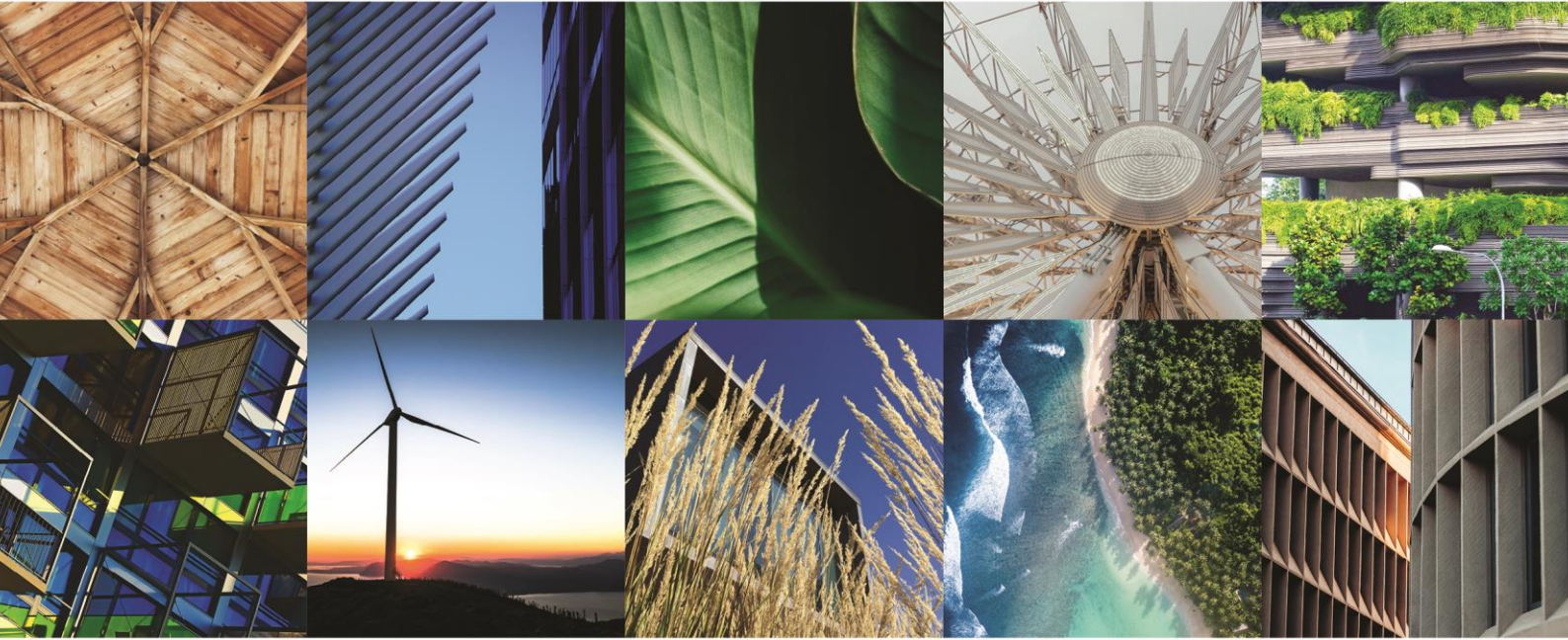




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## NCC 2019 Amendment 1 Section J Deemed-to-Satisfy (DTS) Assessment

### Northern Beaches Essential Services Accommodation Holman Engineering Pty Ltd

To be built at **14 Wyatt Ave, Belrose**

Attention: John Holman  
Company: Holman Engineering Pty Ltd

#### Document Control

Issue	File Ref	Description	Author	Checked	Date
A	21-2554	Section J DTS Assessment and report	Micha Middlebrook	Niall Madden	23/11/21



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## Appendix

Appendix A: Conditioned space markups

Appendix B: Insulation markups

## 1. Executive Summary

The following tables provides a quick reference summary of the building fabric performance requirements for the development. The appendix at the end of this report shows the conditioned area mark-up and locations of required insulations.

Please Note: Information in this table shall not relieve the reader of reviewing the performance requirements in the main body of this report.

### Part J1 Building Fabric Performance Requirements

Fabric Element	Required Total System R-Value	Notes
External Walls	R1.40	With thermal bridging calculated in accordance with AS/NZS 4859.2. See insulation options in body of report. <ul style="list-style-type: none"> <li>Recommended <b>R1.59</b> Bulk Insulation for brick veneer wall;</li> <li>Recommended <b>R2.10</b> Bulk Insulation for lightweight stud framed wall;</li> <li>Recommended <b>R1.72</b> Bulk Insulation for concrete wall</li> </ul>
Internal Walls	R1.40	With thermal bridging calculated in accordance with AS/NZS 4859.2. See insulation options in body of report. <ul style="list-style-type: none"> <li>Recommended <b>R1.59</b> Bulk Insulation for stud framed wall;</li> <li>Recommended <b>R1.46</b> Bulk Insulation for concrete wall</li> </ul>
External Floors	R2.00	Recommended <b>R1.47</b> Rigid Board Insulation
Roofs/ceilings	R3.70	NCC Section J 2019 DTS provisions now limit external roof colour to a maximum solar absorptance of 0.45. <ul style="list-style-type: none"> <li>Recommended <b>R2.00</b> Builders Blanket and <b>R2.64</b> Bulk Insulation for roof under 5° pitch</li> <li>Recommended <b>R2.00</b> Builders Blanket and <b>R2.77</b> Bulk Insulation for roof between 5° and 15° pitch</li> </ul>
Floors to unconditioned Spaces	R2.00	Recommended <b>R1.49</b> Rigid Board Insulation

### Part J1.5 Glazing Performance Requirements

Level/Location	Orientation	Maximum Total System U-Value	Maximum Total System SHGC
All	All	4.40	0.29

## 2. Introduction

Efficient Living has been engaged by Holman Engineering Pty Ltd to determine what measures are required for the proposal to meet the 2019 National Construction Code (NCC) Amendment 1 Section J requirements via *Deemed-to-Satisfy Provisions*.

### Report Contact

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### Architectural Documents

<p>Documents prepared by: Platform Architects: Job No. s4.55</p> <p>Drawing Reference: 00-13[1], 15-18[1].</p> <p>Received: 16<sup>th</sup> November 2021</p>
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### Project Address & NCC Climate Zone

The proposal consists of three two storeys building with a carpark in basement and is located at 14 Wyatt Avenue, Belrose, therefore being located within NCC Climate Zone 5.

### Building Classes

The proposal dictates the following NCC classes are applicable:

- Class 3: Boarding house
- Class 7a: Carpark

Note: The residential portion of this proposal has not been assessed in this report, it is covered by BASIX.

### Climate Zone Characteristics

<p><b>Climate zone 5 - Warm temperate</b></p> <p>Thermal treatment of the building envelope is beneficial in both hotter and colder weather. In summer, limiting heat gain can reduce the desire of occupants to run any cooling services installed. In winter, the building fabric can reduce the heat loss to the outside and can also promote solar heat gains through good orientation and treatment of glazing to offset the conductive heat losses.</p>
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Section J Part	Comment
Part J1 - Building Fabric	Performance requirements outlined in this report will achieve compliance with DTS provisions.
Part J3 - Building Sealing	DTS Compliance to be documented by Architect
Part J5 - Air Conditioning and Ventilation Systems	DTS Compliance to be documented by Services engineer
Part J6 - Artificial lighting and Power	DTS Compliance to be documented by Electrical Engineer
Part J7 - Hot Water Supply	DTS compliance to be documented by Hydraulics Engineer
Part J8 - Access for Maintenance and Facilities for Monitoring	DTS Compliance to be documented by Electrical engineer

#### Disclaimer

*This report has been prepared in accordance with the agreed scope of works between Efficient Living and our client. Efficient Living has acted diligently and employed all reasonable care in the preparation of this report. The information contained within is based upon the documents and information, accepted in good faith as being true and accurate, provided by the Client, architects and consultants. Should subsequent amendments occur to the documents referenced this report may require an update or else non-compliance with the NCC Section J may result.*

### 3. Section J DTS Requirement Breakdown: Parts J1-J8

Envelope for the purpose of the Section J report means the parts of the building fabric that separate a conditioned space or habitable room from-

- (a) the exterior of the building; or
- (b) a non-conditioned space including
  - (i) the floor of a rooftop plant room, lift machine room or the like; and
  - (ii) the floor above a carpark or warehouse; and
  - (iii) the common wall with a carpark, warehouse or the like

#### 3.1. J1 Building Fabric

The following requirements must be implemented in design:

##### J1.2 Thermal Construction

Insulation must be installed in compliance with AS/NZS 4859.1:

- adjoining insulation must abut / overlap and butt up against studs, joists, noggins, etc where the insulation must be against the member;
- it must form a continuous barrier & must not interfere with services or fittings.

