

CROWN GROUP

# EASTLAKES TOWN CENTRE NORTH SITE - BUILDING 1B BASIX REPORT

JULY 2017

CONFIDENTIAL







# EASTLAKES TOWN CENTRE NORTH SITE - BUILDING 1B BASIX REPORT

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# EXECUTIVE SUMMARY

An ESD strategy has been developed for the proposed Building 1B in the Eastlakes Town Centre Development. This report demonstrates how the development meets the statutory requirements for single occupancy dwellings under Section J and BASIX.

BASIX requires the following benchmarks to be met:

- Water—Minimum target of 40% potable water use reduction compared to the NSW average
- Thermal comfort—Meeting a set of NatHERS modelled maximum heating and cooling loads determined by the BASIX tool according to the development type and climate zone. For this development, the thresholds are as follows:
  - Heating maximum 51 MJ/m<sup>2</sup> average across all units, maximum 66 MJ/m<sup>2</sup> for any individual unit
  - Cooling maximum 45 MJ/m<sup>2</sup> average across all units, maximum 59 MJ/m<sup>2</sup> for any individual unit
- Energy—Minimum required target of 20% energy consumption reduction compared to the NSW average

Water efficiency in the building has been achieved through the following:

- Water efficient fittings
- Native and low water use plant species have been selected for 70% of the landscaping in the site
- Supply of harvested rainwater for use in irrigation.

NatHERS modelling has been conducted to demonstrate thermal comfort performance of the residential dwellings, and the results of this modelling demonstrate that the architectural design is able to manage thermal loads within the apartments to meet the minimum benchmark for this location.

Energy consumption in multi-unit residential buildings is heavily influenced by the utilisation and servicing of the common areas. HVAC and artificial lighting systems in the basement and lobbies has been carefully designed to reduce energy demands.

Simple energy efficiency measures, such as the provision of efficient fitting and fixtures will deliver energy consumption reductions in the dwellings. These include:

- Efficient DHW heating systems
- Lighting will consist of dedicated low energy light fittings with efficient controls to limit unnecessary usage
- High Energy Star-rated appliances will be installed in each apartment



# 1 INTRODUCTION

An ESD strategy has been developed for the proposed Building 1B in the Eastlakes Town Centre development. This report demonstrates how the development meets the statutory requirements for single occupancy dwellings under Section J and BASIX.

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## 1.1 BASIX

BASIX is an online tool that is used to rate the energy and water efficiency and thermal comfort performance of residential dwellings in NSW. The tool sets minimum energy and water reduction targets which must be met through the design of the building and the selection of fixtures and fittings.

BASIX applies to all new dwellings including single dwellings, townhouses and low-rise, mid-rise and high-rise developments in NSW. BASIX also applies to all residential alterations and additions with a total cost of works of \$100,000 or more; and all residential developments with a total estimated cost of works of \$50,000 or more.

Design inputs including location, size, construction and glazing materials, water sources, equipment and fittings are used to determine the potential energy and water consumption of a new home or dwelling.

BASIX assesses three main categories:

1. Water;
2. Thermal Comfort;
3. Energy.

Thermal comfort is assessed by simulation in accordance with the Nationwide House Energy Rating Scheme (NatHERS) modelling protocol. This requires the modelling of each assessable dwelling by an accredited assessor, working with NatHERS accredited software.

NatHERS modelling assesses the potential of the dwelling to provide thermal comfort passively, thereby reducing energy requirements for heating and cooling. The annual heating and cooling loads calculated are entered into the BASIX tool to determine if the dwelling satisfies the maximum heating and cooling loads set for the dwelling in its climate zone.

The heating and cooling loads also affect the 'Energy' score, with more efficient dwellings contributing to an improved score in the 'Energy' section. The 'Energy' score is also affected by other inputs such as efficiency of appliances, heating and cooling system selection, hot water systems and factors such as use of renewable energy systems.

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### 1.1.1 SOURCES OF INFORMATION

This BASIX assessment has relied on the following documentation for inputs and methodology

- Architectural drawings from FJMT

**Table 1: Architectural drawings used**

DRAWINGS	DATE	REVISION
Cover Sheet -S75W 130000	28/06/2017	02
Site Plan – S75W 130001	28/06/2017	02
Ground Floor - S75W 130002	28/06/2017	02
Podium Level Floor Plans - S75W 130003	28/06/2017	02
Building 1B Floor Plans - S75W 130004	28/06/2017	02
Basement 2 – S75W 130005	28/06/2017	02
Basement 1 – S75W 130005	28/06/2017	02
Elevations – S75W 130007	28/06/2017	02
Elevations – S75W 130008	28/06/2017	02
Sections – S75W 130009	28/06/2017	02
Adaptable Units – S75W 130010	28/06/2017	02
Area Schedule – S75W 130011	28/06/201	02
Shadow Analysis – S75W 130012	28/06/201	02

- Correspondence with FJMT
- Correspondence with Crown
- NatHERS Technical Note 1 – Principles for Ratings in Regulation Mode version 1.2 – 2014
- BASIX Thermal Comfort Protocol 01 December 2014 (Amendment No. 4: 01 February 2016)

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### 1.1.2 ACCREDITED NATHERS SIMULATION SOFTWARE

FirstRate5 is provided by Sustainability Victoria and is accredited for simulating the thermal performance of dwellings in Australian climates under the NatHERS software accreditation protocol.

FirstRate5 version 5.2.5(3.13) has been used in the assessment of this project, in accordance with the NatHERS Technical Note and the BASIX Thermal Comfort Protocol.

Inputs including dwelling geometry, space uses, orientation, climate zone, building materials and shading from adjacencies and obstructions are used to calculate heating and cooling loads for the dwelling. Resulting loads that are within the heating and cooling thresholds set under the BASIX protocol will satisfy the thermal comfort targets of BASIX.

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## 1.2 LIMITATIONS

The results from the NatHERS modelling shown within this report are limited in accuracy by factors including the following:

- Actual energy consumption will be affected by variations in the climate, installed equipment, occupants and their behaviour which modelling does not account for;
- Construction details being consistent with the design documentation provided;
- Orientation and apartment layout being as shown on the drawings.

---

## 1.3 APPLICATION OF SECTION J OF THE NATIONAL CONSTRUCTION CODE VOLUME 1

The thermal performance requirements for a building's envelope are addressed through the first three parts of Section J – Energy Efficiency of the National Construction Code (NCC):

- Part J1 – Building Fabric
- Part J2 – Glazing
- Part J3 – Building Sealing

The residential part of this project is regulated under BASIX for energy efficiency.

For each Sole Occupancy Unit (SOU) of a Class 2 building, BASIX satisfies Parts J1, J2 and J3.

The prescriptive provisions of Parts J1, J2 and J3 are therefore not directly applicable to each SOU. The relevant Performance Requirements have been stated as the maximum thermal comfort heating and cooling loads stipulated by BASIX.

The Class 2 parts of the building that are not SOUs must satisfy the prescriptive provisions of Parts J1, J2 and J3.

The architect must take responsibility for specifying the Performance Requirements of the building fabric, glazing and building sealing performance, as required under BASIX, including those non-SOU parts of the building.

The relevant consultant(s) must take responsibility for specifying the Performance Requirements of the mechanical and electrical services design, as required under the relevant parts of Section J.

## 2 BASIX

The purpose of the BASIX analysis is to benchmark the proposed development against average NSW residential performance parameters, including:

- Water
- Thermal comfort
- Energy

BASIX requires the following benchmarks to be met:

- Water—Minimum target of 40% potable water use reduction compared to the NSW average
- Thermal comfort—Meeting a set of NatHERS modelled maximum heating and cooling loads determined by the BASIX tool. For this development, they are as follows:
  - Heating 66 MJ/m<sup>2</sup>
  - Cooling 59 MJ/m<sup>2</sup>
- Energy—Minimum required target of 20% energy consumption reduction compared to the NSW average

The BASIX certificate(s) for the development are included in Appendix A-1.

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### 2.1 WATER

Water efficiency in the building has been achieved through the following:

- Water efficient fittings as shown in the table below:

**Table 2: Water fixtures performance**

FITTING	WELS RATING
Toilet	4 Star
Bathroom taps	5 Star
Kitchen taps	5 Star
Showers	3 Star
Dishwashers	5 Star
Washing machines	2 Star

- Native and low water use plant species have been selected for all landscaping in the building
- Harvested rainwater will provide water to irrigation.

---

### 2.2 THERMAL COMFORT

Thermal comfort (NatHERS) modelling is employed in accordance with the BASIX protocol, to determine heating and cooling loads attributed to achieving acceptable thermal comfort in each dwelling. The results of NatHERS modelling

demonstrate that the architectural design can manage thermal loads within the apartments to meet the minimum benchmark for this location.

The maximum allowable thermal loads for a development in this location are those applicable prior to July 1, 2017, consistent with the date of issue of the BASIX certificate, and are shown in Table 3. The average thermal loads achieved in this development are shown in the same table for comparison.

**Table 3: NatHERS thermal comfort performance**

	HEATING	COOLING
Maximum individual load (set by BASIX)	66 MJ/m <sup>2</sup>	59 MJ/m <sup>2</sup>
Average maximum load (set by BASIX)	51 MJ/m <sup>2</sup>	45 MJ/m <sup>2</sup>
<b>Average load achieved in Building 1B</b>	<b>50.4 MJ/m<sup>2</sup></b>	<b>39.3 MJ/m<sup>2</sup></b>

## 2.2.1 MODELLING INPUTS

This section identifies the inputs for windows, shading and constructions used for the NatHERS modelling on all the dwellings.

### GLAZING

Table 4 identifies the glazing properties (window total values only) used in the NatHERS models.

**Table 4: Glazing properties**

UNITS	GLAZING OPERABILITY	TYPE	GLASS	FRAME	U-VALUE (WHOLE WINDOW)	SHGC (WHOLE WINDOW)
Units NS-1B-103, NS-1B-203, NS-1B-303, NS-1B-403, NS-1B-503, NS-1B-603 and NS-1B-703	Sliding doors and fixed windows	Double glazed aluminium frame	Clear float	Aluminium	4.8	0.59
	Awning windows	Double glazed aluminium frame	Clear float	Aluminium	4.8	0.51
Units NS-1B-204, NS-1B-304, NS-1B-404, NS-1B-504 and NS-1B-604	Sliding doors	Double glazed aluminium frame	Clear float	Aluminium	4.8	0.59
	Fixed windows	Single glazed aluminium frame	Clear float	Aluminium	6.7	0.7
	Awning windows	Single glazed aluminium frame	Clear float	Aluminium	6.7	0.57
All other apartments	Sliding doors and fixed windows	Single glazed aluminium frame	Clear float	Aluminium	6.7	0.7
	Awning windows	Single glazed aluminium frame	Clear float	Aluminium	6.7	0.57

### SHADING

Shading of the external building fabric alters the impact of solar loads on the internal conditions of each dwelling. NatHERS modelling accounts for sources of fixed shading that can impact each dwelling.

Note that models have accounted for the following:

- The overhang of any balconies above each dwelling;
- Overshadowing from adjacent buildings; and
- Projecting balcony separator walls and other 'wing-wall'-type geometry between dwellings.

Holland blinds have been modelled as required by the NatHERS protocol, but are not required to be installed as part of the development.

## CONSTRUCTIONS

Table 5 identifies the wall, floor, ceiling and roof construction properties used as part of the NatHERS models.

**Table 5: Construction properties**

	CONSTRUCTION	INSULATION	DETAIL
External walls	Rain screened masonry	R2.0 added insulation	
Party walls (walls between dwellings)	AAC and plasterboard	No added insulation	
Internal walls (Walls between dwellings and common areas)	AAC and plasterboard	No added insulation	Modelled as neighbouring another apartment where corridor outside has another apartment opposite
Internal walls (Walls within dwellings)	Lightweight cavity stud, plasterboard lining	No added insulation	
Walls to stairwells and lift core	Cast concrete	No added insulation	
Roof	Concrete slab with cavity and plasterboard ceiling lining MEDIUM roof colour	R4.0 added insulation	
Floors	Suspended concrete slabs	<ul style="list-style-type: none"> <li>- For floors above basement car park - R2.0 added insulation to soffit</li> <li>- For all other exposed floor sections above balconies - R1.0 added insulation to soffit</li> <li>- For all other floors - no added insulation</li> </ul>	
Ceilings	Plasterboard	No added insulation	Ceilings between levels have neighbouring adjacencies and are not insulated.

## 2.2.2 MODELLING RESULTS

This section describes the results from NatHERS modeling. In summary, the preliminary dwelling design can achieve the minimum thermal comfort requirements of BASIX without amendments.

Area adjusted heating and cooling loads and preliminary star ratings for the development are identified in Table 6.

**Table 6: Thermal Comfort Results**

DWELLING	TOTAL AREA (M <sup>2</sup> )	HEATING LOAD (MJ/M <sup>2</sup> )	COOLING LOAD (MJ/M <sup>2</sup> )	TOTAL LOAD (MJ/M <sup>2</sup> )	STAR RATING
101	74.6	35.3	58.8	94.1	3.8
102	49.3	53.6	51.2	104.8	3.4
103	50.0	54.5	41.8	96.3	3.7
201	99.3	62.9	52.7	115.6	3.2
202	75.1	35.0	38.9	73.9	4.6
203	50.0	51.6	40.7	92.3	3.9
204	74.8	59.9	52.7	112.6	3.3
301	99.3	62.6	44.0	106.6	3.4
302	75.1	32.2	33.0	65.2	5.0
303	50.0	57.8	29.7	87.5	4.0
304	74.8	62.4	40.8	103.2	3.5
401	99.3	60.0	41.5	101.5	3.6
402	75.1	26.5	34.5	61.0	5.3
403	50.0	58.9	29.3	88.2	3.9
404	74.8	60.7	42.7	103.4	3.5
501	99.3	57.2	39.5	96.7	3.7
502	75.1	22.6	36.0	58.6	5.4
503	50.0	59.6	28.5	88.1	3.9
504	74.8	58.6	43.0	101.6	3.6
601	99.3	56.7	38.5	95.2	3.8
602	75.1	20.5	36.3	56.8	5.6
603	50.0	60.3	28.4	88.7	3.9

DWELLING	TOTAL AREA (M <sup>2</sup> )	HEATING LOAD (MJ/M <sup>2</sup> )	COOLING LOAD (MJ/M <sup>2</sup> )	TOTAL LOAD (MJ/M <sup>2</sup> )	STAR RATING
604	74.8	57.3	41.6	98.9	3.7
701	99.3	44.5	33.3	77.8	4.4
702	75.1	23.0	36.4	59.4	5.4
703	50.0	64.6	25.6	90.2	3.9
704	74.8	63.1	40.4	103.5	3.5

### 2.2.3 MODELLING CONCLUSION

The results of NatHERS modelling demonstrate the apartments can meet the minimum requirements of the Thermal Comfort section of BASIX.

The NatHERS group Universal certificate is included in Appendix A-2.

Stamped drawings for submission in conjunction with the BASIX certificate are included in Appendix A-3.

## 2.3 ENERGY

### 2.3.1 COMMON AREAS

Energy consumption in multi-unit residential buildings is heavily influenced by the utilisation and servicing of the common areas. HVAC and artificial lighting systems in car parks, and lobbies need to be carefully designed to reduce energy demands.

The common areas will use:

- Efficient mechanical ventilation systems with appropriate controls to avoid overuse
- Natural ventilation where possible
- High efficacy light fittings
- Lighting control systems in all spaces such as motion sensors or timeclock where appropriate
- Car park mechanical ventilation controlled by carbon monoxide sensors and VSD fans



Further details of the proposed energy strategy for the common areas of the residential portion of the building are summarised in Table 7.

**Table 7: Energy strategies for the common areas**

ENERGY ITEM	STRATEGY
Lift motors	Gearless traction with VVVF motors
Lighting	Basement— light emitting diode; Zoned switching with motion sensor Lifts—light emitting diode; Connected to lift call button Garbage rooms—fluorescent; Motion sensors Hallways— light emitting diode; Zoned switching with motion sensor
Ventilation	Basement —ventilation (exhaust only); carbon monoxide monitor + VSD fan Garbage rooms—ventilation exhaust only Hallways—air conditioning system

### 2.3.2 DWELLINGS

Domestic hot water (DHW), space heating and comfort cooling account for up to 60% of the energy use of an average residential dwelling. Targeting these systems as a priority will support the greatest energy consumption reductions. Simple energy efficiency measures, such as the provision of efficient fittings and fixtures can deliver energy consumption reductions.

