUND FLOOR PLAN - UPPER
SCALE: 1 : 200

DEEP SOIL AREA:	
UPPER GROUND FLOOR:	10.5m²
(REFER SK33)	

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Rev.	Date	Issued By	Revision Description



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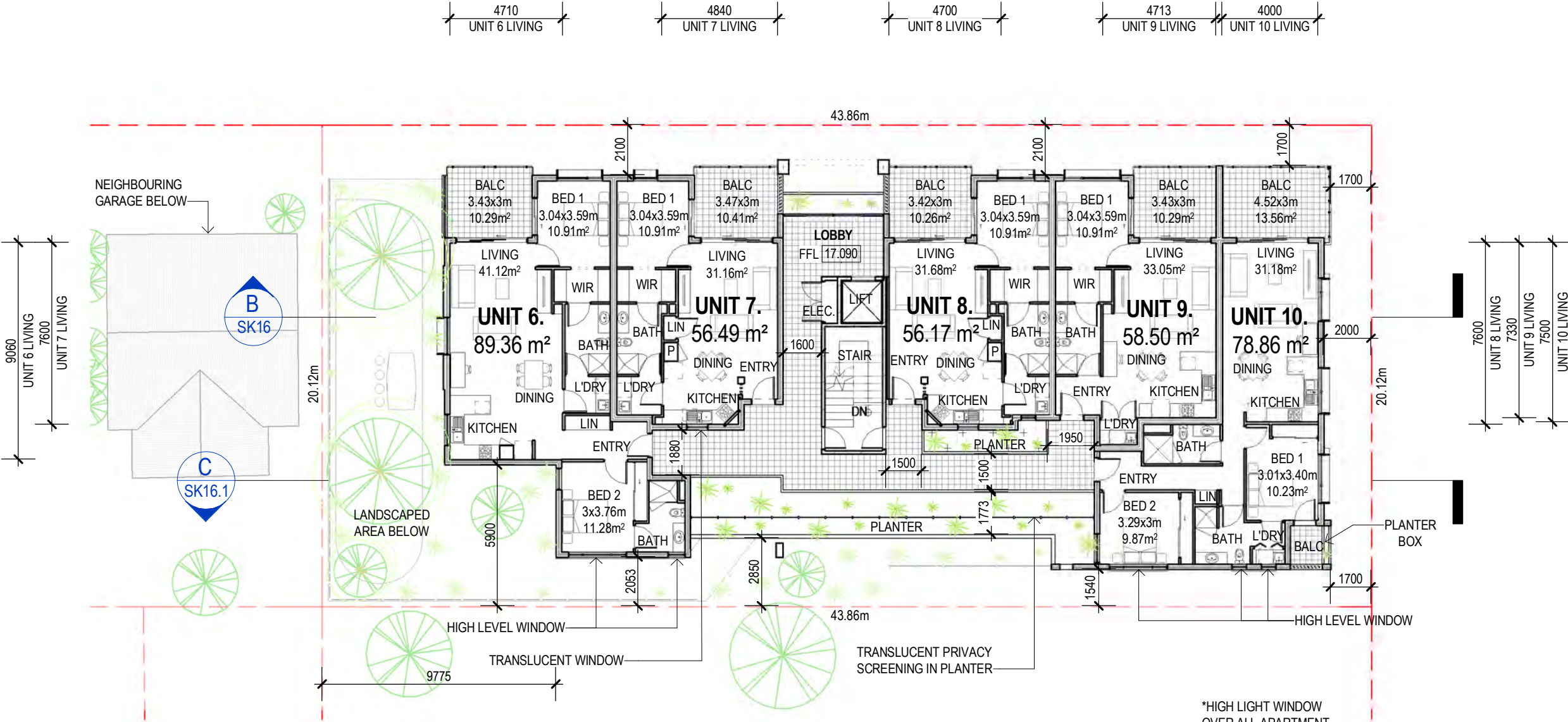
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Project Name
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Drawing Name
GROUND FLOOR PLAN - UPPER

Project Number
18020

Drawing No. **SK04** Rev. **N**



SECOND FLOOR PLAN
SCALE: 1 : 200

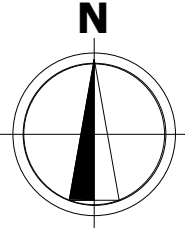
*ALL HABITABLE ROOMS INCLUDE
GLAZING IN AN EXTERNAL WALL
WHICH IS >10% OF THE FLOOR AREA.

2nd FL AREA: STRATA AREA	
*UNIT 6: (2BED / 2BATH)	89.36m² + Balc : 10.29m²
*UNIT 7: (1BED / 1BATH)	56.49m² + Balc : 10.41m²
*UNIT 8: (1BED / 1BATH)	56.17m² + Balc : 10.26m²
*UNIT 9: (1BED / 1BATH)	58.50m² + Balc : 10.29m²
UNIT 10: (2BED / 2BATH)	78.86m² + Balc : 13.56m²

DEEP SOIL AREA:	
SECOND FLOOR:	0m²
(REFER SK34)	

*DWELLING MEETS SILVER LEVEL REQUIREMENTS AS DEFINED
IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

*HIGH LIGHT WINDOW
OVER ALL APARTMENT
ENTRY DOORS TO AID
CROSS VENTILATION



N	21-01-21	FI	RESPONSE TO COUNCIL RFI
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L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description



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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
SECOND FLOOR PLAN

Project Number
18020

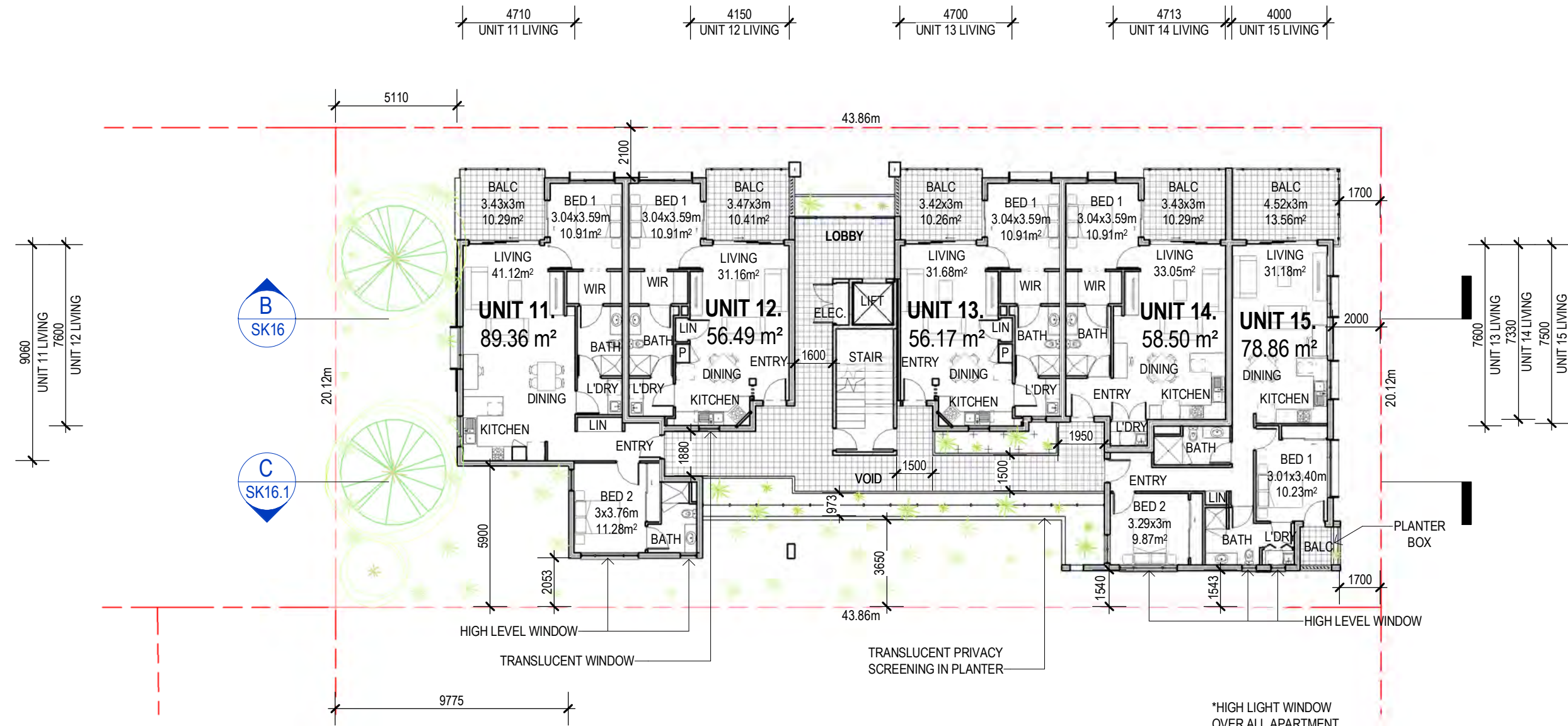
Drawing No.
SK06

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N

Reduction 25mm on A3 | Scale

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THIRD FLOOR PLAN
SCALE: 1 : 200

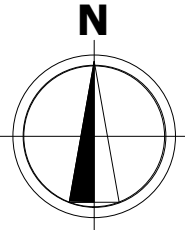
*ALL HABITABLE ROOMS INCLUDE
GLAZING IN AN EXTERNAL WALL
WHICH IS >10% OF THE FLOOR AREA.

3 rd FL AREA: STRATA AREA			
*UNIT 11:	(2BED / 2BATH)	89.36m ² + Balc : 10.29m ²	
*UNIT 12:	(1BED / 1BATH)	56.49m ² + Balc : 10.41m ²	
*UNIT 13:	(1BED / 1BATH)	56.17m ² + Balc : 10.26m ²	
*UNIT 14:	(1BED / 1BATH)	58.50m ² + Balc : 10.29m ²	
UNIT 15:	(2BED / 2BATH)	78.86m ² + Balc : 13.56m ²	

DEEP SOIL AREA:	
THIRD FLOOR:	0m ²
(REFER SK34)	

*DWELLING MEETS SILVER LEVEL REQUIREMENTS AS DEFINED
IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

*HIGH LIGHT WINDOW
OVER ALL APARTMENT
ENTRY DOORS TO AID
CROSS VENTILATION



N	21-01-21	FI	RESPONSE TO COUNCIL RFI
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description



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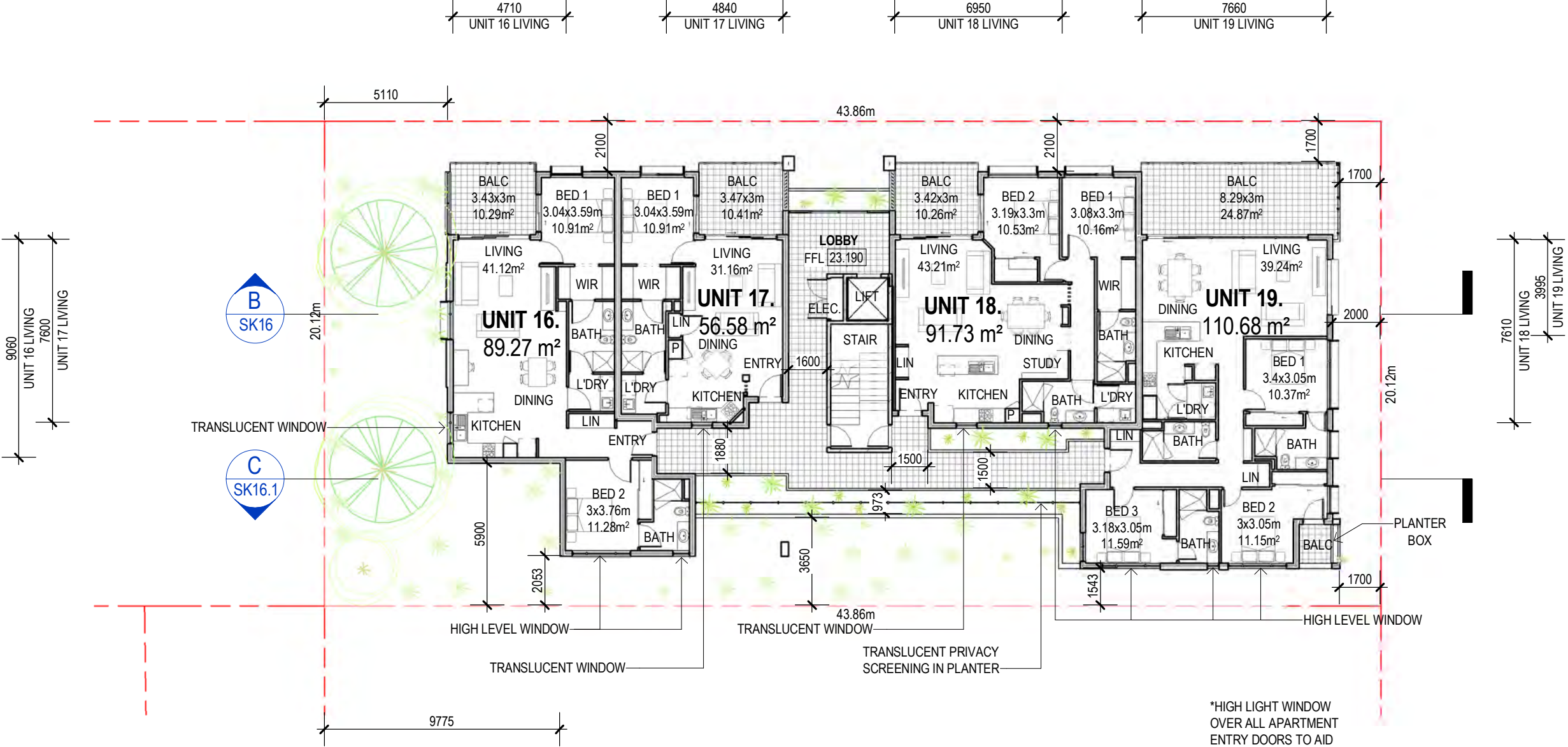
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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
THIRD FLOOR PLAN

Project Number
18020

Drawing No. **SK07**
Rev. **N**



FOURTH FLOOR PLAN
SCALE: 1 : 200

*ALL HABITABLE ROOMS INCLUDE
GLAZING IN AN EXTERNAL WALL
WHICH IS >10% OF THE FLOOR AREA.

4 th FL AREA: STRATA AREA	
*UNIT 16: (2BED / 2BATH)	89.27m ² + Balc : 10.29m ²
*UNIT 17: (2BED / 2BATH)	56.58m ² + Balc : 10.41m ²
*UNIT 18: (2BED / 2BATH)	91.73m ² + Balc : 10.26m ²
UNIT 19: (3BED / 3BATH)	110.68m ² + Balc : 24.87m ²

DEEP SOIL AREA:	
FOURTH FLOOR:	0m ²
(REFER SK34)	

*DWELLING MEETS SILVER LEVEL REQUIREMENTS AS DEFINED
IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

*HIGH LIGHT WINDOW
OVER ALL APARTMENT
ENTRY DOORS TO AID
CROSS VENTILATION

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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
FOURTH FLOOR PLAN

Project Number
18020

Drawing No. Rev.
SK08 N



FIFTH FLOOR PLAN
SCALE: 1 : 200

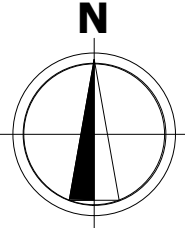
*ALL HABITABLE ROOMS INCLUDE
GLAZING IN AN EXTERNAL WALL
WHICH IS >10% OF THE FLOOR AREA.

5 th FL AREA: STRATA AREA
*UNIT 20: (3BED / 3BATH) 110.31m ² + Balc : 10.29m ²
*UNIT 21: (1BED / 1BATH) 57.15m ² + Balc : 10.41m ²
*UNIT 22: (1BED / 1BATH) 59.86m ² + Balc : 10.26m ²

DEEP SOIL AREA:
FIFTH FLOOR: 46m ²
(REFER SK34)

*DWELLING MEETS SILVER LEVEL REQUIREMENTS AS DEFINED
IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

*HIGH LIGHT WINDOW
OVER ALL APARTMENT
ENTRY DOORS TO AID
CROSS VENTILATION



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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
FIFTH FLOOR PLAN

Project Number
18020

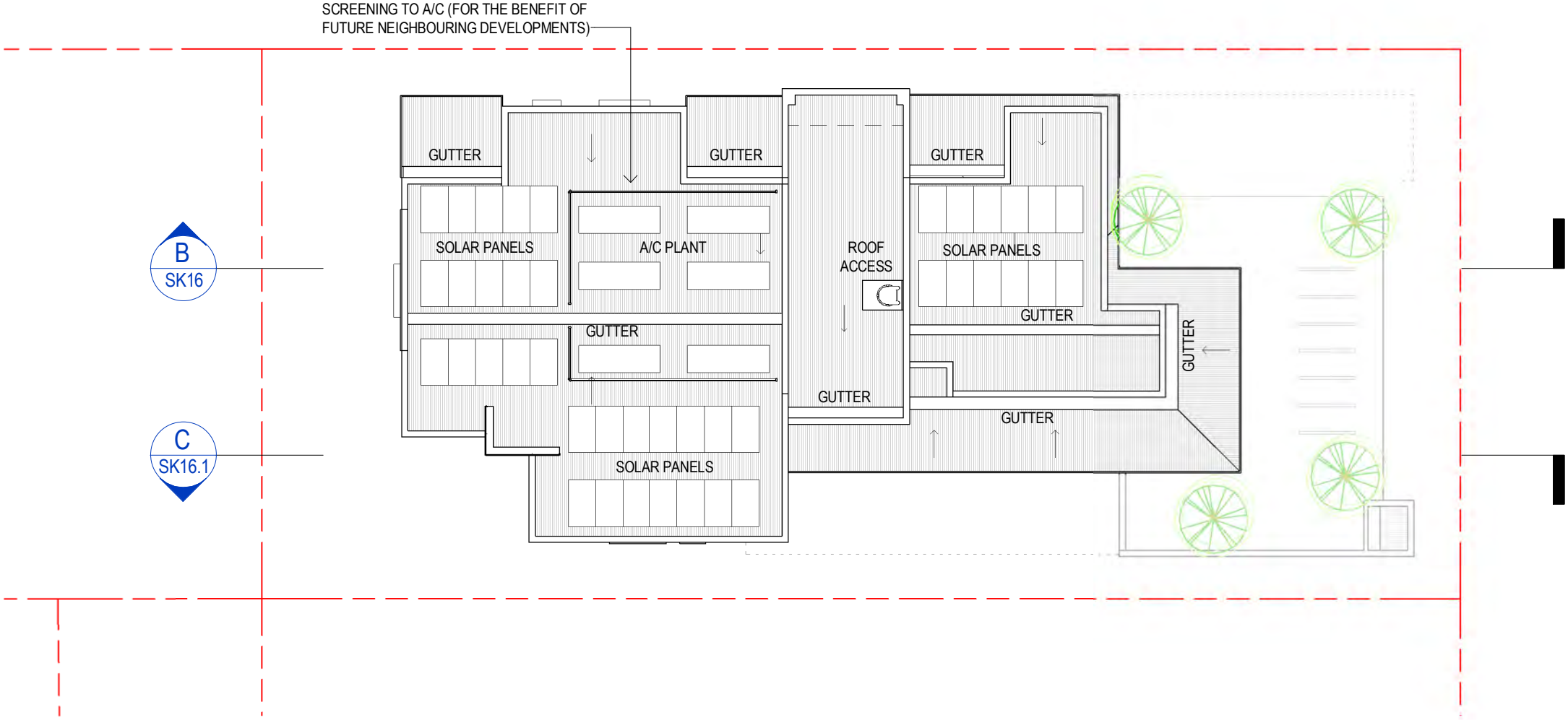
Drawing No.
SK09

Rev.
N

Reduction 25mm on A3 | Scale

1 : 200 | Date

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ROOF PLAN
SCALE: 1 : 200

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Project Name
**Proposed Mixed Use Development, 105
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Drawing Name
ROOF PLAN

Project Number
18020

Drawing No. Rev.
SK10 N

Reduction 25mm on A3 | Scale 1 : 200 | Date

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NORTH ELEVATION - ELIZABETH ST
 SCALE: 1 : 200

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Project Name
**Proposed Mixed Use Development, 105
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Drawing Name
NORTHERN ELEVATION

Project Number
18020

Drawing No. **SK11** Rev. **N**

Reduction 25mm on A3 | Scale

1 : 200 | Date

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EAST ELEVATION - TO BROADWAY

SCALE: 1 : 200

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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
EAST ELEVATION

Project Number
18020

Drawing No. **SK12** Rev. **N**

Reduction 25mm on A3 | Scale

1 : 200 | Date

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SOUTH ELEVATION

SCALE: 1 : 200

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Project Name
**Proposed Mixed Use Development, 105
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Drawing Name
SOUTH ELEVATION

Project Number
18020

Drawing No. **SK13** Rev. **N**

Reduction 25mm on A3 | Scale

1 : 200 | Date

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WEST ELEVATION

SCALE: 1 : 200

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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
WEST ELEVATION

Project Number

18020

Drawing No.

SK14

Rev.

N

Reduction 25mm on A3 | Scale

1 : 200

Date

OCT 2019

Drawn

JR

Checked

FI

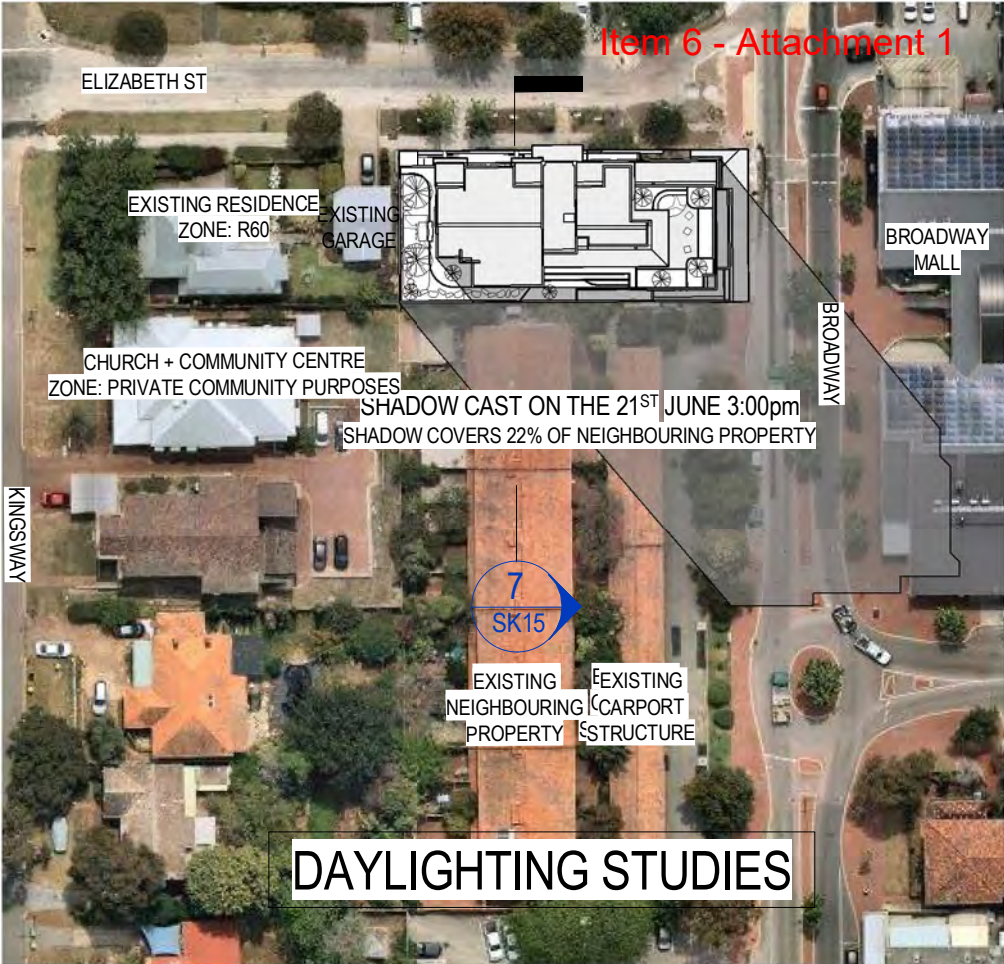
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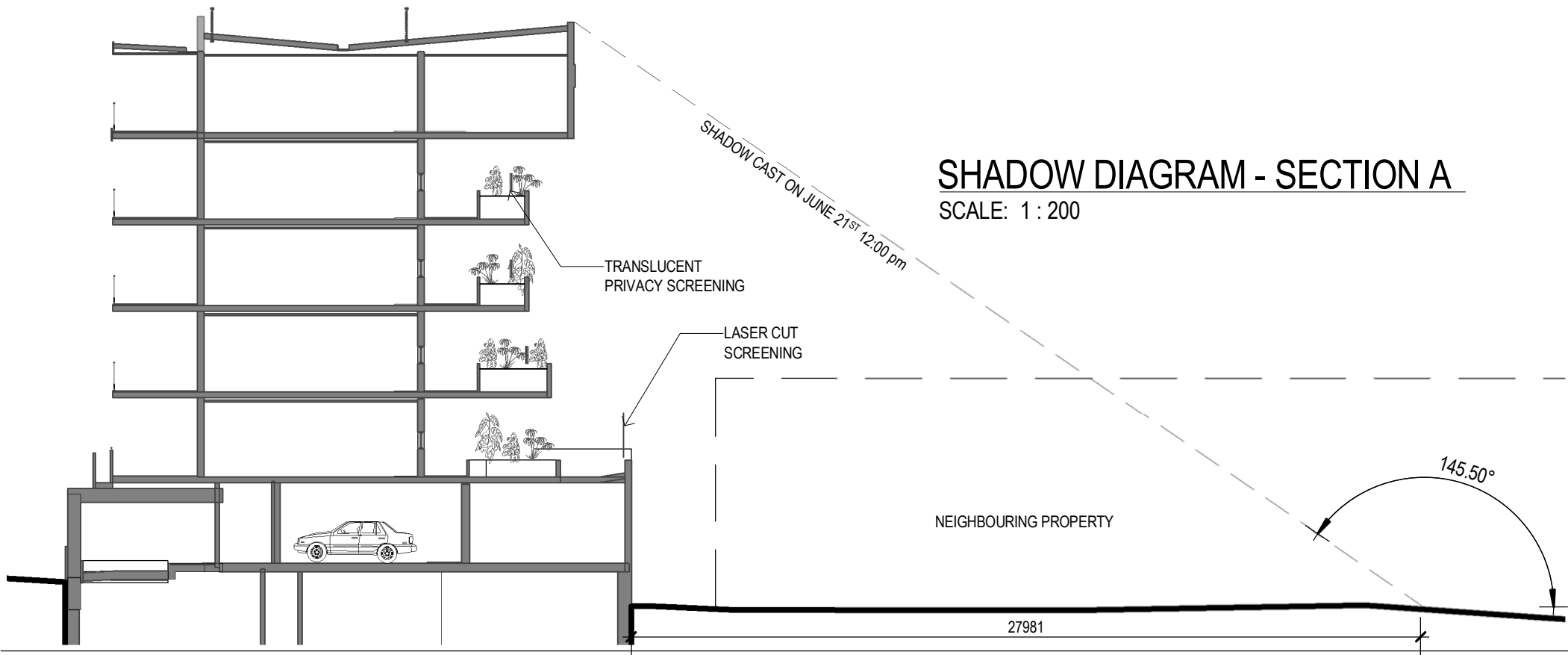
SHADOW DIAGRAM - 9AM



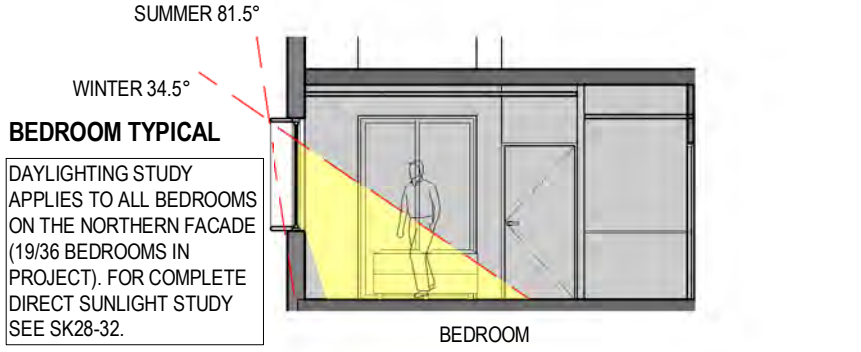
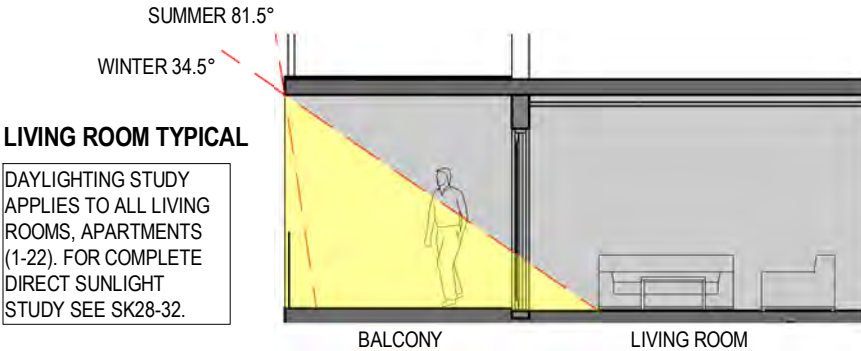
SHADOW DIAGRAM - 12PM



SHADOW DIAGRAM - 3PM



SHADOW DIAGRAM - SECTION A
SCALE: 1 : 200



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Project Name
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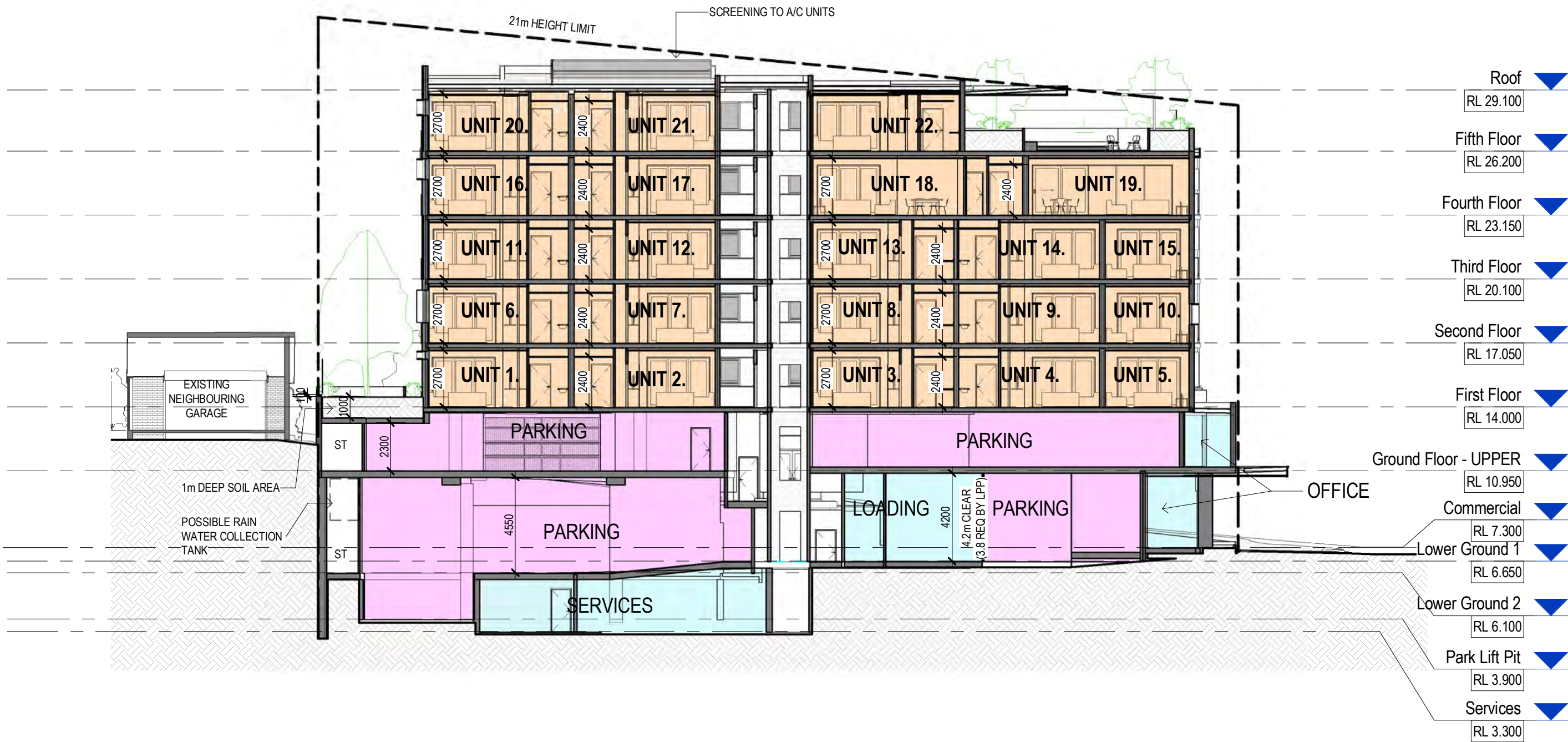
Drawing Name
SHADOW DIAGRAMS

Reduction 25mm on A3 | Scale As indicated | Date

Project Number
18020

Drawing No. **SK15** Rev. **N**

OCT 2019 | Drawn JR | Checked FI
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B SECTION B
SK03.1 SCALE: 1 : 200

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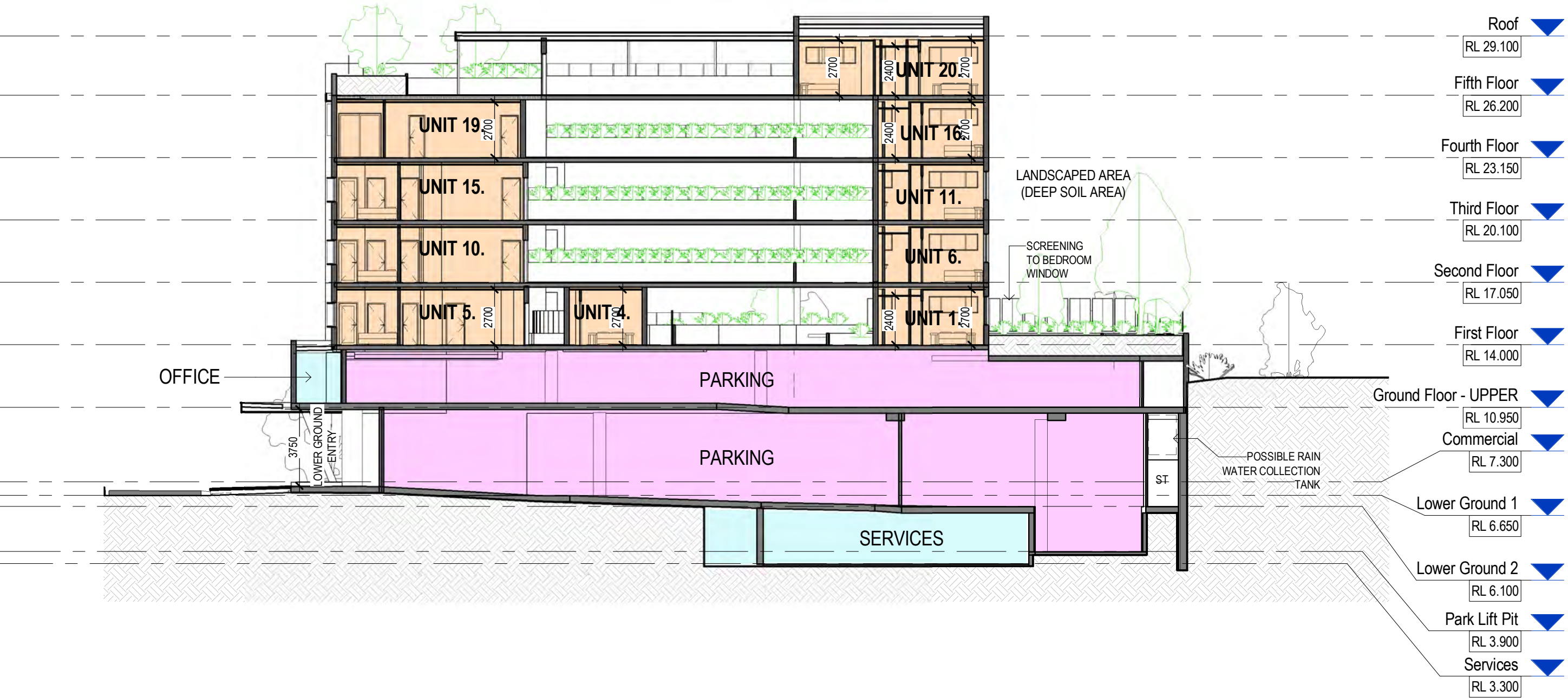
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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
SECTION

Project Number
18020

Drawing No. Rev.
SK16 N



C SECTION C
SK03.1 SCALE: 1 : 200

N	21-01-21	FI	RESPONSE TO COUNCIL RFI
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Project Name
Proposed Mixed Use Development, 105 Broadway, Nedlands 6009

Drawing Name
SECTION

Project Number
18020

Drawing No. Rev.
SK16.1 N



N	21-01-21	FI	RESPONSE TO COUNCIL RFI
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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
PERSPECTIVE 1

Project Number
18020

Drawing No. Rev.
SK17 N

Reduction  25mm on A3 | Scale

Date **OCT 2019** | Drawn **JR** | Checked **FI**
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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
PERSPECTIVE 2

Reduction  25mm on A3 | Scale

Project Number
18020

Drawing No. **SK18** Rev. **N**

Date **OCT 2019** Drawn **JR** | Checked **FI**
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1 PERSPECTIVE 3
NTS



2 PERSPECTIVE 4
NTS

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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
PERSPECTIVES 3 + 4

Project Number
18020

Drawing No. Rev.
SK19 N

Reduction  25mm on A3 | Scale

Date **OCT 2019** | Drawn **JR** | Checked **FI**

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SOLAR ACCESS DIAGRAM

LIVING ROOM TYPICAL



21st JUNE 9am

21st JUNE 12pm

21st JUNE 3pm

BEDROOM TYPICAL



21st JUNE 9am

21st JUNE 12pm

21st JUNE 3pm

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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
SOLAR STUDIES

Reduction  25mm on A3 | Scale

Project Number
18020

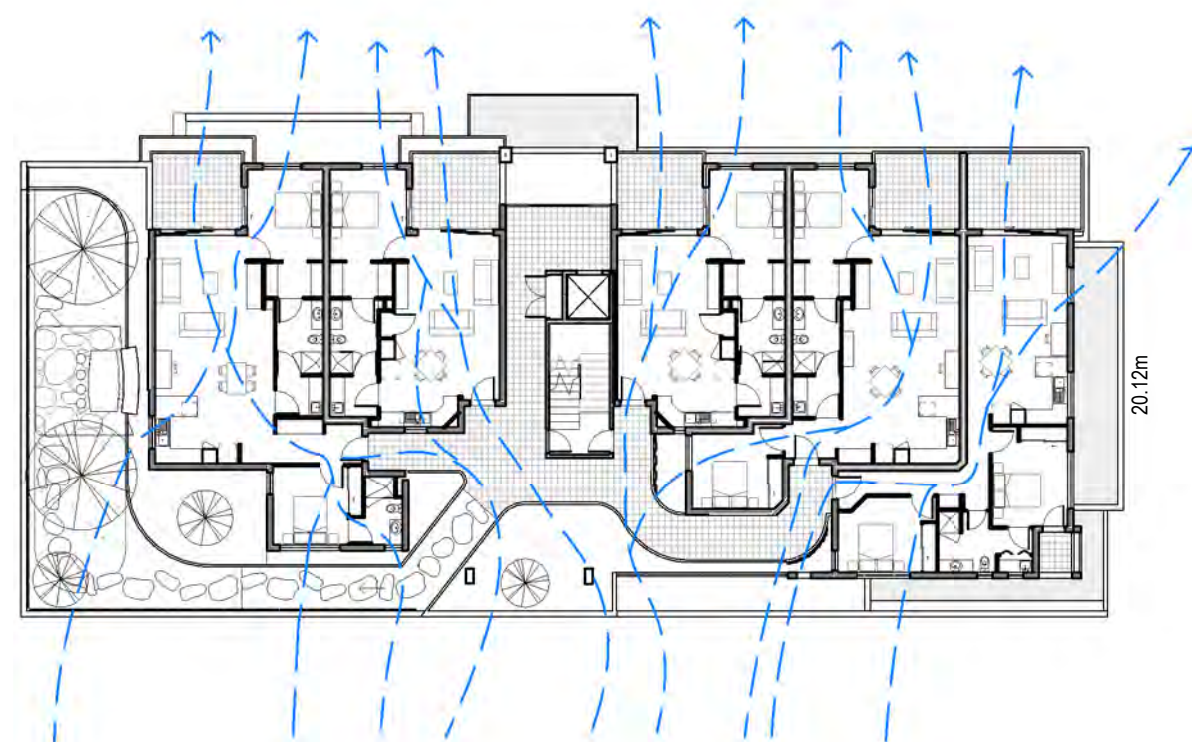
Date
OCT 2019

Drawing No.
SK20

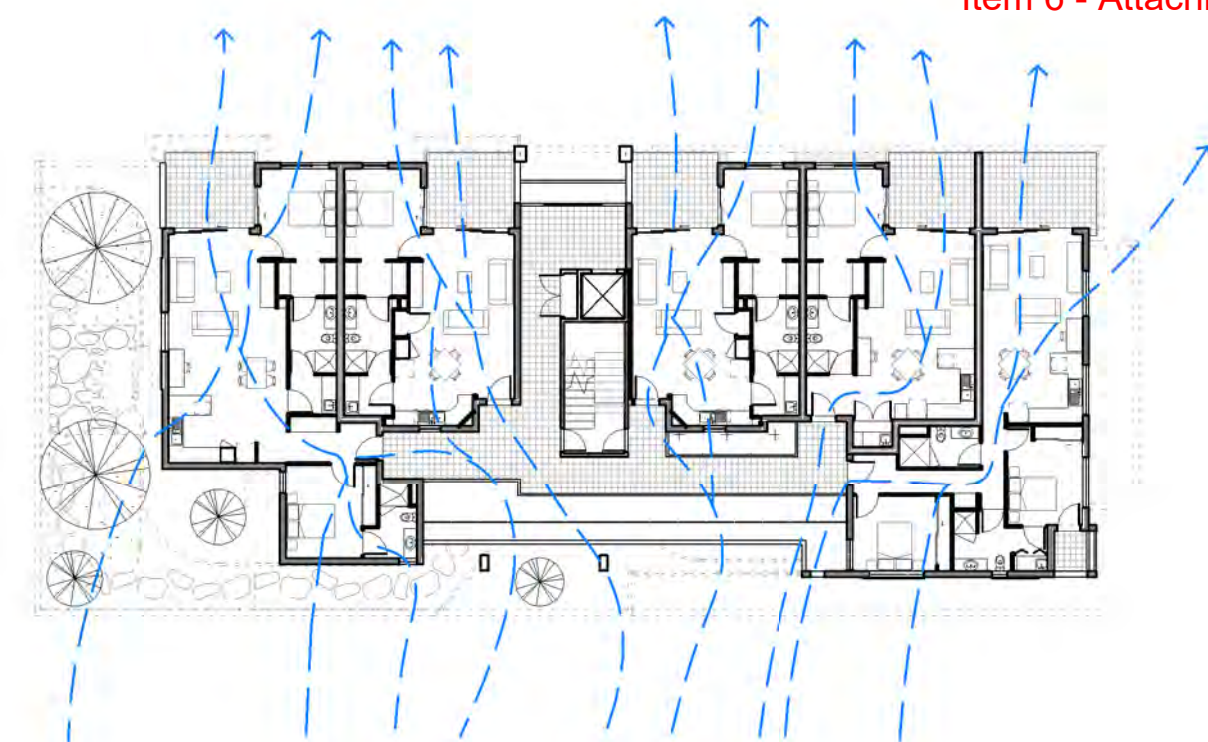
Rev.
N

Drawn
JR

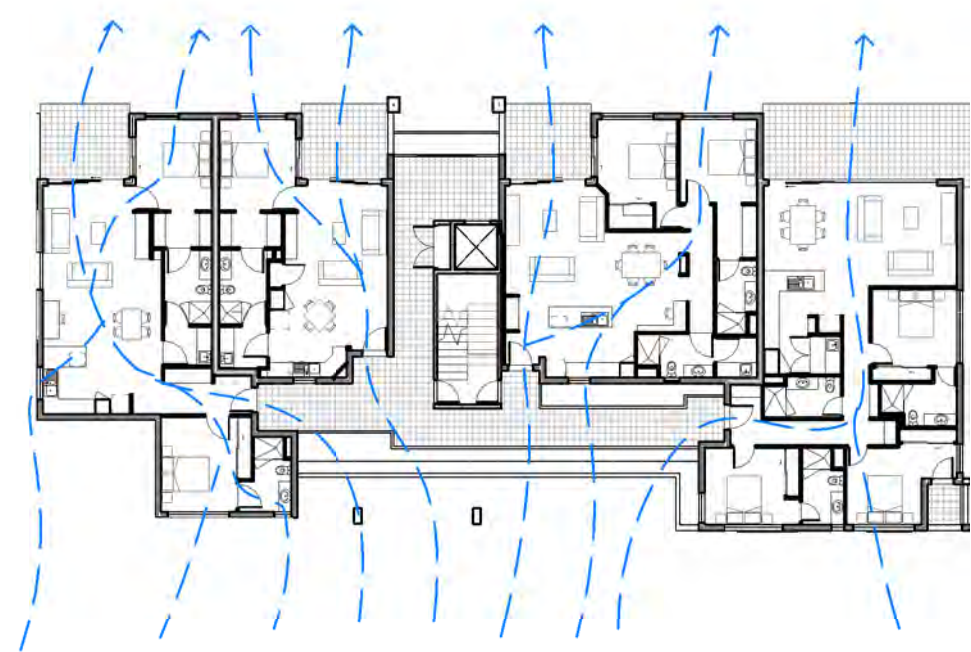
Checked
FI



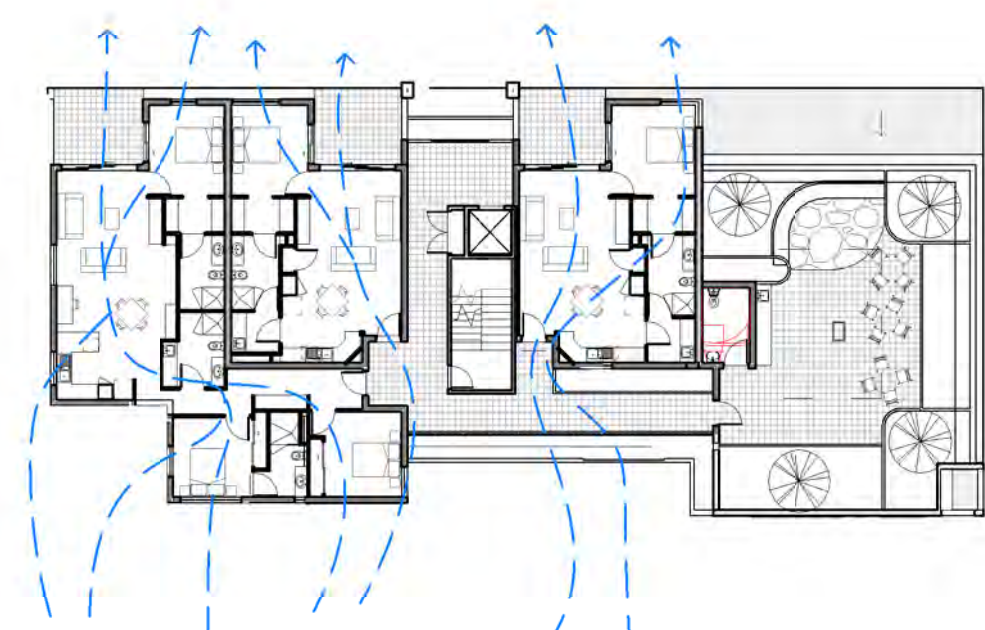
FIRST FLOOR



SECOND + THIRD FLOOR



FOURTH FLOOR



FIFTH FLOOR

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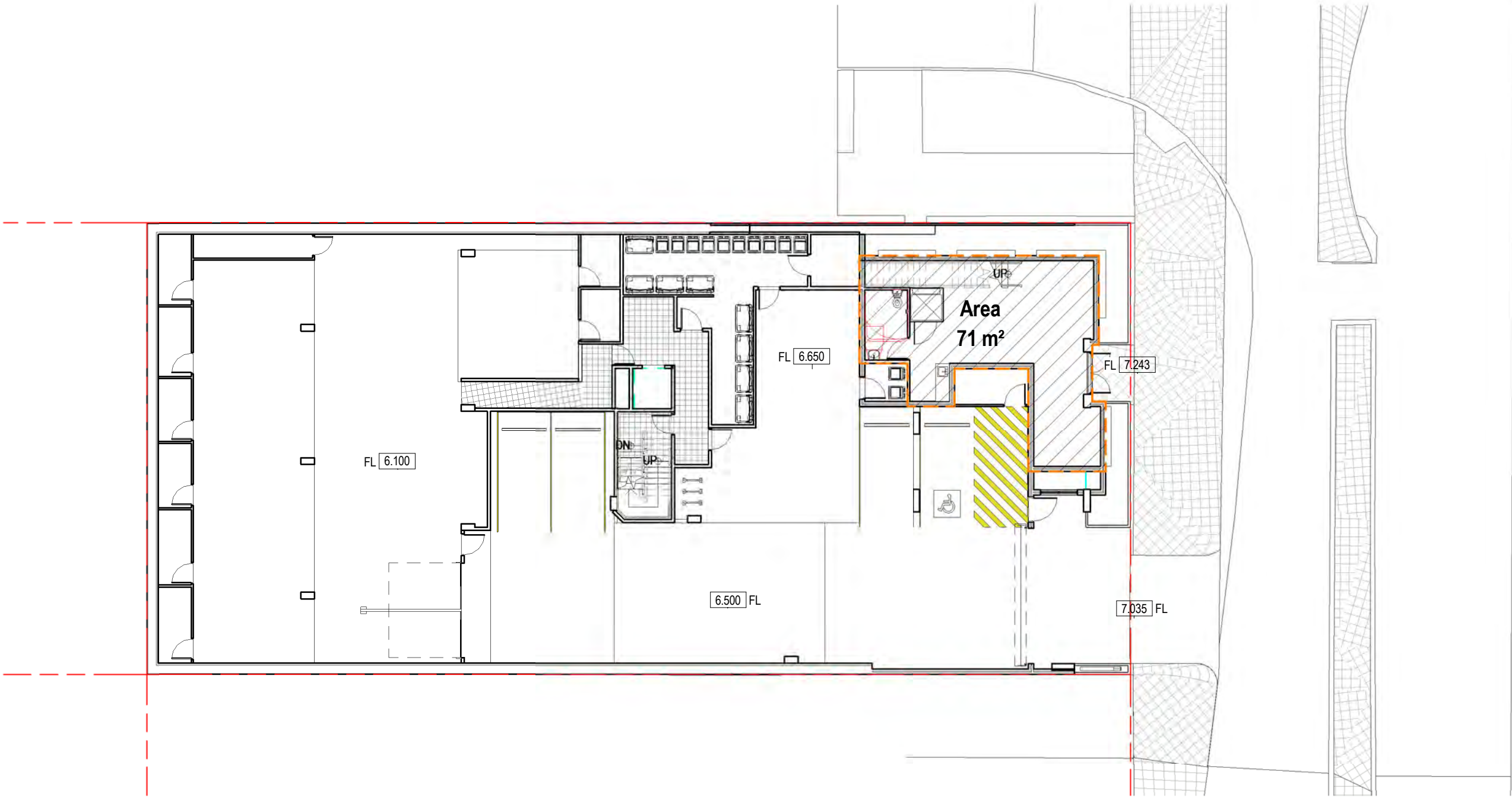
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Project Name
Proposed Mixed Use Development, 105 Broadway, Nedlands 6009

Drawing Name
VENTILATION STUDIES

Project Number
18020

Drawing No. **SK21** Rev. **N**



LOWER GROUND FLOOR
SCALE: 1 : 200

TOTAL PLOT RATIO = 71m²

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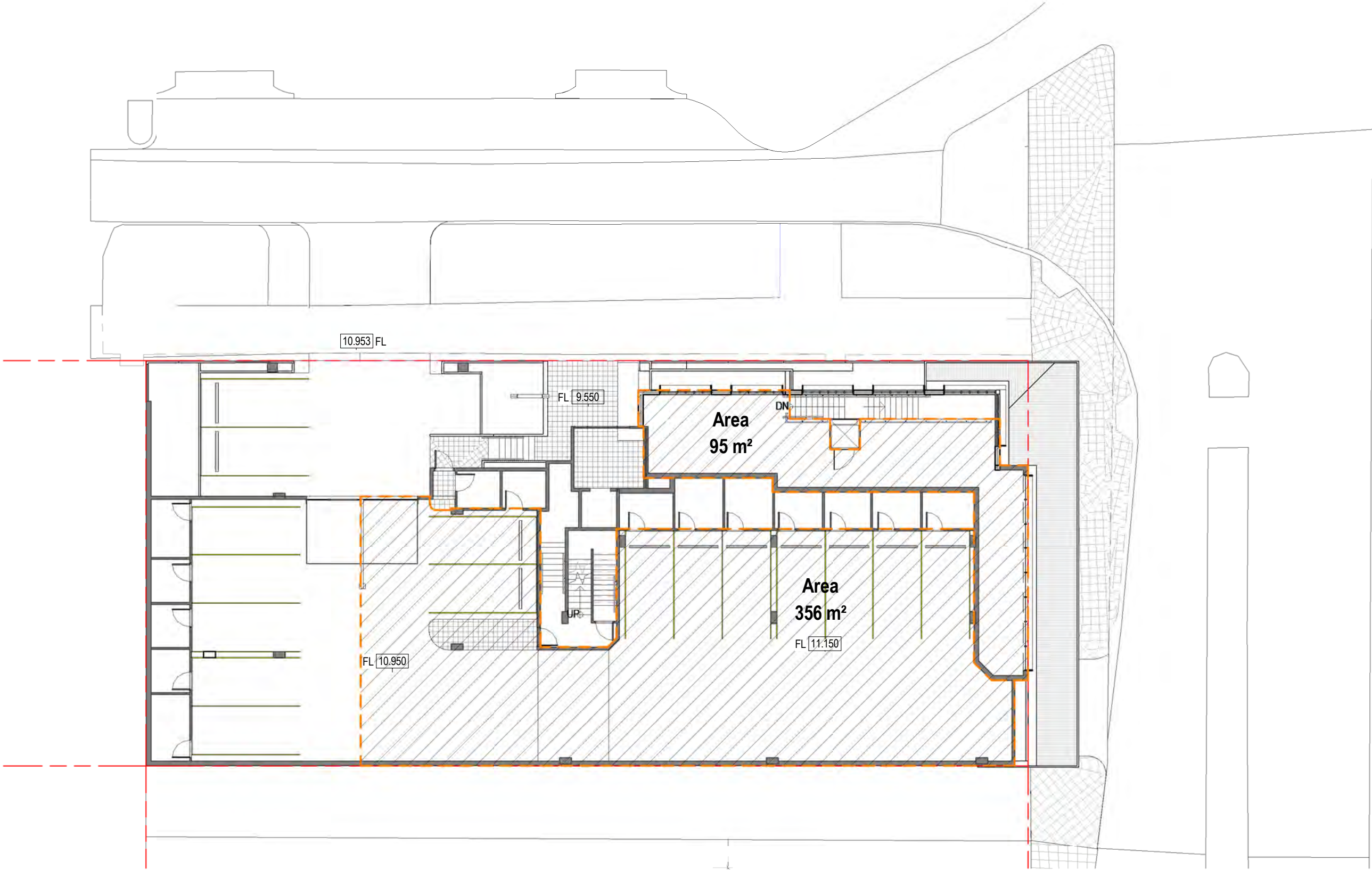
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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
PLOT RATIO - LOWER GROUND FLOOR

Project Number
18020

Drawing No. **SK22** Rev. **N**



UPPER GROUND FLOOR
SCALE: 1 : 200

TOTAL PLOT RATIO = 451m²

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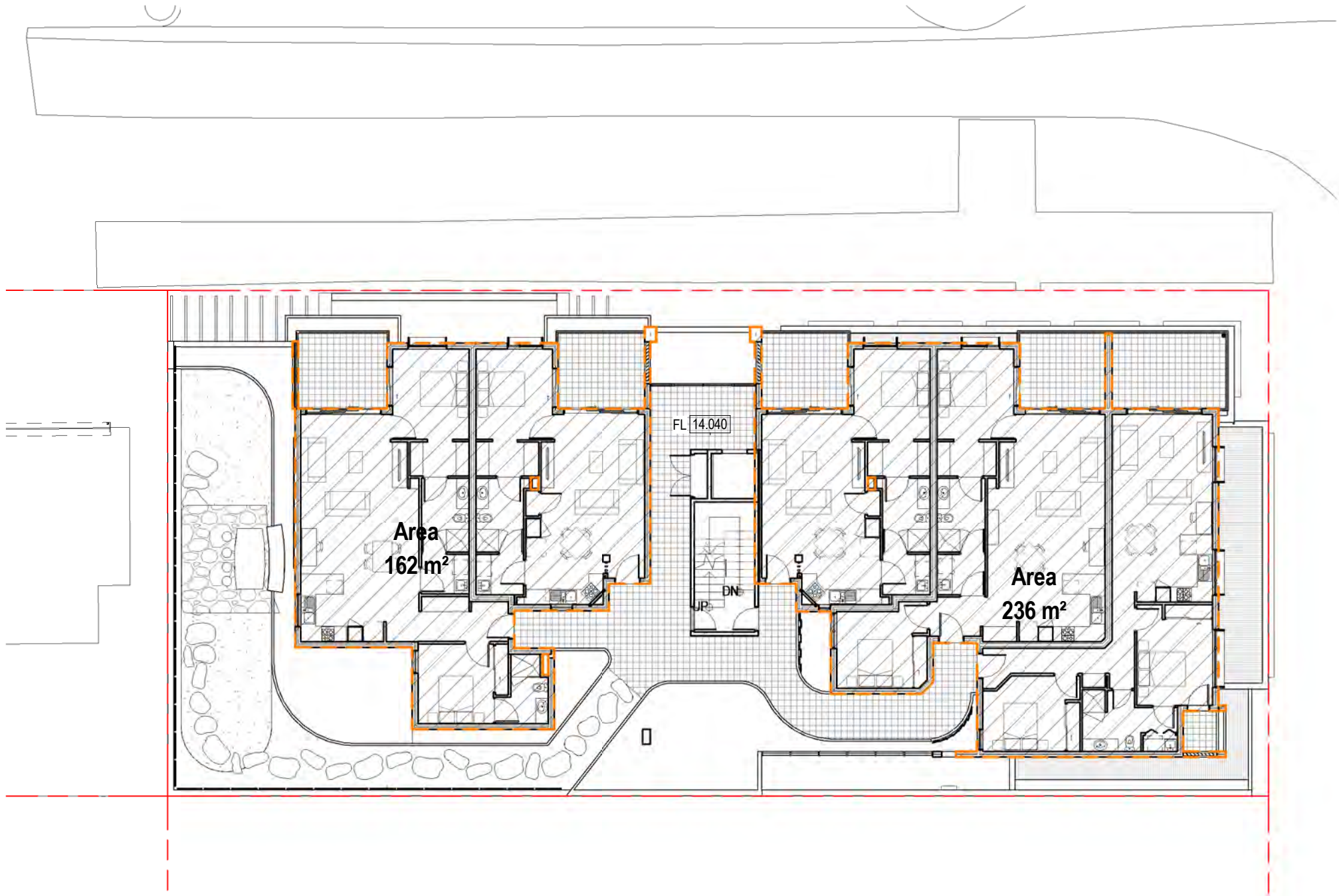
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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
PLOT RATIO - UPPER GROUND

Project Number
18020

Drawing No. Rev.
SK23 N



FIRST FLOOR

SCALE: 1 : 200

TOTAL PLOT RATIO = 398m²

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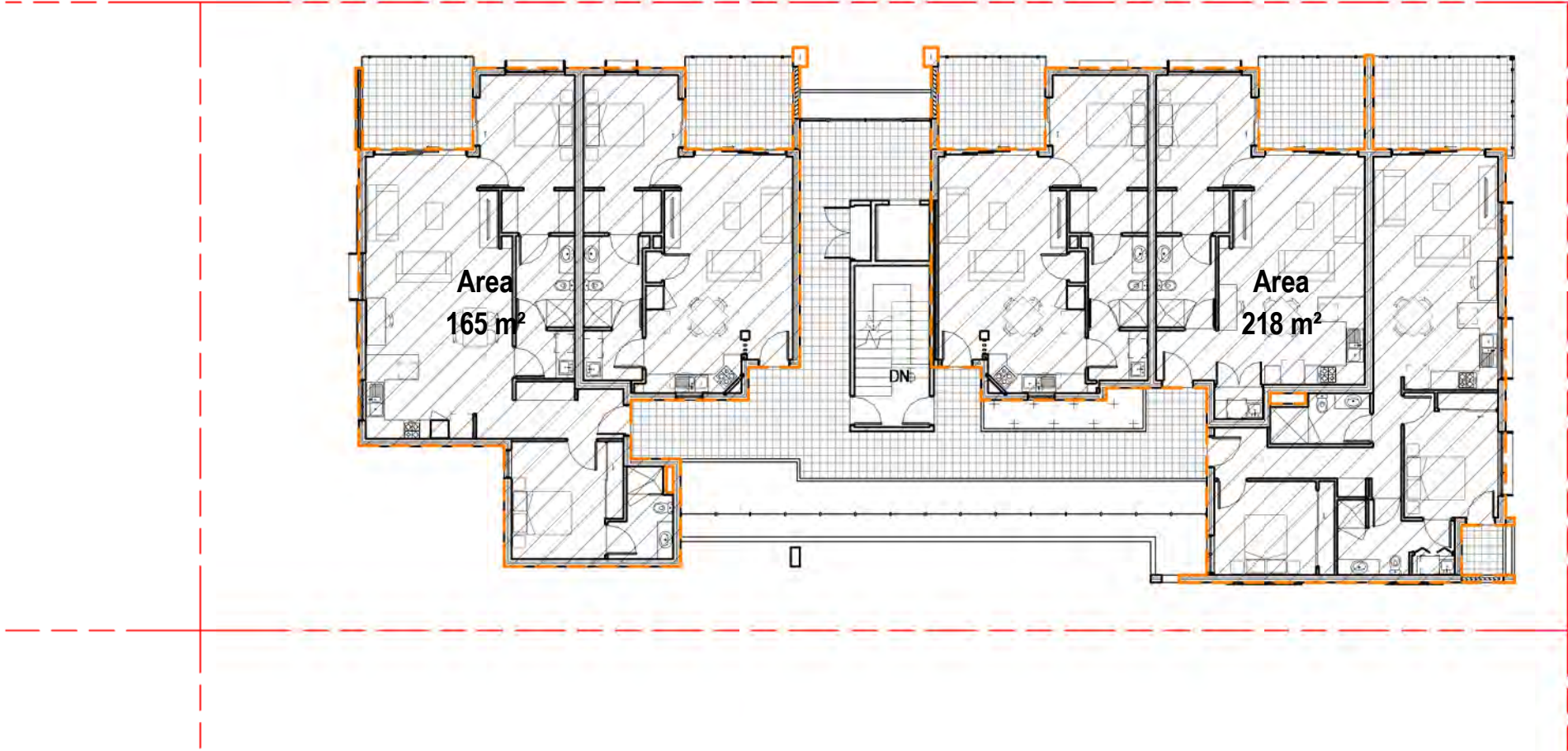
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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
PLOT RATIO - FIRST FLOOR

Project Number
18020

Drawing No. Rev.
SK24 N



SECOND + THIRD FLOOR
SCALE: 1 : 200

TOTAL PLOT RATIO = 383m²

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Rev.	Date	Issued By	Revision Description

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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

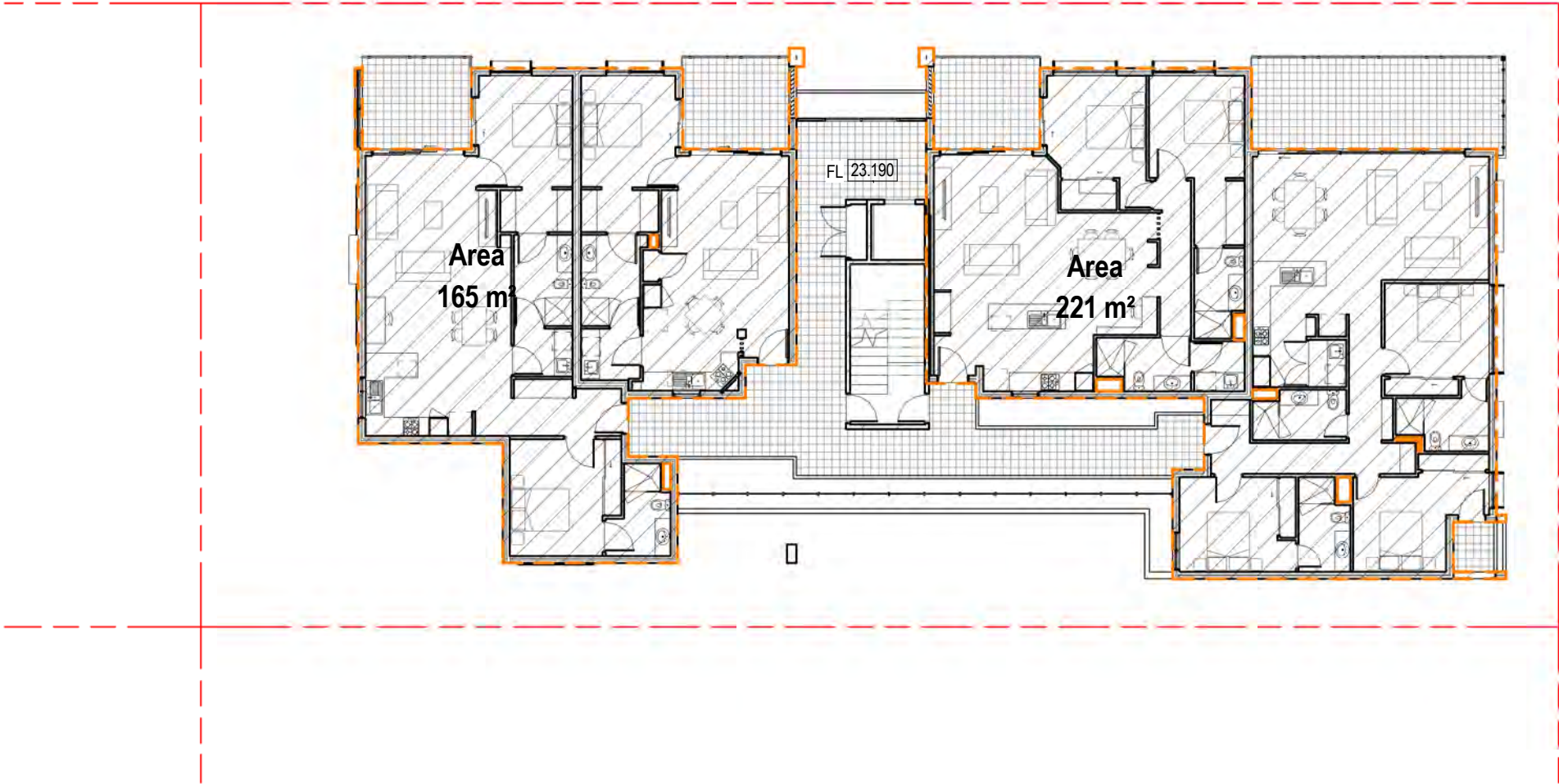
Drawing Name
**PLOT RATIO - SECOND + THIRD FLOOR
PLAN**