Reflective insulation must be installed with:

- the necessary airspace to achieve the required R-Value between the reflective side of the insulation and the building lining or cladding;
- the reflective insulation closely fitted against any penetration, door or window opening;
- the reflective insulation adequately supported by framing members;
- each adjoining sheet must either overlap not less than 50mm or be taped together.

Bulk insulation must be installed so that:

- it maintains its position and thickness, other than where it is compressed between cladding and supporting members, water pipes, electrical cabling or the like.
- in a ceiling, where there is no bulk insulation or reflective insulation in the wall beneath, it overlaps the wall by not less than 50mm.

The required Total R-Value and Total System U-Value, including allowance for thermal bridging, must be:

- calculated in accordance with AS/NZS 4859.2 for a roof or floor; or
- determined in accordance with Specification J1.5a for wall-glazing construction; or
- determined in accordance with Specification J1.6 or Section 3.5 of CIBSE Guide A for soil or sub-floor spaces.

Total System Values;

- The required total wall-glazing system U-Value must achieve an average U2.0 across the entire system, which must account for thermal losses due to thermal bridging as per J1.2(e).

### J1.3 Roof & Ceiling

Insulation should be applied to areas highlighted in Appendix B, according to the values contained in the following tables:

Thermal Bridging assumed at 12%. (Areas where insulation cannot be installed due to metal frame members such as joists, studs, noggings, top plate and bottom plate). The following additional insulation products R values are required to be installed to achieve total system R value.

#### *Metal roof with raked ceiling and skillion roof less than 5° pitch - Required R3.70 Total System*

Component	R-Value
Outdoor air film (7m/s)	0.04
Metal Roof	0.00
<b>Anticon Blanket R2.00</b>	<b>R2.00</b>
Roof airspace (unventilated, non-reflective)	0.22
Plasterboard, gypsum (10mm, 880 kg/m <sup>3</sup> )	0.06
Indoor air film (still air)	0.16
Required total system R-value based on above roof schedule	
<b>Insulation advice:</b> Additional insulation required (assuming bulk insulation) to achieve R3.70 system value	<b>R2.64 (Bulk Insulation required) and Anticon Blanket R2.00</b>

#### *Metal roof with raked ceiling and skillion roof more than 5° and less than 15° pitch - Required R3.70 Total System*

Component	R-Value
Outdoor air film (7m/s)	0.04
Metal Roof	0.00
<b>Anticon Blanket R2.00</b>	<b>R2.00</b>
Roof airspace (unventilated, non-reflective)	0.21
Plasterboard, gypsum (10mm, 880 kg/m <sup>3</sup> )	0.06
Indoor air film (still air)	0.16
Required total system R-value based on above roof schedule	
<b>Insulation advice:</b> Additional insulation required (assuming bulk insulation) to achieve R3.70 system value	<b>R2.77 (Bulk Insulation required) and Anticon Blanket R2.00</b>

The Insulation provider / installer is responsible to ensure the type and location of insulation is fit for purpose in that; the total system values are achieved and condensation risk is mitigated.

#### ***Thermal Breaks - Ceilings***

A roof that has metal sheet roofing fixed to metal purlins, metal rafters or metal battens and has a ceiling lining fixed directly to the metal purlins, metal rafters or metal battens is to have a thermal break installed.

A thermal break, consisting of a material with an R-Value of at least R0.2 is to be installed between metal sheet roofing and supporting construction if the construction is a metal frame and the construction is consistent with the comments.

## J1.5 Walls and Glazing

The total System U-Value of the wall-glazing construction must not be greater than U2.0

### External Walls

Insulation should be applied to areas highlighted in Appendix B, according to the values contained in the following tables:

Thermal Bridging assumed at 12% steel frame area. (areas where insulation cannot be installed due to framework)

#### Indicative Build-up of brick veneer external walls - Required R1.40 Total System

Component	R-Value
Outdoor air film (7m/s)	0.04
110mm clay brick (1950 kg/m <sup>3</sup> , 3.75kg/brick)	0.14
Airspace	0.17
Plasterboard, gypsum (10mm, 880 kg/m <sup>3</sup> )	0.06
Indoor air film (still air)	0.12
Required total system R-value based on the above wall schedule	
<b>Insulation option 1:</b> Additional insulation required (assume 12% metal area with bulk insulation) to achieve R1.40 system value	<b>1.59 (Bulk insulation R-value)</b>
<b>Insulation option 2:</b> Additional insulation required (assuming uninterrupted rigid board insulation installed) to achieve R1.40 system value	<b>0.87 (Rigid board R-value)</b>

#### Indicative Build-up of clad stud framed external walls - Required R1.40 Total System

Component	R-Value
Outdoor air film (7m/s)	0.04
Metal Cladding*	0.00
Airspace	0.17
Plasterboard, gypsum (10mm, 880 kg/m <sup>3</sup> )	0.06
Indoor air film (still air)	0.12
Required total system R-value based on the above wall schedule	
<b>Insulation option 1:</b> Additional insulation required (assume 12% metal area with R0.2 thermal break and bulk insulation) to achieve R1.40 system value	<b>2.10 (Bulk insulation R-value)</b>
<b>Insulation option 2:</b> Additional insulation required (assuming uninterrupted rigid board insulation installed) to achieve R1.40 system value	<b>1.01 (Rigid board R-value)</b>

\*The likely range of these product R-Values for lightweight cladding is minimal (0.00 – 0.03). Metal cladding has been used in the calculation so a consistent insulation can be specified to all walls and compliance is ensured for all proposed cladding materials.

External walls that have lightweight cladding fixed to a metal frame and have a wall lining fixed directly to the same metal frame is to have a thermal break installed.



**Indicative Build-up of concrete external walls - Required 1.40 Total System**

Component	R-Value
Outdoor air film (7m/s)	0.04
150mm minimum concrete	0.10
Airspace	0.17
Plasterboard, gypsum (10mm, 880 kg/m <sup>3</sup> )	0.06
Indoor air film (still air)	0.12
Required total system R-value based on the above wall schedule	
<b>Insulation option 1:</b> Additional insulation required (assume 12% metal area with bulk insulation) to achieve R1.40 system value	<b>1.72 (Bulk insulation R-value)</b>
<b>Insulation option 2:</b> Additional insulation required (assuming uninterrupted rigid board insulation installed) to achieve R1.40 system value	<b>0.91 (Rigid board R-value)</b>

The Insulation provider / installer is responsible to ensure the type and location of insulation in all above mentioned wall types is fit for purpose in that; the total system values are achieved and condensation risk is mitigated.

**Thermal Breaks - Walls**

External walls that have lightweight cladding fixed to a metal frame and have a wall lining fixed directly to the same metal frame is to have a thermal break installed.

**Internal Walls**

Insulation should be applied to areas highlighted in Appendix B, according to the values contained in the following tables:

**Indicative Build-up of stud framed internal walls - Required R1.40 Total System**

Component	R-Value
Indoor air film (still air)	0.12
Plasterboard, gypsum (10mm, 880 kg/m <sup>3</sup> )	0.06
Airspace	0.17
Plasterboard, gypsum (10mm, 880 kg/m <sup>3</sup> )	0.06
Indoor air film (still air)	0.12
Required total system R-value based on the above wall schedule	
<b>Insulation option:</b> Additional insulation required (assume 10% metal area and bulk insulation) to achieve R1.40 system value	<b>1.59 (Bulk insulation R-value)</b>

**Indicative Build-up of concrete internal walls - Required 1.40 Total System**

Component	R-Value
Indoor air film (still air)	0.12
150mm minimum concrete	0.10
Airspace	0.17
Plasterboard, gypsum (10mm, 880 kg/m <sup>3</sup> )	0.06
Indoor air film (still air)	0.12
Required total system R-value based on the above wall schedule	
<b>Insulation option 1:</b> Additional insulation required (assume 10% metal area with bulk insulation) to achieve R1.40 system value	<b>1.46 (Bulk insulation R-value)</b>
<b>Insulation option 2:</b> Additional insulation required (assuming uninterrupted rigid board insulation installed) to achieve R1.40 system value	<b>0.83(Rigid board R-value)</b>

**Glazing Requirements**

Glazing has been assessed using the NCC Facade Calculator 2019. The table below contains a summary of the glazing performance requirements to be achieved for the development. Please note the below performance requirements are total system values, including the frame and glass.

Display Glazing used to display retail goods in a shop or showroom directly adjacent to a walkway or footpath, but not including that used in a café or restaurant has following total system performance requirements.

**Part J1.5 Total System Glazing Performance Requirements**

Level	Orientation	Maximum Total System U-Value	Maximum Total System SHGC
All	All	4.40	0.29

All awnings and shading structures to be installed as per plans and elevations referenced. Should there be any changes to the glazing or shading configuration, the new layouts will need to be re-assessed to verify compliance with Section J.