The dwellings will include the following initiatives:

- Efficient DHW heating systems
- Lighting will consist of dedicated low energy light fittings with efficient controls to limit unnecessary usage
- Clothes drying lines will be installed in each apartment
- High Energy Star-rated appliances will be installed in each apartment (see Table 8).

**Table 8: Energy strategies for the dwellings**

ENERGY ITEM	STRATEGY
Central DHW heating system	High efficiency, gas fired boiler plant
Central cooling system	High efficiency (COP > 4.5), chilled water fan coil units
Central heating system	High efficiency, fan coil + heated water

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## **APPENDIX A-1**

### **BASIX CERTIFICATE**

# BASIX<sup>®</sup>Certificate

Building Sustainability Index [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

## Multi Dwelling

Certificate number: 837341M

This certificate confirms that the proposed development will meet the NSW government's requirements for sustainability, if it is built in accordance with the commitments set out below. Terms used in this certificate, or in the commitments, have the meaning given by the document entitled "BASIX Definitions" dated 18/09/2014 published by the Department. This document is available at [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

Secretary

Date of issue: Friday, 30 June 2017

To be valid, this certificate must be lodged within 3 months of the date of issue.



### Project summary

Project name	Building 1B Eastlakes Town Centre
Street address	18 Evans Avenue Eastlakes 2018
Local Government Area	Botany Bay City Council
Plan type and plan number	deposited 248832
Lot no.	3
Section no.	-
No. of residential flat buildings	1
No. of units in residential flat buildings	27
No. of multi-dwelling houses	0
No. of single dwelling houses	0

### Project score

Water	✓ 41	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 21	Target 20

### Certificate Prepared by

Name / Company Name: WSP Australia Pty Ltd

ABN (if applicable): 80078004798

# Description of project

## Project address

Project name	Building 1B Eastlakes Town Centre
Street address	18 Evans Avenue Eastlakes 2018
Local Government Area	Botany Bay City Council
Plan type and plan number	deposited 248832
Lot no.	3
Section no.	-

## Project type

No. of residential flat buildings	1
No. of units in residential flat buildings	27
No. of multi-dwelling houses	0
No. of single dwelling houses	0

## Site details

Site area (m <sup>2</sup> )	988.8
Roof area (m <sup>2</sup> )	414
Non-residential floor area (m <sup>2</sup> )	0.0
Residential car spaces	17
Non-residential car spaces	0

## Common area landscape

Common area lawn (m <sup>2</sup> )	0.0
Common area garden (m <sup>2</sup> )	185.0
Area of indigenous or low water use species (m <sup>2</sup> )	129.5

## Assessor details

Assessor number	BDAV/16/1712
Certificate number	JMYV7X5YLZ
Climate zone	56

## Project score

Water	✓ 41	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 21	Target 20

## Description of project

The tables below describe the dwellings and common areas within the project

### Residential flat buildings - Building1B, 27 dwellings, 8 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
101	2	77.4	0.0	0.0	0.0
202	2	77.2	0.0	0.0	0.0
302	2	77.2	0.0	0.0	0.0
402	2	77.2	0.0	0.0	0.0
502	2	77.2	0.0	0.0	0.0
602	2	77.2	0.0	0.0	0.0
702	2	77.2	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
102	2	50.3	0.0	0.0	0.0
203	1	51.0	0.0	0.0	0.0
303	1	51.0	0.0	0.0	0.0
403	1	51.0	0.0	0.0	0.0
503	1	51.0	0.0	0.0	0.0
603	1	51.0	0.0	0.0	0.0
703	1	78.1	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
103	1	51.0	0.0	0.0	0.0
204	2	78.1	0.0	0.0	0.0
304	2	78.1	0.0	0.0	0.0
404	2	78.1	0.0	0.0	0.0
504	2	78.1	0.0	0.0	0.0
604	2	78.1	0.0	0.0	0.0
704	2	51.0	0.0	0.0	0.0

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
201	3	102.8	0.0	0.0	0.0
301	3	102.8	0.0	0.0	0.0
401	3	102.8	0.0	0.0	0.0
501	3	102.8	0.0	0.0	0.0
601	3	102.8	0.0	0.0	0.0
701	3	102.8	0.0	0.0	0.0

## Description of project

The tables below describe the dwellings and common areas within the project

### Common areas of unit building - Building1B

Common area	Floor area (m²)
NS-1B-Gymnasium	45.9
Lift car (No.2)	-
NS-1B-Lobby	71.0
NS-1B-3rd Floor Lobby	16.0
NS-1B-6th Floor Lobby	16.0

Common area	Floor area (m²)
Car park area (No. 1)	988.0
Residential Building 1B Waste Room	40.0
NS-1B-1st Floor Lobby	50.0
NS-1B-4th Floor Lobby	16.0

Common area	Floor area (m²)
Lift car (No.1)	-
NS-1B-Function Room	50.0
NS-1B-2nd Floor Lobby	16.0
NS-1B-5th Floor Lobby	16.0

# Schedule of BASIX commitments

## 1. Commitments for Residential flat buildings - Building1B

### (a) Dwellings

- (i) Water
- (ii) Energy
- (iii) Thermal Comfort

### (b) Common areas and central systems/facilities

- (i) Water
- (ii) Energy

## 2. Commitments for multi-dwelling houses

## 3. Commitments for single dwelling houses

## 4. Commitments for common areas and central systems/facilities for the development (non-building specific)

- (i) Water
- (ii) Energy

## Schedule of BASIX commitments

The commitments set out below regulate how the proposed development is to be carried out. It is a condition of any development consent granted, or complying development certificate issued, for the proposed development, that BASIX commitments be complied with.

### 1. Commitments for Residential flat buildings - Building1B

#### (a) Dwellings

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must plant indigenous or low water use species of vegetation throughout the area of land specified for the dwelling in the "Indigenous species" column of the table below, as private landscaping for that dwelling. (This area of indigenous vegetation is to be contained within the "Area of garden and lawn" for the dwelling specified in the "Description of Project" table).	✓	✓	
(c) If a rating is specified in the table below for a fixture or appliance to be installed in the dwelling, the applicant must ensure that each such fixture and appliance meets the rating specified for it.		✓	✓
(d) The applicant must install an on demand hot water recirculation system which regulates all hot water use throughout the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below.		✓	✓
(e) The applicant must install:			
(aa) a hot water diversion system to all showers, kitchen sinks and all basins in the dwelling, where indicated for a dwelling in the "HW recirculation or diversion" column of the table below; and		✓	✓
(bb) a separate diversion tank (or tanks) connected to the hot water diversion systems of at least 100 litres. The applicant must connect the hot water diversion tank to all toilets in the dwelling.		✓	✓
(e) The applicant must not install a private swimming pool or spa for the dwelling, with a volume exceeding that specified for it in the table below.	✓	✓	
(f) If specified in the table, that pool or spa (or both) must have a pool cover or shading (or both).		✓	
(g) The pool or spa must be located as specified in the table.	✓	✓	
(h) The applicant must install, for the dwelling, each alternative water supply system, with the specified size, listed for that dwelling in the table below. Each system must be configured to collect run-off from the areas specified (excluding any area which supplies any other alternative water supply system), and to divert overflow as specified. Each system must be connected as specified.	✓	✓	✓



	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	3 star (> 7.5 but <= 9 L/min)	4 star	5 star	5 star	no	2 star	5 star	-	-	-	-	-	-	-

	Alternative water source							
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
None	-	-	-	-	-	-	-	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✓	✓	✓
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✓	✓
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✓	✓
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✓	✓	✓
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✓ ✓	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✓ ✓ ✓	✓
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✓	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	central hot water system 1	individual fan, ducted to façade or roof	interlocked to light	individual fan, ducted to façade or roof	interlocked to light	individual fan, ducted to façade or roof	interlocked to light

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
201, 301, 401, 501, 601, 701	central cooling system 1 (zoned)	central cooling system 1 (zoned)	central heating system 1 (zoned)	central heating system 1 (zoned)	3 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes
103, 203, 303, 403, 503, 603, 703	central cooling system 1 (zoned)	central cooling system 1 (zoned)	central heating system 1 (zoned)	central heating system 1 (zoned)	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes
All other dwellings	central cooling system 1 (zoned)	central cooling system 1 (zoned)	central heating system 1 (zoned)	central heating system 1 (zoned)	2 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & electric oven	-	no	3.5 star	5 star	3.5 star	no	no

<b>(iii) Thermal Comfort</b>	<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(a) The applicant must attach the certificate referred to under "Assessor details" on the front page of this BASIX certificate (the "Assessor Certificate") to the development application and construction certificate application for the proposed development (or, if the applicant is applying for a complying development certificate for the proposed development, to that application). The applicant must also attach the Assessor Certificate to the application for a final occupation certificate for the proposed development.			
(b) The Assessor Certificate must have been issued by an Accredited Assessor in accordance with the Thermal Comfort Protocol.			
(c) The details of the proposed development on the Assessor Certificate must be consistent with the details shown in this BASIX Certificate, including the details shown in the "Thermal Loads" table below.			
(d) The applicant must show on the plans accompanying the development application for the proposed development, all matters which the Thermal Comfort Protocol requires to be shown on those plans. Those plans must bear a stamp of endorsement from the Accredited Assessor, to certify that this is the case.			
(e) The applicant must show on the plans accompanying the application for a construction certificate (or complying development certificate, if applicable), all thermal performance specifications set out in the Assessor Certificate, and all aspects of the proposed development which were used to calculate those specifications.			
(f) The applicant must construct the development in accordance with all thermal performance specifications set out in the Assessor Certificate, and in accordance with those aspects of the development application or application for a complying development certificate which were used to calculate those specifications.		✓	✓
(g) Where there is an in-slab heating or cooling system, the applicant must:  (aa) Install insulation with an R-value of not less than 1.0 around the vertical edges of the perimeter of the slab; or (bb) On a suspended floor, install insulation with an R-value of not less than 1.0 underneath the slab and around the vertical edges of the perimeter of the slab.	✓	✓	✓
(h) The applicant must construct the floors and walls of the development in accordance with the specifications listed in the table below.	✓	✓	✓

	<b>Thermal loads</b>	
<b>Dwelling no.</b>	<b>Area adjusted heating load (in mJ/m<sup>2</sup>/yr)</b>	<b>Area adjusted cooling load (in mJ/m<sup>2</sup>/yr)</b>
101	35.3	58.8
102	53.6	51.2
103	54.5	41.8
201	62.9	52.7
202	35.0	38.9

	Thermal loads	
Dwelling no.	Area adjusted heating load (in mJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in mJ/m <sup>2</sup> /yr)
203	51.6	40.7
204	59.9	52.7
301	62.6	44.0
302	32.2	33.0
303	57.8	29.7
304	62.4	40.8
401	60.0	41.5
402	26.5	34.5
403	58.9	29.3
404	60.7	42.7
501	57.2	39.5
502	22.6	36.0
503	59.6	28.5
504	58.6	43.0
601	56.7	38.5
602	20.5	36.3
603	60.3	28.4
604	57.3	41.6
701	44.5	33.3
702	23.0	36.4
703	64.6	25.6
All other dwellings	63.1	40.4

**(b) Common areas and central systems/facilities**

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	no common facility	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Central water tank - rainwater or stormwater (No. 1)	10000.0	To collect run-off from at least: - 414.0 square metres of roof area of buildings in the development - 0.0 square metres of impervious area in the development - 0.0 square metres of garden/lawn area in the development - 0.0 square metres of planter box area in the development (excluding, in each case, any area which drains to, or supplies, any other alternative water supply system).	- irrigation of 185.0 square metres of common landscaped area on the site - car washing in 0 car washing bays on the site
Fire sprinkler system (No. 1)	-	So that fire sprinkler test water is contained within the fire sprinkler system for re-use, rather than disposed.	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

Common area	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
NS-1B-Gymnasium	air conditioning system	none ie. continuous	fluorescent	none	No
Car park area (No. 1)	ventilation exhaust only	carbon monoxide monitor + VSD fan	light-emitting diode	motion sensors	No
Lift car (No.1)	-	-	light-emitting diode	connected to lift call button	No
Lift car (No.2)	-	-	light-emitting diode	connected to lift call button	No
Residential Building 1B Waste Room	ventilation exhaust only	-	fluorescent	motion sensors	No
NS-1B-Function Room	air conditioning system	none ie. continuous	light-emitting diode	motion sensors	No
NS-1B-Lobby	no mechanical ventilation	-	light-emitting diode	motion sensors	No
NS-1B-1st Floor Lobby	air conditioning system	none ie. continuous	light-emitting diode	motion sensors	No
NS-1B-2nd Floor Lobby	air conditioning system	none ie. continuous	light-emitting diode	motion sensors	No
NS-1B-3rd Floor Lobby	air conditioning system	none ie. continuous	light-emitting diode	motion sensors	No
NS-1B-4th Floor Lobby	air conditioning system	none ie. continuous	light-emitting diode	motion sensors	No
NS-1B-5th Floor Lobby	air conditioning system	none ie. continuous	light-emitting diode	motion sensors	No
NS-1B-6th Floor Lobby	air conditioning system	none ie. continuous	light-emitting diode	motion sensors	No

Central energy systems	Type	Specification
Central hot water system (No. 1)	gas-fired boiler	Piping insulation (ringmain & supply risers): (a) Piping external to building: R0.45 (~20 mm); (b) Piping internal to building: R0.45 (~20 mm)
Central cooling system (No. 1)	chilled water fan coil units	Energy source: electric driven compressor Heat rejection method: cooling tower Unit efficiency (min): high - COP > 4.5
Central heating system (No. 1)	fan coil + heated water	Energy source: gas boiler
Lift (No. 1)	gearless traction with V V V F motor	Number of levels (including basement): 10
Lift (No. 2)	gearless traction with V V V F motor	Number of levels (including basement): 10



#### 4. Commitments for common areas and central systems/facilities for the development (non-building specific)

##### (b) Common areas and central systems/facilities

(i) Water	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a showerhead, toilet, tap or clothes washer into a common area, then that item must meet the specifications listed for it in the table.		✓	✓
(b) The applicant must install (or ensure that the development is serviced by) the alternative water supply system(s) specified in the "Central systems" column of the table below. In each case, the system must be sized, be configured, and be connected, as specified in the table.	✓	✓	✓
(c) A swimming pool or spa listed in the table must not have a volume (in kLs) greater than that specified for the pool or spa in the table.	✓	✓	
(d) A pool or spa listed in the table must have a cover or shading if specified for the pool or spa in the table.		✓	
(e) The applicant must install each fire sprinkler system listed in the table so that the system is configured as specified in the table.		✓	✓
(f) The applicant must ensure that the central cooling system for a cooling tower is configured as specified in the table.		✓	✓

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	no common facility	no common facility	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Pool (No. 1)	Volume: 45.0 kLs	Location: Other Pool shaded: no	-

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) If, in carrying out the development, the applicant installs a ventilation system to service a common area specified in the table below, then that ventilation system must be of the type specified for that common area, and must meet the efficiency measure specified.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(b) In carrying out the development, the applicant must install, as the "primary type of artificial lighting" for each common area specified in the table below, the lighting specified for that common area. This lighting must meet the efficiency measure specified. The applicant must also install a centralised lighting control system or Building Management System (BMS) for the common area, where specified.		✓	✓
(c) The applicant must install the systems and fixtures specified in the "Central energy systems" column of the table below. In each case, the system or fixture must be of the type, and meet the specifications, listed for it in the table.	✓	✓	✓

Central energy systems	Type	Specification
Alternative energy supply	Photovoltaic system	Rated electrical output (min): 18.0 peak kW
Pool (No. 1)	Heating source: electric heat pump	Pump controlled by timer: yes
Other	Building management system installed?: yes	-

## Notes

1. In these commitments, "applicant" means the person carrying out the development.
2. The applicant must identify each dwelling, building and common area listed in this certificate, on the plans accompanying any development application, and on the plans and specifications accompanying the application for a construction certificate / complying development certificate, for the proposed development, using the same identifying letter or reference as is given to that dwelling, building or common area in this certificate.
3. This note applies if the proposed development involves the erection of a building for both residential and non-residential purposes (or the change of use of a building for both residential and non-residential purposes). Commitments in this certificate which are specified to apply to a "common area" of a building or the development, apply only to that part of the building or development to be used for residential purposes.
4. If this certificate lists a central system as a commitment for a dwelling or building, and that system will also service any other dwelling or building within the development, then that system need only be installed once (even if it is separately listed as a commitment for that other dwelling or building).
5. If a star or other rating is specified in a commitment, this is a minimum rating.
6. All alternative water systems to be installed under these commitments (if any), must be installed in accordance with the requirements of all applicable regulatory authorities. NOTE: NSW Health does not recommend that stormwater, recycled water or private dam water be used to irrigate edible plants which are consumed raw, or that rainwater be used for human consumption in areas with potable water supply.

