

# BASIX<sup>®</sup>Certificate

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

## Multi Dwelling

Certificate number: 834076M




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: Thursday, 29 June 2017

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



Project summary		
Project name	6782	
Street address	Lot 176 Bradley Street Glenmore Park 2745	
Local Government Area	Penrith City Council	
Plan type and plan number	deposited 1203990	
Lot no.	176	
Section no.	-	
No. of residential flat buildings	0	
No. of units in residential flat buildings	0	
No. of multi-dwelling houses	21	
No. of single dwelling houses	0	
Project score		
Water	 40	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 40	Target 40

Certificate Prepared by
Name / Company Name: Partners Energy Management
ABN (if applicable): 15 418 789 019

# Description of project

## Project address

Project name	6782
Street address	Lot 176 Bradley Street Glenmore Park 2745
Local Government Area	Penrith City Council
Plan type and plan number	deposited 1203990
Lot no.	176
Section no.	-

## Project type

No. of residential flat buildings	0
No. of units in residential flat buildings	0
No. of multi-dwelling houses	21
No. of single dwelling houses	0

## Site details

Site area (m <sup>2</sup> )	4028
Roof area (m <sup>2</sup> )	1400
Non-residential floor area (m <sup>2</sup> )	0.0
Residential car spaces	8
Non-residential car spaces	0

## Common area landscape

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

## Assessor details

Assessor number	20039
Certificate number	1011243373
Climate zone	28

## Project score

Water	✓ 40	Target 40
Thermal Comfort	✓ Pass	Target Pass
Energy	✓ 40	Target 40



## Description of project

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

### Multi-dwelling houses

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> )
U505	3	252.9	17.7	40.0	0.0
U509	3	133.5	0.0	40.0	0.0
U513	3	133.5	0.0	40.0	0.0
U517	3	133.5	0.0	40.0	0.0
U521	3	174.0	0.0	40.0	0.0
U525	3	164.6	0.0	40.0	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> )
U506	3	133.5	0.0	40.0	0.0
U510	3	164.6	0.0	40.0	0.0
U514	3	164.6	0.0	40.0	0.0
U518	3	133.5	0.0	40.0	0.0
U522	3	142.7	0.0	40.0	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> )
U507	3	133.5	0.0	40.0	0.0
U511	3	164.6	0.0	40.0	0.0
U515	3	164.6	0.0	40.0	0.0
U519	3	133.5	0.0	40.0	0.0
U523	3	142.7	0.0	40.0	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> )
U508	3	133.5	0.0	40.0	0.0
U512	3	133.5	0.0	40.0	0.0
U516	3	133.5	0.0	40.0	0.0
U520	3	174.0	0.0	40.0	0.0
U524	3	142.7	0.0	40.0	0.0

**No common areas specified.**

# Schedule of BASIX commitments

## 1. Commitments for multi-dwelling houses

### (a) Dwellings

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

## 2. Commitments for single dwelling houses

## 3. 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 multi-dwelling houses

#### (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)	3 star	4 star	4 star	no	-	-	-	-	-	-	-	-	-

	Alternative water source							
Dwelling no.	Alternative water supply systems	Size	Configuration	Landscape connection	Toilet connection (s)	Laundry connection	Pool top-up	Spa top-up
All dwellings	individual water tank (no. 1)	Tank size (min) 2000.0 litres	To collect run-off from at least: 60.0 square metres of roof area; 0.0 square metres of impervious area; 0.0 square metres of garden and lawn area; and 0.0 square metres of planter box area.	yes	no	yes	no	no
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.		✓	✓

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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.		✓	✓
(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".		✓	
(j) The applicant must install the photovoltaic system specified for the dwelling under the "Photovoltaic system" heading of the "Alternative energy" column of the table below, and connect the system to that dwelling's electrical system.	✓	✓	✓

	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	gas instantaneous 5 star	individual fan, ducted to façade or roof	manual switch on/off	individual fan, not ducted	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off

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
U505	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	0	0	no	no	no	no	0	yes
All other dwellings	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	0	0	no	no	no	no	0	no

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	-	yes	-	-	-	no	yes

Alternative energy	
Dwelling no.	Photovoltaic system (min rated electrical output in peak kW)
All dwellings	-

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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.			

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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.	✓	✓	✓

	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)
U505	83.8	87.6
U506	33.2	34.0
U520	54.5	38.3
U521	55.7	38.3
U525	75.0	49.2
U510, U514	65.4	39.5
U511, U515	64.6	40.3
U522, U523, U524	30.6	35.7



	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)
All other dwellings	33.8	33.9

	Construction of floors and walls				
Dwelling no.	Concrete slab on ground(m <sup>2</sup> )	Suspended floor with open subfloor (m <sup>2</sup> )	Suspended floor with enclosed subfloor (m <sup>2</sup> )	Suspended floor above garage (m <sup>2</sup> )	Primarily rammed earth or mudbrick walls
U505	89	17	-	12	No
U520,U521	67	47	-	-	No
U522,U523,U524,U526	67	15	-	-	No
U510,U511,U513,U514,U515,U525	36	14	-	36	No
All other dwellings	63	14	-	-	No

### 3. 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

(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.	✓	✓	✓

## 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).

**THERMAL PERFORMANCE SPECIFICATIONS:**

**The following specifications take precedence over other plan notations for the construction of this building.**

**NOTE:** In addition to BASIX commitments; building compliance is required to comply with the 'New South Wales Additions' in the current edition of the NCC – Vol. 2, at the time of building.

This includes New South Wales Parts 2.6 and 3.12.

Specific mention is made of the following provisions:

- Building Fabric Thermal Insulation

(NOTE: If steel framing is used a thermal break may be required)

- Building Sealing

- Building Services

(NOTE: Ventilation requirements of Section 3.8.5.2 c (ii) (B) must also be complied with and this means bathrooms should not normally be exhausted into roofspaces.)

**WINDOWS (total product specification – glass + frame)**

U-value 5.40 (or less than) & SHGC 0.58 (+/-5%) (Default: Low-e Glass in AL. frame)

**EXTERNAL WALL (Medium colour)**

Brick Veneer – R1.0 Bulk insulation with anti-glare reflective airgap

**INTERNAL WALL**

Cavity Panel – No Insulation

Partition walls – Brick – No thermal insulation required

**EXTERNAL FLOOR**

Concrete Slab on Ground – No insulation

Suspended Timber (Open Sub-Floor) – R1.0 Bulk insulation

**CEILING SPACE with ROOF ABOVE**

Plasterboard – R2.5 Bulk insulation

**ROOF (Medium colour) (Non-ventilated)**

Sheet Metal Roofing – 55mm Foil Blanket with reflective airgap

**RATED either with NO DOWNLIGHTS or with LED downlights which do not penetrate ceiling insulation (ie: IC rated)**

# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 505 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243381

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPro)

SOFTWARE

83.8 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

87.6 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

171.4 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

252.9 m<sup>2</sup>

FLOOR AREA - CONDITIONED

17.7 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

270.6 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039

ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

Issued by a BUILDING THERMAL PERFORMANCE  
ASSESSOR accredited by the Australian Building  
Sustainability Association to provide NatHERS  
house energy ratings.



# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 506 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243399

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPro)

SOFTWARE

33.2 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

34.0 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

67.2 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

133.5 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

133.5 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039

ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

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house energy ratings.

# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 507 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243407

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPro)

SOFTWARE

33.8 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

33.9 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

67.7 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

133.5 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

133.5 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

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# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 508 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243415

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPro)

SOFTWARE

33.8 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

33.9 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

67.7 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

133.5 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

133.5 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039

ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

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ASSESSOR accredited by the Australian Building  
Sustainability Association to provide NatHERS  
house energy ratings.



# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 509 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243423

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPro)

SOFTWARE

33.8 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

33.9 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

67.7 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

133.5 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

133.5 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039

ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

Issued by a BUILDING THERMAL PERFORMANCE  
ASSESSOR accredited by the Australian Building  
Sustainability Association to provide NatHERS  
house energy ratings.



NatHERS Rated  
5.3/10 STARS\*

\*www.nathers.gov.au



# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 510 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243431

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPro)

SOFTWARE

65.4 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

39.5 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

104.9 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

164.6 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

164.6 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039

ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

Issued by a BUILDING THERMAL PERFORMANCE  
ASSESSOR accredited by the Australian Building  
Sustainability Association to provide NatHERS  
house energy ratings.



# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 511 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243449

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPPro)

SOFTWARE

64.6 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

40.3 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

104.9 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

164.6 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

164.6 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039

ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

Issued by a BUILDING THERMAL PERFORMANCE  
ASSESSOR accredited by the Australian Building  
Sustainability Association to provide NatHERS  
house energy ratings.

# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 512 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243456

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPro)

SOFTWARE

33.8 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

33.9 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

67.7 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

133.5 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

133.5 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039

ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

Issued by a BUILDING THERMAL PERFORMANCE  
ASSESSOR accredited by the Australian Building  
Sustainability Association to provide NatHERS  
house energy ratings.



# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 513 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243464

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPro)

SOFTWARE

33.8 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

33.9 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

67.7 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

133.5 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

133.5 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039

ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

Issued by a BUILDING THERMAL PERFORMANCE  
ASSESSOR accredited by the Australian Building  
Sustainability Association to provide NatHERS  
house energy ratings.

# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 514 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243472

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPro)

SOFTWARE

65.4 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

39.5 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

104.9 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

164.6 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

164.6 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039

ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

Issued by a BUILDING THERMAL PERFORMANCE  
ASSESSOR accredited by the Australian Building  
Sustainability Association to provide NatHERS  
house energy ratings.



# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 515 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243480

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPro)

SOFTWARE

64.6 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

40.3 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

104.9 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

164.6 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

164.6 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039

ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

Issued by a BUILDING THERMAL PERFORMANCE  
ASSESSOR accredited by the Australian Building  
Sustainability Association to provide NatHERS  
house energy ratings.

# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 516 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243498

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPro)

SOFTWARE

33.8 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

33.9 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

67.7 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

133.5 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

133.5 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039

ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

Issued by a BUILDING THERMAL PERFORMANCE  
ASSESSOR accredited by the Australian Building  
Sustainability Association to provide NatHERS  
house energy ratings.



# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 517 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243506

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPro)

SOFTWARE

33.8 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

33.9 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

67.7 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

133.5 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

133.5 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039

ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

Issued by a BUILDING THERMAL PERFORMANCE  
ASSESSOR accredited by the Australian Building  
Sustainability Association to provide NatHERS  
house energy ratings.

# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 518 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243514

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPPro)

SOFTWARE

33.8 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

33.9 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

67.7 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

133.5 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

133.5 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039

ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

Issued by a BUILDING THERMAL PERFORMANCE  
ASSESSOR accredited by the Australian Building  
Sustainability Association to provide NatHERS  
house energy ratings.



# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 519 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243522

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPro)

SOFTWARE

33.8 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

33.9 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

67.7 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

133.5 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

133.5 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039

ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

Issued by a BUILDING THERMAL PERFORMANCE  
ASSESSOR accredited by the Australian Building  
Sustainability Association to provide NatHERS  
house energy ratings.

# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 520 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243530

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPro)

SOFTWARE

54.5 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

38.3 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

92.8 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

174.0 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

174.0 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039

ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

Issued by a BUILDING THERMAL PERFORMANCE  
ASSESSOR accredited by the Australian Building  
Sustainability Association to provide NatHERS  
house energy ratings.



# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 521 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243548

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPro)

SOFTWARE

55.7 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

38.3 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

94.0 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

174.0 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

174.0 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039

ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

Issued by a BUILDING THERMAL PERFORMANCE  
ASSESSOR accredited by the Australian Building  
Sustainability Association to provide NatHERS  
house energy ratings.

# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 522 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243555

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPPro)

SOFTWARE

30.6 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

35.7 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

66.3 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

142.7 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

142.7 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039

ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

Issued by a BUILDING THERMAL PERFORMANCE  
ASSESSOR accredited by the Australian Building  
Sustainability Association to provide NatHERS  
house energy ratings.



# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 523 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243563

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPPro)

SOFTWARE

30.6 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

35.7 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

66.3 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

142.7 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

142.7 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039

ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

Issued by a BUILDING THERMAL PERFORMANCE  
ASSESSOR accredited by the Australian Building  
Sustainability Association to provide NatHERS  
house energy ratings.

# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 524 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243571

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPro)

SOFTWARE

30.6 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

35.7 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

66.3 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

142.7 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

142.7 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039

ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

Issued by a BUILDING THERMAL PERFORMANCE  
ASSESSOR accredited by the Australian Building  
Sustainability Association to provide NatHERS  
house energy ratings.



# BUILDING ENERGY EFFICIENCY CERTIFICATE

Mint Holdings Pty Ltd

ISSUED TO

Unit 525 Lot 176 Bradley St

ADDRESS

Site Lot 176

Glenmore Park

NSW

2745

1011243589

CERTIFICATION NUMBER

29/06/2017

DATE

28

CLIMATE ZONE

BERSPPro - v4.3.0.1 (BERSPro)

SOFTWARE

75.0 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION - HEATING

49.2 MJ/m<sup>2</sup> pa

SIMULATED ENERGY CONSUMPTION -  
COOLING

124.2 MJ/m<sup>2</sup> pa

TOTAL SIMULATED ENERGY CONSUMPTION

164.6 m<sup>2</sup>

FLOOR AREA - CONDITIONED

0.0 m<sup>2</sup>

FLOOR AREA - UNCONDITIONED

164.6 m<sup>2</sup>

FLOOR AREA - TOTAL

David Howard

ASSESSOR NAME

20039


ASSESSOR NUMBER

Partners Energy Management

COMPANY

ASSESSOR SIGNATURE

Issued by a BUILDING THERMAL PERFORMANCE  
ASSESSOR accredited by the Australian Building  
Sustainability Association to provide NatHERS  
house energy ratings.

<b>Project Certification Number</b>	1011243373
<b>Certification Date</b>	29/06/2017
<b>Assessor Name</b>	David Howard
<b>Assessor Number</b>	20039
<b>Assessor Company</b>	Partners Energy Management
<b>Assessor Signature</b>	

<b>Client Details</b>	Mint Holdings Pty Ltd
<b>Project Address</b>	Lot 176 Lot 176 Bradley St Glenmore Park NSW 2745

<b>Software</b>	BERSPRO v4.3.0.1 (BERSPRO)	<b>Climate Zone</b>	28
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### Class 1 Dwelling Thermal Performance Specifications

Dwelling Number	Certificate Number	Floor Area		Simulated Loads (area adjusted MJ/m2/y)		NatHERS	Rated with Downlights
		Conditioned	Unconditioned	Heating	Cooling	Star Rating	
505	1011243381	252.9	17.7	83.8	87.6	3.4/10	No
506	1011243399	133.5	0.0	33.2	34.0	6.9/10	No
507	1011243407	133.5	0.0	33.8	33.9	6.9/10	No
508	1011243415	133.5	0.0	33.8	33.9	6.9/10	No
509	1011243423	133.5	0.0	33.8	33.9	6.9/10	No
510	1011243431	164.6	0.0	65.4	39.5	5.3/10	No
511	1011243449	164.6	0.0	64.6	40.3	5.3/10	No
512	1011243456	133.5	0.0	33.8	33.9	6.9/10	No
513	1011243464	133.5	0.0	33.8	33.9	6.9/10	No
514	1011243472	164.6	0.0	65.4	39.5	5.3/10	No

Project Certification Number	1011243373
Certification Date	29/06/2017

Class 1 Dwelling Thermal Performance Specifications							
Dwelling Number	Certificate Number	Floor Area		Simulated Loads (area adjusted MJ/m2/y)		NatHERS	Rated with Downlights
		Conditioned	Unconditioned	Heating	Cooling	Star Rating	
515	1011243480	164.6	0.0	64.6	40.3	5.3	No
516	1011243498	133.5	0.0	33.8	33.9	6.9	No
517	1011243506	133.5	0.0	33.8	33.9	6.9	No
518	1011243514	133.5	0.0	33.8	33.9	6.9	No
519	1011243522	133.5	0.0	33.8	33.9	6.9	No
520	1011243530	174.0	0.0	54.5	38.3	5.8	No
521	1011243548	174.0	0.0	55.7	38.3	5.8	No
522	1011243555	142.7	0.0	30.6	35.7	6.9	No
523	1011243563	142.7	0.0	30.6	35.7	6.9	No
524	1011243571	142.7	0.0	30.6	35.7	6.9	No
525	1011243589	164.6	0.0	75.0	49.2	4.6	No

## Nationwide House Energy Rating Scheme\* — Multiple-dwelling summary

Certificate number: **0001670470**

Certificate Date: **30 Jun 2017**

★ Average Star rating: **6.2**



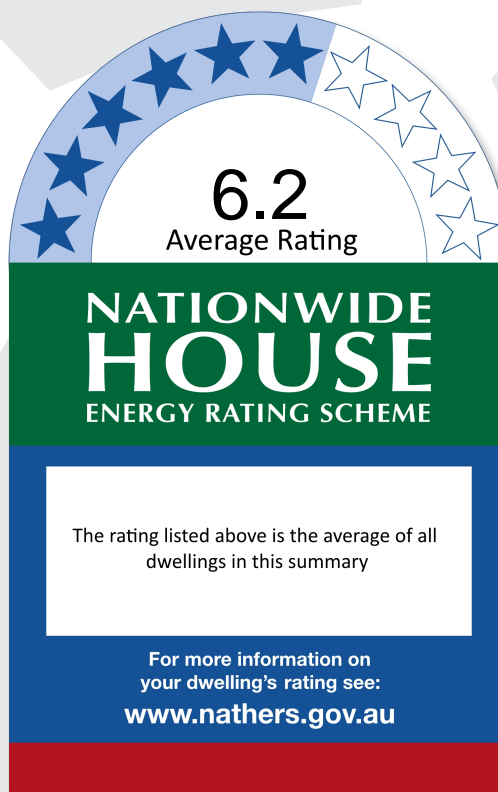
### Assessor details

Accreditation number: **20039**  
Name: **David Howard**  
Organisation: **Partners Energy Management**  
Email: **david@partnersenergy.com.au**  
Phone: **0421381005**  
Declaration of interest: **The Assessor has provided design advice to the Applicant**  
Software: **BERS Pro v4.3.0.2a (3.13)**  
  
AAO: **ABSA**

### Dwelling details

Street: **Bradley St**  
Suburb: **Glenmore Park**  
State: **NSW**  
Postcode: **2745**

Scan to access this certificate online and confirm this is valid.



## Summary of all dwellings

### Certificate Details

Certificate number	Dwelling/Unit number	Heating load	Cooling load	Total load	Star Rating
0001668045	U505	84	88	171	3.4
0001668060	U506	33	34	67	6.9
0001668094	U507	34	34	68	6.9
0001668102	U508	34	34	68	6.9
0001668128	U509	34	34	68	6.9
0001667948	U510	65	40	105	5.3
0001667989	U511	65	40	105	5.3
0001667997	U512	34	34	68	6.9
0001668003	U513	34	34	68	6.9
0001668011	U514	65	40	105	5.3
0001668029	U515	65	40	105	5.3
0001670405	U516	34	34	68	6.9
0001670462	U517	34	34	68	6.9
0001668219-02	U518	34	34	68	6.9
0001668037-02	U519	34	34	68	6.9

\* Nationwide House Energy Rating Scheme (NatHERS) is an initiative of the Australian, state and territory governments.

For more details see [www.nathers.gov.au](http://www.nathers.gov.au)

## Nationwide House Energy Rating Scheme\* - Multiple Dwelling Summary

Certificate number: **0001670470**

Certificate Date:

**30 Jun 2017**

★ Average Star rating: **6.2**



### Summary of all dwellings continued

#### Certificate Details

Certificate number	Dwelling/Unit number	Heating load	Cooling load	Total load	Star Rating
0001668052	U520	55	38	93	5.8
0001668078	U521	56	38	94	5.8
0001668086	U522	31	36	66	6.9
0001667922	U523	31	36	66	6.9
0001667955	U524	31	36	66	6.9
0001667963	U525	75	49	124	4.6



**PROJECT**  
SUBDIVISION COMPRISING OF 21 NEW TWO AND THREE STOREY TOWNHOUSES  
WITH PRIVATE ROAD AND ASSOCIATED LANDSCAPING, AND 4 LAND ONLY LOTS.

**Proposed Development at Bradley Heights,  
Cnr Bradley Street & Edgewater Drive  
Glenmore Park NSW, Glenmore Park  
NSW**

**Sheet Index DA**

**Layout No:      Layout Name**

DA 0000 (A)	COVERPAGE
DA 1000 (A)	SITE CONTEXT
DA 1001 (A)	SUBDIVISION PLAN
DA 1002 (A)	BUILDING ENVELOPES PLAN
DA 1003 (A)	SITE & ROOF PLAN
DA 2000 (A)	MASTER PLAN
DA 2001 (A)	TERRACE PLAN - TYPE A
DA 2002 (A)	TERRACE PLAN - TYPE A W/ HOME OFFICE
DA 2003 (A)	TERRACE PLAN - TYPE B
DA 2004 (A)	TERRACE PLAN - TYPE B W/ HOME OFFICE
DA 2005 (A)	LOT 505 & 506 - GROUND FLOOR PLAN
DA 2006 (A)	LOT 505 & 506 - FIRST FLOOR PLAN
DA 2007 (A)	LOT 505 & 506 - SECOND FLOOR PLAN
DA 2008 (A)	LOT 525 - GROUND & FIRST FLOOR PLAN
DA 2400 (A)	ELEVATION NORTH 01
DA 2401 (A)	ELEVATION NORTH 02
DA 2402 (A)	ELEVATION SOUTH 01
DA 2403 (A)	ELEVATION SOUTH 02
DA 2404 (A)	ELEVATION EAST
DA 2405 (A)	ELEVATION WEST
DA 2500 (A)	SECTION A 01
DA 2501 (A)	SECTION A 02
DA 6000 (A)	EXTERNAL FINISHES
DA 9100 (A)	GFA DIAGRAMS
DA 9101 (A)	PRIVATE OPEN SPACE DIAGRAMS
DA 9102 (A)	LANDSCAPE AREA DIAGRAMS
DA 9300 (A)	WASTE MGT PLAN
DA 9401 (A)	SHADOWS JUNE 21st 9am
DA 9402 (A)	SHADOWS JUNE 21st 12pm
DA 9403 (A)	SHADOWS JUNE 21st 3pm



**THERMAL PERFORMANCE SPECIFICATIONS:**  
The following specifications take precedence over other plan notations for the construction of this building.  
**NOTE:** In addition to BASIX commitments; building compliance is required to comply with the 'New South Wales Additions' in the current edition of the NCC – Vol. 2, at the time of building.  
This includes New South Wales Parts 2.6 and 3.12.  
Specific mention is made of the following provisions:  
- Building Fabric Thermal Insulation  
(NOTE: If steel framing is used a thermal break may be required)  
- Building Sealing  
- Building Services  
(NOTE: Ventilation requirements of Section 3.8.5.2 c (ii) (B) must also be complied with and this means bathrooms should not normally be exhausted into roofspaces.)