## J1.6 Floors

Insulation should be applied to areas highlighted in Appendix B, according to the values contained in the following tables:

### *Indicative Build-up of Concrete slab on ground floor - Required 2.00 Total System*

Component	R-Value
Indoor air film (still air)	0.12
150mm minimum concrete	0.10
Soil R value calculated as per Specification J1.6	0.31
Required total system R-value based on the above wall schedule	
<b>Insulation option 1:</b> Additional insulation required (assuming uninterrupted rigid board insulation installed) to achieve R2.00 system value	<b>1.47 (Rigid board R-value)</b>

### *Indicative Build-up of Suspended Concrete floor - Required 2.00 Total System*

Component	R-Value
Indoor air film (still air)	0.12
150mm minimum concrete	0.10
Sub-floor space	0.29
Required total system R-value based on the above wall schedule	
<b>Insulation option 1:</b> Additional insulation required (assuming uninterrupted rigid board insulation installed) to achieve R2.00 system value	<b>1.49 (Rigid board R-value)</b>

The R-Value of the concrete is directly related to the thickness of the slab, with a thicker slab having a higher R-Value. As such, all floor areas will comply with the requirements for J1.6 with the above levels of insulation.

For example other thicknesses have the following R-Values:

200mm – R0.14, 250mm- R0.17, 300mm – R0.21; 500mm – R0.35; 600mm – R0.42; 900mm – R0.62

These values can be exchanged with the value for 150mm if applicable (e.g. transfer slab or similar) and as a result the level of insulation may be reduced.

### 3.2. J3 Building Sealing

The following requirements relating to building sealing must be achieved in design. The below requirements shall be verified, if required, by the architect or builder.

J Part	Requirement
J3.2 - Chimneys & Flues	No Chimneys or Flues
J3.3 - Roof Lights	No Roof Lights
J3.4 - Windows and Doors	<p>The window supplier must provide verification that all glazing is sealed to comply with AS 2047 or BCA J3.4.</p> <p>A seal to restrict air infiltration must be fitted to each edge of a door, openable window or the like forming part of:</p> <p>(i) the envelope of a conditioned space</p> <p>All doors forming part of the buildings thermal envelope must have a draft protection device installed to the bottom edge. All other edges of a window or door forming part of the building's thermal envelope.</p> <p>The above requirements do not apply to a window complying with AS 2047 or any fire or smoke door, roller shutter doors/grilles or security doors installed for out of hours security.</p> <p>An entrance to a building, if leading to a conditioned space must have an airlock, self-closing door, revolving door or the like.</p>
J3.5 - Exhaust Fans	Any exhaust fans, located within conditioned areas indicated in the project reference, must be fitted with a sealing device such as a self-closing damper or the like.
J3.6 Roof, Walls & Floors	Construction forming elements of the envelope or external fabric must be enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions or sealed by caulking, skirting, architraves, cornices or the like.
J 3.7 - Evaporative Coolers	No Evaporative Coolers

### 3.3. J5 Air Conditioning and Ventilation Systems

The project mechanical engineer shall be responsible for ensuring compliance with NCC Section J5 parts J5.1-J5.12.

### 3.4. J6 Artificial Lighting and Power

The project electrical engineer shall be responsible for ensuring the design complies with NCC Section J6. A summary of the requirements has been provided below for reference:

J Part	Requirements																																
J6.2 Interior Artificial Lighting	<p>The design illumination power load must not exceed the sum of the allowances obtained by multiplying the area of each space by the maximum illumination power density in <b>Table J6.2a</b>.</p> <p><b>Allowable maximum illumination power density</b></p> <table border="1"> <thead> <tr> <th>Space</th> <th>Maximum W/m<sup>2</sup></th> <th>Space</th> <th>Maximum W/m<sup>2</sup></th> </tr> </thead> <tbody> <tr> <td>Stairways</td> <td>2 W/m<sup>2</sup></td> <td>Lift cars</td> <td>3 W/m<sup>2</sup></td> </tr> <tr> <td>Entry from outside the building</td> <td>9 W/m<sup>2</sup></td> <td>Communal lounge areas</td> <td>4.5 W/m<sup>2</sup></td> </tr> <tr> <td>Sole occupancy unit of a Class 3 building</td> <td>5 W/m<sup>2</sup></td> <td>Corridors</td> <td>5 W/m<sup>2</sup></td> </tr> <tr> <td>Kitchen and food preparation areas</td> <td>4 W/m<sup>2</sup></td> <td>Storage/service room</td> <td>1.5 W/m<sup>2</sup></td> </tr> <tr> <td>Toilet</td> <td>3 W/m<sup>2</sup></td> <td>Carpark - general</td> <td>2 W/m<sup>2</sup></td> </tr> <tr> <td>Carpark - entry zone (first 15m of travel during day time)</td> <td>11.5 W/m<sup>2</sup></td> <td>Carpark - entry zone (first 20m of travel during night time)</td> <td>11.5 W/m<sup>2</sup></td> </tr> <tr> <td>Carpark - entry zone (next 4m of travel during day time)</td> <td>11.5 W/m<sup>2</sup></td> <td></td> <td></td> </tr> </tbody> </table> <p>If lighting will not comply with the W/m<sup>2</sup> detailed above an ABCB Lighting calculator can be completed and adjustment factors through the use of control devices or the like considered in order to ensure compliance.</p> <p>These requirements to not apply for:</p> <ol style="list-style-type: none"> <li>Emergency lighting in accordance with <b>Part E4</b></li> <li>Signage and display lighting within cabinets and display cases that are fixed in place.</li> <li>A heater where the heater also emits light, such as in bathrooms.</li> <li>Lighting of performances such as theatrical or sporting.</li> <li>Lighting installed solely for indoor plant growth on green walls or the like.</li> </ol>	Space	Maximum W/m <sup>2</sup>	Space	Maximum W/m <sup>2</sup>	Stairways	2 W/m <sup>2</sup>	Lift cars	3 W/m <sup>2</sup>	Entry from outside the building	9 W/m <sup>2</sup>	Communal lounge areas	4.5 W/m <sup>2</sup>	Sole occupancy unit of a Class 3 building	5 W/m <sup>2</sup>	Corridors	5 W/m <sup>2</sup>	Kitchen and food preparation areas	4 W/m <sup>2</sup>	Storage/service room	1.5 W/m <sup>2</sup>	Toilet	3 W/m <sup>2</sup>	Carpark - general	2 W/m <sup>2</sup>	Carpark - entry zone (first 15m of travel during day time)	11.5 W/m <sup>2</sup>	Carpark - entry zone (first 20m of travel during night time)	11.5 W/m <sup>2</sup>	Carpark - entry zone (next 4m of travel during day time)	11.5 W/m <sup>2</sup>		
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Carpark - entry zone (first 15m of travel during day time)	11.5 W/m <sup>2</sup>	Carpark - entry zone (first 20m of travel during night time)	11.5 W/m <sup>2</sup>																														
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J6.3 Interior Artificial Lighting and Power Control	<p>Artificial lighting of a room or space is to be individually switched or operated or both.</p> <p>These switches or devices must be located in a visible position-</p> <ul style="list-style-type: none"> <li>in the room or space being switched; or</li> <li>in an adjacent room or space from where the lighting being switched is visible</li> </ul> <p>Sole-occupancy units, except for those rooms specifically for people with a disability or the aged, are to have an occupant sensing device such as a card reader, motion detector in accordance with <b>Specification J6</b> or the like installed to cut power to lighting, air-conditioner and exhaust fans when these rooms are unoccupied. This requirement is only applicable to sole-occupancy units. Further advice can be given on suitable devices if desired.</p> <p>Other than a space where a sudden loss of light would result in an unsafe situation, any non-residential building that exceeds 250m<sup>2</sup> will require 95% of light fittings to be controlled by</p>																																

	<p>either a time switch in accordance with <b>Specification J6</b>, a security card reader or motion detector in accordance with <b>Specification J6</b>.</p> <p>Other than in a single functional space, lighting controls or switches within each room, cannot operate lighting for an area of more than:</p> <p>(a) 250m<sup>2</sup> for a space of less than 2000m<sup>2</sup></p> <p>Artificial lighting in a fire isolated stairway must be controlled by a motion detector. Artificial lighting in a foyer, corridor and other circulation spaces with more than 250W within a single zone and adjacent to windows must be controlled by a daylight sensor and lighting controls in accordance with <b>Specification J6</b>.</p> <p>Artificial lighting for daytime travel in the first 19m of a car park entry must be controlled by a daylight sensor.</p> <p>These requirements do not apply to emergency lighting in accordance with <b>Part E4</b>, or areas with 24 hour occupancy</p>
J6.4 Interior decorative and display lighting	<p>If installing lighting for the display of art work / photographs or the like, it must be controlled by a manual switch and operated separately from other artificial lighting. This display lighting can be combined on one switch if the operating times for the display lighting are the same in a number of areas.</p> <p>If the display lighting exceeds 1kW in total then it must have a time switch in accordance with Specification J6.</p> <p>Any window display lighting to be separately switched from other display lighting.</p>
J6.5 Artificial lighting around the perimeter of a building	<p>If installing artificial lighting around the perimeter of the building, it is to be controlled by a daylight sensor or time switch with pre-programmable times.</p> <p>If total perimeter lighting load exceeds 100W it must:</p> <ul style="list-style-type: none"> <li>- use LED luminaires for 90% of the total lighting load; or</li> <li>- be controlled by a motion detector in accordance with <b>Specification J6*</b></li> </ul> <p>Lighting that is used for decorative purposes, such as façade lighting or signage lighting must have a separate time switch in accordance with <b>Specification J6</b>.</p> <p>*these requirements do not apply to emergency lighting in accordance with <b>Part E4</b></p>
J6.6 Boiling water and chilled water storage units	<p>Any boiling water or chilled water storage unit must be controlled by a time switch in accordance with Specification J6.</p>
J6.7 Lifts	<p>Lifts must –</p> <ol style="list-style-type: none"> <li>(a) be configured to ensure artificial lighting and ventilation in the car are turned off when it is unused for 15 minutes; and</li> <li>(b) achieve the idle and standby performance level in Table 6.7a; and</li> <li>(c) achieve –             <ol style="list-style-type: none"> <li>(i) the energy efficiency class in Table 6.7b; or</li> <li>(ii) if a dedicated goods lift, energy efficiency class D in accordance with ISO 25745-2</li> </ol> </li> </ol>