Project Number
18020

Drawing No. Rev.
SK25 N

Reduction  25mm on A3 | Scale 1 : 200 | Date

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FOURTH FLOOR
SCALE: 1 : 200

TOTAL PLOT RATIO = 386m²

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Project Name
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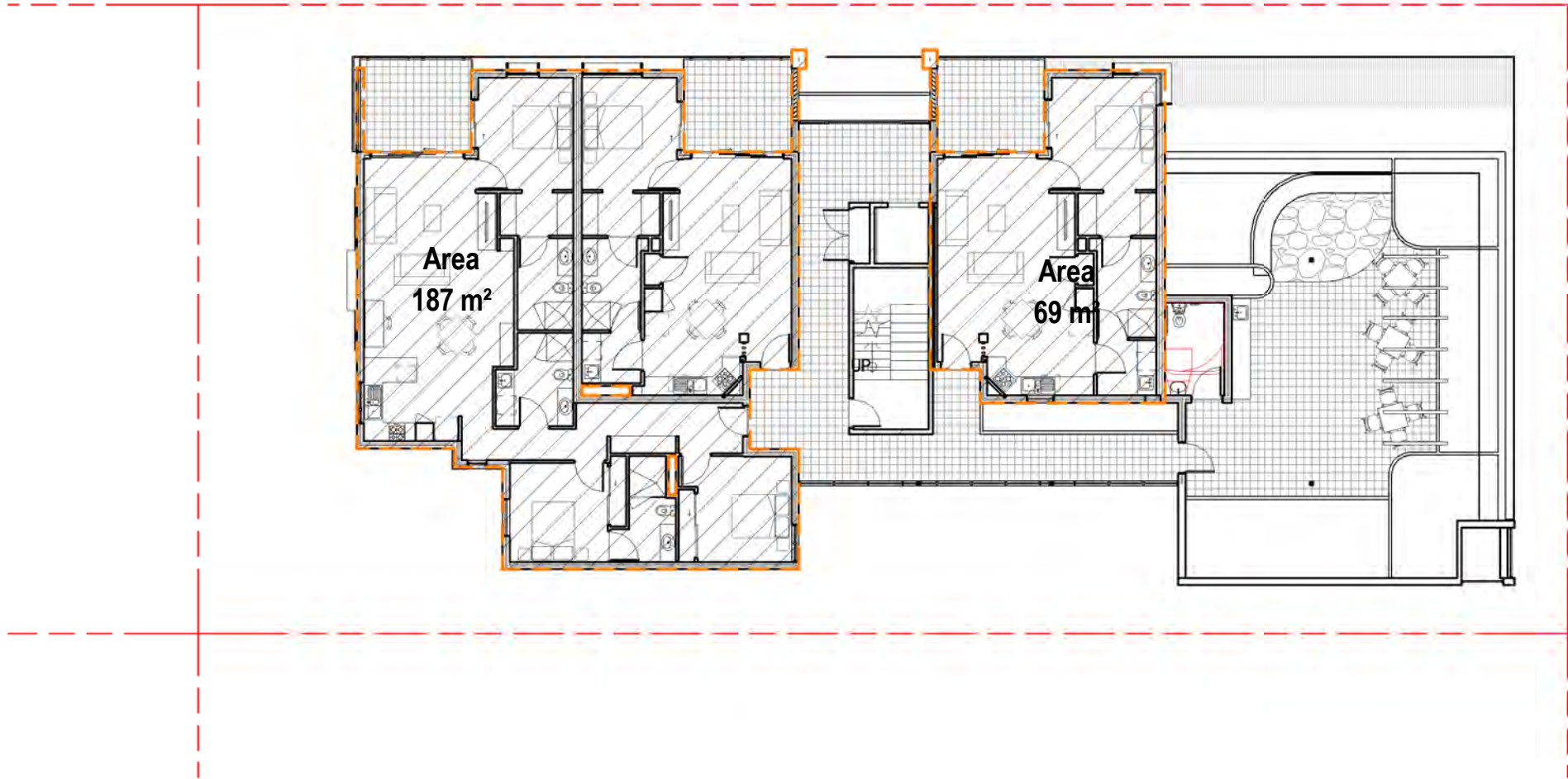
Drawing Name
PLOT RATIO - FOURTH FLOOR

Project Number
18020

Drawing No. Rev.
SK26 N

Reduction  25mm on A3 | Scale **1 : 200** | Date

OCT 2019 | Drawn **JR** | Checked **FI**
C:\Revit Temp\18020 Mixed Use Development_gross94M7S.rvt



FIFTH FLOOR

SCALE: 1 : 200

TOTAL PLOT RATIO = 256m²

N	21-01-21	FI	RESPONSE TO COUNCIL RFI
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
Rev.	Date	Issued By	Revision Description

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Project Name
Proposed Mixed Use Development, 105
Broadway, Nedlands 6009

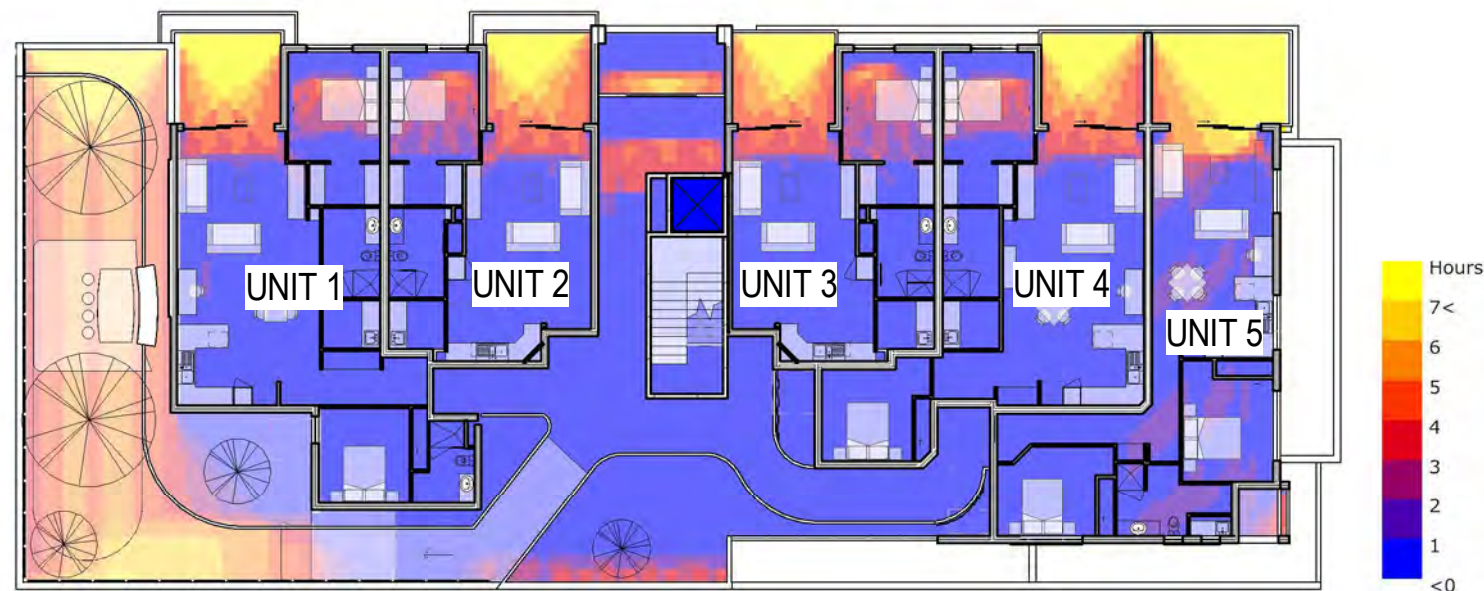
Drawing Name
PLOT RATIO - FIFTH FLOOR

Project Number
18020

Drawing No. Rev.
SK27 N

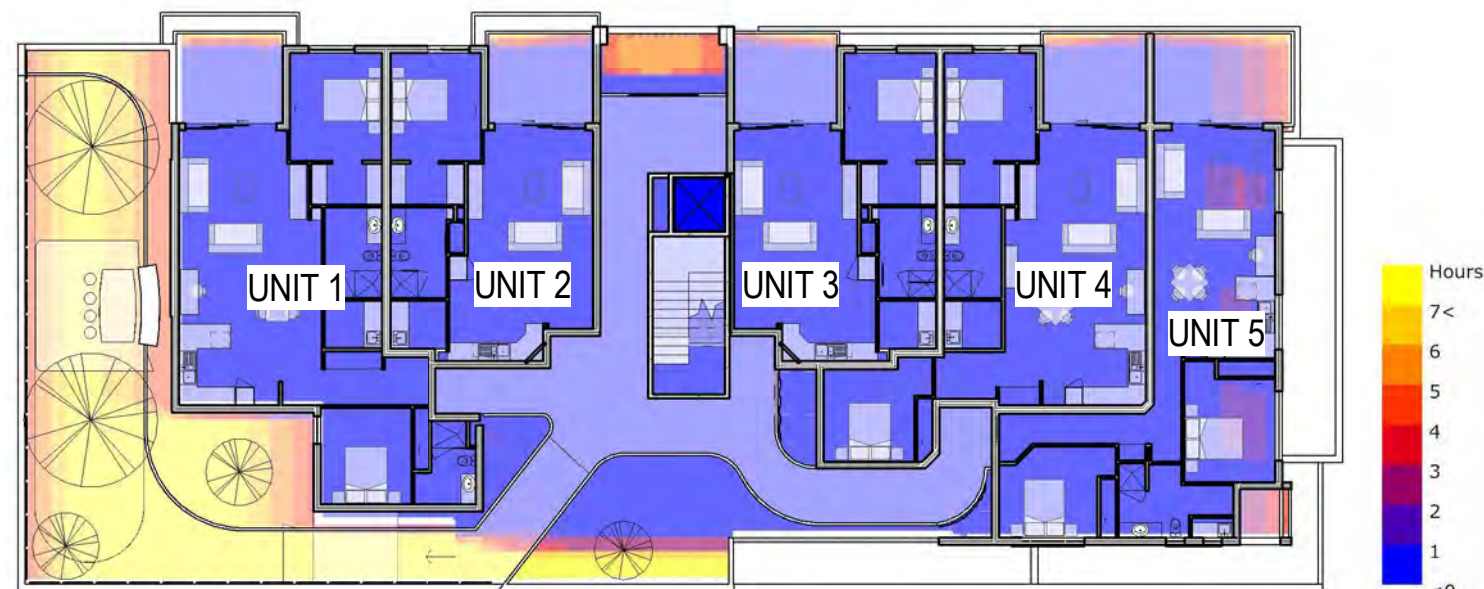
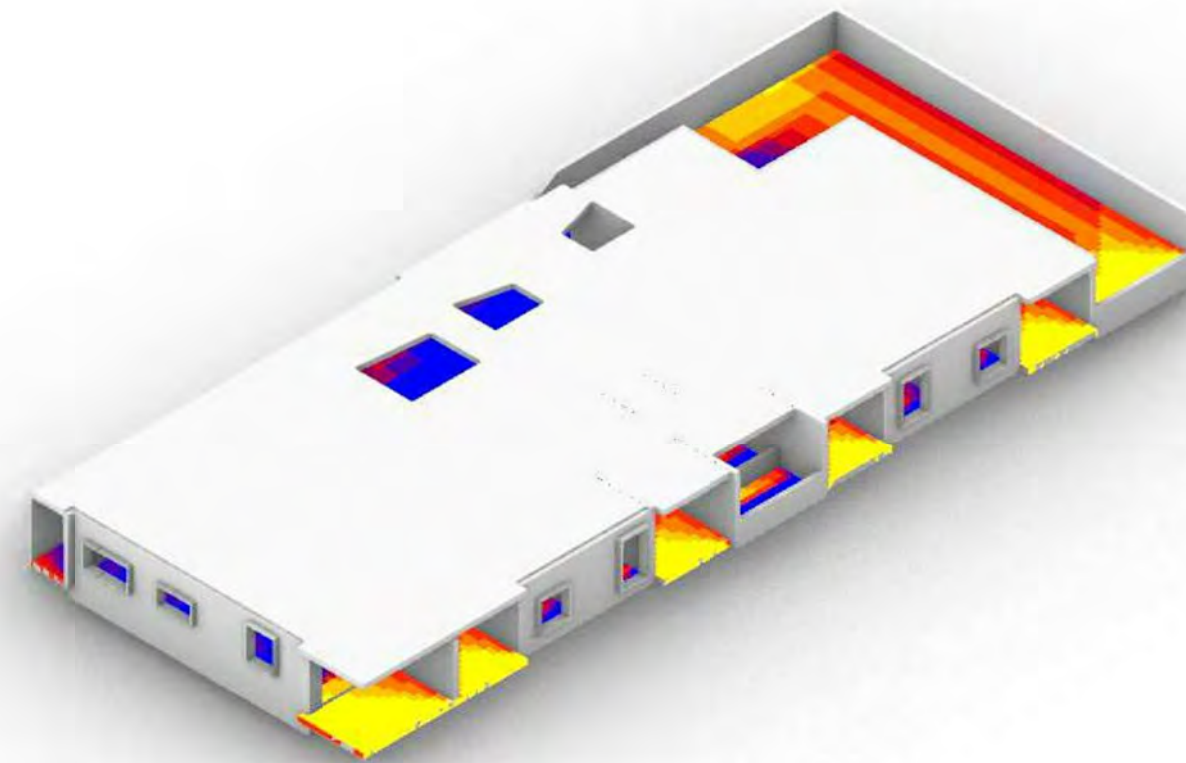
Reduction 25mm on A3 | Scale 1 : 200 | Date

OCT 2019 | Drawn JR | Checked FI
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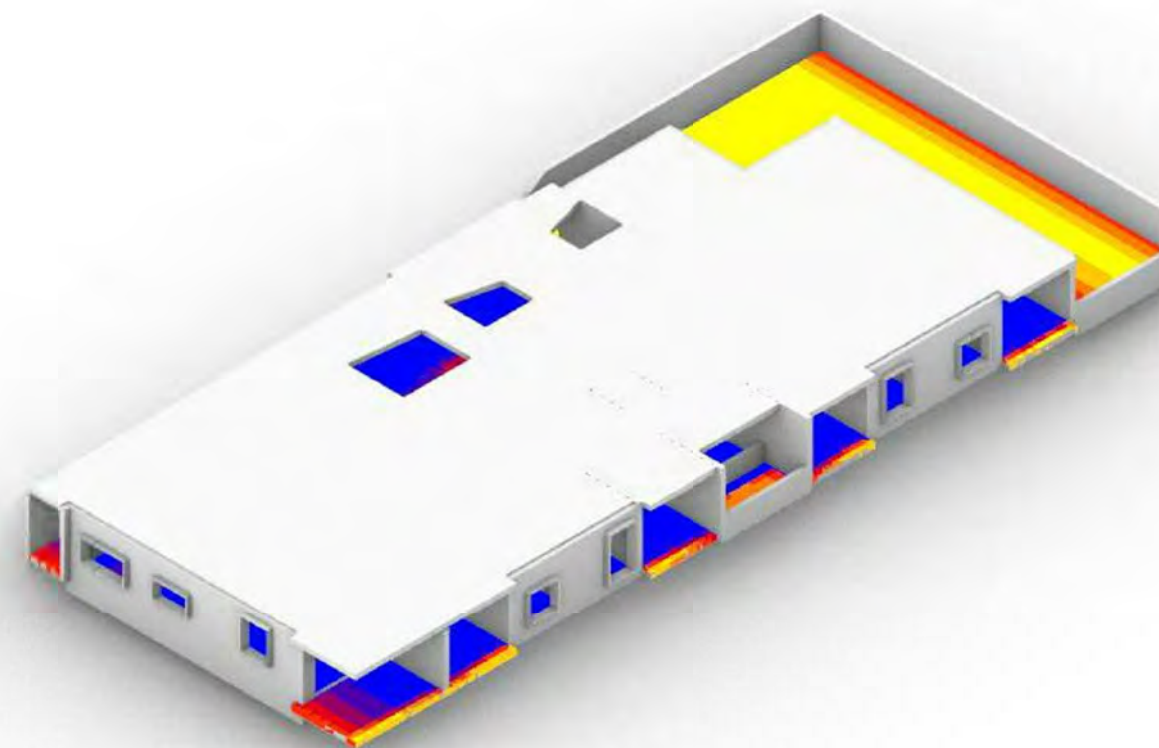


DIRECT SUNLIGHT FIRST FLOOR
21ST JUNE: 9AM - 3PM

*LIVING AREAS AND PRIVATE OPEN SPACES FOR ALL UNITS SHOWN (1-5) RECEIVE >2 HOURS DIRECT SUNLIGHT BETWEEN 9am AND 3pm ON THE 21ST JUNE



DIRECT SUNLIGHT FIRST FLOOR
21ST DECEMBER: 9AM - 3PM



N	21-01-21	FI	RESPONSE TO COUNCIL RFI
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L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
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Project Name
Proposed Mixed Use Development, 105 Broadway, Nedlands 6009

Drawing Name
DIRECT SUNLIGHT STUDIES - FIRST FLOOR

Project Number
18020

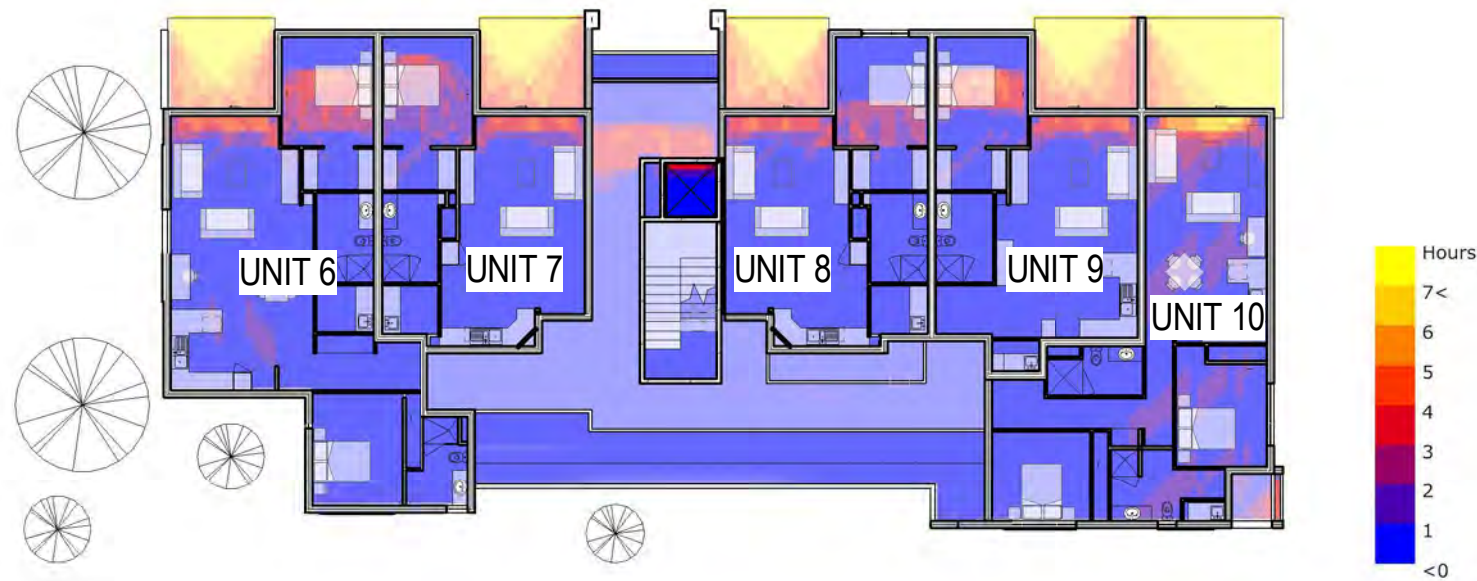
Drawing No.
SK28

Rev.
N

Reduction 25mm on A3 | Scale

1 : 250 | Date

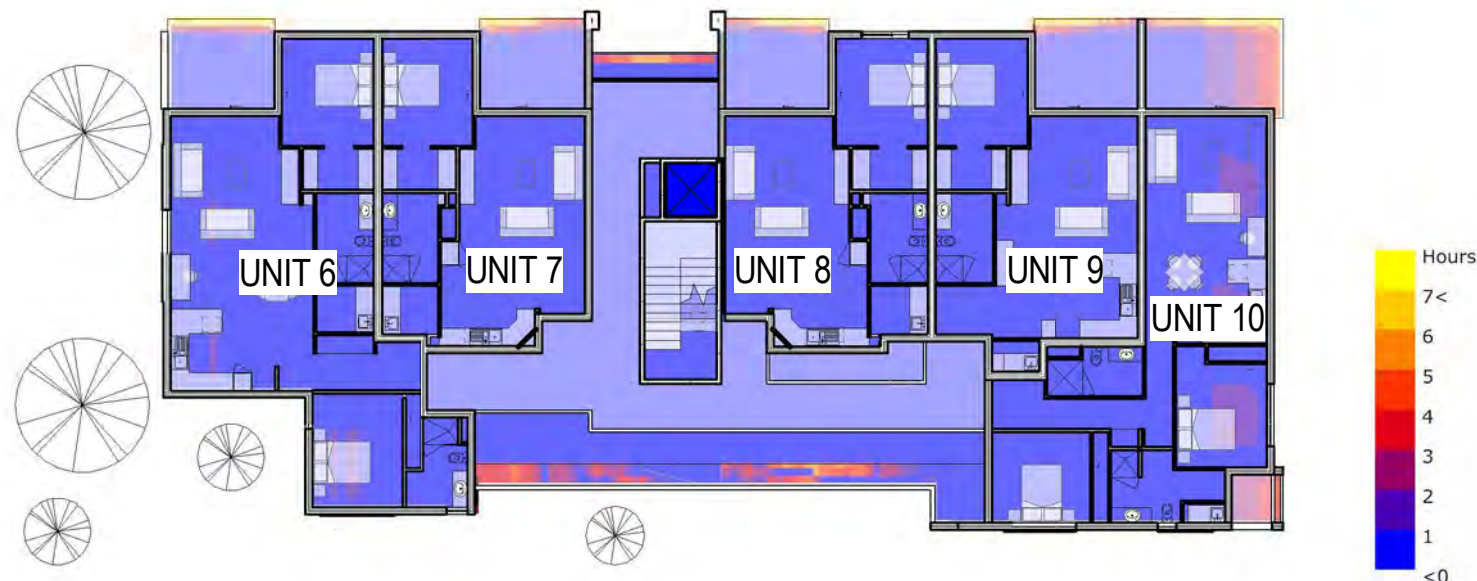
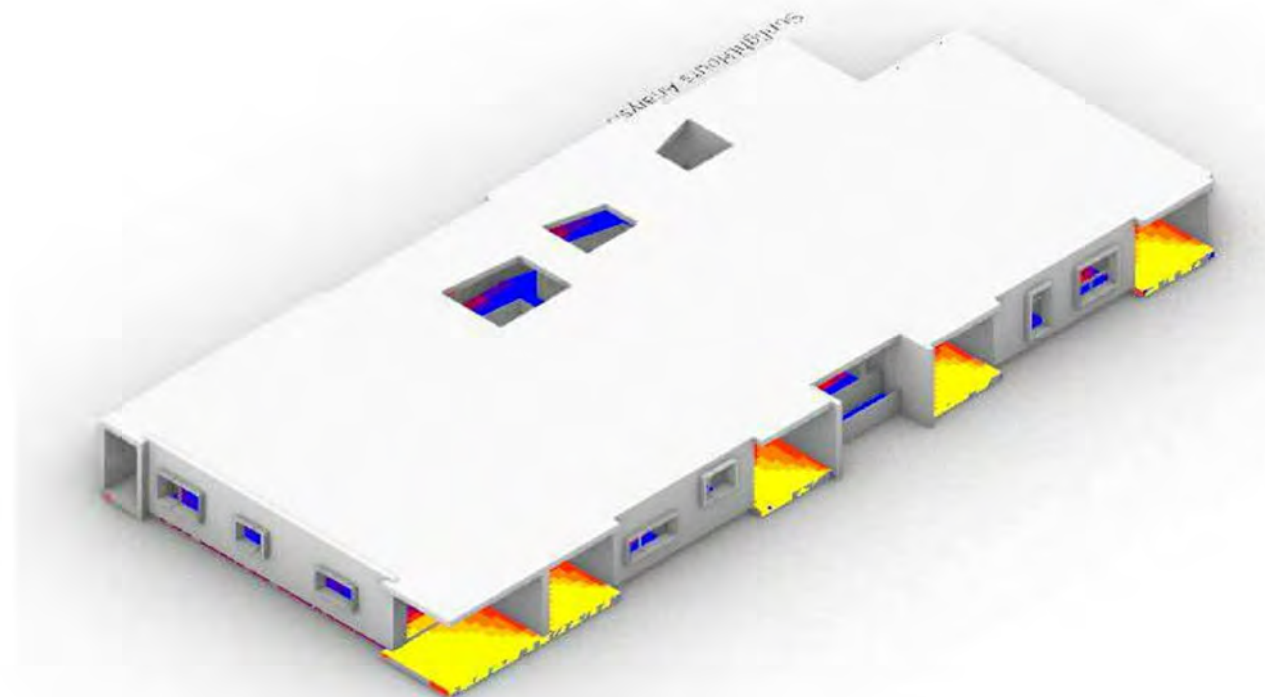
OCT 2019 | Drawn **JR** | Checked **FI**
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DIRECT SUNLIGHT - SECON FLOOR

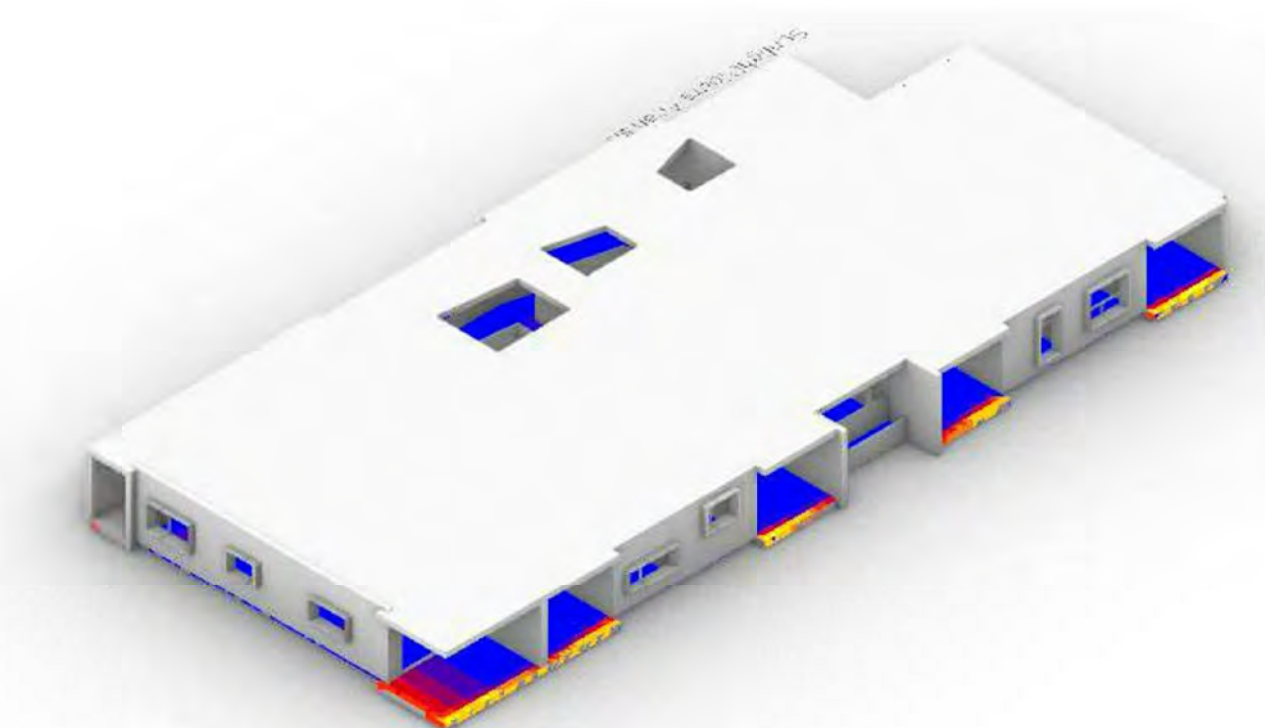
21ST JUNE: 9AM - 3PM

*LIVING AREAS AND PRIVATE OPEN SPACES FOR ALL UNITS SHOWN (6-10) RECEIVE >2 HOURS DIRECT SUNLIGHT BETWEEN 9am AND 3pm ON THE 21ST JUNE



DIRECT SUNLIGHT - SECON FLOOR

21ST DECEMBER: 9AM - 3PM



N	21-01-21	FI	RESPONSE TO COUNCIL RFI
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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
**DIRECT SUNLIGHT STUDIES - SECOND
FLOOR**

Project Number
18020

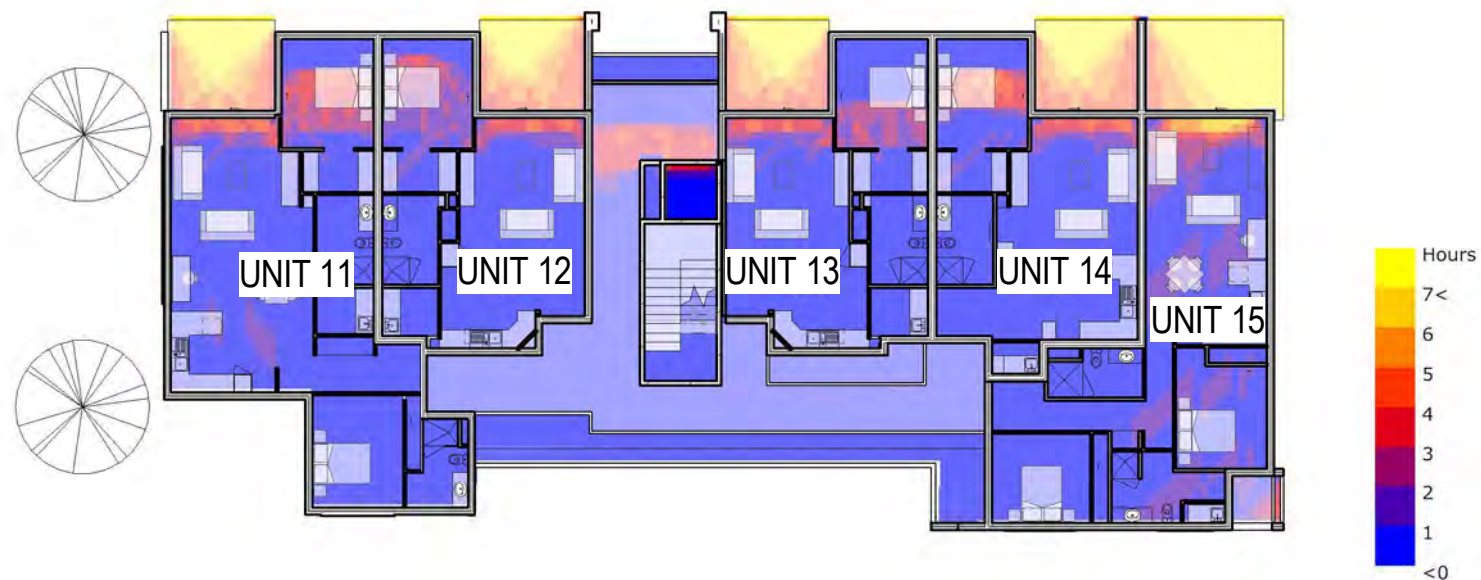
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1 : 250 | Date

OCT 2019 | Drawn **JR** | Checked **FI**

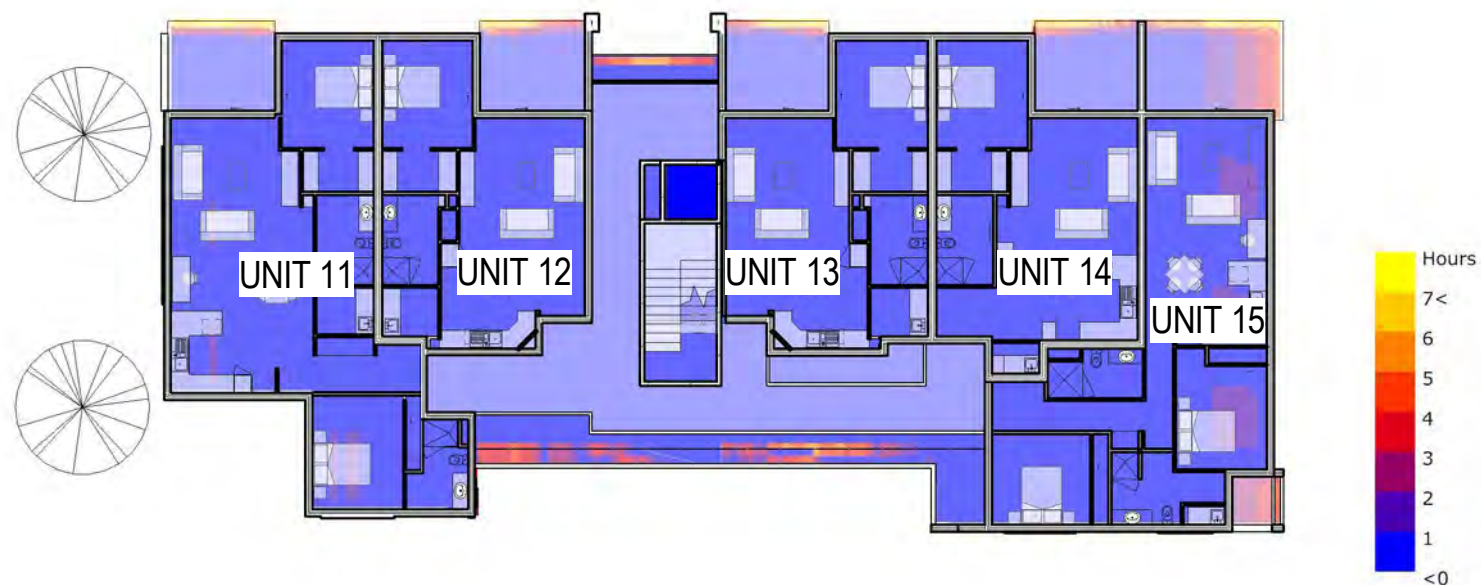
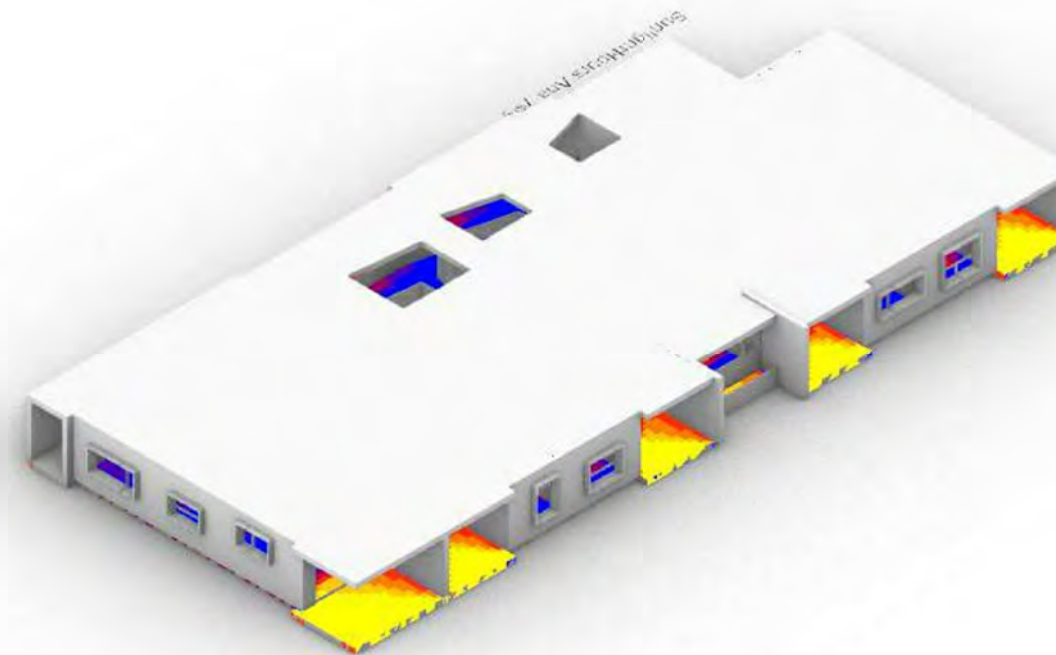
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DIRECT SUNLIGHT THIRD FLOOR

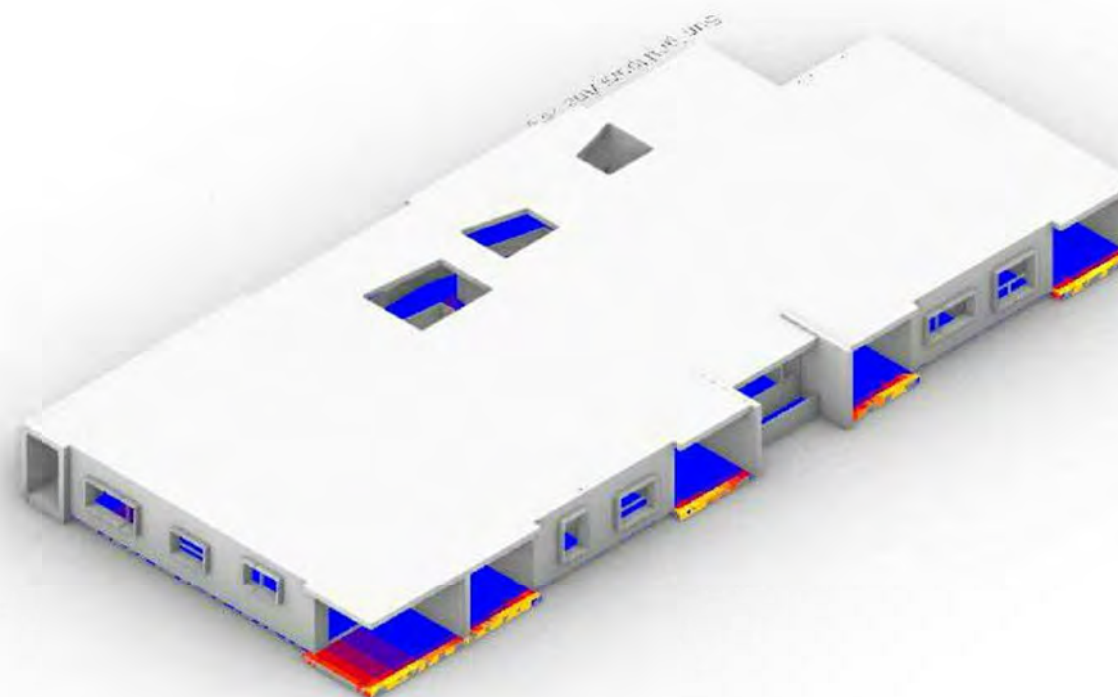
21ST JUNE: 9AM - 3PM

*LIVING AREAS AND PRIVATE OPEN SPACES FOR ALL UNITS SHOWN (11-15) RECEIVE >2 HOURS DIRECT SUNLIGHT BETWEEN 9am AND 3pm ON THE 21ST JUNE



DIRECT SUNLIGHT THIRD FLOOR

21ST DECEMBER: 9AM - 3PM



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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
DIRECT SUNLIGHT STUDIES - THIRD FLOOR

Project Number
18020

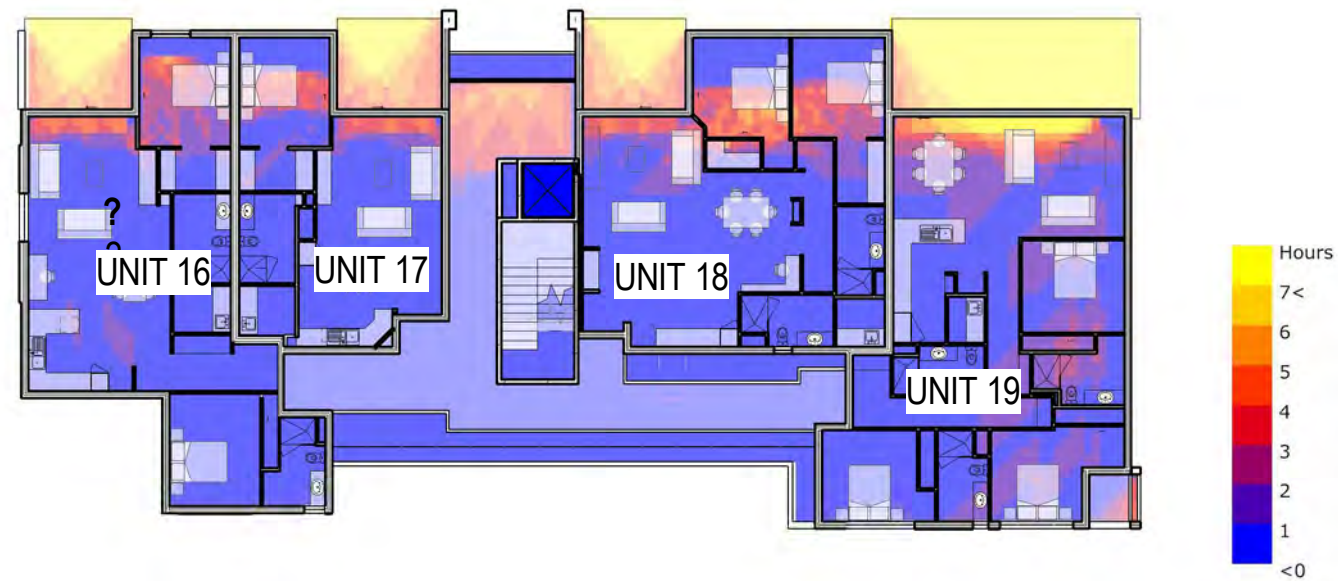
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Reduction 25mm on A3 Scale

1 : 250 Date

OCT 2019 Drawn **JR** Checked **FI**

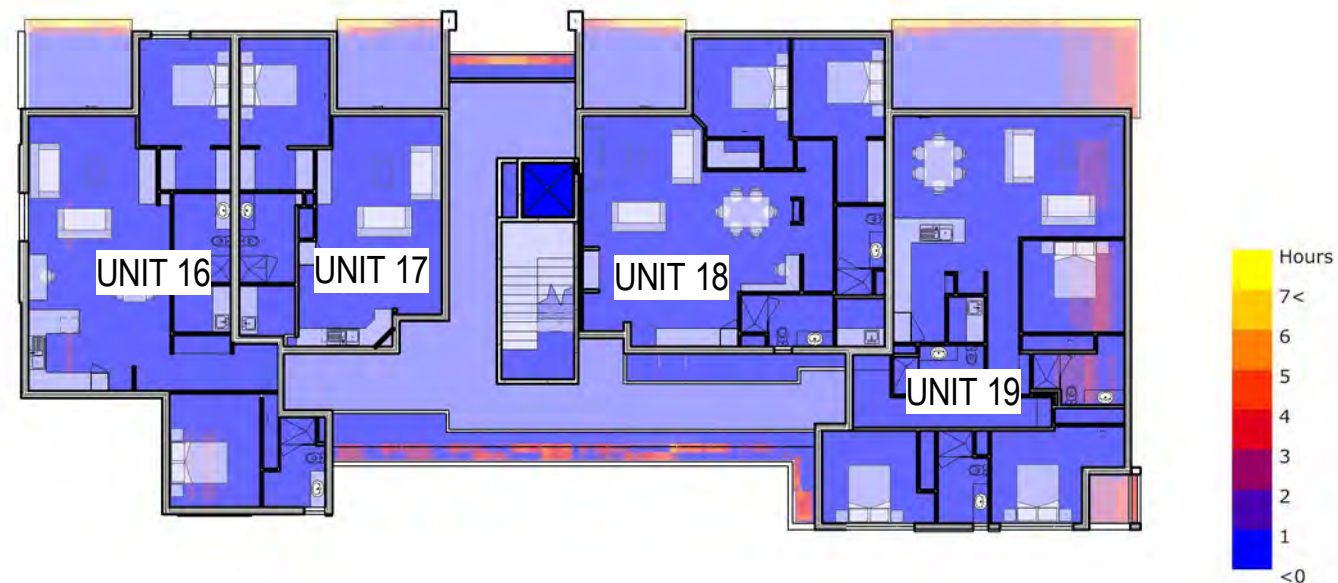
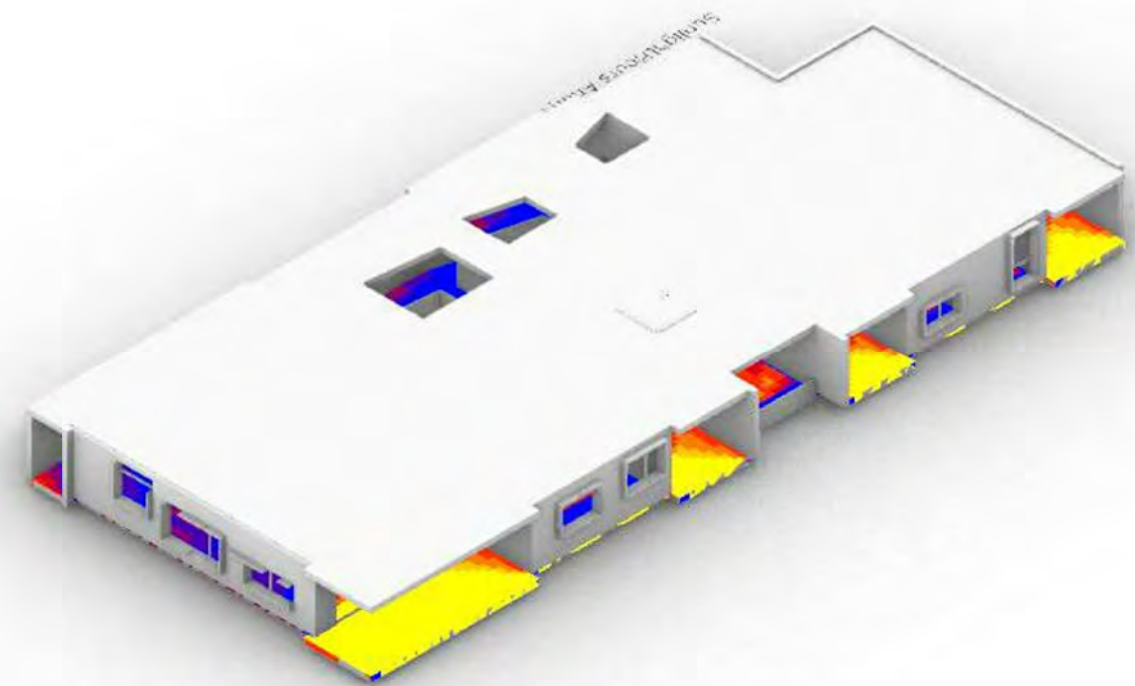
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DIRECT SUNLIGHT - FOURTH FLOOR

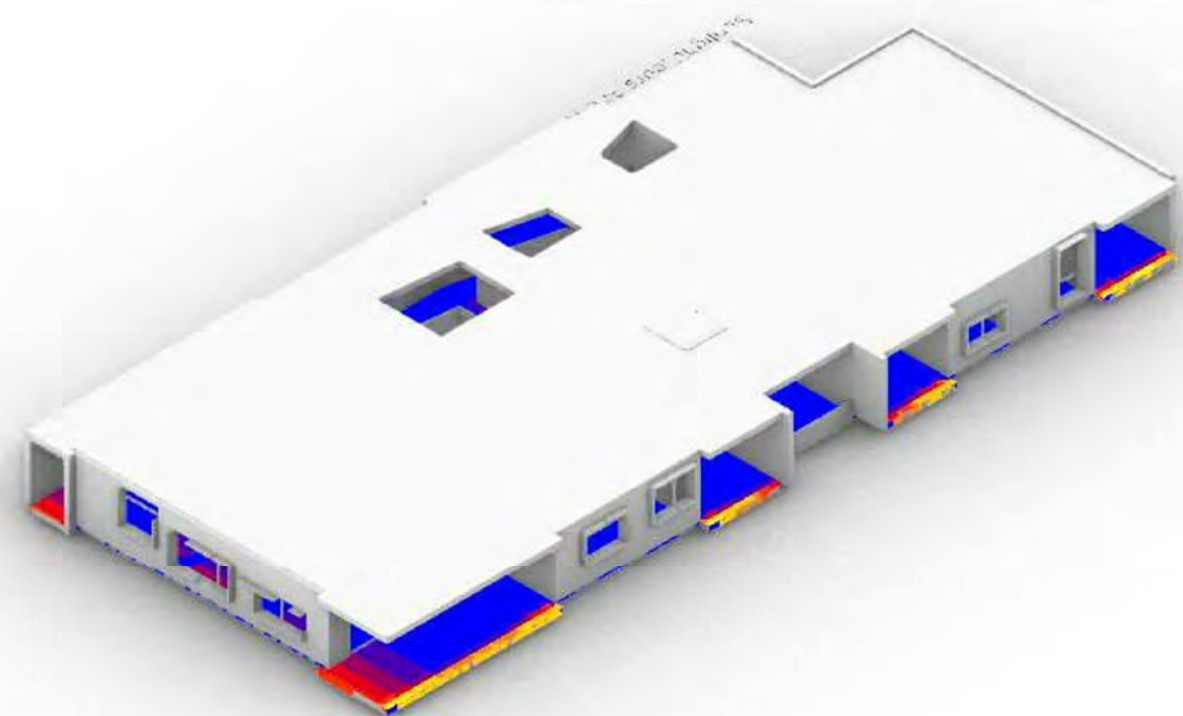
21ST JUNE: 9AM - 3PM

*LIVING AREAS AND PRIVATE OPEN SPACES FOR ALL UNITS SHOWN (16-19) RECEIVE >2 HOURS DIRECT SUNLIGHT BETWEEN 9am AND 3pm ON THE 21ST JUNE



DIRECT SUNLIGHT - FOURTH FLOOR

21ST DECEMBER: 9AM - 3PM



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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
**DIRECT SUNLIGHT STUDIES - FOURTH
FLOOR**

Project Number
18020

Drawing No. Rev.
SK31 N

Reduction 25mm on A3 | Scale

1 : 250 | Date

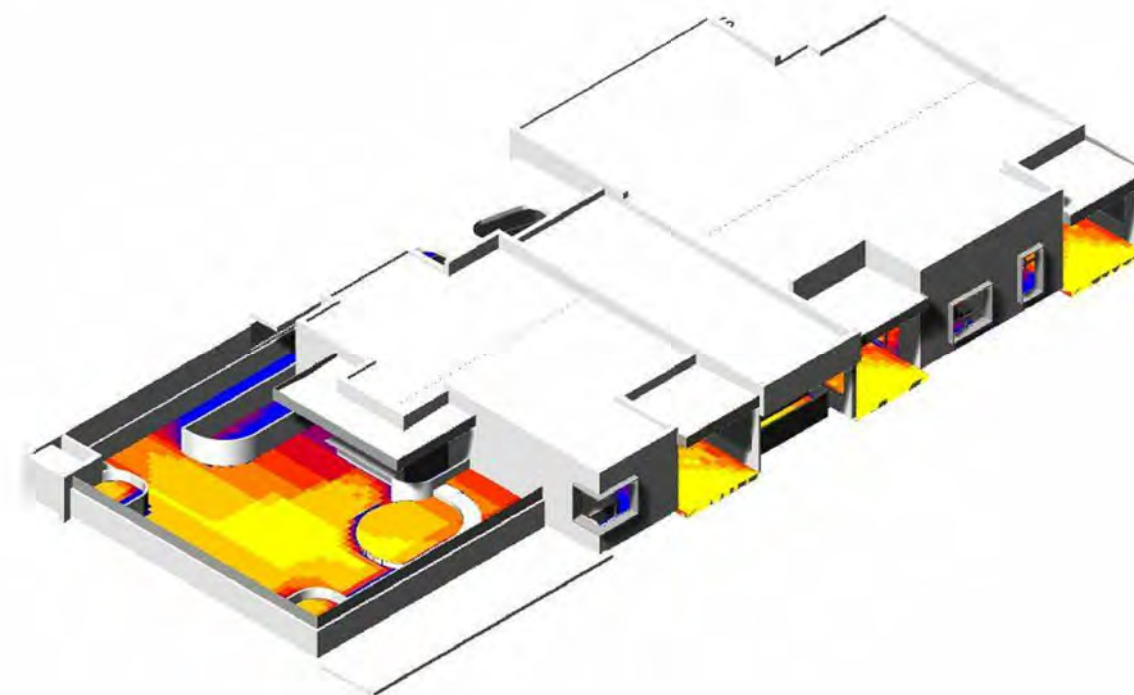
OCT 2019 | Drawn JR | Checked FI

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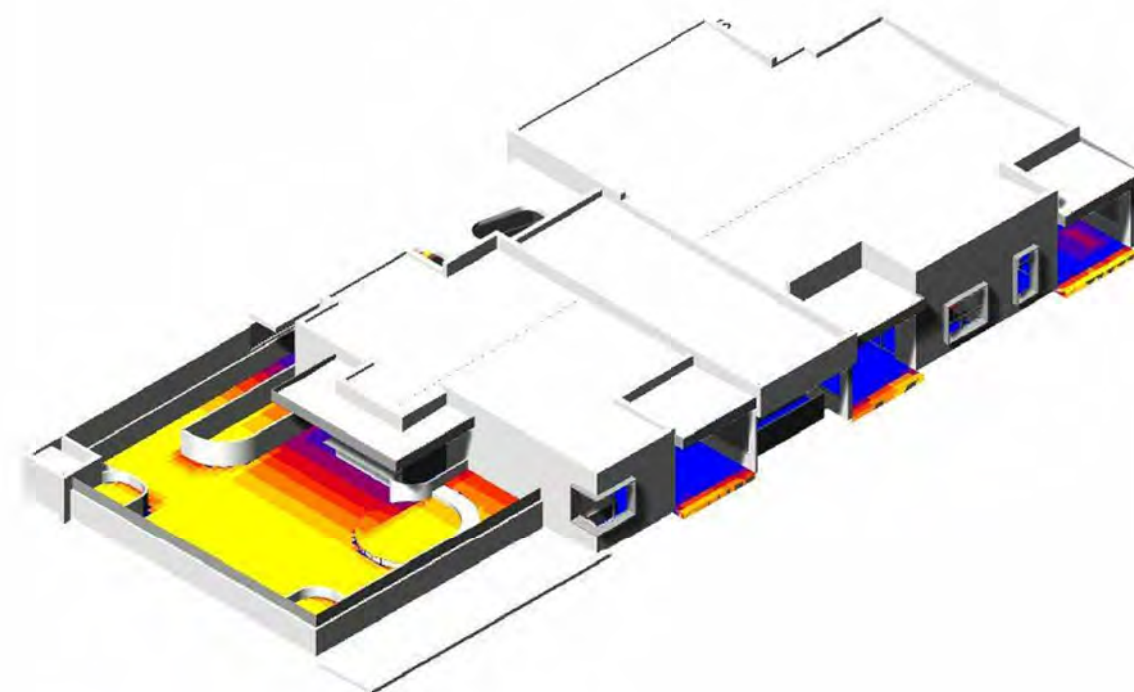


DIRECT SUNLIGHT - FIFTH FLOOR
21ST JUNE: 9AM - 3PM

*LIVING AREAS AND PRIVATE OPEN SPACES FOR ALL UNITS SHOWN (20-22) RECEIVE >2 HOURS DIRECT SUNLIGHT BETWEEN 9am AND 3pm ON THE 21ST JUNE



DIRECT SUNLIGHT - FIFTH FLOOR
21ST DECEMBER: 9AM - 3PM



N	21-01-21	FI	RESPONSE TO COUNCIL RFI
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L	16-10-20	FI	REQUESTED ADDITIONAL INFORMATION
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Project Name
Proposed Mixed Use Development, 105 Broadway, Nedlands 6009

Drawing Name
DIRECT SUNLIGHT STUDIES - FIFTH FLOOR

Project Number
18020

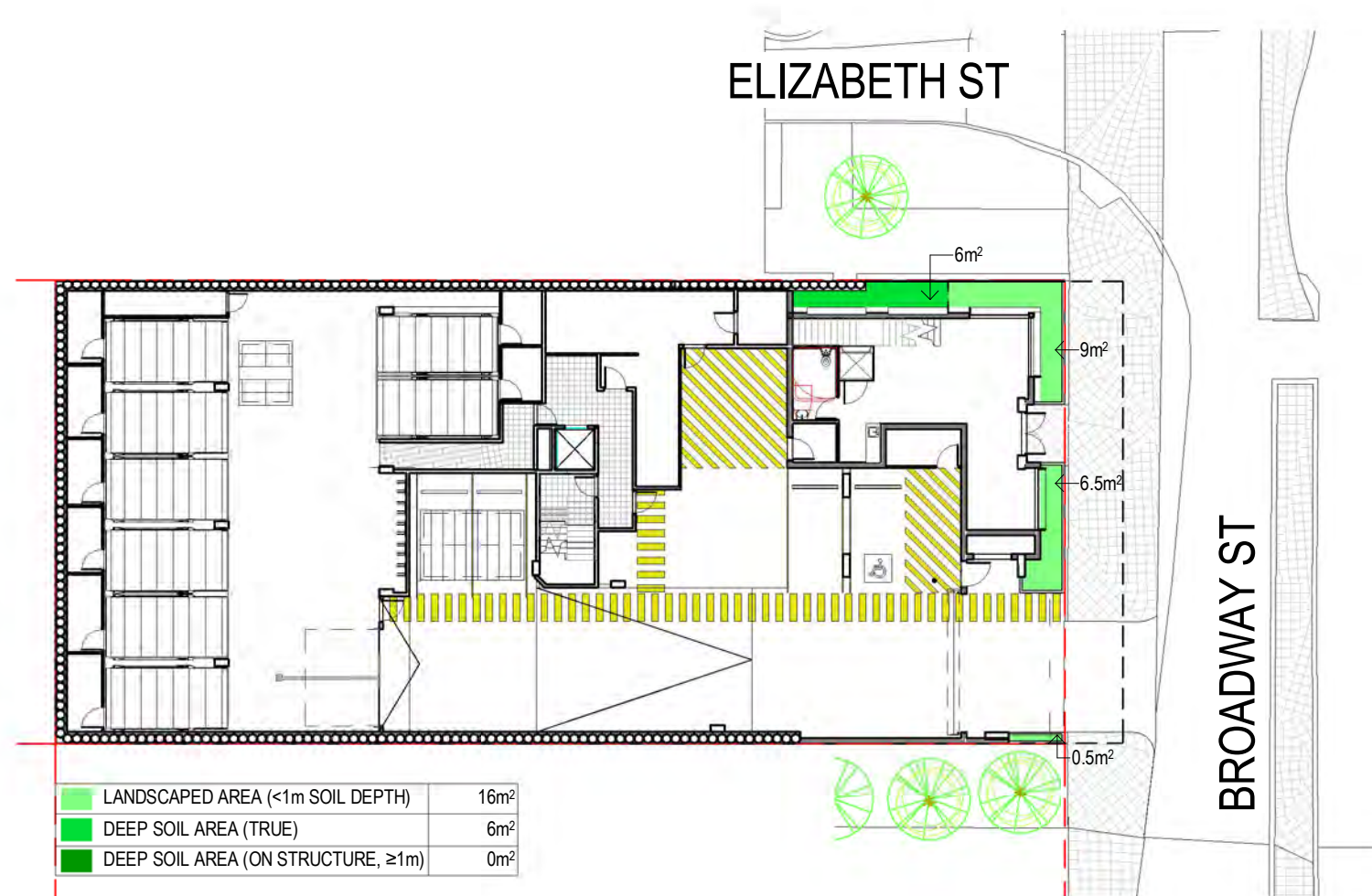
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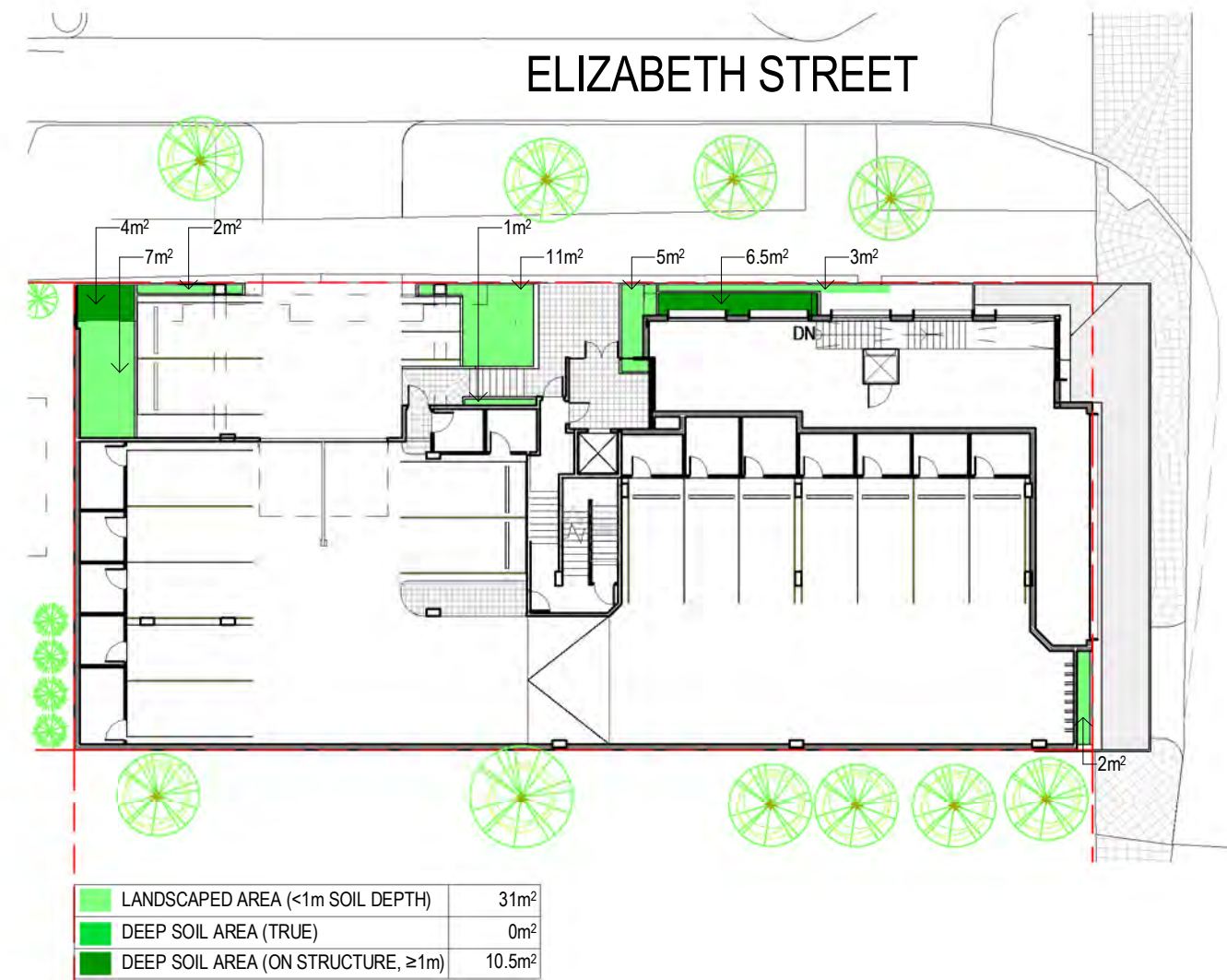
1 : 250 | Date

OCT 2019 | Drawn **JR** | Checked **FI**

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GROUND FLOOR PLAN - LOWER



GROUND FLOOR PLAN - UPPER

DEEP SOIL CALCULATION

TRUE DEEP SOIL AREA	
LOWER GROUND FLOOR:	6m²
TOTAL:	6m²

88.2m² REQUIRED (10% OF SITE AREA)
 SHORT FALL = 82.2m²
 THEREFOR 2x82.2m² (164.4) REQ ON STRUCTURE

DEEP SOIL AREA ON STRUCTURE	
UPPER GROUND FLOOR:	10.5m²
FIRST FLOOR:	110m²
FIFTH FLOOR:	46m²
TOTAL:	166.5m²

LANDSCAPED AREA	
LOWER GROUND FLOOR:	16m²
UPPER GROUND FLOOR:	31m²
FIRST FLOOR:	56m²
SECOND FLOOR:	43m²
THIRD FLOOR:	43m²
FOURTH FLOOR:	27m²
FIFTH FLOOR:	14.5m²
TOTAL:	230.5m²

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Project Name
**Proposed Mixed Use Development, 105
 Broadway, Nedlands 6009**

Drawing Name
**LANDSCAPING PLANS - UPPER AND LOWER
 GROUND FLOORS**

Project Number

18020

Drawing No.

SK33

Rev.