**WINDOWS (total product specification – glass + frame)**  
U-value 5.40 (or less than) & SHGC 0.58 (+/-5%) (Default: Low-e Glass in AL frame)

**EXTERNAL WALL (Medium colour)**  
Brick Veneer – R1.0 Bulk insulation with anti-glare reflective airgap

**INTERNAL WALL**  
Cavity Panel – No Insulation  
Partition walls – Brick – No thermal insulation required

**EXTERNAL FLOOR**  
Concrete Slab on Ground – No insulation  
Suspended Timber (Open Sub-Floor) – R1.0 Bulk insulation

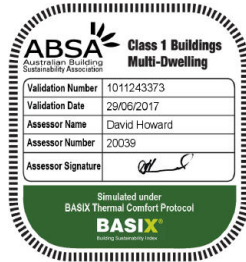
**CEILING SPACE with ROOF ABOVE**  
Plasterboard – R2.5 Bulk insulation

**ROOF (Medium colour) (Non-ventilated)**  
Sheet Metal Roofing – 55mm Foil Blanket with reflective airgap

**RATED either with NO DOWNLIGHTS or with LED downlights which do not penetrate ceiling insulation (ie: IC rated)**



Certificate no.: 0001670470  
Assessor Name: David Howard  
Accreditation no.: 20039  
Certificate date: 30 June 2017  
Dwelling Address: Bradley St  
Glenmore Park, NSW  
2745



REVISIONS	PLOTTED: 28/06/2017	GENERAL NOTES
A DEVELOPMENT APPLICATION	28-06-2017	ALL WORKS TO BE IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA/ AUSTRALIAN STANDARDS/ STATUTORY REGULATIONS AND LOCAL AUTHORITY REQ. CONTRACTOR TO ENSURE CONSISTENCY BETWEEN MATERIALS IS MAINTAINED CONTRACTOR TO NOTIFY MAIN OF ANY DISCREPANCIES, DIMENSIONAL INCONSISTENCIES OR THE NEED FOR CLARIFICATION PRIOR TO MANUFACTURING MIN TO REVIEW ALL CONTRACTORS DETAILED DRAWINGS/ SETTING OUT PRIOR TO CONSTRUCTION CONTRACTOR TO Liaise with ELECTRICAL CONTRACTORS TO ENSURE ALL POWER/ DATA/ COMMUNICATION REQUIREMENTS ARE ACCESSIBLE ALL DIMENSIONS TO BE VERIFIED ON SITE - DO NOT SCALE ALL WORKS TO BE VERIFIED AGAINST DRAWINGS FOLLOWING CONSTRUCTION AND ARCHITECT TO BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH NEXT TRADE

**ALL CONSTRUCTION TO COMPLY AT MINIMUM W/ BCA CLAUSES & AUSTRALIAN STANDARDS**

CLAUSE B 1.4 - MATERIAL & FORMS CONSTRUCTIONS  
SPEC C 1.1 - FIRE RESISTING CONSTRUCTION  
SPEC C 1.19 - FIRE HAZARD PROPERTIES  
SPEC C 1.11 - PERFORMANCE OF EXTERNAL WALLS IN A FIRE  
CLAUSE C2.6 - VERTICAL SEPARATION OF OPENINGS IN EXTERNAL WALL  
CLAUSE C2.12 - SEPARATION OF EQUIPMENT  
CLAUSE C2.13 - ELECTRICITY SUPPLY SYSTEM  
CLAUSE C2.15 - ACCEPTABLE METHOD OF PROTECTION (OF OPENINGS)  
CLAUSE C3.8 - OPENING IN FIRE ISOLATED EXITS  
CLAUSE D1.10 - DISCHARGE FROM EXITS  
CLAUSE D2.7 - INSTALLATIONS IN EXITS AND PATHS OF TRAVEL  
CLAUSE D2.13 - GORGES AND RISERS  
CLAUSE D2.14 - LANDINGS  
CLAUSE D2.16 - THRESHOLDS  
CLAUSE D2.18 - BALUSTRADES

CLAUSE D2.17 - HANDRAILS  
CLAUSE D2.21 - OPERATION OF LATCH  
CLAUSE D2.23 - SIGNS ON DOORS  
CLAUSE D3.2 - GENERAL BUILDING ACCESS REQUIREMENTS  
CLAUSE D3.3 - PARTS OF BUILDING TO BE ACCESSIBLE  
CLAUSE D3.6 - IDENT. OF ACCESSIBLE FACILITIES/ FEATURES  
CLAUSE D3.7 - WATERPROOFING OF WET AREAS  
CLAUSE D3.9 - TACTILE INDICATORS  
CLAUSE D3.10 - DAMP PROOFING  
CLAUSE D3.11 - CONSTRUCTION OF SANITARY COMPARTMENTS  
PART F4 - LIGHTING AND VENTILATION  
CLAUSE F5.4 - SOUND INSULATION OF FLOORS  
CLAUSE F5.5 - SOUND INSULATION OF WALLS  
CLAUSE F5.6 - SOUND INSULATION OF SERVICES  
CLAUSE F5.7 - SOUND INSULATION OF PUMPS

**SPECIFICATIONS (refer to specification attachment)**  
**ARTIFICIAL LIGHTING:** TO COMPLY WITH BCA PART CLAUSE F 4 & AS1686  
**BALUSTRADE HEIGHTS:** TO COMPLY WITH BCA CLAUSE D2.18  
**DRAINAGE GUTTERS & DOWNPIPES:** TO COMPLY WITH AS2601 3.2  
**ENERGY EFFICIENT GLAZING:** TO COMPLY WITH J2 OF BCA  
**FIRE SERVICES:** TO COMPLY WITH SECTION 2 OF BCA  
**HOT WATER SYSTEMS:** TO COMPLY WITH PART J7 OF BCA  
**MACHINERY:** TO COMPLY WITH AS3700  
**MECHANICAL AIR CONDITIONING:** TO COMPLY WITH PART J4 OF BCA  
**MECHANICAL EXHAUST VENTILATION:** TO COMPLY WITH AS1989 & AS882  
**SMOKE ALARMS:** TO COMPLY WITH BCA PART CLAUSE & SPEC E2.2 & AS3786  
**PENETRATIONS:** THROUGH FIRE RATED CONSTRUCTION FOR  
MECHANICAL/ HYDRAULIC PENETRATIONS TO COMPLY WITH BCA CLAUSE C3.13 & AS1530 4.2.2005  
**SOUND TRANSMISSION:** TO COMPLY WITH PARTS OF BCA  
**STAIR CONSTRUCTION:** TO COMPLY WITH BCA CLAUSE D2.13  
**WATERPROOFING OF WET AREAS:** TO COMPLY WITH AS1740

**BASIX COMMITMENTS**  
ALL OTHER BASIX COMMITMENTS AS PER BASIX CERTIFICATE AND STAMPED PLANS)

**WATER OPTIONS**  
SHOWERHEADS: # STAR  
TOILETS: # STAR  
CLOTHES WASHERS: # STAR  
BATHROOM TAPS: # STAR  
BATHROOM TAPS: # STAR  
RAIN WATER TANK: # STAR  
STORM WATER TANK: # STAR  
POOL SPA: # STAR  
COLLECT RUN OFF AREA: # STAR  
LANDSCAPED AREA TO IRRIGATE: # STAR

**ENERGY OPTIONS**  
COOLING: # STAR  
HEATING: # STAR  
VENTILATION: # STAR  
WATER HEATING: # STAR  
ENERGY EFFICIENT LIGHTING: # STAR  
COOK TOPS: # STAR  
REFRIGERATOR SPACE: # STAR  
CLOTHES DRYING LINES: # STAR  
ALTERNATIVE SUPPLY: # STAR  
POOL SPA: # STAR

**THERMAL COMFORT OPTIONS**  
R3.0 INSULATION TO: # STAR  
R2.0 INSULATION TO: # STAR  
GLAZING SPEC: # STAR  
GLAZING TYPE: # STAR

CLIENT



**MHNDUNION**

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MHND Design Union Pty Ltd. ABN 94 003 717 682