### 3.5. J7 Heated Water Supply and Swimming/Spa Pool Plant

The project hydraulic engineer shall be responsible for ensuring the design complies with NCC Section J6. A summary of the requirements has been provided below for reference:

J Part	Requirements
J7.2 Hot water Supply	Any new heated water supply system for food preparation must be designed and installed in accordance with Part B2 of NCC Volume Three – Plumbing Code of Australia.
J7.3 Swimming Pool Heating and Plumbing	No Swimming Pool
J7.4 Spa Pool Heating and Pumping	No proposed spa

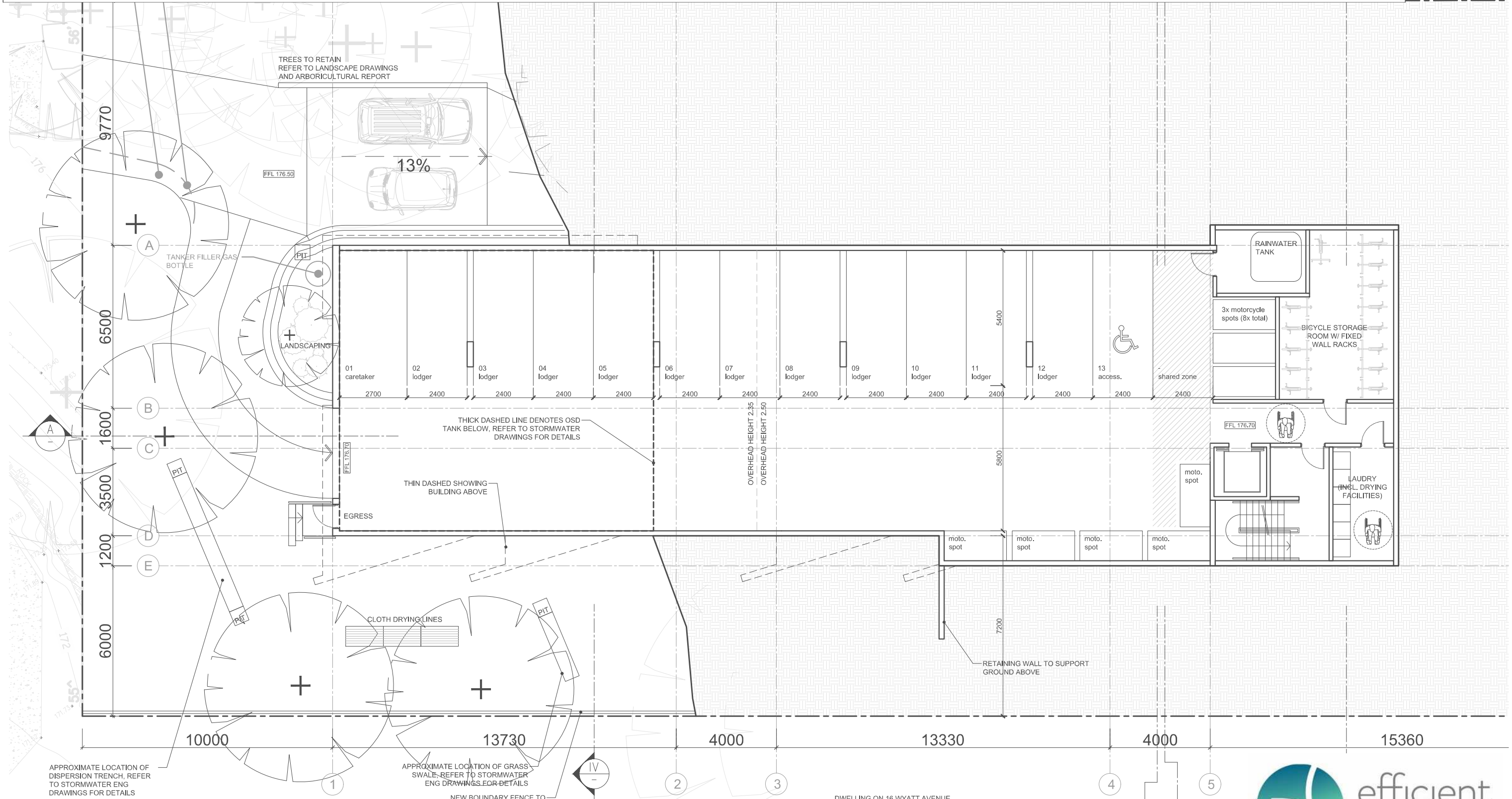
### 3.6. J8 Facilities for Energy Monitoring

The project electrical engineer shall be responsible for ensuring the design complies with NCC Section J8. A summary of the requirements has been provided below for reference:

J Part	Requirements
J8.3 Facilities for Energy Monitoring	The developments floor area is over 500m <sup>2</sup> but under 2500m <sup>2</sup> , therefore must have the facility to record the consumption of gas and electricity.

# Appendix A

## 14 Wyatt Ave, Belrose, NSW 2085 - Mark Up Identifying conditioned spaces



### Conditioned Spaces -



**IMPORTANT NOTES:**  
 Do not scale from drawings, use figured dimensions only. Ensure that the drawings used carry the latest revision no. Read in conjunction with consultant engineers drawings - refer contract drawing list.  
 • All dimensions to be checked on site before commencement of work.  
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 • Larger scale drawings and written dimensions take precedence.  
 • The Estuarine Planning Level is min 3.1m AHD. All levels to AHD.  
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REVISION	DATE	DESCRIPTION	BY
1	03/11/21	ISSUE FOR \$4.55	OH/PH

**REVISION NOTES**  
 • DRIVEWAY AMENDED TO SUIT RFS REQUIREMENTS FOR ACCESS TO NO.16 WYATT AV.  
 • COOKTOPS ADDED TO LODGER ROOMS

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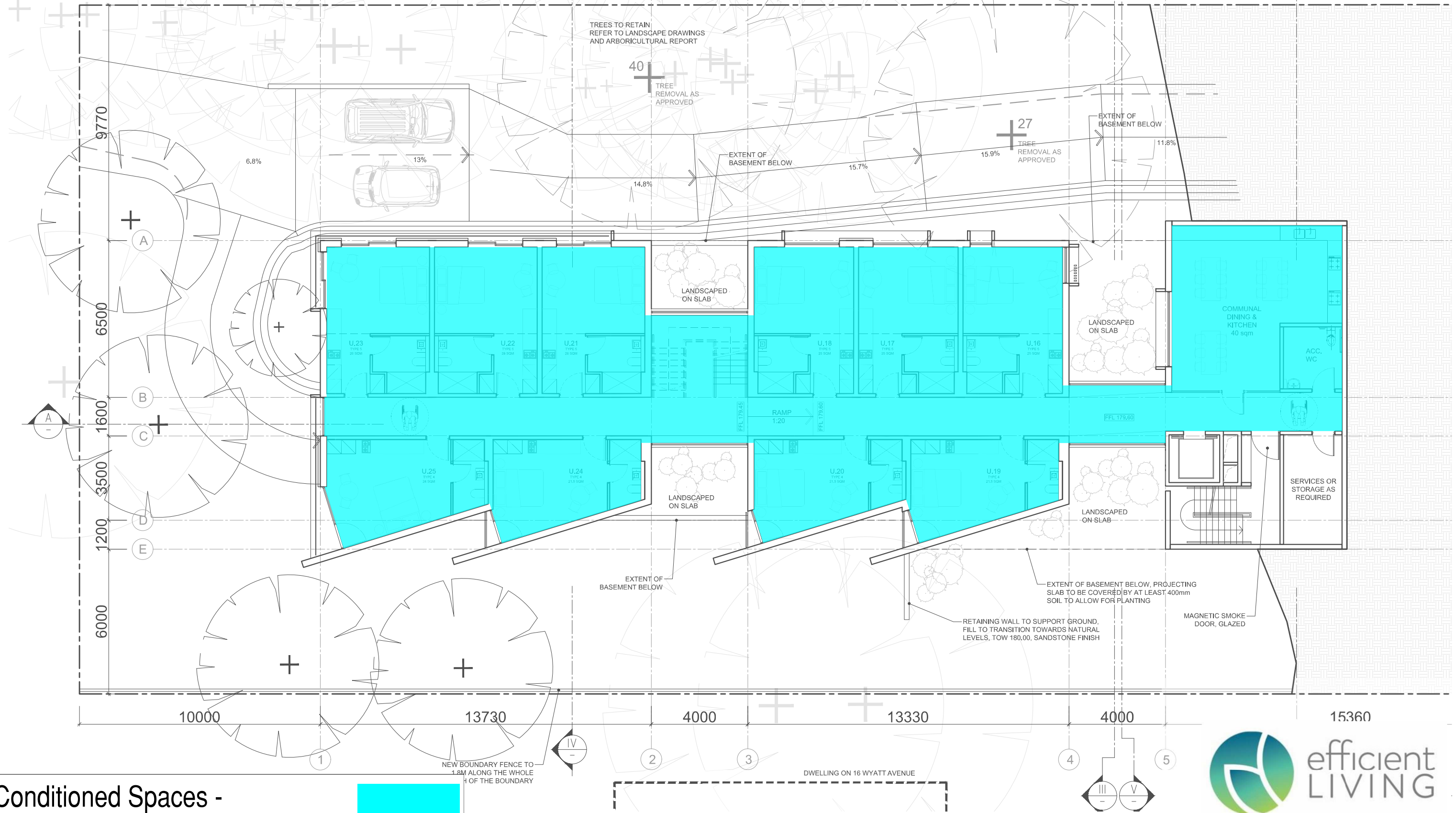