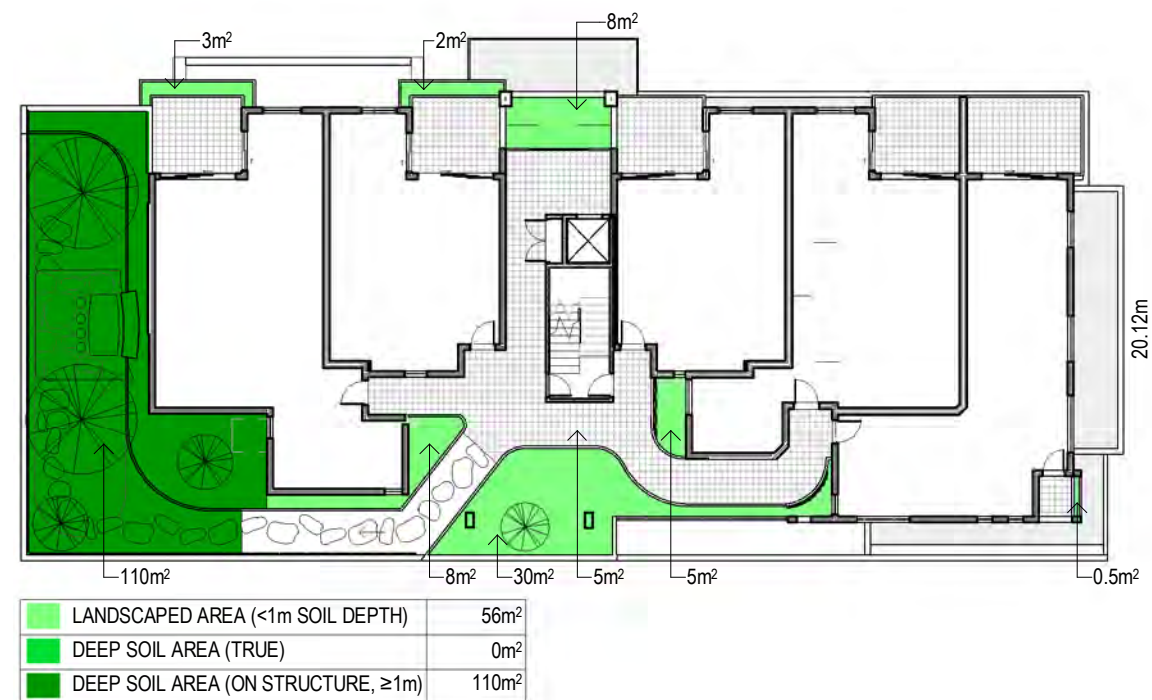
N

Reduction 25mm on A3 | Scale

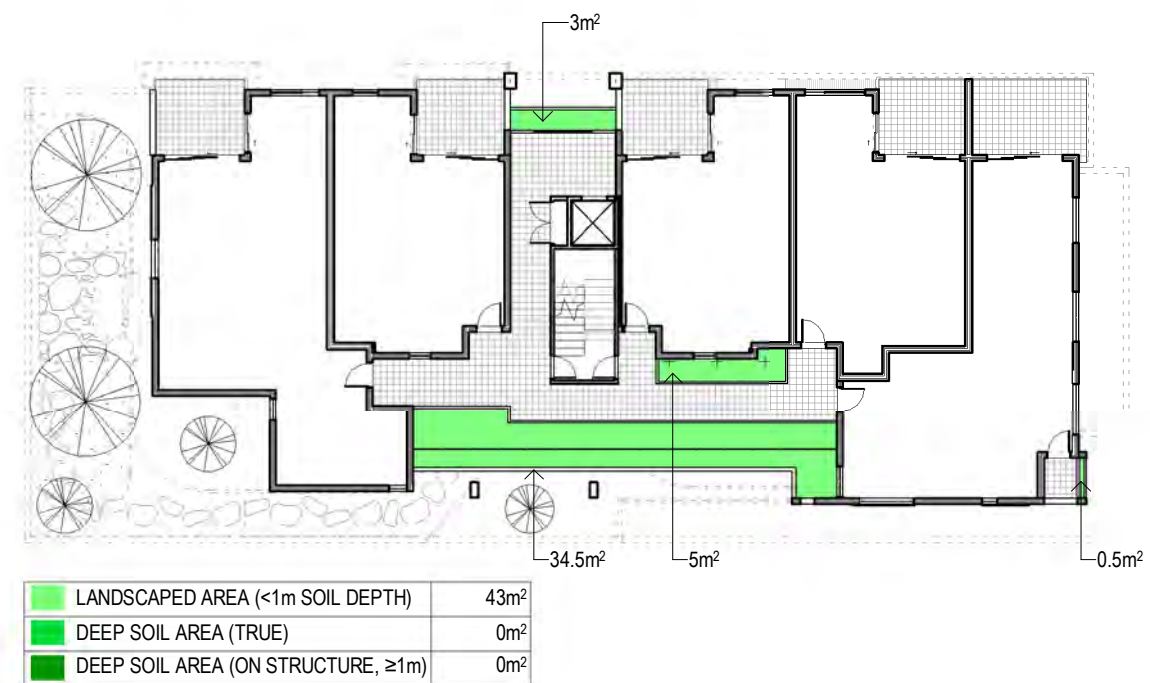
1 : 300 | Date

OCT 2019 | Drawn JR | Checked FI

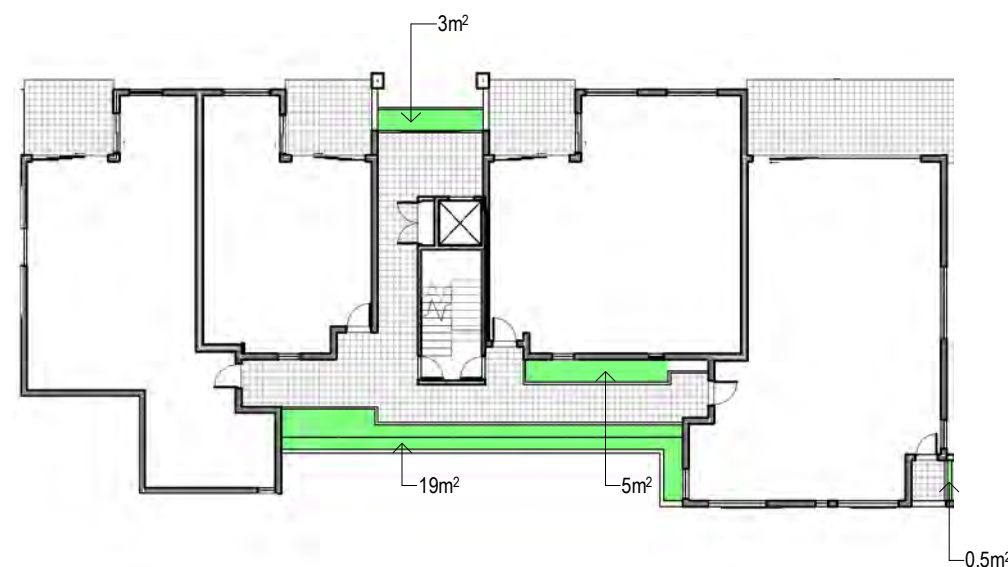
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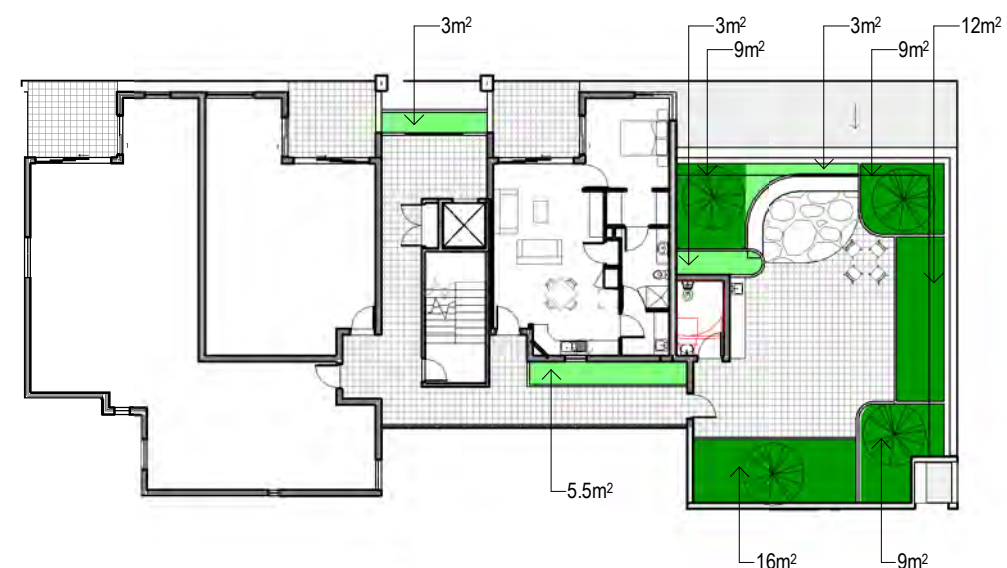
FIRST FLOOR



SECOND + THIRD FLOOR



FOURTH FLOOR



FIFTH FLOOR

N	21-01-21	FI	RESPONSE TO COUNCIL RFI
M	25-11-20	FI	REVISED WESTERN ELEVATION TREATMENT
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Project Name
Proposed Mixed Use Development, 105 Broadway, Nedlands 6009

Drawing Name
LANDSCAPING PLANS - APARTMENTS

Project Number
18020

Drawing No. **SK34** Rev. **N**

Reduction 25mm on A3 | Scale

1 : 300 | Date

OCT 2019 | Drawn **JR** | Checked **FI**

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Attachment 2
Response to Peer Review Comments

105 Broadway, Nedlands

The following comments are provided in response to the peer reviews undertaken by the City of Nedlands by Gresley Abas Architects and Blackwell and Associates:

Principle 1 Context and Character

1a. The application has not included any material to support its approach to Context and Character. Incorrect. The planning report includes plans and images that identify surrounding activities and built form – it may be that the reviewer was not provided with a copy of the report. Its approach to built form, materials, scale and landscape do not consider any aspects of the established character of the area. Furthermore, the application has not defined a design concept that informs how it has interpreted context to guide its proposed architectural character. Partly correct. Whilst the proposed design does exhibit characteristics of the locality, the DA submission doesn't explicitly make the link between the design intent and the character attributes of the place. It would be beneficial for the DA package to include a context and character report. The building design does not address the corner site and does not try to connect with the primary street frontage facing Broadway. Incorrect. The proposed design clearly addresses the street corner with a commercial use at ground level and balconies above that are open to both streets. The proposed design correctly addresses the commercial use to Broadway and establishes a vital ground floor active interface with the street.

1b. Application is not supported. Further detail is required from the applicant. These two statements are contradictory. Either the application is not supported or more information is needed to make an informed opinion. It can't be both. Drawings and diagrams are required to explain the design concept and how it sympathetically integrates into the area. If the reviewer needs diagrams to explain the design, then the reviewer appears to be unable to read the architectural drawings and is unqualified to perform the role. How have they interpreted the existing character? More information would be beneficial to help explain how the existing character of the place has informed the design. The applicant is encouraged to conduct a detailed site analysis in order to understand the true character of the area. Agreed.

Principle 2 Landscape***Comments from architectural reviewer***

2a. There is considerable concern about the approach to landscape within this application. The bulk of the landscape and all of the deep soil provisions are located on an elevated roof deck above the ground. SPP 7.3 makes provision for all landscaping to be on structure, so this is an acceptable outcome. There is minimal landscape at the ground level see above or following the contours of the site which in large part is influenced by the excessive bulk and scale of the area. Nonsensical statement - the topography is not influenced by the bulk and scale of building in the locality. Given the landscaped character in the immediate vicinity and of Nedlands more generally, this is an important element that needs to be integrated into the design. Partly correct. However, whilst the current character of the locality is influenced by the landscaped qualities of the suburban typologies, the future character of the

area, as defined by the applicable coding, is anticipated to be a very different character influenced by a transition to urban typologies.

2b. Application is not supported. A significant adjustment to the scale of the building will help create more space for landscape. **Incorrect.** The scale of a building does not create more space for landscape, it is the extent of the development footprint that does, and the two are not the same. Furthermore, the applicable coding permits and encourages an urban typology with an extensive development footprint. *This is particularly important for the pedestrian experience at ground level.* Whilst the pedestrian experience is important, the applicable coding/zoning anticipates that the quality of the pedestrian experience is derived from an urban architectural interface with the street rather than a suburban landscape interface. *An alternative strategy for parking is also encouraged to release land that can create an appropriate deep soil area.* The strategy of locating the car parking under the building footprint is entirely appropriate, doing otherwise, such as utilising at-grade or open parking, would deliver poor quality interfaces with the adjacent streets and properties.

Comments from landscape reviewer

2a. The provision for dual vehicular access points compromises the streetscape, in so far as it reduces the extent of active frontages and hence passive surveillance and in general driveway entrances are rather unappealing aesthetically. **Noted, however, dual crossovers are generally supported when the crossovers are to two different streets, which is the case here.** Whilst driveway entrances are generally unappealing, they are a necessary element in a planning environment that demands on-site car parking. *It is also unclear from the drawings as to how the architects plan to resolve the twist required in the driveway access off Elizabeth St within the building, ie considering the slope of the street is quite significant and that concrete slabs are generally poured on the horizontal not on an angle as is inferred by what can be read from the plans.* The landscape reviewer is not an architect and was specifically engaged to provide landscape comments. As such, the comments should not be construed as meaningful advice.

2b. The configuration of the main landscape area on the first floor severely compromises the usability of the balcony/terrace space and, more importantly, the overall privacy of Unit 1. In my opinion this location is inappropriate for communal use (and should therefore logically be accessible only from Unit 1). **Incorrect.** The majority of the windows of Unit 1 that interface with the communal area are highlight windows that maintain privacy. The one major opening and the balcony area are both screened to provide privacy to Unit 1.

2c. It should be noted that whilst the landscape concept shows a table and chairs in the landscaped area as mentioned above (in 2b), ie on the first floor, there is insufficient path width at the lower, ie apartment level, to allow for access to these facilities. The reviewer appears to have misread the plans. The path is actually at the same level as the landscaping. Whilst the path width is not dimensioned, it scales at around 900mm, which is adequate for a garden path. *Furthermore, the location of that pathway is in the worst possible location in terms of compromising the privacy for the residents of Unit 1.* **Incorrect.** The pathway is located close to the southern and western boundaries, which places it, appropriately, as far as possible from Unit 1.

2d. There appear to be two reasonably substantial existing trees on site at present. However, they are not indicated on the survey plan and no effort appears to have been made to try to retain them. **Incorrect, the survey plan identifies three existing trees on site close to the Elizabeth Street boundary, although the mapping does not show the canopies to scale.** This is disappointing as they are located close to the boundary and as such it would appear that they would not be too difficult to accommodate in the site planning. The fact that they have not been retained triggers the requirement to provide at least 10% true deep soil area, i.e. 88.24m² (please also refer to further considerations as provided below). **Partly correct. No retention of trees on site requires 10% deep soil or equivalent, In this respect, SPP7.3 provides for twice the area as planting on structure as an alternative – in the case, up to 166.48sqm of on-structure planting. Whilst the landscape plans list the areas of deep-soil and on-structure landscaping for each floor, there is benefit in including whole-of-site totals for clarity.**

2e. However, if/where 'true' deep soil areas, i.e. not on slab, cannot be provided the balance, ie 'on-slab' deep soil area, is required to be doubled, e.g. a total of 20% if there is none at all. As only 16m² of 'true' deep soil area is being provided the total 'on-slab' deep soil required on this site to make up the balance is 144.48sqm. It should be noted that deep soil 'on-slab' must be at least 1.0m deep and at least 2.0m wide where trees are being provided, refer to Fig 3.3f and Table 3.3b in SPP7.3 respectively. The landscape plans indicate that a total of 164.5m² deep soil on-slab has been provided. Whilst some of this is paved the landscape could be considered to be compliant in meeting the deep soil requirements of SPP7.3. **Compliance with SPP7.3 is noted.**

2f. The landscape plans propose a reasonable range of plant species for each of the various locations and the respective microclimatic conditions. **Noted.**

2g. One tree is shown on the landscape plan as being proposed to be removed from the verge in order to allow for one of the two driveway access/egress points. This is an unfortunate outcome. However, even if the number of driveway access points were limited to one, it is likely that this would come off Elizabeth Street in which case it is probable that this tree would be 'lost' anyway. To relocate the driveway would almost certainly cause a significant reduction in efficiency to the car parking layout which is hard to justify in this context. No details of the tree have been provided. However, it appears to be an immature *Grevillea robusta* 'Silky Oak' (an east coast tree). This species tends to be rather short lived in WA and the landscape plans indicate that its loss will be made up by its replacement with *Agonis flexuosa* 'WA Peppermint' (an endemic / local species). **Noted.**

2h. Further to the above – the site survey and Google Street View appear to indicate that the information about the number of verge trees, as shown on the landscape plan, is not altogether accurate. Rather than the four nominated on plan it would appear that there are seven trees in total. **The survey plan and Google Streetview both indicate 7x verge trees on Elizabeth Street and 1x verge tree on Broadway.** Most of these appear to be of moderate **small** size only. However, it is recommended that: a) the retention of these trees be conditioned; and b) that any replacement tree takes these existing trees into consideration. **The landscape plans need to clarify which of the existing trees are to be retained or removed and whether any new trees are to be planted in lieu of removed trees.**

2i. The provision of the 'Residents Terrace' is a significant positive attribute of the proposal. **Noted.** Though the narrow strip of landscape on the southern side of the walkway leading to this area may be problematic due to its narrowness for most of its length plus the fact that it will be in shade for much of the time and as such it will be difficult to maintain and prone to failure. The degree of shading is no different from any semi-external planting bed or a planting bed on the south side of a building and the sustainability of the planting will be subject to the appropriate selection of species. There is benefit in additional guidance from the Landscape Architect on the dimensions of the proposed on-structure planters in this location.

2j. Further explanation should be provided with regard to the chosen rationale for what appears to be the public art as shown on the Elizabeth Street elevation. Furthermore, no consideration seems to have been given as to the implications regarding the angle of the street and its impact upon the 'artwork', ie it is not 'purpose commissioned' and as such it is not effectively integrated into the architectural expression. Further clarification should be provided as to whether the laser-cut 'art' screen is intended to constitute Public Art or is a decorative feature. If the former, it is reasonable to expect further rationale. If it is merely a decorative feature, it is questionable whether it needs to be there, unlike the similar screen to the driveway gate.

Principle 3 Built form and scale

3a. The development is excessive in bulk and scale. This is a sweeping statement with little justification. While it is acknowledged that the development is under the allowable building height, every other aspect of the development is significantly out of scale with the area. Whilst it is acknowledged that the proposed design is less than the allowable height, the reviewer should also acknowledge, in the context of the first statement, that height is a major contributor to the perception of bulk and scale. This is created by a combination (of) elements including height. The plot ratio is significantly over the allowable ratio. What constitutes 'significantly'? More importantly, the reviewer has fallen into the trap of assuming that design quality and compliance are the same thing. They are not. It is the role of a design reviewer to provide design advice, whereas it is the role of the City's planning staff to determine the degree of compliance and whether, having sought design advice, any non-compliance is acceptable. The minimum building setbacks on all sides have not been achieved. Notwithstanding the previous comment on compliance, this is incorrect. SPP7.3 provides for Nil setback to the streets (subject to commercial uses at ground floor), and Nil setbacks to the side and rear boundaries. The size and extent of parapet walls to the west and south further enhance the oversized scale of the development. Somewhat misleading. Whilst it is reasonable to expect modest parapet walls to the edge of a roof, there is an argument that the having gutters at the edge of the building rather than the centre would allow a slight reduction in the height of the parapet (by around 300-500mm). However, in the context of a six-level building, the difference would be imperceptible. Further to this the building design has an enhanced sense of verticality through the repetitive building articulation. The expression of the building as a series of vertical elements is an entirely appropriate contextual response that breaks down the grain of the building to one that more closely resembles the rhythm of the traditional urban buildings along Broadway. The alternative of horizontally layering the building would result in a building that appears more extensive and monolithic. Greater sophistication in the articulation of built form is required. The proposed design is more sophisticated in its

articulation than conventional development practice, particularly through the use of extensive modular materials (brick and cladding) and box-framed windows.

3b. Application is not supported. The applicant should consider introduction of a basement carpark to reduce the height and the scale of the boundary walls (as has been delivered in other recently approved developments). Because of the topography the, lower ground floor parking is largely contained within a basement. It could be assumed that if the first-floor parking were located in a sub-basement, the remainder of the building could be reduced by one-storey. However, this would be a naïve assumption as the logical design response would be to maintain the current building height (which is within the height limit) and use the upper ground floor for additional residential units (which would help pay for the sub-basement). In practise, this was the outcome at 135 Broadway. All boundary setbacks need to be amended and pulled away from the boundary. It is misleading to state that there is a 'need' to amend the setbacks because there is no statutory requirement to do so. The architects are encouraged to consider a more layered approach to the building articulation. Refer to previous comments in regard to vertical vs horizontal expression. Given the highly visible nature of this site the resolution of the bulk and scale is critical to creating a high-quality outcome for the area.

Principle 4 Functionality and build quality

4a. There are considerable concerns about the functionality of this design. If there are 'considerable' concerns about the functionality, why are they not elaborated on in this review? The commercial units have been poorly considered and are highly inefficient in their layout, particularly the second level. Whilst the office floorplates are not efficient, they remain functional for use by a variety of small businesses. The reviewer appears to have missed the point that the primary purpose of the first-floor office is not to provide highly efficient and flexible floor space but to provide an active sleeving use to the car park behind: in this respect, the office space is highly effective. The overall development has used minimum standards for circulation, movement and room sizes throughout. Incorrect – circulation widths generally exceed the 1.5m minimum suggested by SPP7.3 and exceed the minima in the BCA. Where circulation widths are at or just under the minimum, they are in locations where they are in locations next to voids or planters where the space will not feel constrained. Furthermore, the sizes of bedrooms and balconies exceed the maxima suggested by SPP7.3.

4b. Further detail is required. The office space requires redesign to create a functional space. It is misleading to state that the office space 'requires' redesign because there is no mandated standard to meet. Notwithstanding that, whilst it may not be efficient, the office space is functional. The size and efficiency of the building layout overall requires further consideration, particularly once the bulk and scale have been considered. This sentence is nonsensical – it effectively says that the size of the building needs to be considered once the size of the building has been considered.

Principle 5 Functionality and build quality

*5a. The development has been designed to maximise access to the northern orientation. **Noted.** The overall design has achieved the minimum requirements for sustainable design. **Noted.** There is concern about the quality of the office space with its extensive glazing to the east and north. Given the small size of this space the heat loads are likely to create a high energy demand to create a comfortable space. **This***

is a relevant consideration and there is merit in giving further consideration to introducing window shading (especially on the northern elevation) using high specification glazing or automatic internal blinds to the office space.

5b The design of the office space needs further consideration. Refer to previous comments regarding the office space.

Principle 6 Amenity

6a. The bulk and scale of this development creates significant compromises to the amenity of the surrounding property. Whilst this is arguably correct, the proposed design must be considered in the context of the applicable coding, which anticipates a building of the proposed bulk and scale and anticipates that the two adjacent properties may also be redeveloped with buildings up to 6 storeys to the south and 3 storeys to the west. In this context, any compromise to the amenity of adjacent properties is a temporary outcome from the transitional nature of the locality. The size of the boundary walls to the south and west will have significant negative impacts on the neighbours. Incorrect. The boundary wall to the west is approximately 3.5m high, which is normally permissible under the R-Codes for single dwellings. The boundary wall to the south varies in height as a result of the topography but does not exceed 2 storeys. The height of the development will ensure that at least 2 of the units to the south will receive no natural light. Incorrect, there is no impediment to natural light, although access to sunlight is reduced. The reviewer appears not to understand the difference between daylight and sunlight, which is a fundamental error. Further to this the 5 and half storey elevation facing the property on the western boundary will have a significant impact. Incorrect, the western wall of the proposed buildings is setback over 5m from the western boundary and has limited openings, all of which are compliant with the privacy distances in SPP7.3. The application also does not meet the requirements for provision of 20% of units designed to the Liveable Housing Design Guidelines standards. The planning report states that 77% of the units meet the Silver standard of the Liveable Housing Design Guidelines.

6b Application is not supported. Design to be amended to meet the requirements of SPP7.3. Again, the reviewer has fallen into the trap of assuming that design quality and compliance are the same thing. They are not. It is the role of a design reviewer to provide design advice, whereas it is the role of the City's planning staff to determine the degree of compliance and whether, having sought design advice, any non-compliance is acceptable. Furthermore, SPP7.3 is a performance-based planning document and does not have 'requirements' but has objectives, acceptable outcomes and provides design guidance. The proposed design satisfies the various objectives and acceptable outcome relative to amenity. Redesigning the bulk and scale of the development will also have a positive impact on the Amenity for the neighbours.

Principle 7 Legibility

7a. Circulation width to a number of the apartments do not meet the minimum standards of SPP7.3. The circulation widths generally exceed the 1.5m minimum suggested by SPP7.3 and exceed the minima in the BCA. In the few locations where circulation widths are at or just under the minimum, they are in locations where they are in locations next to voids or planters where the space will not feel constrained – as a result, the design outcome is acceptable even though it is not technically 'compliant' in some areas. In this respect, it should be noted that the aim of design

review is to determine the extent of design acceptability rather than compliance. *There are also some units that have openings to bedrooms and kitchen spaces facing onto common circulation spaces.* There is no reason why kitchens cannot have openings to common circulation spaces. It is commonly encouraged by Design Review Panels to provide passive surveillance to external walkways and to promote cross ventilation. There are no bedroom windows opening directly onto a walkway. In the few instances where a bedroom window faces an external walkway, a landscape buffer has been introduced, which is commonly considered an appropriate design solution.

7b. Additional information required to demonstrate how the requirements of SPP 7.3 have been met. Not necessary. Legibility can be clearly determined from the floor plans. There is no other type of information that enables legibility to be determined. *Consider the redesign of the units to create better separation of common areas and private spaces.* The issue in regard to legibility is not one of 'separation' between private and communal areas but one of differentiation and demarcation. It is a subtle but important distinction. There are many benefits of having private and communal areas adjacent to each other, and their success as spaces in these instances depends on how they are differentiated and demarcated. In the case of the proposed design, the differentiation and demarcation between private and communal areas is self-evident and well managed.

Principle 8 Safety

8a. No comments Noted.

8b. Application is supported Noted.

Principle 9 Community

9a. The development has filled the site, creating little space at street level for public engagement. False assumption. Street level engagement between building occupants and pedestrians in the public realm is not a result of extensive setbacks but of active uses at ground level that step forwards to the boundary to meet the street (but ideally with a small landscape buffer in the case of office uses, as proposed) and of private spaces such as balconies, as proposed, that enable direct visual connectivity between residents and others in the street. *Given the prominent location the development has not maximised its corner location.* Incorrect - refer to previous comments in regard to the street corner. *The provision of the residents' terrace is a positive addition but could benefit from a larger awning to provide protection from the sun.* There is merit in the suggestion of increasing the awning size.

9b. Further detail is required to demonstrate how this proposed development is a positive contribution to the area. Not necessary. The drawing package in the DA is comprehensive and there is no other information that could be provided to explain the proposed development in regard to the spaces it proposes or the manner in which it engages with the street. *Consider opportunities for people to sit or seek shelter.* Notwithstanding the proposed design provides canopy coverage over the Broadway footpath, there may be merit in designing the planters to the Broadway boundary that enables people to sit under the shade of the canopy.

Principle 10 Aesthetics

10a *The overall design requires further work in order to meet the requirements of Design WA. Refer to previous comments in regard to design quality vs. compliance. The design needs considerable work in order to create an elegant composition. A sweeping statement based on a highly subjective viewpoint. There is a general lack of co-ordination in the elevational treatment. Incorrect, the street elevations are clearly ordered into an array of adjacent elements that resonate with the traditional street rhythm. Vertical ordering is evident in a clear base and middle section, with the top of each of the elements treated differently to subtly reinforce the individuality of each element – treating the whole building in a single architectural ‘style’ would increase the perceived bulk and scale of the building – an issue that that appears to be a particular bugbear of the reviewer. Fenestration is seemingly random in its placement and size. The ‘random’ placement of windows is a legitimate architectural expression that is widely used in contemporary architecture and is used to avoid the more momentous scale that is an inherent result of a grid of regular openings. There is no clear logic that is driving the choice or distribution of materials. Whilst the prevailing use of fine-grained modular materials (brick and cladding) on the street elevations is appropriate given the local palette, there is merit in providing evidence, through a context and character analysis, of such materials being used in locality. The top of the building lacks a clear resolution. Having the top of the building resolved in a unified manner would increase the perceived bulk and scale of the building. Resolving the tops of each building element separately, as proposed, is a more sensitive approach. However, there may be some scope to fine tune the tops of each section to strengthen the finishing detail at the top. The south elevation in particular is very imposing with large featureless expanses of brickwork separated by open walkways that is visually similar to public housing blocks. The planning framework anticipates that the property to the south will be developed to a similar height on, or close to, the common boundary. As such, the view of the southern elevation is likely to be temporary. The reference to public housing blocks is an emotive and unprofessional comment. Public housing has commonly been awarded for architectural innovation and the Wandana apartments by Krantz and Sheldon are heritage listed and widely recognised as exemplary of their time and purpose. The aesthetics are also negatively impacted by the excessive bulk and scale creating a heavy and imposing building that is in extreme contrast to the surround area and its desired future character. Incorrect, ‘aesthetics’ is a distinctly different design consideration from ‘built form and scale’, which is why they are separate principles in SPP7. As such, it is inappropriate to suggest aesthetics are a result of the building’s bulk and scale. The world is full of aesthetically pleasing buildings of all sizes. Whilst the bulk of the proposed building may be larger than existing buildings in the locality, it is consistent with the future forms of buildings anticipated by the planning framework. In regard to aesthetics, the planning framework provides no guidance on future character so the proposed development cannot be ‘in extreme contrast’ to something that does not exist.*

10b. *Application is not supported. A clear design concept is needed that has been generated out of thoughtful and considered interpretation of context and character. It has. However, the manner in which the design has been informed by the local context and character could be better explained. The bulk and scale is required to be reduced. There is no ‘requirement’ under the planning framework to do so, and the bulk and scale of the proposed development does not unduly compromise the other design considerations of SPP7. The applicants are also encouraged to study the local area to understand pre-existing formal, material and spatial patterns. Agreed, and there is*

merit in documenting this as supporting information. Other creative opportunities should also be considered such as public art. Clarification is required as to whether development is subject to a public art policy.

Conclusion

It is the strong opinion of the peer reviewer this application should not be supported. An opinion which, in the context of the above comments, is clearly flawed in regard to the accuracy of assumptions and interpretations. It is considerably out of character with the Broadway area. Whilst not consistent with the existing forms of development along the street, the proposed development is consistent with the forms of development anticipated by the planning framework and which will define the future character of the street. The excessive bulk and scale of the development will have an overall negative impact on the area and set an undesirable precedent. The bulk and scale is not excessive and does not give rise to material impacts on amenity that contradict the planning framework. The precedent for building of this form has already been set by the planning framework and other previous approvals along the street. The applicant should be encouraged to considerably reduce the plot ratio. Plot ratio is not a design consideration; only the impact of plot ratio where it manifests itself as a design shortcoming. The design should also be amended to better address its corner location along with a reduction in the size of the parapet walls on the boundaries. The parapet walls on the boundaries do not extend more than 2 storeys above ground level and are, therefore not excessive. A wholesale review of the building aesthetics is also encouraged to create a more layered and sophisticated outcome. Whilst there is scope for minor improvements to increase the sophistication of the design, a horizontally layered approach would be inappropriate because it would disrupt the grain of the locality and result in a building that looks more extensive than what is currently proposed.

Malcolm Mackay
Director – Mackay Urbandesign

08 January 2021

Attachment 3
Emerge Technical Note

Document Reference: 105 Broadway, Nedlands: On-Structure Planters

5 February 2021

Attention: Abbey Goodall
Planning Solutions
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Perth, WA 6000

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Blue Tang (WA) Pty Ltd as trustee for
The Reef Unit Trust ABN 44656153170
trading as Emerge Associates

Delivered by email to: abbey.goodall@planningsolutions.com.au

To Whom it may concern,

MIXED USE DEVELOPMENT - 105 BROADWAY, NEDLANDS: ON-STRUCTURE PLANTERS

Registered Landscape Architects from Emerge Associates were involved in the preparation of the Landscape requirements for the Mixed-Use Development at 105 Broadway, Nedlands.

The trees species selected, the soil depth and soil volume which is being proposed has been designed in accordance with *State Planning Policy 7.3 Residential Design Codes Volume 2 - Apartments 2019* as prepared by the DPLH/WAPC. Based on the State Planning Policy, the required volumes for each tree size is as follows:

- Large Tree – 76.8m² (Soil Depth – 1.2m)
- Medium Tree – 36m² (Soil Depth – 1.0m)
- Soil Tree – 7.2m² (Soil Depth – 0.8m)

Table 4.12 Planting on structure: minimum soil standards for plant types and sizes

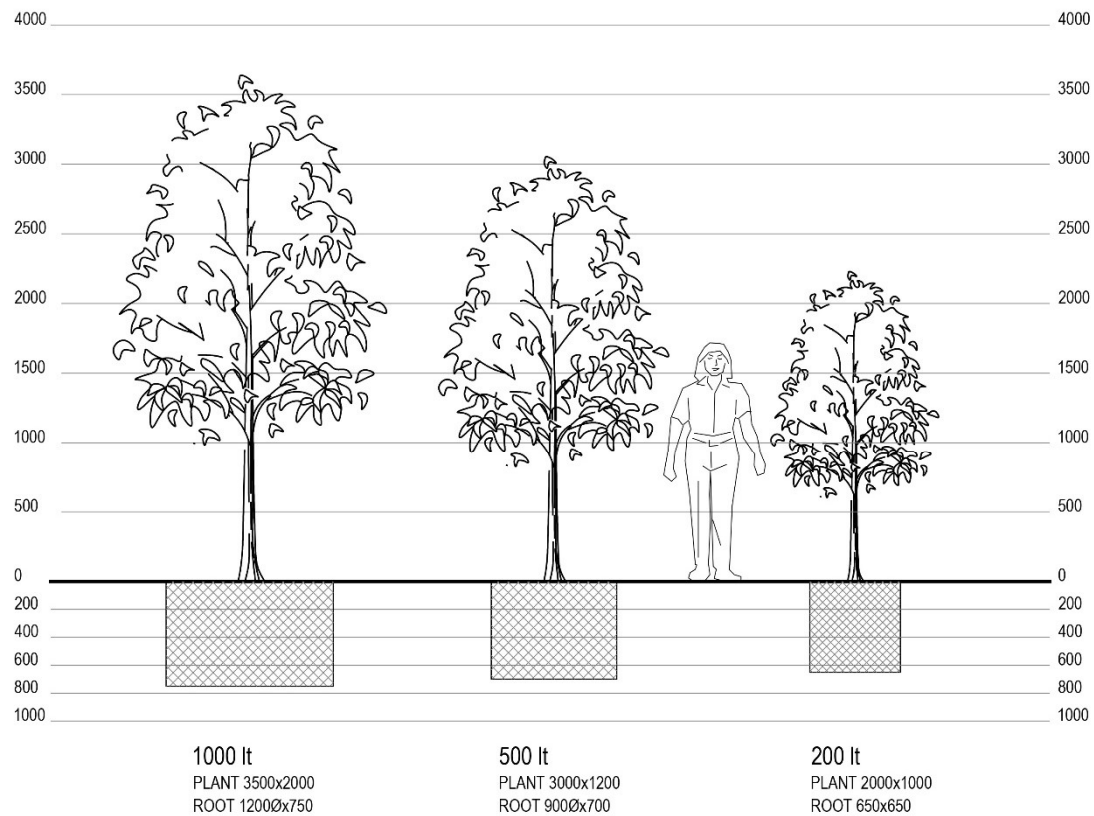
Plant type	Definition	Soil volume	Soil depth	Soil area
Large tree	Over 12m high, crown spread at maturity	76.8m ³	1,200mm	64m ² with minimum dimension 7m
Medium tree	8-12m high, crown spread at maturity	36m ³	1,000mm	36m ² with minimum dimension 5m
Small tree	4-8m high, crown spread at maturity	7.2m ³	800mm	3m x 3m
Small ornamentals	3-4m high, crown spread at maturity	3.2m ³	800mm	2m x 2m
Shrubs	--	--	500-600mm	--
Ground cover	--	--	300-450mm	--
Turf	--	--	200mm	--

The development is proposing the following trees to a depth of 1m on structure:

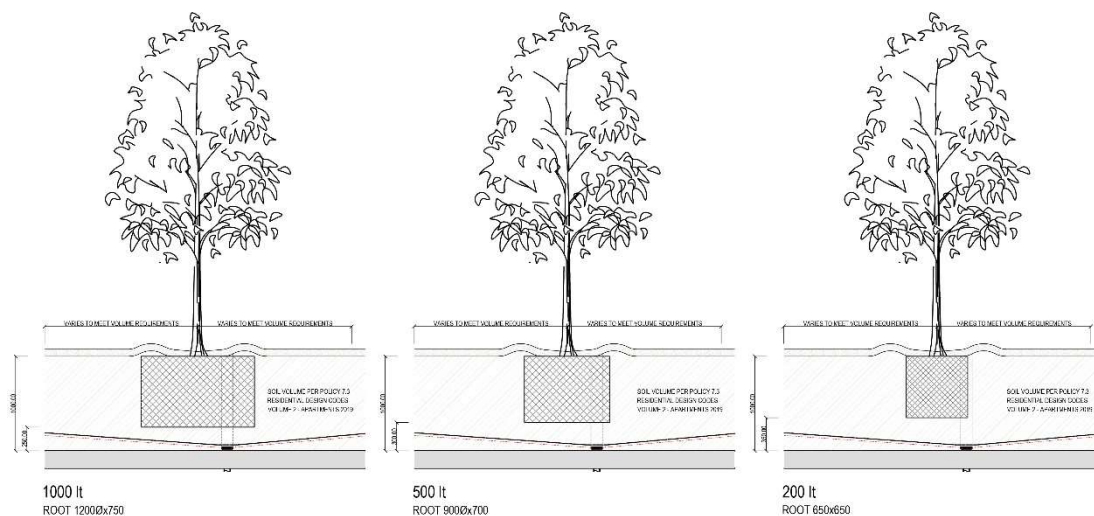
- 2x Medium trees – *Cupaniopsis anacardioides* 'Tuckeroo' (36m³ soil volume @ 1m depth)
- 7x Small Trees - *Lagerstromeia indica* 'Sioux' (9m³ soil volume @ 1m depth)

Further to the above, Emerge Associates had also sought advice from Ellenby Tree Farm – who are Western Australia's largest commercial tree nursery – to specify appropriate tree species for the on-structure planters which factors the proposed depths and soil volumes. Ellenby Tree Farm have also provided a letter confirming that the soil volumes & planter depths will provide suitable conditions for long term health of the tree species selected & will ensure the trees reach their mature size.

The tree species proposed for this development have been selected for the suitability of the site & conditions including installation in on-structure planters. Emerge Associates have confirmed the root ball size of the proposed tree stock at a variety of sizes which is still to be determined. Further to this, Emerge Associates have tested the root ball in relation to the on-structure planter depths of 1m & the tree is provided between 250mm-350mm soil clearance under the already significant root ball. This will allow the root ball to establish in a bed of suitable soil, with the remaining volume to suit the root growth profile to the sides. The proposed trees (*Lagerstromia indica* 'Sioux' & *Cupaniopsis anacardioides* 'Tuckeroo') have a shallow root profile & are suitable for containerised growth.



TYPICAL PLANTSTOCK PROFILES



TYPICAL ROOTBALL PROFILE TO SLAB

Further to the above, the trees will be installed to the following specification which will allow them to establish rapidly & grow to maturity. Further to the installation specification, the trees will also be

subject to an ongoing maintenance regime which includes irrigation inspections to ensure they are receiving adequate water, regular tree pruning, regular fertilising & soil improvement as required.

TREE PLANTING SPECIFICATION

Planting conditions

Weather: Do not plant in unsuitable weather conditions such as extreme heat, cold, wind or rain. In other than sandy soils, suspend excavation when the soil is wet, or during frost periods.

Watering

Timing: Thoroughly water the plants before planting, immediately after planting, and as required to maintain growth rates free of stress.

Placing

Method: Remove the plant from the container with minimum disturbance to the root ball. Make sure that the root ball is moist and place it in its final position, in the centre of the hole and plumb, and with the top soil level of the plant root ball level with the finished surface of the surrounding soil.

Fertilising

Pellets: In planting beds and individual plantings, place fertiliser pellets around the plants at the time of planting.

Backfilling

General: Backfill with topsoil mixture. Tamp lightly and water to eliminate air pockets. Make sure that topsoil is not placed over the top of the root ball, so the plant stem remains the same height above ground as it was in the container.

Watering basins for plants in grass

Method: Except in irrigated grassed areas and normally moist areas, construct a watering basin around the base of each individual plant, consisting of a raised ring of soil capable of holding at least 10 L.

SOIL SPECIFICATION

Property	Soil Mix
Soil Type	Lightweight soil mix (not exceeding 25% by weight organic matter) with coarse river sand base.
Soil Depth	1m as per <i>State Planning Policy 7.3 Residential Design Codes Volume 2 - Apartments 2019</i> 50mm Coarse river sand Base Planting level (minus mulch depth) to top of sand base
Soil Weight	< 1500kg saturated weight/m ³
Product or source	Eclipse Soils - lightweight rooftop garden soil mix. Provide coarse river sand base for water filtration
Location	All planters on slab, refer to drawings for location

FERTILISER SPECIFICATION

All trees (flowering and non-flowering) and plantings shall be fertilized in accordance with recognized horticultural procedures. Provide proprietary fertilisers, delivered to the site in sealed bags marked to show manufacturer or vendor, weight, fertiliser type, N:P:K ratio, recommended uses and application rates.

Provide proprietary fertilisers, delivered to the site in sealed bags marked to show manufacturer or vendor, weight, fertiliser type, N:P:K ratio, recommended uses and application rates suitable for the

plant types specified. Rates of fertiliser should be a minimum of 15 to 20gm/sqm for containerised stock of 140mm pot size or bigger.

Emerge Associates have no reason to doubt that the information provided in this document is inappropriate and are confident that the trees selected will reach their true height, form and habit.

Yours sincerely
EMERGE ASSOCIATES

A handwritten signature in black ink, consisting of several vertical strokes followed by a horizontal line and a small dot.

Michael Missikos
SENIOR LANDSCAPE ARCHITECT
BL Arch (Hons)

cc: Abbey Goodall, Planning Solutions

Encl: Ellenby Tree Farm Letter



ELLENBY TREE FARM PTY LTD

ABN 54 007 280 202

439 SYDNEY RD

GNANGARA WA 6077

TEL: (08) 9405 4558

FAX: (08) 9405 3759

E-MAIL: info@ellenbytreefarm.com.au

19th November 2020

Michael Missikos

RE: 105 Broadway Nedlands

To Whom it may Concern

We have reviewed the proposed tree selections, proposed volumes & proposed construction details for the on-structure planters proposed for 105 Broadway, Nedlands Mixed Use Development.

The proposed trees which include; 2x Medium trees - Lagerstromeia indica x L.fauriei 'Natchez' (36m³ soil volume) & 4x Lagerstromeia indicax L fauriei 'Siouxz' (9m³ soil volume) have more than sufficient soil volume to ensure viable & sustainable growth.

It is our opinion that the soil volumes & proposed depth (1m) will provide suitable conditions for long term health of the trees & will ensure the trees reach their mature size.

Regards

Craig Woodroffe

Ellenby Tree Farm Pty Ltd

ABN 54 007 280 202

439 Sydney Road

Gnangara WA 6077

Phone: (08) 9405 4558

Mobile: 0438 078 016

Fax: (08) 9405 3759

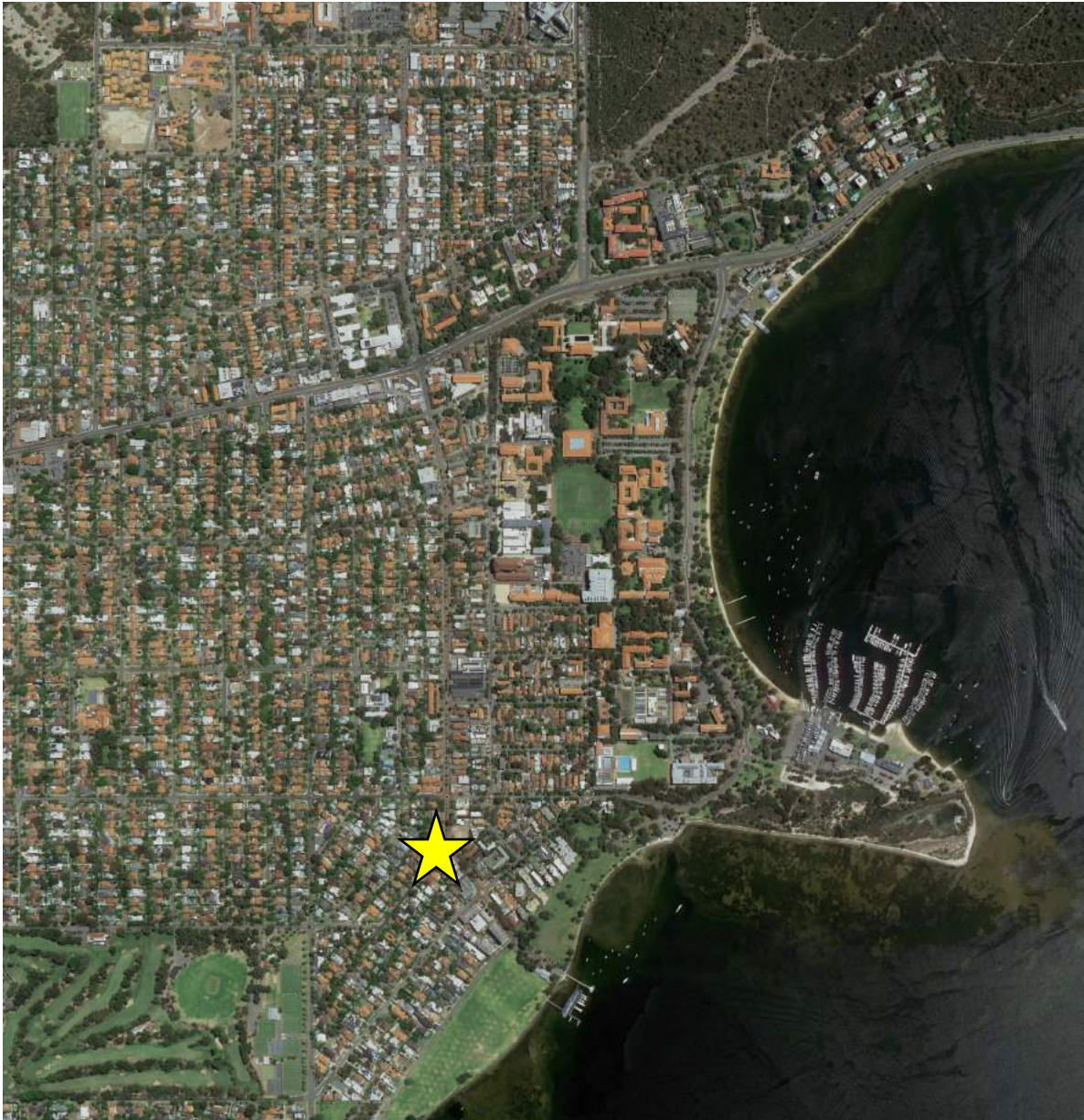
e-mail: craig.woodroffe@ellenbytreefarm.com.au

Website: www.ellenbytreefarm.com.au

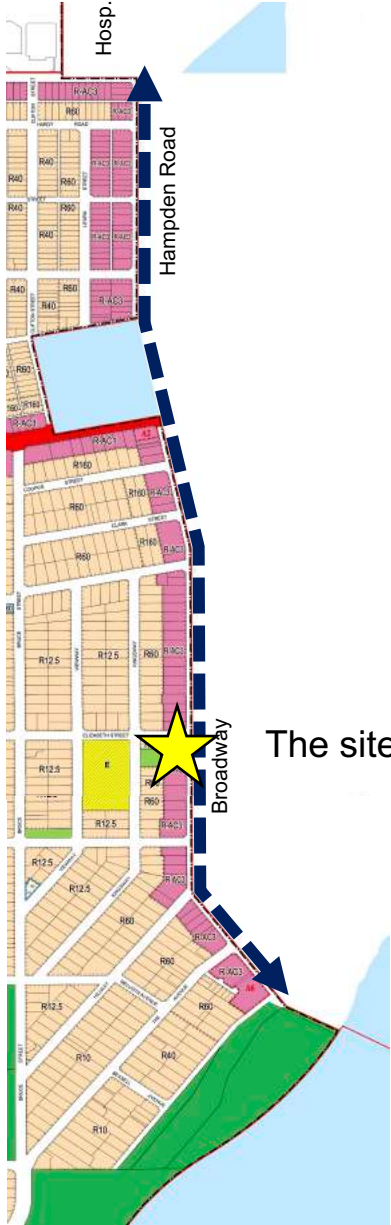
Attachment 4
Context and Character Analysis

Context and character: 105 Broadway, Nedlands

V2 January 2021



Location



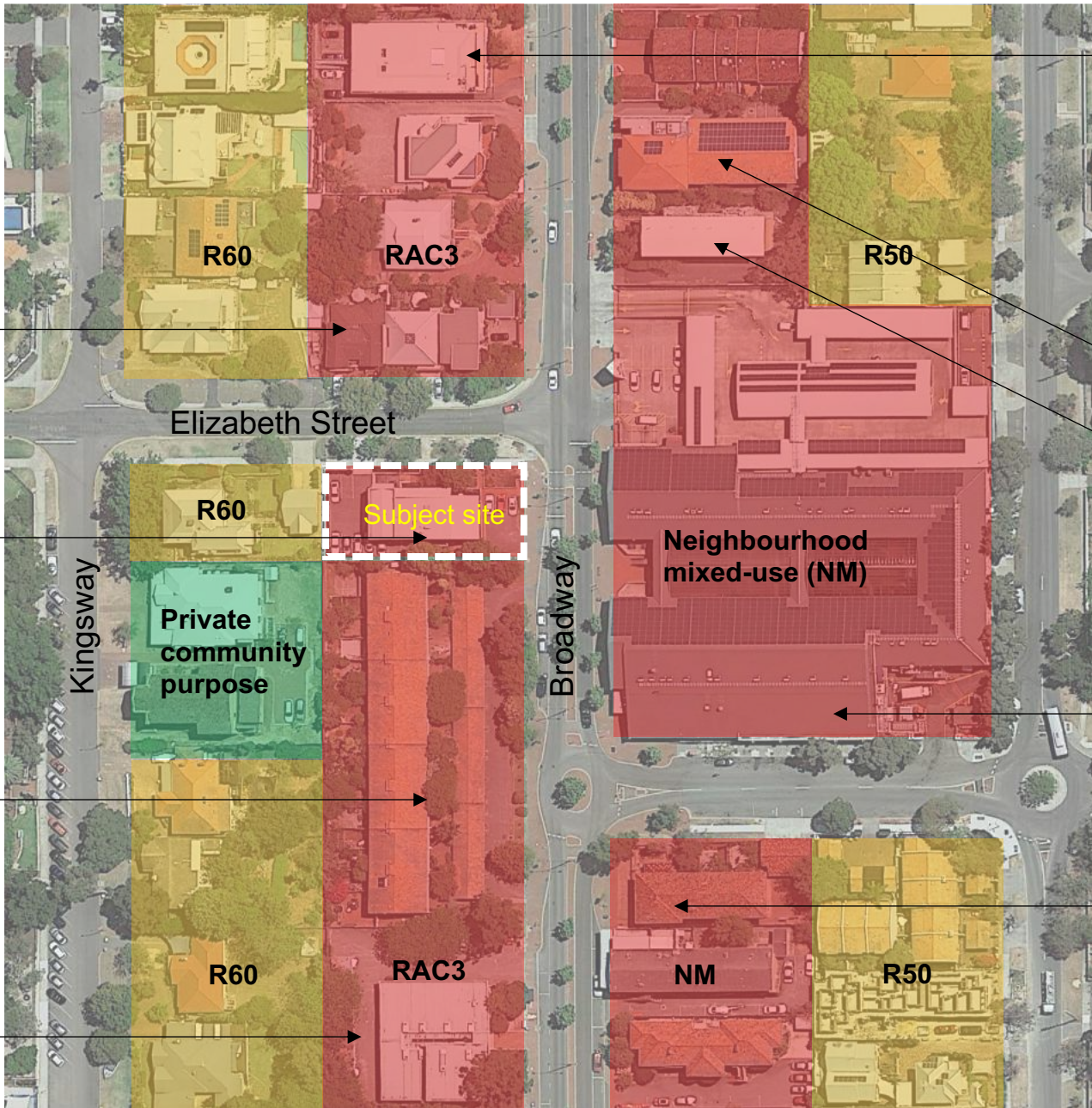
Planning Scheme

The site is zoned mixed-use and coded RAC3

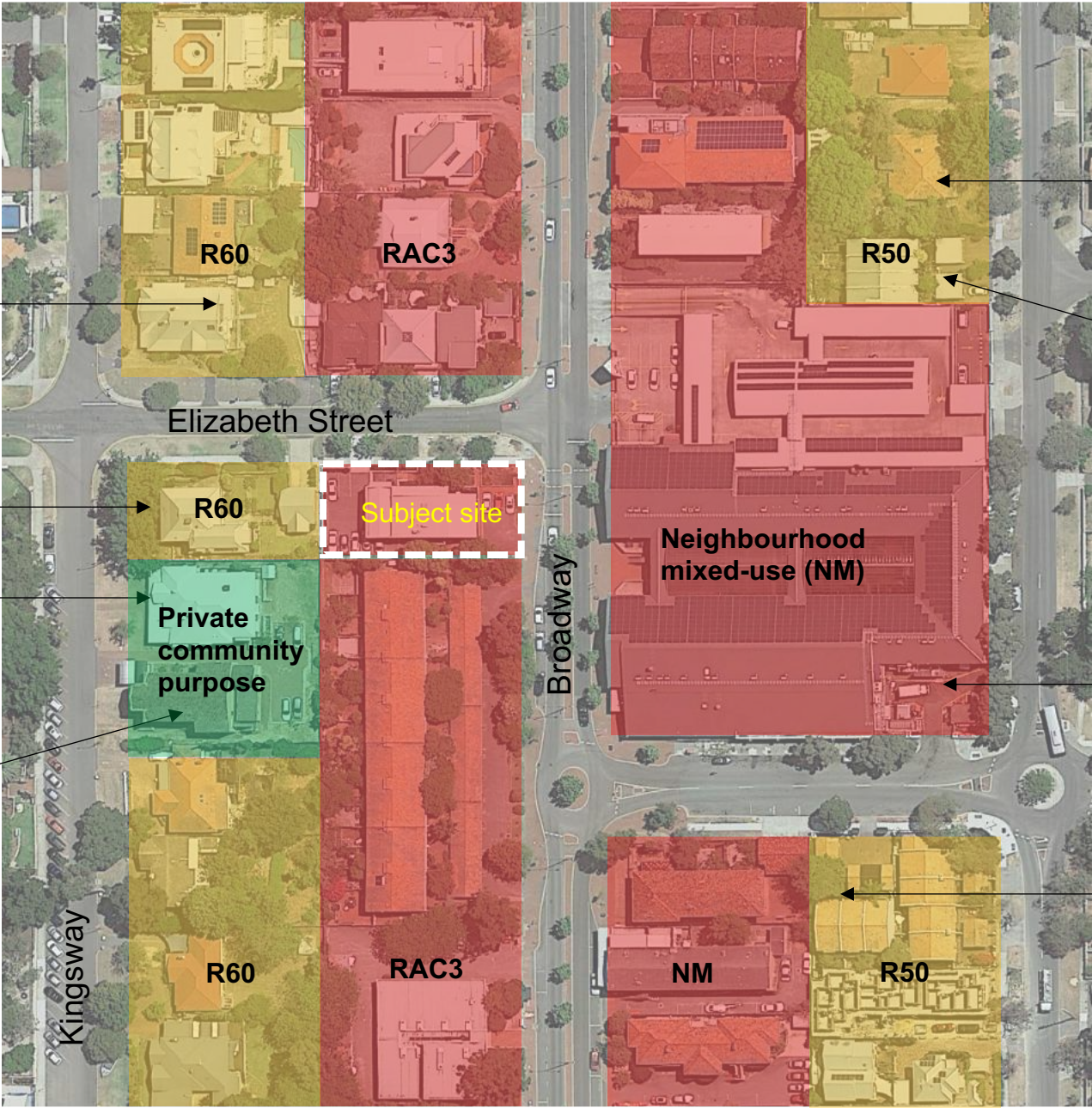


Site R-coding	R-AC3
Streetscape context and character	Medium-rise urban centre
(Site zoning)	Mixed use
Building height (storeys)	6
Boundary wall height (storeys)	6
Min primary and secondary street setbacks	Nil*
Minimum side setbacks	Nil
Minimum rear setbacks	Nil
Minimum average side/rear setback where building length exceeds 16m	N/a
Plot ratio	2

Immediate context



Immediate context



Immediate context – topography and adjacent lot interfaces



Elizabeth street – it's steep

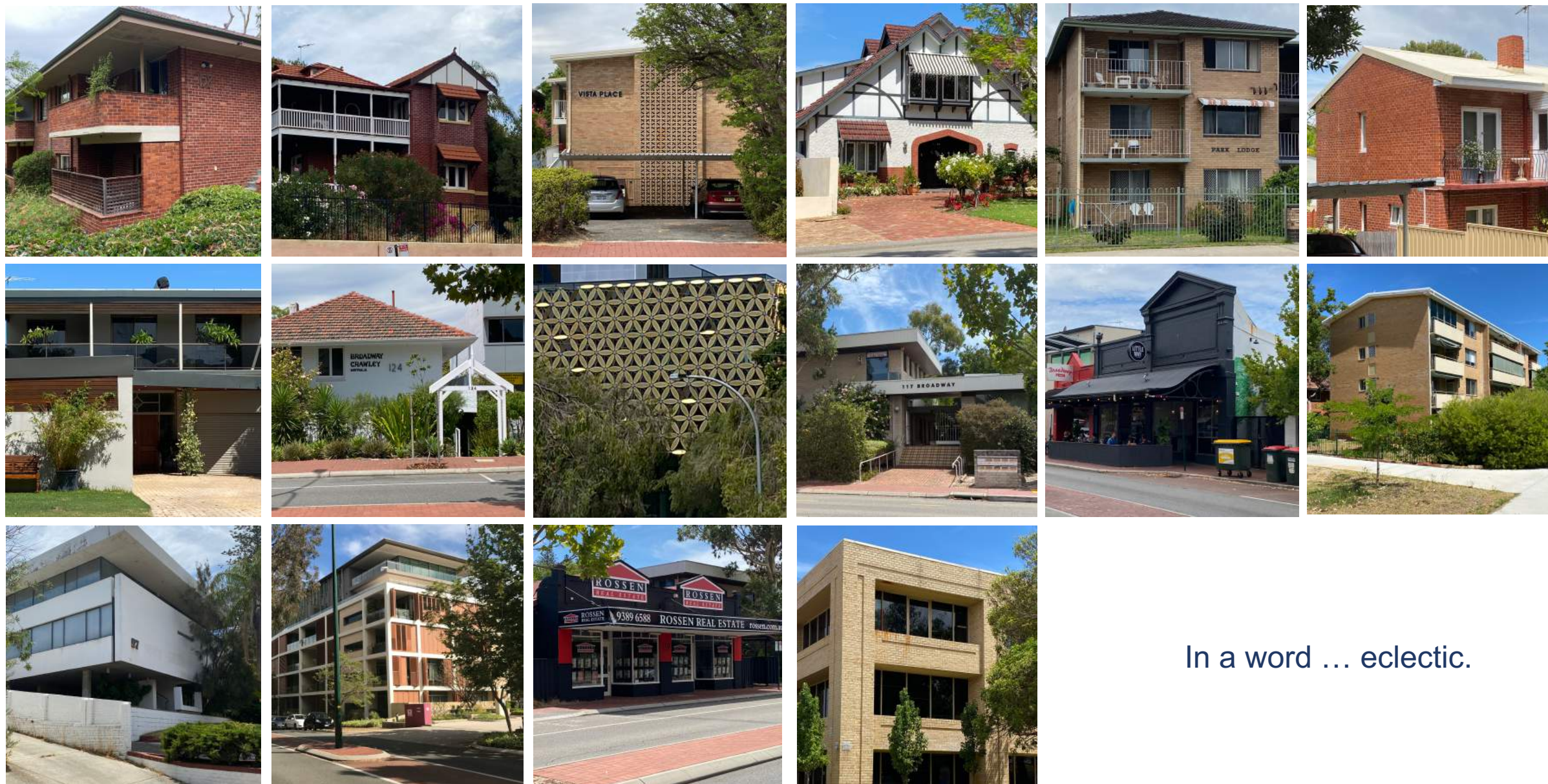


Interface to the south



Interface to the west

Local character – what it is



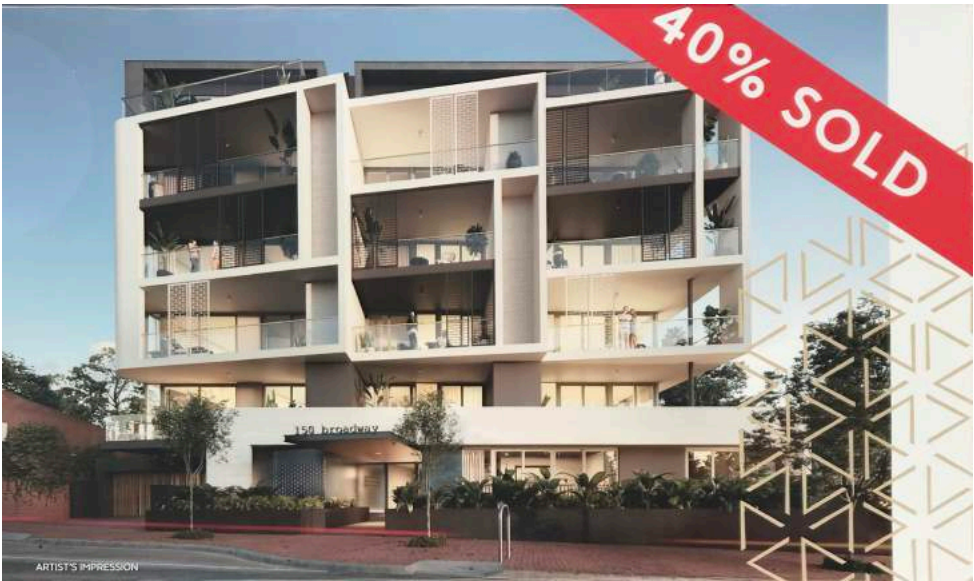
In a word ... eclectic.