## Legend

1. Commitments identified with a "✔" in the "Show on DA plans" column must be shown on the plans accompanying the development application for the proposed development (if a development application is to be lodged for the proposed development).
2. Commitments identified with a "✔" in the "Show on CC/CDC plans and specs" column must be shown in the plans and specifications accompanying the application for a construction certificate / complying development certificate for the proposed development.
3. Commitments identified with a "✔" in the "Certifier check" column must be certified by a certifying authority as having been fulfilled. (Note: a certifying authority must not issue an occupation certificate (either interim or final) for a building listed in this certificate, or for any part of such a building, unless it is satisfied that each of the commitments whose fulfilment it is required to monitor in relation to the building or part, has been fulfilled).

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**APPENDIX A-2**  
**NATHERS GROUP UNIVERSAL**  
**CERTIFICATE**

# Nationwide House Energy Rating Scheme\* — Class 2 summary



Certificate Number: **JMYV7X5YLZ**

Date of Certificate: **30 Jun 2017**

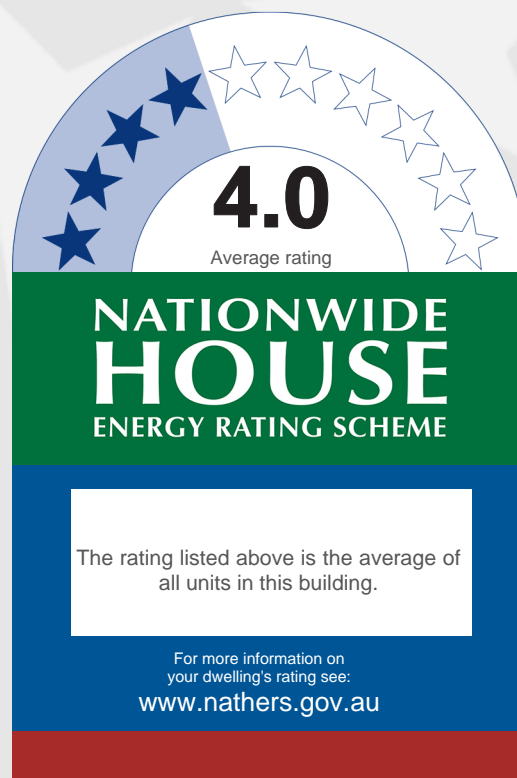
★ Average star rating: **4.0**

## Assessor details

Accreditation number: **VIC/BDAV/16/1712**  
Name: **Nicholas Asha**  
Organisation: **WSP Australia**  
Email: **nick.asha@wspgroup.com**  
Phone: **+61418434221**  
Declaration of interest: **No potential conflicts of interest to declare**  
Software: **FirstRate5 v5.2.5**  
AAO: **BDAV**

## Dwelling details

Address: **18 Evans Ave**  
Suburb: **Eastlakes**  
State: **NSW**  
Postcode: **2018**



## Summary of all dwellings

## Certification details

Certificate number	Unit number	Annual thermal performance loads (MJ/m2)			Star rating
		Heating load	Cooling load	Total load	
AQ6BRY4SEC	101	35.3	58.8	94.1	3.8
T2SMJCA4Z4	102	53.6	51.2	104.8	3.4
LH1IFV9BQC	103	54.5	41.8	96.3	3.7
66V3IQKG0E	201	62.9	52.7	115.6	3.2
CWQFE4B80I	202	35	38.9	73.9	4.6
DV8VL2ZY55	203	51.6	40.7	92.3	3.9
Z2CCGXHZE2	204	59.9	52.7	112.6	3.3
23EU2Y1WEL	301	62.6	44	106.6	3.4
UALH9L89SP	302	32.2	33	65.2	5
1WL4PKUO8R	303	57.8	29.7	87.5	4
WL37QJRO3W	304	62.4	40.8	103.2	3.5
BCTUKYR4D5	401	60	41.5	101.5	3.6
YHGYBFSJES	402	26.5	34.5	61	5.3
EMXXYIHN10	403	58.9	29.3	88.2	3.9
3UG6OYD1T0	404	60.7	42.7	103.4	3.5
3ZKD2PFE6L	501	57.2	39.5	96.7	3.7

continued

## Nationwide House Energy Rating Scheme\* — Class 2 summary



Certificate Number: **JMYV7X5YLZ**

Date of Certificate: **30 Jun 2017**

★ Average star rating: **4.0**

### Summary of all dwellings continued

#### Certification details continued

Certificate number	Unit number	Annual thermal performance loads (MJ/m2)			Star rating
		Heating load	Cooling load	Total load	
0HJKRYP65B	502	22.6	36	58.6	5.4
REDNBEAJKM	503	59.6	28.5	88.1	3.9
C0ZOZOB4J	504	58.6	43	101.6	3.6
DCQP9WL5OZ	601	56.7	38.5	95.2	3.8
JG6RJZW7CY	602	20.5	36.3	56.8	5.6
O53UJ9S5VC	603	60.3	28.4	88.7	3.9
W5BV8PXXNP	604	57.3	41.6	98.9	3.7
3E5VC54HEA	701	44.5	33.3	77.8	4.4
2ERG5HI6G9	702	23	36.4	59.4	5.4
DQKMCNEKT4	703	64.6	25.6	90.2	3.9
B8TW4JAIRN	704	63.1	40.4	103.5	3.5

This building achieves an average star rating of: **4.0**

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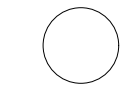
## **APPENDIX A-3**

### **BASIX STAMPED DRAWINGS SET**





EVANS AVENUE VIEW



- GENERAL NOTES**
- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK
  - ALL LEVELS RELATIVE TO 'AUSTRALIAN HEIGHT DATUM'
  - DO NOT SCALE DRAWINGS
  - USE FIGURED DIMENSIONS ONLY

Legend	
[G01]	Fixed Glass
[G02]	Top Hung Awning Window
[G03]	Glass Sliding Door
[G04]	Glass Balustrade
[F01]	Light Bronze 1
[F02]	Light Bronze 2
[F03]	Terracotta / Copper Colour
[F04]	Silver
[F05]	Mid Bronze
[F06]	Grey
[F07]	Ochre colour
[F08]	Timber cladding or equivalent look
[F09]	Batten Tile



Certificate Number:  
Assessor Name:  
Accreditation number:  
Certificate date:  
Dwelling address:

**JMYV7X5YLZ**  
**Nicholas Asha**  
**VIC/BDAV/16/1712**  
**30 Jun 2017**

**18 Evans Ave,**  
**Eastlakes NSW 2018**

[www.nathers.gov.au](http://www.nathers.gov.au)



<https://www.fjs.com.au/QRCodelanding?PublicId=JMYV7X5YLZ&GpCert=1>

Section 75W Layout List

Layout ID	Layout Name	Drawing Scales
S75W 130000	Cover Sheet	
S75W 130001	Site Plan	1:500
S75W 130002	Ground Floor	1:200
S75W 130003	Podium Level Floor Plans	1:200
S75W 130004	Building 1B Floor Plans	1:100
S75W 130005	Basement 2	1:200
S75W 130006	Basement 1	1:200
S75W 130007	Elevations	1:200
S75W 130008	Elevations	1:200
S75W 130009	Sections	1:200
S75W 130010	Adaptable Units	1:50
S75W 130011	Area Schedule	1:1.1
S75W 130012	Shadow Analysis	
S75W 130013	Photomontage 1	
S75W 130014	Photomontage 2	

03	4/7/17	S75W submission	HK
02	28/6/17	S75W submission	CR
01	23/6/17	S75W submission	CR
B	9/6/17	Preliminary Issue	HK
A	30/5/17	Preliminary Issue	HK

rev	date	name	by	chk
-----	------	------	----	-----

client  
Level 29, 1 Market Street  
Sydney 2000



**fjmt studio** architecture interiors landscape urban  
sydney melbourne oxford  
Level 5, 70 King Street & +61 2 9251 7077 [www.fjmtstudio.com](http://www.fjmtstudio.com)



project  
**EASTLAKES TOWN CENTRE - NORTH SITE**  
Evans Avenue Eastlakes  
SYDNEY NSW 2018

title  
**SECTION 75W APPLICATION**  
**Cover Sheet**

scale	Not to Scale	first issued	02/05/2017
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project code	sheet no.	revision
<b>CGE-NS</b>	<b>S75W 130000</b>	<b>03</b>

**For Approval**





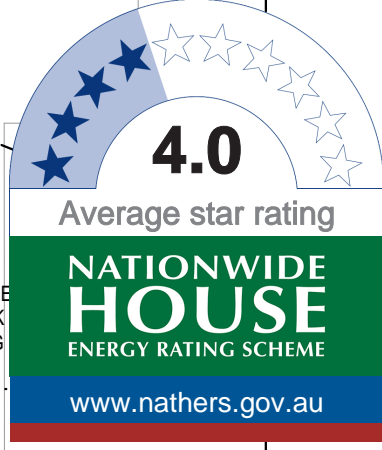
**GENERAL NOTES**

- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK
- ALL LEVELS RELATIVE TO 'AUSTRALIAN HEIGHT DATUM'
- DO NOT SCALE DRAWINGS
- USE FIGURED DIMENSIONS ONLY

**Legend**

- Proposed S75W Building Modification
- Existing Neighbouring Building
- DA Approved Building
- Existing Trees
- Existing Trees to be removed
- New Trees

**NOTE:**  
Refer TURF design drawings for landscape details



Certificate Number: **JMYV7X5YLZ**  
Assessor Name: **Nicholas Asha**  
Accreditation number: **VIC/BDV/16/1712**  
Certificate date: **30 Jun 2017**  
Dwelling address: **18 Evans Ave, Eastlakes NSW 2018**  
[www.nathers.gov.au](http://www.nathers.gov.au)

QR Code:   
<https://www.fjs.com.au/QRCoding?PublicId=JMYV7X5YLZ&GpCert=1>

rev	date	name	by	chk
02	28/6/17	S75W submission		CR
01	23/6/17	S75W submission		CR
D	16/6/17	Final Check prior to S75W submission		HK
C	9/6/17	Preliminary Issue		HK
B	1/6/17	Preliminary Issue		HK
A	30/5/17	Preliminary Issue		HK

client  
Level 29, 1 Market Street  
Sydney 2000  
**CrownGroup**

**fjmt** studio architecture interiors landscape urban  
sydney melbourne oxford  
Level 5, 70 King Street & +61 2 9251 7077 [www.fjmtstudio.com](http://www.fjmtstudio.com)

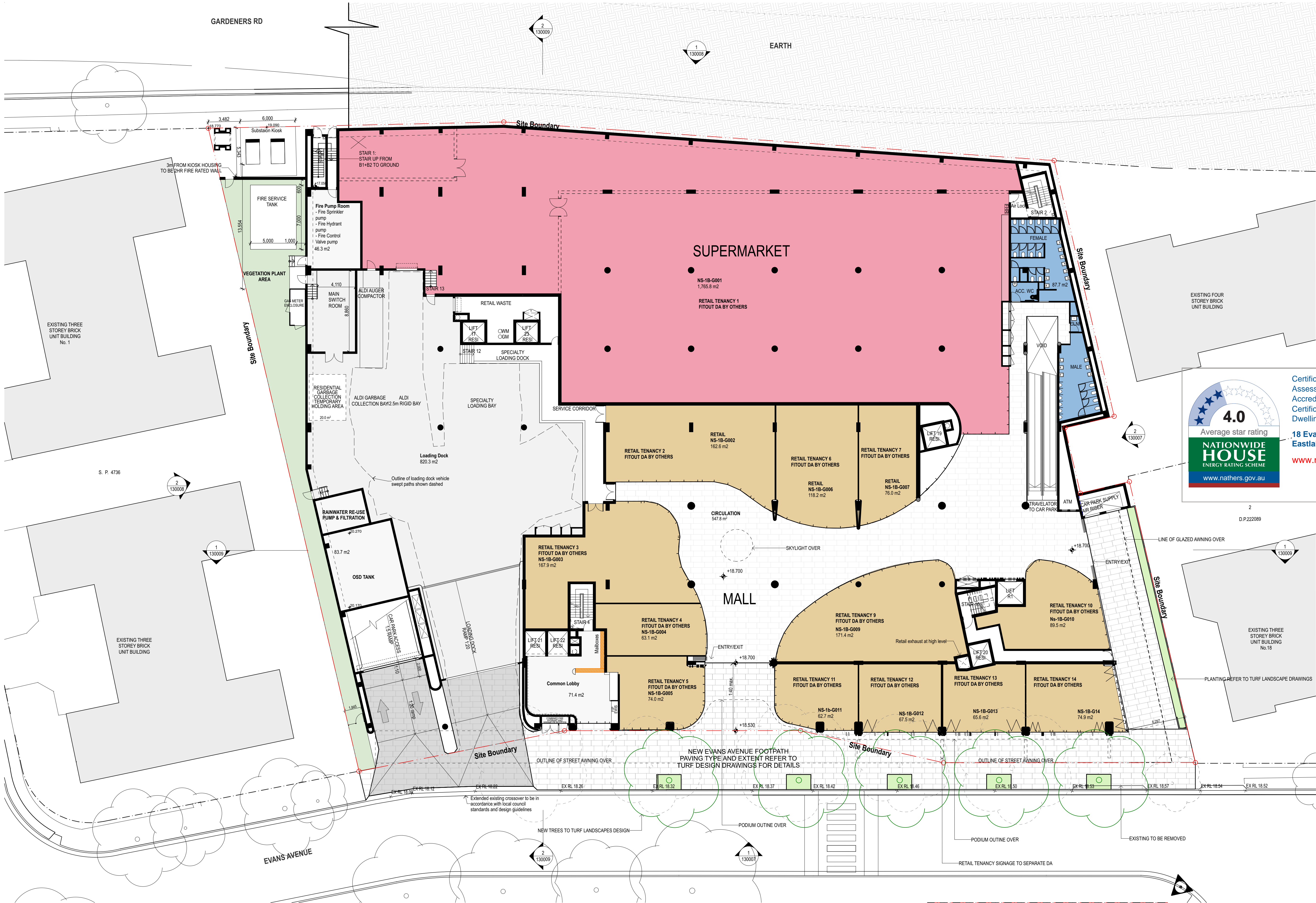
project  
**EASTLAKES TOWN CENTRE - NORTH SITE**  
Evans Avenue Eastlakes  
SYDNEY NSW 2018

title  
**SECTION 75W APPLICATION**  
**Site Plan**

scale	1:500 @ A1	first issued	02/05/2017
project code	CGE-NS	sheet no.	S75W 130001
		revision	02

**For Approval**





**GENERAL NOTES**

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- USE FIGURED DIMENSIONS ONLY

**Legend**

- SUPERMARKET
- WC
- RETAIL TENANCY
- LOADING DOCK
- EXISTING TREE
- EXISTING TREE TO BE REMOVED
- NEW TREE

**4.0**  
Average star rating  
**NATIONWIDE HOUSE**  
ENERGY RATING SCHEME  
www.nathers.gov.au

Certificate Number:  
Assessor Name:  
Accreditation number:  
Certificate date:  
Dwelling address:  
**18 Evans Ave,  
Eastlakes NSW 2018**  
www.nathers.gov.au

**JMYV7X5YLZ**  
**Nicholas Asha**  
**VIC/BDV/16/1712**  
**30 Jun 2017**

QR Code

https://www.fjs.com.au/QRCODE/Landing?PublicId=JMYV7X5YLZ&GpCert=1

02	28/6/17	STW submission	CR
01	23/6/17	STW submission	CR
E	21/6/17	Final Check prior to STW submission	CR
D	16/6/17	Final Check prior to STW submission	HK
C	9/6/17	Preliminary Issue	HK
B	9/6/17	Preliminary Issue	HK
A	30/5/17	Preliminary Issue	HK
rev	date	name	by
client			
Level 29, 1 Market Street			
Sydney 2000			