**PROJECT:**  
Proposed Development at  
Bradley Heights  
Cnr Bradley Street &  
Edgewater Drive Glenmore  
Park NSW

**DRAWING:**  
COVERPAGE

**PROJECT NO:** 17-035  
**DRAWN BY:** MHNDU  
**TO SCALE:** @A3  
**DRAWING NO:** REV:

**DA 0000 (A)**

DEVELOPMENT APPLICATION



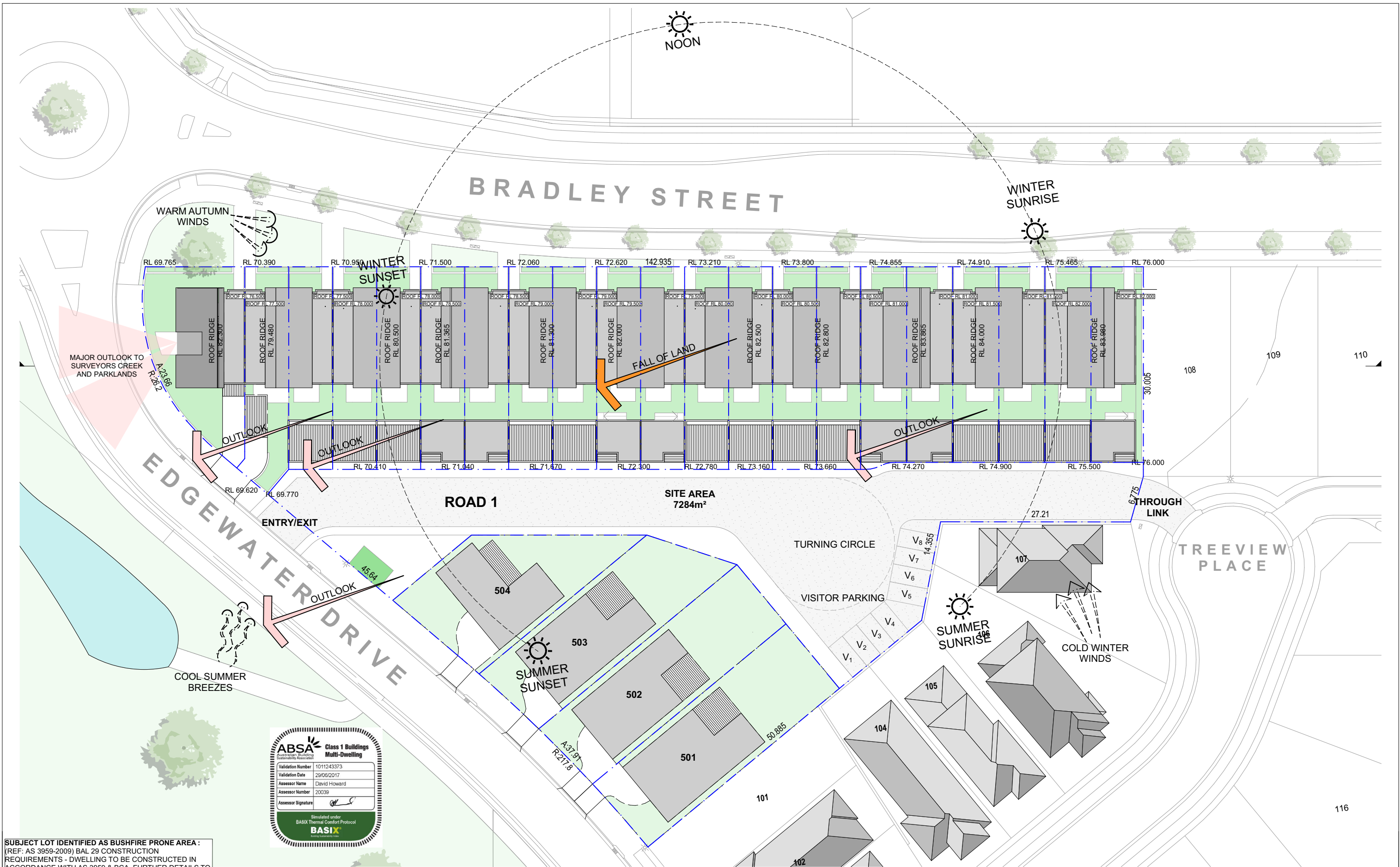












REVISIONS	
A	DEVELOPMENT APPLICATION
PLOTTED: 28/06/2017	

17-035 - Bradley Heights [Bmservet]  
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GENERAL NOTES	
1.	ALL WORKS TO BE IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA, AUSTRALIAN STANDARDS STATUTORY REGULATIONS AND LOCAL AUTHORITY REQ.
2.	CONTRACTOR TO ENSURE CONSISTENCY BETWEEN MATERIALS IS MAINTAINED
3.	CONTRACTOR TO NOTIFY MAIN OF ANY DISCREPANCIES, DIMENSIONAL INCONSISTENCIES OR THE NEED FOR CLARIFICATION PRIOR TO MANUFACTURING
4.	MIN TO REVIEW ALL CONTRACTORS DETAILED DRAWINGS / SETTING OUT PRIOR TO CONSTRUCTION
5.	CONTRACTOR TO LIAISE WITH ELECTRICAL CONTRACTORS TO ENSURE ALL POWER/DATA/COMMUNICATION REQUIREMENTS ARE ACCESSIBLE
6.	ALL DIMENSIONS TO BE VERIFIED ON SITE - DO NOT SCALE
7.	ALL WORKS TO BE VERIFIED AGAINST DRAWINGS FOLLOWING CONSTRUCTION AND ARCHITECT TO BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH NEXT TRADE

ALL CONSTRUCTION TO COMPLY AT MINIMUM W/ BCA CLAUSES & AUSTRALIAN STANDARDS	
CLAUSE B 1.4 - MATERIAL & FORMS CONSTRUCTIONS	CLAUSE D2 17 - HANDRAILS
SPEC C 1.1 - FIRE RESISTING CONSTRUCTION	CLAUSE D2 21 - OPERATION OF LATCH
SPEC C 1.10 - FIRE HAZARD PROPERTIES	CLAUSE D2 23 - SIGNS ON DOORS
CLAUSE C2 1 - PERFORMANCE OF EXTERNAL WALLS IN A FIRE	CLAUSE D3 2 - GENERAL BUILDING ACCESS REQUIREMENTS
CLAUSE C2 6 - VERTICAL SEPARATION OF OPENINGS IN EXTERNAL WALL	CLAUSE D3 3 - PARTS OF BUILDING TO BE ACCESSIBLE
CLAUSE C2 12 - SEPARATION OF EQUIPMENT	CLAUSE D3 6 - IDENT. OF ACCESSIBLE FACILITIES/FEATURES
CLAUSE C2 13 - ELECTRICITY SUPPLY SYSTEM	CLAUSE D3 8 - TACTILE INDICATORS
CLAUSE C2 15 - OPENING FOR PROTECTION (OF OPENINGS)	CLAUSE D3 17 - WATERPROOFING OF WET AREAS
CLAUSE C3 10 - OPENING IN FIRE ISOLATED EXITS	CLAUSE D3 18 P1 10 - DAMP PROOFING
CLAUSE C3 15 - OPENING FOR SERVICE INSTALLATIONS	CLAUSE D3 17 - CONSTRUCTION OF SANITARY COMPARTMENTS
CLAUSE D1 10 - DISCHARGE FROM EXITS	PART F4 - LIGHTING AND VENTILATION
CLAUSE D2 7 - INSTALLATIONS IN EXITS AND PATHS OF TRAVEL	CLAUSE F5.4 - SOUND INSULATION OF FLOORS
CLAUSE D2 13 - GORGES AND RISERS	CLAUSE F5.5 - SOUND INSULATION OF WALLS
CLAUSE D2 14 - LANDINGS	CLAUSE F5.6 - SOUND INSULATION OF SERVICES
CLAUSE D2 15 - THRESHOLDS	CLAUSE F5.7 - SOUND INSULATION OF PUMPS
CLAUSE D2 16 - BALUSTRADES	

SPECIFICATIONS (refer to specification attachment)	
ARTIFICIAL LIGHTING: TO COMPLY WITH BCA PART 2 OF BCA	MECHANICAL EXHAUST VENTILATION: TO COMPLY WITH AS1989 & AS822
BALUSTRADE HEIGHTS: TO COMPLY WITH BCA CLAUSE D2 16	MECHANICAL EXHAUST VENTILATION: TO COMPLY WITH AS1989 & AS822
DRAINAGE GUTTERS & DOWNPIPES: TO COMPLY WITH AS2030 3.2	MECHANICAL EXHAUST VENTILATION: TO COMPLY WITH AS1989 & AS822
FIRE EXITS: TO COMPLY WITH SECTION 2 OF BCA	MECHANICAL EXHAUST VENTILATION: TO COMPLY WITH AS1989 & AS822
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FIRE EXITS: TO COMPLY WITH SECTION 2 OF BCA	MECHANICAL EXHAUST VENTILATION: TO COMPLY WITH AS1989 & AS822
FIRE EXITS: TO COMPLY WITH SECTION 2 OF BCA	MECHANICAL EXHAUST VENTILATION: TO COMPLY WITH AS1989 & AS822

BASIX COMMITMENTS	
WATER OPTIONS	ENERGY OPTIONS
SHOWERHEADS: # STAR	COOLING: # STAR
TOILETS: # STAR	HEATING: # STAR
CLOTHES WASHERS: # STAR	VENTILATION: # STAR
KITCHEN TAPS: # STAR	WATER HEATING: # STAR
BATHROOM TAPS: # STAR	ENERGY EFFICIENT LIGHTING: # STAR
RAIN WATER TANK: # STAR	COOK TOPS: # STAR
STORM WATER TANK: # STAR	REFRIGERATOR SPACE: # STAR
COLLECT RUN OFF AREA: # STAR	CLOTHES DRYING LINES: # STAR
LANDSCAPED AREA TO IRRIGATE: # STAR	ALTERNATIVE SUPPLY: # STAR
	POOLSPA: # STAR

THERMAL COMFORT OPTIONS	
R30 INSULATION TO: # STAR	Test goes here
R22 INSULATION TO: # STAR	Test goes here
GLAZING SPEC: # STAR	Test goes here
GLAZING TYPE: # STAR	Test goes here

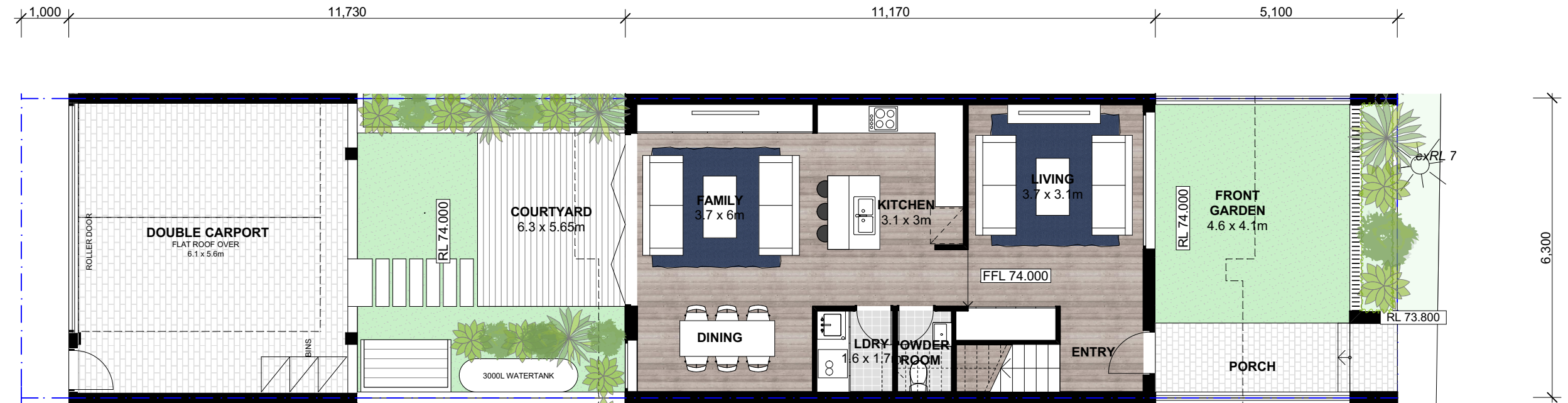
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MHNDU Design Union Pty Ltd. ABN 94 003 717 682	

PROJECT:	
Proposed Development at	
Bradley Heights	
Cnr Bradley Street &	
Edgewater Drive Glenmore	
Park NSW	
DRAWING:	
SITE & ROOF PLAN	