Local character – what it's not

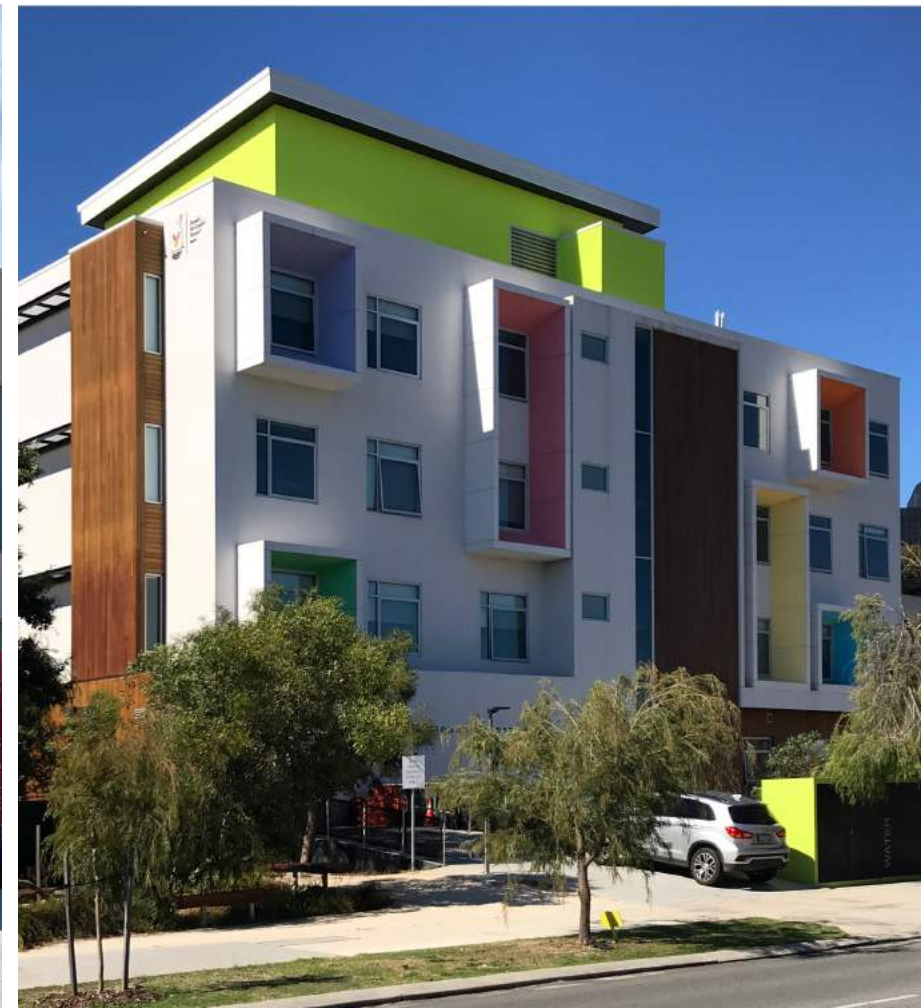


The common perception of Nedlands - much of it is, but not Broadway

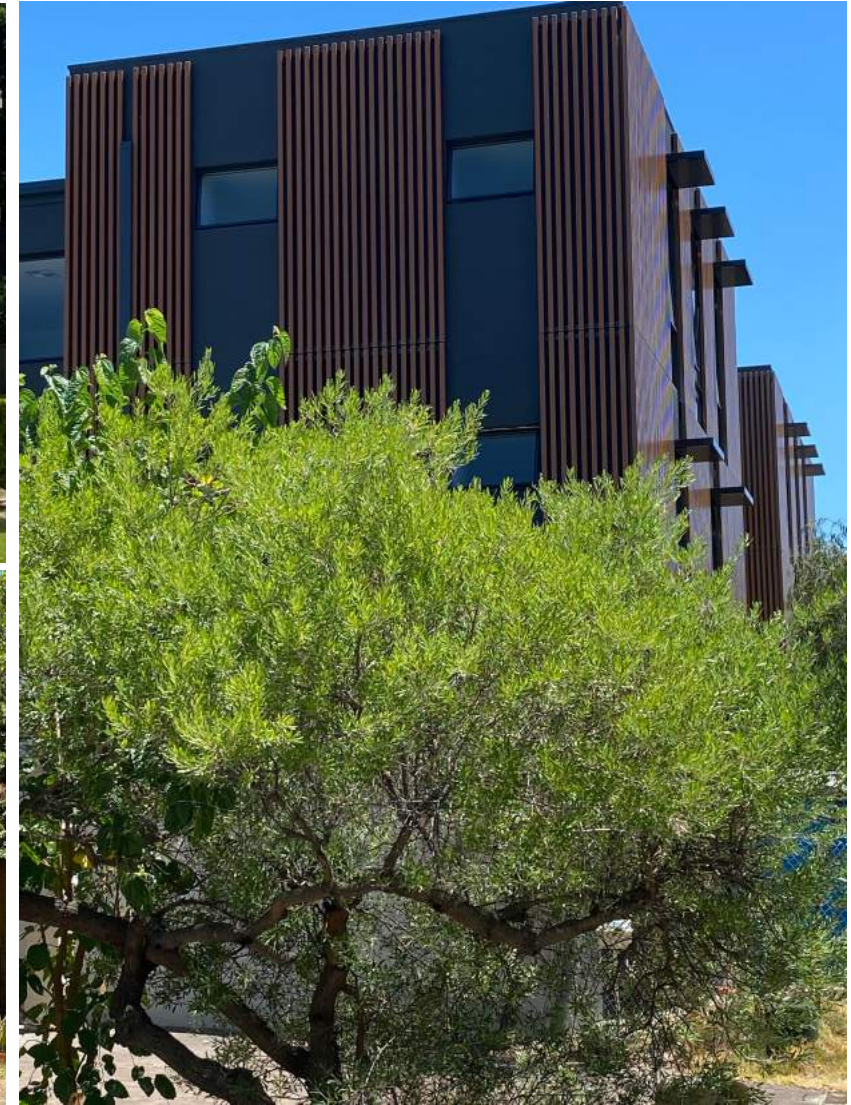
Emerging context and character



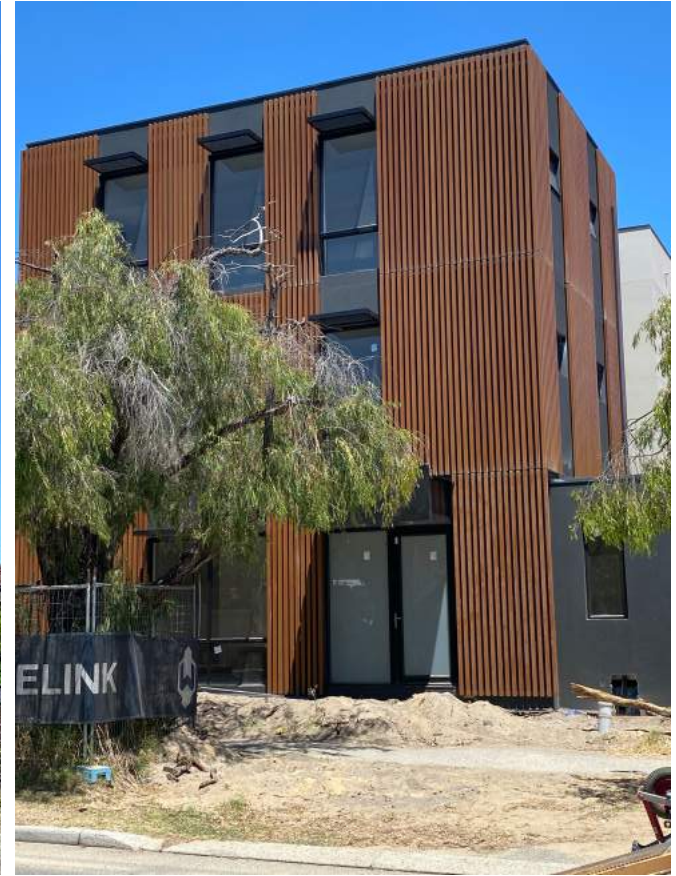
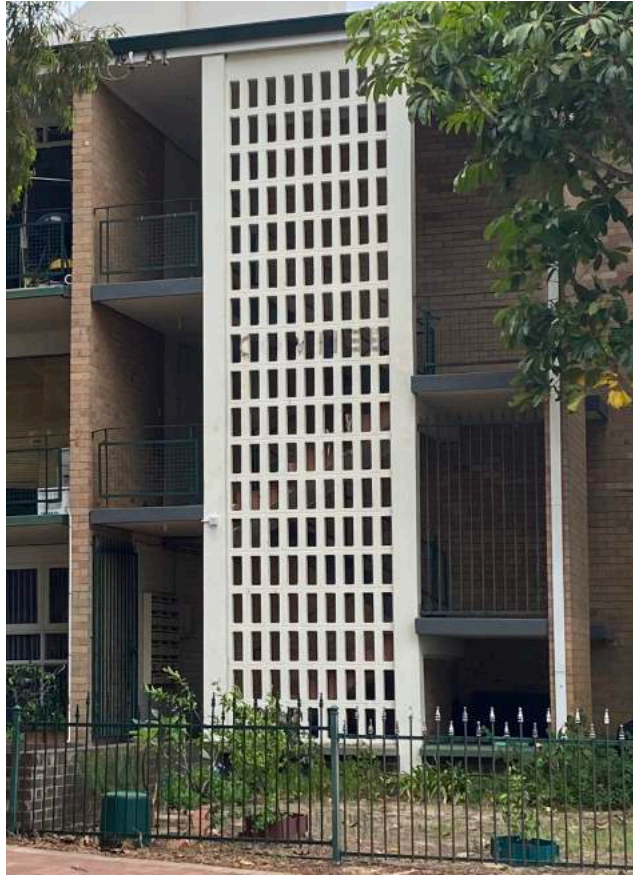
Form and structure character cues: Architectural syncopation



Form and structure character cues: Rhythm n' bays



Form and structure character cues: Vertical geometries



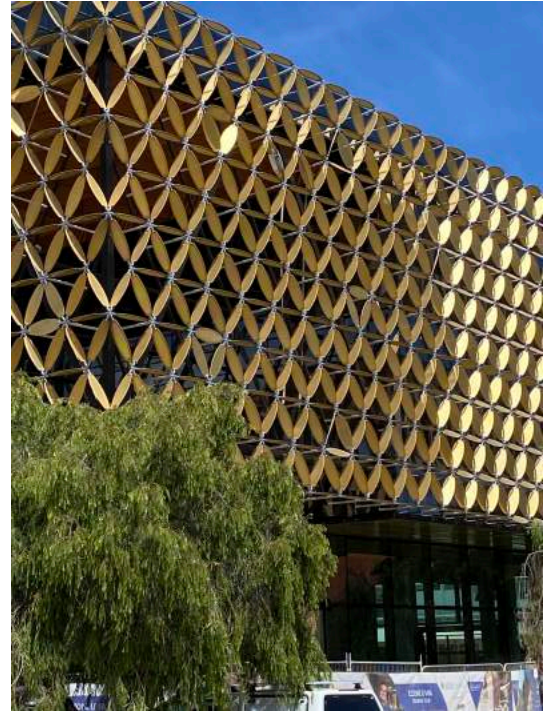
Form and structure character cues: Balconies and deep shady recesses



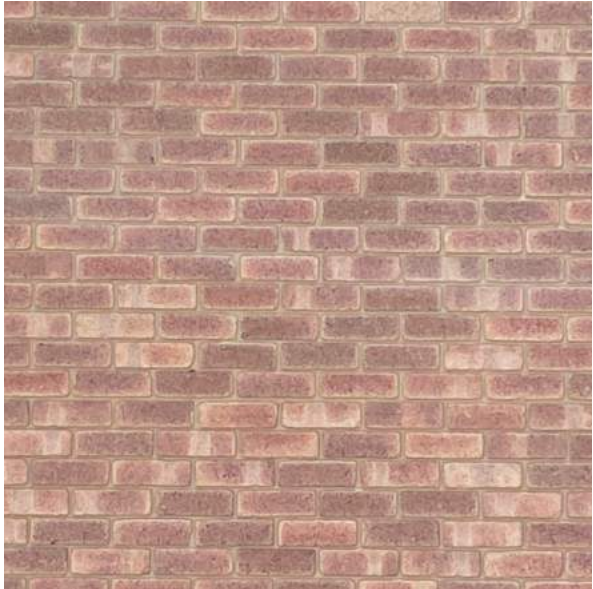
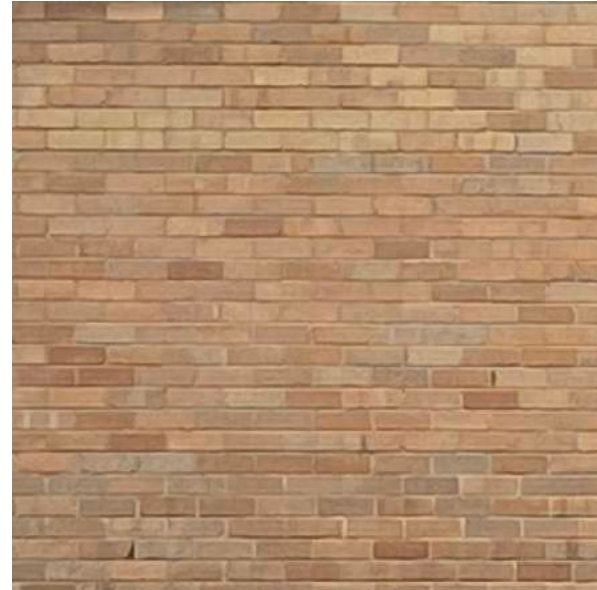
Form and structure character cues: Simple contemporary shopfronts



Form and structure character cues: Urban scale



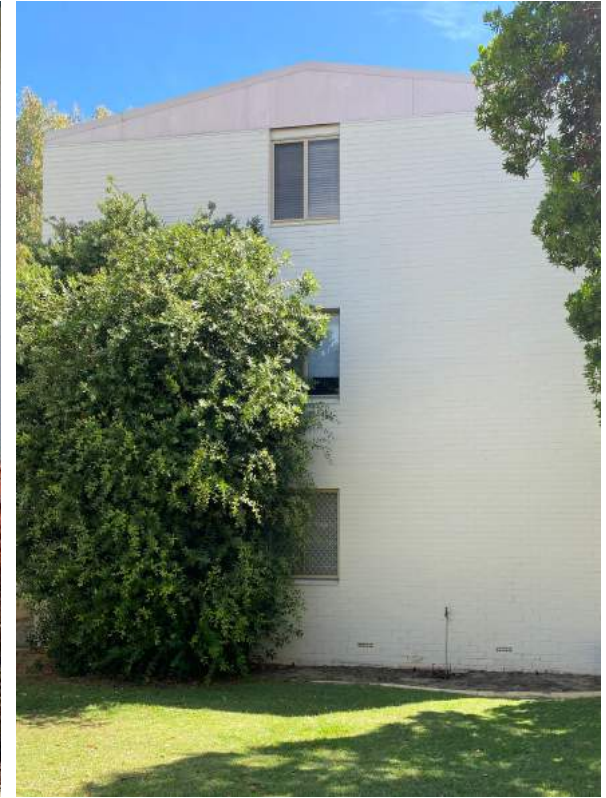
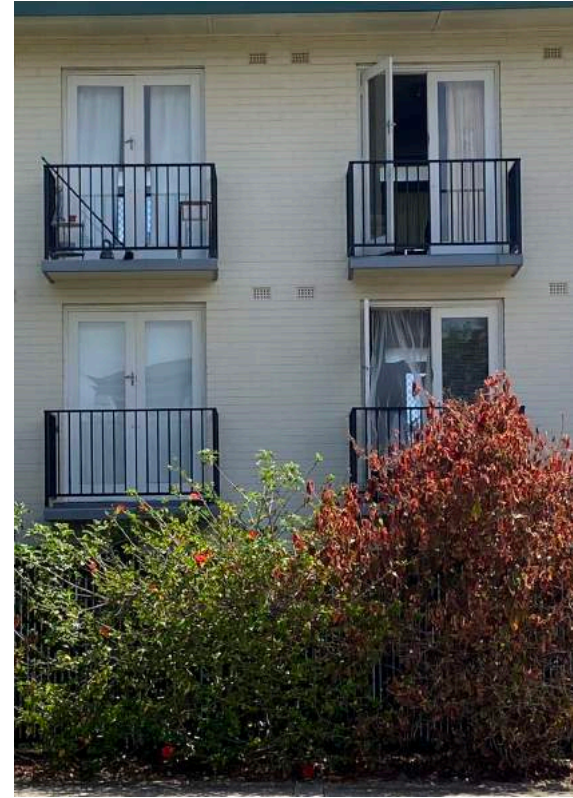
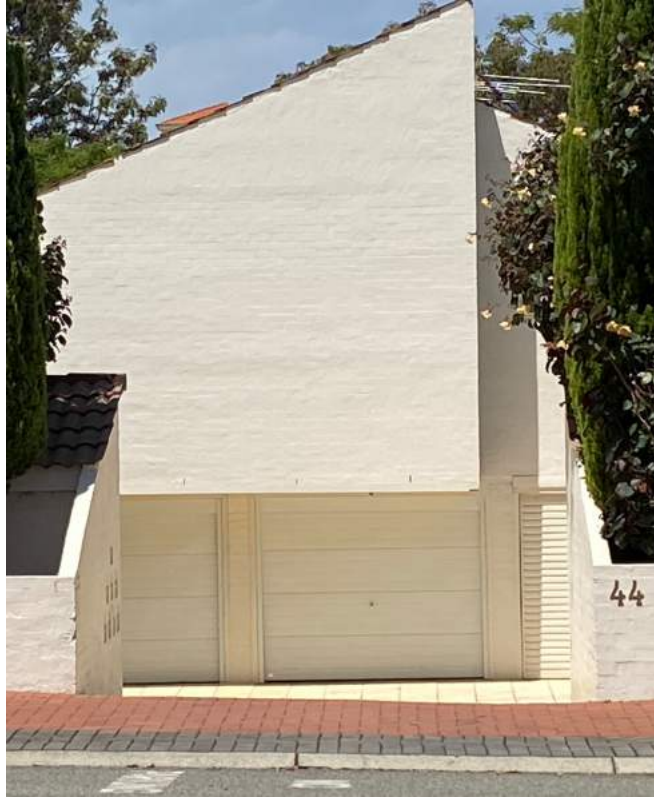
Pattern and material character cues: Bricks (of many colours)



Pattern and material character cues: Striped architecture



Pattern and material character cues: Painted architecture



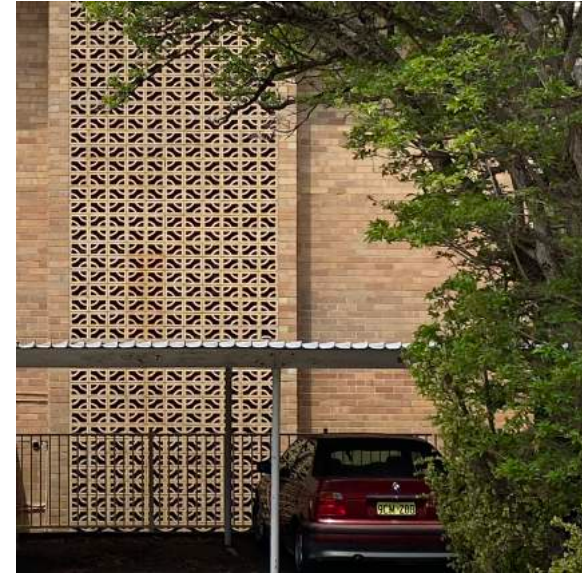
Patterns and materials: Warm palette with white linear detailing



Patterns and materials: Black framing



Pattern and material character cues: Repetitive patterning





Attachment 5
Amended Landscaping Plan

State Planning Policy 7.2 - Precinct Design (and associated Guidelines)

SPP 7.2 and its associated *Guidelines* have recently become operational. Whilst *SPP 7.2* relates primarily to the creation of precinct plans, it does specify design elements which provide guidance for the assessment of development applications in areas that are within a precinct boundary but where a precinct plan is not in place.

As noted in the RAR, the subject site is located within the UWA/QEII Specialised Activity Centre Plan, where it is envisaged that a future precinct plan will be prepared to guide development within this precinct. However, to date this Plan has not yet been prepared. Accordingly, the following Table outlines the design elements of *the Guidelines* that apply to the proposal and the associated officer response.

Design Element 1: Urban Ecology	
Objective	Officer Response
O1.1 To protect, enhance and respond to the ecological systems of the precinct.	N/A
O1.2 To enhance sense of place by recognising and responding to Aboriginal, cultural and built heritage.	N/A There is no Aboriginal heritage on or near the site. The proposal responds to existing and anticipated future built heritage through appropriate context and character.
O1.3 To reduce the environmental and climate change impacts of the precinct development.	Design Element Satisfied Various sustainability initiatives will be incorporated into the proposal as outlined in the RAR and R-Codes Volume 2 assessment. In the event of JDAP approval, these initiatives can be conditioned to meet the R-Codes Volume 2 acceptable outcomes for energy and water efficiency.
Design Element 2: Urban Structure	
Objective	Officer Response
O2.1 To ensure the pattern of blocks, streets, buildings and open space responds and contributes to distinct, legible precinct character	Design Element Not Satisfied The orientation of the building requires modification to ensure the building addresses Broadway appropriately
O2.2 To promote an urban structure that supports accessibility and connectivity within and outside the precinct.	Design Element Satisfied The development provides facilities and parking for various transport nodes and is considered to be easily accessible within the locality.
O2.3 To ensure the urban structure supports the built form, public realm and activity intended for the precinct.	N/A
O2.4 To ensure an adaptable urban structure that can respond to and facilitate change within a precinct.	N/A
Design Element 3: Public Realm	
Objective	Officer Response

O3.1	To ensure the public realm is designed to promote community health and wellbeing	<i>N/A</i>
O3.2	To enable local character and identity to be expressed in public realm to enhance a sense of place.	<i>N/A</i>
O3.3	To ensure than key environmental attributes are protected and enhanced within the public realm.	<i>N/A</i>
O3.4	To ensure the public realm is designed to be inclusive, safe and accessible for different users and people of all ages and abilities.	<i>N/A</i>
O3.5	To ensure public realm design is integrated with the built form, movement network and landscape of the precinct.	<i>N/A</i>
Design Element 4: Movement		
Objective		Officer Response
O4.1	To ensure the movement network supports the function and ongoing development of the precinct.	<i>Design Element Satisfied</i> The development utilises the existing movement network.
O4.2	To ensure a resilient movement network that prioritises affordable, efficient, sustainable and healthy modes of transport.	<i>Design Element Satisfied</i> The development includes bicycle and motorcycle parking. It is also located within close proximity existing bus services, including a high frequency service along Stirling Highway.
O4.3	To enable a range of transport choices that meet the needs of residents, workers and visitors.	<i>Design Element Satisfied</i> The site is located in an area that provides transport choice.
O4.4	To ensure the quantity, location, management and design of parking supports the vision of the precinct.	<i>N/A</i> There is currently no vision in place for the Broadway precinct with respect to car parking.
Design Element 5: Land Use		
Objective		Officer Response
O5.1	To ensure current and planned land uses respond to the needs and expectations of the community.	<i>Design Element Satisfied</i> The mixed use proposal is considered to be consistent with the relevant provisions of the 'Hampden/Broadway' Precinct of the City's <i>Local Planning Strategy</i> .
O5.2	To ensure the planned land use types contribute positively to the precinct character and amenity.	<i>Design Element Satisfied</i> The scale of the proposal is considered to be consistent with the current R-AC3 coding and its intended future character for the locality.
O5.3	To achieve a mix of land uses and activity that supports the precinct vision.	<i>Design Element Not Satisfied</i> The Office tenancy provides a commercial component for the mixed-use proposal. The design of the tenancy is not considered adaptable and requires further connection to

	the street in order to provide an active frontage.
Design Element 5: Built Form	
Objective	Officer Response
O6.1 To ensure that the built form is responsive to the purpose, context and intended character of the precinct.	<i>Design Element Not Satisfied</i> The development does not have appropriate massing, bulk or scale.
O6.2 To ensure building placement, scale and massing is appropriate for the intended precinct and streetscape character.	<i>Design Element Satisfied</i> It is considered that the proposal achieves the acceptable outcomes and/or the element objectives relating to building height and setbacks, plot ratio as well as building depth and separation, consistent with the R-AC3 coding of the locality.
O6.3 To ensure that built form design reduces energy demand across the precinct by facilitating climate-responsive design.	<i>Design Element Satisfied</i> The development seeks to maximise a northern orientation (as well as natural ventilation) for the site, includes shading devices and energy efficiency measures.
O6.4 To ensure that built form design is responsive to the streetscape and contributes to a safe and comfortable public realm.	<i>Design Element Not Satisfied</i> The proposal does not responds to the streetscape for the reasons outlined in the RAR.

ELEMENT 2.2		BUILDING HEIGHT										
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>			APPLICANT COMMENT					ASSESSOR COMMENT				
			<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>									
Assessment of A2.2.1 – <ul style="list-style-type: none">the development is 6 storeys in height (measured height of 21.35m)there are two, two storey boundary walls proposed.Based on information provided by the applicant, the lower ground floor is not a storey per the definition.												
O2.2.1 – The height of development responds to the desired future scale and character of the street and local area, including existing buildings that are unlikely to change.			See Attachment X					Refer to RAR				
O2.2.2 – The height of buildings within a development responds to changes in topography.								Refer to RAR				
O2.2.3 – Development incorporates articulated roof design and/or roof top communal open space where appropriate.								Refer to RAR				
O2.2.4 – The height of development recognises the need for daylight and solar access to adjoining and nearby residential development, communal open space and in some cases, public spaces.								Refer to RAR				
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>												
A2.2.1 – Development complies with the building height limit (storeys) set out in Table 2.1, except where modified by the local planning framework, in which case development complies with the building height limit set out in the applicable local planning instrument.												
<i>(Excerpt from table 2.1)</i>												
Streetscape contexts and character <i>refer A2</i>		Low-rise		Medium-rise		Higher density residential		Neighbourhood centre	Mid-rise urban centres	High density urban centres		Planned areas
Site R-Coding	R40	R50	R60	R80	R100	R160	R-AC4	R-AC3	R-AC2	R-AC1	R-AC0	
Building height (storeys) <i>refer 2.2</i>	2	3	3	4	4	5	3	6	7	9		
LOCAL PLANNING FRAMEWORK					REQUIREMENT							

Local Planning Policy – Interim Built Form Design Guidelines – Broadway Mixed Use Zone	Max height of 12.5m or 4 storeys above the road level. Development does not comply.
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ELEMENT 2.3		STREET SETBACKS										
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>			APPLICANT COMMENT					ASSESSOR COMMENT				
			<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>									
Assessment of A2.3.1												
Ground – Y; 1.47m												
Upper – N;1.47m												
O2.3.1 – The setback of the development from the street reinforces and/or complements the existing or proposed landscape character of the street.								Refer to RAR				
O2.3.2 – The street setback provides a clear transition between the public and private realm.								Refer to RAR				
O2.3.3 – The street setback assists in achieving visual privacy to apartments from the street.								Refer to RAR				
O2.3.4 – The setback of the development enables passive surveillance and outlook to the street.								Refer to RAR				
ACCEPTABLE OUTCOMES												
<i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>												
A3.2.1 – Development complies with the street setback set out in Table 2.1, except where modified by the local planning framework, in which case development complies with the street setback set out in the applicable local planning instrument												
<i>(Excerpt from table 2.1)</i>												
Streetscape contexts and character <i>refer A2</i>		Low-rise		Medium-rise		Higher density residential		Neighbourhood centre	Mid-rise urban centres	High density urban centres		Planned areas
Site R-Coding	R40	R50	R60	R80	R100	R160	R-AC4	R-AC3	R-AC2	R-AC1	R-AC0	
Minimum primary and secondary street setbacks <i>refer 2.3</i>	4m ⁴	2m	2m		2m		2m or Nil ⁵	2m or Nil ⁵	2m or Nil ⁵			
<div>(4) Minimum secondary street setback 1.5m</div> <div>(5) Nil setback applicable if commercial use at ground floor</div>												
LOCAL PLANNING FRAMEWORK						REQUIREMENT						

Local Planning Policy – Interim Built Form Design Guidelines – Broadway Mixed Use Zone	2m Development does not comply.
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ELEMENT 2.4		SIDE AND REAR SETBACKS			
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT		ASSESSOR COMMENT	
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>			
Assessment of A2.4.1 –					
Wall	Min Setback	Separation standard	Visual Privacy setback	Proposed	Achieved
S U Ground	Nil	Nil	Nil	Nil	Y
S 1 st	Nil	Nil	3m	1.54m-5.9m	N – 2.15m V/P setback for the open access walkway, however it is screened.
S 2 nd	Nil	Nil	3m	1.54m-5.9m	Y
S 3 rd	Nil	Nil	3m	1.54m-5.9	Y
S 4 th	Nil	9m	3m	1.54m-5.9m	N – larger separation expected at the upper floors
S 5 th	Nil	9m	3m	2m- 5.9	N – larger separation expected at the upper floors
W L Ground – Retaining	Nil	Nil	Nil	Nil	Y
W U Ground	Nil	Nil	Nil	Nil	Y
W 1 st	Nil	Nil	Nil	Nil	Y
W 2 nd	Nil	Nil	Balc- 6m Living – 4.5m Bedroom – 3m	5.11m	Y
W 3 rd	Nil	Nil	Balc- 6m Living – 4.5m Bedroom – 3m	5.11m	Y
W 4 th	Nil	9m	Balc- 6m Living – 4.5m Bedroom – 3m	5.11m	N
W 5 th	Nil	9m	Balc- 6m Living – 4.5m Bedroom – 3m	5.11m	N
02.4.1 – Building boundary setbacks provide for adequate separation between neighbouring properties.					Refer to RAR
02.4.2 – Building boundary setbacks are consistent with the existing streetscape pattern or the desired streetscape character.					Refer to RAR
02.4.3 – The setback of development from side and rear boundaries enables retention of existing trees and provision of deep soil areas that reinforce the landscape character of the area.					Refer to RAR

support tree canopy and assist with stormwater management.		
02.4.4 –The setback of development from side and rear boundaries provides a transition between sites with different land uses or intensity of development.		Refer to RAR

ACCEPTABLE OUTCOMES

Acceptable Outcome pathway may not be applicable where a performance solution is provided

A2.4.1 - Development complies with the side and rear setbacks set out in Table 2.1, except where:

- a) modified by the local planning framework, in which case development complies with the side and rear setbacks set out in the applicable local planning instrument
AND /OR
- b) a greater setback is required to address 3.5 *Visual privacy*.

(Excerpt from table 2.1)

Streetscape contexts and character <i>refer A2</i>	Low-rise		Medium-rise		Higher density residential		Neighbourhood centre	Mid-rise urban centres	High density urban centres		Planned areas
Site R-Coding	R40	R50	R60	R80	R100	R160	R-AC4	R-AC3	R-AC2	R-AC1	R-AC0
Boundary wall height (storeys) ^{1,2} <i>refer 2.4</i>	1 ³		1 ³	2 ³	2 ³		2	3	4		
Minimum side setbacks ⁶ <i>refer 2.4</i>	2m	3m	3m		3m		Nil				
Minimum rear setback <i>refer 2.4</i>	3m		3m		6m		6m	Nil	Nil		
Average side setback where building length exceeds 16m <i>refer 2.4</i>	2.4m	3.5m	3.5m	3.5m	3.5m	4.0m	NA	NA	NA		

- (1) Wall may be built up to a lot boundary, where it abuts an existing or simultaneously constructed wall of equal or greater proportions
- (2) Where the subject site and an affected adjoining site are subject to different density codes, the length and height of any boundary wall on the boundary between them is determined by reference to the lower density code
- (3) Boundary wall only permitted on one boundary, and shall not exceed 2/3 length.
- (6) Boundary setbacks will also be determined by provisions for building separation and visual privacy within this SPP and building separation provisions of the NCC.

A2.4.2 – Development is setback from the boundary in order to achieve the Objectives outlined in 2.7 *Building separation*, 3.3 *Tree canopy and deep soil areas*, 3.5 *Visual privacy* and 4.1 *Solar and daylight access*.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
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Local Planning Policy – Interim Built Form Design Guidelines – Broadway Mixed Use Zone	Rear – 6m North side setback – 2m South side setback – 4.5m Development does not comply.
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ELEMENT 2.5		PLOT RATIO										
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>			APPLICANT COMMENT					ASSESSOR COMMENT				
			<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>									
Assessment A2.5.1 – 2.8:1 or 2515m ²												
O2.5.1 – The overall bulk and scale of development is appropriate for the existing or planned character of the area.								Refer to RAR				
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>												
A2.5.1 – Development complies with the plot ratio requirements set out in Table 2.1, except where modified by the local planning framework, in which case development complies with the plot ratio set out in the applicable local planning instrument. (Excerpt from table 2.1)												
Streetscape contexts and character <i>refer A2</i>		Low-rise		Medium-rise		Higher density residential		Neighbourhood centre	Mid-rise urban centres	High density urban centres		Planned areas
Site R-Coding	R40	R50	R60	R80	R100	R160	R-AC4	R-AC3	R-AC2	R-AC1	R-AC0	
Plot ratio ⁷ <i>refer 2.5</i>	0.6	0.7	0.8	1.0	1.3	2.0	1.2	2.0	2.5	3.0		
(6) Refer to Definitions for calculation of plot ratio												
LOCAL PLANNING FRAMEWORK			REQUIREMENT									
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:												

ELEMENT 2.6		BUILDING DEPTH	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
Assessment of A2.6.1 – Y; There are no single aspect apartments.			
O2.6.1 – Building depth supports apartment layouts that optimise daylight and solar access and natural ventilation.			All apartments have dual and northern aspect. The objectives for natural ventilation and solar access have been achieved and are discussed later in this assessment. This element objective has been achieved.
O2.6.2 – Articulation of building form to allow adequate access to daylight and natural ventilation where greater building depths are proposed.			Articulation is provided on the southern elevation. The development achieves good ventilation and solar access.
O2.6.3 – Room depths and / or ceiling heights optimise daylight and solar access and natural ventilation.			The proposed 2.7m floor to ceiling height for Levels 3-5 and 3m for Level 6, is considered acceptable for the purpose of ventilation.
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>			
A2.6.1 – Developments that comprise single aspect apartments on each side of a central circulation corridor shall have a maximum building depth of 20m. All other proposals will be assessed on their merits with particular consideration to 4.1 Solar and daylight access and 4.2 Natural ventilation.			
LOCAL PLANNING FRAMEWORK		REQUIREMENT	
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:			

ELEMENT 2.7		BUILDING SEPARATION		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT	
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>		
A2.7.1 – N; See the Acceptable Outcome assessment for element 2.4 – Side and rear setbacks.				
02.7.1 – New development supports the desired future streetscape character with spaces between buildings.			Refer to RAR	
02.7.2 – Building separation is in proportion to building height.			Refer to RAR	
02.7.3 – Buildings are separated sufficiently to provide for residential amenity including visual and acoustic privacy, natural ventilation, sunlight and daylight access and outlook.			Refer to RAR	
02.7.4 – Suitable areas are provided for communal and private open space, deep soil areas and landscaping between buildings.			Refer to RAR	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>				
A2.7.1 – Development complies with the separation requirements set out in Table 2.7.				
Table 2.7 Building separation				
		Building height		
	Separation between:	≤ 4 storeys (up to 15m)	5-8 storeys (up to 28m)	≥ 9 storeys (over 28m)
Within site boundary	Habitable rooms/balconies	12m	18m	24m
	Habitable and non-habitable rooms	7.5m	12m	18m
	Non-habitable rooms	4.5m	6m	9m
To adjoining property boundaries	Habitable rooms/balconies and boundary	Refer 2.4 Side and rear setbacks (Table 2.1) and 3.5 Visual privacy (Table 3.5)	9m	12m
Distances apply from major openings of rooms, or the inside of balustrading of balconies. Average dimensions may be applied subject to major openings meeting other requirements for privacy, daylight and the like.				
LOCAL PLANNING FRAMEWORK		REQUIREMENT		
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:				

ELEMENT 3.2		ORIENTATION	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT
<p>A3.2.1 – N; the building is oriented to the secondary street.</p> <p>A3.2.2 – N/A</p> <p>A3.2.3 – Y</p> <p>A3.2.4 – N/A</p>		<p><i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i></p>	
<p>O3.2.1 – Building layouts respond to the streetscape, topography and site attributes while optimising solar and daylight access within the development.</p>			Refer to RAR
<p>O3.2.2 – Building form and orientation minimises overshadowing of the habitable rooms, open space and solar collectors of neighbouring properties during mid-winter.</p>			Refer to RAR
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>			
<p>A3.2.1 – Buildings on street or public realm frontages are oriented to face the public realm and incorporate direct access from the street.</p>			
<p>A3.2.2 – Buildings that do not have frontages to streets or public realm are oriented to maximise northern solar access to living areas.</p>			
<p>A3.2.3 – Development in climate zones 4, 5 and 6 shall be designed such that the shadow cast at midday on 21st June onto any adjoining property does not exceed:</p> <ul style="list-style-type: none"> – adjoining properties coded R25 and lower – 25% of the site area¹ – adjoining properties coded R30 – R40 - 35% of the site area¹ – adjoining properties coded R50 – R60 – 50% of the site area¹ – adjoining properties coded R80 or higher – Nil requirements. <p>(1) Where a development site shares its southern boundary with a lot, and that lot is bound to the north by other lot(s), the limit of shading at A3.2.3 shall be reduced proportionally to the percentage of the affected properties northern boundary that abuts the development site. (Refer to Figure A7.2 in Appendix 7)</p>			
<p>A3.2.4– Where adjoining sites are coded R40 or less, buildings are oriented to maintain 4 hours per day solar access on 21 June for existing solar collectors on neighbouring sites.</p>			
LOCAL PLANNING FRAMEWORK		REQUIREMENT	
<p><i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i></p>			

ELEMENT 3.3 TREE CANOPY AND DEEP SOIL AREAS		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
Assessment of A3.3.1 – N; no trees retained Assessment of A3.3.2 – Y Assessment of A3.3.3 – Condition Assessment of A3.3.4 – Y Assessment of A3.3.4 – N Assessment of A3.3.4 – N Assessment of A3.3.4 – Y		
O3.3.1 – Site planning maximises retention of existing healthy and appropriate and protects the viability of adjoining trees.		Refer to RAR
O3.3.2 – Adequate measures are taken to improve tree canopy (long term) or to offset reduction of tree canopy from pre-development condition.		Refer to RAR
O3.3.3 – Development includes deep soil areas, or other infrastructure to support planting on structures, with sufficient area and volume to sustain healthy plant and tree growth.		Refer to RAR
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A3.3.1 – Retention of existing trees on the site that meet the following criteria: <ul style="list-style-type: none">– healthy specimens with ongoing viability AND– species is not included on a State or local area weed register AND– height of at least 4m AND/OR– trunk diameter of at least 160mm, measured 1m from the ground AND/OR– average canopy diameter of at least 4m.		
A3.3.2 – The removal of existing trees that meet any of the criteria at A3.3.1 is supported by an arboriculture report.		
A3.3.3 – The development is sited and planned to have no detrimental impacts on, and to minimise canopy loss of adjoining trees.		
A3.3.4 – Deep soil areas are provided in accordance with Table 3.3a. Deep soil areas are to be co-located with existing trees for retention and/or adjoining trees, or alternatively provided in a location that is conducive to tree growth and suitable for communal open space.		

Table 3.3a Minimum deep soil area and tree provision requirements

Site Area	Minimum deep soil area	Minimum requirement for trees ¹
Less than 700m ²	10% OR 7% if existing tree(s) retained on site (% site area)	1 medium tree and small trees to suit area
700 – 1,000m ²		2 medium trees OR 1 large tree and small trees to suit area
> 1,000m ²		1 large tree and 1 medium tree for each additional 400m ² in excess of 1000m ² OR 1 large tree for each additional 900m ² in excess of 1000m ² and small trees to suit area

¹ Minimum requirement for trees includes retained or new trees
Refer Table 3.3b for tree sizes

A3.3.5 – Landscaping includes existing and new trees with shade producing canopies in accordance with Tables 3.3a and 3.3b.

Table 3.3b Tree sizes

Tree size	Indicative canopy diameter at maturity	Nominal height at maturity	Required DSA per tree	Recommended minimum DSA width	Minimum DSA width where additional rootable soil zone (RSZ) width provided ¹ (min 1m depth)	Indicative pot size at planting
Small	4–6m	4–8m	9m ²	2m	1m (DSA) + 1m (RSZ)	100L
Medium	6–9m	8–12m	36m ²	3m	2m (DSA) + 1m (RSZ)	200L
Large	>9m	>12m	64m ²	6m	4.5m (DSA) + 1.5m (RSZ)	500L

¹ Rootable areas are for the purposes of determining minimum width only and do not have the effect of reducing the required DSA.

A3.3.6 – The extent of permeable paving or decking within a deep soil area does not exceed 20 per cent of its area and does not inhibit the planting and growth of trees.

A3.3.7 – Where the required deep soil areas cannot be provided due to site restrictions, planting on structure with an area equivalent to two times the shortfall in deep soil area provision is provided.

LOCAL PLANNING FRAMEWORK

REQUIREMENT

<p>Local Planning Policy – Interim Built Form Design Guidelines – Broadway Mixed Use Zone</p>	<p>(a) Where the subject site adjoins a site with a lower density code to the rear, at least 50% of the deep soil area required under Clause A 3.3.4 of the RCodes Volume 2 is located adjoining the boundary with that adjoining site. Does not comply</p> <p>(b) Deep soil areas provided at a maximum of 1m above the natural ground level. Does not comply</p> <p>(c) Mature tree canopy cover is provided to at least 80% of the rear lot boundary width (refer to indicative canopy diameter at maturity, as set out in Table 3.3b of the R-Codes Volume 2). Does not comply</p>
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ELEMENT 3.4		COMMUNAL OPEN SPACE													
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT												
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>													
A3.4.1 – Y A3.4.2 – Y A3.4.3 – Y A3.4.4 – Y A3.4.5 – Y A3.4.6 – Y; via condition A3.4.7 – N															
O3.4.1 – Provision of quality communal open space that enhances resident amenity and provides opportunities for landscaping, tree retention and deep soil areas.			Refer to RAR												
O3.4.2 – Communal open space is safe, universally accessible and provides a high level of amenity for residents.			Refer to RAR												
O3.4.3 – Communal open space is designed and oriented to minimise impacts on the habitable rooms and private open space within the site and of neighbouring properties.			Refer to RAR												
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>															
A3.4.1 – Developments include communal open space in accordance with Table 3.4															
Table 3.4 Provision of communal open space <table> <tr> <th>Development size</th><th>Overall communal open space requirement</th><th>Minimum accessible / hard landscape area (included in overall area requirement)</th><th>Minimum open space dimension</th></tr> <tr> <td>Up to 10 dwellings</td><td>Informal seating associated with deep soil or other landscaped areas</td><td>NA</td><td>NA</td></tr> <tr> <td>More than 10 dwellings</td><td>Total: 6m² per dwelling up to maximum 300m²</td><td>At least 2m² per dwelling up to 100m²</td><td>4m</td></tr> </table>				Development size	Overall communal open space requirement	Minimum accessible / hard landscape area (included in overall area requirement)	Minimum open space dimension	Up to 10 dwellings	Informal seating associated with deep soil or other landscaped areas	NA	NA	More than 10 dwellings	Total: 6m ² per dwelling up to maximum 300m ²	At least 2m ² per dwelling up to 100m ²	4m
Development size	Overall communal open space requirement	Minimum accessible / hard landscape area (included in overall area requirement)	Minimum open space dimension												
Up to 10 dwellings	Informal seating associated with deep soil or other landscaped areas	NA	NA												
More than 10 dwellings	Total: 6m ² per dwelling up to maximum 300m ²	At least 2m ² per dwelling up to 100m ²	4m												
A3.4.2 – Communal open space located on the ground floor or on floors serviced by lifts must be accessible from the primary street entry of the development.															
A3.4.3 – There is 50 per cent direct sunlight to at least one communal open space area for a minimum of two hours between 9am and 3pm on 21 June.															

A3.4.4 – Communal open space is co-located with deep soil areas and/or planting on structure areas and/ or co-indoor communal spaces.	
A3.4.5 – Communal open space is separated or screened from adverse amenity impacts such as bins, vents, condenser units, noise sources and vehicle circulation areas.	
A3.4.6 – Communal open space is well-lit, minimises places for concealment and is open to passive surveillance from adjoining dwellings and/or the public realm.	
A3.4.7 – Communal open space is designed and oriented to minimise the impacts of noise, odour, light-spill and overlooking on the habitable rooms and private open spaces within the site and of neighbouring properties.	
LOCAL PLANNING FRAMEWORK	REQUIREMENT
Local Planning Policy – Interim Built Form Design Guidelines – Broadway Mixed Use Zone	a) Active communal open space is located adjacent to the primary street (and/or a secondary street, where applicable), and is not provided adjacent to a shared boundary with a Residential-zoned lot. Located towards Broadway – partially compliant b) Passive communal open space may be located in any location on the lot. N/A

ELEMENT 3.5		VISUAL PRIVACY		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT		ASSESSOR COMMENT
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>		
A3.5.1 – N; hi-light windows and screening mitigate the need for the intended privacy setback.				
A3.5.2 – Y				
A3.5.3 – Y				
A3.5.4 – N; Unit 16, Bed 2 features one south-facing hi-light window with limited outlook.				
O3.5.1 – The orientation and design of buildings, windows and balconies minimises direct overlooking of habitable rooms and private outdoor living areas within the site and of neighbouring properties, while maintaining daylight and solar access, ventilation and the external outlook of habitable rooms.				Refer to RAR
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>				
A3.5.1 – Visual privacy setbacks to side and rear boundaries are provided in accordance with Table 3.5.				
Table 3.5 Required privacy setback to adjoining sites				
Cone of vision from unscreened:		First 4 storeys		5th storey and above
		Adjoining sites coded R50 or lower	Adjoining sites coded higher than R50	
Major opening to bedroom, study and open access walkways		4.5m	3m	Refer Table 2.7
Major openings to habitable rooms other than bedrooms and studies		6m	4.5m	
Unenclosed private outdoor spaces		7.5m	6m	
A3.5.2 – Balconies are unscreened for at least 25 per cent of their perimeter (including edges abutting a building).				
A3.5.3 - Living rooms have an external outlook from at least one major opening that is not obscured by a screen.				
A3.5.4 – Windows and balconies are sited, oriented, offset or articulated to restrict direct overlooking, without excessive reliance on high sill levels or permanent screening of windows and balconies.				
LOCAL PLANNING FRAMEWORK		REQUIREMENT		

Local Planning Policy – Interim Built Form Design
Guidelines – Broadway Mixed Use Zone

Cone of vision from unscreened	Adjoining R60	Adjoining R160 or RAC-3
Major openings to bedroom, study and open access walkways	6m	4.5m
Major openings to habitable rooms other than bedrooms and studies	8m	
Unenclosed private open space	8m or reduced to 7m where a landscaping planter box/s is provided in accordance with 4.5 (b) below.	6m

Does not comply.

ELEMENT 3.6		PUBLIC DOMAIN INTERFACE	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT	
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>		
A3.6.1 – N/A A3.6.2 – Y; screened via site level difference and landscaping. A3.6.3 - Y A3.6.4 - Y A3.6.5 – N/A A3.6.6 – N; due to the change in natural ground level. A3.6.7 - Y A3.6.8 - Y A3.6.9 - Y			
O3.6.1 – The transition between the private and public domain enhances the privacy and safety of residents.		Refer to RAR	
O3.6.2 – Street facing development and landscape design retains and enhances the amenity and safety of the adjoining public domain, including the provision of shade.		Refer to RAR	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>			
A3.6.1 – The majority of ground floor dwellings fronting onto a street or public open space have direct access by way of a private terrace, balcony or courtyard.			
A3.6.2 – Car-parking is not located within the primary street setback; and where car parking is located at ground level behind the street setback it is designed to integrate with landscaping and the building façade (where part of the building).			
A3.6.3 – Upper level balconies and/or windows overlook the street and public domain areas.			
A3.6.4 – Balustrading includes a mix of visually opaque and visually permeable materials to provide residents with privacy while maintaining casual surveillance of adjoining public domain areas.			
A3.6.5 – Changes in level between private terraces, front gardens and the ground floor level of the building and the street level average less than 1m and do not exceed 1.2m.			
A3.6.6 – Front fencing includes visually permeable materials above 1.2m and the average height of solid walls or fences to the street does not exceed 1.2m.			
A3.6.7 – Fencing, landscaping and other elements on the frontage are designed to eliminate opportunities for concealment.			
A3.6.8 – Bins are not located within the primary street setback or in locations visible from the primary street.			
A3.6.9 – Services and utilities that are located in the primary street setback are integrated into the design of the development and do not detract from the amenity and visual appearance of the street frontage. ¹			

(1) Firefighting and access to services such as power and water meters require careful consideration in the design of the front façade. Consult early with relevant authorities to resolve functional requirements in an integrated design solution.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	

ELEMENT 3.7		PEDESTRIAN ACCESS AND ENTRIES	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
A.7.1 - Y 3.7.2 - Y 3.7.3 - Y 3.7.4 – N/A 3.7.5 - Y 3.7.6 - Y			
O3.7.1 – Entries and pathways are universally accessible, easy to identify and safe for residents and visitors.			Refer to RAR
O3.7.2 – Entries to the development connect to and address the public domain with an attractive street presence.			Refer to RAR
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>			
A3.7.1 – Pedestrian entries are connected via a legible, well-defined, continuous path of travel to building access areas such as lift lobbies, stairs, accessways and individual dwelling entries.			
A3.7.2 – Pedestrian entries are protected from the weather.			
A3.7.3 – Pedestrian entries are well-lit for safety and amenity, visible from the public domain without opportunity for concealment, and designed to enable casual surveillance of the entry from within the site.			
A3.7.4 – Where pedestrian access is via a shared zone with vehicles, the pedestrian path is clearly delineated and/or measures are incorporated to prioritise the pedestrian and constrain vehicle speed.			
A3.7.5 – Services and utilities that are located at the pedestrian entry are integrated into the design and do not detract from the amenity of the entry.			
A3.7.6 – Bins are not located at the primary pedestrian entry.			
LOCAL PLANNING FRAMEWORK		REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>			

ELEMENT 3.8	VEHICLE ACCESS	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
A3.8.1 - Y A3.8.2 – N; the vehicle access point is not sufficiently integrated into the overall design. A3.8.3 - Y A3.8.4 - N A3.8.5 - N A3.8.6 - Y A3.8.7 – N; Elizabeth Street Vehicle access point has a 1.15m high structure within 1.2m of the driveway.		
O3.8.1 – Vehicle access points are designed and located to provide safe access and egress for vehicles and to avoid conflict with pedestrians, cyclists and other vehicles.		Refer to RAR
O3.8.2 – Vehicle access points are designed and located to reduce visual impact on the streetscape.		Refer to RAR
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A3.8.1 – Vehicle access is limited to one opening per 20m street frontage that is visible from the street.		
A3.8.2 – Vehicle entries are identifiable from the street, while being integrated with the overall façade design and/ or located behind the primary building line.		
A3.8.3 – Vehicle entries have adequate separation from street intersections.		
A3.8.4 – Vehicle circulation areas avoid headlights shining into habitable rooms within the development and adjoining properties.		
A3.8.5 – Driveway width is kept to a functional minimum, relative to the traffic volumes and entry/egress requirements.		
A3.8.6 – Driveways designed for two way access to allow for vehicles to enter the street in forward gear where: <ul style="list-style-type: none">– the driveway serves more than 10 dwellings– the distance from an on-site car parking to the street is 15m or more OR– the public street to which it connects is designated as a primary distributor, district distributor or integrated arterial road.		
A3.8.7 – Walls, fences and other structures truncated or reduced to no higher than 0.75m within 1.5m of where walls, fences, other structures adjoin vehicle access points where a driveway meets a public street and where two streets intersect (refer Figure 3.8a).		

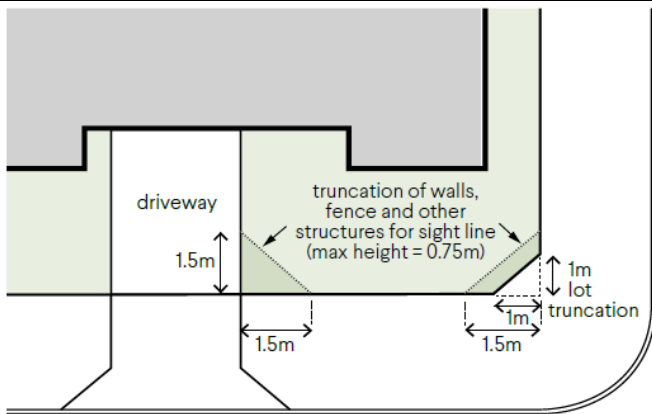


Figure 3.8a Truncation at street corner to provide sightlines (refer A3.8.7).

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

ELEMENT 3.9		CAR AND BICYCLE PARKING	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT
<p>A3.9.1 –</p> <p>A3.9.2 –</p> <p>A3.9.3 –</p> <p>A3.9.4 –</p> <p>A3.9.5 –</p> <p>A3.9.6 –</p> <p>A3.9.7 –</p> <p>A3.9.8 –</p> <p>A3.9.9 –</p> <p>A3.9.10 –</p> <p>Total residential car parking demand – 25 bays</p> <p>Total residential car parking provided –</p>		<p><i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i></p>	
O3.9.1 – Parking and facilities are provided for cyclists and other modes of transport.			Refer to RAR
O3.9.2 – Car parking provision is appropriate to the location, with reduced provision possible in areas that are highly walkable and/or have good public transport or cycle networks and/or are close to employment centres.			Refer to RAR
O3.9.3 – Car parking is designed to be safe and accessible.			Refer to RAR
O3.9.4 – The design and location of car parking minimises negative visual and environmental impacts on amenity and the streetscape.			Refer to RAR
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>			
A3.9.1 – Secure, undercover bicycle parking is provided in accordance with Table 3.9 and accessed via a continuous path of travel from the vehicle or cycle entry point.			

Table 3.9 Parking ratio

Parking types		Location A	Location B
Car parking ¹	1 bedroom dwellings	0.75 bay per dwelling	1 bay per dwelling
	2+ bedroom dwellings	1 bay per dwelling	1.25 bays per dwelling
	Visitor	1 bay per four dwellings up to 12 dwellings 1 bay per eight dwellings for the 13th dwelling and above	
Bicycle parking ¹	Resident	0.5 space per dwelling	
	Visitor	1 space per 10 dwellings	
Motorcycle/ Scooter parking ²	Developments exceeding 20 dwellings provide 1 motorcycle/scooter space for every 10 car bays		

¹ Calculations of parking ratios shall be rounded up to the next whole number.

² For each five motorcycle/scooter parking bays provided in accordance with Table 3.9, car parking bays may be reduced by one bay.

Definitions:

Location A: within 800m walkable catchment of a train station and/or 250m of a transit stop (bus or light rail) of a high-frequency route and/or within the defined boundaries of an activity centre.

Location B: not within Location A.

A3.9.2 – Parking is provided for cars and motorcycles in accordance with Table 3.9.

A3.9.3 – Maximum parking provision does not exceed double the minimum number of bays specified in Table 3.9

A3.9.4 – Car parking and vehicle circulation areas are designed in accordance with AS2890.1 (as amended) or the requirements of applicable local planning instruments.

A3.9.5 – Car parking areas are not located within the street setback and are not visually prominent from the street.

A3.9.6 – Car parking is designed, landscaped or screened to mitigate visual impacts when viewed from dwellings and private outdoor spaces.

A3.9.7 – Visitor parking is clearly visible from the driveway, is signed 'Visitor Parking' and is accessible from the primary entry or entries.

A3.9.8 – Parking shade structures, where used, integrate with and complement the overall building design and site aesthetics and have a low reflectance to avoid glare into apartments.

A3.9.9 – Uncovered at-grade parking is planted with trees at a minimum rate of one tree per four bays.

A3.9.10 – Basement parking does not protrude more than 1m above ground, and where it protrudes above ground is designed or screened to prevent negative visual impact on the streetscape.

LOCAL PLANNING FRAMEWORK

REQUIREMENT

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

ELEMENT 4.1		SOLAR AND DAYLIGHT ACCESS	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT	
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>		
Assessment of A4.1.1 – All dwellings have a northern aspect, and all receive minimum daylight.			
Assessment of A4.1.2 – Unit 1 does not receive			
Assessment of A4.1.3 – No light wells provide primary light to a habitable room. Unit 3 bed 2 has poor access to light.			
O4.1.1 – In climate zones 4, 5 and 6: the development is sited and designed to optimise the number of dwellings receiving winter sunlight to private open space and via windows to habitable rooms.		The development has been designed to optimise the northern aspect. All dwellings receive 2 hours or more of sunlight. All balconies are north-facing. There are no south-facing apartments. This element objective has been achieved.	
O4.1.2 – Windows are designed and positioned to optimise daylight access for habitable rooms.		Although many of the windows are small, they are proportional to the room sizes they are appurtenant to. With the exception of Unit 16, bedroom 2, habitable rooms receive appropriate daylight and solar access. Should JDAP be of a mind to approve the development the City recommends a condition to include a second window on the western elevation to improve daylight access. This element has been achieved, via condition.	
O4.1.3 – The development incorporates shading and glare control to minimise heat gain and glare: <ul style="list-style-type: none">– from mid-spring to autumn in climate zones 4, 5 and 6 AND– year-round in climate zones 1 and 3.		Window hoods are provided to windows on all elevations. All balconies are enclosed. This element has been achieved.	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>			
A4.1.1 – In climate zones 4, 5 and 6 <u>only</u> : <ul style="list-style-type: none">a) Dwellings with a northern aspect are maximised, with a minimum of 70 per cent of dwellings having living rooms and private open space that obtain at least 2 hours direct sunlight between 9am and 3pm on 21 June ANDb) A maximum of 15 per cent of dwellings in a building receiving no direct sunlight between 9am and 3pm on 21 June.			
A4.1.2 – Every habitable room has at least one window in an external wall, visible from all parts of the room, with a glazed area not less than 10 per cent of the floor area and comprising a minimum of 50 per cent of clear glazing.			

A4.1.3 – Lightwells and/or skylights do not form the primary source of daylight to any habitable room.	
A4.1.4 – The building is oriented and incorporates external shading devices in order to: <ul style="list-style-type: none"> – minimise direct sunlight to habitable rooms: <ul style="list-style-type: none"> ▪ between late September and early March in climate zones 4, 5 and 6 only AND ▪ in all seasons in climate zones 1 and 3 – permit winter sun to habitable rooms in accordance with A 4.1.1 (a). 	
LOCAL PLANNING FRAMEWORK	REQUIREMENT
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	

ELEMENT 4.2		NATURAL VENTILATION	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
Assessment of A4.2.1 – N			
Assessment of A4.2.2 – All dwellings are capable of being naturally cross ventilated			
Assessment of A4.2.3 – Achieved			
Assessment of A4.2.4 – N/A			
O4.2.1 – Development maximises the number of apartments with natural ventilation.			<p>The City is concerned that the design of kitchen windows to Unit 2, Unit 7, Unit 12, Unit 17, will result in poor ventilation as these units will keep these corridor-facing windows shut to prevent noise transfer. However, there is no design guidance or acceptable outcome that includes this as a consideration.</p> <p>The dwellings located on the corners of the building have three aspects, and therefore have abundant cross ventilation. The remaining properties are provided with appropriate cross ventilation by virtue of the open access walkway along the southern elevation.</p> <p>Overall, this element objective has been achieved.</p>
O4.2.2 – Individual dwellings are designed to optimise natural ventilation of habitable rooms.			<p>There are no habitable rooms that rely on lightwells for fresh air. No apartment exceeds 20m in length. Where hi-light windows are employed to reduce the visual privacy</p>

		setback, secondary windows are proposed to increase ventilation and to take advantage of the prevailing wind. This element objective has been achieved.
O4.2.3 – Single aspect apartments are designed to maximise and benefit from natural ventilation.		Due to the unenclosed walkway, there are no apartments that are single aspect. This element objective has been achieved.
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.2.1 – Habitable rooms have openings on at least two walls with a straight line distance between the centre of the openings of at least 2.1m.		
A4.2.2 – <ul style="list-style-type: none"> (a) A minimum 60 per cent of dwellings are, or are capable of, being naturally cross ventilated in the first nine storeys of the building (b) Single aspect apartments included within the 60 per cent minimum at (a) above must have: <ul style="list-style-type: none"> ▪ ventilation openings oriented between 45° – 90° of the prevailing cooling wind direction AND ▪ room depth no greater than 3 × ceiling height (c) For dwellings located at the 10th storey or above, balconies incorporate high and low level ventilation openings. 		
A4.2.3 – The depth of cross-over and cross-through apartments with openings at either end and no openings on side walls does not exceed 20m.		
A4.2.4 – No habitable room relies on lightwells as the primary source of fresh-air.		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>		

ELEMENT 4.3		SIZE AND LAYOUT OF DWELLINGS	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
Assessment of A4.3.1 – all dwellings exceed the minimum floor area in Table 4.3a			
Assessment of A4.3.2 – Habitable rooms are consistent with Table 4.3b – although it is noted that most have the minimum bedroom dimension of 3m.			
Assessment of A4.3.3 – all dwellings have a minimum floor to ceiling height of 2.7m for habitable room and 2.4m for non-habitable rooms.			
Assessment of A4.3.4 – The length of all single aspect open plan living areas are below the prescribed ratio.			
O4.3.1 – The internal size and layout of dwellings is functional with the ability to flexibly accommodate furniture settings and personal goods, appropriate to the expected household size.			All dwellings exceed the minimum dwelling size. The layouts of some dwellings are designed to ensure all apartments have northern aspect and have resulted in unusual layouts. This concern was raised by the City’s design reviewer. However, these are not considered so poor that the development would not meet this objective. Overall, this element objective has been achieved.
O4.3.2 – Ceiling heights and room dimensions provide for well-proportioned spaces that facilitate good natural ventilation and daylight access.			Although bedroom 2 of Unit 5, has an unusual layout, overall, the remaining habitable rooms are of an appropriate size, that allow for flexible use. The proposed floor-to-ceiling height of 2.7m is adequate for the purpose of facilitating solar access and ventilation. Overall, this element objective has been achieved.
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>			
A4.3.1 – Dwellings have a minimum internal floor area in accordance with Table 4.3a.			

Table 4.3a Minimum floor areas for dwelling types

Dwelling type	Minimum internal floor area
Studio	37m ²
1 bed	47m ²
2 bed × 1 bath ¹	67m ²
3 bed × 1 bath ¹	90m ²
¹ An additional 3m ² shall be provided for designs that include a second or separate toilet, and 5m ² for designs that include a second bathroom.	

A4.3.2 – Habitable rooms have minimum floor areas and dimensions in accordance with Table 4.3b.

Table 4.3b Minimum floor areas and dimensions for habitable rooms

Habitable room type	Minimum internal floor area	Minimum internal dimension
Master bedroom	10m ²	3m
Other bedrooms	9m ²	3m
Living room – studio and 1 bed apartments	N/A	3.6m
Living room – other dwelling types	N/A	4m
¹ Excluding robes		

A4.3.3 – Measured from the finished floor level to finished ceiling level, minimum ceiling heights are:

- Habitable rooms – 2.7m
- Non-habitable rooms – 2.4m
- All other ceilings meet or exceed the requirements of the NCC.

A4.3.4 – The length of a single aspect open plan living area is equal to or less than 3 x the ceiling height. An additional 1.8m length may be provided for a kitchen, where the kitchen is the furthest point from the window in an open plan living area provided that the maximum length does not exceed 9m.

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

ELEMENT 4.4		PRIVATE OPEN SPACE AND BALCONIES	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT	
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>		
Assessment of A4.4.1 – All private open space exceeds the dimensions and area prescribed within Table 4.4.			
Assessment of A4.4.2 – Achieved. POS has the northern edge unscreened, thereby allowing outlook from living rooms.			
Assessment of A4.4.3 – The POS could be better integrated with the design, more features to make it look less commercial.			
O4.4.1 – Dwellings have good access to appropriately sized private open space that enhances residential amenity.		<p>All primary private open space areas exceed the dimensions and area prescribed within Table 4.4.</p> <p>All balconies are located adjacent to open plan living rooms providing shade protection.</p> <p>The private open space areas are designed to improve the internal amenity of residents.</p> <p>This element objective has been achieved.</p>	
O4.4.2 – Private open space is sited, oriented and designed to enhance liveability for residents.		<p>Every apartment has a balcony located on the northern elevation, that is unscreened, maximising solar access and outlook.</p>	
O4.4.3 – Private open space and balconies are integrated into the overall architectural form and detail of the building.		<p>The City has concern with the façade design and the lack of landscaping provided to the building.</p> <p>The applicant provides almost no landscaping to the north, east west elevation. Landscaping may help soften the bulk of the building.</p> <p>To achieve this element objective, the development requires minor modifications.</p>	
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>			
A4.4.1 – Each dwelling has private open space accessed directly from a habitable room with dimensions in accordance with Table 4.4.			

Table 4.4 Private open space requirements		
Dwelling type	Minimum Area ¹	Minimum Dimension ¹
Studio apartment + 1 bedroom	8m ²	2.0m
2 bedroom	10m ²	2.4m
3 bedroom	12m ²	2.4m
Ground floor / apartment with a terrace	15m ²	3m
¹ Services and fixtures located within private open space, including but not limited to air-conditioner units and clothes drying, are not visible from the street and/or are integrated into the building design.		
A4.4.2 – Where private open space requires screening to achieve visual privacy requirements, the entire open space is not screened and any screening is designed such that it does not obscure the outlook from adjacent living rooms.		
A4.4.3 – Design detailing, materiality and landscaping of the private open space is integrated with or complements the overall building design.		
A4.4.4 – Services and fixtures located within private open space, including but not limited to air-conditioner units and clothes drying, are not visible from the street and/or are integrated into the building design.		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>		

ELEMENT 4.5	CIRCULATION AND COMMON SPACES	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
Assessment of A4.5.1 – N.		
Assessment of A4.5.2 – Y		
Assessment of A4.5.3 – Y		
Assessment of A4.5.4 – Not enough information to assess. Condition.		
Assessment of A4.5.5 – N; A number of apartments have windows to habitable rooms that either abut or are adjacent to circulation and common spaces.		
O4.5.1 – Circulation spaces have adequate size and capacity to provide safe and convenient access for all residents and visitors.		Following minor modifications to the circulation spaces, the corridors are now appropriately dimensioned and designed to provide universal access.
O4.5.2 – Circulation and common spaces are attractive, have good amenity and support		The common space on the 5 th floor is supported as it meets the design guidance and acceptable outcome.

<p>opportunities for social interaction between residents.</p>		<p>However, Per DG4.5.1, the open access walkways located on the southern elevation have an adverse impact on the amenity of internal and external dwellings.</p> <p>Per DG4.5.5 light spill and noise transfer will impact the habitable rooms that address the walkway. On each floor there are at least 3-4 habitable rooms (kitchen and bedrooms) that will be impacted by noise and light. Several habitable rooms have their only external window to the walkway. Although some habitable rooms are separated by planter boxes providing some separation, the City's Landscape reviewer is concerned that limited daylight would prevent these plants from thriving and thus not provide the intended landscape screening.</p> <p>Open access walkways are a common feature of apartment buildings built in the 1960s and 1970s. Today, open access walkways may be appropriate for lower scaled commercial and residential development, however, it is an unusual design feature for a 6-level mixed development with minimal separation. This aspect of the design is not supported due to the amenity impact it will have.</p> <p>Regarding the functionality of the corridors, Units 4 and 5 have entry doors that open into one another. Per DG 4.5.4, this is a poor design response and will cause congestion in this part of the building.</p> <p>In the event JDAP approves the subject application a condition requiring a lighting plan addressing light spill is required.</p> <p>This element objective has not been achieved.</p>
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.5.1 – Circulation corridors are a minimum 1.5m in width.		
A4.5.2 – Circulation and common spaces are designed for universal access.		
A4.5.3 – Circulation and common spaces are capable of passive surveillance, include good sightlines and avoid opportunities for concealment.		
A4.5.4 – Circulation and common spaces can be illuminated at night without creating light spill into the habitable rooms of adjacent dwellings.		