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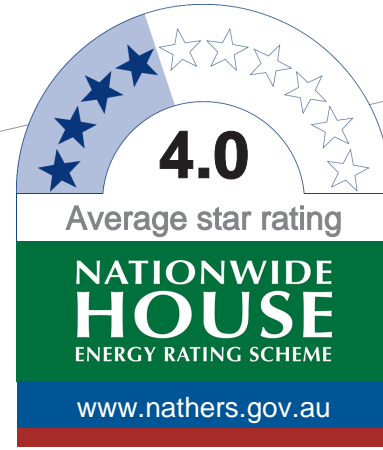
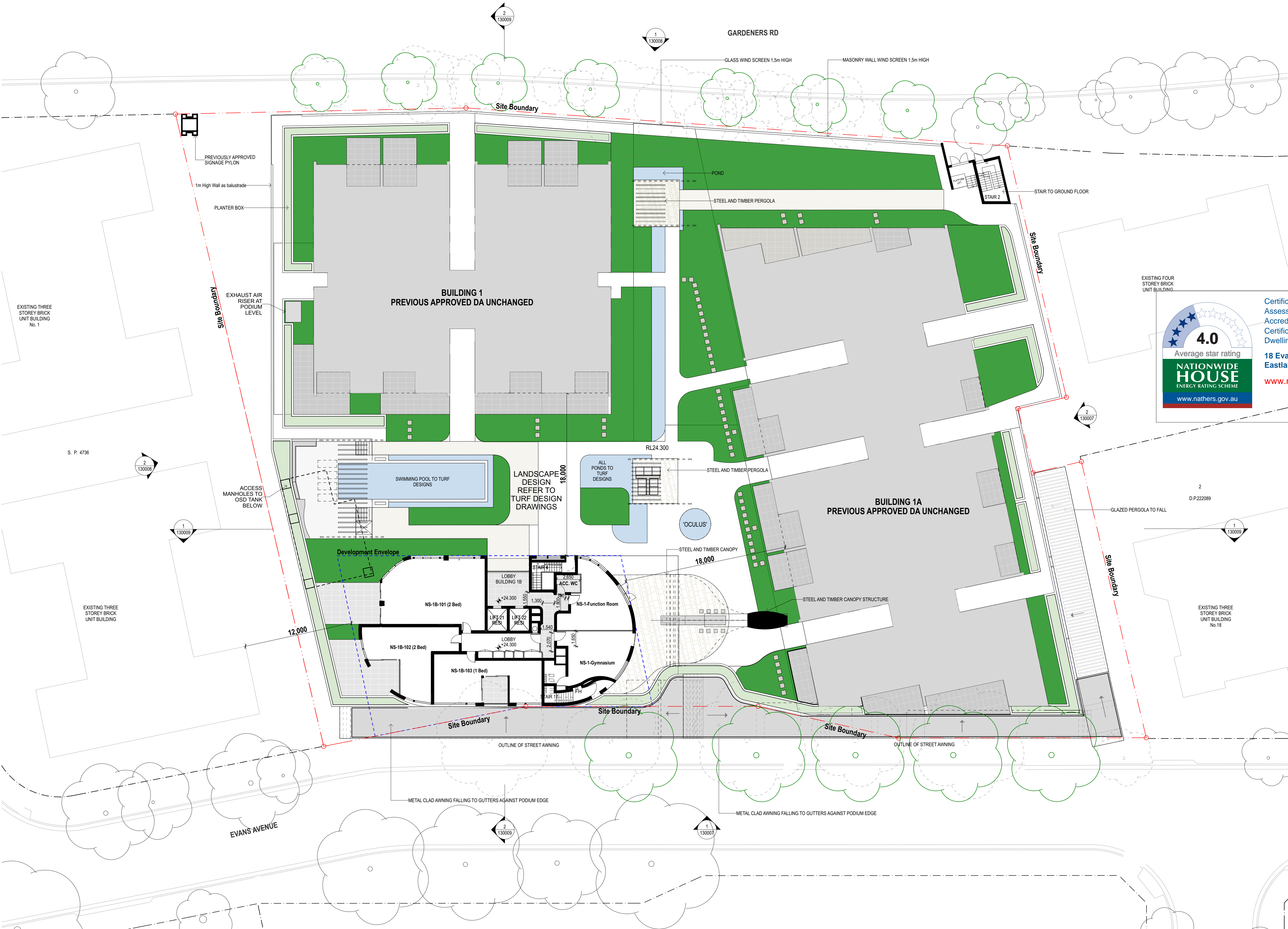
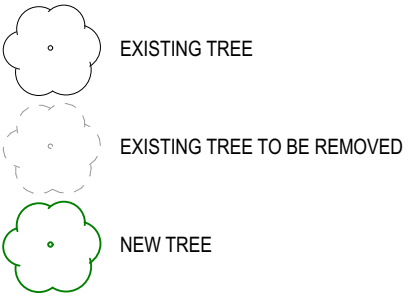
project  
**EASTLAKES TOWN CENTRE - NORTH SITE**  
Evans Avenue Eastlakes  
SYDNEY NSW 2018

title  
**SECTION 75W APPLICATION**  
**Ground Floor**

scale	1:200 @ A1	first issued	02/05/2017
project code	sheet no.	revision	
CGE-NS	S75W 130002	02	

**For Approval**





Certificate Number:  
Assessor Name:  
Accreditation number:  
Certificate date:  
Dwelling address:  
**18 Evans Ave,  
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**JMYV7X5YLZ  
Nicholas Asha  
VIC/BDV/16/1712  
30 Jun 2017**



<https://www.fjs.com.au/QRCCodeLanding?PublicId=JMYV7X5YLZ&GpCert=1>

04	4/7/17	STW submission	HK
03	29/6/17	STW submission	CR
02	28/6/17	STW submission	CR
01	23/6/17	STW submission	CR
E	21/6/17	Final Check prior to STW submission	CR
D	16/6/17	Final Check prior to STW submission	HK
C	9/6/17	Preliminary Issue	HK
B	1/6/17	Preliminary Issue	HK
A	30/5/17	Preliminary Issue	HK

rev date name by chk

client  
Level 29, 1 Market Street  
Sydney 2000



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project  
**EASTLAKES TOWN CENTRE - NORTH SITE**  
Evans Avenue Eastlakes  
SYDNEY NSW 2018

title  
**SECTION 75W APPLICATION  
Podium Level Floor Plans**

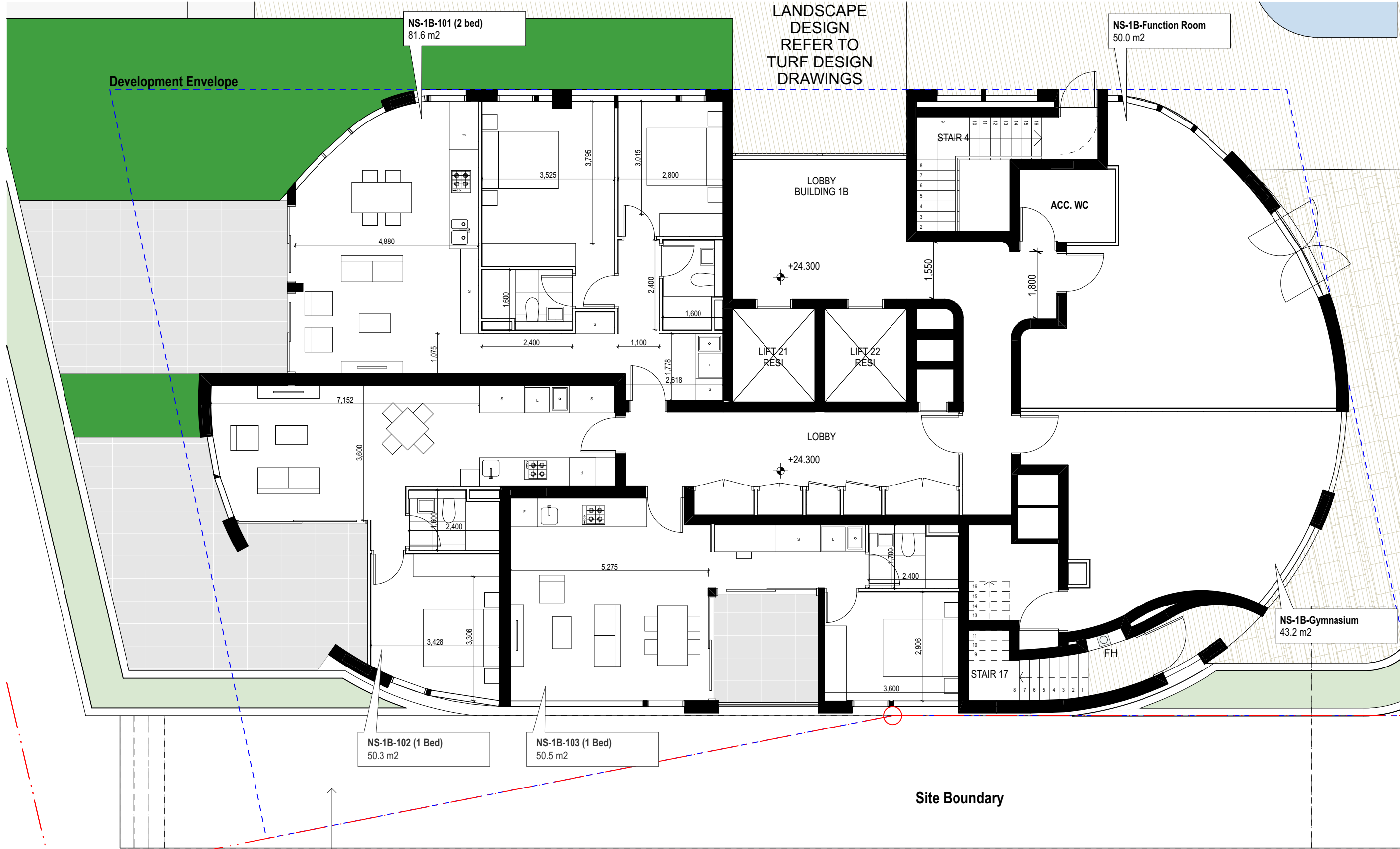
scale 1:200 @ A1 first issued 02/05/2017