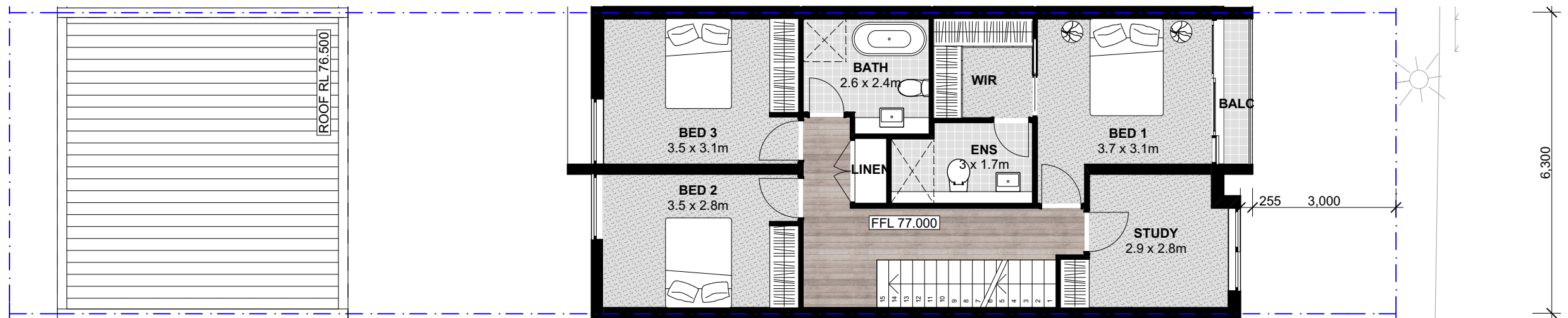
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17-035	
DRAWN BY:	
MHNDU	
TO SCALE:	
1:500 @A3	
DRAWING NO:	
REV:	
DA 1003 (A)	







1 GROUND FLOOR 1:100



2 FIRST FLOOR 1:100



SUBJECT LOT IDENTIFIED AS BUSHFIRE PRONE AREA :  
(REF: AS 3959-2009) BAL 29 CONSTRUCTION  
REQUIREMENTS - DWELLING TO BE CONSTRUCTED IN  
ACCORDANCE WITH AS 3959 & BCA. FURTHER DETAILS TO  
BE PROVIDED WITH CONSTRUCTION DRAWINGS

REVISIONS	PLOTTED: 28/06/2017	GENERAL NOTES
A DEVELOPMENT APPLICATION	28-06-2017	1. ALL WORKS TO BE IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA/AUSTRALIAN STANDARDS STATUTORY REGULATIONS AND LOCAL AUTHORITY REQ. 2. CONTRACTOR TO ENSURE CONSISTENCY BETWEEN MATERIALS IS MAINTAINED. 3. CONTRACTOR TO NOTIFY MAIN OF ANY DISCREPANCIES, DIMENSIONAL INCONSISTENCIES OR THE NEED FOR CLARIFICATION PRIOR TO MANUFACTURING. 4. MAIN TO REVIEW ALL CONTRACTORS DETAILED DRAWINGS / SETTING OUT PRIOR TO CONSTRUCTION. 5. CONTRACTOR TO LIAISE WITH ELECTRICAL CONTRACTORS TO ENSURE ALL POWER/DATA/COMMUNICATION REQUIREMENTS ARE ACCESSIBLE. 6. ALL DIMENSIONS TO BE VERIFIED ON SITE - DO NOT SCALE. 7. ALL WORKS TO BE VERIFIED AGAINST DRAWINGS FOLLOWING CONSTRUCTION AND ARCHITECT TO BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH NEXT TRADE.

17-035 - Bradley Heights [Bmservet]  
CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK. MHNDU IS TO BE NOTIFIED OF ANY DISCREPANCIES IN THE DIMENSION AND SETTING OUT OF THE WORK. COPYRIGHT OF DESIGNS SHOWN HEREON IS RETAINED BY MHNDU. AUTHORITY IS REQUIRED FOR ANY REPRODUCTION.

ALL CONSTRUCTION TO COMPLY AT MINIMUM WITH BCA CLAUSES & AUSTRALIAN STANDARDS

CLAUSE B 1.4 - MATERIAL & FORMS CONSTRUCTIONS  
SPEC C 1.1 - FIRE RESISTING CONSTRUCTION  
SPEC C 1.19 - FIRE HAZARD PROPERTIES  
SPEC C 1.11 - PERFORMANCE OF EXTERNAL WALLS IN A FIRE  
CLAUSE C2.2 - VERTICAL SEPARATION OF OPENINGS IN EXTERNAL WALL  
CLAUSE C2.12 - SEPARATION OF EQUIPMENT  
CLAUSE C2.13 - ELECTRICITY SUPPLY SYSTEM  
CLAUSE C2.15 - ACCEPTABLE METHOD OF PROTECTION (OF OPENINGS)  
CLAUSE C2.16 - OPENING FOR SERVICE INSTALLATIONS  
CLAUSE D1.10 - DISCHARGE FROM EXITS  
CLAUSE D2.7 - INSTALLATIONS IN EXITS AND PATHS OF TRAVEL  
CLAUSE D2.13 - GORGES AND RISERS  
CLAUSE D2.14 - LANDINGS  
CLAUSE D2.15 - THRESHOLDS  
CLAUSE D2.16 - BALUSTRADES

CLAUSE D2.17 - HANDRAILS  
CLAUSE D2.21 - OPERATION OF LATCH  
CLAUSE D2.23 - SIGNS ON DOORS  
CLAUSE D3.2 - GENERAL BUILDING ACCESS REQUIREMENTS  
CLAUSE D3.3 - PARTS OF BUILDING TO BE ACCESSIBLE  
CLAUSE D3.6 - IDENT. OF ACCESSIBLE FACILITIES/FEATURES  
CLAUSE D3.8 - TACTILE INDICATORS  
CLAUSE D3.17 - WATERPROOFING OF WET AREAS  
CLAUSE D3.18 - DAMP PROOFING  
PART F4 - LIGHTING AND VENTILATION  
CLAUSE F5.4 - SOUND INSULATION OF FLOORS  
CLAUSE F5.5 - SOUND INSULATION OF WALLS  
CLAUSE F5.6 - SOUND INSULATION OF SERVICES  
CLAUSE F5.7 - SOUND INSULATION OF PUMPS

SPECIFICATIONS (refer to specification attachment)

ARTIFICIAL LIGHTING: TO COMPLY WITH BCA PART 4 CLAUSES 4.4 & 4.5  
BALUSTRADE HEIGHTS: TO COMPLY WITH BCA CLAUSE D2.16  
DRAINAGE SYSTEMS & COMPONENTS: TO COMPLY WITH AS/NZS 3500.3.2  
ENERGY EFFICIENT GLAZING: TO COMPLY WITH 2.2 OF BCA  
FIRE SERVICES: TO COMPLY WITH SECTION 4 OF BCA  
FIRE SUPPLIES: TO COMPLY WITH PART 27 OF BCA  
MECHANICAL AIR CONDITIONING: TO COMPLY WITH PART 26 OF BCA  
MECHANICAL EXHAUST VENTILATION: TO COMPLY WITH AS1989 & AS382  
MECHANICAL EXHAUST VENTILATION: TO COMPLY WITH AS1989 & AS382  
PENETRATIONS: THROUGH FIRE RATED CONSTRUCTION FOR  
MECHANICAL EXHAUST VENTILATION: TO COMPLY WITH BCA CLAUSE  
D2.13 & AS1930.4.2005  
STAR CONSTRUCTION: TO COMPLY WITH BCA CLAUSE D2.13  
WATERPROOFING OF WET AREAS: TO COMPLY WITH AS1740

BASIX COMMITMENTS

ALL OTHER BASIX COMMITMENTS AS PER BASIX CERTIFICATE AND STAMPED PLANS  
WATER OPTIONS  
SHOWERHEADS: # STAR  
TOILETS: # STAR  
CLOTHES WASHERS: # STAR  
KITCHEN TAPS: # STAR  
BATHROOM TAPS: # STAR  
DISHWASHERS: # STAR  
RAIN WATER TANK: # STAR  
STORM WATER TANK: # STAR  
COLLECT RUN OFF AREA: # STAR  
LANDSCAPED AREA TO IRRIGATE: # STAR

ENERGY OPTIONS  
COOLING: # STAR  
HEATING: # STAR  
VENTILATION: # STAR  
WATER HEATING: # STAR  
ENERGY EFFICIENT LIGHTING: # STAR  
COOK TOPS: # STAR  
REFRIGERATOR SPACE: # STAR  
CLOTHES DRYING LINES: # STAR  
ALTERNATIVE SUPPLY: # STAR  
POOL/SPA: # STAR

THERMAL COMFORT OPTIONS  
R3.0 INSULATION TO: # STAR  
R2.0 INSULATION TO: # STAR  
GLAZING SPEC: # STAR  
GLAZING TYPE: # STAR

CLIENT



MHNDU  
29 HUTCHINSON STREET  
SURRY HILLS SYDNEY NSW 2010

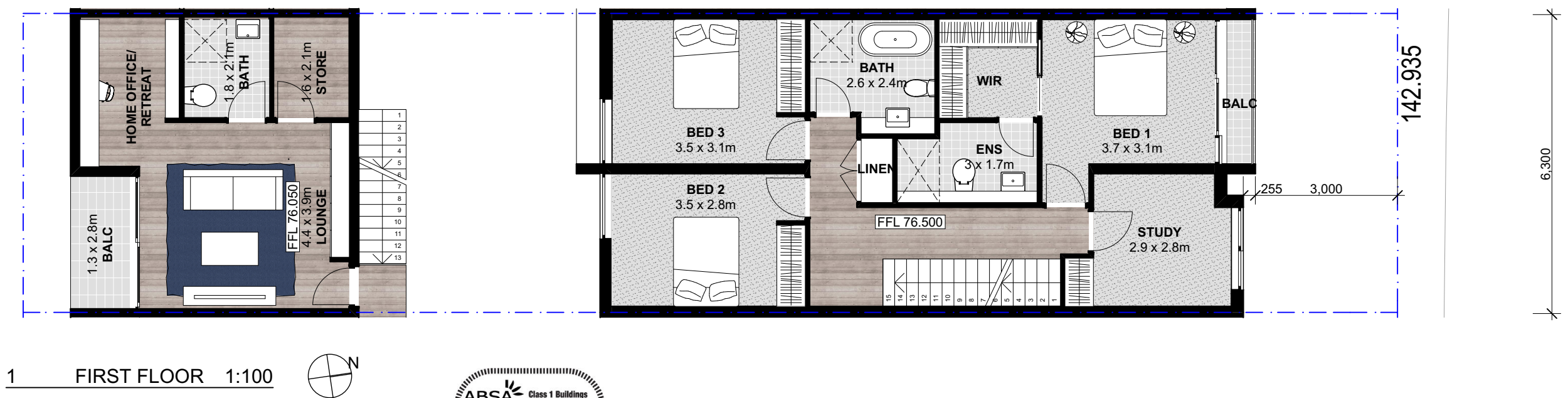
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MHNDU Design Union Pty Ltd. ABN 94 003 717 682