DRAWING TITLE	PROJECT		
SECOND BASEMENT PLAN	WAB		
SCALE	STATUS	NUMBER	REVISION
1:150 @A3	\$4.55	03	1



# Appendix A

## 14 Wyatt Ave, Belrose, NSW 2085 - Mark Up Identifying conditioned spaces



**IMPORTANT NOTES:**  
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REVISION	DATE	DESCRIPTION	BY
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**REVISION NOTES**

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- COOKTOPS ADDED TO LODGER ROOMS

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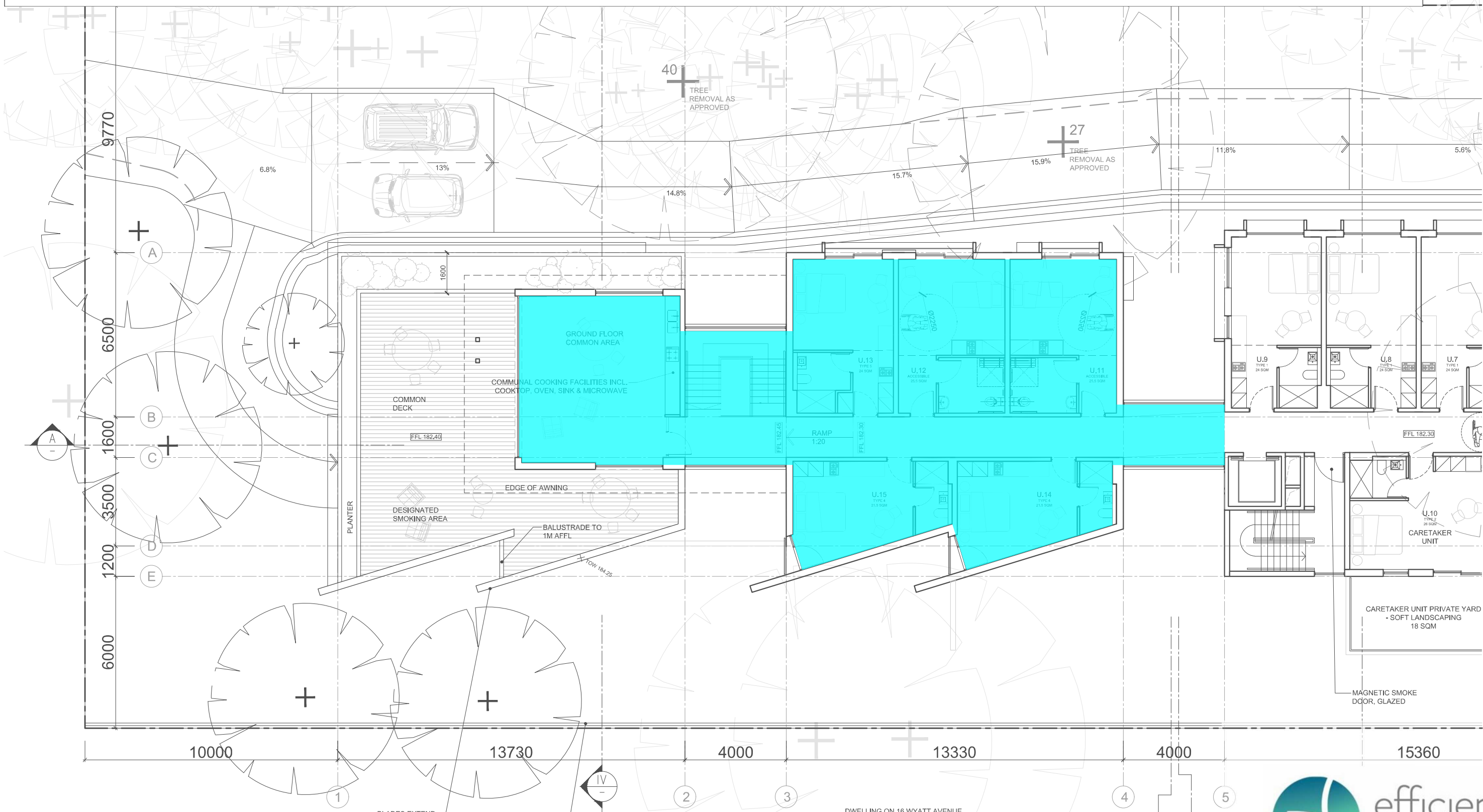
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14 WYATT AVE, BELROSE, NSW



DRAWING TITLE	PROJECT
FIRST BASEMENT PLAN	WAB
SCALE	STATUS
1:150 @A3	\$4.55
NUMBER	REVISION
04	1

# Appendix A

## 14 Wyatt Ave, Belrose, NSW 2085 - Mark Up Identifying conditioned spaces



CONTINUATION ON GROUND FLOOR PLAN SHEET 2

### Conditioned Spaces -

**IMPORTANT NOTES:**  
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**REVISION NOTES**  
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**DRAWING TITLE**  
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**DRAWING TITLE**  
 GROUND FLOOR PLAN SHEET 1

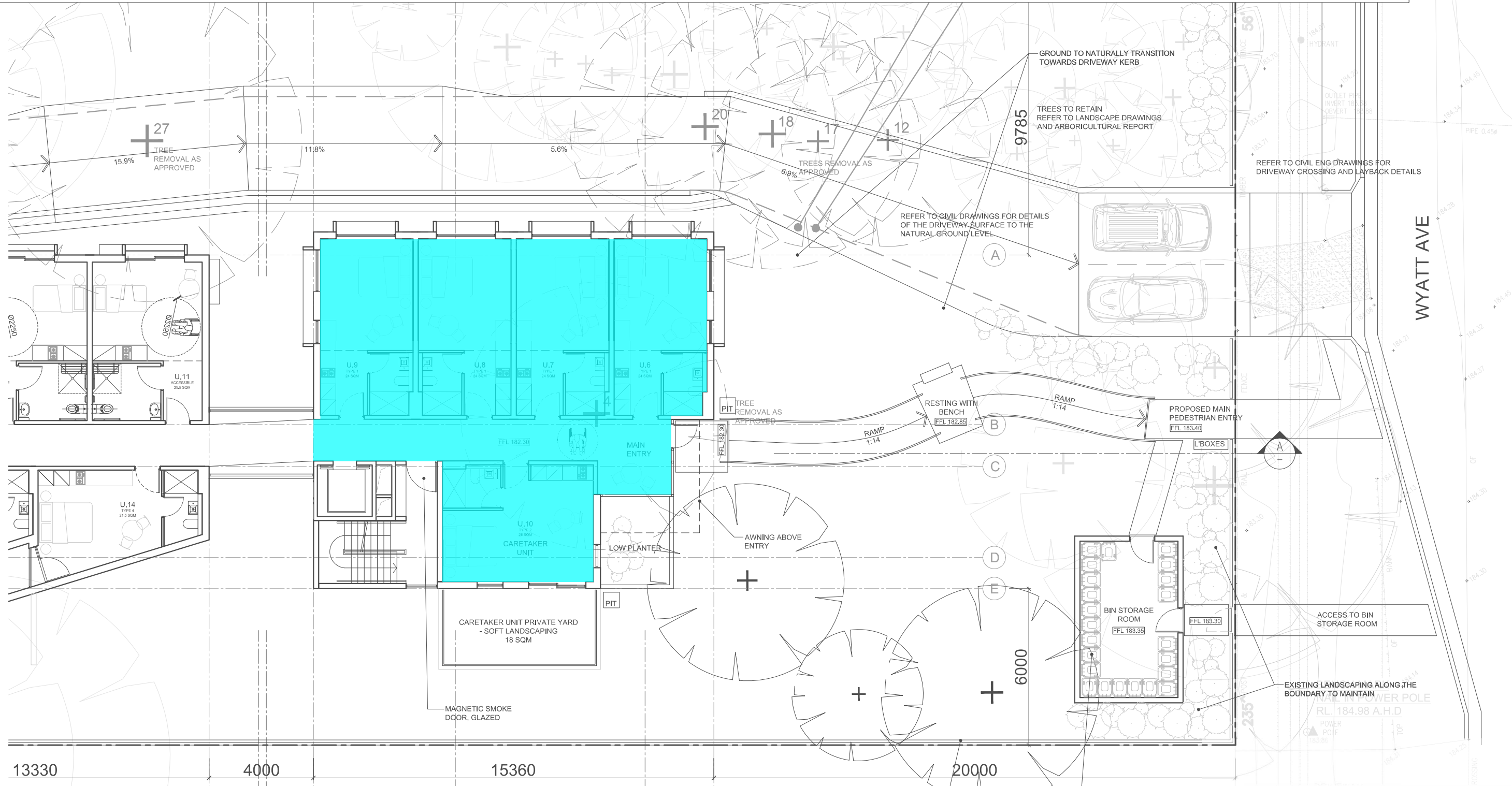
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1:150 @A3	14.55	05 A	1