project code sheet no. revision

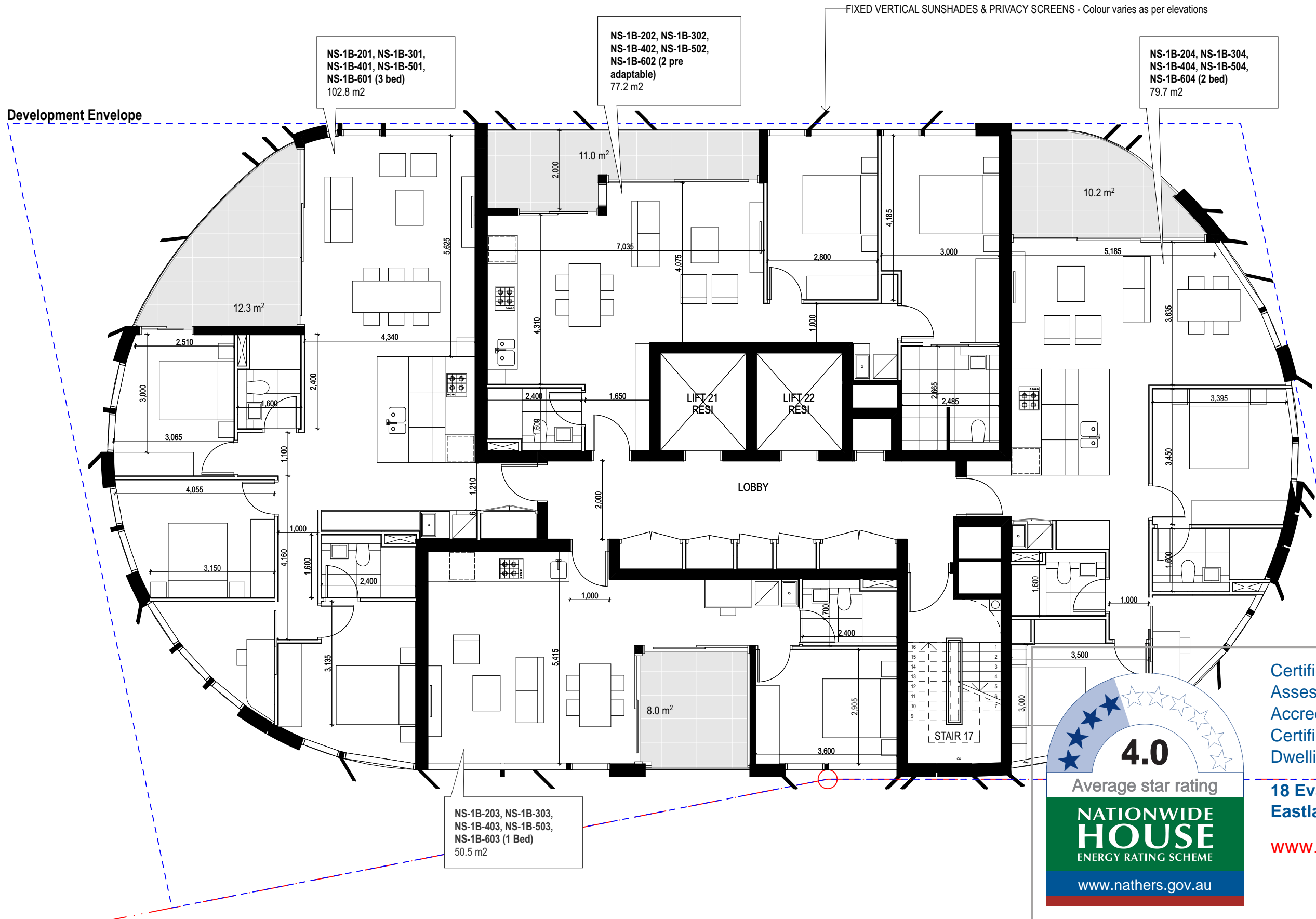
**CGE-NS S75W 130003 04**

**For Approval**

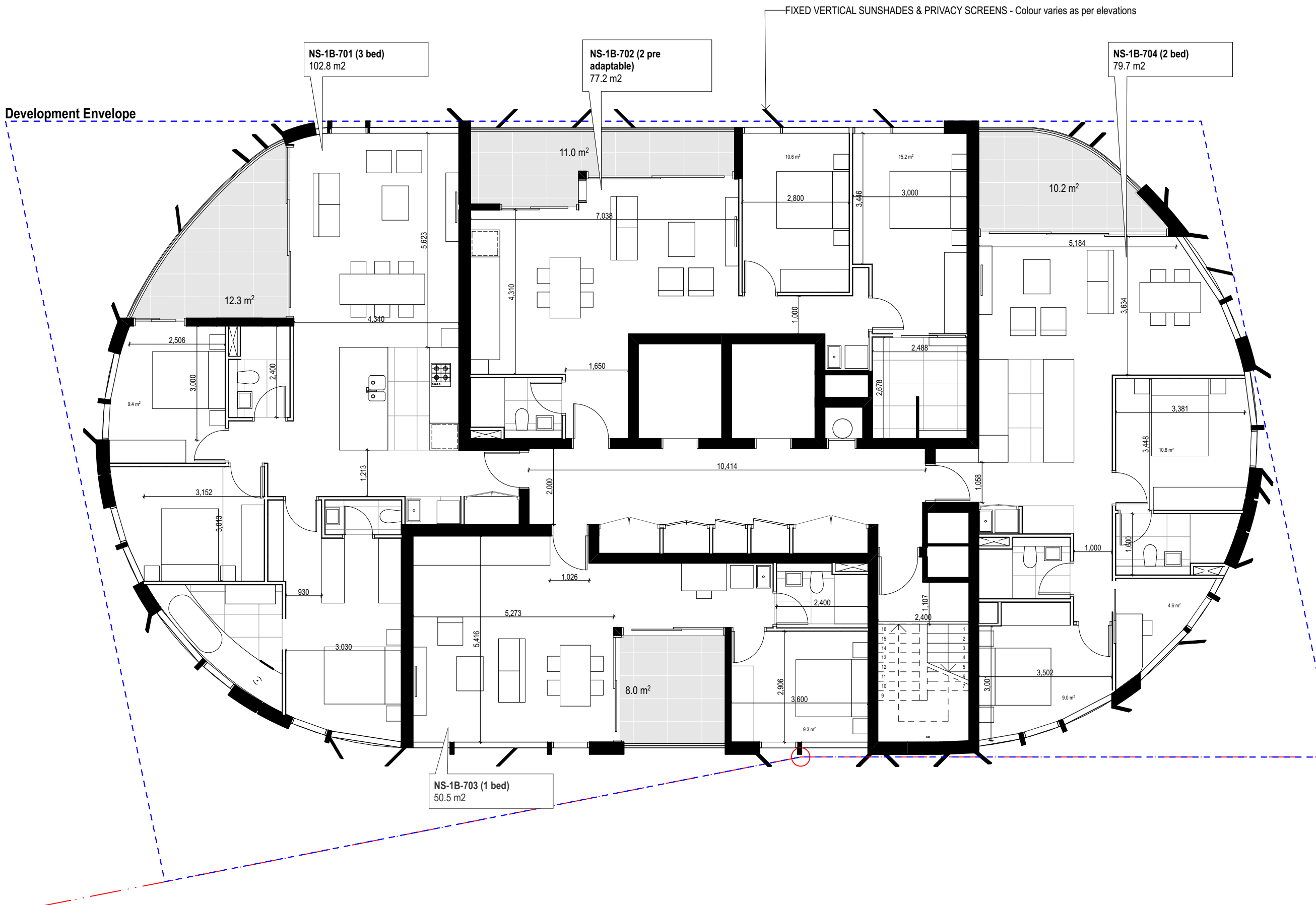




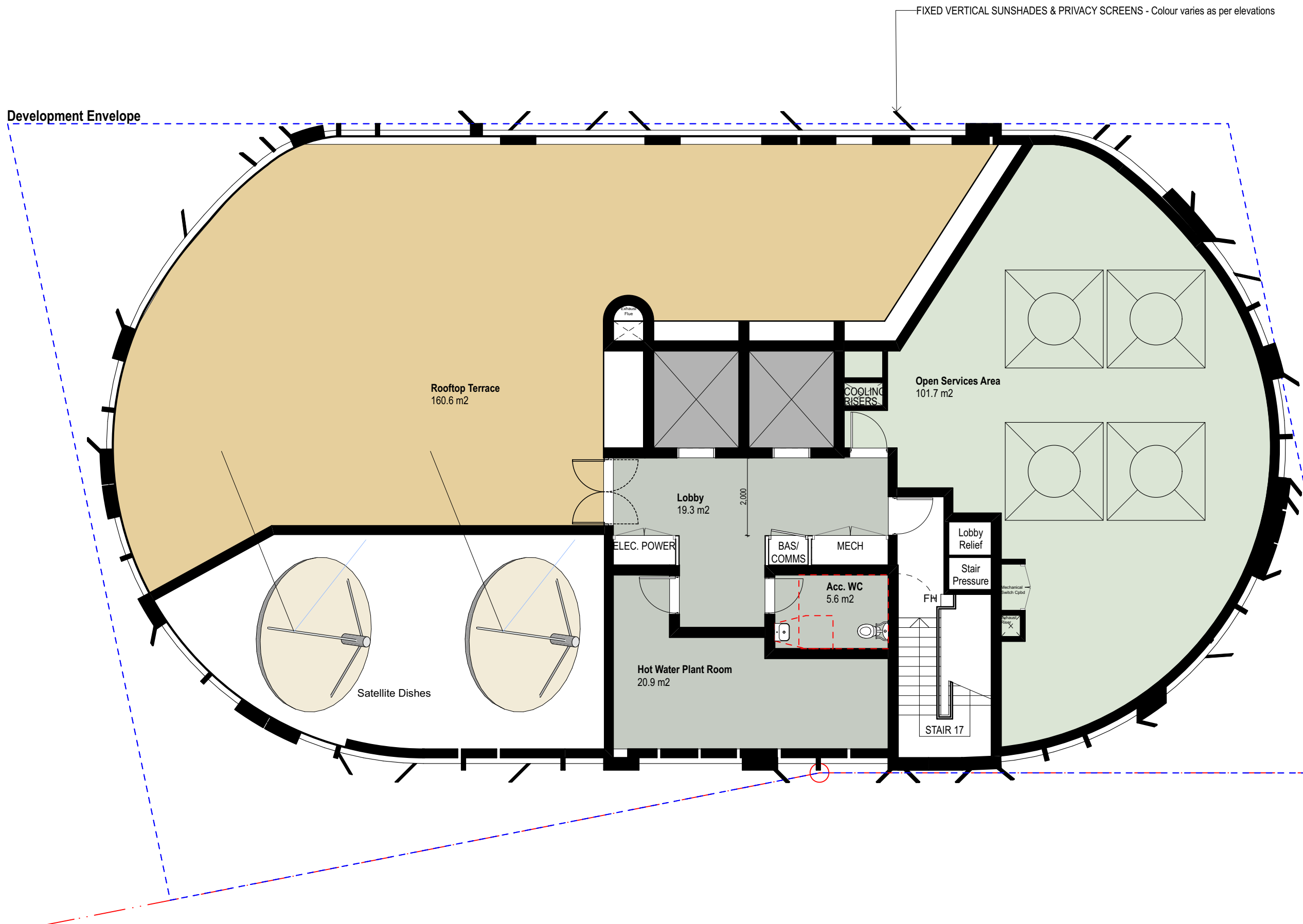
2 PLAN First Floor (Podium Level)  
1:100



3 PLAN Typical L2-L6  
1:100



4 PLAN 7th Floor  
1:100



5 PLAN 8th Floor  
1:100

REFER SITE PLAN  
TO ROOF PLAN DETAILS

For Approval

01	23/6/17	STW submission	CR
G	19/6/17	Final Check prior to STW submission	HK
F	16/6/17	Final Check prior to STW submission	HK
E	15/6/17	Preliminary Issue	HK
D	9/6/17	Preliminary Issue	HK
C	8/6/17	Preliminary Issue	HK
B	1/6/17	Preliminary Issue	HK
A	30/5/17	Preliminary Issue	HK
rev	date	name	by
client			
Level 29, 1 Market Street			
Sydney 2000			
			CrownGroup

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fjmt

project  
EASTLAKES TOWN CENTRE - NORTH SITE  
Evans Avenue Eastlakes  
SYDNEY NSW 2018

title  
SECTION 75W APPLICATION  
Building 1B Floor Plans

scale	1:100 @ A1	first issued	02/05/2017
project code	sheet no.	revision	
CGE-NS	S75W 130004	01	

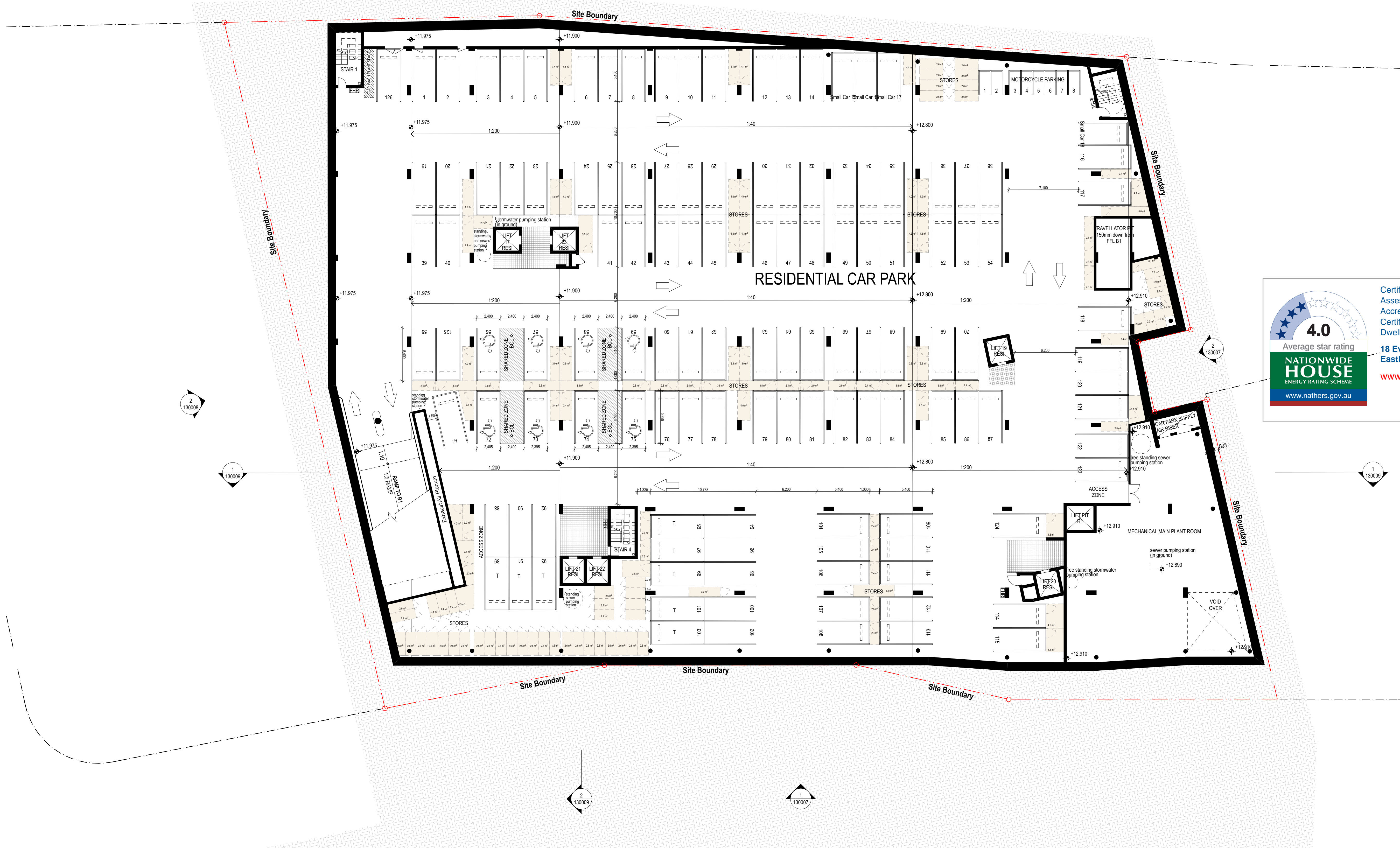


**GENERAL NOTES**

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Legend

- Storage (Residential)
- BOL Bollard
- T Tandem Parking



Certificate Number: **JMYV7X5YLZ**  
Assessor Name: **Nicholas Asha**  
Accreditation number: **VIC/BDAV/16/1712**  
Certificate date: **30 Jun 2017**  
Dwelling address: **18 Evans Ave, Eastlakes NSW 2018**  
[www.nathers.gov.au](http://www.nathers.gov.au)

**4.0** Average star rating  
**NATIONWIDE HOUSE** ENERGY RATING SCHEME  
[www.nathers.gov.au](http://www.nathers.gov.au)

<https://www.fjs.com.au/QRCodes/Landing?PublicId=JMYV7X5YLZ&GpCert=1>

**1** PLAN Basement Level 2  
1:200

03	4/7/17	STW submission	HK
02	28/5/17	STW submission	CR
01	23/5/17	STW submission	CR
C	16/5/17	Final Check prior to STW submission	HK
B	9/5/17	Preliminary Issue	HK
A	1/2/17	Preliminary Issue	HK

rev date name by chk

client

Level 29, 1 Market Street  
Sydney 2000

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project

**EASTLAKES TOWN CENTRE - NORTH SITE**  
Evans Avenue Eastlakes  
SYDNEY NSW 2018

title

**SECTION 75W APPLICATION**  
**Basement 2**

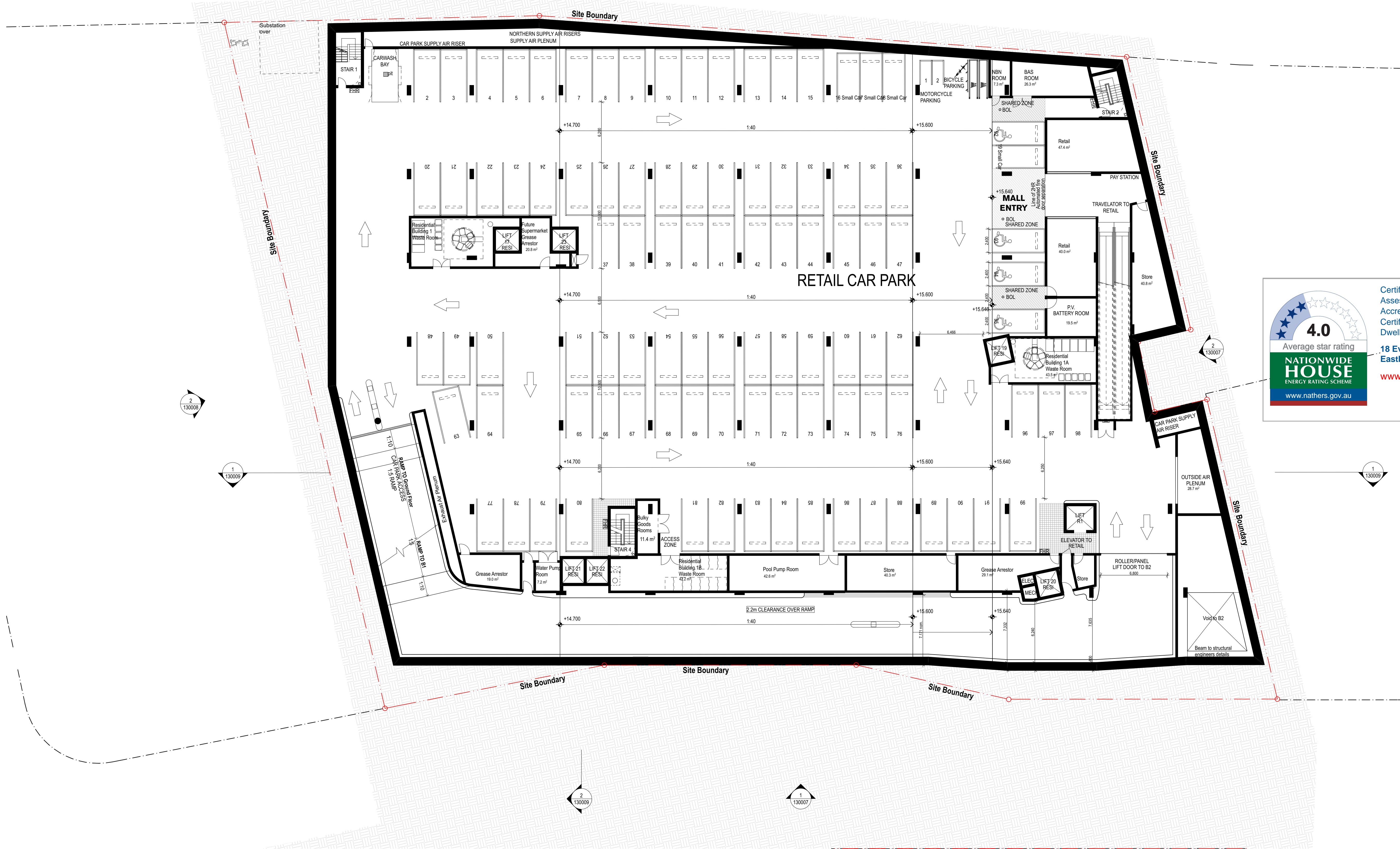
scale 1:200 @ A1 first issued 02/05/2017

project code sheet no. revision

**CGE-NS S75W 130005 03**

**For Approval**





Certificate Number: **JMYV7X5YLZ**  
Assessor Name: **Nicholas Asha**  
Accreditation number: **VIC/BDAY/16/1712**  
Certificate date: **30 Jun 2017**  
Dwelling address: **18 Evans Ave, Eastlakes NSW 2018**  
[www.nathers.gov.au](http://www.nathers.gov.au)

**4.0**  
Average star rating  
**NATIONWIDE HOUSE**  
ENERGY RATING SCHEME  
[www.nathers.gov.au](http://www.nathers.gov.au)