A4.5.5 – Bedroom windows and major openings to living rooms do not open directly onto circulation or common spaces and are designed to ensure visual privacy and manage noise intrusion.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	

ELEMENT 4.6		STORAGE																			
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT																		
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>																			
A4.6.1 – Y A4.6.2 – Y; located at lower ground floor A4.6.3 – Y; located at lower ground floor.																					
O4.6.1 – Well-designed, functional and conveniently located storage is provided for each dwelling.			The development is provided with appropriately sized and dimensioned storerooms for the apartments and the development overall.																		
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>																					
A4.6.1 – Each dwelling has exclusive use of a separate, ventilated, weatherproof, bulky goods storage area. This can be located either internally or externally to the dwelling with dimensions in accordance with Table 4.6.																					
Table 4.6 Storage requirements																					
<table><tr><th>Dwelling type</th><th>Storage area¹</th><th>Minimum dimension¹</th><th>Minimum height¹</th></tr><tr><td>Studio dwelling</td><td>3m²</td><td rowspan="4">1.5m</td><td rowspan="4">2.1m</td></tr><tr><td>1 bedroom dwelling</td><td>3m²</td></tr><tr><td>2 bedroom dwellings</td><td>4m²</td></tr><tr><td>3 bedroom dwellings</td><td>5m²</td></tr><tr><td colspan="4">¹ Dimensions exclusive of services and plant.</td></tr></table>				Dwelling type	Storage area ¹	Minimum dimension ¹	Minimum height ¹	Studio dwelling	3m ²	1.5m	2.1m	1 bedroom dwelling	3m ²	2 bedroom dwellings	4m ²	3 bedroom dwellings	5m ²	¹ Dimensions exclusive of services and plant.			
Dwelling type	Storage area ¹	Minimum dimension ¹	Minimum height ¹																		
Studio dwelling	3m ²	1.5m	2.1m																		
1 bedroom dwelling	3m ²																				
2 bedroom dwellings	4m ²																				
3 bedroom dwellings	5m ²																				
¹ Dimensions exclusive of services and plant.																					
A4.6.2 – Bulky good stores that are not directly accessible from the dwelling/private open space are located in areas that are convenient, safe, well-lit, secure and subject to passive surveillance.																					
A4.6.3 – Storage provided separately from dwellings or within or adjacent to private open space ¹ , is integrated into the design of the building or open space and is not readily visible from the public domain. (1) Storage on/adjacent to private open space is additional to required open space area and dimensions.																					
LOCAL PLANNING FRAMEWORK		REQUIREMENT																			
Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:																					

ELEMENT 4.7	MANAGING THE IMPACT OF NOISE	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
A4.7.1 – Not demonstrated. A4.7.2 –		
O4.7.1 – The siting and layout of development minimises the impact of external noise sources and provides appropriate acoustic privacy to dwellings and on-site open space.		Neither Broadway nor Elizabeth Street are roads that trigger additional noise protection in accordance SPP 5.4. Notwithstanding the above, dwellings are oriented north, away from Broadway which is the busier road, within the Acoustic report it warrants only 2db to the assessment. The City’s Health Services has reviewed the Acoustic Report and the potential noise sources. The City supports its findings and recommendations. In the event the JDAP approves the development, the acoustic report and the recommendations contained therein is to form a condition of approval. This element is capable of being achieved via condition.
O4.7.2 – Acoustic treatments are used to reduce sound transfer within and between dwellings and to reduce noise transmission from external noise sources.		
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.7.1 – Dwellings exceed the minimum requirements of the NCC, such as a rating under the AAAC Guideline for Apartment and Townhouse Acoustic Rating (or equivalent).		
A4.7.2 – Potential noise sources such as garage doors, driveways, service areas, plant rooms, building services, mechanical equipment, active communal open space and refuse bins are not located adjacent to the external wall of habitable rooms or within 3m of a window to a bedroom.		
A4.7.3 – Major openings to habitable rooms are oriented away or shielded from external noise sources.		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>		

ELEMENT 4.8		DWELLING MIX	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT
A4.8.1(b) – Y A4.8.2 - Y		Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.	
O4.8.1 – A range of dwelling types, sizes and configurations is provided that caters for diverse household types and changing community demographics.			<p>The development proposes 2 3-bedroom dwellings, 10 2-bedroom dwellings and 10 1-bedroom dwellings.</p> <p>The development provides excellent dwelling diversity on different floors. This element objective has been achieved.</p>
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>			
A4.8.1 – <ul style="list-style-type: none"> a) Dwelling mix is provided in accordance with the objectives, proportions or targets specified in a local housing strategy or relevant local planning instrument OR b) Where there is no local housing strategy, developments of greater than 10 dwellings include at least 20 per cent of apartments of differing bedroom numbers. 			
A4.8.2 – Different dwelling types are well distributed throughout the development, including a mix of dwelling types on each floor.			
LOCAL PLANNING FRAMEWORK		REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>			

ELEMENT 4.9		UNIVERSAL DESIGN	
ELEMENT OBJECTIVES		APPLICANT COMMENT	ASSESSOR COMMENT
<i>Development is to achieve the following Element Objectives</i>		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
O4.9.1 – Development includes dwellings with universal design features providing dwelling options for people living with disabilities or limited mobility and/or to facilitate ageing in place.			<p>A condition of approval will ensure that the minimum number of apartments are design to achieve Silver Level requirements as defined in the Liveable Housing Design Guidelines (Liveable Housing Australia).</p> <p>A condition of approval will ensure that all circulation and common spaces are universally accessible.</p> <p>Should JDAP approve the development, a condition of approval is recommended to ensure this element objective has been achieved.</p>
ACCEPTABLE OUTCOMES			
<i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>			
A4.9.1 – <ul style="list-style-type: none"> a) 20 per cent of all dwellings, across a range of dwelling sizes, meet Silver Level requirements as defined in the Liveable Housing Design Guidelines (Liveable Housing Australia) OR b) 5 per cent of dwellings are designed to Platinum Level as defined in the Liveable Housing Design Guidelines (Liveable Housing Australia). 			
LOCAL PLANNING FRAMEWORK		REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>			

ELEMENT 4.10 FAÇADE DESIGN		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
Assessment of A4.10.1		
O4.10.1 – Building façades incorporate proportions, materials and design elements that respect and reference the character of the local area.		Refer to RAR
O4.10.2 – Building façades express internal functions and provide visual interest when viewed from the public realm.		Refer to RAR
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.10.1 – Façade design includes: <ul style="list-style-type: none">– scaling, articulation, materiality and detailing at lower levels that reflect the scale, character and function of the public realm– rhythm and visual interest achieved by a combination of building articulation, the composition of different elements and changes in texture, material and colour.		
A4.10.2 – In buildings with height greater than four storeys, façades include a defined base, middle and top for the building.		
A4.10.3 – The façade includes design elements that relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights.		
A4.10.4 – Building services fixtures are integrated in the design of the façade and are not visually intrusive from the public realm.		
A4.10.5 – Development with a primary setback of 1m or less to the street includes awnings that: <ul style="list-style-type: none">– define and provide weather protection to entries– are integrated into the façade design– are consistent with the streetscape character.		
A4.10.6 – Where provided, signage is integrated into the façade design and is consistent with the desired streetscape character.		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>		

ELEMENT 4.11		ROOF DESIGN	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
A4.11.1 – N A4.11.2 – Y A4.11.3 - Y			
O4.11.1 – Roof forms are well integrated into the building design and respond positively to the street.			Refer to RAR
O4.11.2 – Where possible, roof spaces are utilised to add open space, amenity, solar energy generation or other benefits to the development.			Refer to RAR
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>			
A4.11.1 – The roof form or top of building complements the façade design and desired streetscape character.			
A4.11.2 – Building services located on the roof are not visually obtrusive when viewed from the street.			
A4.11.3 – Useable roof space is safe for users and minimises overlooking and noise impacts on private open space and habitable rooms within the development and on adjoining sites.			
LOCAL PLANNING FRAMEWORK		REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>			

ELEMENT 4.12 LANDSCAPE DESIGN		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
Assessment of A4.12.1 – Y Assessment of A4.12.2 – N; the majority of dwellings have little in the way of landscaping that improves the apartment outlook. Assessment of A4.12.3 –Y Assessment of A4.12.3 – Y		
O4.12.1 – Landscape design enhances streetscape and pedestrian amenity; improves the visual appeal and comfort of open space areas; and provides an attractive outlook for habitable rooms.		Refer to RAR
O4.12.2 – Plant selection is appropriate to the orientation, exposure and site conditions and is suitable for the adjoining uses.		Refer to RAR
O4.12.3 – Landscape design includes water efficient irrigation systems and where appropriate incorporates water harvesting or water re-use technologies.		Refer to RAR
O4.12.4 – Landscape design is integrated with the design intent of the architecture including its built form, materiality, key functional areas and sustainability strategies.		Refer to RAR
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.12.1 – Submission of a landscape plan prepared by a competent landscape designer. This is to include a species list and irrigation plan demonstrating achievement of Waterwise design principles.		
A4.12.2 – Landscaped areas are located and designed to support mature, shade-providing trees to open space and the public realm, and to improve the outlook and amenity to habitable rooms and open space areas.		
A4.12.3 – Planting on building structures meets the requirements of Table 4.12.		

Table 4.12 Planting on structure: minimum soil standards for plant types and sizes

Plant type	Definition	Soil volume	Soil depth	Soil area
Large tree	Over 12m high, crown spread at maturity	76.8m ³	1,200mm	64m ² with minimum dimension 7m
Medium tree	8-12m high, crown spread at maturity	36m ³	1,000mm	36m ² with minimum dimension 5m
Small tree	4-8m high, crown spread at maturity	7.2m ³	800mm	3m × 3m
Small ornamentals	3-4m high, crown spread at maturity	3.2m ³	800mm	2m × 2m
Shrubs	--	--	500-600mm	--
Ground cover	--	--	300-450mm	--
Turf	--	--	200mm	--

A4.12.4 – Building services fixtures are integrated in the design of the landscaping and are not visually intrusive.

LOCAL PLANNING FRAMEWORK	REQUIREMENT
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>	

ELEMENT 4.14 MIXED USE		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
Assessment of A4.14.1 – N Assessment of A4.14.2 – N Assessment of A4.14.3 – Y Assessment of A4.14.4 – N Assessment of A4.14.5 – Y		
O4.14.1 – Mixed use development enhances the streetscape and activates the street.		Refer to RAR
O4.14.2 – A safe and secure living environment for residents is maintained through the design and management of the impacts of non-residential uses such as noise, light, odour, traffic and waste.		Refer to RAR
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.14.1 – Where development is located within a mixed use area designated within the local planning framework, ground floor units are designed for future adaption to non-residential uses.		
A4.14.2 – Ground floor uses including non-commercial uses, such as communal open space, habitable rooms, verandahs and courtyards associated with ground floor dwellings, address, enhance and activate the street.		
A4.14.3 – Non-residential space in mixed use development is accessed via the street frontage and/or primary entry as applicable.		
A4.14.4 – Non-residential floor areas provided in mixed use development has sufficient provision for parking, waste management, and amenities to accommodate a range of retail and commercial uses in accordance with the requirements		
A4.14.5 – Mixed use development is designed to mitigate the impacts of non-residential uses on residential dwellings, and to maintain a secure environment for residents.		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>		

ELEMENT 4.15 ENERGY EFFICIENCY		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
Assessment of A4.15.1 – Further information required; Condition to address.		
O4.15.1 – Reduce energy consumption and greenhouse gas emissions from the development.		<p>The City’s Building Services reviewed the NatHERS report and it appears to be incomplete, with only 5 apartments modelled.</p> <p>In the event JDAP approves the development the City recommends the imposition of a condition that requires all dwellings to be modelled to ensure the development achieves this element objective.</p>
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.15.1 – a) Incorporate at least one significant energy efficiency initiative within the development that exceeds minimum practice (refer Design Guidance) OR b) All dwellings exceed the minimum NATHERS requirement for apartments by 0.5 stars. ¹		
Compliance with the NCC requires that development shall achieve an average star-rating across all dwellings that meets or exceeds a nominated benchmark, and that each unit meets or exceeds a slightly lower benchmark. Compliance with this Acceptable Outcome requires that each unit exceeds that lower benchmark by at least half a star.		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>		

ELEMENT 4.16	WATER MANAGEMENT AND CONSERVATION	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
Assessment of A4.16.1 – Y Assessment of A4.16.2 –Y; Condition to ensure compliance. Assessment of A4.16.3 – N		
O4.16.1 – Minimise potable water consumption throughout the development.		Where possible, water consumption will be minimised through the use of efficient appliances and fittings. Waterwise landscaping and irrigation systems will further minimise consumption.
O4.16.2 – Stormwater runoff from small rainfall events is managed on-site, wherever practical.		Stormwater runoff from small rainfall events is to be managed on site consistent with element objectives.
O4.16.3 – Reduce the risk of flooding so that the likely impacts of major rainfall events will be minimal.		Pavement will be graded away from the buildings and orientated towards landscaped areas with suitable drainage mechanisms integrated into the design.
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.16.1 – Dwellings are individually metered for water usage.		
A4.16.2 – Stormwater runoff generated from small rainfall events is managed on-site.		
A4.16.3 – Provision of an overland flow path for safe conveyance of runoff from major rainfall events to the local stormwater drainage system.		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>		

ELEMENT 4.17 WASTE MANAGEMENT		
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>	APPLICANT COMMENT	ASSESSOR COMMENT
	<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
Assessment of A4.17.1 – N; Condition of approval to update with modification.to address. Assessment of A4.17.2 – Y Assessment of A4.17.3 – N; condition of approval to update with modifications to address Assessment of A4.17.4 – Y+		
O4.17.1 – Waste storage facilities minimise negative impacts on the streetscape, building entries and the amenity of residents.		The City has reviewed the WMP and with minor modifications requested, it is likely the WMP will be supported. The bin storage area is not large enough per LPP – Waste Management. Should JDAP approve the development, a condition to require changes to the bin store area and an updated WMP is required.
O4.17.2 – Waste to landfill is minimised by providing safe and convenient bins and information for the separation and recycling of waste.		The bin store area requires modification before support is provided by the City. However, overall the bin store is appropriately located to meet this objective.
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>		
A4.17.1 – Waste storage facilities are provided in accordance with the Better Practice considerations of the <i>WALGA Multiple Dwelling Waste Management Plan Guidelines</i> (or local government requirements where applicable).		
A4.17.2 – A Level 1 Waste Management Plan (Design Phase) is provided in accordance with the <i>WALGA Multiple Dwelling Waste Management Plan Guidelines - Appendix 4A</i> (or equivalent local government requirements).		
A4.17.3 – Sufficient area is provided to accommodate the required number of bins for the separate storage of green waste, recycling and general waste in accordance with the <i>WALGA Multiple Dwelling Waste Management Plan Guidelines - Level 1 Waste Management Plan (Design Phase)</i> (or local government requirements where applicable).		
A4.17.4 – Communal waste storage is sited and designed to be screened from view from the street, open space and private dwellings.		
LOCAL PLANNING FRAMEWORK	REQUIREMENT	
<i>Does the local planning framework amend or replace the above stated controls? If yes, state the applicable requirement:</i>		

ELEMENT 4.18		UTILITIES	
ELEMENT OBJECTIVES <i>Development is to achieve the following Element Objectives</i>		APPLICANT COMMENT	ASSESSOR COMMENT
		<i>Outline the rationale demonstrating that the proposal has met the Element Objectives, through either a performance based solution or using the Acceptable Outcomes. The Design Guidance provided in the policy may be of assistance.</i>	
Assessment of A4.18.1 – Y Assessment of A4.18.2 – Y Assessment of A4.18.3 – Y Assessment of A4.18.4 – Y			
04.18.1 –The site is serviced with power, water, gas (where available), wastewater, fire services and telecommunications/broadband services that are fit for purpose and meet current performance and access requirements of service providers.			The development provides the basic services expected for a contemporary development. This element has been achieved.
04.18.2 – All utilities are located such that they are accessible for maintenance and do not restrict safe movement of vehicles or pedestrians.			All utilities are accessible and legible. This element has been achieved.
04.18.3 – Utilities, such as distribution boxes, power and water meters are integrated into design of buildings and landscape so that they are not visually obtrusive from the street or open space within the development.			There are no services that are visually obtrusive. This element has been achieved.
04.18.4 – Utilities within individual dwellings are of a functional size and layout and located to minimise noise or air quality impacts on habitable rooms and balconies.			There are no air-conditioners located on balconies. Where utilities are proposed internal to the dwelling, they are appropriately sized and integrated into the overall design.
ACCEPTABLE OUTCOMES <i>Acceptable Outcome pathway may not be applicable where a performance solution is provided</i>			
A4.18.1 – Utilities that must be located within the front setback, adjacent to the building entry or on visible parts of the roof are integrated into the design of the building, landscape and/or fencing such that they are accessible for servicing requirements but not visually obtrusive.			
A4.18.2 – Developments are fibre-to-premises ready, including provision for installation of fibre throughout the site and to every dwelling.			
A4.18.3 – Hot water units, air-conditioning condenser units and clotheslines are located such that they can be safely maintained, are not visually obtrusive from the street and do not impact on functionality of outdoor living areas or internal storage.			
A4.18.4 – Laundries are designed and located to be convenient to use, secure, weather-protected and well-vented; and are of an overall size and dimension that is appropriate to the size of the dwelling.			
LOCAL PLANNING FRAMEWORK		REQUIREMENT	

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

City of Nedlands
Received
14 October 2020

DEVELOPMENT APPLICATION: ACOUSTICS

105 Broadway, Nedlands

Reference: 19125307-01A DA Report.docx

Prepared for:

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C/- Oldfield Knott Architects

Report: 19125307-01A DA Report.docx

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This report has been prepared in accordance with the scope of services described in the contract or agreement between Lloyd George Acoustics Pty Ltd and the Client. The report relies upon data, surveys, measurements and results taken at or under the particular times and conditions specified herein. Any findings, conclusions or recommendations only apply to the aforementioned circumstances and no greater reliance should be assumed or drawn by the Client. Furthermore, the report has been prepared solely for use by the Client, and Lloyd George Acoustics Pty Ltd accepts no responsibility for its use by other parties.

Date:	Rev	Description	Prepared By	Verified
02-Jul-20	0	Issued to Client	Ben Hillion	Terry George
05-Oct-20	A	Revised drawings	Ben Hillion	

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Appendices

A	Development Plans
B	BCA Mark-up
B	Terminology

1 INTRODUCTION

It is proposed to demolish the existing office building at 105 Broadway in Nedlands, and construct a mixed use block. The proposed development consists of:

- Lower and upper ground level car parking;
- Commercial tenancy (office) on lower ground floor;
- Residential apartments comprising 22 units on first to fifth floor; and
- Residents terrace on fifth floor.

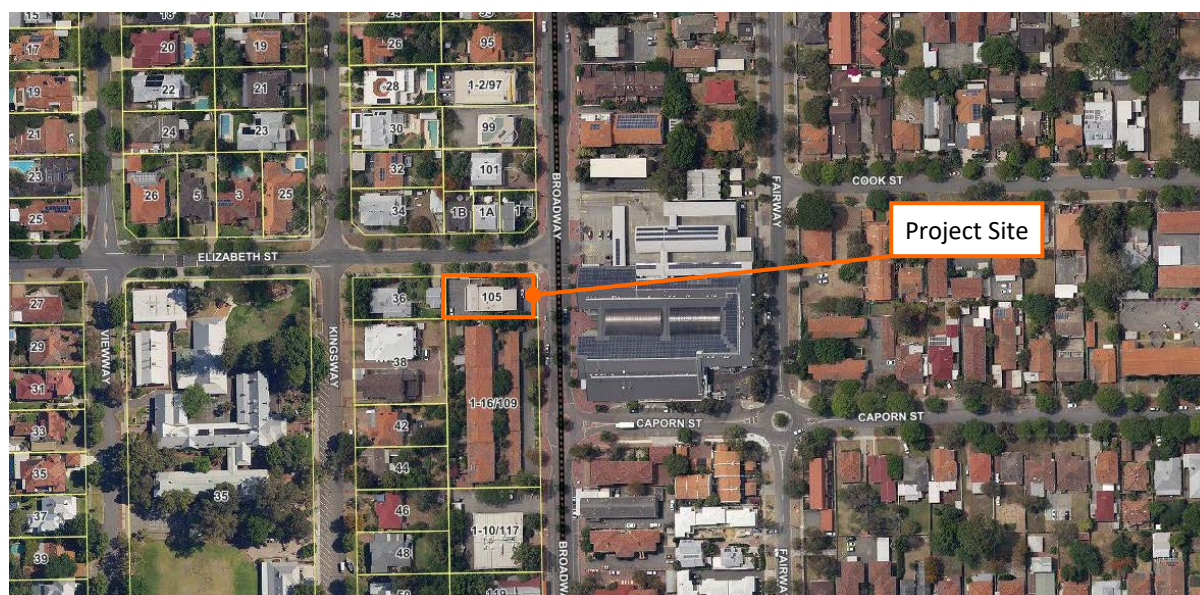


Figure 1-1 Project Locality (City of Nedlands Intramaps)

With regards to acoustics, there will be several criteria that the project will need to satisfy, including:

- the *National Construction Code*, which provides minimum performance requirements for noise transfer between sensitive spaces, between sensitive spaces and other uses, and considers noise from their own services such as hydraulics, lifts and the like;
- the *Environmental Protection (Noise) Regulations 1997*, which provide criteria for this development's noise emissions at neighbouring premises; and
- Noise ingress from road traffic on Broadway and nearby entertainment noise (i.e. Varsity Bar).

Given the project is only at Development Application (DA) stage, much of the information is unknown and therefore this report presents the criteria that will be addressed through detailed design.

Appendix A provides the current plans of the development. *Appendix B* contains a description of some of the terminology used throughout this report.

2 CRITERIA

Each of the relevant criteria are provided in the following sections. Compliance with some of these will be worked through during detailed design.

2.1 Environmental Protection (Noise) Regulations 1997

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

- Mechanical plant and noise from the ground floor commercial tenancy are to comply with regulations 7 and 8 at neighbouring properties and noise sensitive parts of this development; and
- Noise during construction is to comply with regulation 13.

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

2.1.1 Regulations 7 and 8

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

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

- (a) Must not cause or significantly contribute to, a level of noise which exceeds the assigned level in respect of noise received at premises of that kind; and
- (b) Must be free of –
 - i. Tonality;
 - ii. Impulsiveness; and
 - iii. Modulation”.

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

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

- (a) The characteristics cannot be reasonably and practicably removed by techniques other than attenuating the overall level of noise emission; and
- (b) The noise emission complies with the standard prescribed under regulation 7 after the adjustments of *Table 2-1* are made to the noise emission as measured at the point of reception.

Table 2-1 EPNR Adjustments Where Characteristics Cannot Be Removed

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

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

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

Table 2-2 EPNR Baseline Assigned Noise Levels

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

1. *highly sensitive area* means that area (if any) of noise sensitive premises comprising —

- (a) a building, or a part of a building, on the premises that is used for a noise sensitive purpose; and
- (b) any other part of the premises within 15 metres of that building or that part of the building.

The project is located within a mixed use area with some residential and some commercial uses along Broadway. It is noted the land either side of Broadway is generally zoned 'mixed-use'.

The nearest noise sensitive premises are located on the adjacent lots at 36 and 38 Kingsway and 109 Broadway. The influencing factor, applicable at the noise sensitive premises has been calculated in *Table 2-3* and based on the land use map shown on *Figure 2-1*. Properties closer to Broadway have a higher percentage of commercial zoning within 100 metres, which is reflected in the influencing factor being 1 dB higher for these properties.

Broadway is within 100 metres of the nearest noise sensitive receivers, and the latest traffic count (south of Stirling Highway) is 9,603 vehicles per day (vpd). Being below 15,000 vpd, this is classed as a secondary road under the Noise Regulations and therefore the transport factor is 2 dB.

Table 2-3 Influencing Factor Calculation

Premises Receiving Noise	Description	Within 100 metre Radius	Within 450 metre Radius	Total
34, 36, 38, 40, 42 Kingsway	Industrial Land	0 %	0 %	0 dB
	Commercial Land	23 %	11 %	2 dB
	Transport Factor			2 dB
	Total			4 dB
1, 1A, 1B Elizabeth street 1-16/109 Broadway:	Industrial Land	0 %	0 %	0 dB
	Commercial Land	48%	10%	3 dB
	Transport Factor			2 dB
	Total			5 dB

Table 2-4 shows the assigned noise levels, influencing factor and transport factor at the receivers.

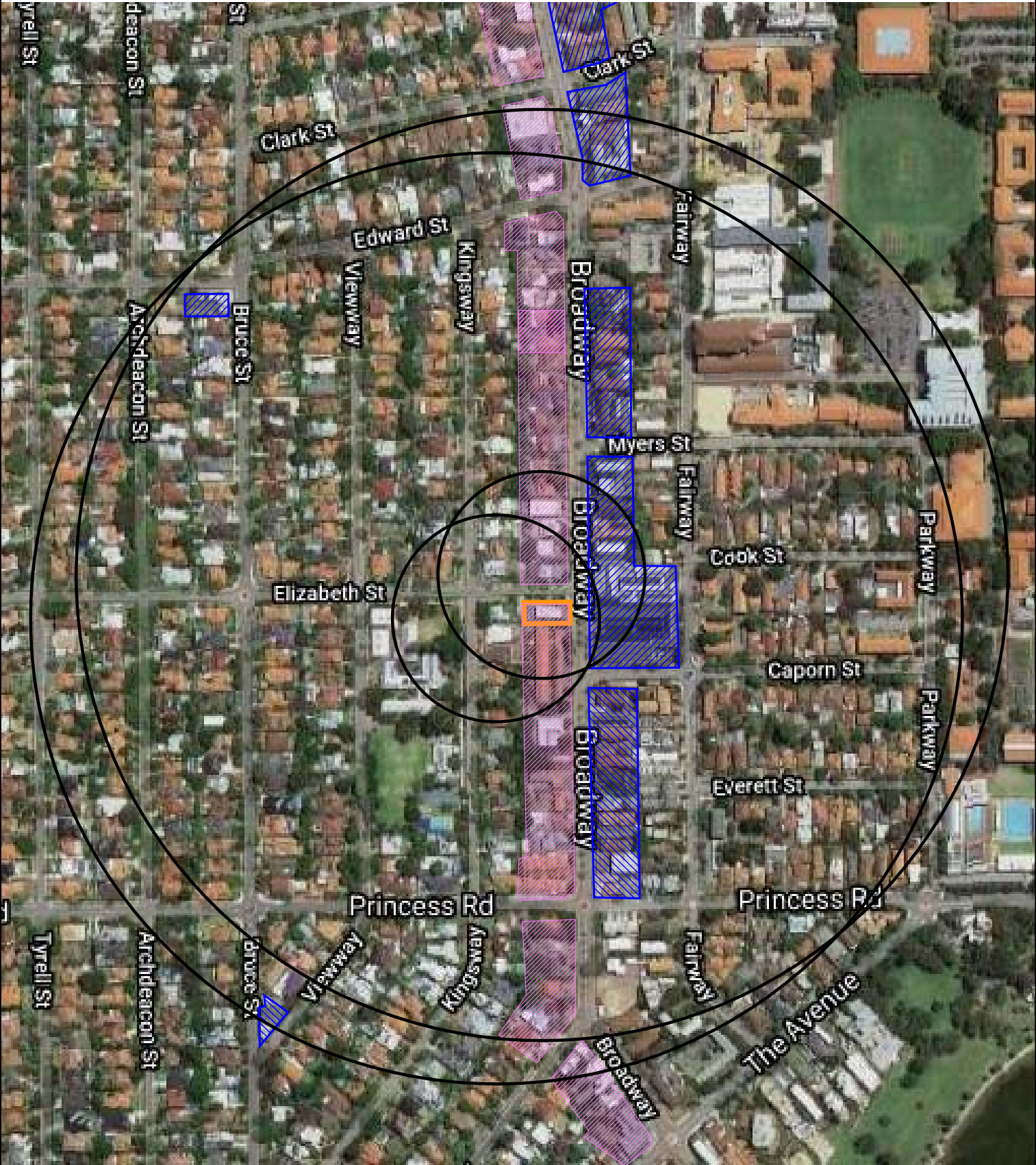
Table 2-4 Assigned Noise Levels

Premises Receiving Noise	Time Of Day	Assigned Level (dB)		
		L _{A10}	L _{A1}	L _{Amax}
34, 36, 38, 40, 42 Kingsway highly sensitive area ¹	0700 to 1900 hours Monday to Saturday (Day)	49	59	69
	0900 to 1900 hours Sunday and public holidays (Sunday)	44	54	69
	1900 to 2200 hours all days (Evening)	44	54	59
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	39	49	59
1, 1A, 1B Elizabeth street 1-16/109 Broadway: highly sensitive area ¹	0700 to 1900 hours Monday to Saturday (Day)	50	60	70
	0900 to 1900 hours Sunday and public holidays (Sunday)	45	55	70
	1900 to 2200 hours all days (Evening)	45	55	60
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	40	50	60

1. **highly sensitive area** means that area (if any) of noise sensitive premises comprising —

- (a) a building, or a part of a building, on the premises that is used for a noise sensitive purpose; and
- (b) any other part of the premises within 15 metres of that building or that part of the building.

Figure 2-1



Signs and symbols

- Influencing Factor Circles
- Project Site
- Commercial Zoning
- Mixed Use Zoning

5/10/2020

Length Scale 1:5000
0 25 50 100 150 m

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2.1.2 Regulation 13

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

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

- a) The construction work was carried out in accordance with control of environmental noise practices set out in section 6 of AS 2436-1981 Guide to Noise Control on Construction, Maintenance and Demolition Sites;*
- b) The equipment used on the premises was the quietest reasonably available; and*
- c) If the occupier was required to prepare a noise management plan ... in respect of the construction site –*
 - i. The noise management plan was prepared and given in accordance with the requirement, and approved by the Chief Executive Officer; and*
 - ii. The construction work was carried out in accordance with the management plan.*

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

- a) The construction work was carried out in accordance with control of environmental noise practices set out in section 6 of AS 2436-1981 Guide to Noise Control on Construction, Maintenance and Demolition Sites;*
- b) The equipment used on the premises was the quietest reasonably available;*
- c) The construction work was carried out in accordance with a noise management plan in respect of the construction site –*
 - i. Prepared and given to the Chief Executive Officer not later than 7 days before the construction work commenced; and*
 - ii. Approved by the Chief Executive Officer;*
- d) At least 24 hours before the construction work commenced, the occupier of the construction site gave written notice of the proposed construction work to the occupiers of all premises at which noise emissions received were likely to fail to comply with the standard prescribed under regulation 7; and*
- e) It was reasonably necessary for the construction work to be carried out at that time.*

2.2 Australian Standard AS2107:2016

Table 2-5 presents the internal noise level criteria from Australian Standard AS2107:2016 *Acoustics – Recommended Design Sound Levels and Reverberation Times for Building Interiors* (the Standard) for houses and apartments in suburban areas. The Standard provides lower and upper internal noise level ranges for various spaces in the form of $L_{Aeq,t}$.

The Standard also describes penalties being applicable where noise contains tonal characteristics due to their additional intrusiveness. Depending on the strength of the tonal component, the adjustment can be up to 6 dB.

Table 2-5 AS 2107:2016 Internal Noise Level Criteria for Residential Building

Type of Occupancy	Recommended Design Sound Level, $L_{Aeq,t}$	
	Lower	Upper
Sleeping Areas	30	35
Living Areas	35	40

2.3 Building Code of Australia (BCA)

It is a requirement under the *National Construction Code* (NCC), for sound transmission and insulation to be considered. In this case, the relevant volume of the NCC is Volume One, Building Code of Australia (BCA), with this report specifically addressing Part F5 and Plumbing Code of Australia (PCA), with this report specifically addressing Section D.

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

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

- a) Between adjoining sole-occupancy units; and*
- b) From common spaces to sole-occupancy units; and*
- c) From parts of different classifications to sole-occupancy units.”*

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

FP5.1

Floors separating –

- a) sole-occupancy units: or*
- b) a sole occupancy unit from a plant room, lift shaft, stairway, public corridor, public lobby, or the like, or a part of a different classification, must provide insulation against the transmission of airborne and impact generated sound sufficient to prevent illness or loss of amenity to the occupants.*

FP5.2

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

- a) airborne sound; and*
- b) impact generated sound, if the wall is separating a bathroom, sanitary compartment, laundry or kitchen in one sole-occupancy unit from a habitable room (other than a kitchen) in an adjoining unit, sufficient to prevent illness or loss of amenity to the occupants.*

Note that where a kitchen is open plan style, the impact generated sound is considered applicable.

FP5.3

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

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

In order to satisfy FP5.1 to FP5.3, building elements are to satisfy the acoustic performances nominated in *Table 2-6*, being a summary of the Deemed-to-Satisfy Provisions provided in F5.1 to F5.7 and FV5.1 to FV5.2.

Table 2-6 BCA Deemed-to-Satisfy Provisions

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

Notes: SOU – Sole Occupancy Unit

D.C. Discontinuous Construction

3 METHODOLOGY

3.1 Site Measurements

The proposed redevelopment is located immediately to the west of the existing Broadway Shopping Centre, which has a permanent opening in its west facade resulting in a semi-enclosed reverberant environment. To quantify the noise levels from the Broadway Shopping Centre at the proposed façade, in particular noise from the Varsity Bar patrons and background music, noise levels were recorded on a busy Friday evening on 19 June 2020. A type 1 Rion NA28 sound level meter (SLM) was located on the ground floor of the shopping centre at 10 metres from Varsity Bar's open façade whilst a noise logger was simultaneously recording noise levels at one metre in front of the existing building's east façade on 105 Broadway as shown on *Figure 3-1*.

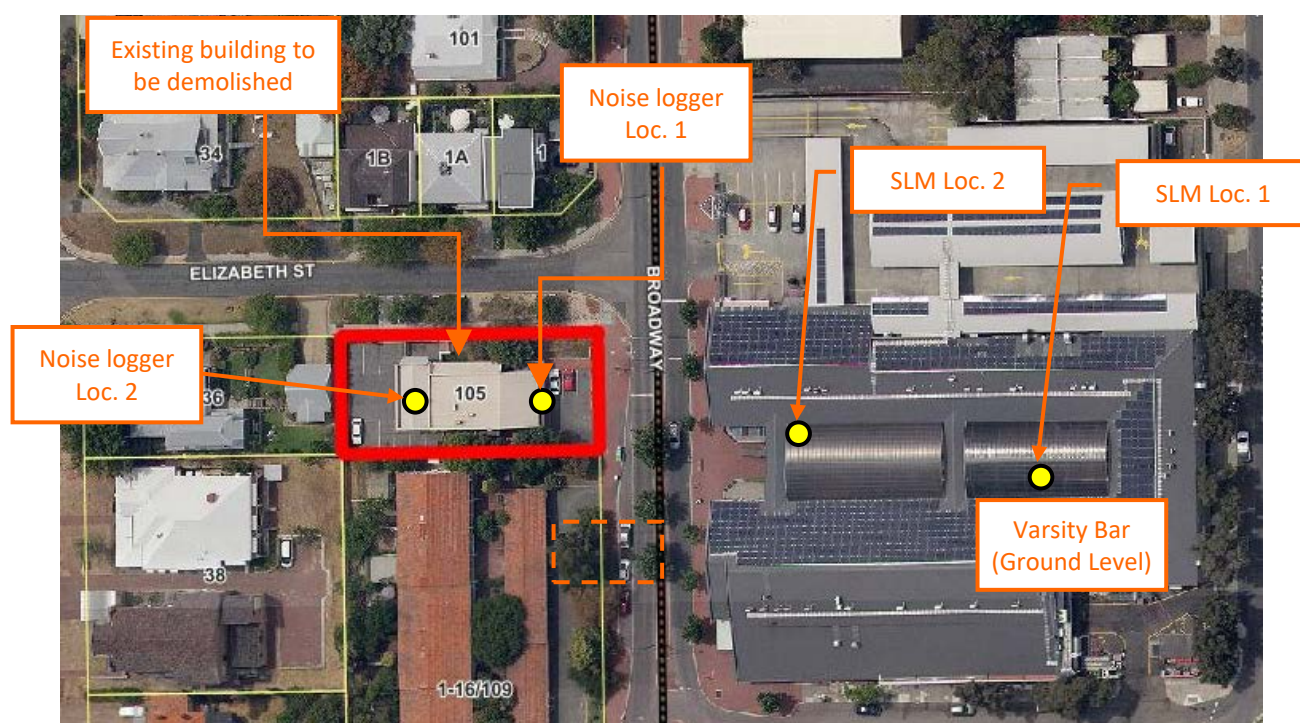


Figure 3-1 Location of Noise Logger and SLM

Table 3-1 presents a summary of the analysis of the data recorded.

Table 3-1 Noise Measurements Analysis Summary

Noise at SLM			Noise at logger		
Time	Noise Level	Comments	L _{A10} Noise Level	L _{A90} Noise Level	Comments
18.36 - 19.00	74 dB L _{A10}	music and crowd noise at 10m from opening in façade to Varsity Bar, all openings opened.	63	54	105 Broadway East façade - Music from Varsity not clearly audible, car passbys dominate
19.13 - 19.27	67 dB L _{A10}	At 2m from opening in shopping centre façade at street level can hear both Varsity + crowd L90	63	54	105 Broadway East façade - Music from Varsity not clearly audible, car passbys dominate
19.32 - 20.30	-	-	54	45	105 Broadway West façade - Music from Varsity not clearly audible, car/pedestrians passbys dominate

From the results, the L_{A10} noise levels at 105 Broadway account for car passby events on Broadway.

The L_{A90} is controlled by residual noise from the shopping centre (mostly patrons and background music from Varsity Bar).

In addition, it is noted that music played was not audible as 'music' at any façades of the existing 105 Broadway building whilst activities were taking place at Varsity Bar.

3.2 Noise Modelling

As the project is in its early stages, details of the mechanical plant are unknown. Also, the nature of the commercial tenancy is unknown at this stage, therefore a separate assessment may be required at Detailed Design stage.

The drawings show a plant yard located on the roof, such that AC plant noise was considered in this location. They also show the location for 2 outdoor condensers to serve the office tenancy on lower ground level (condensers are on the upper ground louvered balcony facing the shopping centre). The modelling methodology and results are presented in the following sub-sections. The software used was *SoundPLAN 8.1* with the ISO 9613 (ISO 17534-3 improved method) algorithms selected. These algorithms have been selected as they include the influence of wind and atmospheric stability. Input data required in the model are:

- Meteorological Information;
- Topographical data;
- Ground Absorption; and
- Source sound power levels.

3.2.1 Meteorological Information

Meteorological information utilised is provided in *Table 3-2* and is considered to represent worst-case conditions for noise propagation. At wind speeds greater than those shown, sound propagation may be further enhanced, however background noise from the wind itself and from local vegetation is likely to be elevated and dominate the ambient noise levels.

Table 3-2 Modelling Meteorological Conditions

Parameter	Night (1900-0700)	Day (0700-1900)
Temperature (°C)	15	20
Humidity (%)	50	50
Wind Speed (m/s)	Up to 5	Up to 5
Wind Direction*	All	All

* Note that the modelling package used allows for all wind directions to be modelled simultaneously.

It is generally considered that compliance with the assigned noise levels needs to be demonstrated for 98% of the time, during the day and night periods, for the month of the year in which the worst-case weather conditions prevail. In most cases, the above conditions occur for more than 2% of the time and therefore must be satisfied.

3.2.2 Topographical Data

Topographical data was based on that publicly available from *GoogleEarth* in the form of spot heights, noting the topography slopes down from west to east across the lot.

3.2.3 Ground Absorption

Ground absorption varies from a value of 0 to 1, with 0 being for an acoustically reflective ground (e.g. water or bitumen) and 1 for acoustically absorbent ground (e.g. grass). In this instance, a value of 0.0 has been used for roads and paved areas. A value of 1.0 was used for grassed areas.

3.2.4 Source Sound Levels

Overall, 22 outdoor condensing units were assumed on the roof; one per apartment.

Two condensing units were assumed on the upper ground level for the commercial tenancy as per locations indicated in the architectural drawings. Noise levels were based on file data for similar projects and vendor data.

The sound power levels used in the modelling are provided in *Table 3-3*.

All AC units were modelled as point sources with an acoustic centre of 1 metre above the relevant floor level.

Table 3-3 Source Sound Power Levels, dB

Description	Octave Band Centre Frequency (Hz)								Overall dB(A)
	63	125	250	500	1k	2k	4k	8k	
Apartment AC Unit	78	72	68	67	66	61	56	53	70
Commercial Tenancy AC Unit	78	74	65	66	60	55	51	45	67

4 RESULTS

4.1 Environmental Noise

Noise levels were predicted at various receivers surrounding the proposed development and are presented in *Table 4-1* and *Figure 4-1* as a contour map at upper floor receivers.

As a worst-case scenario, all AC units were assumed to be operating simultaneously at night-time and therefore, were assessed against the night-time L_{A10} assigned noise level. The predicted noise levels were adjusted by +5 dB for tonality given the nature of the noise sources.

From the modelling results presented in *Table 4-1* it can be seen that compliance is expected to be achieved at all receivers. It is noted the roof located AC units serving apartments are the dominant source.

It must be noted that the AC plant size and their noise levels are currently unknown such that the modelling assumptions are to be reviewed during Detailed Design, including:

- A/C plant is to be selected to be no louder than stipulated in *Table 3-3*
- Any exhaust fans should be axial type fans so that in duct attenuation can be incorporated on the outside air side of the fans to ensure noise emitted at 3 metres from the discharge is less than 40 dB(A) sound pressure level;
- All plant is to be suitably isolated from the structure to achieve minimum 97% vibration isolation; and,
- An environmental noise assessment is to be undertaken during detailed design in regards to mechanical plant noise to ensure compliance with the *Environmental Protection (Noise) Regulations 1997*.

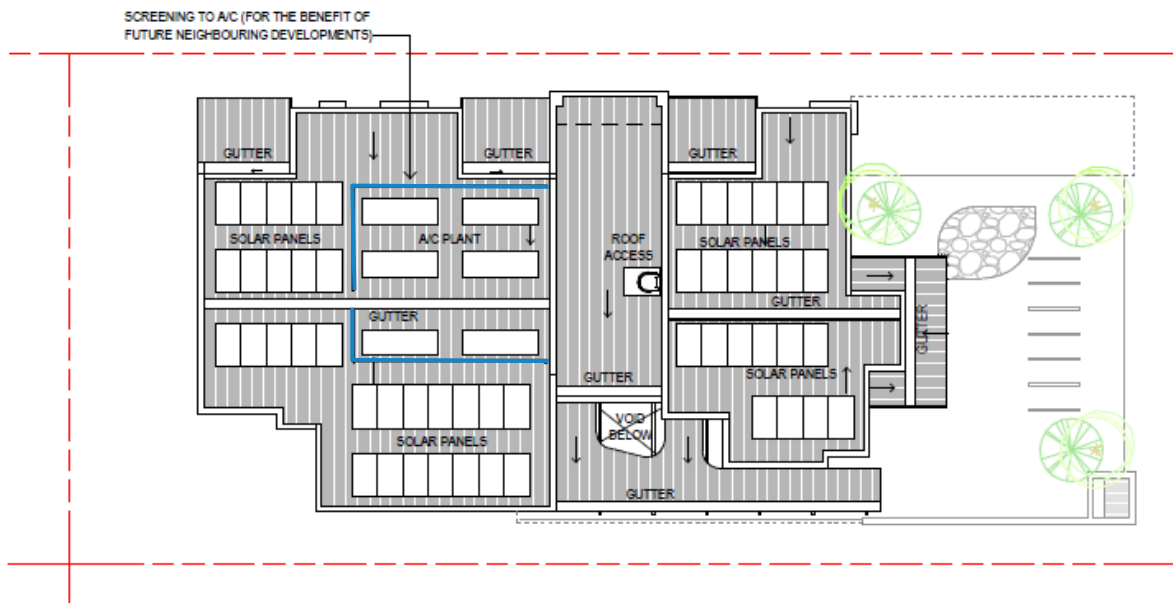
Table 4-1 Predicted Noise Levels and Assessment, dB L_{A10}

Receiver	Floor	Predicted Level (incl. +5 dB tonal adjustment)	Night-time Assigned Noise Level	Exceedence
1 Elizabeth Street	Ground	35	40	<i>Complies</i>
1 Elizabeth Street	First	36	40	<i>Complies</i>

Receiver	Floor	Predicted Level (incl. +5 dB tonal adjustment)	Night-time Assigned Noise Level	Exceedence
1A Elizabeth Street	Ground	36	40	<i>Complies</i>
1A Elizabeth Street	First	36	40	<i>Complies</i>
1B Elizabeth Street	Ground	38	40	<i>Complies</i>
1B Elizabeth Street	First	40	40	<i>Complies</i>
34 Kingsway	Ground	36	39	<i>Complies</i>
34 Kingsway	First	39	39	<i>Complies</i>
36 Kingsway	Ground	37	39	<i>Complies</i>
36 Kingsway	First	39	39	<i>Complies</i>
38 Kingsway	Ground	34	39	<i>Complies</i>
38 Kingsway	First	36	39	<i>Complies</i>
40 Kingsway	Ground	35	39	<i>Complies</i>
40 Kingsway	First	37	39	<i>Complies</i>
42 Kingsway	Ground	35	39	<i>Complies</i>
42 Kingsway	First	37	39	<i>Complies</i>
1-16/109 Broadway	Ground	35	40	<i>Complies</i>
1-16/109 Broadway	First	37	40	<i>Complies</i>

As can be seen in *Table 4-1* compliance is predicted at all receivers thanks to the 1m high solid continuous screens.

Figure 3-1 Location of proposed 1m high A/C screens (in blue)



Common Areas located outdoor

It is recommended that common areas which are likely to be more than simple residents thorough fare (i.e. Upper ground landscaped outdoor area and fifth floor resident terrace) be subject to a noise management plan that can be implemented through the Strata Management.

The Noise Management Plan should include the following provisions:

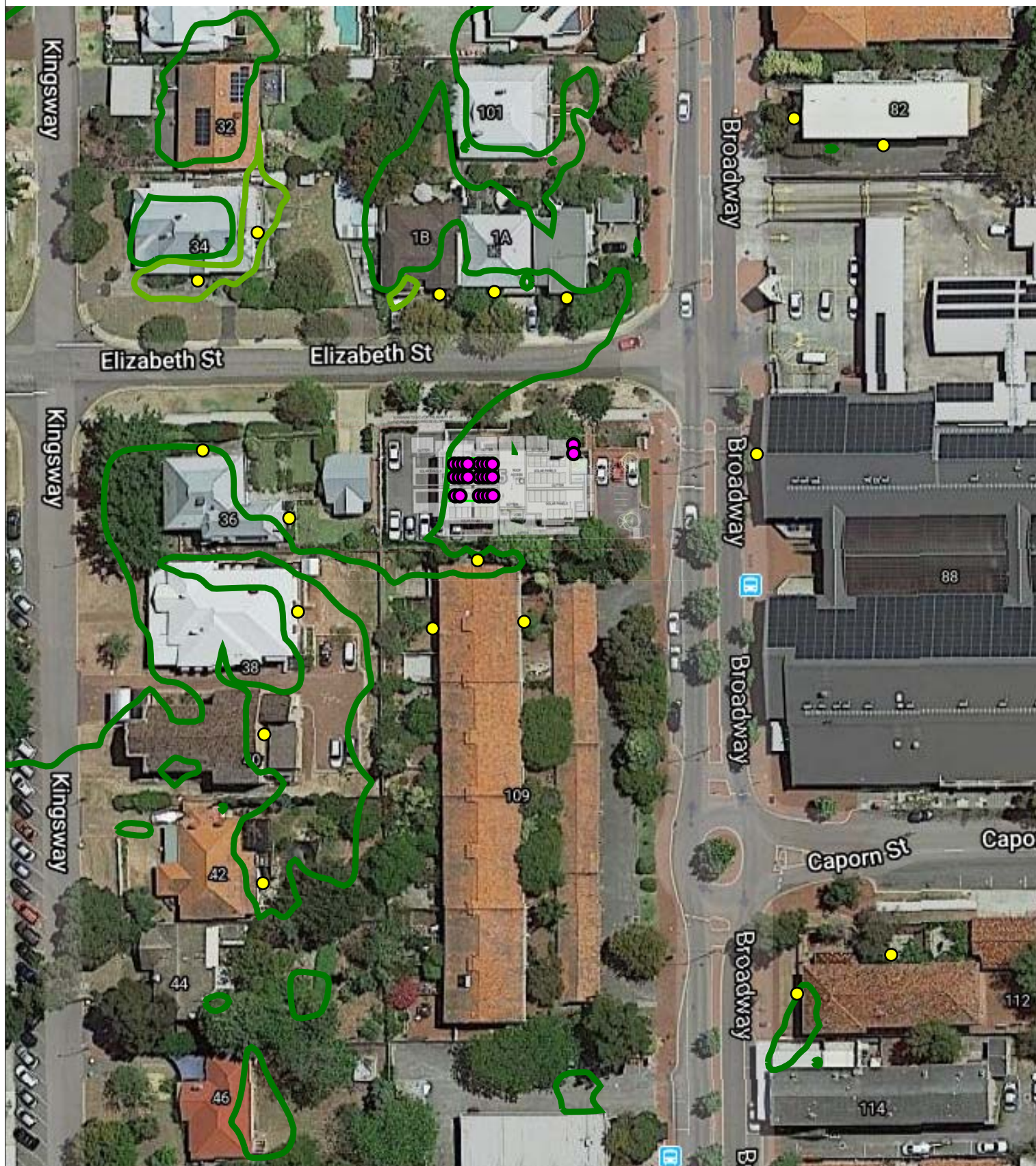
- Clear signage should be put in place so that residents know not to occupy these areas between 10pm to 7am Monday to Saturday and between 10pm to 9am on Sundays and Public Holidays;
- Solid continuous fencing/balustrading is to be put in place at the terrace/landscaped areas facing residential receivers. These can be translucent (e.g. safety glass, perspex); and
- Opportunities to maximise soft floor finish should be considered for both Residents Terrace and Upper ground floor common outdoor area in order to reduce the potential for noise emissions.
- Amplified music (or musical instruments and the like) and ball games are not to be played at any time in the common areas.

The measures listed above are above and beyond requirements of BCA Part F5 for common areas, and are expected to assist with controlling noise emissions to adjacent properties.

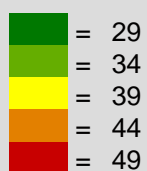
Proposed Multi-storey Mixed Used Development - AC Plant Noise **Figure 3-1**

105 Broadway, Nedlands

First Floor Noise Contour Levels (4.5m AGL)



Noise Level
dB L_{A10}



Signs and symbols

- Receiver
- AC Plant
- AC Screen



5/10/2020

Length Scale 1:850



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4.2 Internal Noise Levels

Noise intrusion into typical residential internal spaces such as bedrooms and living areas will mostly depend on the type, size and orientation of any external glazing incorporated into external walls. It will also depend on the performance of any external doors (hinged and sliding doors) and their sound reduction properties, including the presence of appropriately selected acoustic seals.

The values presented in *Table 4-2* are dependent upon the following assumptions:

- Façade's external wall to achieve $R_w + C_{tr}$ 46 as a minimum (e.g. 125 mm concrete panel);
- Bedroom external hinged doors to achieve minimum $R_w + C_{tr}$ 28 (e.g. min. 23 kg/m² solid timber with acoustically rated perimeter and drop seals);
- No adjustment for annoying characteristics were made;
- One external window (up to 3 m² in typical bedrooms, up to 3.5 m² in typical kitchen/living rooms- up to 4.5m² in Level 4 bedroom facing Broadway, up to 2.2 m² in Level 4 kitchen/living/dining facing Broadway) is facing the noise source, and
- 6 mm thick standard float glass in commercial frame achieves at least $R_w + C_{tr}$ 28.
- 6.38 mm laminated glass achieves at least $R_w + C_{tr}$ 29.

4.2.1 Road Traffic Noise

Table 4-2 presents the predicted internal noise levels based on the L_{Aeq} Road traffic noise modelled at façade.

Table 4-2 Predicted Road Traffic Internal Levels, dB L_{Aeq}

Future Residence	Predicted Noise at façade, dB $L_{Aeq,t}$	Predicted Internal Noise Levels, dB $L_{Aeq,tr}$ With 6.38 mm laminated Awning/Casement Window and 6.38mm lam sliding doors	Predicted Internal Noise Levels, dB $L_{Aeq,tr}$ With 6 mm Awning/Casement Window and 6mm sliding doors
Typical Bedroom	Up to 63.5	<27	< 31
Typical Kitchen/ Living Room	Up to 63.5	<30	< 32
Level 4 Bedroom	Up to 61.5	<27	< 29
Level 4 Kitchen/Dining/Living Room	Up to 61.5	<34	< 35

4.2.2 Entertainment Noise and Assigned Levels

In *Section 4.1.1* it has been established that 6 mm standard float glazing to windows and sliding doors is sufficient to meet the AS2107 criteria internal traffic noise levels to habitable rooms.

Entertainment noise such as noise emanating from Varsity Bar inside Broadway shopping Centre would be assessed against the assigned noise levels of *Environmental Protection (Noise) Regulations 1997*.

Table 4-3 Predicted Entertainment Noise Internal Levels, dB L_{Aeq}

Future Residence	Predicted Noise at facade, dB L _{Aeq,t}	Predicted Internal Noise Levels, dB L _{Aeq,tr} With 6.38 mm laminated Awning/Casement Window and 6.38mm lam sliding doors	Including +15 dB inside to outside conversion factor	Assigned Noise Level	Exceedence
Typical Bedroom	Up to 54	<18	< 33	39	Complies
Typical Kitchen/ Living Room	Up to 54	<21	<36	39	Complies
Level 4 Bedroom	Up to 52	<18	<33	39	Complies
Level 4 Kitchen/Dining/Living Room	Up to 52	<24	<39	39	Complies

The predicted internal noise levels must first be adjusted by +15 dB for measurements within the premises and windows closed. For internal noise levels inside habitable rooms and resulting from entertainment noise, the following mitigation measures are necessary:

- East Facade: With upgraded 6.38 mm laminated glazing awning/casement windows to bedrooms and 6.38mm laminated glazing awning/casement windows and sliding doors to kitchen/living rooms, the night-time L_{A10} assigned noise level is expected to be complied with at Bedrooms and kitchen/ living rooms.
- Unit 19: With upgraded 6.38 mm laminated glazing awning/casement windows to bedrooms and 6.38mm laminated glazing awning/casement windows and sliding doors to kitchen/living rooms;
- Other Units/facades: minimum 6mm standard float glass to casement/awning/fixed windows and sliding doors.

It is deemed essential that residents are provided with the possibility of closing the windows and receiving fresh air through mechanical ventilations means if/when noise from adjacent land uses becomes noticeable (e.g. Friday evenings). Title notification could be considered for these units so future owners are made aware of vibrancy of the local area and existing noise climate.

5 BCA Part F5

The BCA Part F5 report addresses all acoustic issues associated with the Building Code of Australia (BCA) and will address construction requirements for walls, floors, ceilings and the like as well as providing specific guidance for hydraulic, mechanical, electrical and lift services. The development of this report will be in close consultation with the architect and will form part of their specification. A mark-up highlighting wall construction requirements to satisfy Part F5 of the BCA is provided in *Appendix B*.

- Floors

A floor separating sole-occupancy units must achieve $R_w + C_{tr} \geq 50$ (airborne) and $L_{n,w} \leq 62$ (impact). This can typically be achieved by:

- Minimum 200 mm thick concrete slab;
- Hard floor finishes (timber, vinyl, tiles etc) on floor above to be installed on an impact isolation mat and carpet to be installed on standard underlay; and
- 13 mm suspended plasterboard ceiling with minimum 150 mm cavity. Where smaller cavities are desirable, insulation can be placed above the ceiling.

The above is also applicable to the roof top terrace as it will be located directly above sole-occupancy units.

- Walls

A wall separating sole-occupancy units must achieve $R_w + C_{tr} \geq 50$ (airborne) performance with some walls also requiring discontinuous construction. This can typically be achieved by:

- Two leaves of 90 mm acoustic brick with 70 mm air gap and 13 mm cement render on both sides. Ties between leaves to be anti-vibration type; or
- Single leaf masonry minimum 150 mm thick (e.g. concrete panel). Where a discontinuous construction is required a steel stud offset by 20 mm from the wall with 13 mm plasterboard and glass or mineral wool insulation in the cavity will be required.

The above wall requirements for typical sole-occupancy units are highlighted on *Figure 5-1* for reference.

- External glazing

- Refer to *Section 4.2*.

In addition to the above reports, subsequent reports of acoustic advice, site inspections, results of testing and the like may occur throughout the construction and commissioning of the project.

6 CONCLUSIONS

The proposed mixed use development at 105 Broadway in Nedlands has been assessed by Lloyd George Acoustics.

Noise emissions from outdoor mechanical plant can meet the requirements of *Environmental Protection (Noise) Regulations 1997* as long as recommendations in *Section 4.1* are adhered to.

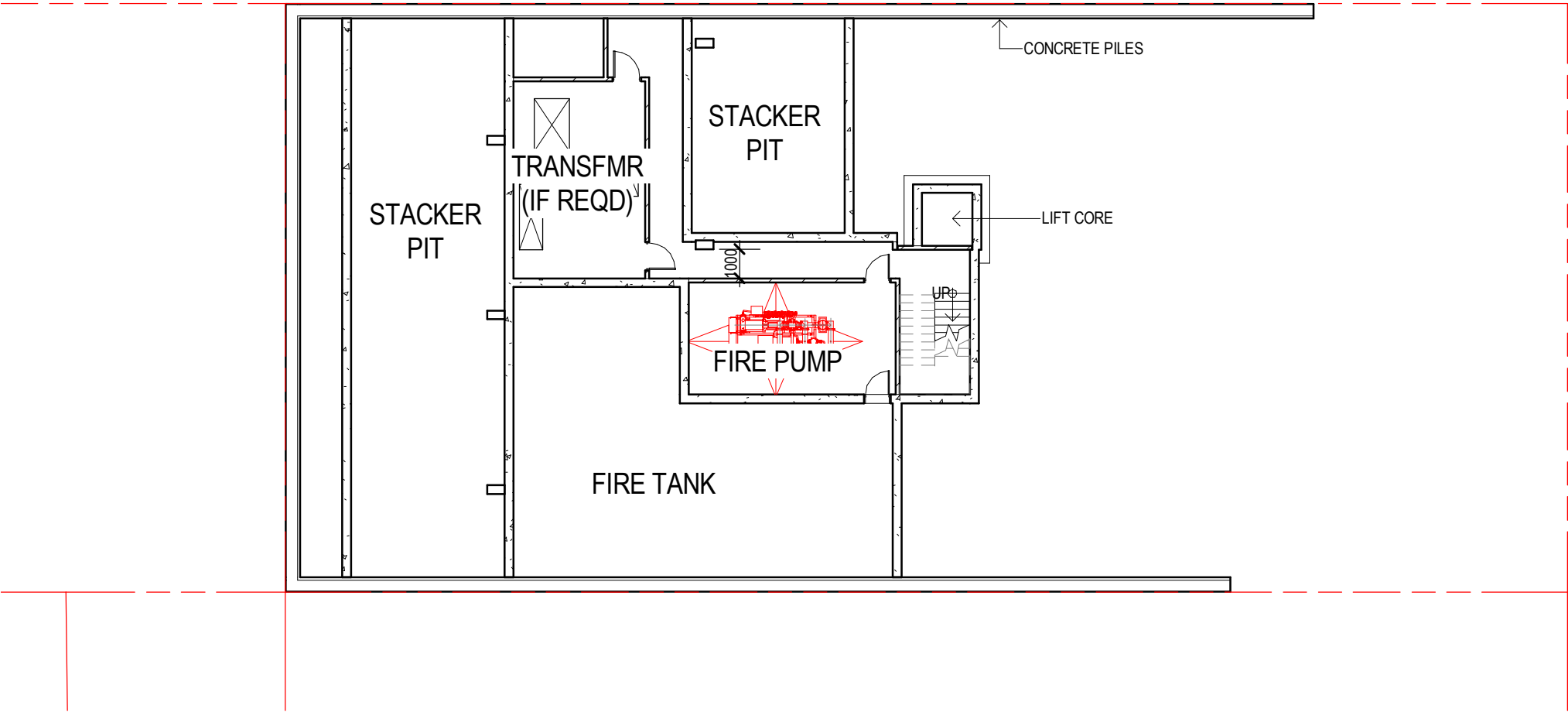
The requirements of BCA Part F5 are expected to be met as long as recommendations summarised in *Section 5* are implemented. Wall mark-ups have been included in *Appendix B*.

Architectural treatments in the form of acoustically rated external windows generally achieving $R_w + C_{tr}$ 29 should be included in the East facade design along with other *Section 4.2* recommendations. However, it must be noted this control option relies on external windows to be closed and therefore mechanical ventilation will be required to provide fresh air into the dwellings. Glazing to other façades is to achieve minimum $R_w + C_{tr}$ 26.

The above is based on the plans provided in *Appendix A* and therefore any changes to those plans should be reviewed.

Appendix A

Development Plans



SERVICES PLAN
SCALE: 1 : 200

K	17-09-20	FI	REVISED DEEP SOIL AREA
J	08-09-20	FI	DESIGN REVIEW
I	18-08-20	FI	IDRP 2 ISSUE
Rev.	Date	Issued By	Revision Description



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Project Name
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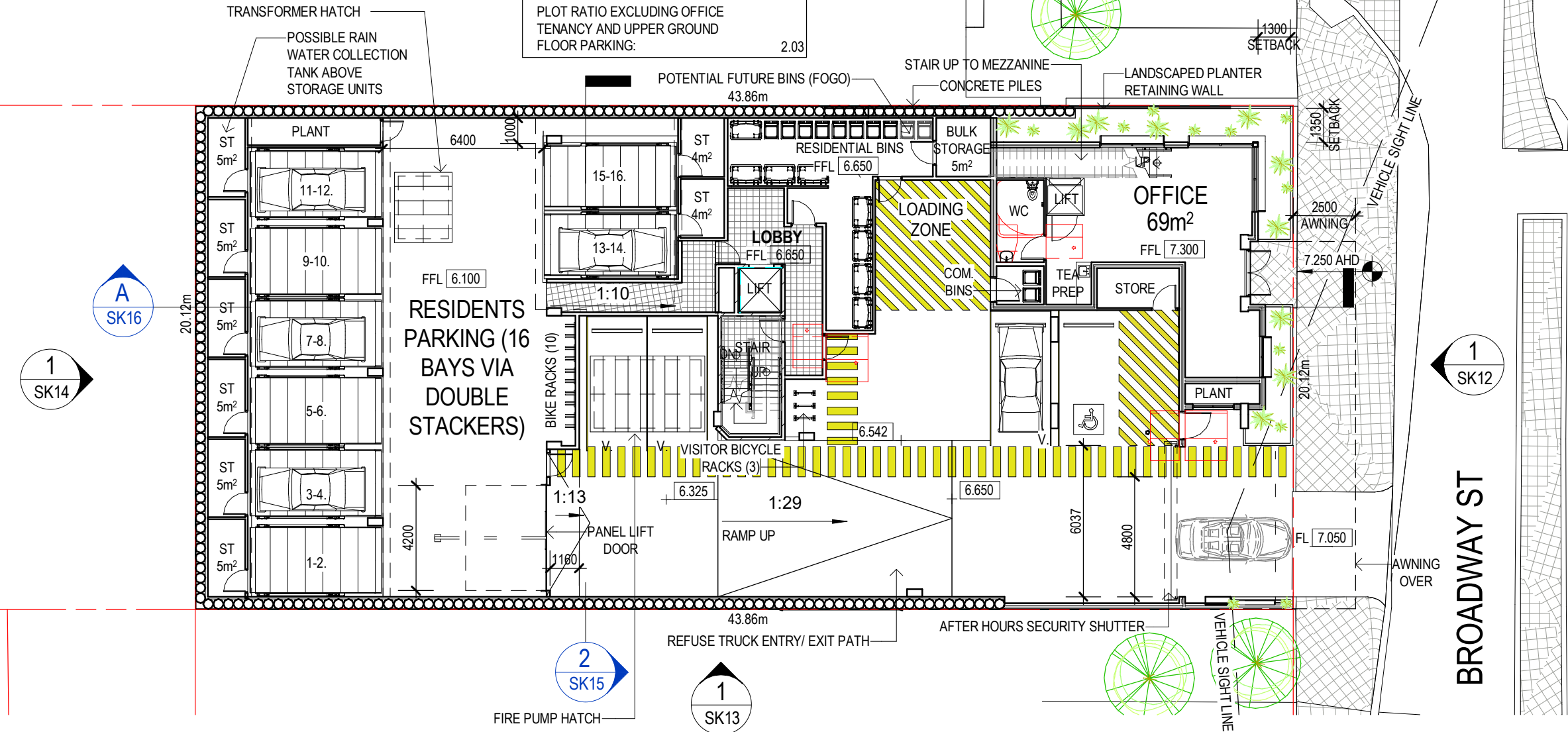
Drawing Name
BASEMENT/SERVICES PLAN

Project Number
18020

Drawing No. Rev.
SK03.1 K

PLOT RATIO: AREA CALCULATION

G - LOWER:	G - UPPER:	1FL:	2FL:	3FL:	4FL:	5FL:
OFFICE 69m²	OFFICE 90m² PARKING 354m²	UNITS 1-5: 388m²	UNITS 6-10: 376m²	UNITS 11-15: 376m²	UNITS 16-19: 379m²	UNITS 20-22: 273m²
69m²	444m²	388m²	376m²	376m²	379m²	273m²
*SEE SK22-SK27 FOR PLOT RATIO DRAWINGS						TOTAL: 2305m²
						SITE AREA: 882.4m²
						PLOT RATIO: 2.61
						PLOT RATIO EXCLUDING UPPER GROUND FLOOR PARKING ONLY: 2.21
						PLOT RATIO EXCLUDING OFFICE TENANCY AND UPPER GROUND FLOOR PARKING: 2.03



DEEP SOIL AREA CALCULATION	
LOWER GROUND FLOOR:	16m²
UPPER GROUND FLOOR:	10.5m²
FIRST FLOOR:	115m²
FIFTH FLOOR:	39m²
TOTAL:	180.5m² (~20% of site area).

176m² req min (20% of site area when on structure).