PROJECT:  
Proposed Development at  
Bradley Heights  
Cnr Bradley Street &  
Edgewater Drive Glenmore  
Park NSW

DRAWING:  
TERRACE PLAN - TYPE A DA 2001 (A)

PROJECT NO: 17-035  
DRAWN BY: MHNDU  
TO SCALE: 1:100 @ A3  
DRAWING NO: REV:





**PROJECT:**  
Proposed Development at  
Bradley Heights  
Cnr Bradley Street &  
Edgewater Drive Glenmore  
Park NSW

**PROJECT NO:** 17-035  
**DRAWN BY:** MHNDU  
**TO SCALE:** 1:100 @A3  
**DRAWING NO:** REV:

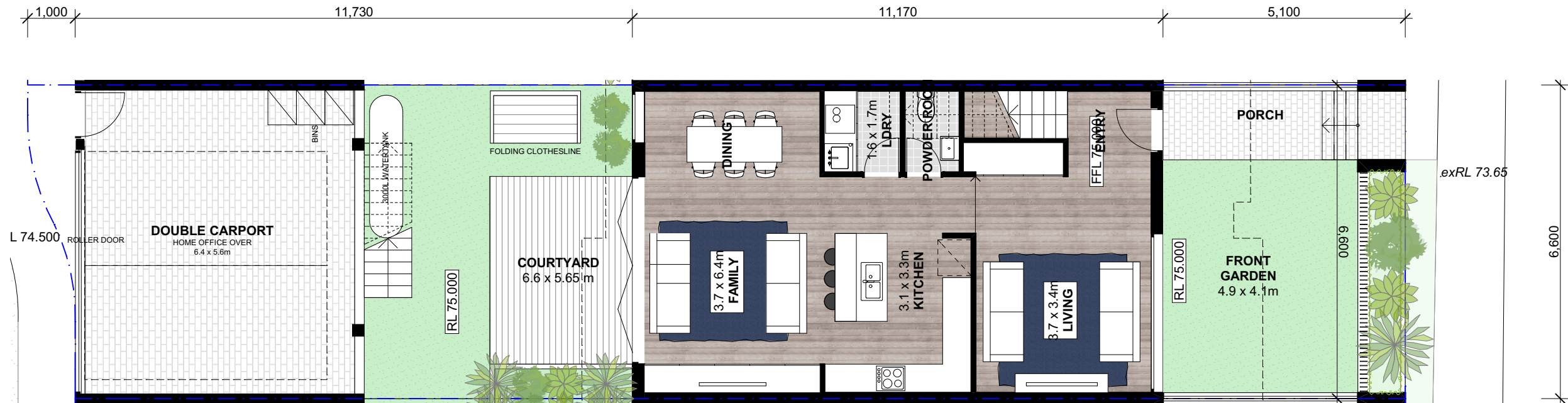
**DRAWING:**  
TRAFFIC PLAN - TYPE A **DA 2002** (A)  
W/ HOME OFFICE



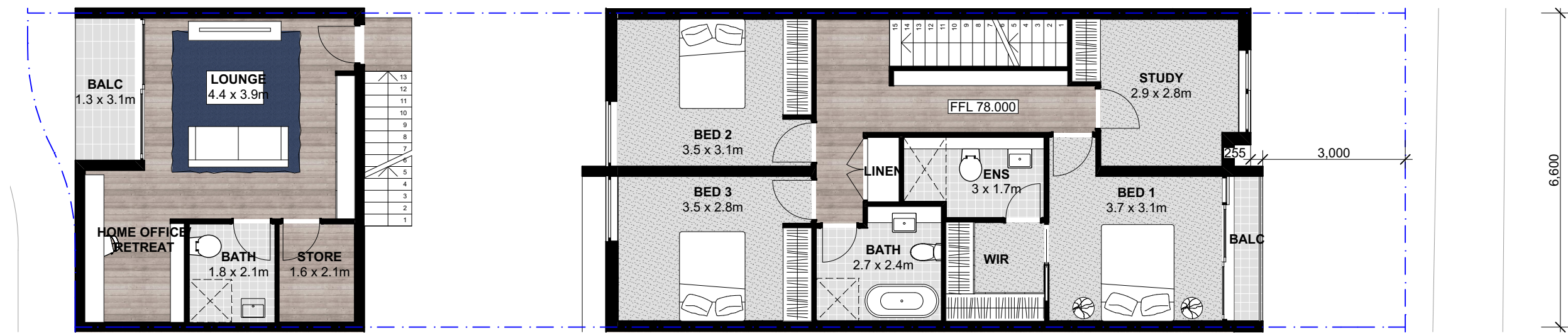








1 GROUND FLOOR 1:100



1 FIRST FLOOR 1:100

SUBJECT LOT IDENTIFIED AS BUSHFIRE PRONE AREA : (REF: AS 3959-2009) BAL 29 CONSTRUCTION REQUIREMENTS - DWELLING TO BE CONSTRUCTED IN ACCORDANCE WITH AS 3959 & BCA. FURTHER DETAILS TO BE PROVIDED WITH CONSTRUCTION DRAWINGS

REVISIONS	PLOTTED: 28/06/2017	GENERAL NOTES
A DEVELOPMENT APPLICATION	28-06-2017	1. ALL WORKS TO BE IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA/AUSTRALIAN STANDARDS STATUTORY REGULATIONS AND LOCAL AUTHORITY REQ. 2. CONTRACTOR TO ENSURE CONSISTENCY BETWEEN MATERIALS IS MAINTAINED. 3. CONTRACTOR TO NOTIFY MAIN OF ANY DISCREPANCIES, DIMENSIONAL INCONSISTENCIES OR THE NEED FOR CLARIFICATION PRIOR TO MANUFACTURING. 4. MAIN TO REVIEW ALL CONTRACTORS DETAILED DRAWINGS / SETTING OUT PRIOR TO CONSTRUCTION. 5. CONTRACTOR TO Liaise WITH ELECTRICAL CONTRACTORS TO ENSURE ALL POWER/DATA/COMMUNICATION REQUIREMENTS ARE ACCESSIBLE. 6. ALL DIMENSIONS TO BE VERIFIED ON SITE - DO NOT SCALE. 7. ALL WORKS TO BE VERIFIED AGAINST DRAWINGS FOLLOWING CONSTRUCTION AND ARCHITECT TO BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH NEXT TRADE.

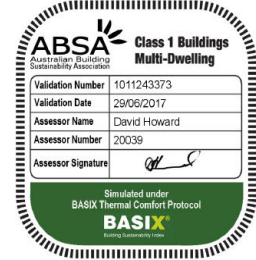
ALL CONSTRUCTION TO COMPLY AT MINIMUM W/ BCA CLAUSES & AUSTRALIAN STANDARDS
CLAUSE B 1.4 - MATERIAL & FORMS CONSTRUCTIONS SPEC C 1.1 - FIRE RESISTING CONSTRUCTIONS SPEC C 1.19 - FIRE HAZARD PROPERTIES SPEC C 1.1 - PERFORMANCE OF EXTERNAL WALLS IN A FIRE CLAUSE C2.6 - VERTICAL SEPARATION OF OPENINGS IN EXTERNAL WALL CLAUSE C2.12 - SEPARATION OF EQUIPMENT PROTECTION (OF OPENINGS) CLAUSE C2.15 - OPENING FOR SERVICE INSTALLATIONS CLAUSE C3.8 - OPENING IN FIRE ISOLATED EXITS CLAUSE D1.10 - DISCHARGE FROM EXITS CLAUSE D2.7 - INSTALLATIONS IN EXITS AND PATHS OF TRAVEL CLAUSE D2.13 - GORGES AND RISERS CLAUSE D2.14 - LANDINGS CLAUSE D2.15 - THRESHOLDS CLAUSE D2.16 - BALUSTRADES

SPECIFICATIONS (refer to specification attachment)
ARTIFICIAL LIGHTING: TO COMPLY WITH BCA PART 4 CLAUSES 4.4 & 4.5 BALUSTRADE HEIGHTS: TO COMPLY WITH BCA CLAUSE D2.16 DRAINAGE GUTTERS & DOWNPIPES: TO COMPLY WITH AS/NZS 3500.3.2 ENERGY EFFICIENT GLAZING: TO COMPLY WITH 2.2 OF BCA FIRE SERVICES: TO COMPLY WITH SECTION 4 OF BCA MECHANICAL AIR CONDITIONING: TO COMPLY WITH PART 2.7 OF BCA MECHANICAL EXHAUST VENTILATION: TO COMPLY WITH AS1989 & AS882 MECHANICAL EXHAUST VENTILATION: TO COMPLY WITH AS1989 & AS882 PENETRATIONS: THROUGH FIRE RATED CONSTRUCTION FOR MECHANICAL EXHAUST VENTILATION: TO COMPLY WITH BCA CLAUSE D2.13 & AS1930.4.2005 STAR CONSTRUCTION: TO COMPLY WITH BCA CLAUSE D2.13 WATERPROOFING OF WET AREAS: TO COMPLY WITH AS3740

BASIX COMMITMENTS
ALL OTHER BASIX COMMITMENTS AS PER BASIX CERTIFICATE AND STAMPED PLANS

ENERGY OPTIONS
COOLING: # STAR HEATING: # STAR WATER HEATING: # STAR ENERGY EFFICIENT LIGHTING: # STAR REFRIGERATOR SPACE: # STAR CLOTHES DRYING LINES: # STAR ALTERNATIVE SUPPLY: # STAR POOLSPA: # STAR