<https://www.fjs.com.au/QRCODELanding?PublicId=JMYV7X5YLZ&GpCert=1>

1 PLAN Basement Level 1  
1:200

03	4/7/17	STW submission	HK
02	28/5/17	STW submission	CR
01	23/4/17	STW submission	CR
C	16/5/17	Final Check prior to STW submission	HK
B	9/5/17	Preliminary Issue	HK
A	1/2/17	Preliminary Issue	HK

rev date name by chk

client

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Sydney 2000

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project

**EASTLAKES TOWN CENTRE - NORTH SITE**  
Evans Avenue Eastlakes  
SYDNEY NSW 2018

title

**SECTION 75W APPLICATION**  
**Basement 1**

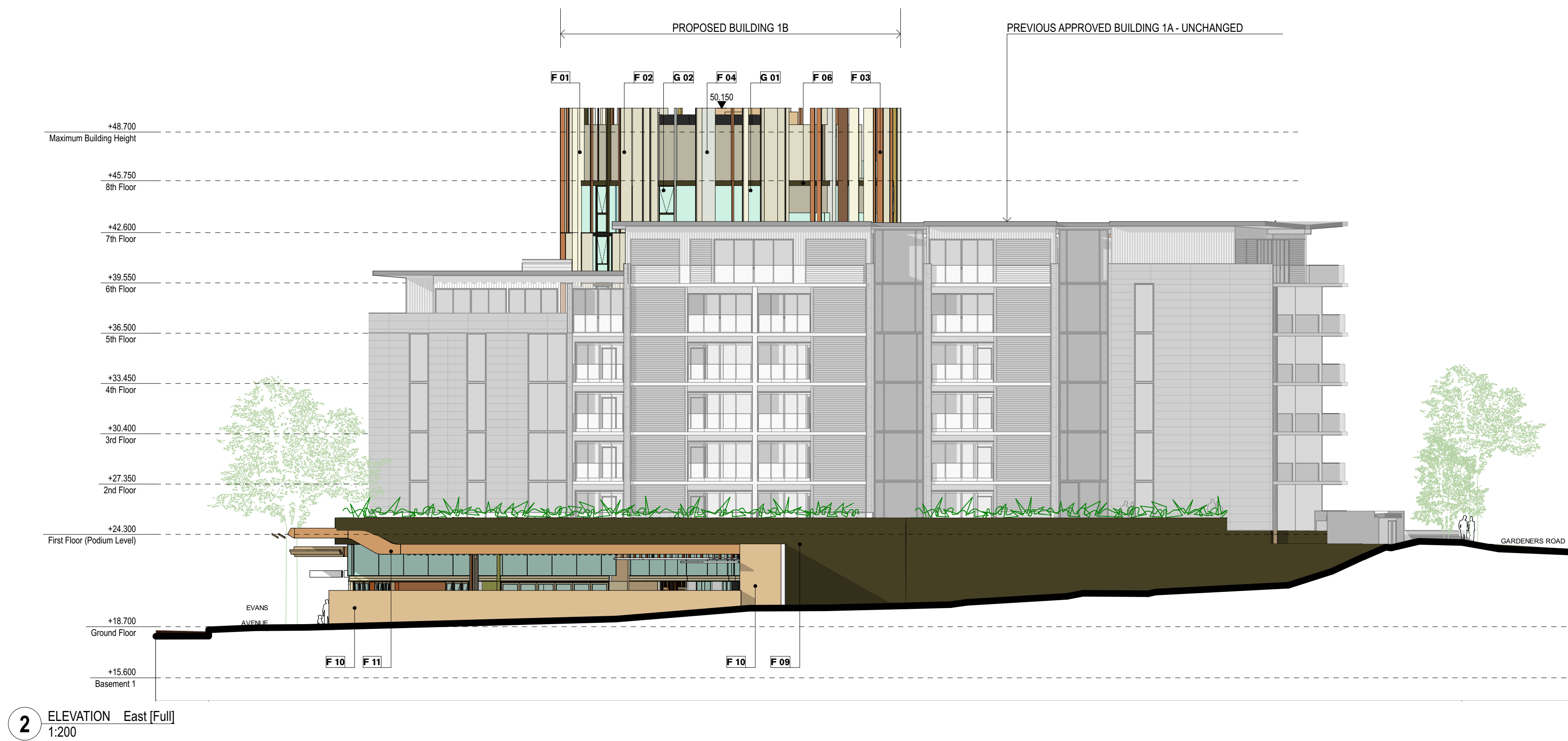
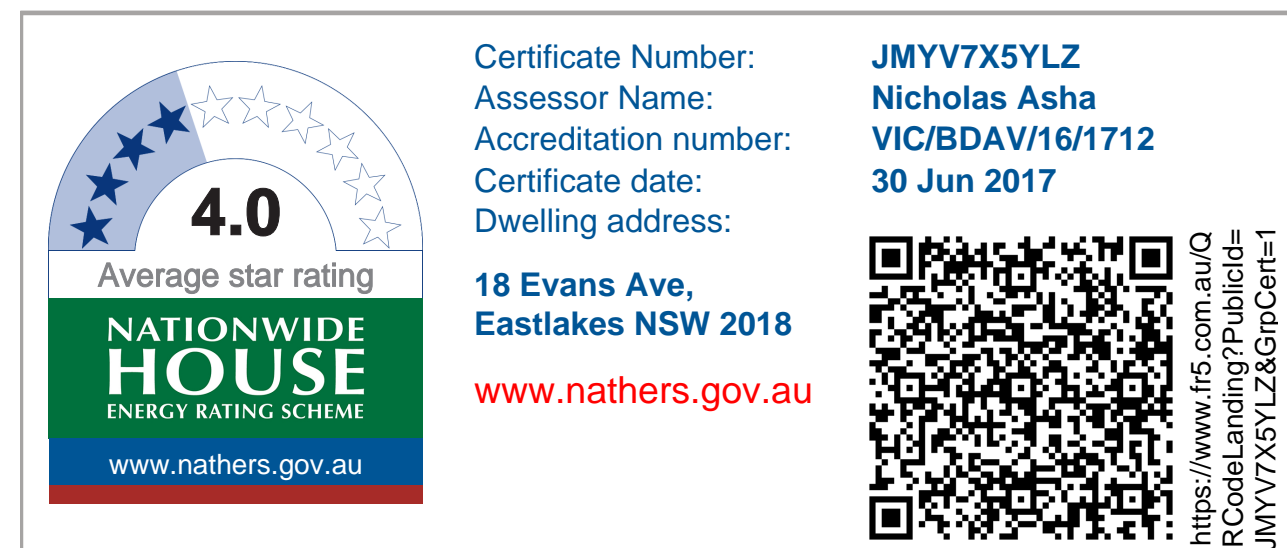
scale 1:200 @ A1 first issued 02/05/2017

project code sheet no. revision

**CGE-NS** **S75W 130006** **03**

**For Approval**






02	28/6/17	S75W submission	CR
01	23/6/17	S75W submission	CR
D	19/6/17	Issue for Final Checking	HK
C	16/6/17	Final Check prior to S75W submission	HK
B	9/6/17	Preliminary Issue	HK
A	30/5/17	Preliminary Issue	HK
rev	date	name	bu chb

client

Level 29, 1 Market Street  
Sydney 2000

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**sydney** melbourne oxford  
Level 5, 70 King Street t +61 2 9251 7077 w [fjmtstudio.com](http://fjmtstudio.com)

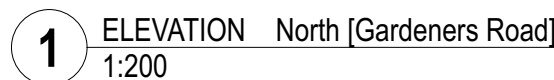
project  
**EASTLAKES TOWN CENTRE - NORTH SITE**  
Evans Avenue Eastlakes  
SYDNEY NSW 2018

title  
**SECTION 75W APPLICATION**  
**Elevations**

scale	1:200 @ A1	first issued	02/05/2017
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project code	sheet no.	revision
<b>CGE-NS</b>	<b>S75W 130007</b>	<b>02</b>






02	28/6/17	S75W submission	CR	
01	23/6/17	S75W submission	CR	
C	16/6/17	Final Check prior to S75W submission	HK	
B	9/6/17	Preliminary Issue	HK	
A	30/5/17	Preliminary Issue	HK	
rev	date	name	bv	chk

client

Level 29, 1 Market Street  
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project

**EASTLAKES TOWN CENTRE - NORTH SITE**  
Evans Avenue Eastlakes  
SYDNEY NSW 2018

title

**SECTION 75W APPLICATION**  
**Elevations**

scale	1:200 @ A1	first issued	02/05/2017
project code	sheet no.		revision
<b>CGE-NS</b>	<b>S75W 130008</b>		<b>02</b>

**For Approval**

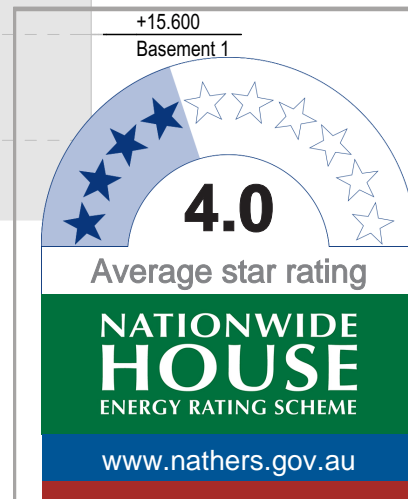
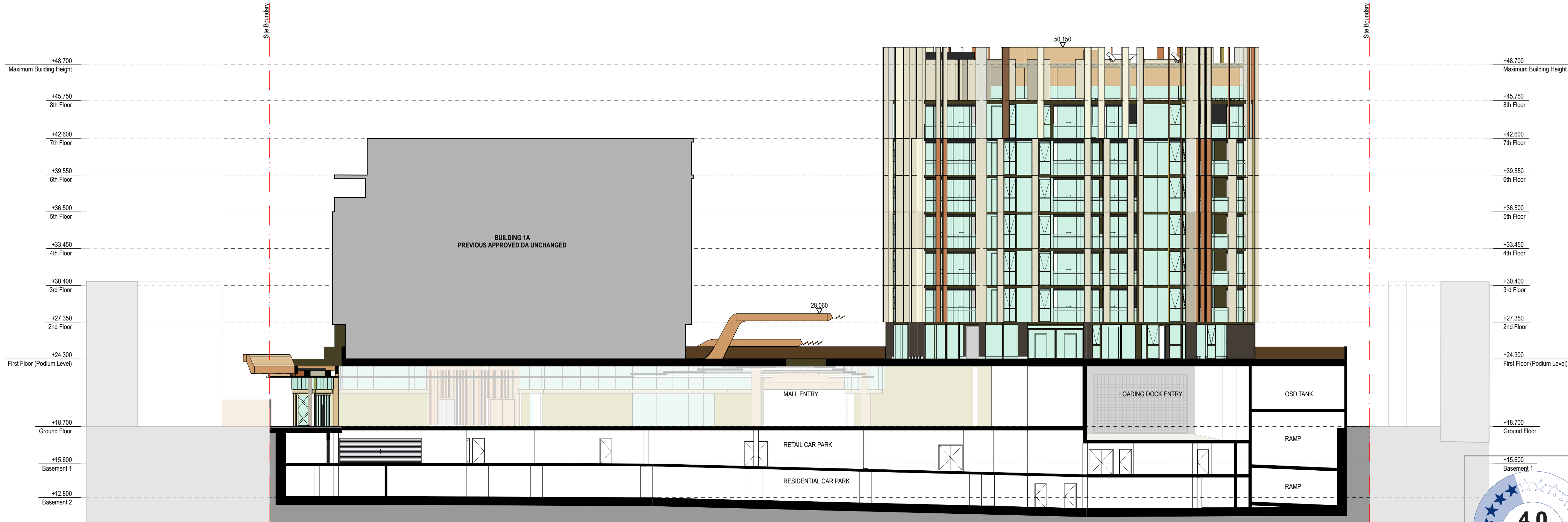


**GENERAL NOTES**

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- USE FIGURED DIMENSIONS ONLY

Legend

1 SECTION 1  
1:200



Certificate Number:  
Assessor Name:  
Accreditation number:  
Certificate date:  
Dwelling address:

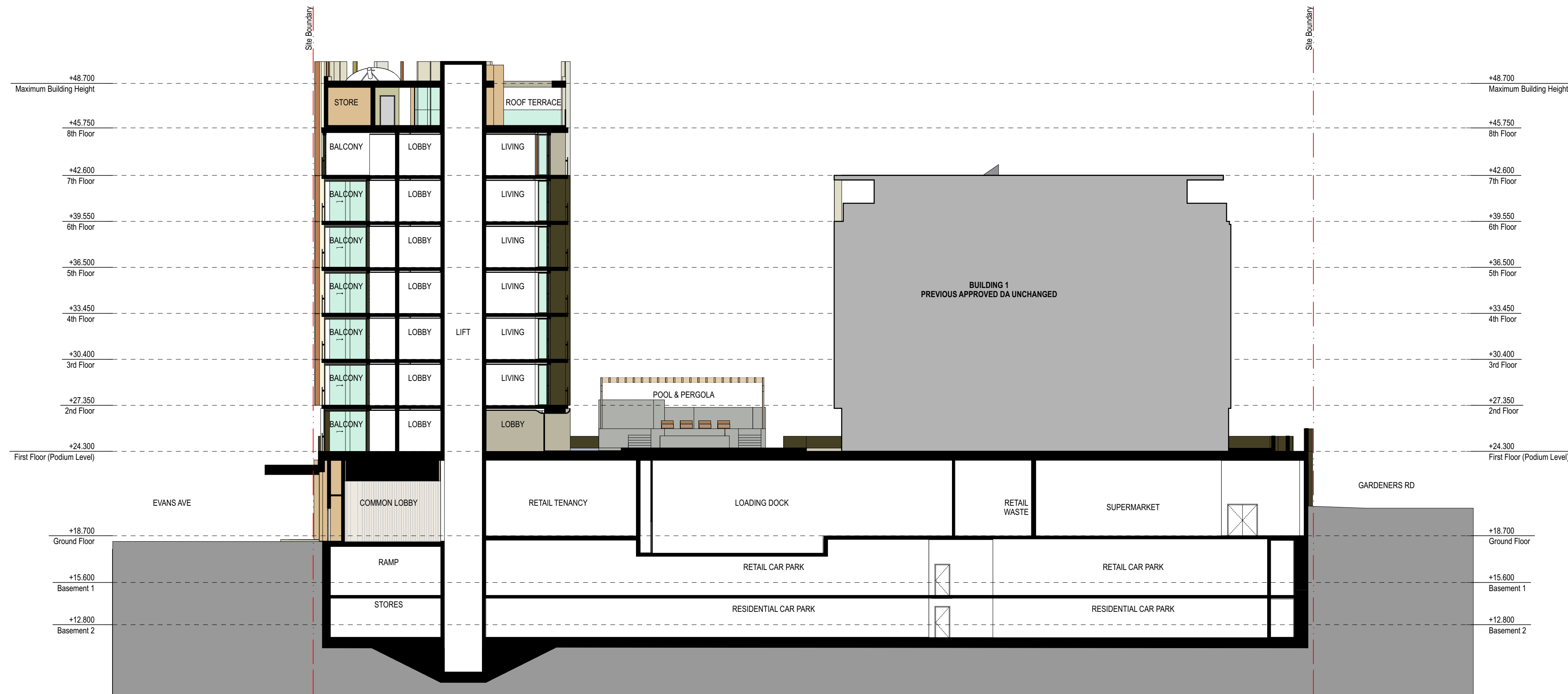
**JMYV7X5YLZ**  
**Nicholas Asha**  
**VIC/BDAV/16/1712**  
**30 Jun 2017**

**18 Evans Ave,**  
**Eastlakes NSW 2018**

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2 SECTION 2  
1:200



02	28/5/17	STW submission	CR
01	23/4/17	STW submission	CR
C	16/5/17	Final Check prior to STW submission	HK
B	9/5/17	Preliminary Issue	HK
A	30/5/17	Preliminary Issue	HK

rev date name by chk

client  
Level 29, 1 Market Street  
Sydney 2000



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project  
**EASTLAKES TOWN CENTRE - NORTH SITE**  
Evans Avenue Eastlakes  
SYDNEY NSW 2018

title  
**SECTION 75W APPLICATION**  
**Sections**

scale 1:200 @ A1 first issued 02/05/2017

project code sheet no. revision  
**CGE-NS S75W 130009 02**

**For Approval**

ADAPTABLE APARTMENTS:

- NS-1B-202  
NS-1B-302  
NS-1B-402  
NS-1B-502  
NS-1B-602  
NS-1B-702

02052017

0

2

5

10m

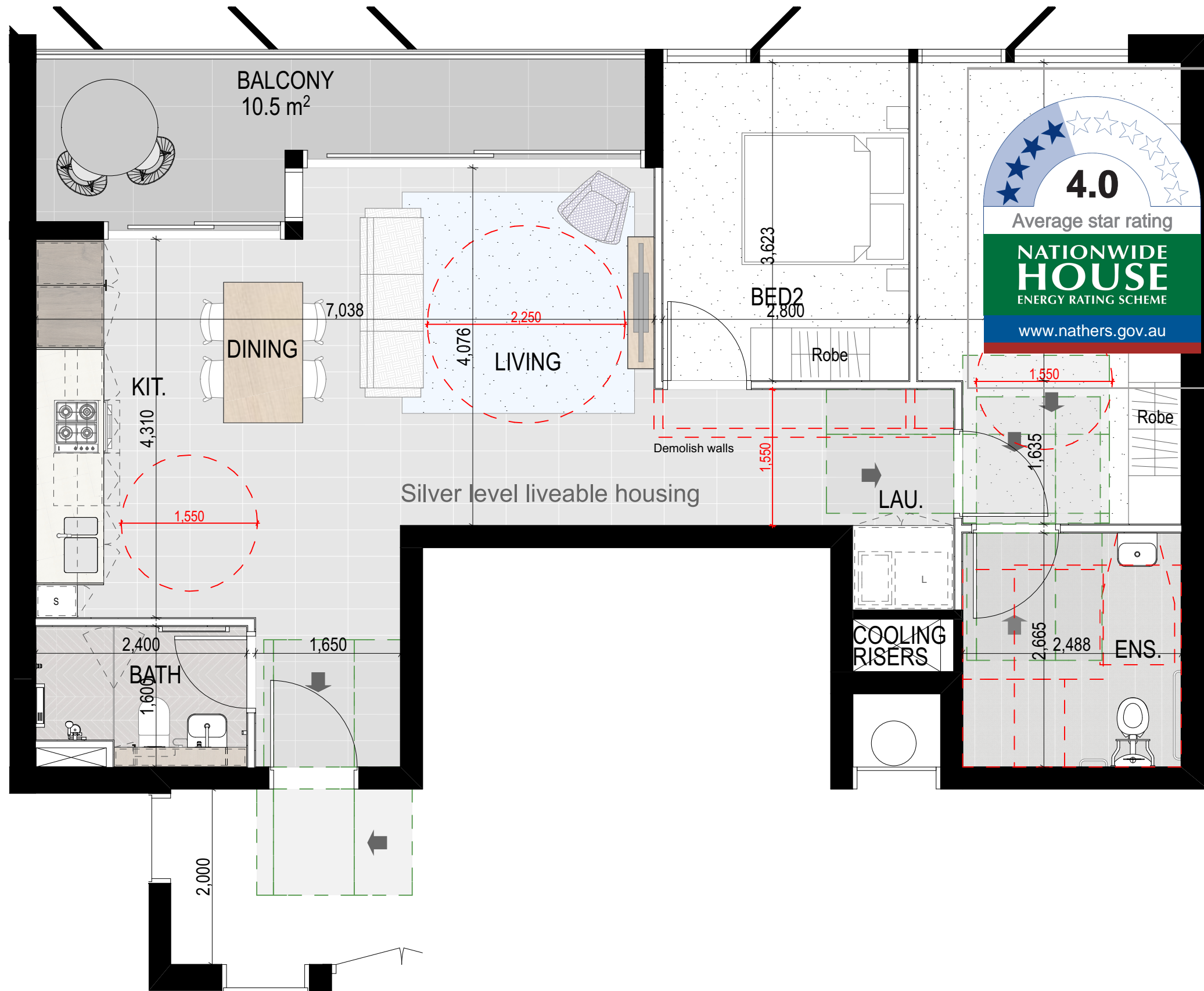
GENERAL NOTES

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CHECKED AND VERIFIED BY THE CONTRACTOR  
BEFORE PROCEEDING WITH THE WORK  
ALL LEVELS RELATIVE TO 'AUSTRALIAN HEIGHT DATUM'  
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legend



Pre Adaptable Level 2-7  
1:50



Post Adaptable Level 2-7  
1:50



Certificate Number:  
Assessor Name:  
Accreditation number:  
Certificate date:  
Dwelling address:  
  
18 Evans Ave,  
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JMYV7X5YLZ  
Nicholas Asha  
VIC/BD4V/16/1712  
30 Jun 2017



<https://www.fjs.com.au/QRCodes/Landing?PublicId=JMYV7X5YLZ&GpCert=1>

02	28/6/17	STW submission	CR
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rev	date	name	by
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client  
Level 29, 1 Market Street  
Sydney 2000

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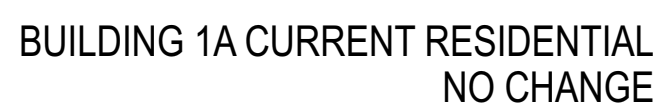
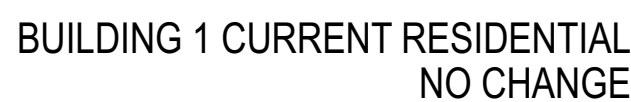
project  
**EASTLAKES TOWN CENTRE - NORTH SITE**  
Evans Avenue Eastlakes  
SYDNEY NSW 2018

title  
**SECTION 75W APPLICATION**  
**Adaptable Units**

scale	1:200 @ A1	first issued	02/05/2017
project code	sheet no.	revision	
<b>CGE-NS</b>	<b>S75W 130010</b>	<b>02</b>	

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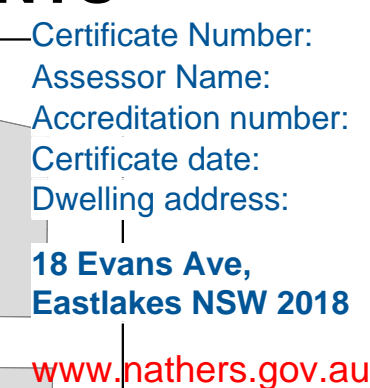
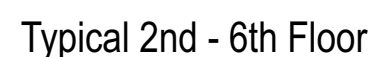


### Apartment Mix - CURRENT PROPOSAL

Legend

1 Bedroom Apartment
2 Bedroom Apartment
2 Bedroom Apartment + Study
2 Bedroom Apartment Adaptable
3 Bedroom Apartment + Study
3 Bedroom Penthouse Apartment
Function/Gymnasium
Corridor
Stairs
Accessible Toilet
GFA Area


## AHA BASIX COMMITMENTS



02	28/6/17	S75W submission	CR
01	23/6/17	S75W submission	CR
B	16/6/17	Final Check prior to S75W submission	HK
A	14/6/17	Preliminary Issue	HK
rev	date	name	bv chk

client

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Sydney 2000

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Level 5, 70 King Street t +61 2 9251 7077 w [fjmtstudio.com](http://fjmtstudio.com)

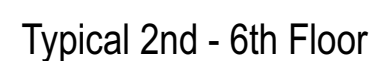
project

**EASTLAKES TOWN CENTRE - NORTH SITE**  
Evans Avenue Eastlakes  
SYDNEY NSW 2018

title

**SECTION 75W APPLICATION**  
**Area Schedule**

scale	1:500 @ A1	first issued	02/05/2017
project code	sheet no.	revision	
<b>CGE-NS</b>	<b>S75W 130011</b>	<b>02</b>	



## For Approval

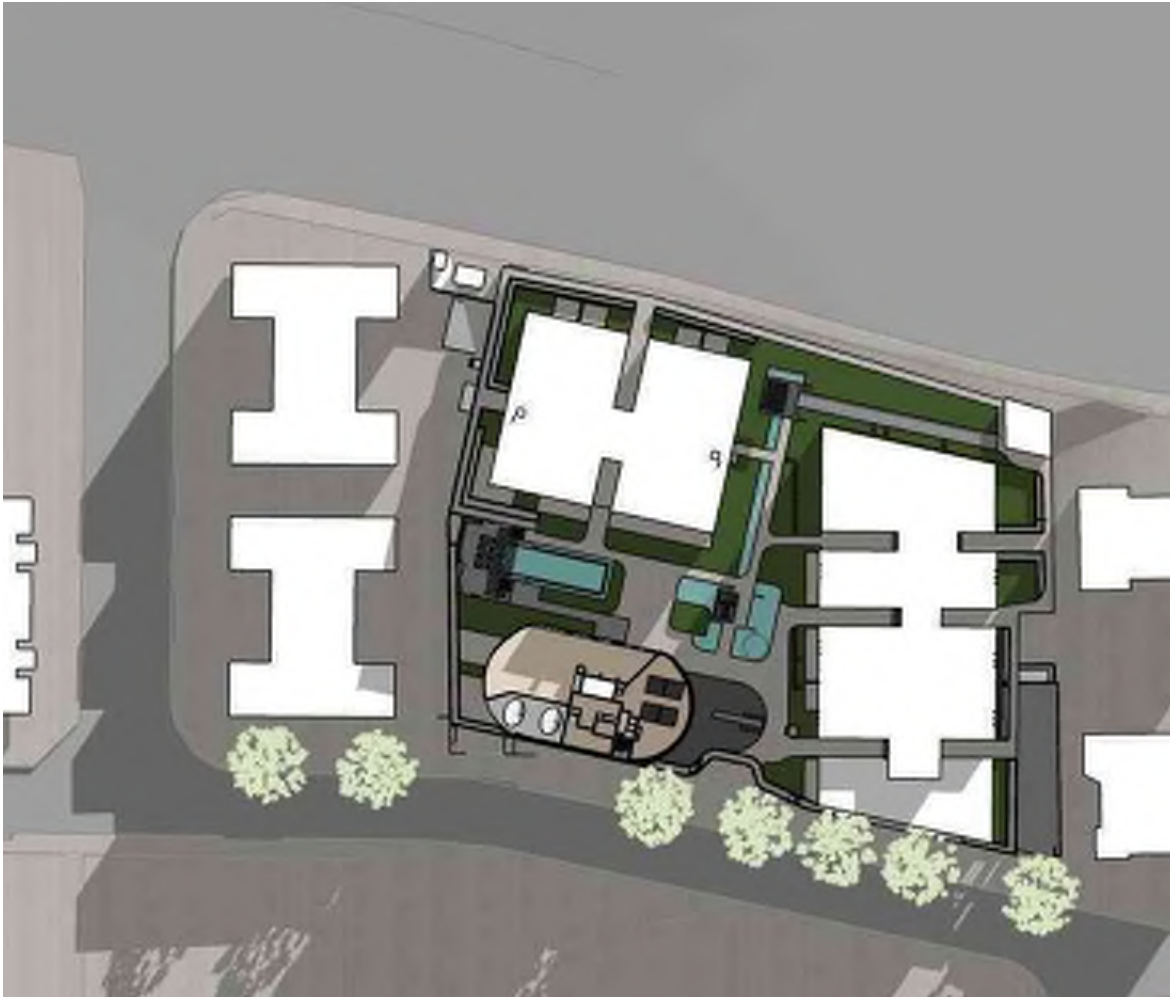


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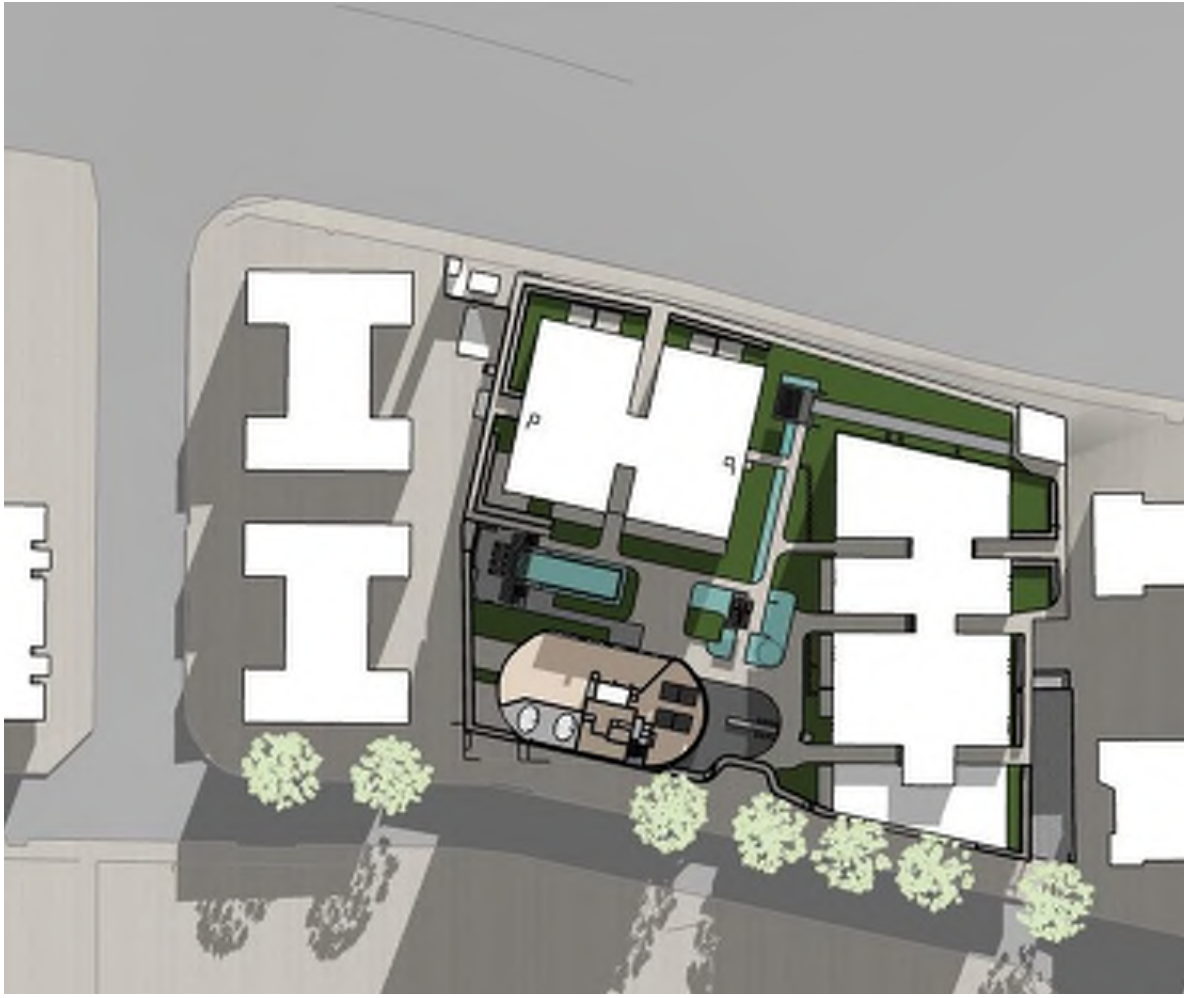
GENERAL NOTES