APARTMENT SCHEDULE		RESIDENT PARKING	RESIDENTIAL VISITOR /COMMERCIAL PARKING
1 BED 1 BATH:	10 Units	10 Bays	Commercial (Office Use) - 179 sqm requires 08 carbays (under old scheme - 4.75 bays per 100sqm GLA)
2 BED 1 BATH:	2 Units	02 Bays	
2 BED 2 BATH:	8 Units	14 Bays	
3 BED 3 BATH:	2 Units	04 Bays	
	22 Units	30 Bays Provided	<u>12 Bays Available / Proposed on reciprocal basis:</u> 06 bays on-site (incl. disabled persons & visitor bays, plus 02 Proposed on street Parking Bays on the northern side of Elizabeth Street, as per City of Nedlands - Safe Active Street Proposal). Also available are 03 on-street public parking bays in front of neighbouring property at 109 Broadway - within 20m walking distance. Note: Additional on-street parking available further south along Broadway & in Caporn St.
		03 Motorcycle bays	
		18 Bicycle Racks	04 Visitor Bicycle Racks provided

*17/22 APARTMENTS MEET SILVER LEVEL REQUIREMENTS AS DEFINED IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

GROUND FLOOR PLAN - LOWER
SCALE: 1 : 200

Rev.	Date	Issued By	Revision Description
K	17-09-20	FI	REVISED DEEP SOIL AREA
J	08-09-20	FI	DESIGN REVIEW
I	18-08-20	FI	IDRP 2 ISSUE
H	04-08-20	FI	DESIGN REVIEW



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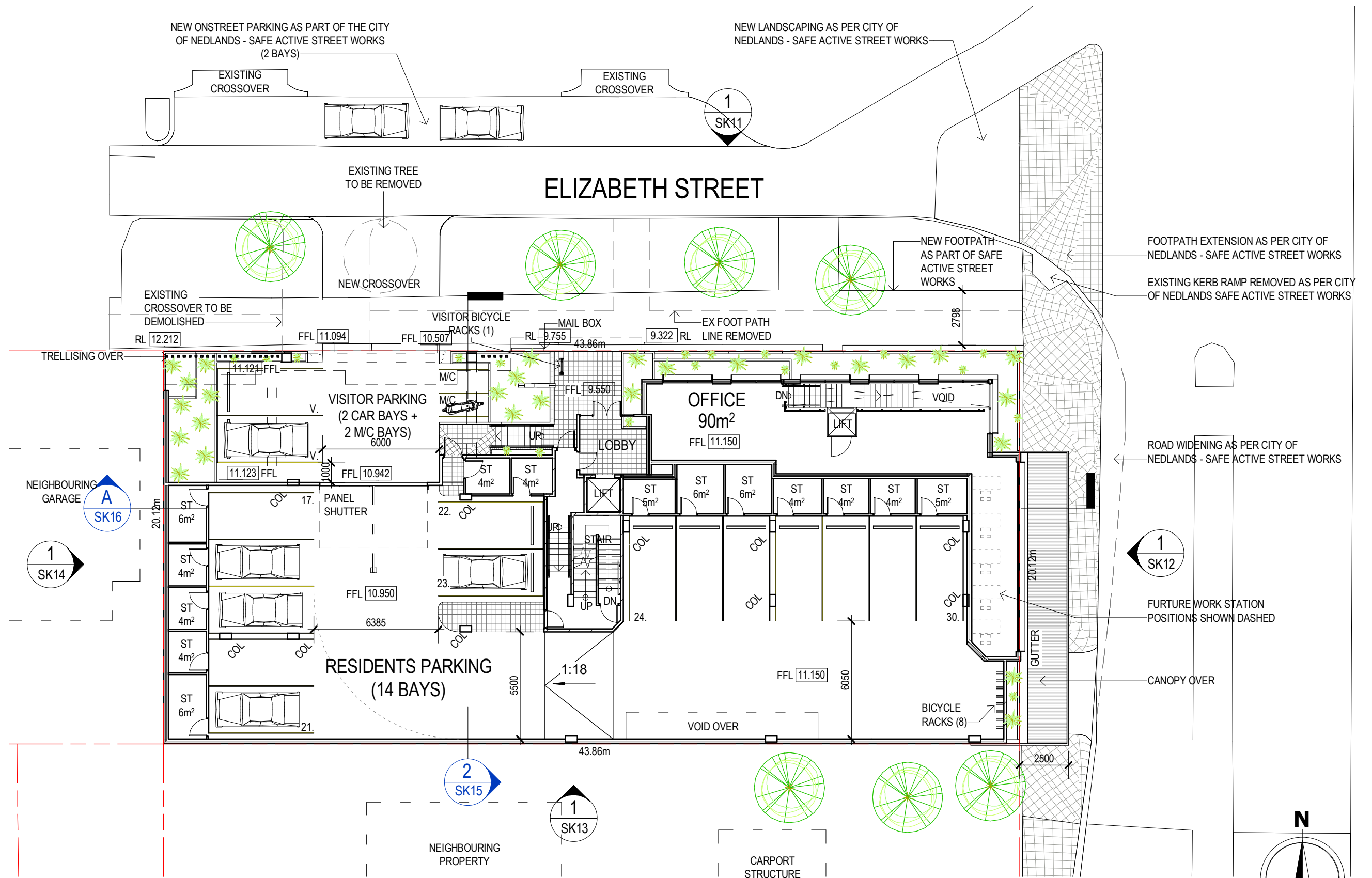
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Project Name
**Proposed Mixed Use Development, 105
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Drawing Name
GROUND FLOOR PLAN - LOWER

Project Number
18020

Drawing No. **SK03.2**
Rev. **K**



GROUND FLOOR PLAN - UPPER
SCALE: 1 : 200

DEEP SOIL AREA:	
UPPER GROUND FLOOR:	10.5m²
(REFER SK33)	

K	17-09-20	FI	REVISED DEEP SOIL AREA
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Project Name
**Proposed Mixed Use Development, 105
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Drawing Name
GROUND FLOOR PLAN - UPPER

Project Number
18020

Drawing No. **SK04** Rev. **K**

Reduction 25mm on A3 | Scale

1 : 200 | Date

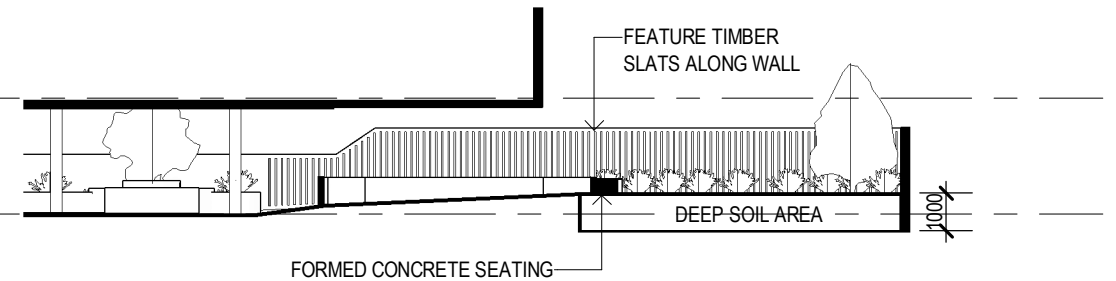
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Second Floor

RL 17.050

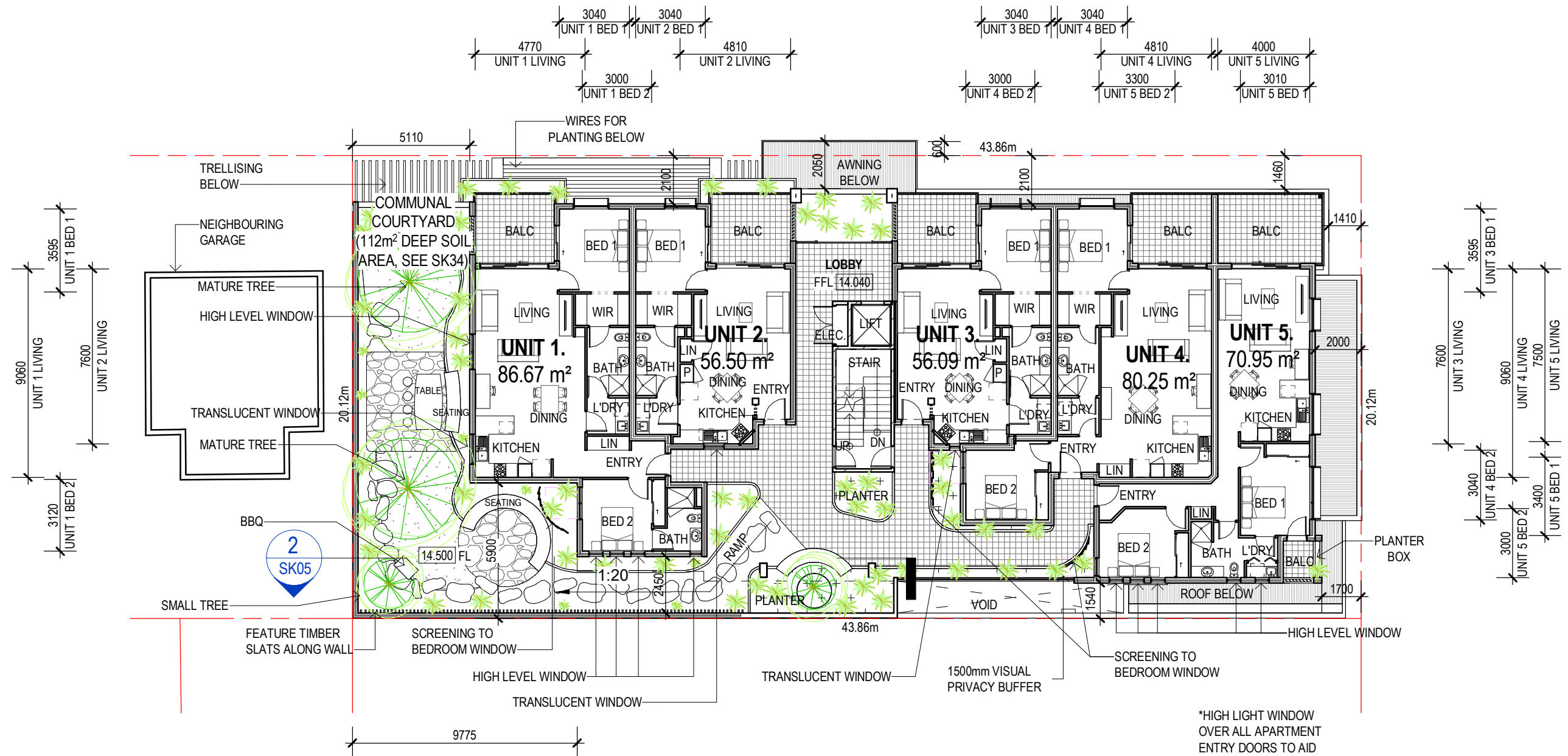
First Floor

RL 14.000



FIRST FLOOR COMMUNAL SPACE ENTRY

SCALE: 1 : 200



FIRST FLOOR

SCALE: 1 : 200

*ALL HABITABLE ROOMS INCLUDE GLAZING IN AN EXTERNAL WALL WHICH IS >10% OF THE FLOOR AREA.

1 st FL AREA: STRATA AREA	
*UNIT 1: (2BED / 2BATH)	88.67m ² + Balc : 10m ²
*UNIT 2: (1BED / 1BATH)	56.50m ² + Balc : 10m ²
*UNIT 3: (1BED / 1BATH)	56.09m ² + Balc : 10m ²
UNIT 4: (2BED / 1BATH)	80.25m ² + Balc : 10m ²
UNIT 5: (2BED / 1BATH)	70.95m ² + Balc : 15m ²

DEEP SOIL AREA:	
FIRST FLOOR:	115m ²
(REFER SK34)	

*DWELLING MEETS SILVER LEVEL REQUIREMENTS AS DEFINED IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

Rev.	Date	Issued By	Revision Description
K	17-09-20	FI	REVISED DEEP SOIL AREA
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I	18-08-20	FI	IDRP 2 ISSUE
H	04-08-20	FI	DESIGN REVIEW



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Project Name
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Drawing Name
FIRST FLOOR PLAN

Project Number

18020

Drawing No.

SK05

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Drawing Name
SECOND FLOOR PLAN

Project Number
18020

Drawing No. **SK06** Rev. **K**

Reduction 25mm on A3 | Scale **1 : 200** | Date **OCT 2019** | Drawn **JR** | Checked **FI**
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SECOND FLOOR PLAN

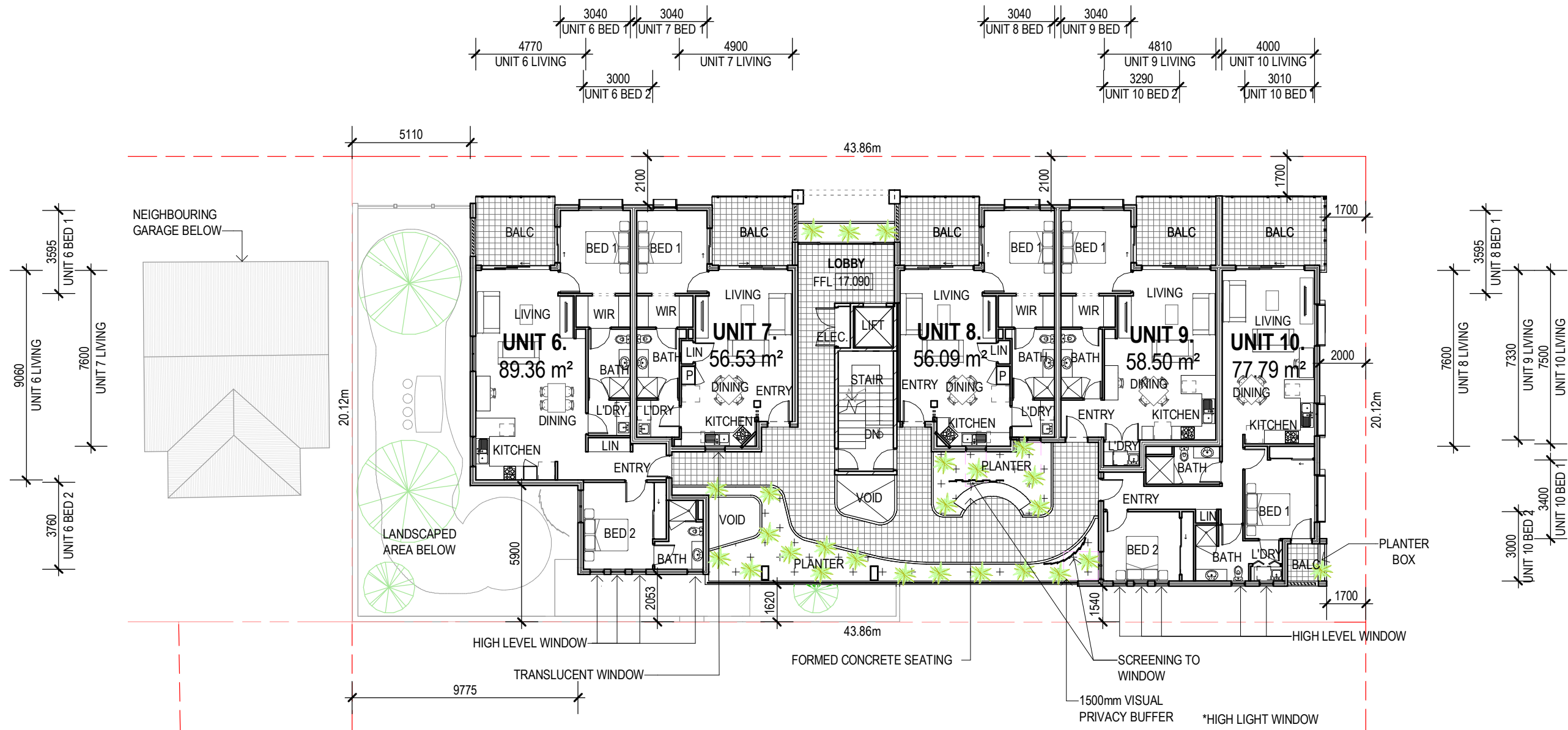
SCALE: 1 : 200

*ALL HABITABLE ROOMS INCLUDE GLAZING IN AN EXTERNAL WALL WHICH IS >10% OF THE FLOOR AREA.

2 nd FL AREA: STRATA AREA			
*UNIT 6: (2BED / 2BATH)	89.36m ²	+ Balc: 10m ²	
*UNIT 7: (1BED / 1BATH)	56.53m ²	+ Balc: 10m ²	
*UNIT 8: (1BED / 1BATH)	56.09m ²	+ Balc: 10m ²	
UNIT 9: (1BED / 1BATH)	58.50m ²	+ Balc: 10m ²	
*UNIT 10: (2BED / 2BATH)	77.79m ²	+ Balc: 15m ²	

DEEP SOIL AREA:	
SECOND FLOOR:	0m ²
(REFER SK34)	

*DWELLING MEETS SILVER LEVEL REQUIREMENTS AS DEFINED IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES



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THIRD FLOOR PLAN

SCALE: 1 : 200

*ALL HABITABLE ROOMS INCLUDE
GLAZING IN AN EXTERNAL WALL
WHICH IS >10% OF THE FLOOR AREA.

3 rd FL AREA: STRATA AREA			
*UNIT 11:	(2BED / 2BATH)	89.36m ²	+ Balc: 10m ²
*UNIT 12:	(1BED / 1BATH)	56.45m ²	+ Balc: 10m ²
*UNIT 13:	(1BED / 1BATH)	56.09m ²	+ Balc: 10m ²
UNIT 14:	(1BED / 1BATH)	58.50m ²	+ Balc: 10m ²
*UNIT 15:	(2BED / 2BATH)	77.79m ²	+ Balc: 15m ²

DEEP SOIL AREA:	
THIRD FLOOR:	0m ²
(REFER SK34)	

*DWELLING MEETS SILVER LEVEL REQUIREMENTS AS DEFINED
IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

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I	18-08-20	FI	IDRP 2 ISSUE
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Drawing Name
THIRD FLOOR PLAN

Project Number
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Drawing No. **SK07** Rev. **K**

Reduction  25mm on A3 | Scale **1 : 200** | Date

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FOURTH FLOOR PLAN

SCALE: 1 : 200

*ALL HABITABLE ROOMS INCLUDE
GLAZING IN AN EXTERNAL WALL
WHICH IS >10% OF THE FLOOR AREA.

4 th FL AREA: STRATA AREA			
*UNIT 16: (2BED / 2BATH)	89.29m²	+ Balc:	10m²
*UNIT 17: (2BED / 2BATH)	56.51m²	+ Balc:	10m²
*UNIT 18: (2BED / 2BATH)	91.73m²	+ Balc:	10m²
UNIT 19: (3BED / 3BATH)	110.57m²	+ Balc:	25m²

DEEP SOIL AREA:	
FOURTH FLOOR:	0m²

(REFER SK34)

*DWELLING MEETS SILVER LEVEL REQUIREMENTS AS DEFINED
IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

*HIGH LIGHT WINDOW
OVER ALL APARTMENT
ENTRY DOORS TO AID
CROSS VENTILATION



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Project Name
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Drawing Name
FOURTH FLOOR PLAN

Project Number

18020

Drawing No.

SK08

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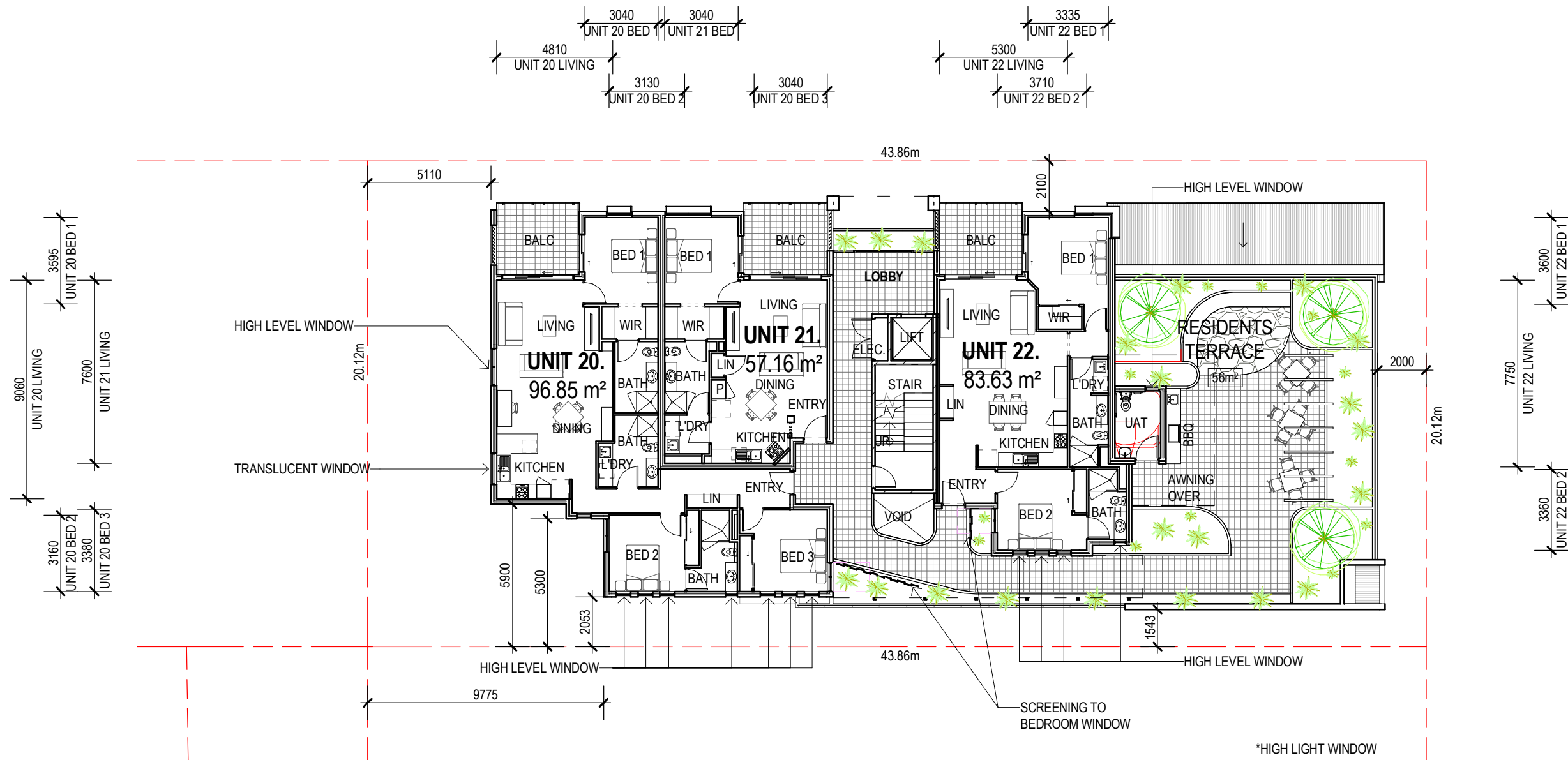
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Reduction 25mm on A3 | Scale

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FIFTH FLOOR PLAN

SCALE: 1 : 200

*ALL HABITABLE ROOMS INCLUDE GLAZING IN AN EXTERNAL WALL WHICH IS >10% OF THE FLOOR AREA.

5 th FL AREA: STRATA AREA	
*UNIT 20: (2BED / 2BATH)	96.85m² + Balc: 10m²
*UNIT 21: (2BED / 2BATH)	57.16m² + Balc: 10m²
*UNIT 22: (2BED / 2BATH)	83.63m² + Balc: 10m²

DEEP SOIL AREA:	
FIFTH FLOOR:	44m²

*DWELLING MEETS SILVER LEVEL REQUIREMENTS AS DEFINED IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

*HIGH LIGHT WINDOW OVER ALL APARTMENT ENTRY DOORS TO AID CROSS VENTILATION

K	17-09-20	FI	REVISED DEEP SOIL AREA
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I	18-08-20	FI	IDRP 2 ISSUE
H	04-08-20	FI	DESIGN REVIEW
Rev.	Date	Issued By	Revision Description



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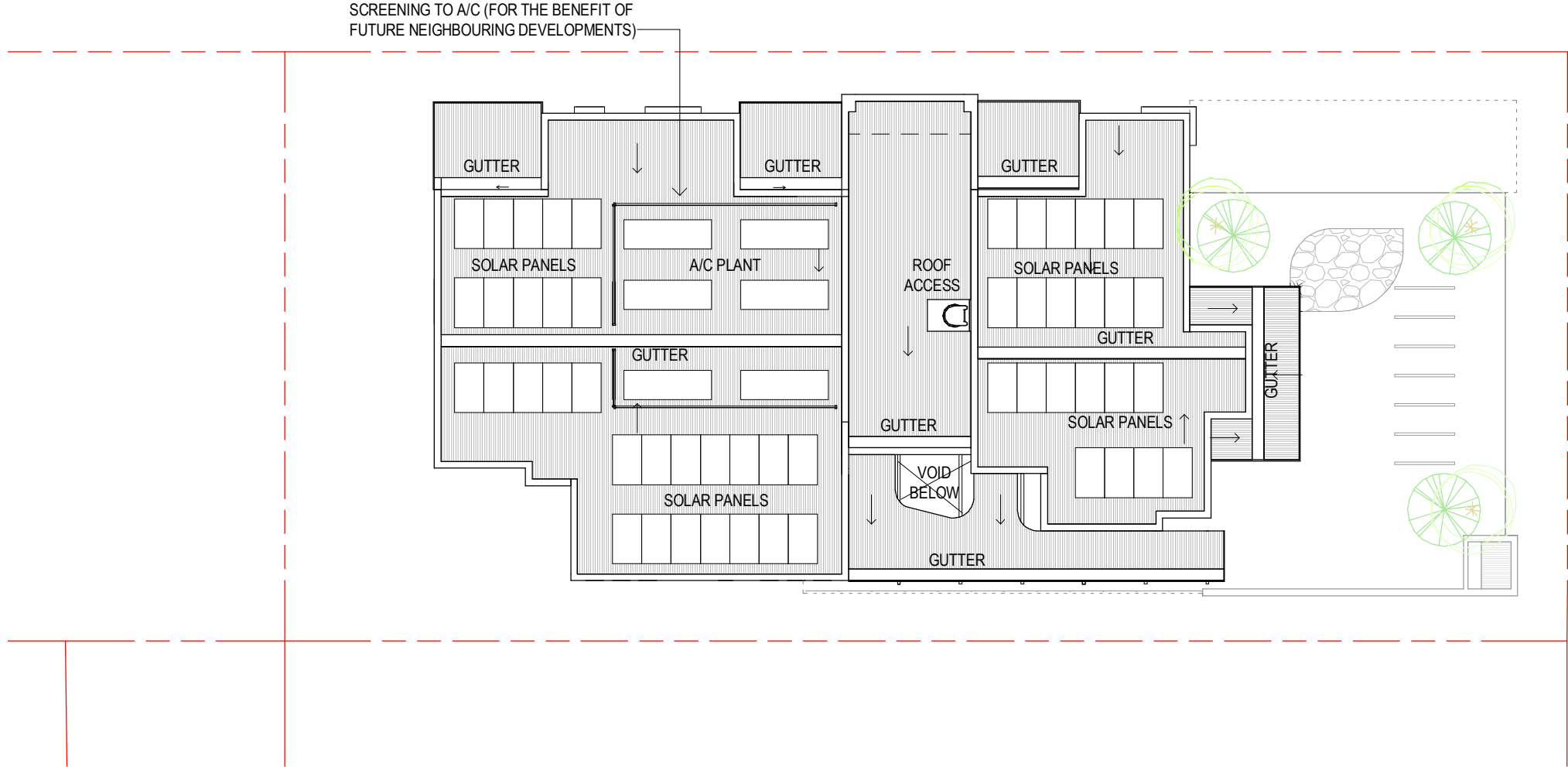
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Project Name
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Drawing Name
FIFTH FLOOR PLAN

Project Number
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Drawing No. **SK09** Rev. **K**



ROOF PLAN
SCALE: 1 : 200

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Project Name
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Drawing Name
ROOF PLAN

Project Number
18020

Drawing No. **SK10** Rev. **K**



NORTH ELEVATION - ELIZABETH ST
SCALE: 1 : 200

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Rev.	Date	Issued By	Revision Description



EAST ELEVATION - TO BROADWAY
SCALE: 1 : 200

K	17-09-20	FI	REVISED DEEP SOIL AREA
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I	18-08-20	FI	IDRP 2 ISSUE
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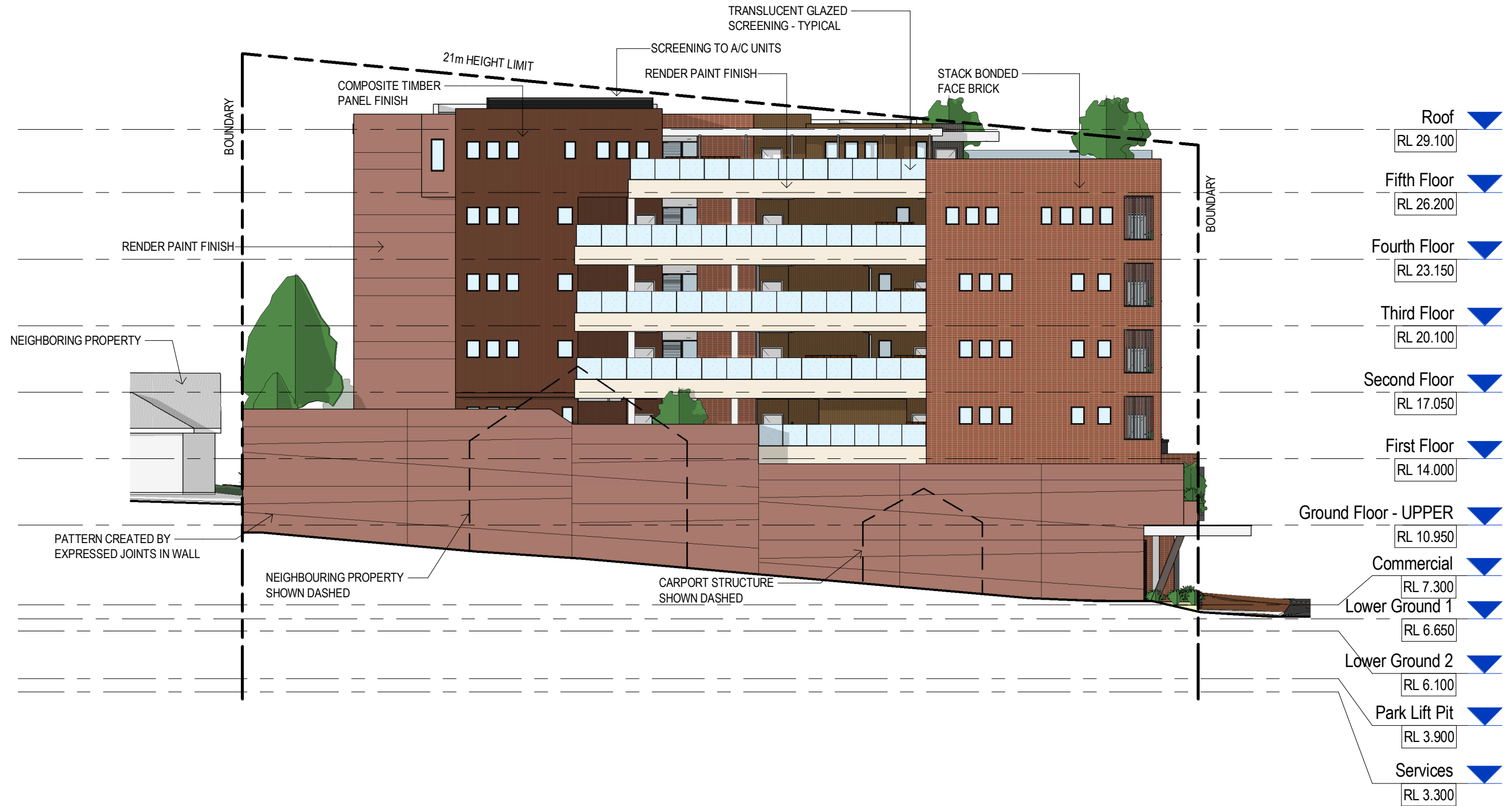
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Project Name
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Drawing Name
EAST ELEVATION

Project Number
18020

Drawing No.
SK12
Rev.
K



SOUTH ELEVATION

SCALE: 1 : 200

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Project Name
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Drawing Name
SOUTH ELEVATION

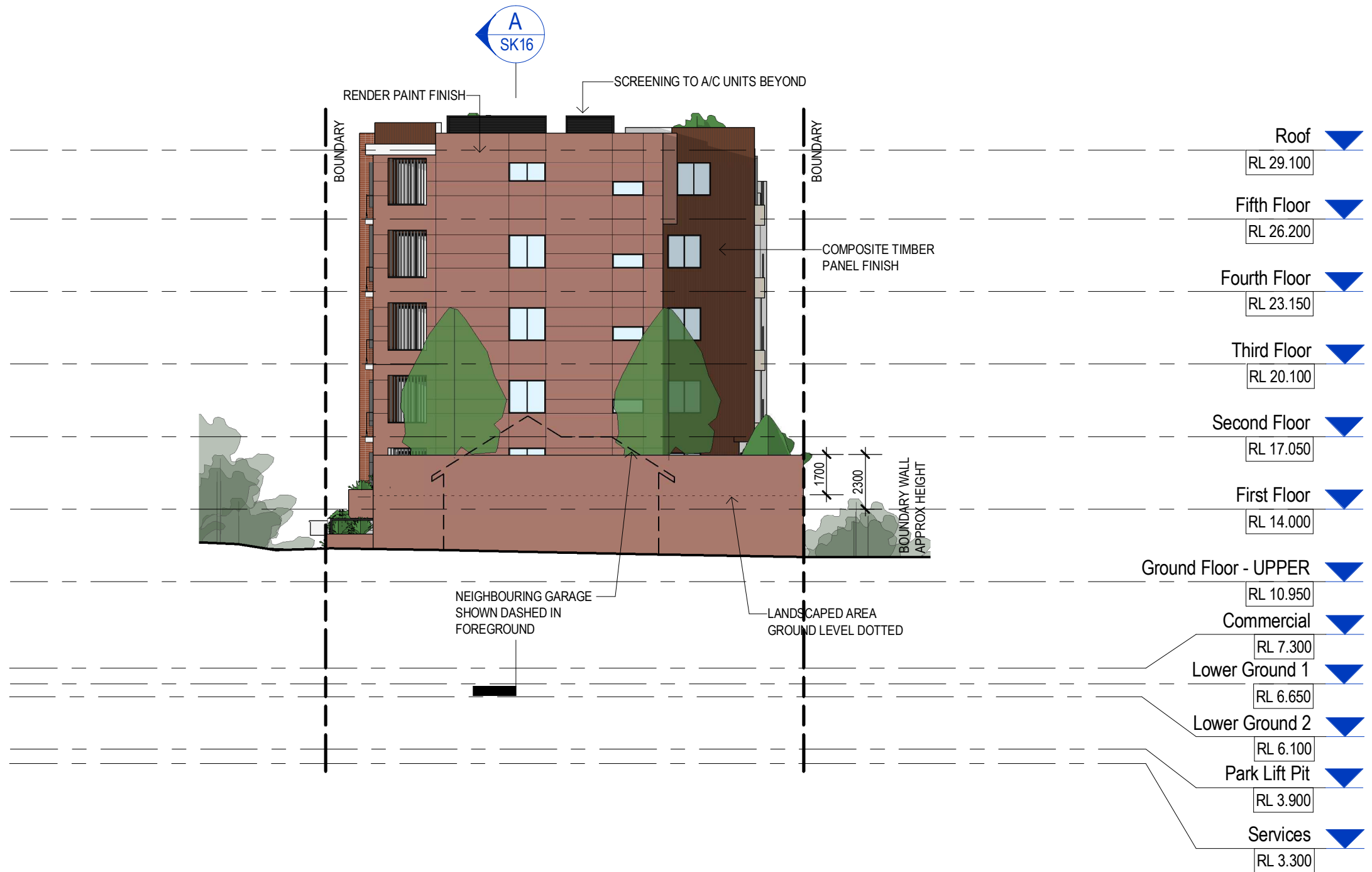
Project Number
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Drawing No. **SK13** Rev. **K**

Reduction 25mm on A3 | Scale

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WEST ELEVATION

SCALE: 1 : 200

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Project Name
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Drawing Name
WEST ELEVATION

Project Number
18020

Drawing No. **SK14** Rev. **K**

Reduction  25mm on A3 | Scale

1 : 200 | Date

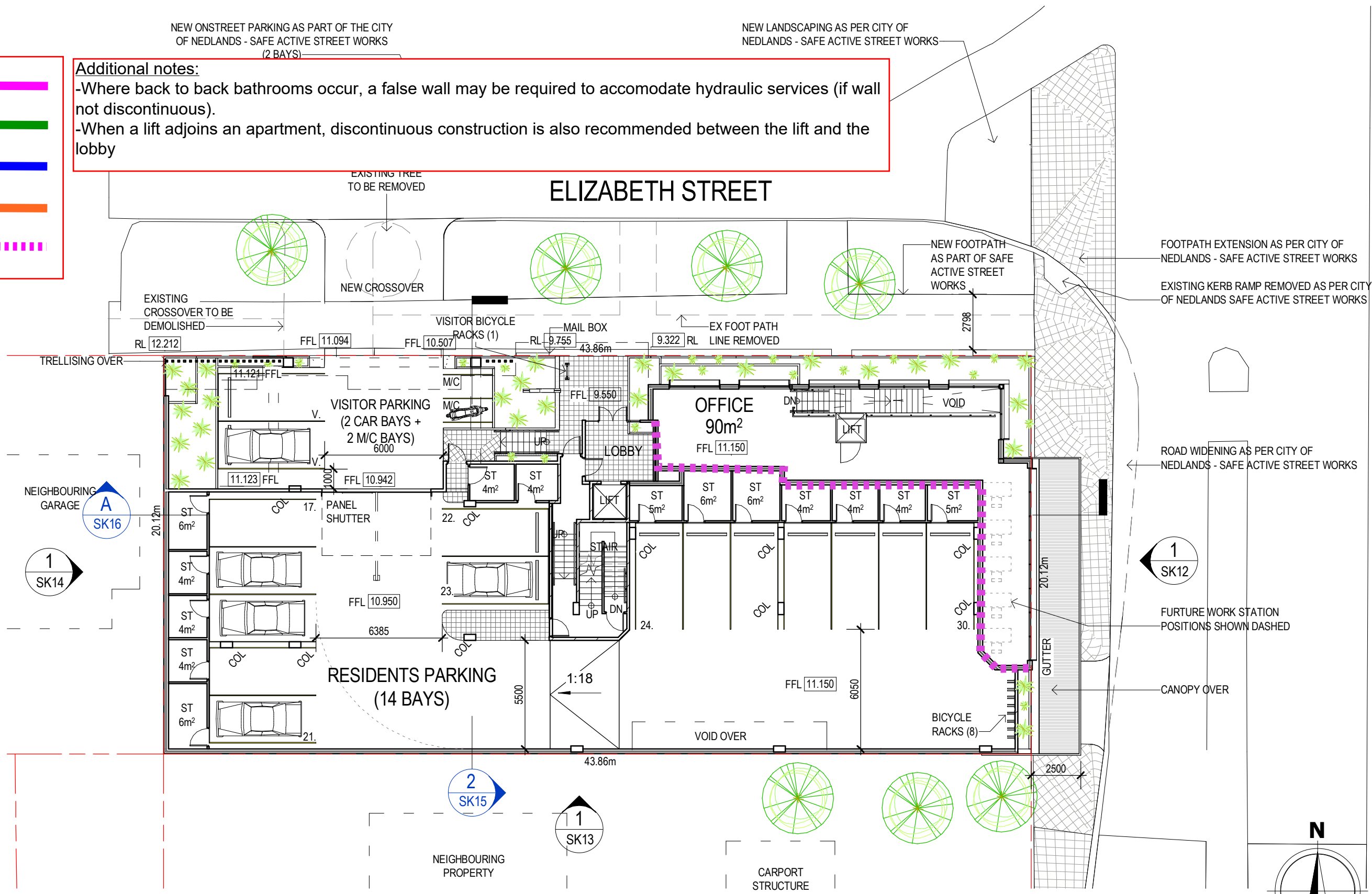
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Appendix B

BCA Mark-ups

Rw50
Rw50 and Disc.
Rw+Ctr 50 and Disc.
Rw+Ctr 50
Rw50 (Recomm.)

Additional notes:
-Where back to back bathrooms occur, a false wall may be required to accomodate hydraulic services (if wall not discontinuous).
-When a lift adjoins an apartment, discontinuous construction is also recommended between the lift and the lobby



GROUND FLOOR PLAN - UPPER
SCALE: 1 : 200

DEEP SOIL AREA:	
UPPER GROUND FLOOR:	10.5m²
(REFER SK33)	

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Project Name
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Drawing Name
GROUND FLOOR PLAN - UPPER

Project Number
18020

Drawing No.
SK04

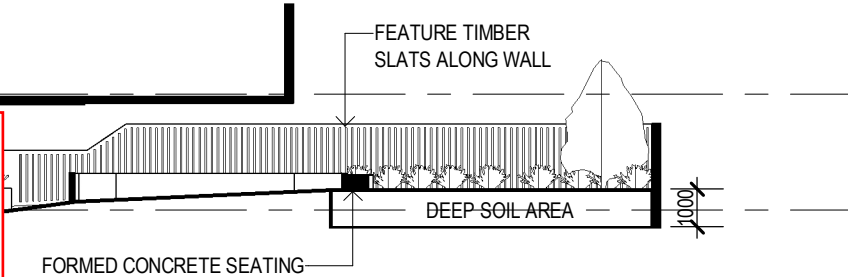
Rev.
K

- Rw50
- Rw50 and Disc.
- Rw+Ctr 50 and Disc.
- Rw+Ctr 50
- Rw50 (Recomm.)

Additional notes:

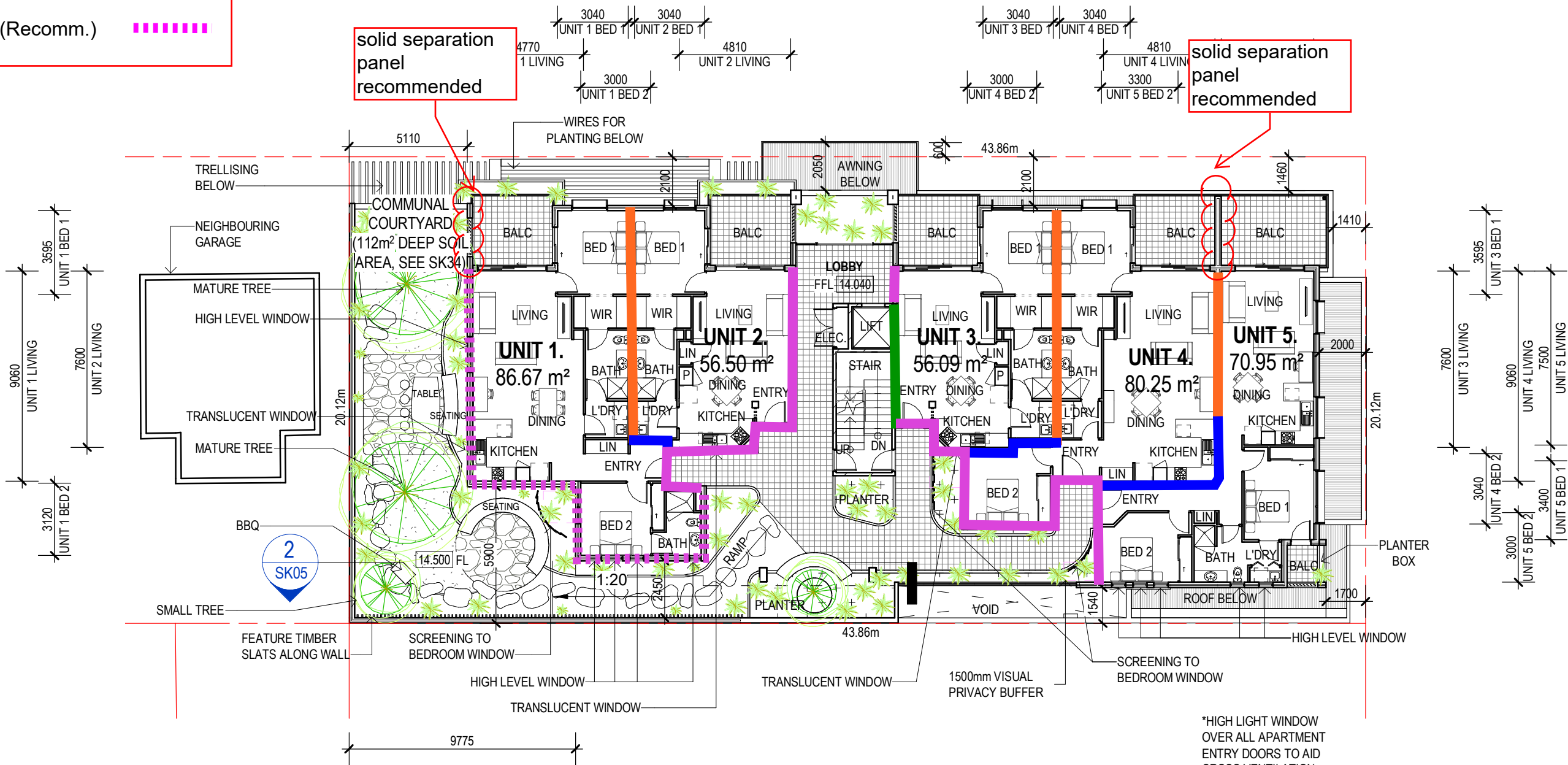
- Where back to back bathrooms occur, a false wall may be required to accomodate hydraulic services (if wall not discontinuous).
- When a lift adjoins an apartment, discontinuous construction is also recommended between the lift and the lobby

Second Floor



COMMUNAL SPACE ENTRY

SCALE: 1 : 200



FIRST FLOOR
SCALE: 1 : 200

*ALL HABITABLE ROOMS INCLUDE GLAZING IN AN EXTERNAL WALL WHICH IS >10% OF THE FLOOR AREA.

1 st FL AREA: STRATA AREA	
*UNIT 1: (2BED / 2BATH)	88.67m ² + Balc : 10m ²
*UNIT 2: (1BED / 1BATH)	56.50m ² + Balc : 10m ²
*UNIT 3: (1BED / 1BATH)	56.09m ² + Balc : 10m ²
UNIT 4: (2BED / 1BATH)	80.25m ² + Balc : 10m ²
UNIT 5: (2BED / 1BATH)	70.95m ² + Balc : 15m ²

DEEP SOIL AREA:	
FIRST FLOOR:	115m ²
(REFER SK34)	

*DWELLING MEETS SILVER LEVEL REQUIREMENTS AS DEFINED IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

Rev.	Date	Issued By	Revision Description
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Project Name
Proposed Mixed Use Development, 105
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Drawing Name
FIRST FLOOR PLAN

Project Number
18020

Drawing No.
SK05

Rev.
K

Rw50

Rw50 and Disc.

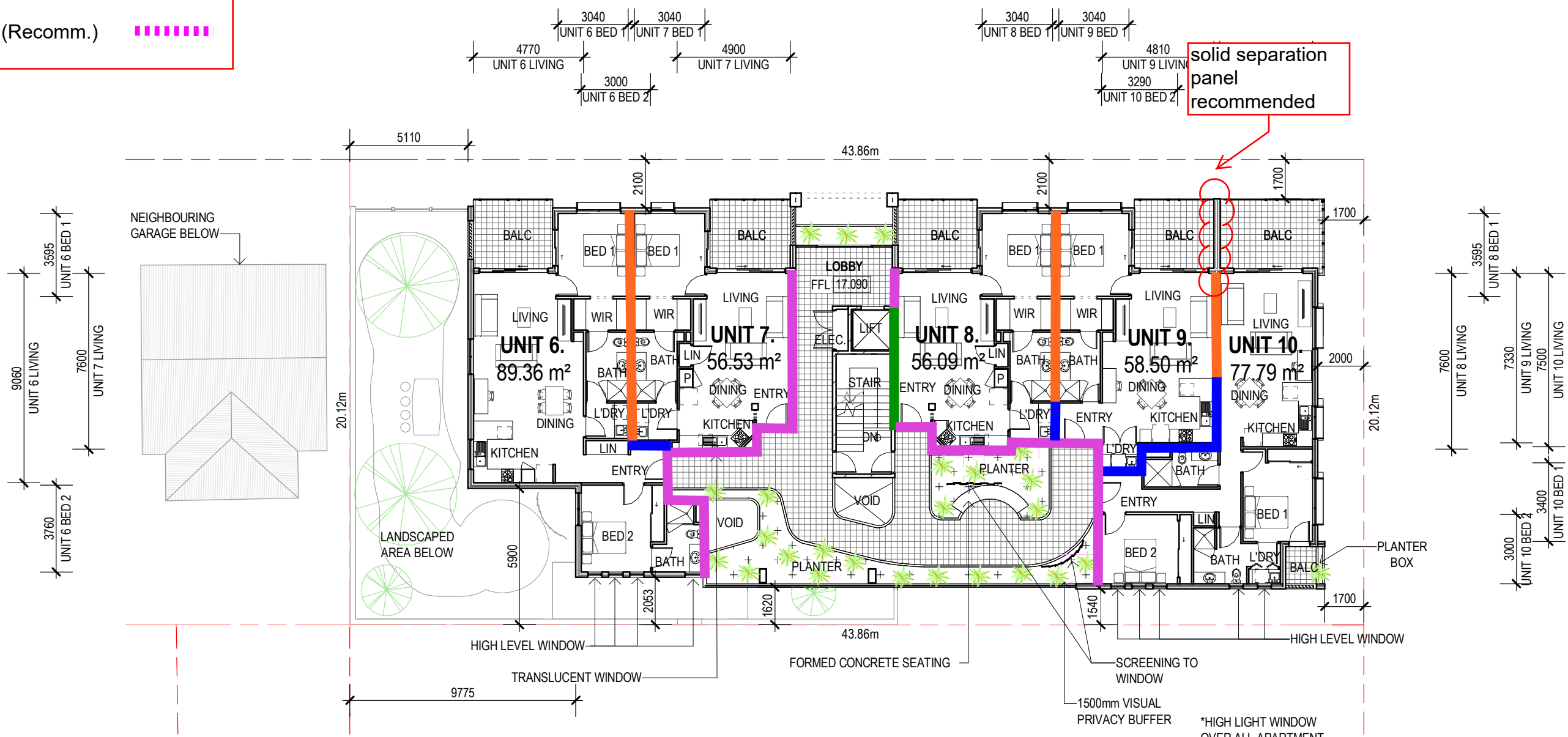
Rw+Ctr 50 and Disc.

Rw+Ctr 50

Rw50 (Recomm.)

Additional notes:

- Where back to back bathrooms occur, a false wall may be required to accomodate hydraulic services (if wall not discontinuous).
- When a lift adjoins an apartment, discontinuous construction is also recommended between the lift and the lobby



SECOND FLOOR PLAN
SCALE: 1 : 200

*ALL HABITABLE ROOMS INCLUDE
GLAZING IN AN EXTERNAL WALL
WHICH IS >10% OF THE FLOOR AREA.

2nd FL AREA: STRATA AREA			
*UNIT 6: (2BED / 2BATH)	89.36m ²	+ Balc: 10m ²	
*UNIT 7: (1BED / 1BATH)	56.53m ²	+ Balc: 10m ²	
*UNIT 8: (1BED / 1BATH)	56.09m ²	+ Balc: 10m ²	
UNIT 9: (1BED / 1BATH)	58.50m ²	+ Balc: 10m ²	
*UNIT 10: (2BED / 2BATH)	77.79m ²	+ Balc: 15m ²	

DEEP SOIL AREA:	
SECOND FLOOR:	0m ²
(REFER SK34)	

*DWELLING MEETS SILVER LEVEL REQUIREMENTS AS DEFINED
IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

K	17-09-20	FI	REVISED DEEP SOIL AREA
J	08-09-20	FI	DESIGN REVIEW
I	18-08-20	FI	IDRP 2 ISSUE
H	04-08-20	FI	DESIGN REVIEW
Rev.	Date	Issued By	Revision Description



OLDFIELD KNOTT
ARCHITECTS PTY LTD

567 Hay Street DAGLISH WA 6008 | PO Box 849 SUBIACO WA 6904
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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
SECOND FLOOR PLAN

Project Number
18020

Drawing No.
SK06

Rev.
K

Rw50

Rw50 and Disc.

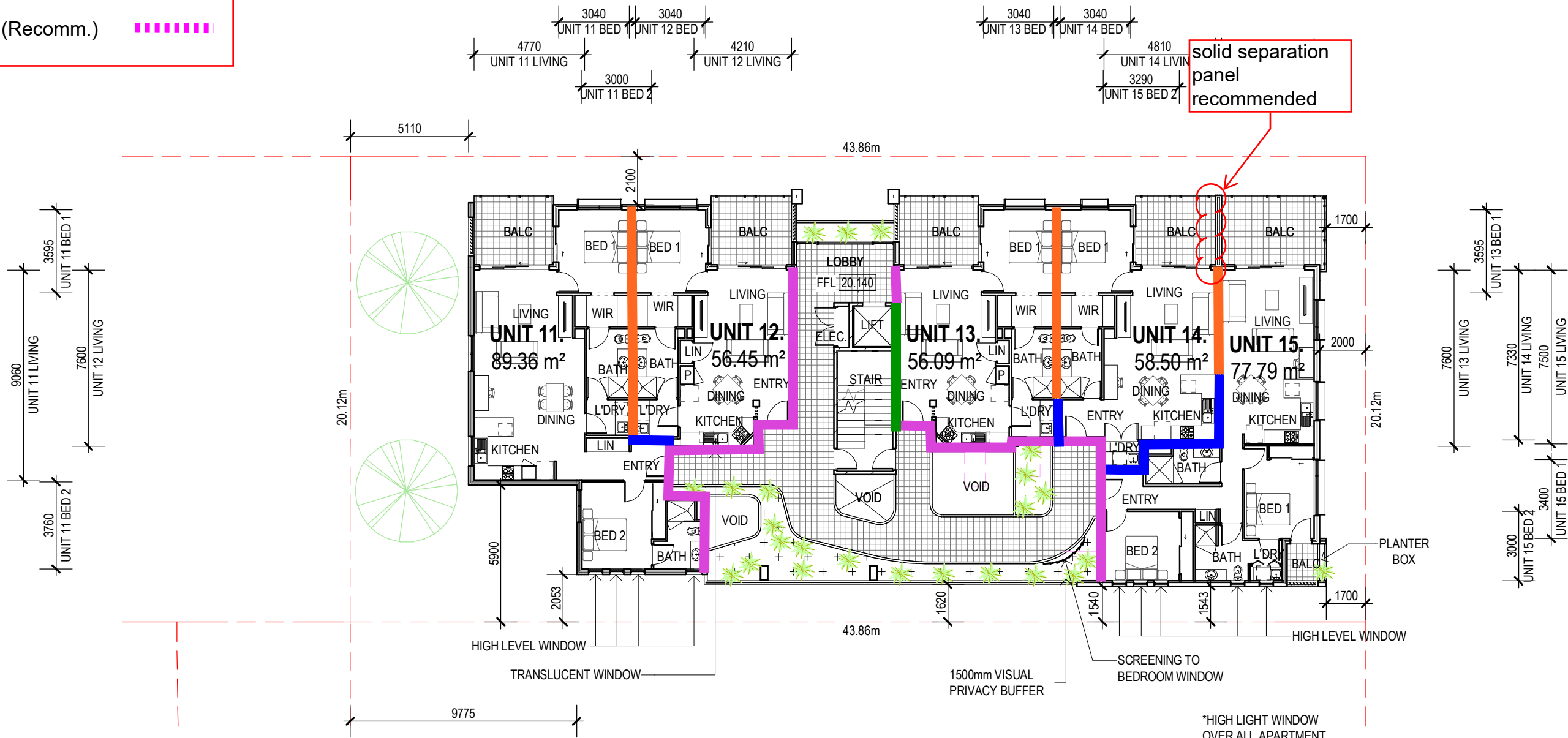
Rw+Ctr 50 and Disc.

Rw+Ctr 50

Rw50 (Recomm.)

Additional notes:

- Where back to back bathrooms occur, a false wall may be required to accomodate hydraulic services (if wall not discontinuous).
- When a lift adjoins an apartment, discontinuous construction is also recommended between the lift and the lobby



THIRD FLOOR PLAN
SCALE: 1 : 200

*ALL HABITABLE ROOMS INCLUDE GLAZING IN AN EXTERNAL WALL WHICH IS >10% OF THE FLOOR AREA.

3 rd FL AREA: STRATA AREA			
*UNIT 11:	(2BED / 2BATH)	89.36m²	+ Balc: 10m²
*UNIT 12:	(1BED / 1BATH)	56.45m²	+ Balc: 10m²
*UNIT 13:	(1BED / 1BATH)	56.09m²	+ Balc: 10m²
UNIT 14:	(1BED / 1BATH)	58.50m²	+ Balc: 10m²
*UNIT 15:	(2BED / 2BATH)	77.79m²	+ Balc: 15m²

DEEP SOIL AREA:	
THIRD FLOOR:	0m²
(REFER SK34)	

*DWELLING MEETS SILVER LEVEL REQUIREMENTS AS DEFINED IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

K	17-09-20	FI	REVISED DEEP SOIL AREA
J	08-09-20	FI	DESIGN REVIEW
I	18-08-20	FI	IDRP 2 ISSUE
H	04-08-20	FI	DESIGN REVIEW
Rev.	Date	Issued By	Revision Description



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Project Name
Proposed Mixed Use Development, 105
Broadway, Nedlands 6009

Drawing Name
THIRD FLOOR PLAN

Project Number
18020

Drawing No.
SK07

Rev.
K

Rw50

Rw50 and Disc.

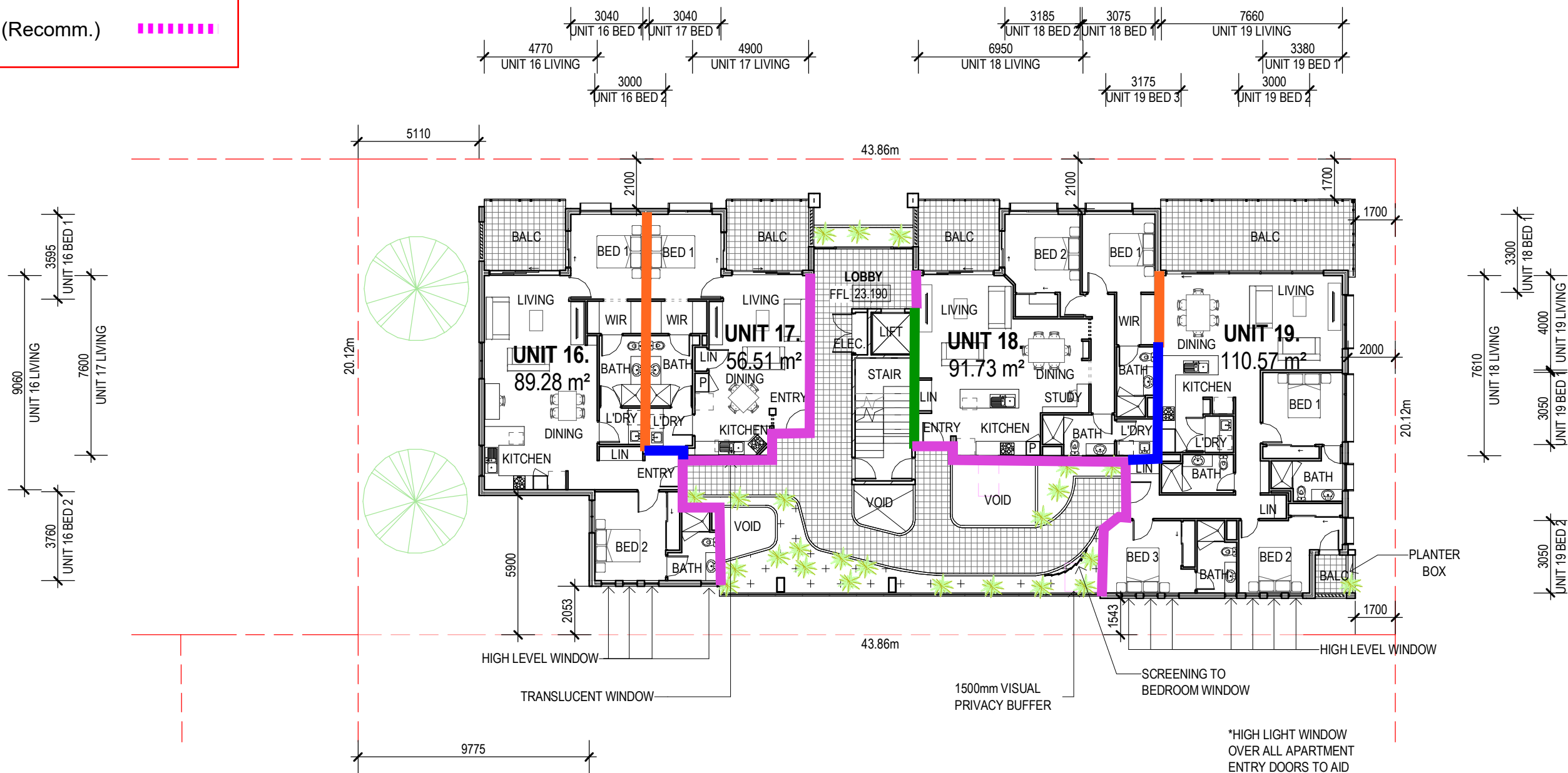
Rw+Ctr 50 and Disc.

Rw+Ctr 50

Rw50 (Recomm.)

Additional notes:

- Where back to back bathrooms occur, a false wall may be required to accomodate hydraulic services (if wall not discontinuous).
- When a lift adjoins an apartment, discontinuous construction is also recommended between the lift and the lobby



FOURTH FLOOR PLAN
SCALE: 1 : 200

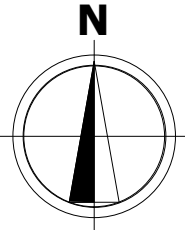
*ALL HABITABLE ROOMS INCLUDE
GLAZING IN AN EXTERNAL WALL
WHICH IS >10% OF THE FLOOR AREA.

4 th FL AREA: STRATA AREA		
*UNIT 16: (2BED / 2BATH)	89.29m ²	+ Balc: 10m ²
*UNIT 17: (2BED / 2BATH)	56.51m ²	+ Balc: 10m ²
*UNIT 18: (2BED / 2BATH)	91.73m ²	+ Balc: 10m ²
UNIT 19: (3BED / 3BATH)	110.57m ²	+ Balc: 25m ²

DEEP SOIL AREA:	
FOURTH FLOOR:	0m ²

(REFER SK34)
*DWELLING MEETS SILVER LEVEL REQUIREMENTS AS DEFINED
IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

*HIGH LIGHT WINDOW
OVER ALL APARTMENT
ENTRY DOORS TO AID
CROSS VENTILATION



K	17-09-20	FI	REVISED DEEP SOIL AREA
J	08-09-20	FI	DESIGN REVIEW
I	18-08-20	FI	IDRP 2 ISSUE
H	04-08-20	FI	DESIGN REVIEW
Rev.	Date	Issued By	Revision Description



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Project Name
**Proposed Mixed Use Development, 105
Broadway, Nedlands 6009**

Drawing Name
FOURTH FLOOR PLAN

Project Number
18020

Drawing No.
SK08

Rev.
K

Rw50

Rw50 and Disc.

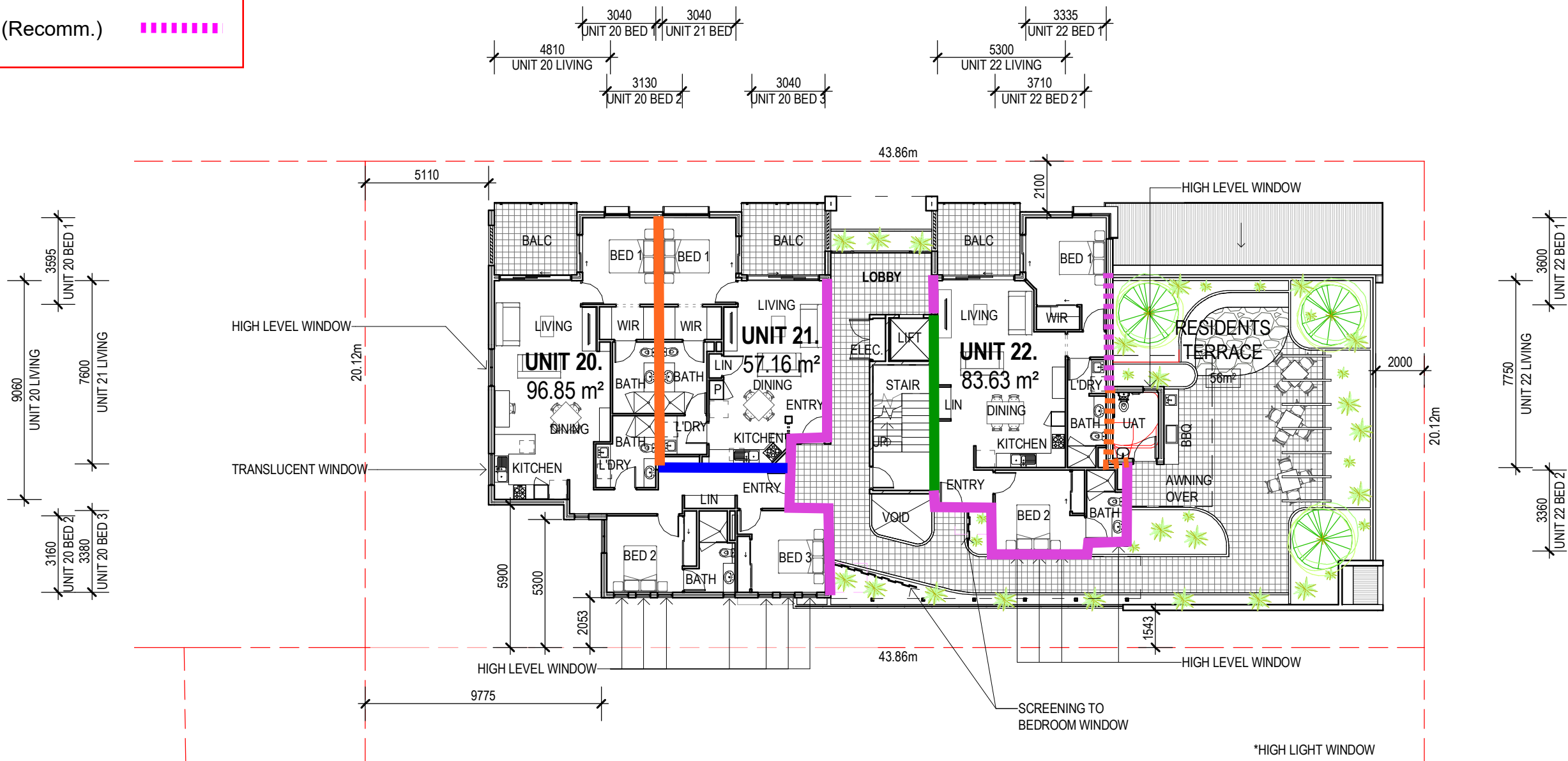
Rw+Ctr 50 and Disc.

Rw+Ctr 50

Rw50 (Recomm.)

Additional notes:

- Where back to back bathrooms occur, a false wall may be required to accomodate hydraulic services (if wall not discontinuous).
- When a lift adjoins an apartment, discontinuous construction is also recommended between the lift and the lobby



FIFTH FLOOR PLAN
SCALE: 1 : 200

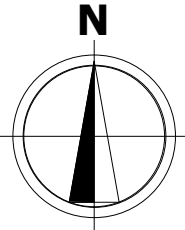
*ALL HABITABLE ROOMS INCLUDE GLAZING IN AN EXTERNAL WALL WHICH IS >10% OF THE FLOOR AREA.

5 th FL AREA: STRATA AREA	
*UNIT 20: (2BED / 2BATH)	96.85m ² + Balc: 10m ²
*UNIT 21: (2BED / 2BATH)	57.16m ² + Balc: 10m ²
*UNIT 22: (2BED / 2BATH)	83.63m ² + Balc: 10m ²

DEEP SOIL AREA:	
FIFTH FLOOR:	44m ²

*DWELLING MEETS SILVER LEVEL REQUIREMENTS AS DEFINED IN THE 'LIVEABLE HOUSING AUSTRALIA' GUIDELINES

*HIGH LIGHT WINDOW OVER ALL APARTMENT ENTRY DOORS TO AID CROSS VENTILATION



K	17-09-20	FI	REVISED DEEP SOIL AREA
J	08-09-20	FI	DESIGN REVIEW
I	18-08-20	FI	IDRP 2 ISSUE
H	04-08-20	FI	DESIGN REVIEW
Rev.	Date	Issued By	Revision Description



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Project Name
Proposed Mixed Use Development, 105
Broadway, Nedlands 6009

Drawing Name
FIFTH FLOOR PLAN

Project Number
18020

Drawing No. Rev.
SK09 K

Appendix C

Terminology

The following is an explanation of the terminology used throughout this report.

Decibel (dB)

The decibel is the unit that describes the sound pressure and sound power levels of a noise source. It is a logarithmic scale referenced to the threshold of hearing.

A-Weighting

An A-weighted noise level has been filtered in such a way as to represent the way in which the human ear perceives sound. This weighting reflects the fact that the human ear is not as sensitive to lower frequencies as it is to higher frequencies. An A-weighted sound level is described as L_A dB.

R_w

This is the weighted sound reduction index and is similar to the previously used STC (Sound Transmission Class) value. It is a single number rating determined by moving a grading curve in integral steps against the laboratory measured transmission loss until the sum of the deficiencies at each one-third-octave band, between 100 Hz and 3.15 kHz, does not exceed 32 dB. The higher the R_w value, the better the acoustic performance.

C_{tr}

This is a spectrum adaptation term for airborne noise and provides a correction to the R_w value to suit source sounds with significant low frequency content such as road traffic or home theatre systems. A wall that provides a relatively high level of low frequency attenuation (i.e. masonry) may have a value in the order of -4 dB, whilst a wall with relatively poor attenuation at low frequencies (i.e. stud wall) may have a value in the order of -14 dB.

$L'_{n,w}$

This is the weighted normalised impact sound pressure level, which is determined by measuring the sound pressure level in the receiving room in one-third-octave bands between 100 Hz and 3.15 kHz and moving a grading curve in integral steps, such that the curve is as high as possible without the sum of deficiencies exceeding 32 dB. The normalisation is to a receiving room sound absorption area of 10m^2 . The lower the $L'_{n,w}$ value the better the acoustic performance.

Discontinuous Construction

Wall systems having a minimum 20mm cavity between 2 separate leaves, and:

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

Note a staggered stud wall is not deemed to be discontinuous.

Sound Power Level (L_w)

Under normal conditions, a given sound source will radiate the same amount of energy, irrespective of its surroundings, being the sound power level. This is similar to a 1kW electric heater always radiating 1kW of heat. The sound power level of a noise source cannot be directly measured using a sound level meter but is calculated based on measured sound pressure levels at known distances. Noise modelling incorporates source sound power levels as part of the input data.

Sound Pressure Level (L_p)

The sound pressure level of a noise source is dependent upon its surroundings, being influenced by distance, ground absorption, topography, meteorological conditions etc and is what the human ear actually hears. Using the electric heater analogy above, the heat will vary depending upon where the heater is located, just as the sound pressure level will vary depending on the surroundings. Noise modelling predicts the sound pressure level from the sound power levels taking into account ground absorption, barrier effects, distance etc.

 L_{ASlow}

This is the noise level in decibels, obtained using the A frequency weighting and the S (Slow) time weighting as specified in IEC 61672-1:2002. Unless assessing modulation, all measurements use the slow time weighting characteristic.

 L_{AFast}

This is the noise level in decibels, obtained using the A frequency weighting and the F (Fast) time weighting as specified in IEC 61672-1:2002. This is used when assessing the presence of modulation only.