THERMAL COMFORT OPTIONS
R3.0 INSULATION TO: # STAR R2.0 INSULATION TO: # STAR GLAZING SPEC: # STAR GLAZING TYPE: # STAR



# MHNDUNION

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F +61 2 9101 1100  
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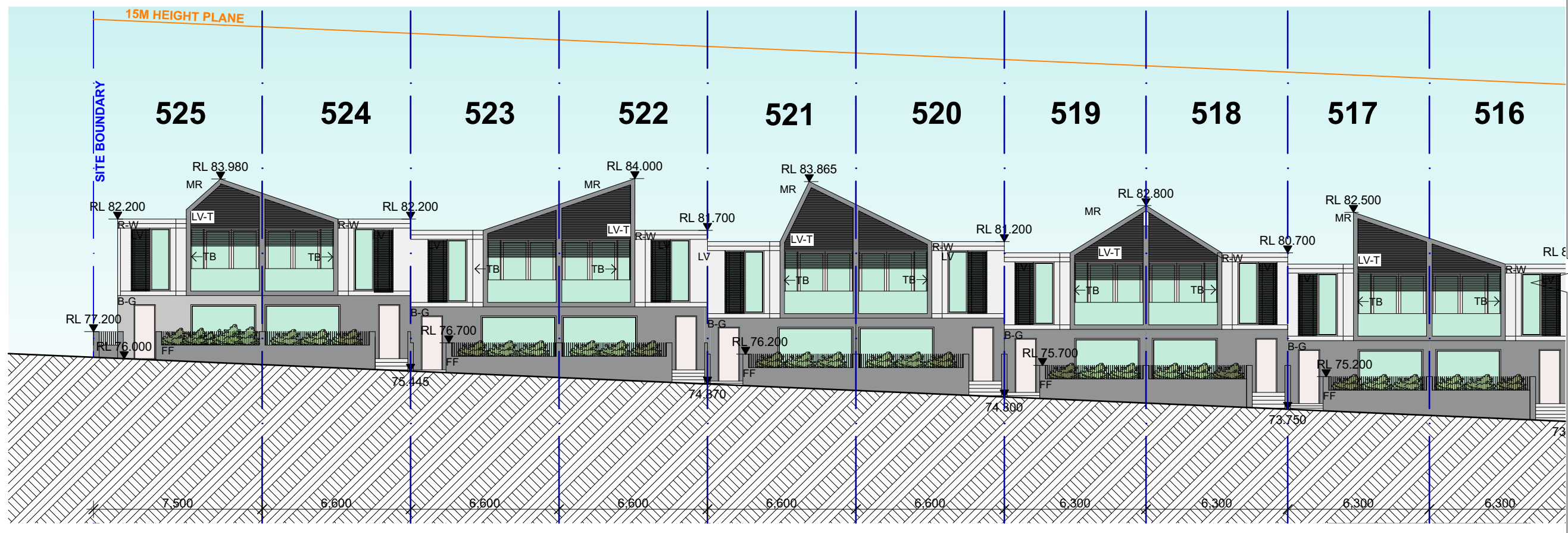
PROJECT: Proposed Development at Bradley Heights  
Cnr Bradley Street & Edgewater Drive Glenmore Park NSW

DRAWING: TERRACE PLAN - TYPE B DA 2004 (A)  
W/ HOME OFFICE

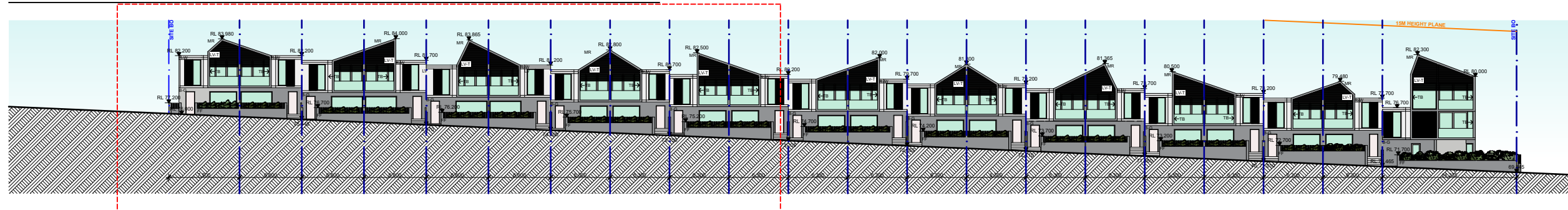
PROJECT NO: 17-035  
DRAWN BY: MHNDU  
TO SCALE: 1:100 @ A3  
DRAWING NO: REV:







NORTH ELEVATION                      EASTERN END                      1:200



NORTH ELEVATION      SITE ELEVATION      1:500

LEGEND: EXTERNAL MATERIALS AND FINISHES



**SUBJECT LOT IDENTIFIED AS BUSHFIRE PRONE AREA :**  
(REF: AS 3959-2009) BAL 29 CONSTRUCTION  
REQUIREMENTS - DWELLING TO BE CONSTRUCTED IN  
ACCORDANCE WITH AS 3959 & BCA. FURTHER DETAILS TO  
BE PROVIDED WITH CONSTRUCTION DRAWINGS

REVISONS	PLOTTED: 28/06/2017
A DEVELOPMENT APPLICATION	28-06-2017

17-035 - Bradley Heights (renewal)

CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK. MINDU IS TO BE NOTIFIED OF ANY DISCREPANCIES IN THE DIMENSION AND SETTING OUT OF THE WORK. COPYRIGHT OF DESIGNS SHOWN HEREON IS RETAINED BY MINDU. AUTHORITY IS REQUIRED FOR ANY REPRODUCTION.

## GENERAL NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA/AUSTRALIAN STANDARDS STATUTORY REGULATIONS AND LOCAL AUTHORITY REG.
2. CONTRACTOR TO ENSURE CONSISTENCY BETWEEN MATERIALS IS MAINTAINED
3. CONTRACTOR TO NOTIFY MHH OF ANY DISCREPANCIES, DIMENSIONAL INCONSISTENCIES OR THE NEED FOR CLARIFICATION PRIOR TO MANUFACTURING
4. MHH TO REVIEW ALL CONTRACTORS DETAILED DRAWINGS / SETTING OUT PRIOR TO CONSTRUCTION.
5. CONTRACTOR TO Liaise WITH ELECTRICAL CONTRACTORS TO ENSURE ALL POWERDATA/COMMUNICATION REQUIREMENTS ARE ACCESSIBLE.
6. ALL DIMENSIONS TO BE VERIFIED ON SITE - DO NOT SCALE
7. ALL WORKS TO BE VERIFIED AGAINST DRAWINGS FOLLOWING CONSTRUCTION AND ARCHITECT TO BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH NEXT TRADE

[illegible]

**SPECIFICATIONS (refer to specification attachment)**

**ARTIFICIAL LIGHTING:** TO COMPLY WITH BCA PART CLAUSE 4.4 & AS1680

**BALUSTRADE HEIGHTS:** TO COMPLY WITH BCA CLAUSE D2.6

**DRAINAGE GUTTERS & DOWNPIPES:** TO COMPLY WITH AS/NZS 3500.3.2

**EMERGENCY LIGHTING:** TO COMPLY WITH AS/NZS 3538.1

**FIRE SERVICES:** TO COMPLY WITH SECTION E OF BCA

**HOT WATER SYSTEMS:** TO COMPLY WITH PART J7 OF BCA

**MASONRY:** TO COMPLY WITH AS3670

**METALWORK/PLAUSTIC:** BCA CLAUSE C3.15 & AS1390 4-2005

**METHEANAL AIRCRAFT HANDLING:** TO COMPLY WITH AS1658.1 & AS1658.2

**MECHANICAL EXHAUST VENTILATION:** TO COMPLY WITH AS1658.1 & AS568.2

**SMOKE ALARMS:** TO COMPLY WITH BCA PART CLAUSE 6, SPEC E2.2 & AS3786

**SMOKE DETECTORS:** TO COMPLY WITH AS3786

**STAIN RESISTANT COATINGS:** TO COMPLY WITH AS3670

**STAIN TRANSMISSION:** TO COMPLY WITH PARTS OF BCA

**STEEL CONSTRUCTION:** TO COMPLY WITH BCA CLAUSE D2.13

**STEEL ROOFING:** TO COMPLY WITH AS1055

**WATERPROOFING OF WET AREAS:** TO COMPLY WITH AS3740

BASIS COMMITMENTS		ENERGY OPTIONS	
[ALL OTHER BASIS COMMITMENTS AS PER BASIS CERTIFICATE AND STAMPED PLANS]			
<b>WATER OPTIONS</b>			
SHOWERS/HEADS:	# STAR	COOLING:	#
TOILETS:	# STAR	HEATING:	#
CLOTHES WASHERS:	# STAR	VENTILATION:	#
KITCHEN TAPS:	# STAR	WATER HEATING:	#
BATHROOM TAPS:	# STAR	ENERGY EFFICIENT LIGHTING:	#
DISHWASHERS:	# STAR	COOK TOPS:	#
RANK WATER TANK:	# L	REFRIGERATOR SPACE:	#
STOVE/COOK TOP:	# L	CLOTHING DRYING LINE:	#
POOL/SPA:	# L	ALTERNATIVE SUPPLY:	#
COLLECTED RUN OFF AREA:	\$\$\$ sign	POOL/SPA:	\$\$\$

THERMAL COMPLIANCE OPTIONS	
ert Phase, EER Rating & Night Zoning Areas	R10 INSULATION TO: Text goes here
ert Phase, EER Rating & Night Zoning Areas	R15 INSULATION TO: Text goes here
ert Phase, EER Rating & Night Zoning Areas	R20 INSULATION TO: Text goes here
ert Phase, EER Rating & Night Zoning Areas	GLAZING SPEC: Use = ## SHGC = ##
ert Phase, EER Rating & Night Zoning Areas	GLAZING TYPE: Text goes here
TAR	
TAR	
ert goes here	
ert goes here	
ert goes here	
ert goes here	
sqm	



MENT

**MHNDU**NION

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MHNI Design Union Pty Ltd. ABN 94 003 717 682

**PROJECT:**  
Proposed Development at  
Bradley Heights  
Cnr Bradley Street &  
Edgewater Drive Glenmore  
Park NSW

**DRAWING:**  
**ELEVATION NORTH 01**

**PROJECT NO:** 17-035  
**DRAWN BY:** MHNDU  
**TO SCALE:** @A3  
**DRAWING NO:** REV:

**DA 2400 (A)**













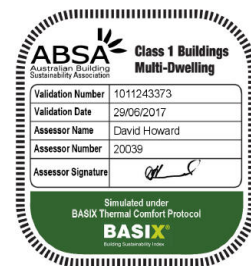








DA 2501 (A)