**PROJECT**  
 WAB

# Appendix A

## 14 Wyatt Ave, Belrose, NSW 2085 - Mark Up Identifying conditioned spaces

CONTINUATION ON GROUND FLOOR PLAN SHEET 1



AMENDMENTS TO APPROVAL:  
COOKTOPS ADDED TO LODGER ROOMS  
↑ AVENUE

### Conditioned Spaces -

**IMPORTANT NOTES:**  
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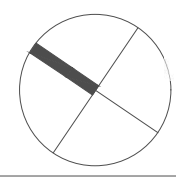
REVISION	DATE	DESCRIPTION	BY
1	03/11/21	ISSUE FOR 14.55	OH/PH

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**DRAWING TITLE**  
GROUND FLOOR PLAN SHEET 2

**SCALE** 1:150 @A3  
**STATUS** 14.55  
**NUMBER** 05 B  
**REVISION** 1

**PROJECT** WAB

# Appendix A

## 14 Wyatt Ave, Belrose, NSW 2085 - Mark Up Identifying conditioned spaces



### Conditioned Spaces -



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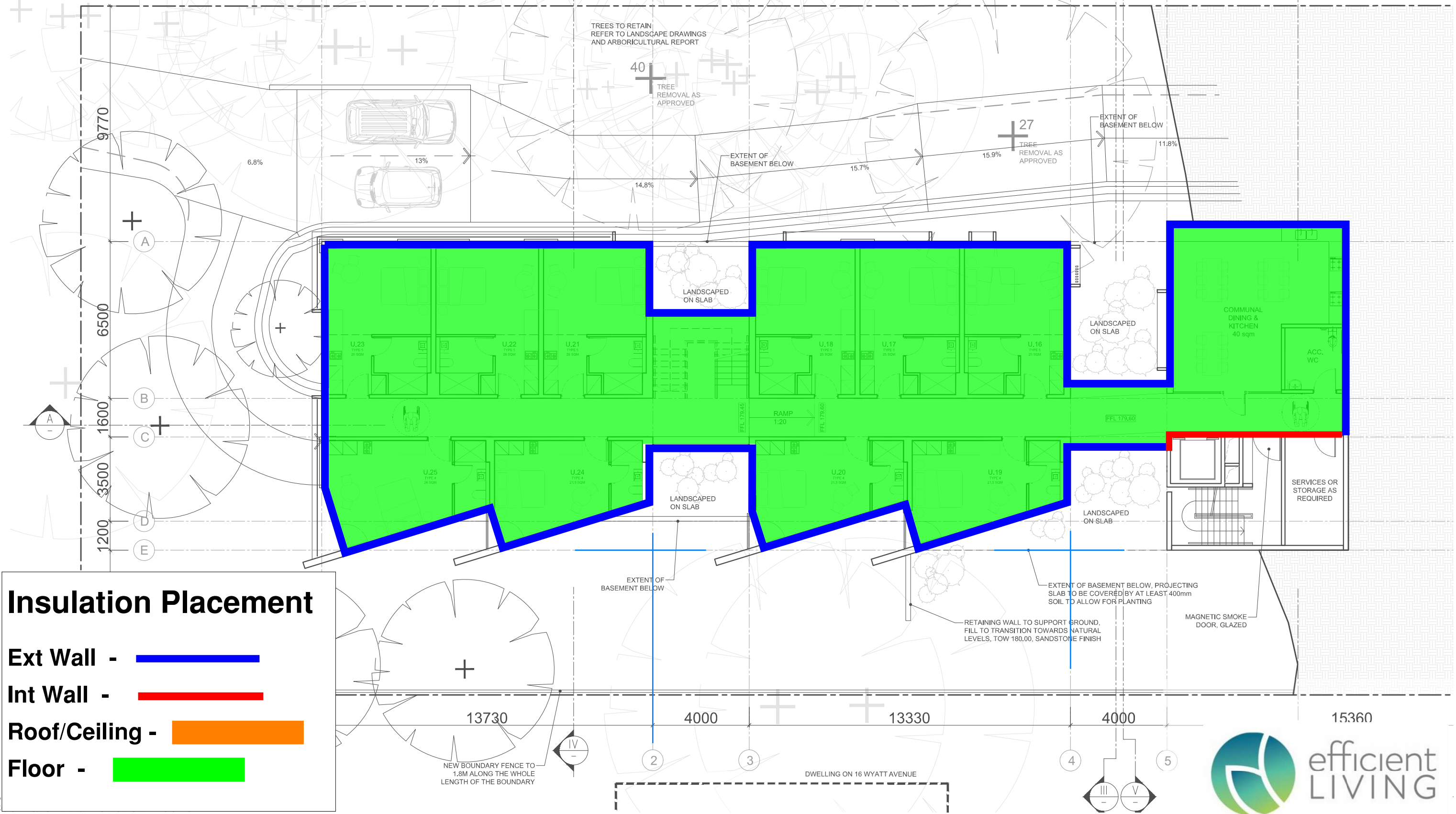
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 FIRST FLOOR PLAN