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legend



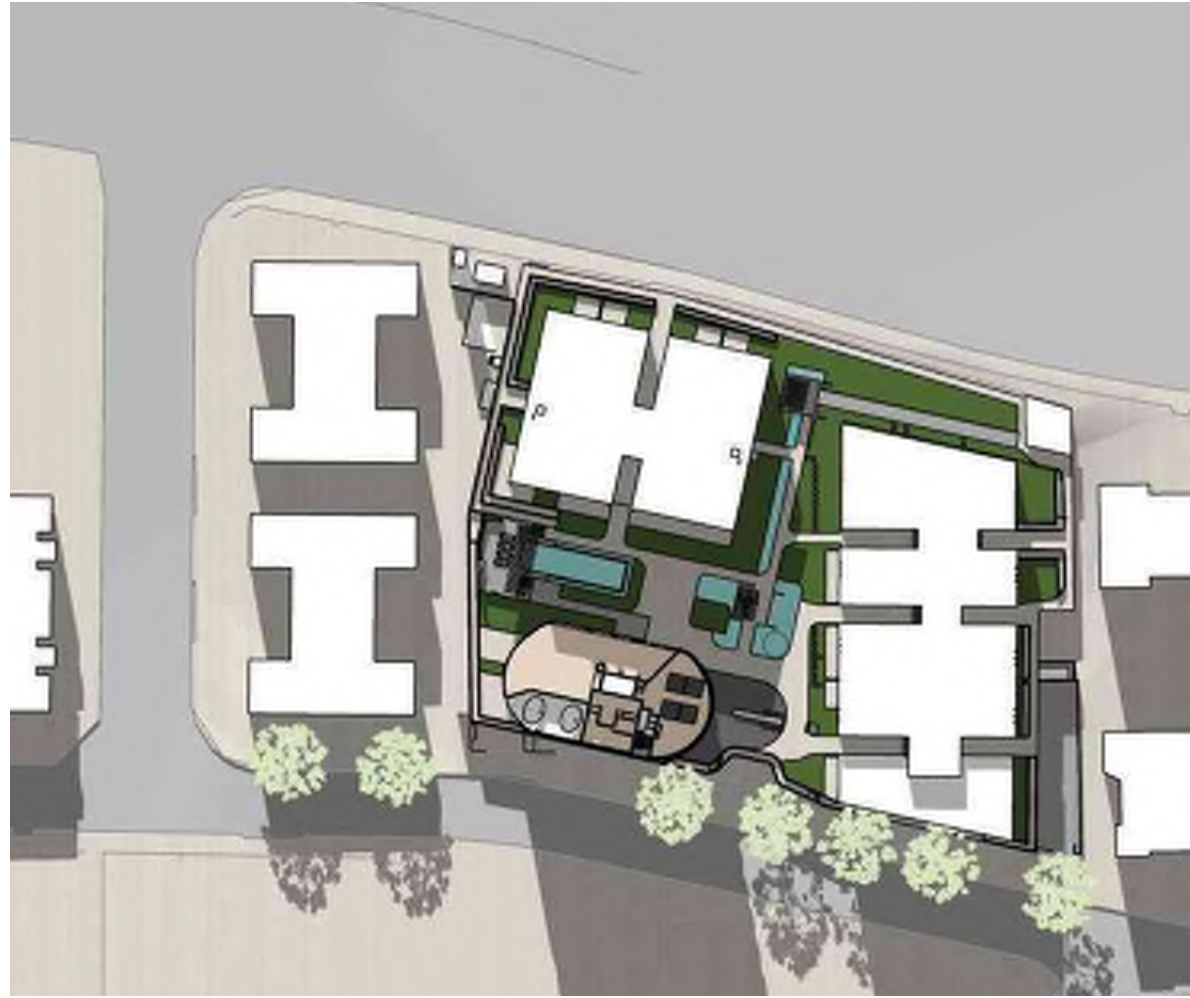
Shadow analysis 21 June - 9am



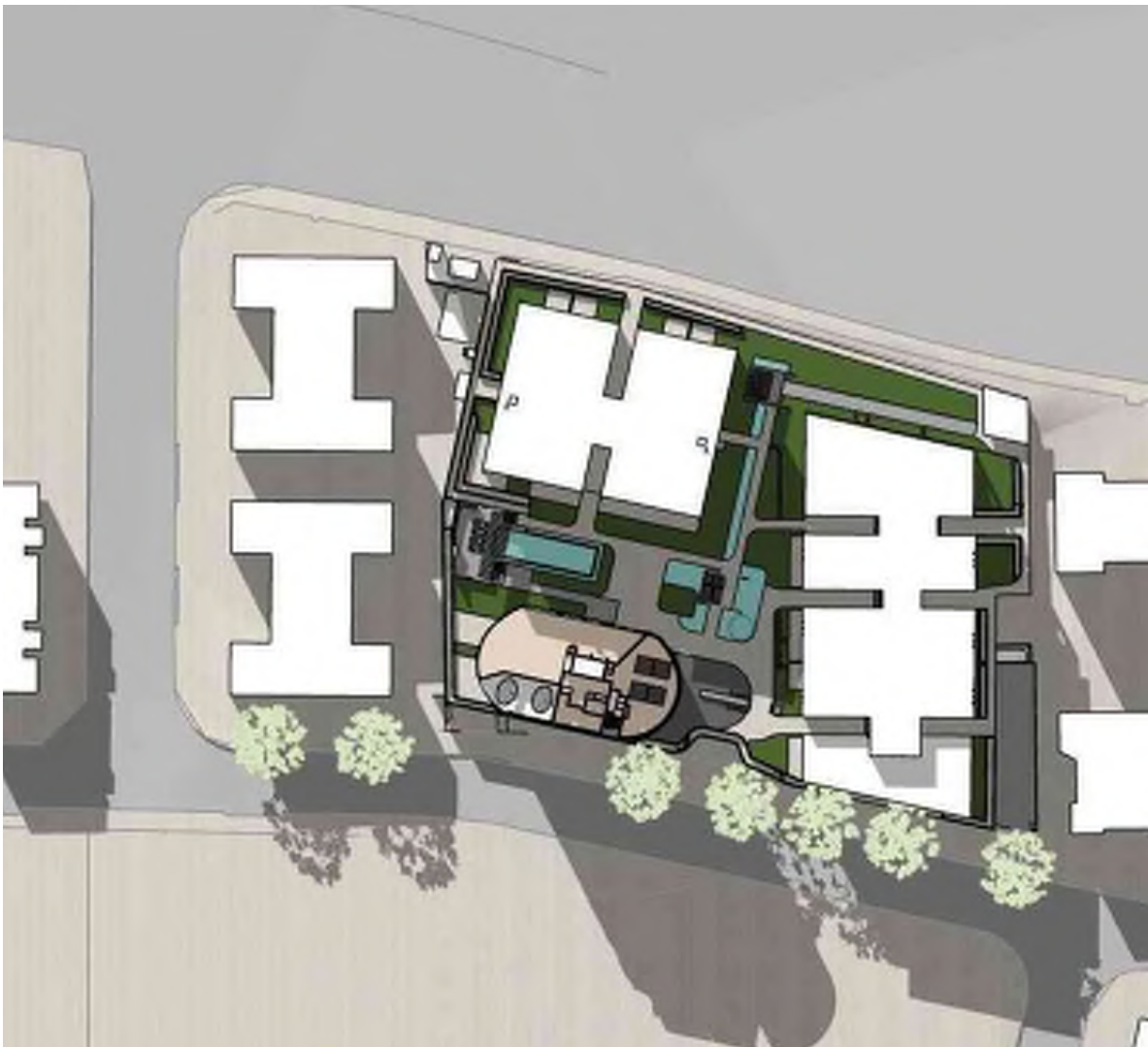
Shadow analysis 21 June - 10am



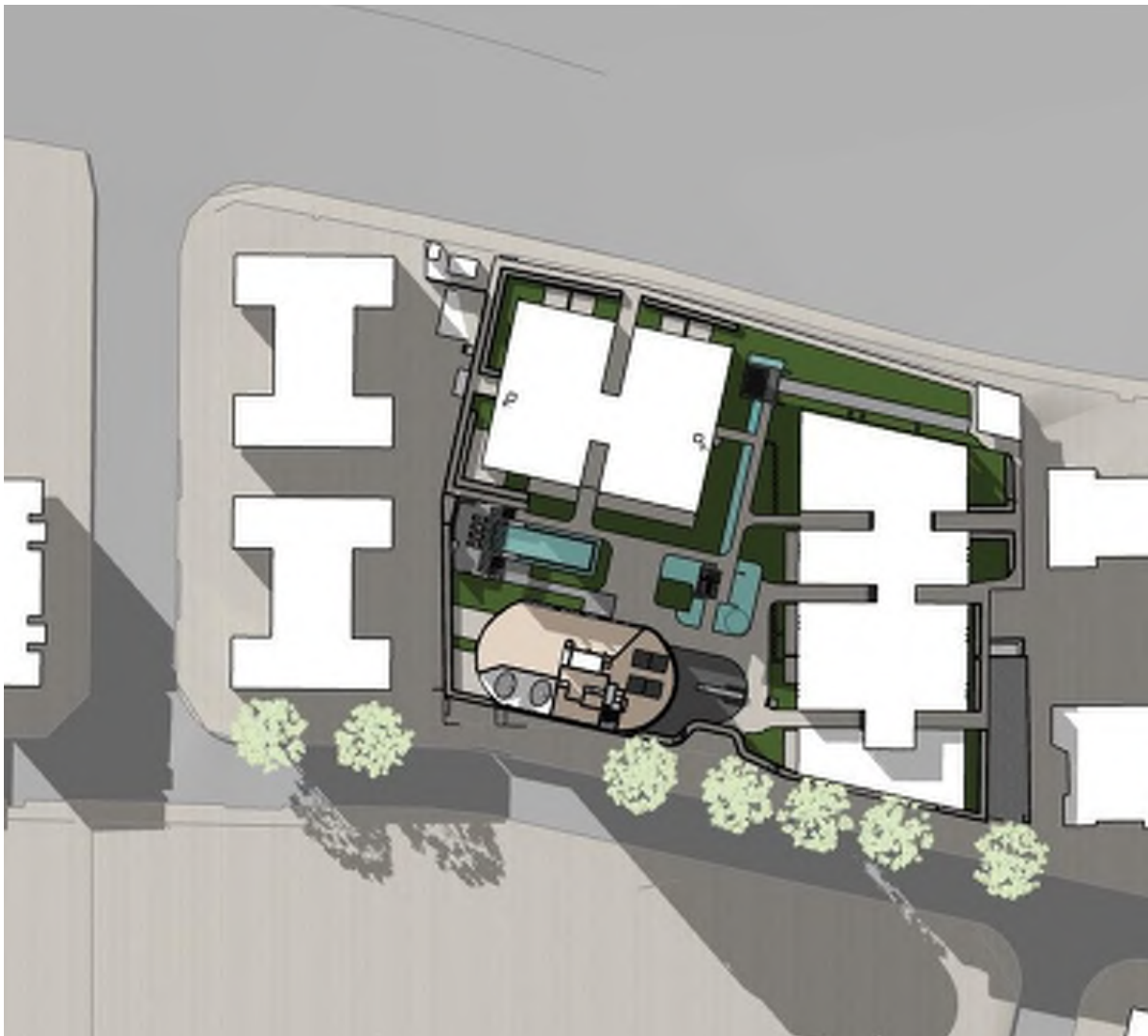
Shadow analysis 21 June - 11am



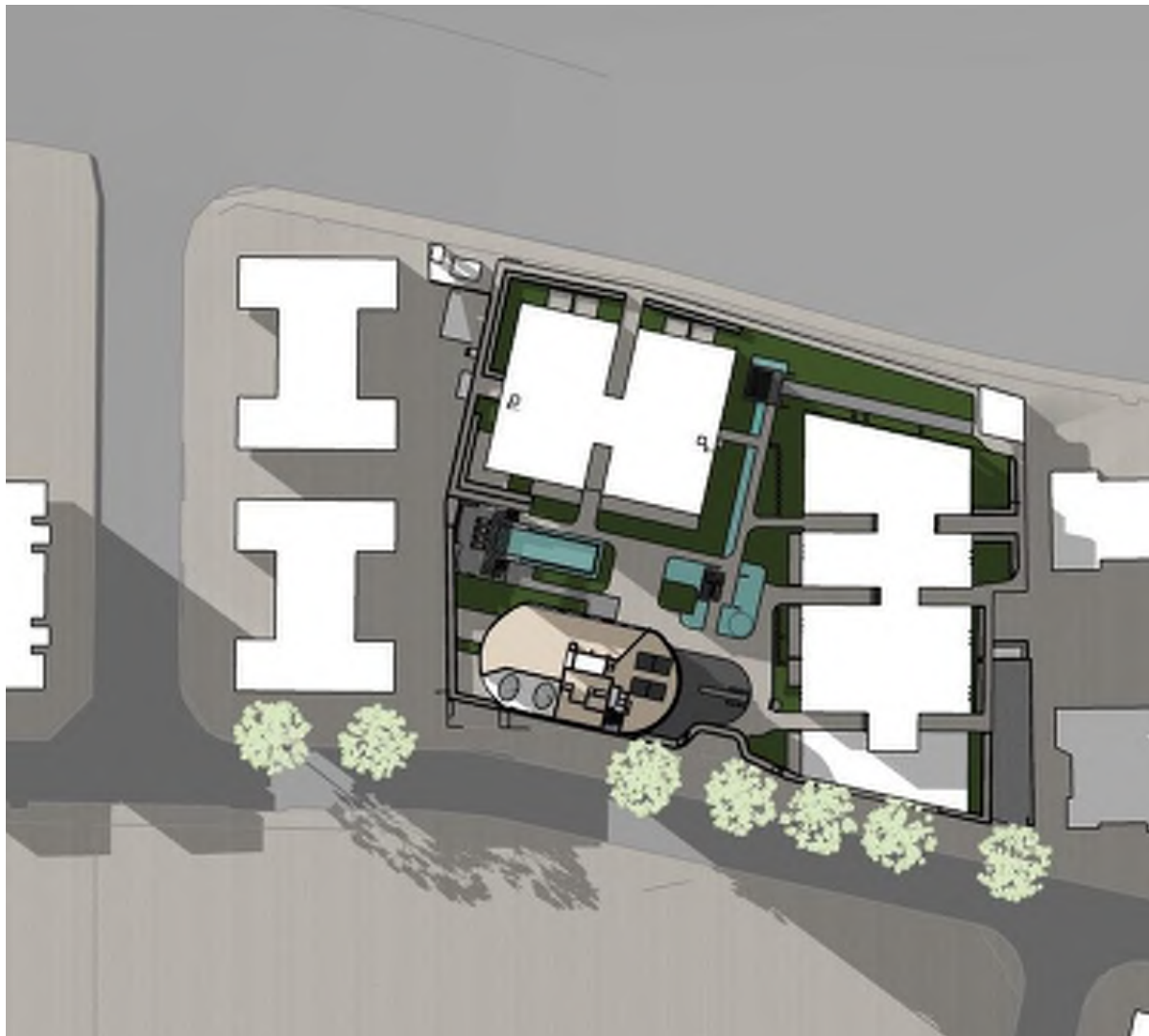
Shadow analysis 21 June - 12pm



Shadow analysis 21 June - 1pm



Shadow analysis 21 June - 2pm



Shadow analysis 21 June - 3pm

4.0

Average star rating

NATIONWIDE

HOUSE

ENERGY RATING SCHEME

[www.nathers.gov.au](http://www.nathers.gov.au)

Certificate Number:  
Assessor Name:  
Accreditation number:  
Certificate date:  
Dwelling address:

JMYV7X5YLZ

Nicholas Asha

VIC/BDV/16/1712

30 Jun 2017

18 Evans Ave,  
Eastlakes NSW 2018

[www.nathers.gov.au](http://www.nathers.gov.au)

<https://www.f15.com.au/QRCodes/Landing?PublicId=JMYV7X5YLZ&GpCert=1>

June 21st 9am

June 21 10am

June 21 11am

02	28/6/17	S75W submission	CR	
01	28/6/17	S75W submission	CR	
B	16/6/17	Final Check prior to S75W submission	HK	
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rev	date	name	by	chk
client				
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CrownGroup				

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project  
**EASTLAKES TOWN CENTRE - NORTH SITE**  
Evans Avenue Eastlakes  
SYDNEY NSW 2018

title  
**SECTION 75W APPLICATION  
Shadow Analysis**

scale	1:500 @ A1	first issued	02/05/2017
project code	sheet no.	revision	
CGE-NS	S75W 130012	02	

For Approval





- GENERAL NOTES**
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  - DO NOT SCALE DRAWINGS
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legend



Certificate Number:  
Assessor Name:  
Accreditation number:  
Certificate date:  
Dwelling address:

**JMYV7X5YLZ**  
**Nicholas Asha**  
**VIC/BDAV/16/1712**  
**30 Jun 2017**

**18 Evans Ave,**  
**Eastlakes NSW 2018**

[www.nathers.gov.au](http://www.nathers.gov.au)



<https://www.fjs.com.au/QRCodes/Landing?PublicId=JMYV7X5YLZ&GpCert=1>

03	4/7/17	STW submission	HK
02	28/6/17	STW submission	CR
01	23/6/17	STW submission	CR
rev	date	name	by
			chk

**1** Photomontage : EVANS AVENUE

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project  
**EASTLAKES TOWN CENTRE - NORTH SITE**  
Evans Avenue Eastlakes  
SYDNEY NSW 2018

title  
**SECTION 75W APPLICATION**  
**Photomontage 2**

scale	1:200 @ A1	first issued	01/03/2017
project code	sheet no.	revision	
<b>CGE-NS</b>	<b>S75W 130014</b>	<b>03</b>	

**For Approval**