 L_{APeak}

This is the greatest absolute instantaneous sound pressure in decibels using the A frequency weighting as specified in IEC 61672-1:2002.

 L_{Amax}

An L_{Amax} level is the maximum A-weighted noise level during a particular measurement.

 L_{A1}

An L_{A1} level is the A-weighted noise level which is exceeded for one percent of the measurement period and is considered to represent the average of the maximum noise levels measured.

 L_{A10}

An L_{A10} level is the A-weighted noise level which is exceeded for 10 percent of the measurement period and is considered to represent the “intrusive” noise level.

 L_{Aeq}

The equivalent steady state A-weighted sound level (“equal energy”) in decibels which, in a specified time period, contains the same acoustic energy as the time-varying level during the same period. It is considered to represent the “average” noise level.

 L_{A90}

An L_{A90} level is the A-weighted noise level which is exceeded for 90 percent of the measurement period and is considered to represent the “background” noise level.

One-Third-Octave Band

Means a band of frequencies spanning one-third of an octave and having a centre frequency between 25 Hz and 20 000 Hz inclusive.

 L_{Amax} assigned level

Means an assigned level which, measured as a L_{ASlow} value, is not to be exceeded at any time.

 L_{A1} assigned level

Means an assigned level which, measured as a L_{ASlow} value, is not to be exceeded for more than 1% of the representative assessment period.

L_{A10} assigned level

Means an assigned level which, measured as a $L_{A\text{ Slow}}$ value, is not to be exceeded for more than 10% of the representative assessment period.

Tonal Noise

A tonal noise source can be described as a source that has a distinctive noise emission in one or more frequencies. An example would be whining or droning. The quantitative definition of tonality is:

the presence in the noise emission of tonal characteristics where the difference between -

- (a) the A-weighted sound pressure level in any one-third octave band; and
- (b) the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands,

is greater than 3 dB when the sound pressure levels are determined as $L_{Aeq,T}$ levels where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as $L_{A\text{ Slow}}$ levels.

This is relatively common in most noise sources.

Modulating Noise

A modulating source is regular, cyclic and audible and is present for at least 10% of the measurement period. The quantitative definition of modulation is:

a variation in the emission of noise that —

- (a) is more than 3 dB $L_{A\text{ Fast}}$ or is more than 3 dB $L_{A\text{ Fast}}$ in any one-third octave band;
- (b) is present for at least 10% of the representative.

Impulsive Noise

An impulsive noise source has a short-term banging, clunking or explosive sound. The quantitative definition of impulsiveness is:

a variation in the emission of a noise where the difference between $L_{A\text{ peak}}$ and $L_{A\text{ Max slow}}$ is more than 15 dB when determined for a single representative event;

Major Road

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

Secondary / Minor Road

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

Representative Assessment Period

Means a period of time not less than 15 minutes, and not exceeding four hours, determined by an inspector or authorised person to be appropriate for the assessment of a noise emission, having regard to the type and nature of the noise emission.

Ambient Noise

Means the level of noise from all sources, including background noise from near and far and the source of interest.

Specific Noise

Relates to the component of the ambient noise that is of interest. This can be referred to as the noise of concern or the noise of interest.

Influencing Factor (IF)

$$= \frac{1}{10} (\% \text{ Type A}_{100} + \% \text{ Type A}_{450}) + \frac{1}{20} (\% \text{ Type B}_{100} + \% \text{ Type B}_{450})$$

where :

% Type A₁₀₀ = the percentage of industrial land within
a 100m radius of the premises receiving the noise

% Type A₄₅₀ = the percentage of industrial land within
a 450m radius of the premises receiving the noise

% Type B₁₀₀ = the percentage of commercial land within
a 100m radius of the premises receiving the noise

% Type B₄₅₀ = the percentage of commercial land within
a 450m radius of the premises receiving the noise

+ Traffic Factor (maximum of 6 dB)

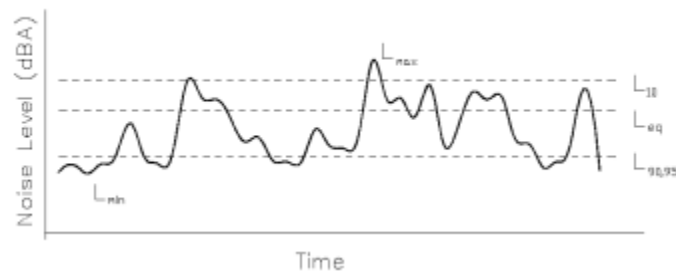
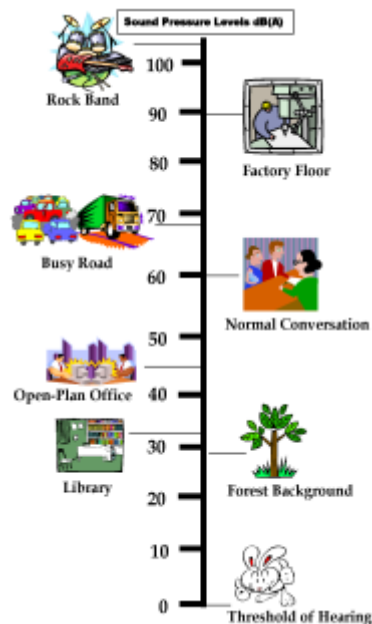
= 2 for each secondary road within 100m

= 2 for each major road within 450m

= 6 for each major road within 100m

Background Noise

Background noise or residual noise is the noise level from sources other than the source of concern. When measuring environmental noise, residual sound is often a problem. One reason is that regulations often require that the noise from different types of sources be dealt with separately. This separation, e.g. of traffic noise from industrial noise, is often difficult to accomplish in practice. Another reason is that the measurements are normally carried out outdoors. Wind-induced noise, directly on the microphone and indirectly on trees, buildings, etc., may also affect the result. The character of these noise sources can make it difficult or even impossible to carry out any corrections.

Chart of Noise Level Descriptors**Typical Noise Levels**




MIXED USE DEVELOPMENT | 105 BROADWAY, NEDLANDS
DA LANDSCAPE PLANS




OLDFIELD KNOTT ARCHITECTS




SHRUBS & GROUND COVERS




Dianella tasmanica
'Destiny'




Hibbertia scandens
Golden Guinea Vine



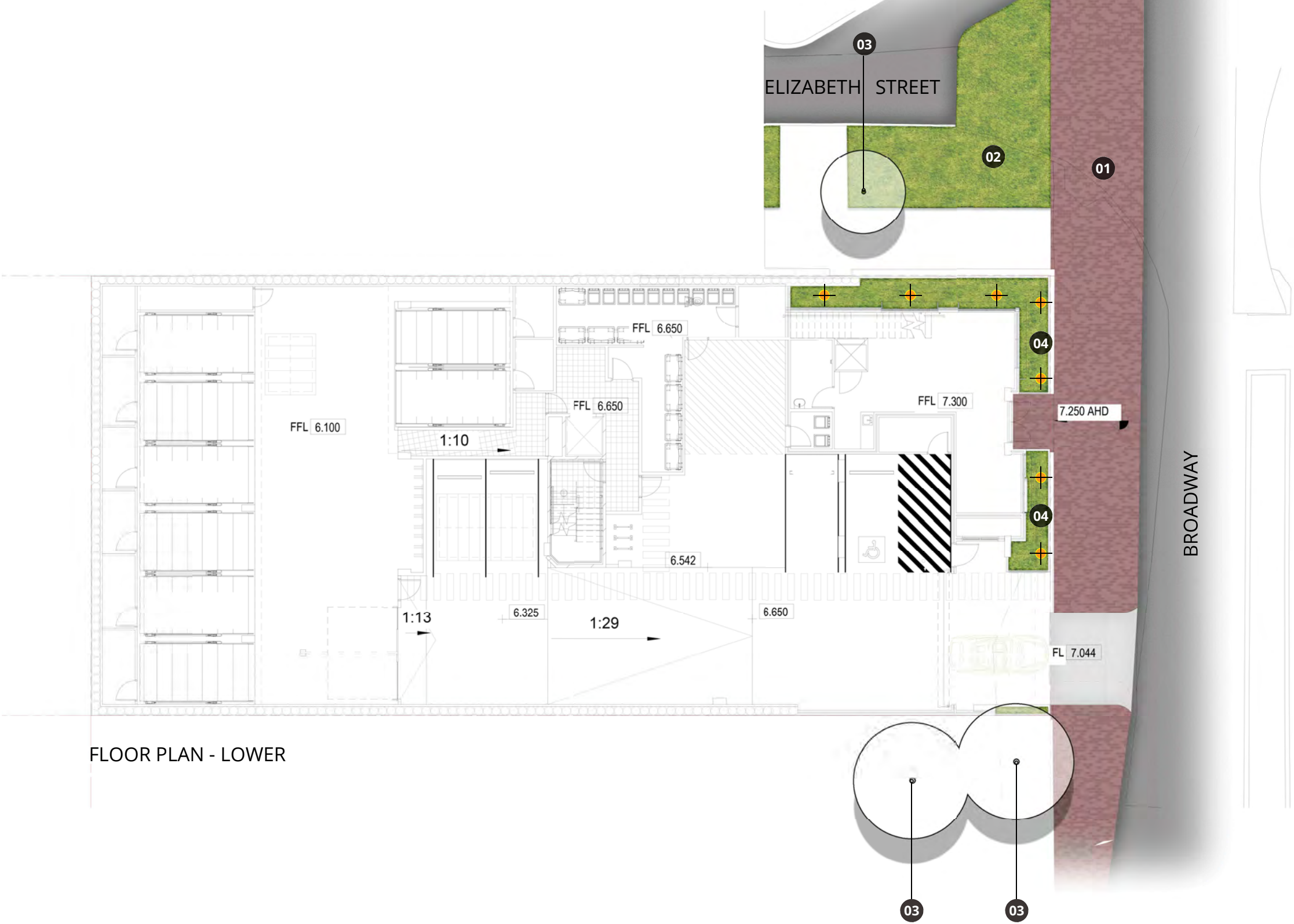
Lomandra longifolia
'Tanika'



Olearia lanuginosa
'Ghost Town'



Anizoganthus manglesii
Red Green Kangaroo Paw



LEGEND

- 01 EXISTING VERGE PAVING
- 02 EXISTING VERGE LANDSCAPING
- 03 EXISTING TREE TO REMAIN
- 04 GROUND LEVEL GARDEN BED WITH PART SHADE TOLERANT PLANTING

LIGHTING LEGEND

- WALL WASH LIGHTING
- BENCH STRIP LIGHTING
- FEATURE PLANT UPLIGHTING
- LARGE UP-LIGHTS TO TREES

LANDSCAPE SUMMARY

LANDSCAPED AREA (<1M SOIL DEPTH)	6m2
DEEP SOIL AREA (TRUE)	16m2
DEEP SOIL AREA (ON STRUCTURE, >1M)	0m2

TREES



Agonis flexuosa
WA Peppermint

SHRUBS & GROUND COVERS



Dianella tasmanica
'Destiny'



Hibbertia scandens
Golden Guinea Vine



Lomandra longifolia
'Tanika'



Olearia lanuginosa
'Ghost Town'



Anizoganthus manglesii
Red Green Kangaroo Paw



Agave attenuata
Agave



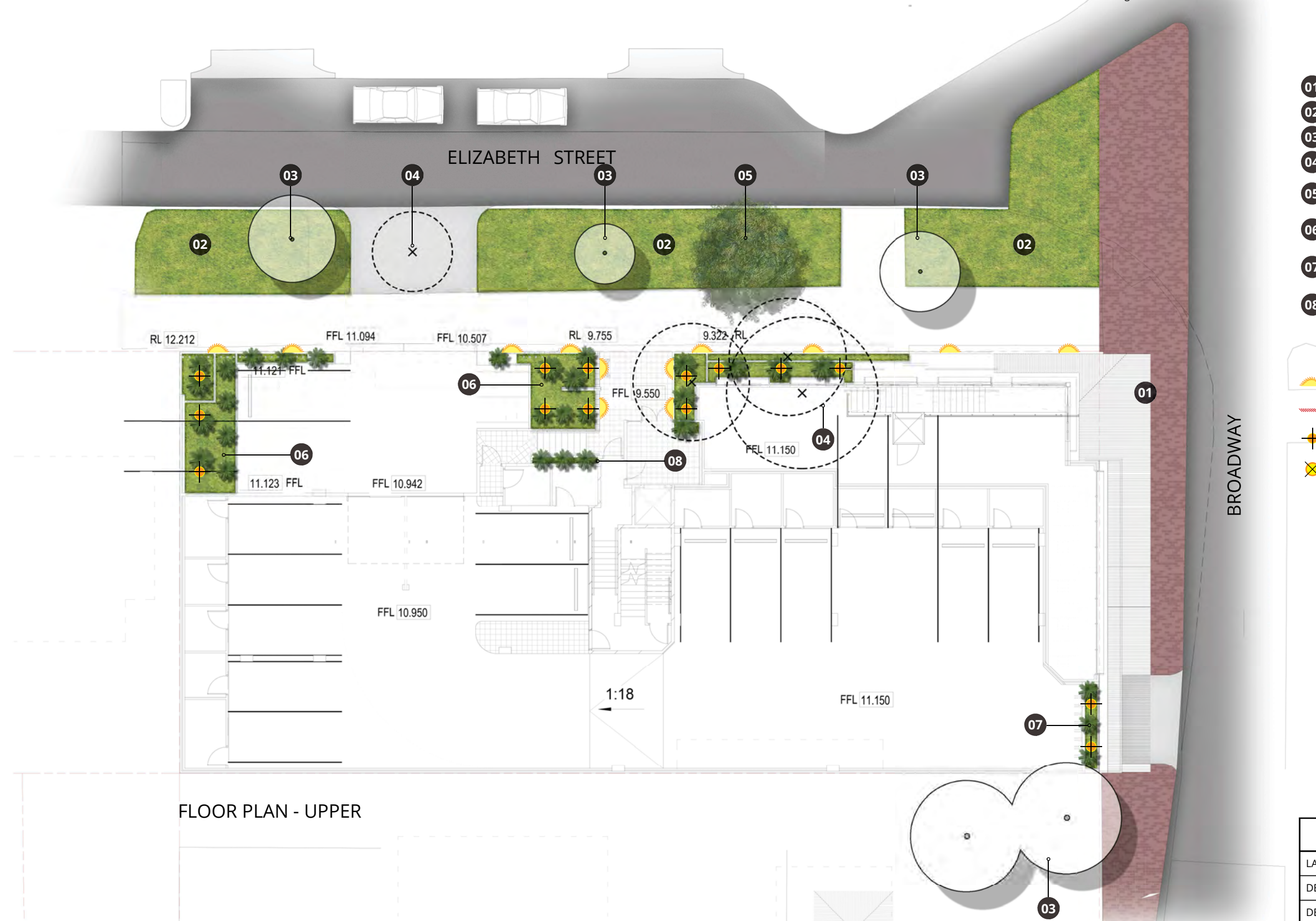
Strelitzia reginae
Bird of Paradise



Leucospermum
cordifolium
Nodding Pincushion



Alternanthera dentata
'Little Ruby'



LEGEND

- 01 EXISTING VERGE PAVING
- 02 EXISTING VERGE LANDSCAPING
- 03 EXISTING TREE TO REMAIN
- 04 EXISTING TREE TO BE REMOVED
- 05 MATURE AGONIS FLEXUOSA TREE TO REPLACE REMOVED STREET TREE
- 06 RAISED PLANTER WITH PART SHADE TOLERANT PLANTING
- 07 IN-BUILT BALCONY PLANTER WITH PART SHADE TOLERANT PLANTING
- 08 INTERNAL RAISED PLANTER WITH SHADE TOLERANT PLANTING

LIGHTING LEGEND

- WALL WASH LIGHTING
- BENCH STRIP LIGHTING
- FEATURE PLANT UPLIGHTING
- LARGE UP-LIGHTS TO TREES

LANDSCAPE SUMMARY

LANDSCAPED AREA (<1M SOIL DEPTH)	31m2
DEEP SOIL AREA (TRUE)	0m2
DEEP SOIL AREA (ON STRUCTURE, >1M)	10.5m2

TREES



Cupaniopsis anacardioides
'Tuckeroo'



Lagerstroemia archeriana
'Sioux'

FEATURE



Cycas revoluta 'Cycad'

CREEPING GROUNDCOVERS & CLIMBERS



Ficus pumila
Creeping Fig



Viola hederacea
Native Violet



Senecio mandraliscae
Blue Chalk Sticks



Trachelospermum
jasminoides
Chinese Star Jasmine



Dichondra 'Silver Falls'



Agave attenuata
Agave



Lomandra confertifolia
'Seascape'



Alternanthera dentata
'Little Ruby'



Pittosporum
'Miss Muffet'
Dwarf Pittosporum

SHRUBS & GROUNDCOVERS

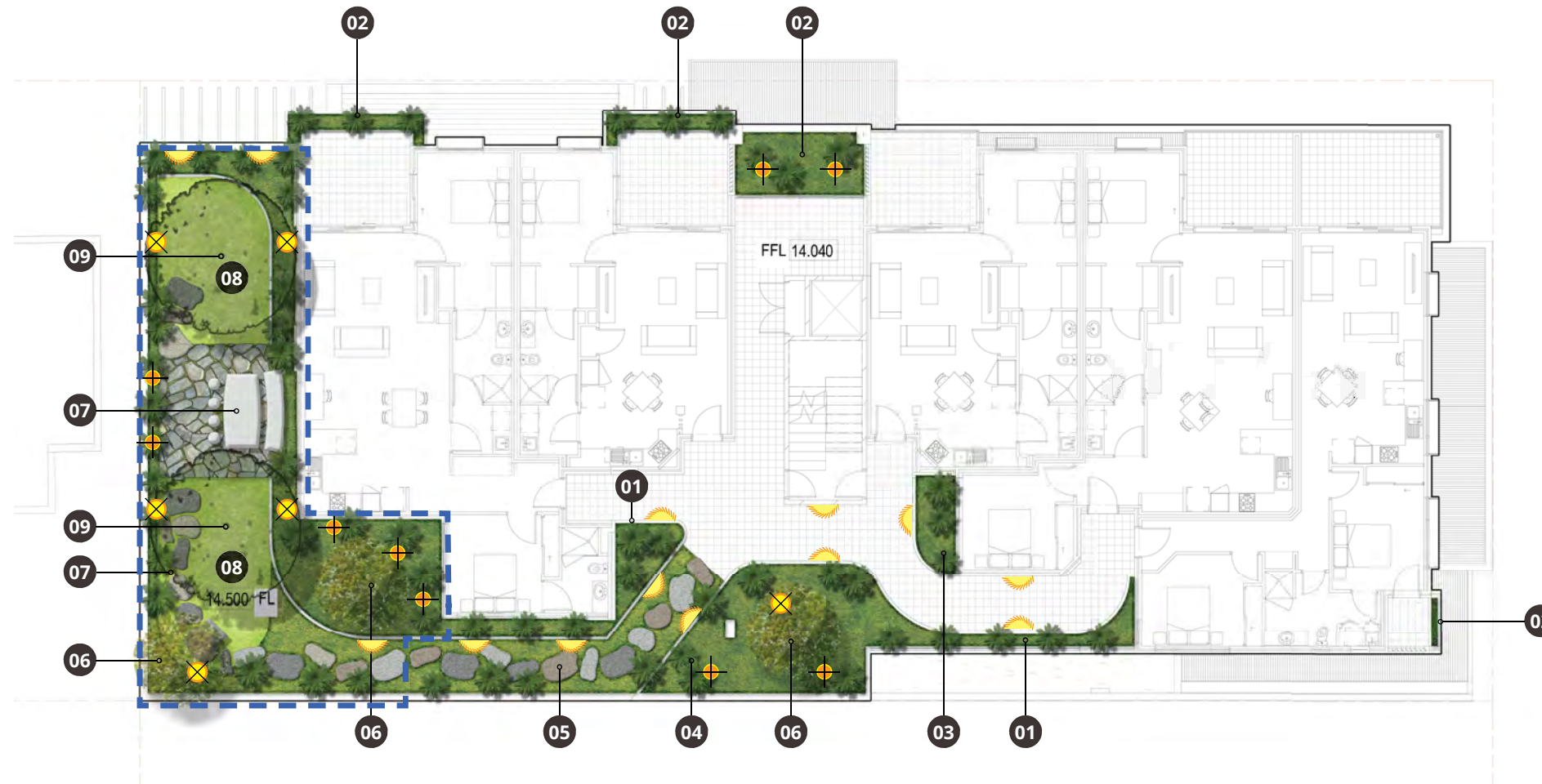
LEGEND

- 01 RAISED PLANTER WITH PART SHADE TOLERANT PLANTING
- 02 IN-BUILT BALCONY PLANTER WITH PART SHADE TOLERANT PLANTING
- 03 INTERNAL RAISED PLANTER WITH SHADE TOLERANT PLANTING
- 04 RAISED CORTEN PLANTER BOX WITH CYCAS REVOLUTA 'CYCAD'
- 05 FLAGSTONE PAVING TO PLANTING/TURF INTERFACE
- 06 LAGERSTROEMIA ARCHERIANA TO DEEP SOIL AREA
- 07 OUTDOOR SEATING. TO CRAZY PAVING FEATURE PAVING WITH GROUNDCOVERS GROWING BETWEEN
- 08 ROLL ON TURF TO DEEP SOIL AREA
- 09 CUPANIOPSIS ANACARDIOIDES 'TUCKEROO' TREES TO DEEP SOIL AREA
- 1M DEPTH DEEP SOIL AREA ON STRUCTURE

LIGHTING LEGEND

- WALL WASH LIGHTING
- BENCH STRIP LIGHTING
- FEATURE PLANT UPLIGHTING
- LARGE UP-LIGHTS TO TREES

TREE DETAILS	
LAGERSTROEMIA ARCHERIANA 'SIOUX'	
PROPOSED SOIL VOLUME	9m3
MINIMUM SOIL VOLUME REQ.	9m3
CANOPY AT MATURITY	5m X 4m
SUITABLE FOR PODIUM	YES
SOIL REQUIREMENTS	SANDY FREE DRAINAGE. LOW ORGANIC MATERIAL
IRRIGATION REQUIREMENTS	MOIST. IRRIGATION REQUIRED 3-4 DAYS/WEEK. MOISTURE SENSOR REQ.
CUPANIOPSIS ANACARDIOIDES 'TUCKEROO'	
PROPOSED SOIL VOLUME	36m3
MINIMUM SOIL VOLUME REQ.	10m3
CANOPY AT MATURITY	8m X 6m
SUITABLE FOR PODIUM	YES
SOIL REQUIREMENTS	SANDY FREE DRAINAGE. LOW ORGANIC MATERIAL
IRRIGATION REQUIREMENTS	MOIST. IRRIGATION REQUIRED 3-4 DAYS/WEEK. MOISTURE SENSOR REQ.



FIRST FLOOR PLAN



FLAGSTONE PAVING TO
SUMMER STONE FINES &
GROUNDCOVER PLANTING



FLAGSTONE PAVING TO
SUMMER STONE FINES &
GROUNDCOVER PLANTING



FEATURE POTS & PLANTING
TO PAVED AREAS



SUMMER STONE
GRAVEL HARDSTAND TO
VEGETABLE GARDENS



CURVED TIMBER SEATING TO
PLANTER BOX



CURVED TIMBER SEATING TO
PLANTER BOX



FEATURE PAVING TO
SEATING AREA

LANDSCAPE SUMMARY

LANDSCAPED AREA (<1M SOIL DEPTH)	56m2
DEEP SOIL AREA (TRUE)	0m2
DEEP SOIL AREA (ON STRUCTURE, >1M)	110m2

CREEPING GROUNDCOVERS & CLIMBERS



Dichondra 'Silver Falls'



Viola hederacea
Native Violet



Senecio mandraliscae
Blue Chalk Sticks



Trachelospermum
jasminoides
Chinese Star Jasmine

SHRUBS & GROUNDCOVERS



Agave attenuata
Agave



Liriope muscari
'Evergreen Giant'



Lomandra confertifolia
'Seascape'



Pittosporum
'Miss Muffet'
Dwarf Pittosporum



Syzygium australe
'Big Red'
Big Red Lilly Pilly



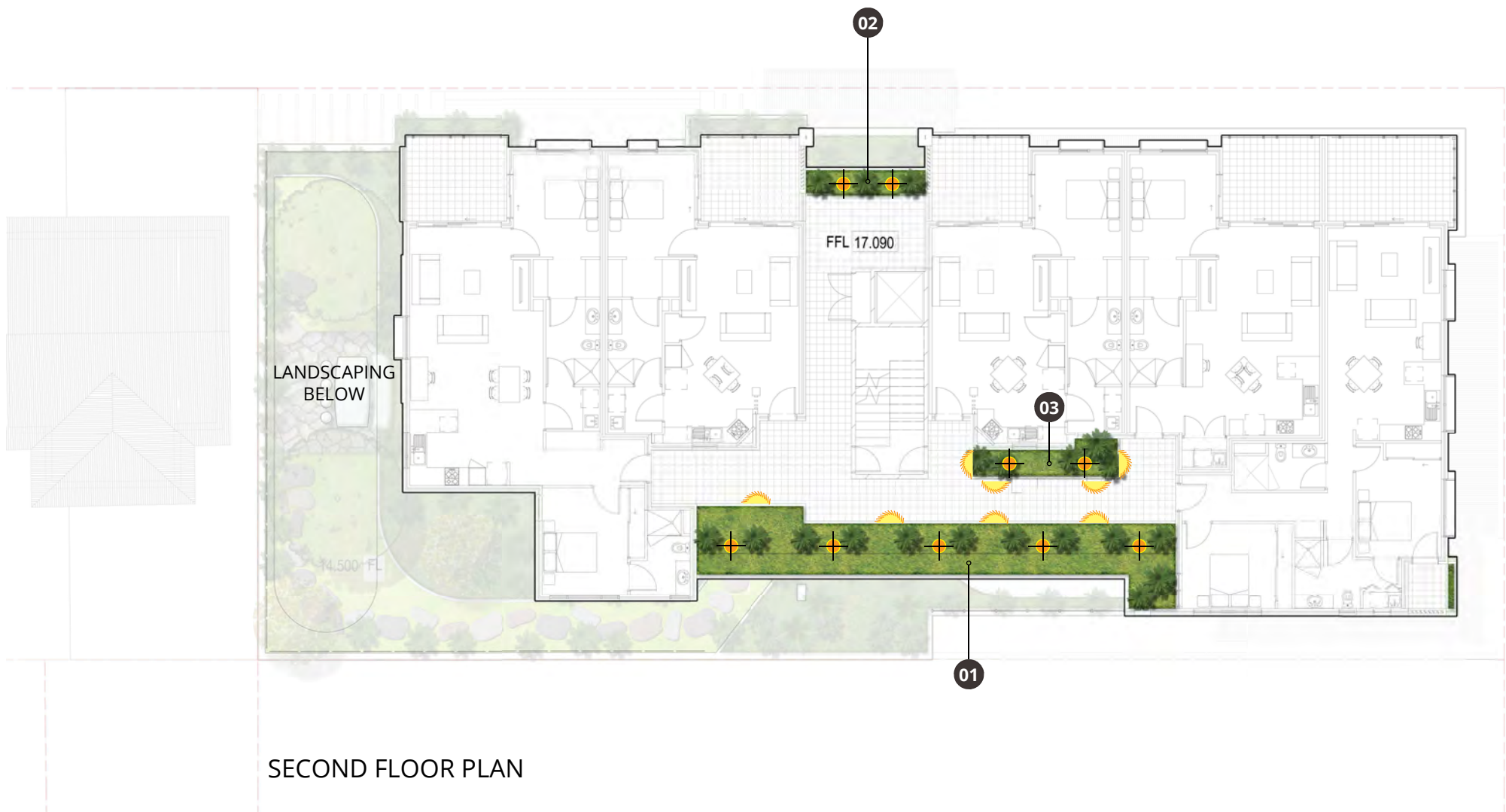
Zamia furfuracea
Cardboard Palm

LEGEND

- 01 RAISED PLANTER WITH PART SHADE TOLERANT PLANTING
- 02 IN-BUILT BALCONY PLANTER WITH PART SHADE TOLERANT PLANTING
- 03 INTERNAL RAISED PLANTER WITH SHADE TOLERANT PLANTING

LIGHTING LEGEND

- WALL WASH LIGHTING
- FEATURE PLANT UPLIGHTING
- LARGE UP-LIGHTS TO TREES



SECOND FLOOR PLAN

LANDSCAPE SUMMARY

LANDSCAPED AREA (<1M SOIL DEPTH)	43m2
DEEP SOIL AREA (TRUE)	0m2
DEEP SOIL AREA (ON STRUCTURE, >1M)	0m2

CREEPING GROUNDCOVERS & CLIMBERS



Dichondra 'Silver Falls'



Viola hederacea
Native Violet



Trachelospermum
jasminoides
Chinese Star Jasmine

SHRUBS & GROUNDCOVERS



Agave attenuata
Agave



Pittosporum
'Miss Muffet'
Dwarf Pittosporum



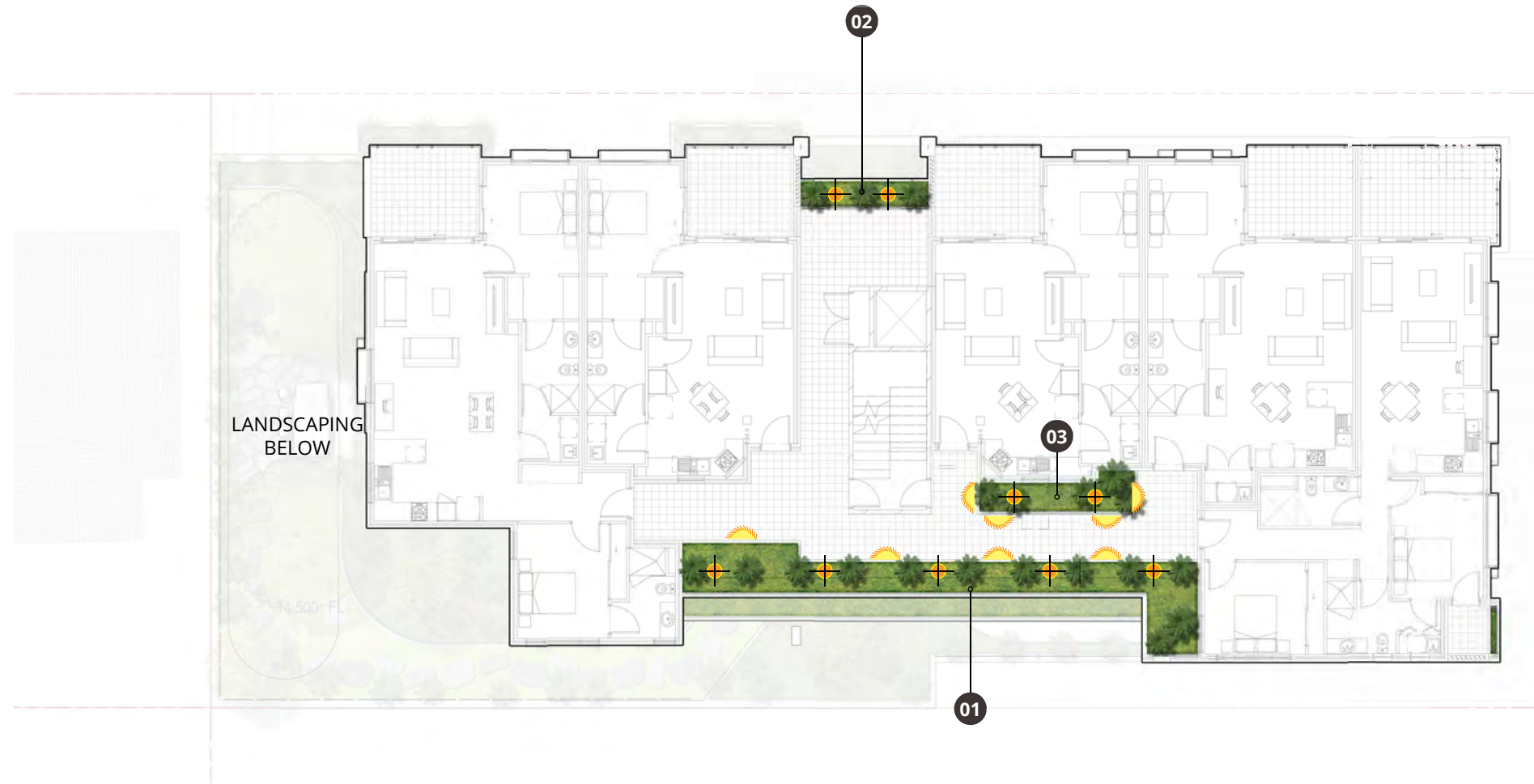
Syzygium australe
'Big Red'



Zamia furfuracea
'Cardboard Palm'



Liriope muscari
'Evergreen Giant'



THIRD FLOOR PLAN

SHADE PLANTING



Alpinia caerulea
Native Ginger



Alocasia
Elephant Ears



Rhipis excelsa
Rhipis Palm



Philodendron Xanadu



Asplenium nidus
Bird's Nest Fern

LEGEND

- 01 RAISED PLANTER WITH PART SHADE TOLERANT PLANTING
- 02 IN-BUILT BALCONY PLANTER WITH PART SHADE TOLERANT PLANTING
- 03 INTERNAL RAISED PLANTER WITH SHADE TOLERANT PLANTING

LIGHTING LEGEND

- WALL WASH LIGHTING
- FEATURE PLANT UPLIGHTING
- LARGE UP-LIGHTS TO TREES

LANDSCAPE SUMMARY

LANDSCAPED AREA (<1M SOIL DEPTH)	43m2
DEEP SOIL AREA (TRUE)	0m2
DEEP SOIL AREA (ON STRUCTURE, >1M)	0m2

CREeping GROUNDCOVERS & CLIMBERS



Dichondra 'Silver Falls'



Viola hederacea
Native Violet



Trachelospermum
jasminoides
Chinese Star Jasmine

SHRUBS & GROUNDCOVERS



Agave attenuata
Agave



Pittosporum
'Miss Muffet'
Dwarf Pittosporum



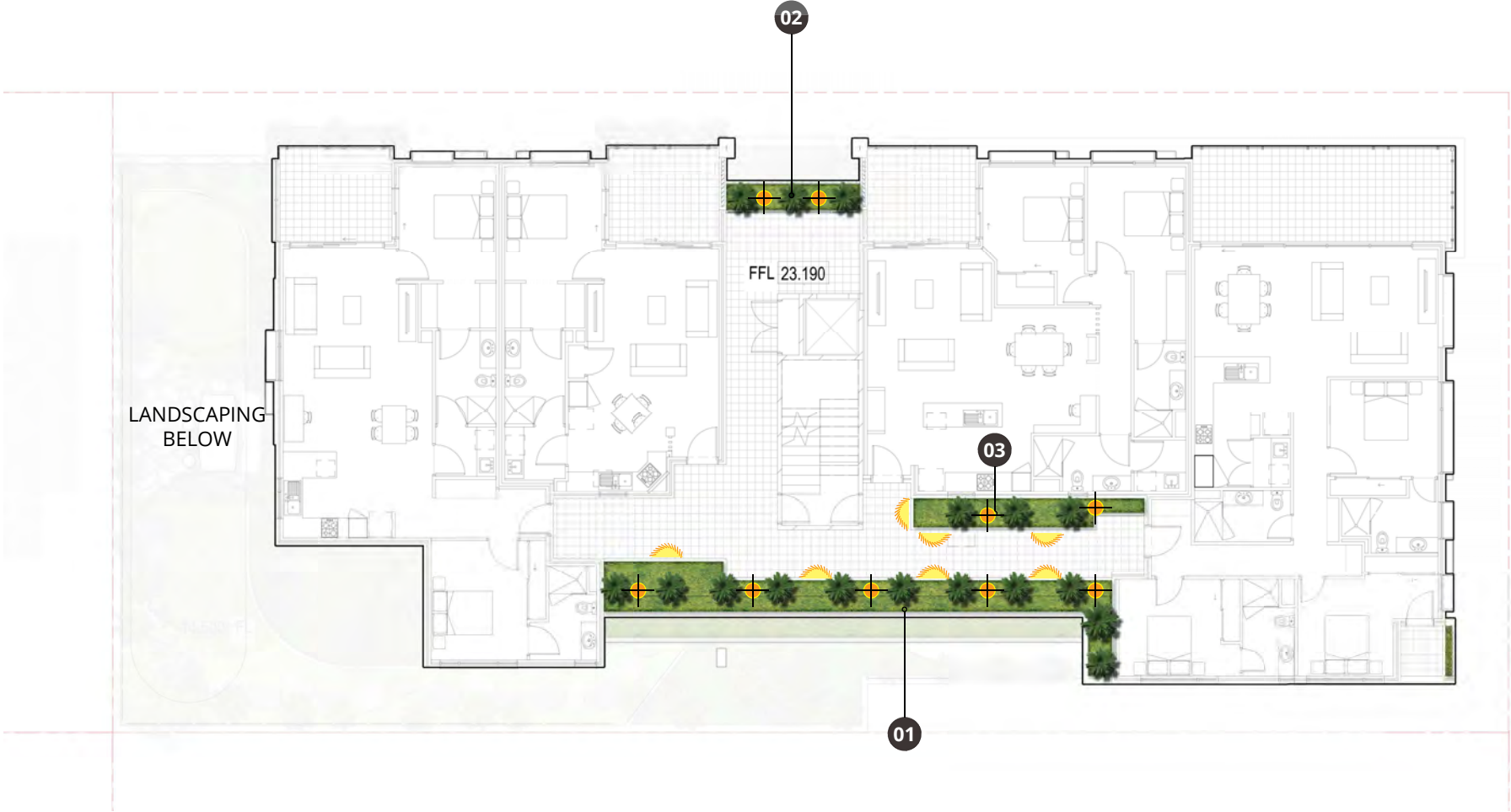
Syzygium australe
'Big Red'



Zamia furfuracea
'Cardboard Palm'



Liriope muscari
'Evergreen Giant'



LEGEND

- 01 RAISED PLANTER WITH PART SHADE TOLERANT PLANTING
- 02 IN-BUILT BALCONY PLANTER WITH PART SHADE TOLERANT PLANTING
- 03 INTERNAL RAISED PLANTER WITH SHADE TOLERANT PLANTING

LIGHTING LEGEND

- WALL WASH LIGHTING
- FEATURE PLANT UPLIGHTING
- LARGE UP-LIGHTS TO TREES

FOURTH FLOOR PLAN

SHADE PLANTING



Alpinia caerulea
Native Ginger



Alocasia
Elephant Ears



Rhaps excelsa
Rhaps Palm



Philodendron Xanadu



Asplenium nidus
Bird's Nest Fern

LANDSCAPE SUMMARY	
LANDSCAPED AREA (<1M SOIL DEPTH)	27.5m2
DEEP SOIL AREA (TRUE)	0m2
DEEP SOIL AREA (ON STRUCTURE, >1M)	0m2

TREES



Lagerstroemia archeriana
Crepe Myrtle 'Sioux'

CREEPING GROUNDCOVERS & CLIMBERS



Ficus pumila
Creeping Fig



Trachelospermum
jasminoides
Chinese Star Jasmine



Dichondra 'Silver Falls'



Vitis vinifera 'Ganzin Glory'
Ornamental Grape



Agave attenuata
Agave



Lomandra longifolia
'Tanika'



Syzygium australe
'Big Red'
Big Red Lilly Pilly



Pittosporum
'Miss Muffet'
Dwarf Pittosporum



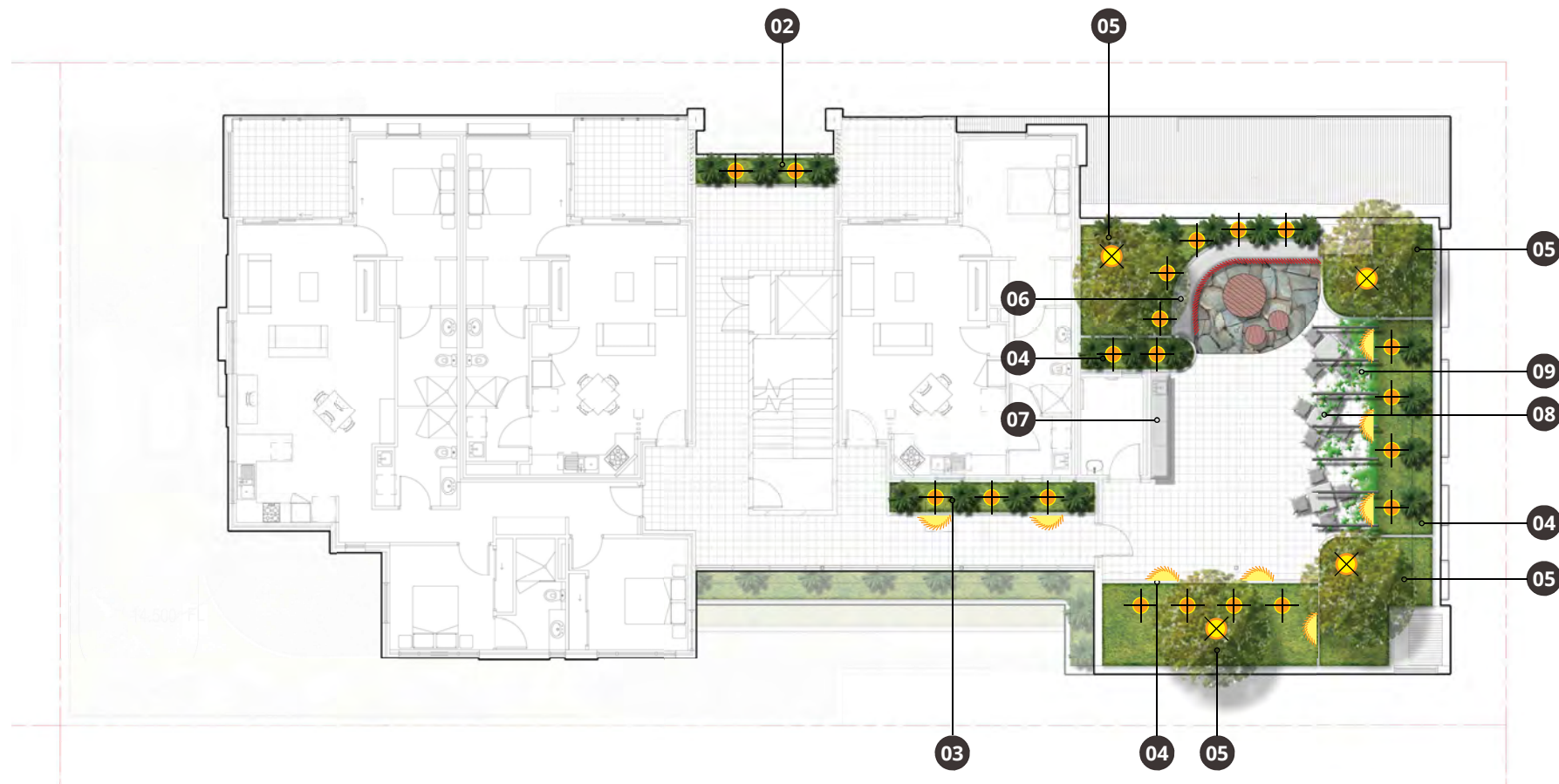
Strelitzia reginae
Bird of Paradise



Leucospermum
cordifolium
Nodding Pincushion

SHRUBS & GROUNDCOVERS

TREE DETAILS	
LAGERSTROEMIA ARCHERIANA 'SIOUX'	
PROPOSED SOIL VOLUME	9m3
MINIMUM SOIL VOLUME REQ.	9m3
CANOPY AT MATURITY	5m X 4m
SUITABLE FOR PODIUM	YES
SOIL REQUIREMENTS	SANDY FREE DRAINAGE. LOW ORGANIC MATERIAL
IRRIGATION REQUIREMENTS	MOIST. IRRIGATION REQUIRED 3-4 DAYS/WEEK. MOISTURE SENSOR REQ.



FIFTH FLOOR PLAN

LEGEND

- 01 RAISED PLANTER WITH PART SHADE TOLERANT PLANTING
- 02 IN-BUILT BALCONY PLANTER WITH PART SHADE TOLERANT PLANTING
- 03 INTERNAL RAISED PLANTER WITH SHADE TOLERANT PLANTING
- 04 RAISED IN-BUILT BALCONY PLANTER WITH FULL SUN PLANTING
- 05 RAISED IN-BUILT PLANTER BOX WITHIN PLANTER BOX WITH LAGERSTROEMIA ARCHERIANA
- 06 FORMED CONCRETE SEATING WITH FEATURE PAVING TO FORMALISE SEATING ZONE
- 07 OUTDOOR BBQ
- 08 LOOSE FURNITURE TO PAVING FOR FLEXIBLE USE
- 09 ARBOR TO PLANTER BOX. TRELLIS & VINE PLANTING TO ARBOR

LIGHTING LEGEND

- WALL WASH LIGHTING
- BENCH STRIP LIGHTING
- FEATURE PLANT UPLIGHTING
- LARGE UP-LIGHTS TO TREES



ARBOR TO PLANTER BOX



CURVED TIMBER SEATING TO
PLANTER BOX

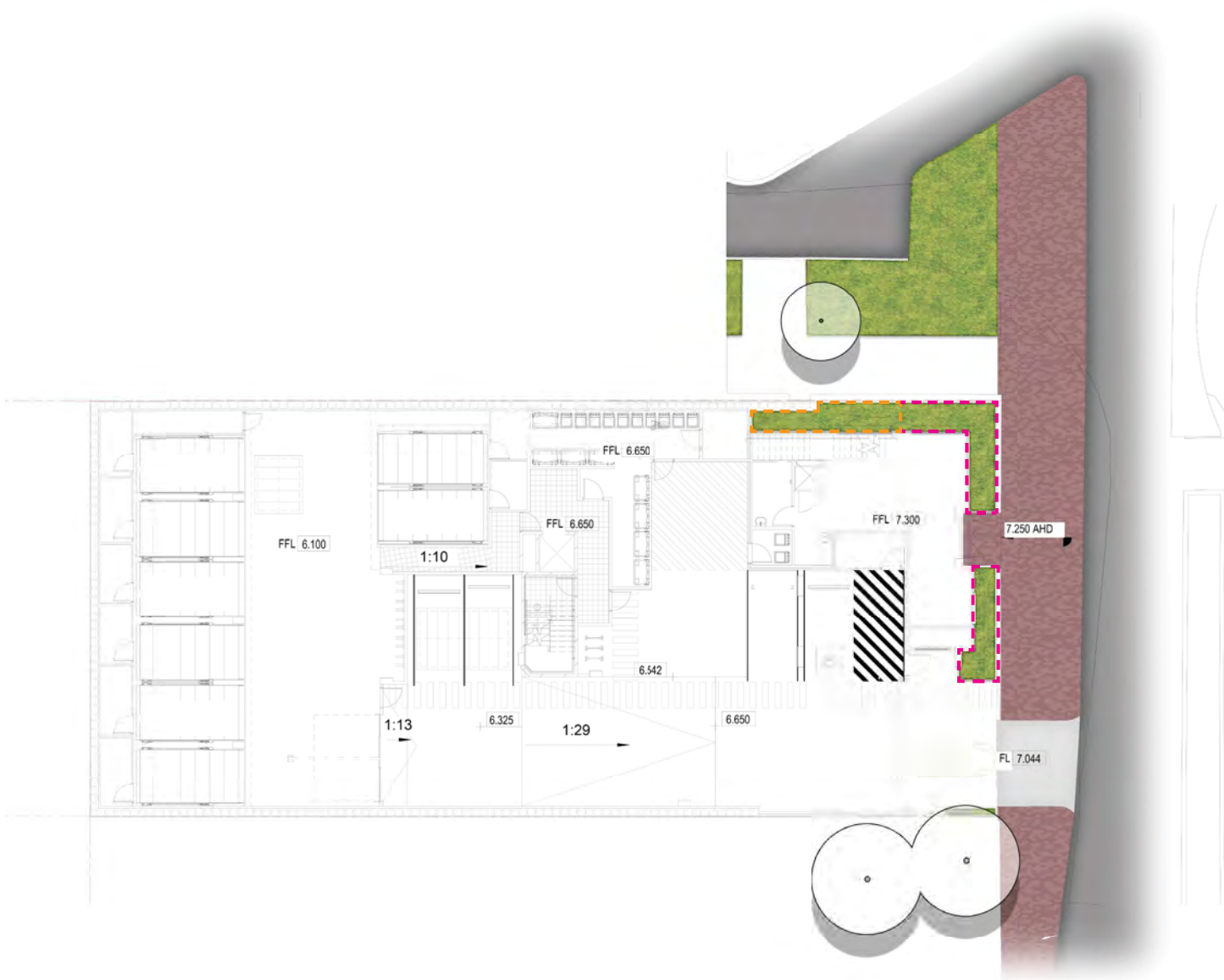


ROOF GARDEN LIGHTING



IN BUILT SEATING TO
PLANTER BOXES

LANDSCAPE SUMMARY	
LANDSCAPED AREA (<1M SOIL DEPTH)	14.5m2
DEEP SOIL AREA (TRUE)	0m2
DEEP SOIL AREA (ON STRUCTURE, >1M)	46m2



FLOOR PLAN - LOWER

LANDSCAPE SUMMARY	
LANDSCAPED AREA (<1M SOIL DEPTH)	16m2
DEEP SOIL AREA (TRUE)	6m2
DEEP SOIL AREA (ON STRUCTURE, >1M)	0m2

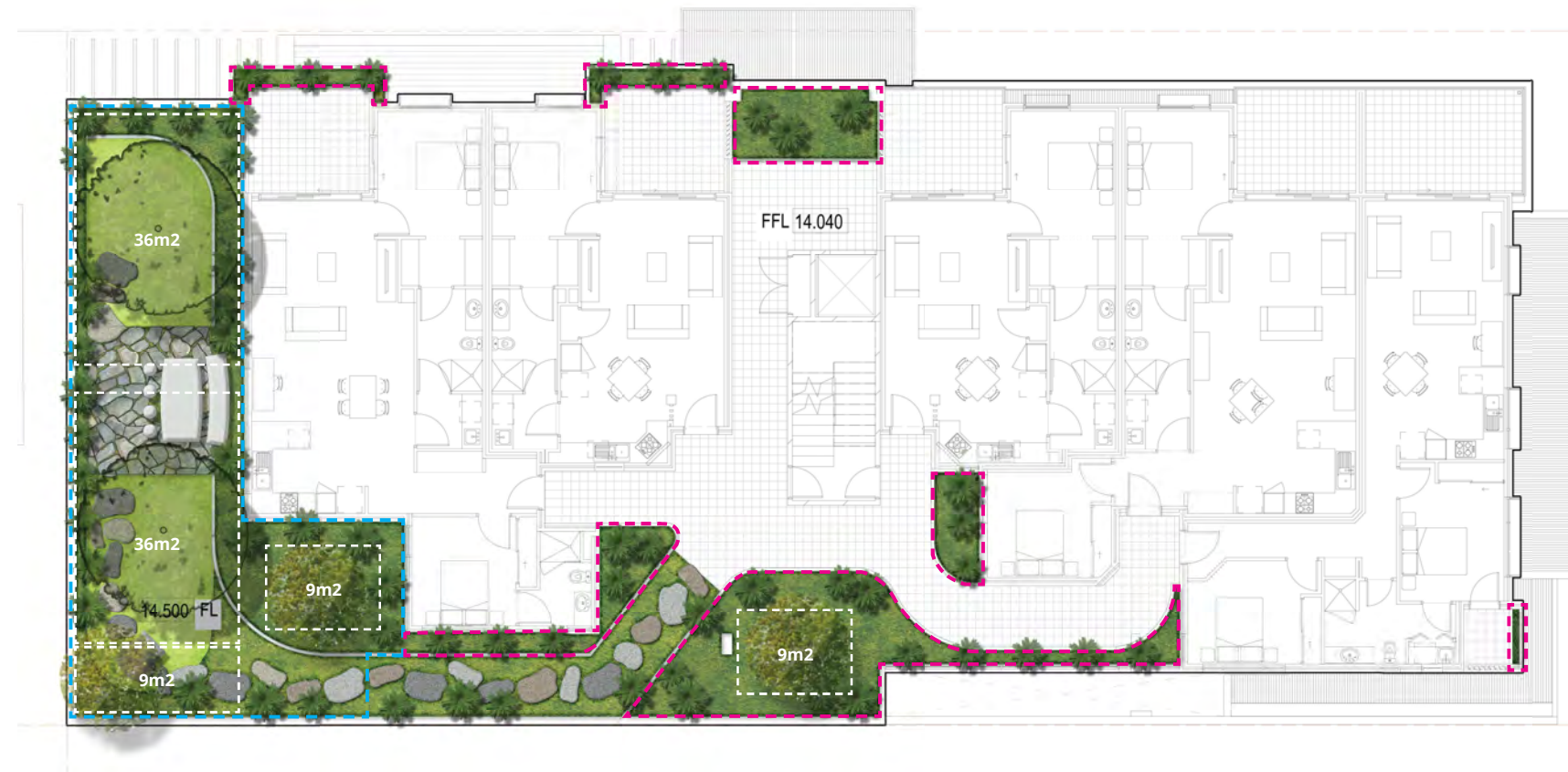


FLOOR PLAN - UPPER

LANDSCAPE SUMMARY	
LANDSCAPED AREA (<1M SOIL DEPTH)	31m2
DEEP SOIL AREA (TRUE)	0m2
DEEP SOIL AREA (ON STRUCTURE, >1M)	10.5m2

SOIL LEGEND

- LANDSCAPED AREA (<1M SOIL DEPTH)
- DEEP SOIL AREA (TRUE)
- DEEP SOIL AREA (ON STRUCTURE, >1M)



FIRST FLOOR PLAN

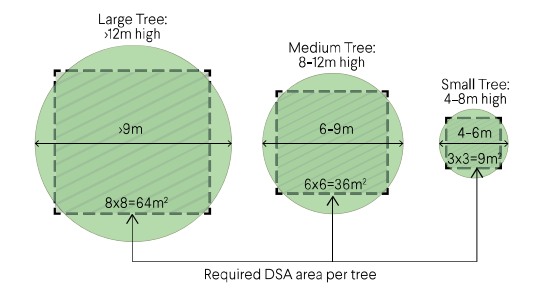


Figure 3.3b Tree size definitions when mature for deep soil areas.

SOIL LEGEND

- LANDSCAPED AREA (<1M SOIL DEPTH)
- DEEP SOIL AREA (TRUE)
- DEEP SOIL AREA (ON STRUCTURE, >1M)

LANDSCAPE SUMMARY

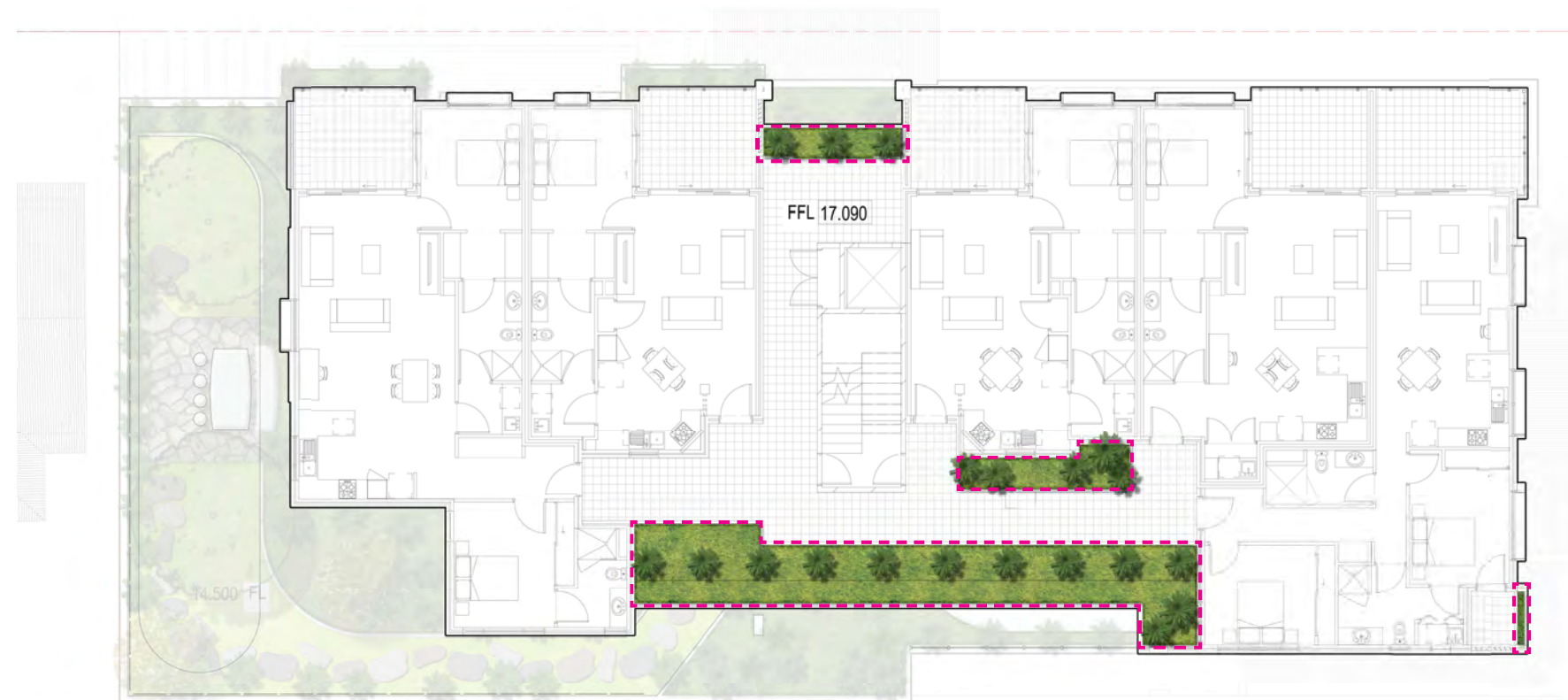
LANDSCAPED AREA (<1M SOIL DEPTH)	55m2
DEEP SOIL AREA (TRUE)	0m2
DEEP SOIL AREA (ON STRUCTURE, >1M)	110m2

Table 3.3b Tree sizes

Tree size	Indicative canopy diameter at maturity	Nominal height at maturity	Required DSA per tree	Recommended minimum DSA width	Minimum DSA width where additional rootable soil zone (RSZ) width provided ¹ (min 1m depth)	Indicative pot size at planting
Small	4-6m	4-8m	9m²	2m	1m (DSA) + 1m (RSZ)	100L
Medium	6-9m	8-12m	36m²	3m	2m (DSA) + 1m (RSZ)	200L
Large	>9m	>12m	64m²	6m	4.5m (DSA) + 1.5m (RSZ)	500L

¹ Rootable areas are for the purposes of determining minimum width only and do not have the effect of reducing the required DSA.

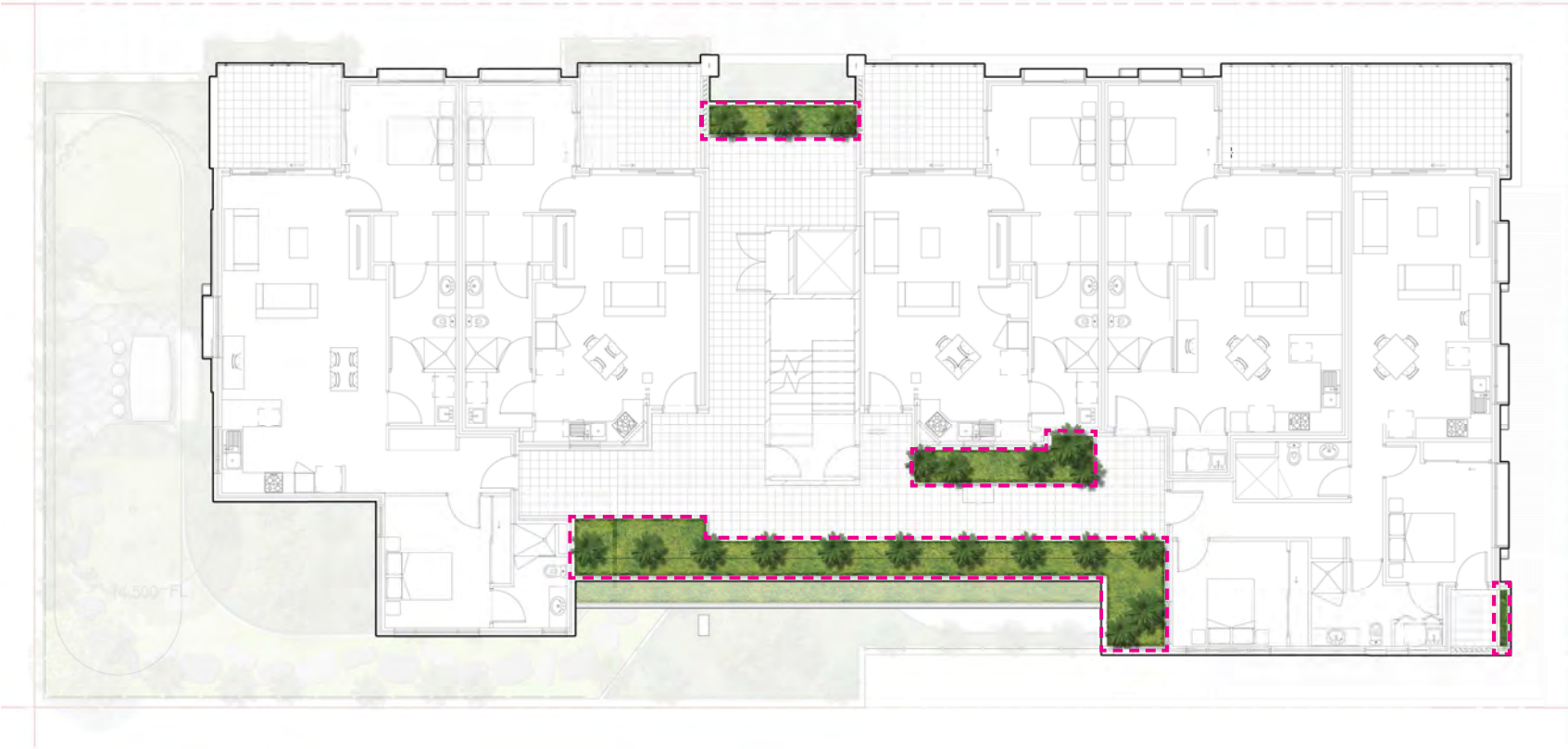
Figure 3.3f Rootable soil zone.



SECOND FLOOR PLAN

LANDSCAPE SUMMARY

LANDSCAPED AREA (<1M SOIL DEPTH)	43m2
DEEP SOIL AREA (TRUE)	0m2
DEEP SOIL AREA (ON STRUCTURE, >1M)	0m2



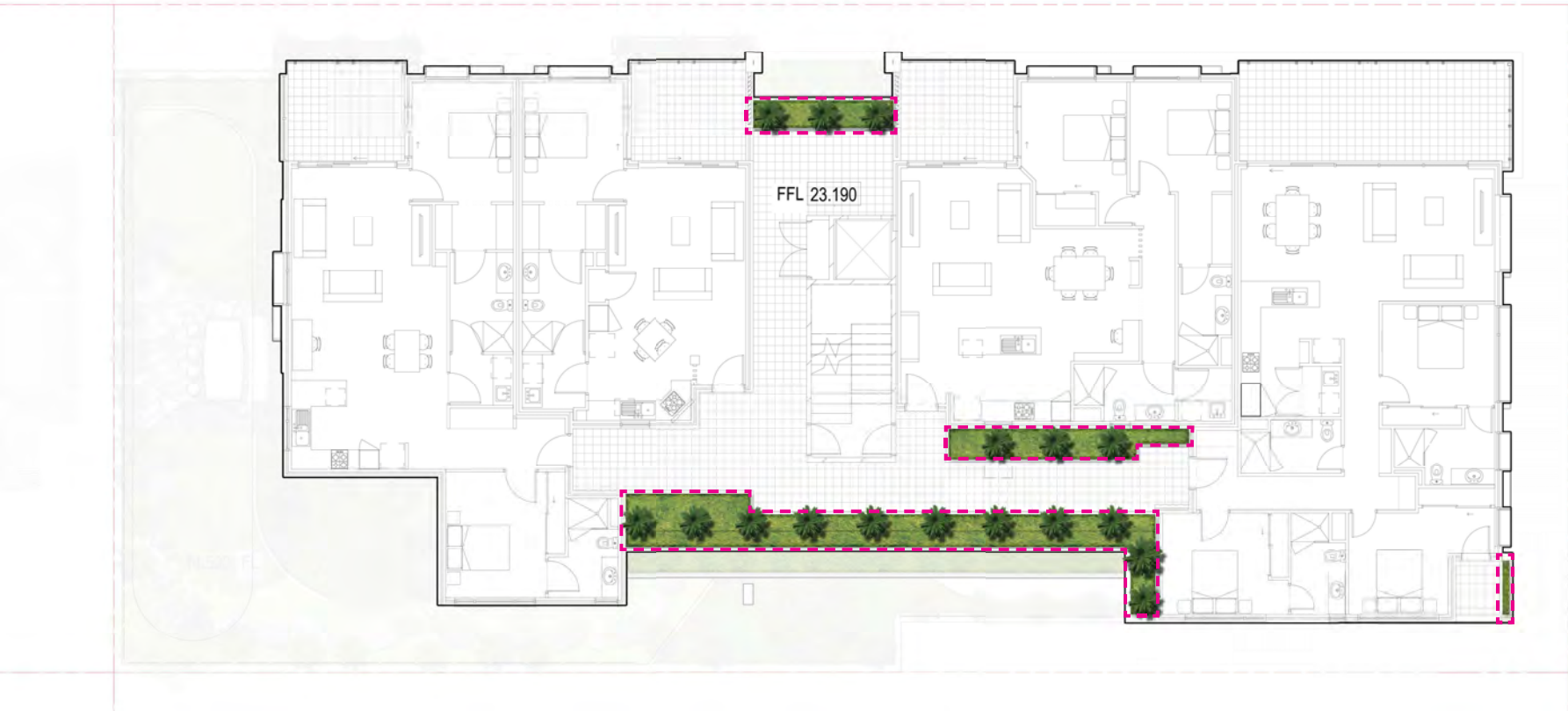
THIRD FLOOR PLAN

SOIL LEGEND

 	LANDSCAPED AREA (<1M SOIL DEPTH)
 	DEEP SOIL AREA (TRUE)
 	DEEP SOIL AREA (ON STRUCTURE, >1M)

LANDSCAPE SUMMARY

LANDSCAPED AREA (<1M SOIL DEPTH)	43m2
DEEP SOIL AREA (TRUE)	0m2
DEEP SOIL AREA (ON STRUCTURE, >1M)	0m2



FOURTH FLOOR PLAN

LANDSCAPE SUMMARY

LANDSCAPED AREA (<1M SOIL DEPTH)	27.5m2
DEEP SOIL AREA (TRUE)	0m2
DEEP SOIL AREA (ON STRUCTURE, >1M)	0m2



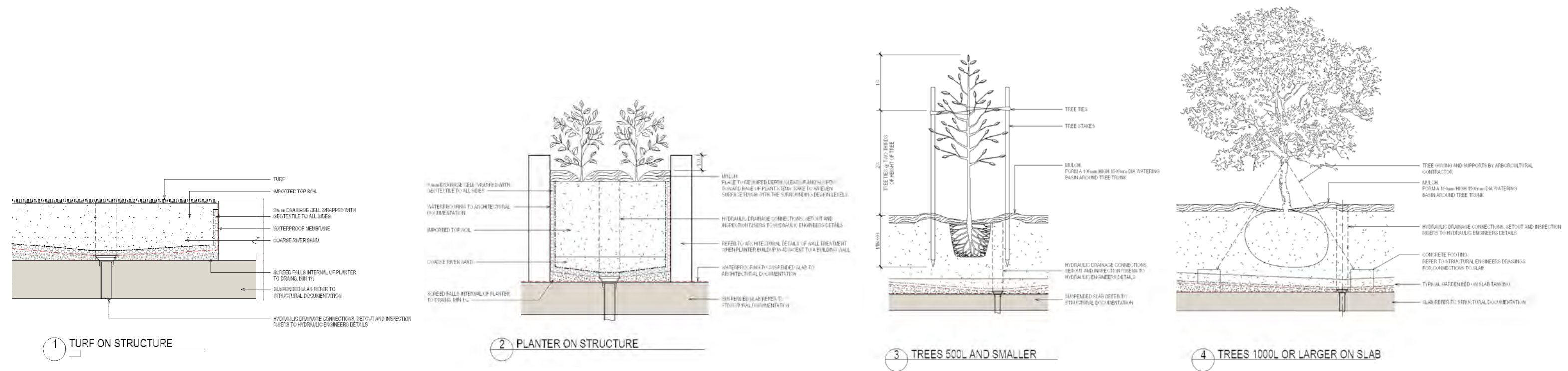
FIFTH FLOOR PLAN

SOIL LEGEND

- LANDSCAPED AREA (<1M SOIL DEPTH)
- DEEP SOIL AREA (TRUE)
- DEEP SOIL AREA (ON STRUCTURE, >1M)

LANDSCAPE SUMMARY

LANDSCAPED AREA (<1M SOIL DEPTH)	14.5m2
DEEP SOIL AREA (TRUE)	0m2
DEEP SOIL AREA (ON STRUCTURE, >1M)	46m2



DESIGN WA ASSESSMENT ITEMS

CALCULATING DEEP SOIL AREAS

KEY INFORMATION

- DEEP SOIL AREAS (DSA) OCCURS WITHIN THE LOT BOUNDARY.
- RECOMMENDS 10% DSA MINIMUM, OR 7% IF A TREE IS RETAINED ON SITE.
- DSA MAY BE CO-LOCATED WITH EITHER A RETAINED EXISTING TREE OR PLANTED TREE/S AND MEET A MINIMUM DIMENSION.
- MINIMUM DSA DIMENSIONS DEPEND ON SIZE OF TREE AT MATURITY
- 20% OF THE DSA MAY BE COVERED WITH PERMEABLE PAVING OR DECKING.
- IF LOCATED ADJACENT TO A ROOTABLE SOIL ZONE (RSZ) THE MINIMUM DIMENSION MAY BE NOMINALLY REDUCED, PROVIDED THE RSZ IS CONTIGUOUS.
- RSZ DOES NOT CONTRIBUTE TO OVERALL DSA REQUIREMENTS
- IF SITE CONDITIONS PREVENT 10% DSA FROM BEING ACHIEVED, PLANTING ON STRUCTURE AT TWO TIMES THE SHORTFALL MAY BE CONSIDERED.