**PROJECT**  
 WAB

SCALE	STATUS	NUMBER	REVISION
1:150 @A3	S4.55	06	1

# Appendix B

## 14 Wyatt Ave, Belrose, NSW 2085 - Mark Up Identifying Areas of Required Insulation



### Insulation Placement

- Ext Wall - █
- Int Wall - █
- Roof/Ceiling - █
- Floor - █

**For required insulation R-value refer to the report body**

IMP Do not cor  
 • All dimensions to be checked on site before commencement of work.  
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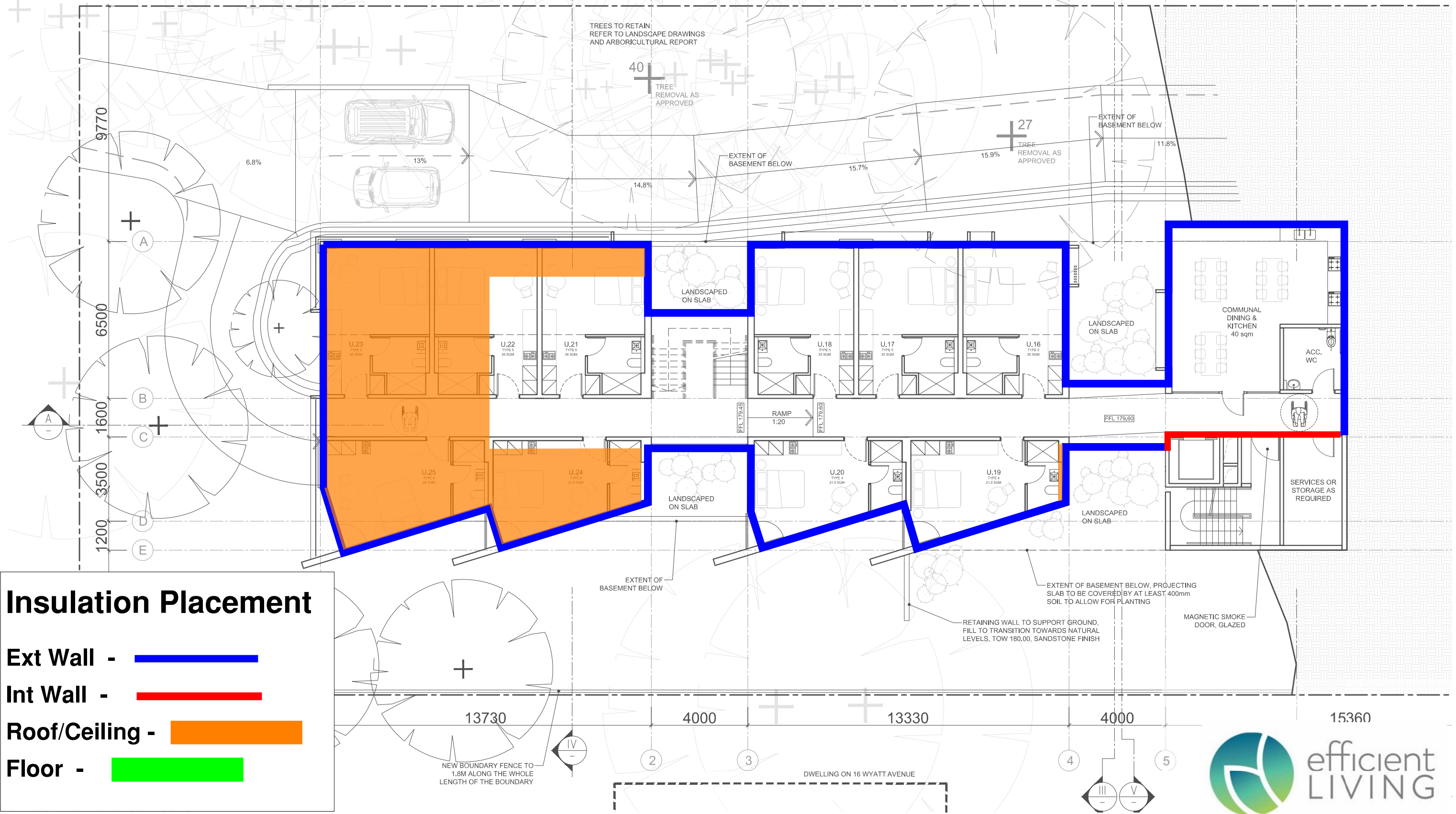
NORTHERN BEACHES ESSENTIAL SERVICES ACCOMMODATION  
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DRAWING TITLE	PROJECT
FIRST BASEMENT PLAN	WAB
SCALE	NUMBER
1:150 @A3	04
STATUS	REVISION
S4.55	1

# Appendix B

## 14 Wyatt Ave, Belrose, NSW 2085 - Mark Up Identifying Areas of Required Insulation



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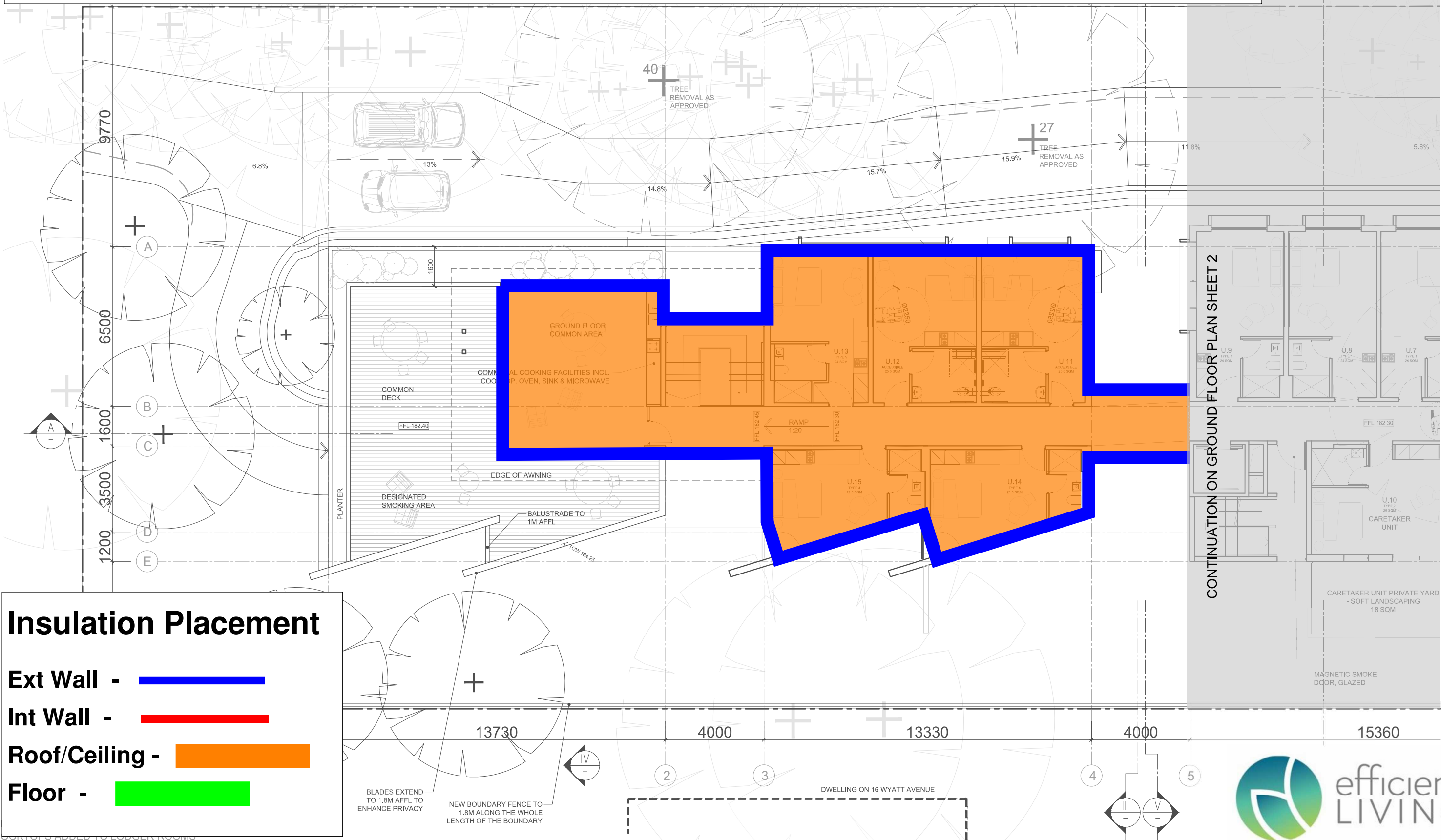
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FIRST BASEMENT PLAN	S4.55	04	1

SCALE: 1:150 @A3

PROJECT  
WAB

# Appendix B

## 14 Wyatt Ave, Belrose, NSW 2085 - Mark Up Identifying Areas of Required Insulation



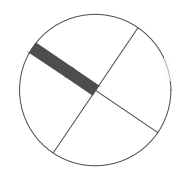
**For required insulation R-value refer to the report body**

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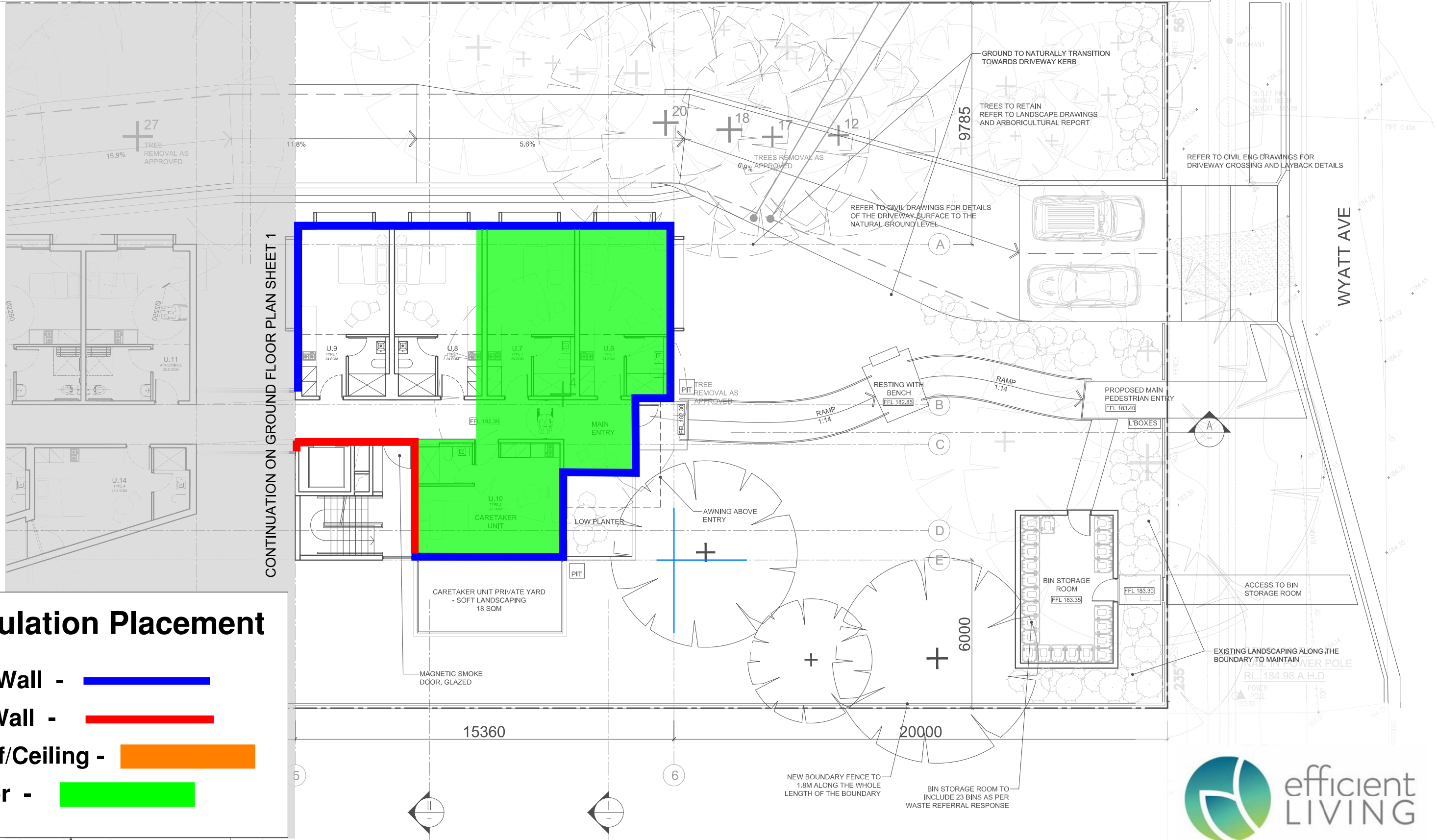
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**GROUND FLOOR PLAN SHEET 1**