DEFINITIONS

R-CODES VOL. 2 DEFINITIONS

DEEP SOIL AREA - SOFT LANDSCAPE AREA ON **LOT** WITH NO IMPEDING BUILDING STRUCTURE OR FEATURE ABOVE OR BELOW, WHICH SUPPORTS GROWTH OF MEDIUM TO LARGE CANOPY TREES AND MEETS A STATED MINIMUM DIMENSION. USED PRIMARILY FOR **LANDSCAPING** AND OPEN TO THE SKY, DEEP SOIL AREAS EXCLUDE **BASEMENT** CAR PARKS, SERVICES, SWIMMING POOLS, TENNIS COURTS AND **IMPERVIOUS SURFACES** INCLUDING CAR PARKS, **DRIVEWAYS** AND ROOF AREAS.

ROOTABLE SOIL ZONE / SPACE - AREAS BEYOND THE PRIMARY **DEEP SOIL AREA** UNDER ADJACENT PAVEMENTS THAT ARE ENGINEERED AND CONSTRUCTED TO SUPPORT TREE ROOT PENETRATION. THIS IS ACHIEVED BY THE USE OF STRUCTURAL SOIL AND STRUCTURAL CELLS WHICH ARE MATERIALS FOR CREATION OF ROOTABLE SOIL ZONE BENEATH PAVEMENTS AND OTHER STRUCTURES. STRUCTURAL SOIL INVOLVES THE USE OF STRUCTURAL MATERIALS, SUCH AS ROCK, THAT INTERLOCK UNDER SPECIFIED COMPACTION LOADS WHILE LEAVING MACRO SPACES THAT PROVIDE ROOTABLE SOIL ZONE FOR TREE ROOTS. STRUCTURAL CELLS ARE SIMILAR BUT UTILISE A PLASTIC CELL STRUCTURE TO MEET THE REQUIRED COMPACTION AND LOADING.

Table 4.12 Planting on structure: minimum soil standards for plant types and sizes

Plant type	Definition	Soil volume	Soil depth	Soil area
Large tree	Over 12m high, crown spread at maturity	76.8m³	1,200mm	64m² with minimum dimension 7m
Medium tree	8-12m high, crown spread at maturity	36m³	1,000mm	36m² with minimum dimension 5m
Small tree	4-8m high, crown spread at maturity	7.2m³	800mm	3m × 3m
Small ornamentals	3-4m high, crown spread at maturity	3.2m³	800mm	2m × 2m
Shrubs	—	—	500-600mm	—
Ground cover	—	—	300-450mm	—
Turf	—	—	200mm	—

IRRIGATION REQUIREMENTS

A FULLY AUTOMATIC IRRIGATION SYSTEM WILL BE INSTALLED FOR THE 105 BROADWAY PROJECT. THE SCOPE WILL INCLUDE:

- IRRIGATION TO ALL LANDSCAPE AREAS
- MOISTURE SENSORS THROUGHOUT, TO ENSURE WATER USE IS MINIMISED
- USE OF LOW WATER USE EMITTERS TO ENSURE ONLY SUFFICIENT WATER IS PROVIDED TO IRRIGATE PLANTING AREAS
- IN-LINE FERTILISATION UNIT TO ENSURE FERTILISING AND MOISTURE RETENTION IS CONTROLLED
- USE OF POP - UP FLOOD BUBBLERS TO SUIT SIZE OF GARDEN BEDS TO ENSURE ANY OVER-SPRAY AND WASTAGE IS MITIGATED, AND;
- A DETAILED DESIGN AND SPECIFICATION WILL BE PROVIDED AT BUILDING LICENSE APPLICATION STAGE.



Assets | Engineering | Environment | Noise | Spatial | Waste

Waste Management Plan

105 Broadway, Nedlands

Prepared for JM & EA Hall

September 2020

Project Number: TW20071



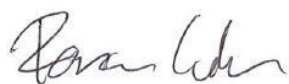
DOCUMENT CONTROL

Version	Description	Date	Author	Reviewer
0a	Internal Review	01/07/20	DP	RH
1a - Draft	Released to Client	02/07/20	DP	Client
1a - Final	Released to Client	15/09/20	DP	Client

Approval for Release

Name	Position	File Reference
Ronan Cullen	Director and Waste Management Section Leader	TW20071 - Waste Management Plan.1a - Final

Signature



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Executive Summary

JM & EA Hall is seeking development approval for the proposed mixed use development located at 105 Broadway, Nedlands (the Proposal).

To satisfy the conditions of the development application the City of Nedlands (the City) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the City's requirements.

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

Proposed Waste Collection Summary

Waste Type	Generation (L/week)	Bin Size (L)	Number of Bins	Collection Frequency	Collection
Residential Bin Storage Area					
Refuse	2,280	660	4	Once each week	City of Nedlands
Recycling	2,640	660	4	Once each week	City of Nedlands
Greenwaste	880	240	8	Once each fortnight	City of Nedlands
Commercial Bin Storage Area					
Refuse	90	240	1	Once each week	City of Nedlands
Recycling	90	240	1	Once each week	City of Nedlands

The City of Nedlands standard rear loader waste collection vehicle will service the residential and commercial bins onsite as an inside service, directly from the Loading Zone on the lower ground floor. The City's waste collection vehicle will enter and exit the Proposal in forward gear via Broadway.

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



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Table 2-1: Refuse, Recyclables and Greenwaste Waste Generation Rates

Table 2-2: Estimated Waste Generation – Residential

Table 2-3: Estimated Waste Generation – Commercial

Table 3-1: Typical Bin Dimensions

Table 3-2: Bin Requirements for the Residential Bin Storage Area

Table 3-3: Bin Requirements for the Commercial Bin Storage Area

Figures

Figure 1: Locality Plan

Figure 2: Residential Bin Storage Area

Figure 3: Commercial Bin Storage Area



1 Introduction

JM & EA Hall is seeking development approval for the proposed mixed use development located at 105 Broadway, Nedlands (the Proposal).

To satisfy the conditions of the development application the City of Nedlands (the City) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the City's requirements.

The Proposal is bordered by Elizabeth Street to the north, Broadway to the east and residential developments to the south and west, as shown in Figure 1.

1.1 Objectives and Scope

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

- Adequately cater for the anticipated quantities of waste to be generated;
- Provide adequately sized Bin Storage Areas, including appropriate bins; and
- Allow for efficient collection of bins by appropriate waste collection vehicles.

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

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



2 Waste Generation

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

2.1 Proposed Tenancies

The anticipated volume of refuse, recyclables and greenwaste is based on the number of apartments and the floor area (m²) of the commercial tenancy at the Proposal, as follows:

Residential Apartments:

- One Bedroom Apartments – 9;
- Two Bedroom Apartments – 11; and
- Three Bedroom Apartments – 2.

Commercial Tenancy:

- Office – 180m².

2.2 Waste Generation Rates

The estimated amount of refuse, recyclables and greenwaste to be generated by the Proposal is based on the City's *Local Planning Scheme 3 – Local Planning Policy Waste Management and Guidelines* (LPS3) and the City of Melbourne's *Guidelines for Preparing a Waste Management Plan* (2017).

Table 2-1 shows the waste generation rates applied to the proposed tenancies at the Proposal.

Table 2-1: Refuse, Recyclables and Greenwaste Waste Generation Rates

Tenancy Type	Guidelines	Refuse Generation Rate	Recyclables Generation Rate	Greenwaste Generation Rate
One Bedroom Apartments	Nedlands	80L/week	120L/week	40L/week
Two Bedroom Apartments	Nedlands	120L/week	120L/week	40L/week
Three Bedroom Apartments	Nedlands	120L/week	120L/week	40L/week
Office	Melbourne	10L/100m ² /day	10L/100m ² /day	-

2.3 Waste Generation Volumes

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

2.3.1 Residential Waste

Residential waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown Table 2-2. It is estimated that the residential apartments at the Proposal will generate 2,280L of refuse, 2,640L of recyclables each week and 880L of greenwaste each week.



Table 2-2: Estimated Waste Generation – Residential

Residential Apartments	Number of Apartments	Waste Generation Rate (L/week)	Waste Generation (L/Week)
Refuse			
One bedroom apartments	9	80	720
Two bedroom apartments	11	120	1,320
Three bedroom apartments	2	120	240
Total			2,280
Recyclables			
One bedroom apartments	9	120	1,080
Two bedroom apartments	11	120	1,320
Three bedroom apartments	2	120	240
Total			2,640
Greenwaste			
One bedroom apartments	9	40	360
Two bedroom apartments	11	40	440
Three bedroom apartments	2	40	80
Total			880

2.3.2 Commercial Waste

Commercial waste generation volumes in litres per week (L/week) adopted for this waste assessment are shown in Table 2-3. It is estimated that the commercial tenancy at the Proposal will generate 90L of refuse and 90L of recyclables each week.

Table 2-3: Estimated Waste Generation – Commercial

Commercial Tenancy	Area (m ²)	Waste Generation Rate (L/week)	Waste Generation (L/Week)
Refuse			
Office	180	10	90
Total			90
Recycling			
Office	180	10	90
Total			90

3 Waste Storage

To ensure that waste is managed appropriately at the Proposal, it is important to allow for sufficient space to accommodate the required quantity of bins within the Bin Storage Areas. The quantity, size and design of the Bin Storage Areas is described in the following sections.

3.1 Internal Bins

To promote positive recycling behaviour and maximise diversion from landfill, the Proposal will have two kitchen type bins within each apartment for the separate disposal of refuse and recyclables. Waste from these internal bins will be transferred by the resident to the Residential Bin Storage Area and deposited into the appropriate refuse and recycling bins.

In addition, the office tenancy will have a minimum of two bins to facilitate the separate disposal of refuse and recyclables. The contents of these bins will be transferred by the tenant, staff or cleaners to the Commercial Bin Storage Area and be deposited into the appropriate bin.

3.2 Bin Storage Area

Waste materials generated within the Proposal will be collected in the bins located in the Bin Storage Areas shown in Figure 2 and Figure 3.

3.2.1 Bin Sizes

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

Table 3-1: Typical Bin Dimensions

Dimensions (m)	Bin Sizes		
	240L	660L	1,100L
Depth	0.8	0.8	1.3
Width	0.6	1.3	1.4
Height	1.1	1.2	1.5
Floor Area (m ²)	0.48	1.04	1.82

Reference: City of Nedlands LPS3 – 4.0 Bin Size and Colour – Table 3.

3.2.2 Residential Bin Store Size

To ensure sufficient area is available for storage of the residential waste bins, the amount of bins required for the Residential Bin Storage Area was modelled utilising the estimated waste generation in Table 2-2, bin sizes in Table 3-1 and based on collection of refuse and recyclables once each week and collection of greenwaste once each fortnight.

Table 3-2: Bin Requirements for the Residential Bin Storage Area

Waste Stream	Waste Generation (L/week)	Number of Bins Required		
		240L	660L	1,100L
Refuse	2,280	10	4	3
Recycling	2,640	11	4	3
Greenwaste	880	8	-	-



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

- Four 660L refuse bins;
- Four 660L recyclable bins; and
- Eight 240L greenwaste bins.

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

3.2.3 Future Bin Storage Area Requirements

In the future it is expected that the City will be introducing bins for separate collection of food and garden organics (FOGO) within multi-unit residential properties in line with the State Governments Waste Avoidance and Resource Recovery (WARR) Strategy. It is anticipated that FOGO will replace some of the refuse and greenwaste bins and may add a further two 240L FOGO bins into the Residential Bin Storage Area. Space to accommodate these bins has therefore been provided in the Residential Bin Storage Area, refer Figure 2.

3.2.4 Commercial Bin Store Size

To ensure sufficient area is available for storage of the commercial waste bins, the amount of bins required for the Commercial Bin Storage Area was modelled utilising the estimated waste generation in Table 2-3, bin sizes in Table 3-1 and based on collection of refuse and recyclables once each week from the Proposal.

Table 3-3: Bin Requirements for the Commercial Bin Storage Area

Waste Stream	Waste Generation (L/week)	Number of Bins Required		
		240L	660L	1,100L
Refuse	90	1	1	1
Recycling	90	1	1	1

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

- One 240L refuse bin; and
- One 240L recyclable bin.

The configuration of these bins within the Commercial Bin Storage Area is shown in Figure 3. It is worth noting that the number of bins and corresponding placement of bins shown in Figure 3 represents the maximum requirements assuming one collection each week of refuse and recyclables.

3.2.5 Bin Storage Area Design

The design of each Bin Storage Area has taken into consideration the design guidelines provided in the City's LPS3, as follows:

- Easy accessibility to allow for the removal of all bins;
- Adequate circulation space for manoeuvring bins within the Bin Storage Areas;
- Provision for collection that limits pedestrian and vehicle disruption;
- Bin Storage Areas are provided with a permanent water supply and drainage facility; for wash-down;
- Screened by a gate, brick walls or other suitable materials to a height not less than 1.8m;
- Each waste stream separated and clearly labelled;



- Design which does not encourage the emission of odour outside of the Bin Storage Areas;
- Located within the building (not on the verge), so they are not visible from the public realm, or screened from public view with a quality material compatible with the building design;
- Ramps having a gradient of no steeper than 1:8 unless otherwise approved by the City;
- Residential waste and recycling Bin Storage Area is self-contained and separate from the Commercial Bin Storage Area;
- If the Bin Storage Areas are lockable, the City's waste collection contractor will be provided with relevant access i.e. key or remote device;
- No double stacking of bins;
- Doors to the Bin Storage Area that are self-closing and vermin proof;
- Doors to the Bin Storage Area that are wide enough to fit bins through; and
- Bins are reasonably secured from theft and vandalism.

Bin numbers and storage space within the Bin Storage Areas will be monitored by strata management during the operation of the Proposal to ensure that the number of bins and collection frequency is sufficient.



4 Waste Collection

The Proposal has been designed to accommodate the City's standard rear loader waste collection vehicle which will service the Proposals bins onsite, directly from the Residential and Commercial Bin Storage Areas.

The City will provide the residential apartments with four 660L bins for refuse, four 660L bins for recyclables and eight 240L bins for greenwaste, and the commercial tenancy with one 240L bin for refuse and one 240L bin for recyclables.

The City will collect the residential refuse and recyclable bins once each week and residential greenwaste once each fortnight. The City will collect the commercial refuse and recyclable bins once each week.

The City's rear loader waste collection vehicle will travel with left hand lane traffic flow on Broadway and turn into the Proposal in forward gear. The vehicle will then execute a reverse point turn to stop within the Loading Zone, adjacent to the Bin Storage Areas for servicing.

The City will be provided with key/PIN code access to the Bin Storage Areas and security access gates to facilitate servicing, if required.

During servicing the City collection staff will transfer bins between the rear loader waste collection vehicle and the Bin Storage Areas during servicing. The bin transfer path is level and of smooth surface, with no steps/kerbs and will be kept free of obstacles.

Once servicing is complete, the City's rear loader waste collection vehicle will move forward and exit the Proposal in forward gear, turning onto Broadway and moving with traffic flow.

Noise from waste vehicles must comply with the Environmental Protection (Noise) Regulations and such vehicles should not service the site before 7.00am or after 7.00pm Monday to Saturday, or before 9.00am or after 7.00pm on Sundays and Public Holidays.

The above servicing method will preserve the amenity of the area by removing the requirement for bins to be presented to the street on collection days and remove potential impacts on local traffic from on-street collection.

Swept path analysis using the City's standard rear loader waste collection vehicle specifications was undertaken by Transcore, refer Diagram 1 and Traffic Impact Assessment dated 23 June 2020.

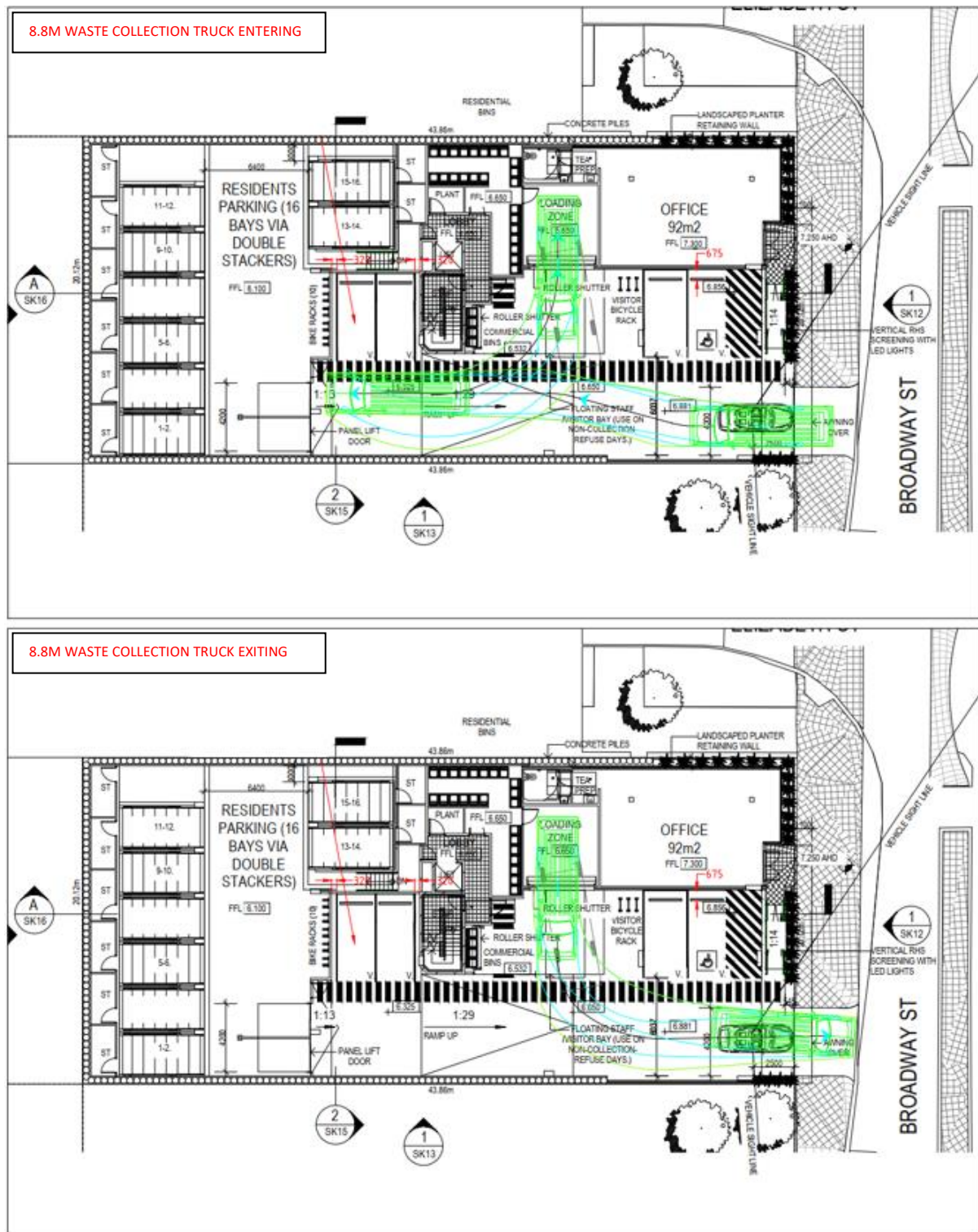


Diagram 1: Swept Path Analysis

4.1 Bulk Waste Collection

Bulk waste materials will be removed from the Proposal as they are generated. Removal of bulk waste will be monitored by strata management, who will liaise with residents and tenants on procedures for the removal of bulk waste.

Provision has been made for the use of a parking bay on the lower ground floor for the temporary storage of a 3-10m³ skip bin (at no cost to the City). There is adequate clearance to deliver and remove the skip bin with the ceiling height exceeding the 3.2m bulk collection truck operational height (excluding low height attached service pipes, beams, awnings and upper floors), refer Diagram 2.

Each apartment unit has a minimum allocated storage room of 4m² at the Proposal and an additional Bulk Storage area of 5m² has been allowed for the temporary storage of bulk waste. This will assist with the reduction of illegal dumping of bulky wastes at the Proposal.

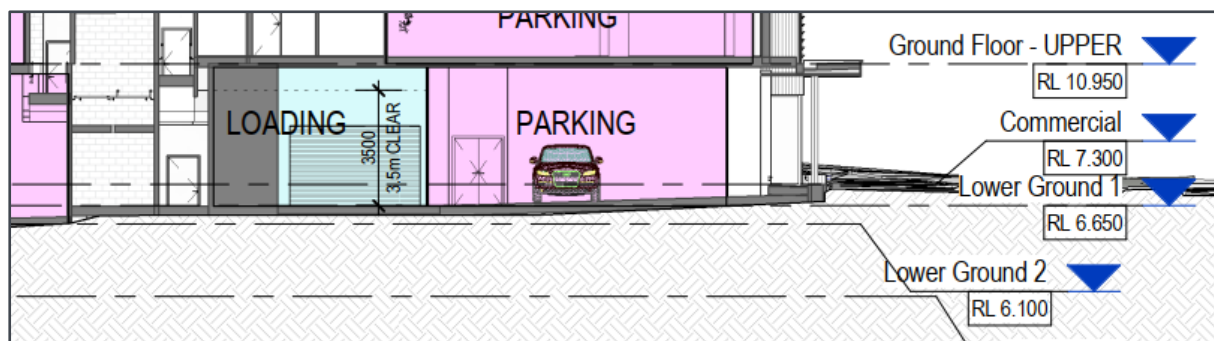


Diagram 2: Loading Zone Operational Height Clearance



5 Waste Management

Strata management will be engaged to complete the following tasks:

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



6 Conclusion

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

The above is achieved using:

- Residential Apartments:
 - Four 660L refuse bins, collected once each week;
 - Four 660L recycling bins, collected once each week; and
 - Eight 240L greenwaste bins, collected once each fortnight.
- Commercial Tenancy:
 - One 240L refuse bin, collected once each week; and
 - One 240L recycling bin, collected once each week.

The City of Nedlands standard rear loader waste collection vehicle will service the residential and commercial bins onsite as an inside service, directly from the Loading Zone on the lower ground floor. The City's waste collection vehicle will enter and exit the Proposal in forward gear via Broadway.

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



Figures

Figure 1: Locality Plan

Figure 2: Residential Bin Storage Area

Figure 3: Commercial Bin Storage Area



LEGEND

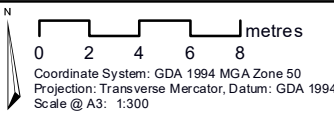
- Site Boundary
- Cadastre

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LOCALITY

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Nedlands WA 6009
JM & EA Hall

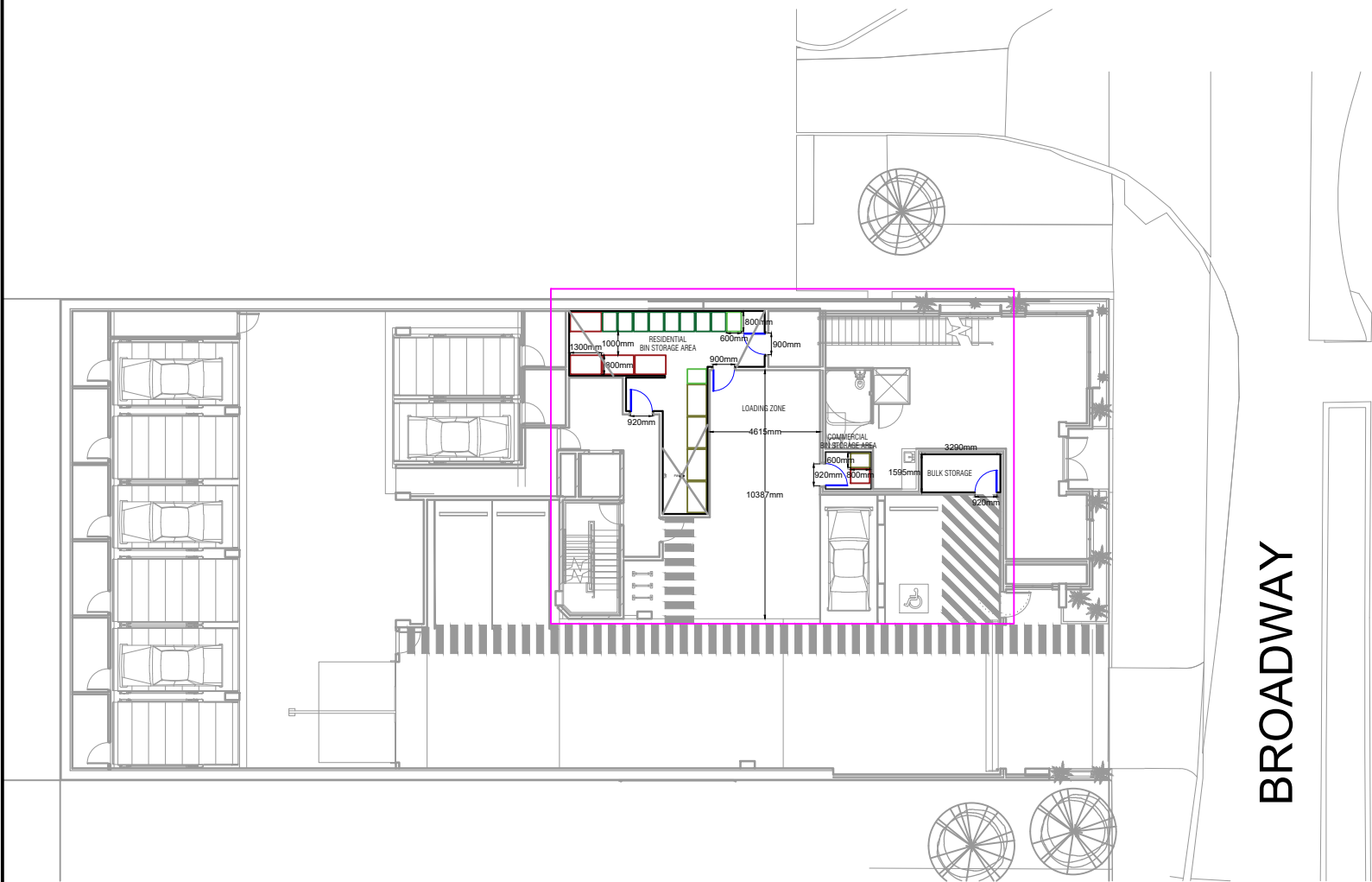


Prepared:	E Dolecki	Date:	24/06/2020
Reviewed:	D Patel	Revision:	A
Project:	TW20071		



Figure 01

Residential Bin Storage Area

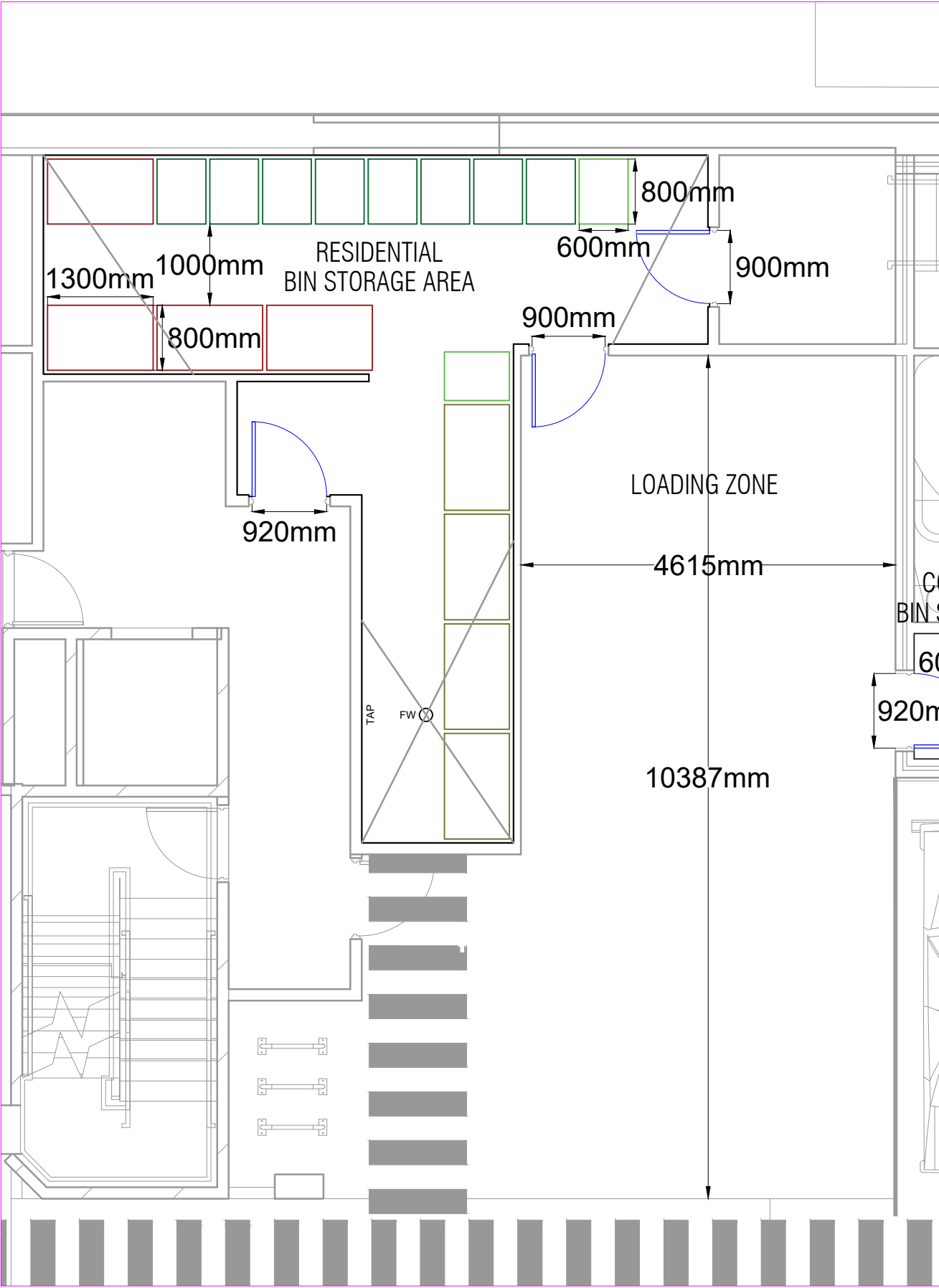


BROADWAY

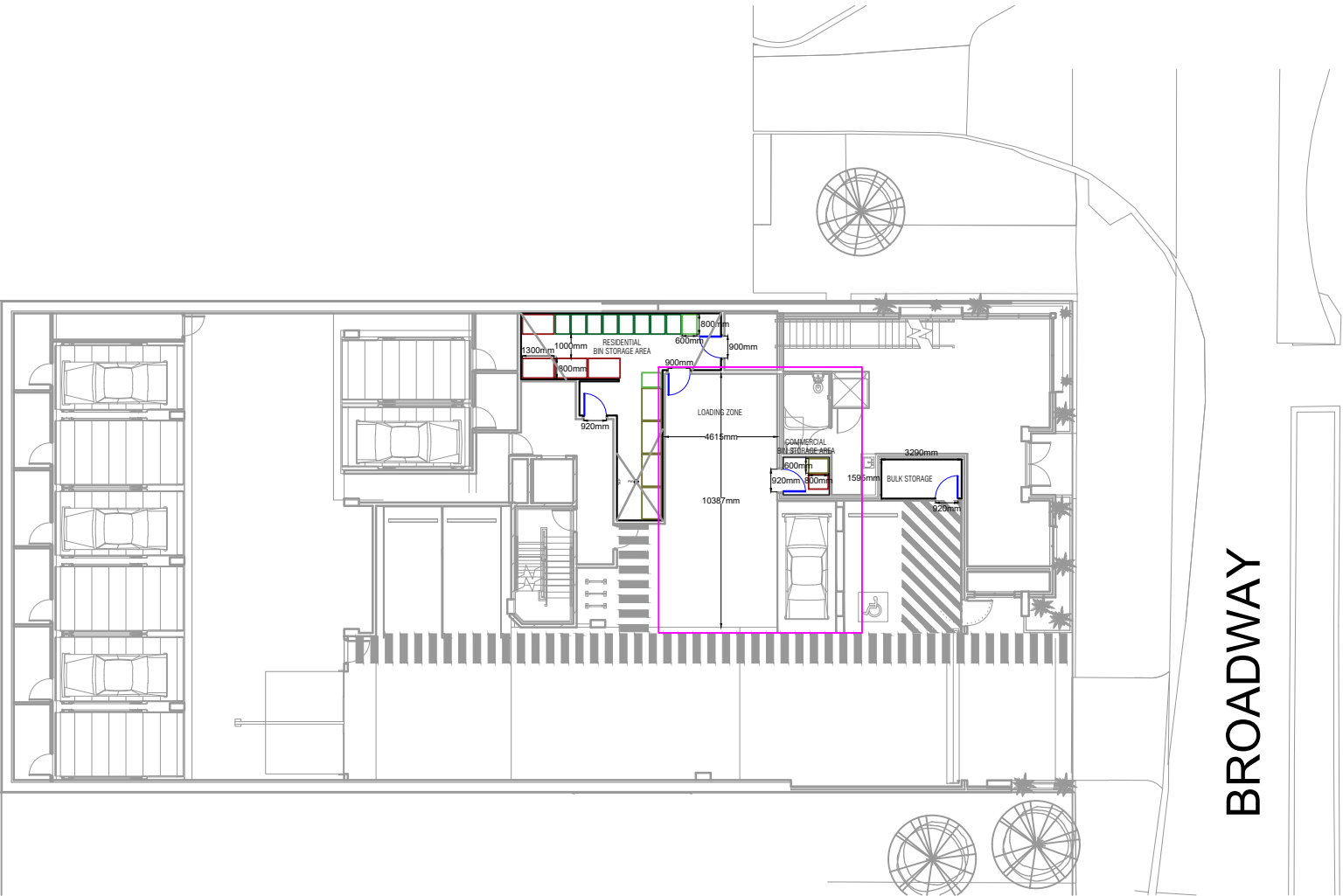
Legend:

Residential Bin Storage Area

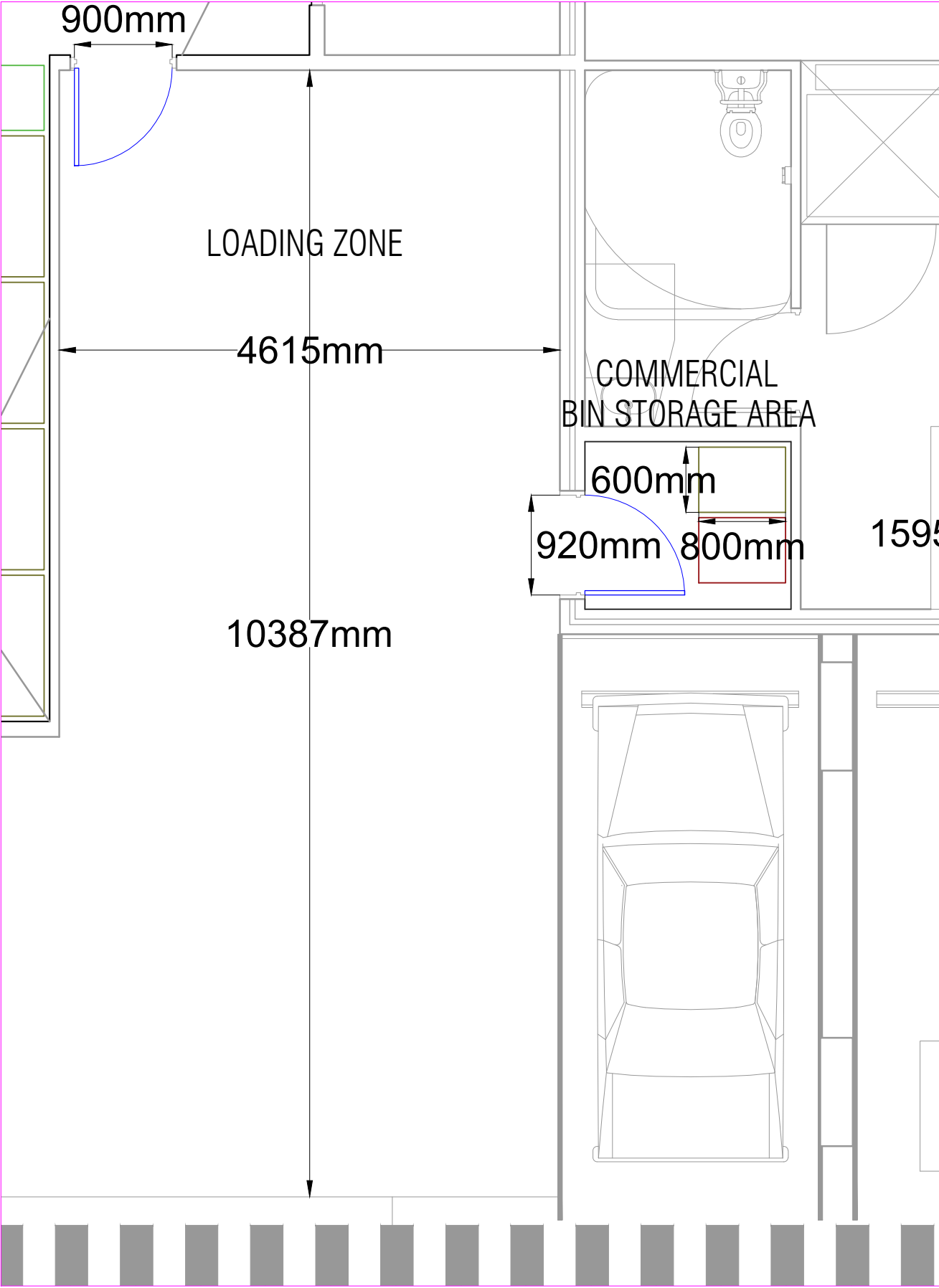
- 4 x 660L refuse waste (800mm x 1,300mm)
- 4 x 660L recyclable waste (800mm x 1,300mm)
- 8 x 240L greenwaste (800mm x 600mm)
- 2 x 240L FOGO (800mm x 600mm)



Commercial Bin Storage Area



BROADWAY



Legend:

Commercial Bin Storage Area

- 1 x 240L refuse waste (800mm x 600mm)
- 1 x 240L recyclable waste (800mm x 600mm)

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Proposed Mixed-Use Development

105 Broadway, Nedlands

Transport Impact Statement

PREPARED FOR:
JM & EA Hall

February 2021

Document history and status

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Vladimir Baltic	r01a	B Bordbar	15/09/2020	Final
Vladimir Baltic	r01b	B Bordbar	5/02/2021	1 st Revision

File name: t19.291.vb.r01b.docx

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Client: JM & EA Hall

Project: 105 Broadway, Nedlands

Document revision: r01b

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1.0 Introduction

This Transport Impact Statement has been prepared by Transcore on behalf of JM & EA Hall with regard to the proposed mixed-use development to be located at 105 Broadway in Nedlands, City of Nedlands.

The Transport Impact Assessment Guidelines for Developments (WAPC, Vol 4 – Individual Developments, August 2016) states: “A Transport Statement is required for those developments that would be likely to generate moderate volumes of traffic¹ and therefore would have a moderate overall impact on the surrounding land uses and transport networks”. Section 5.0 of Transcore’s report provides details of the estimated trip generation for the proposed development. Accordingly, as the total peak hour vehicular trips are estimated to be less than 100 trips, a *Transport Impact Statement* is deemed appropriate for this development.

The site is located at the southwest corner of the Broadway/Elizabeth Street intersection and immediately west of Broadway Fair Shopping Centre, as shown in **Figure 1**.



Figure 1: Location of the subject site

¹ Between 10 and 100 vehicular trips

The site is therefore bounded by Elizabeth Street to the north, Broadway to the east and the existing residential dwellings to the immediate west and south.

Pedestrians are currently accessing the site directly via existing path along frontage roads.

The subject site is presently occupied by a double-storey commercial office development. The site is located within a mixed residential/commercial zone.

2.0 Proposed Development

The subject site occupies an area of approximately 880m² at the southwest corner of Broadway and Elizabeth Street.

As part of the development proposal the existing structures at the subject site will be replaced with a 6-7 storey mixed-use development comprising a small-scale office tenancy and 22 apartments (mix of single-bedroom, two-bedroom and three-bedroom apartments) and the associated two-level ground (upper and lower ground) car parking area.

As part of the development proposal, the existing crossover on Elizabeth Street at the northern end of the site will be slightly shifted to the east while the existing Broadway crossover will be retained at its current location.

All parking bays on upper ground level are proposed in form of single bays while at lower ground level visitor bays are proposed in form of single bays and all residential bays are proposed in form of stackers. The residential car parking is sectioned off by remotely-controlled gates for security reasons.

Each car park level is accessed via separate crossover. The lower ground car park is served by a left-in/left-out crossover on Broadway while the upper car park is served by a right-in/left-out/right-out crossover, due to Elizabeth Street being one-way eastbound at this location.

The development also provides for residential and visitor bike parking. A visitor bike rack is proposed at the Elizabeth Street entry into the building while three bike racks are provided at lower ground car park, within the visitor car park section and adjacent to the loading zone. In addition, a total of eight and 10 (wall mounted) bike racks for residents are provided at upper and lower ground residential car parks, respectively.

The bin storage area is located at the lower ground car park area, immediately adjacent to the loading zone and at the back of the office tenancy. It is assumed that waste collection will take place using (up to) 8.8m long rear loading truck (as advised by the waste consultants for the project).

Pedestrians will access the development from the external footpath network which is in place along Elizabeth Street and Broadway. The access for residents is facilitated via upper ground floor lobby with a lift and staircase accessed from Elizabeth Street while access to the office tenancy is proposed directly off Broadway at lower ground level.

Refer to **Appendix A** for plans of the proposed development.

3.0 Vehicle Access and Parking

All resident and resident visitor parking is accommodated within the two-level car park facility (lower and upper ground levels).

The lower ground car park is served by a left-in/left-out crossover on Broadway while the upper car park is served by a right-in/left-out/right-out crossover on Elizabeth Street. The operation of the Elizabeth Street crossover is therefore impacted by the recent downgrade of Broadway/Elizabeth Street intersection from former full-movement form to a left-out only format.

The on-site car parking facility comprises two levels: lower and upper ground. Total car parking provision for the development entails 36 parking bays (including one ACROD bay) and two motorcycle bays. The breakdown of parking bays per each car park level is provided in **Table 1**.

Table 1: Parking schedule

	Residential bays	Visitor bays	Motorcycle bays
Lower Ground	16	4 (incl. 1 ACROD)	-
Upper Ground	14	2	2
Total	30	6	2

The two car park levels at lower and upper ground are not connected and are served by separate accesses on two fronting roads. The lower ground car park is proposed to be served by a 4.2m wide two-way crossover with upper ground car park proposed to be served by a 6.0m wide two-way crossover.

Although the 4.2m wide two-way driveway can practically accommodate only single direction of traffic at any one point in time, the anticipated low traffic generation of the development, combined with straight driveway geometry and generally directional type of flow (exit in AM peak and entry in PM peak) the operation of this facility is considered to be feasible. Use of visual and sightline aid devices such as convex mirrors and/or cameras (or similar) would provide further assistance with parking operations.

On-street parking is permitted on both Elizabeth Street (northern side) and Broadway (western side) in this vicinity thus providing additional convenient parking opportunities for the visitors of the development.

Refer **Appendix A** for detailed development plans.

4.0 Provision for Service Vehicles

The waste collection is proposed to take place from the lower ground car park with waste collection vehicle moving into the car park area in forward gear turning within the car park and reversing towards the bin storage area to park within the loading zone. After emptying the bins vehicle would leave the car park in forward gear.

A turn path assessment, using an 8.0m long rear-loader waste truck with appropriate clearances, confirms the suitability of the proposed design to accommodate such vehicle. A copy of the relevant plans is appended in **Appendix B**.

5.0 Daily Traffic Volumes and Vehicle Types

The traffic volumes likely to be generated by the proposed residential development have been estimated using the *RTA NSW Guide to Traffic Generating Developments* (2002) and *NSW Transport Roads & Maritime Services Technical Direction TDT 4a 2013* documents, which provides total daily and peak hour trip rates for the constituent land uses.

In this particular case peak hour trip generation rates of 5 and 0.5 trips/dwelling for total daily and AM/PM peak periods has been applied corresponding to “medium density residential flat building” type of residential dwellings. The adopted trip rates are conservative resulting in a robust assessment considering the site location and excellent public transport coverage. A trip generation rate of 11 and 1.6/1.2 trips/100m² GFA for total daily and AM/PM peak periods has been applied for the office component.

Accordingly, it is estimated that the proposed mixed-use development would generate a total of approximately **130** daily vehicle trips with about **14** and **13** trips during AM and PM peak hour period, respectively. These trips include both inbound and outbound vehicle movements. It is anticipated that most of the vehicle types would be passenger cars and to the lesser extent 4WDs.

The traffic distribution detailed in **Table 2** was based on the following directional split assumptions for peak hour periods:

- ✚ Morning (AM) peak split estimated at 25%/75% for inbound/outbound trips; and,
- ✚ Afternoon (PM) peak split estimated at 66%/34%, for inbound/outbound trips associated with residential, retail and commercial components, respectively.

Table 2: Peak hour trips for the proposed development

Time period	Directional Split	Residential Traffic	Peak Hour Trips
Morning Peak	Inbound	5	14
	Outbound	9	
Afternoon Peak	Inbound	7	13
	Outbound	6	

The directional morning, afternoon and daily trip distribution of the development-generated traffic is illustrated in **Figure 2**.

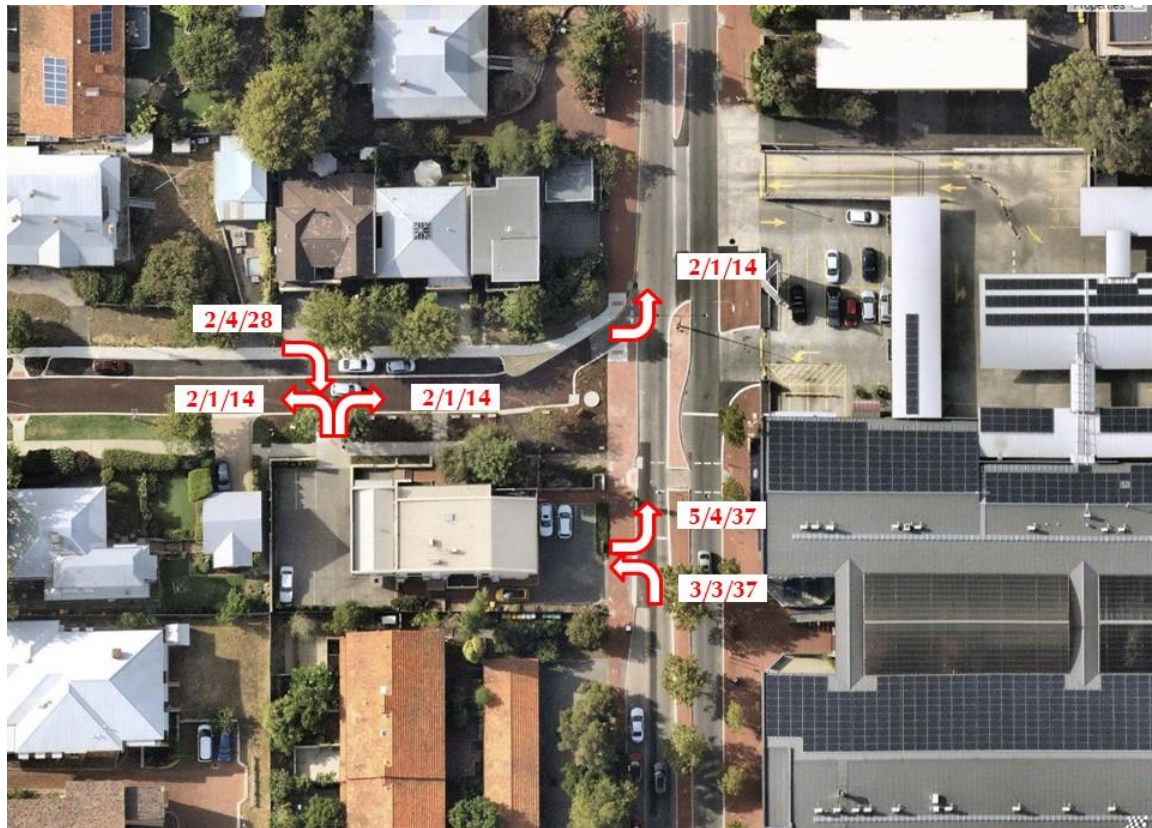


Figure 2. Estimated traffic movements for the subject development – morning, and afternoon peak hour trips

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

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

From **Figure 2** it can be seen that the estimated traffic impact from the proposed development would be most pronounced on Broadway (north of the site where peak hour and daily traffic increases of 7vph and 51vpd are anticipated. This translates to less than 1% of the existing total daily traffic volume on this road. Hence, the impact on the surrounding road network is not considered to be significant.

6.0 Traffic Management on the Frontage Streets

Elizabeth Street, up until recently, was a single carriageway, two-lane road with approximately 9.0m wide carriageway. However, in early 2020 in partnership with Department of Transport and it was redesigned to entail a 4.5m wide trafficable lane with embayed parking along both sides as a traffic-calming measure (i.e. Safe Active Street Program). Pedestrian paths are in place along the both sides of the road.

Elizabeth Street is classified as an *Access Road* in accordance with Main Roads WA *Functional Road Hierarchy*. It operates under a default 50km/h built-up area speed limit regime. Immediately west of the site a 40km/h school zone is placed on Elizabeth Street.

Broadway, is constructed as a single-carriageway, two-lane boulevard-style road with a 2.0m wide solid median. The embayed, on-street parking is provided intermittently on both sides of the road. Wide pedestrian paths are in place along both sides of the road.

Broadway is classified as a *Distributor B* in accordance with Main Roads WA *Functional Road Hierarchy*. It operates under a default 50km/h built-up area speed limit regime.

Based on the latest available traffic count data sourced from Main Roads WA Broadway (South of Stirling Highway) carried approximately 9,600vpd on a regular weekday in 2019/20.

Broadway and Elizabeth Street have recently been downgraded from a full-movement T-intersection to a left-out only format (on Elizabeth Street approach).

Main Roads WA Intersection *Crash Ranking Report* provides detailed crash data for intersections over the 5-year period ending 31 December 2019. There have been no crashes recorded at this intersection during the particular 5-year period.

7.0 Public Transport Access

The subject site is very well served by a number of bus services operating along Broadway (bus routes 24 and 96) and Bruce Street (bus route 23). The available bus services provide connectivity to a number of landmark points (Claremont, QEII Hospital, Kings Park, etc.) including Elizabeth Quay Bus Station, Claremont Station and Leederville Station which further provide access to the greater rail network.

The nearest bus stops on Broadway and Bruce Street are located in the immediate vicinity of the site and are accessible via existing pedestrian paths. Refer **Figure 3** for more details.



Figure 3. Local public transport service map (source: Transperth Maps)

8.0 Pedestrian Access

Pedestrian access to the subject site is available via existing footpaths which are in place along Broadway and Elizabeth Street. Pedestrian crossings on Broadway is located in immediate vicinity of the site and provides direct link to the adjacent Broadway Fair Shopping Centre.

9.0 Cycle Access

According to the current Department of Transport *Perth Bicycle Network Plan*, although the subject site has no formal direct access to the existing bike path network within the locality a number of cycling routes and roads classified as “good road riding environment” are located within close proximity to the site and are accessible via local roads which carry relatively low level of traffic.

The Perth bicycle network route N21 are in place along Swan River foreshore at Matilda Bay and along Princess Road. All these routes are accessible via local roads which carry relatively low level of traffic and allow for safe cyclist/vehicular traffic mix.

With these routes and facilities, it is evident that the subject site has good but indirect access to a number of bike routes that can potentially support the use of non-motorised means of transport. Refer **Figure 4** for more details.

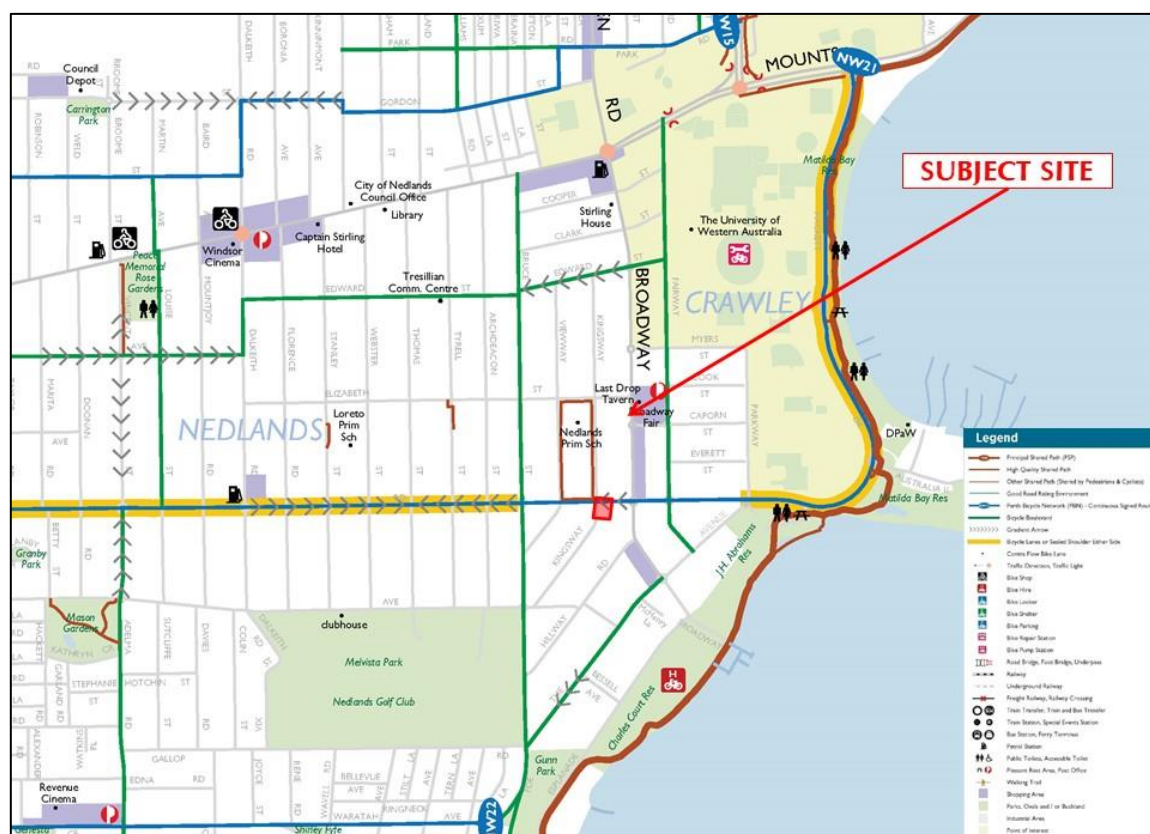


Figure 4: Extract from Perth Bicycle Network (Department of Transport)

10.0 Site Specific Issues

No particular site-specific issues have been identified for this proposed residential development.

11.0 Safety Issues

No particular transport safety issues have been identified for this proposed development.

12.0 Conclusions

This Transport Impact Statement provides information on the proposed mixed-use development to be located at 105 Broadway in Nedlands, City of Nedlands.

The development contemplates a 6-7 storey building comprising a small-scale office tenancy with 22 apartments and the associated two-level ground (upper and lower ground) car parking area.

A total of 36 car parking and two motorcycle bays are provided on site for the use of residents and visitors. The two-level car park is served by separate access/egress points on Broadway and Elizabeth Street.

The subject site has good accessibility by the existing road, pedestrian and cyclist network and enjoys good public transport coverage through existing bus services operating in close proximity of the site.

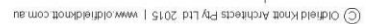
The traffic analysis undertaken in this report shows that the traffic generation of the proposed development is conservatively estimated to be in order of about 130 daily with 14 and 13 peak hour trips during AM and PM peaks, respectively (both inbound and outbound).

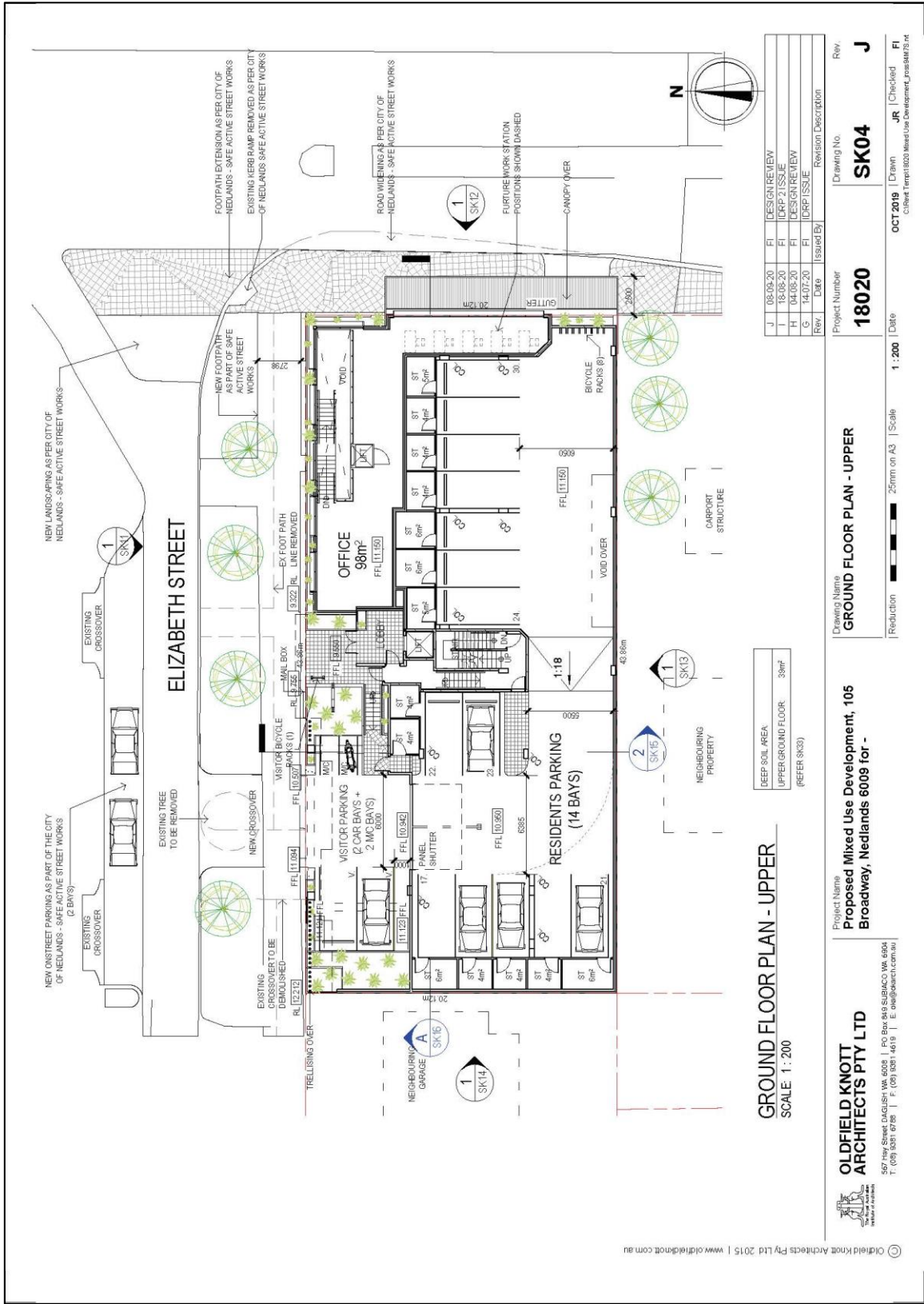
Accordingly, the traffic impact of the proposal on the surrounding road network will be insignificant and well within capacity.

Finally, it is concluded that the traffic-related issues should not form an impediment to the approval of the proposed development.

Appendix A

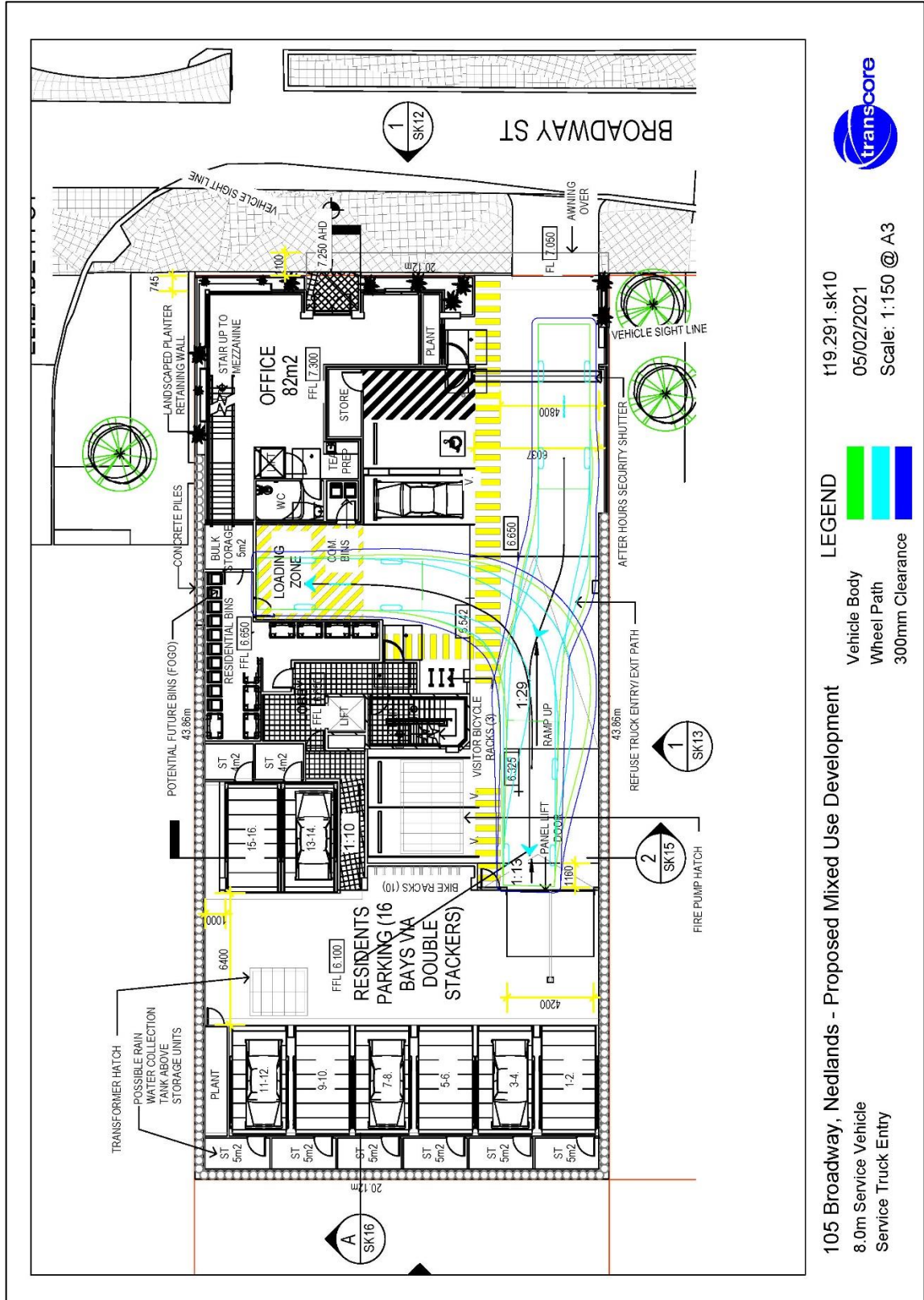
DEVELOPMENT PLANS





Appendix B

TURN PATH PLANS - 8.0m REAR LOADER



Declaration of Closure

There being no further business, the Presiding Member will declare the meeting closed.