SCALE	STATUS	NUMBER	REVISION
1:150 @A3	S4.55	05 A	1

PROJECT  
**WAB**

# Appendix B

## 14 Wyatt Ave, Belrose, NSW 2085 - Mark Up Identifying Areas of Required Insulation



### Insulation Placement

- Ext Wall - █
- Int Wall - █
- Roof/Ceiling - █
- Floor - █

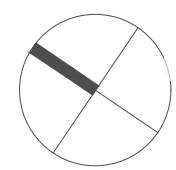
**For required insulation R-value refer to the report body**

IMP Do not cor  
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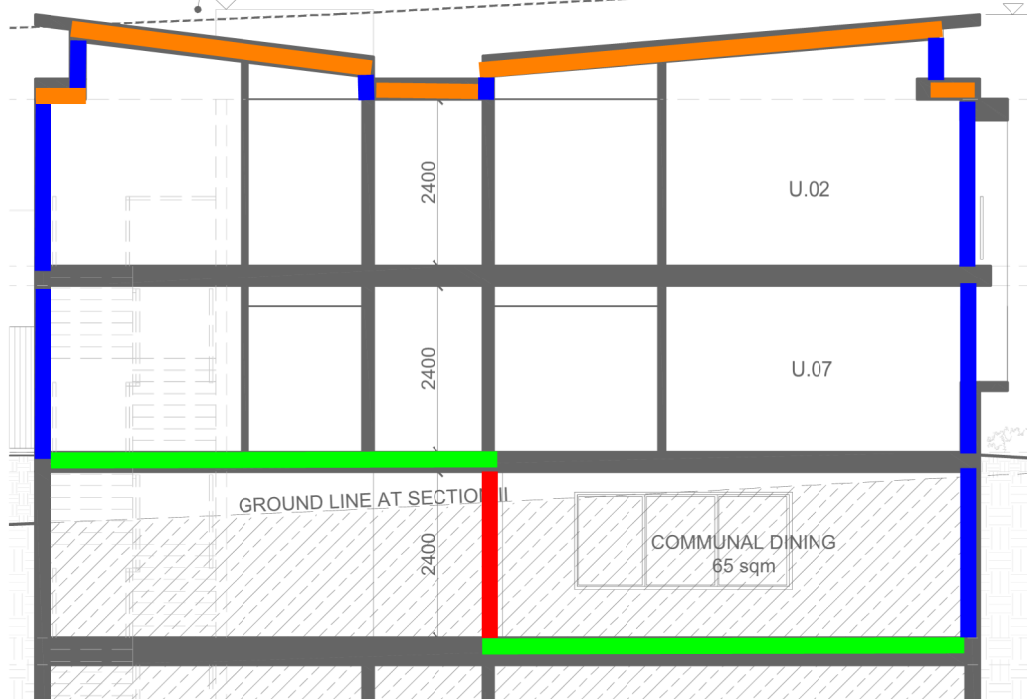
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SHEET 2		REVISION	
SCALE	STATUS	NUMBER	REVISION
1:150 @A3	S4.55	05 B	1



# Appendix B

## 14 Wyatt Ave, Belrose, NSW 2085 - Mark Up Identifying Areas of Required Insulation

Schematic section II through high sill windows



### Insulation Placement

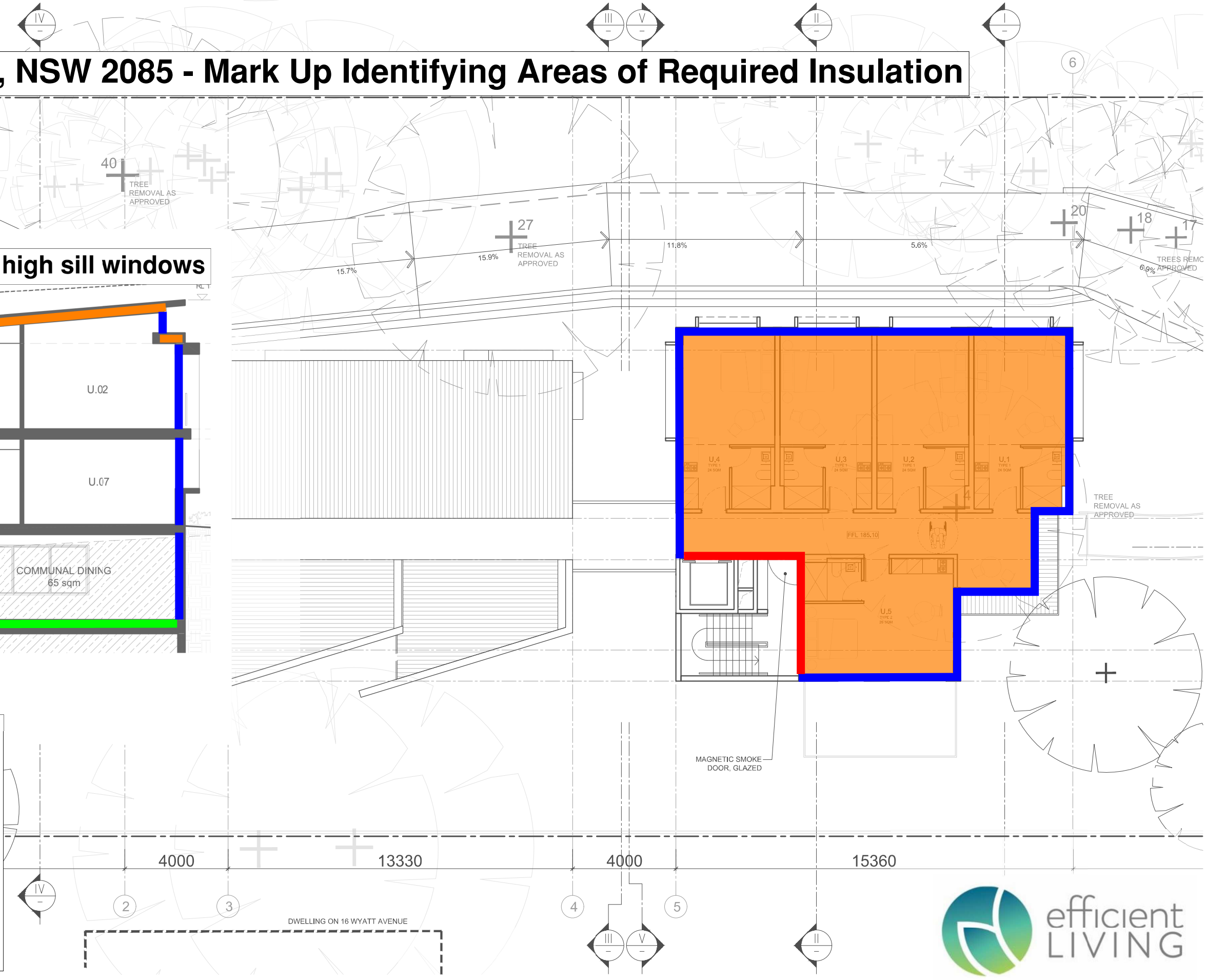
Ext Wall -

Int Wall -

Roof/Ceiling -

Floor -

**For required insulation R-value refer to the report body**



IMF Do not cor  
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SCALE: 1:150 @A3

PROJECT: WAB