## EXTERNAL FINISHES



**METAL ROOF SHEETING  
DARK FINISH**



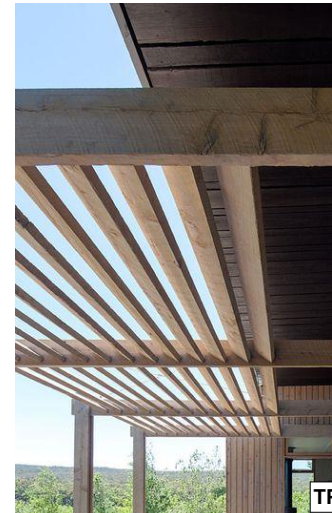
## FEATURE FENCING



**PAINTED LIGHTWEIGHT  
CLADDING - LIGHT COLOURED**



**HORIZONTAL BATTENS  
TIMBER APPEARANCE**



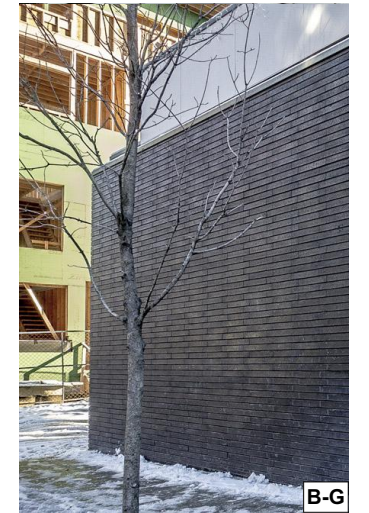
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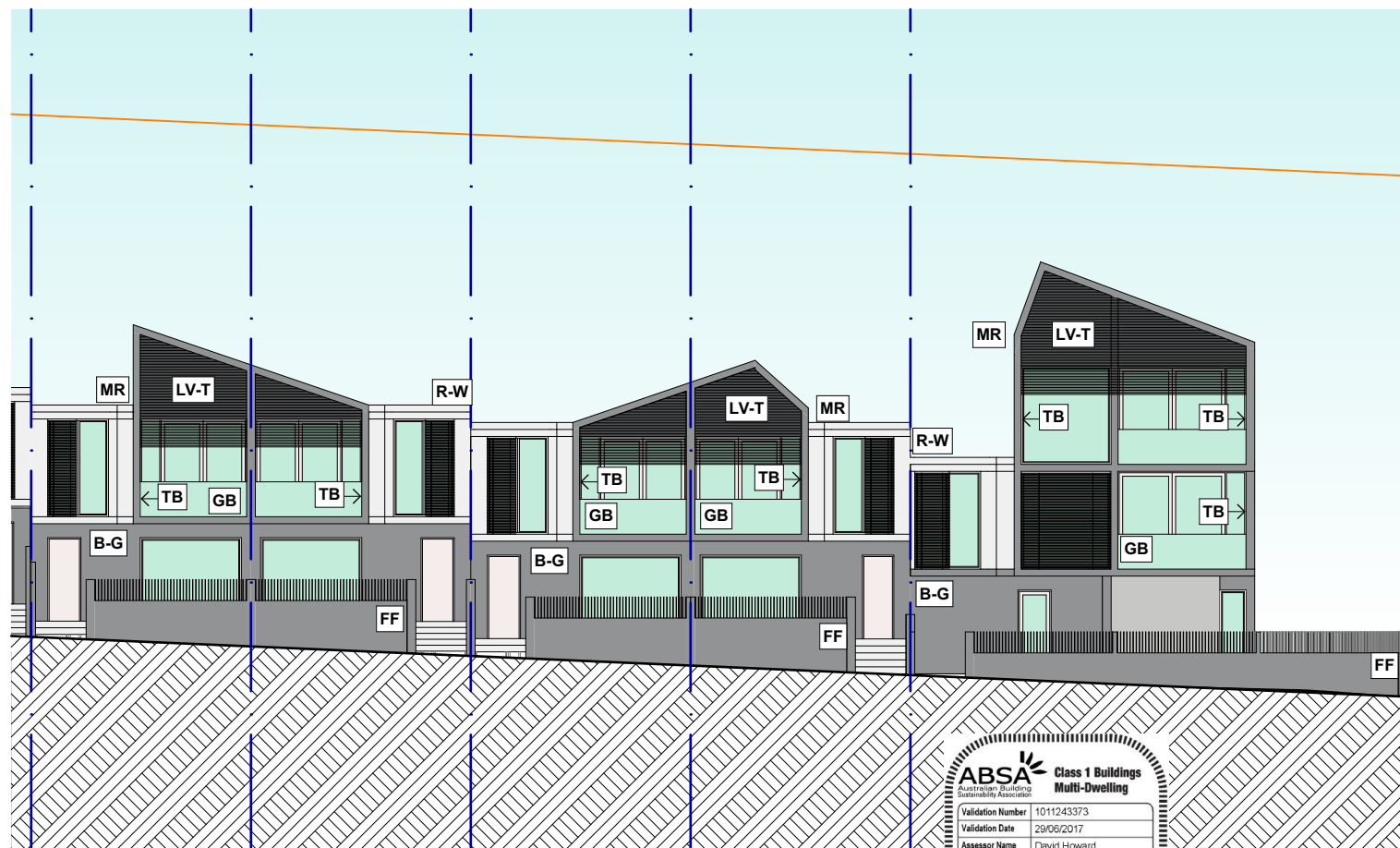
### TIMBER PANEL APPEARANCE



## ARCHITECTURAL SCREEN



**BRICK FACADE  
APPEARANCE**



ELEVATION NORTH

**SUBJECT LOT IDENTIFIED AS BUSHFIRE PRONE AREA :**  
(REF: AS 3959-2009) BAL 29 CONSTRUCTION  
REQUIREMENTS - DWELLING TO BE CONSTRUCTED IN  
ACCORDANCE WITH AS 3959 & BCA. FURTHER DETAILS TO  
BE PROVIDED WITH CONSTRUCTION DRAWINGS

<b>REVISIONS</b>	<b>PLOTTED: 28/06/2017</b>
<b>A DEVELOPMENT APPLICATION</b>	<b>28-06-2017</b>
<p>17-035 - Bradley Heights [bimsear]          CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK. MINDU IS TO BE NOTIFIED OF ANY DISCREPANCIES IN THE DIMENSION AND SETTING OUT OF THE WORK. COPYRIGHT OF PERSHORE SUSTAIN HERITAGE IS RETAINED BY MINDU. AUTHORITY IS REQUIRED TO DO ANY RECONSTRUCTION</p>	

## 7 GENERAL NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA/AUSTRALIAN STANDARDS STATUTORY REGULATIONS AND LOCAL AUTHORITY REQ.
2. CONTRACTOR TO ENSURE CONSISTENCY BETWEEN MATERIALS IS MAINTAINED
3. CONTRACTOR TO NOTIFY MHN OF ANY DISCREPANCIES, DIMENSIONAL INCONISTENCIES OR THE NEED FOR MODIFICATION PRIOR TO MANUFACTURING
4. MHN TO REVIEW ALL CONTRACTORS DETAILED DRAWINGS / SETTING OUT PRIOR TO CONSTRUCTION.
5. CONTRACTOR TO LIAISE WITH ELECTRICAL CONTRACTORS TO ENSURE POWER/DATA/COMMUNICATION REQUIREMENTS ARE ACCESSIBLE.
6. ALL DIMENSIONS TO BE VERIFIED ON SITE - DO NOT SCALE
7. ALL WORKS TO BE VERIFIED AGAINST DRAWINGS FOLLOWING CONSTRUCTION AND ARCHITECT TO BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH NEXT TRADE

**ALL CONSTRUCTION TO COMPLY AT MINIMUM W/BCA CLASSIFICATIONS & AUSTRALIAN STANDARDS**

CLAUSE B1.4 - MATERIAL, A FORMING CONSTRUCTION	CLAUDE D2.17 - HANDRAILS
SPEC C1.1 - FIRE RESISTING CONSTRUCTION	CLAUDE D2.21 - GENERATION OF LATCH
SPEC C1.2 - FIRE-RESISTANT PENETRATIONS	CLAUDE D2.23 - SOUNDING ON WALLS
SPEC C1.11 - PERFORMANCE OF EXTERNAL WALLS IN A FIRE	CLAUDE D2.24 - OPERABLE BUILDING ACCESSORIES
CLAUDE C2.4 - AIRFLOW SEPARATION OF OPENINGS IN EXTERNAL WALL	CLAUDE D2.25 - PARTS OF BUILDING TO BE ACCESSED
CLAUDE D2.2 - OPERATION OF EQUIPMENT	CLAUDE D2.26 - IDENTIFICATION OF ACCESSIBLE FACILITIES/SERVICES
CLAUDE C2.5 - AIRFLOW SEPARATION OF OPENINGS IN EXTERNAL WALL	CLAUDE D2.27 - IDENTIFICATION OF ACCESSIBLE FACILITIES/SERVICES
CLAUDE C2.8 - OPERATION OF FIRE ISOLATED EXITS	CLAUDE F1.101 - TO DAMP PROOF
CLAUDE D1.1 - DESIGN FOR ACCESS FOR PERSONS WITH DISABILITIES	CLAUDE F1.102 - TO CONSTRUCT A RAMP
CLAUDE D1.10 - DISCHARGE FROM EXITS	PART F - LIGHTING AND VENTILATION
CLAUDE D1.11 - DESIGN OF EXITS AND PATHS OF TRAVEL	CLAUDE F5.1 - SOUND INSULATION OF CORES
CLAUDE D1.12 - GROUND AND RISERS	CLAUDE F5.2 - SOUND INSULATION OF WALLS
CLAUDE D1.13 - DESIGN OF EXITS AND PATHS OF TRAVEL	CLAUDE F5.3 - SOUND INSULATION OF FLOORS
CLAUDE D1.14 - BALUSTRADES	CLAUDE F5.7 - SOUND INSULATION OF PUMPS

**SPECIFICATIONS (refer to specification attachment)**

**ARTIFICIAL LIGHTING:** TO COMPLY WITH BCA PART 14-0504.4 & 4.5

**BALANCE WEIGHTS:** TO COMPLY WITH BCA PART 14-0504.4 & 4.5

**DRAINAGE GUTTERS & DOWNPIPES:** TO COMPLY WITH AS/NZS 2069

**ELECTRICAL:** TO COMPLY WITH AS/NZS 3000

**FIRE SERVICES:** TO COMPLY WITH SECTION E OF BCA

**HOT WATER SYSTEMS:** TO COMPLY WITH PART J OF BCA

**MECHANICAL:** TO COMPLY WITH:

- MECHANICAL EXHAUST: BCA CLAUSE C15 & AS1590.4-2005
- MACHINICAL AIRCIRCUTITION: TO COMPLY WITH PART J5 OF BCA
- MECHANICAL EXHAUST VENTILATION: TO COMPLY WITH AS1608.6
- SMOKE ALARMS: TO COMPLY WITH BCA PART CLAUSE 6 & SPEC E2.2
- THROUGH ROOF PENETRATIONS: TO COMPLY WITH AS1608.6
- MECHANICAL/DRAULIC PENETRATIONS TO COMPLY WITH BCA PART CLAUSE 15 & AS1590.4-2005

**TELEPHONE TRANSMISSION:** TO COMPLY WITH PARTS OF BCA

**STEEL CONSTRUCTION:** TO COMPLY WITH BCA CLAUSE D2.13

**WATER DISTRIBUTION:** TO COMPLY WITH BCA PART 14-0504.4

**WATERPROOFING OF WET AREAS:** TO COMPLY WITH AS3740

BASIS COMMITMENTS		OTHER BASIS COMMITMENTS AS PER BASIS CERTIFICATE AND STAMPED PLAN	
<b>WATER OPTIONS</b>		<b>ENERGY OPTIONS</b>	
SHOWERHEADS:	5 STAR	COOLING:	10 STAR
TOILETS:	5 STAR	HEATING:	10 STAR
CLOTHES WASHERS:	5 STAR	VENTILATION:	10 STAR
KITCHEN TAPS:	5 STAR	WATER HEATING:	10 STAR
BATHROOM TAPS:	5 STAR	ENERGY EFFICIENT LIGHTING:	7 STAR
DISHWASHERS:	5 STAR	COOK TOPS:	7 STAR
RAIN WATER TANK:	0 L	REFRIGERATOR:	7 STAR
RAIN WATER TANK:	0 L	ALTERNATIVE SUPPLY:	7 STAR
POOL/SPA:	0 L	POOL/SPA:	7 STAR
CLOTHES DRYER OFF AREA:	0 L		
LANDSCAPED AREA TO IRRIGATE:	0 sq ft		

**THERMAL COMFORT OPTIONS**

R3.0 INSULATION TO:	Test goes here
R2.5 INSULATION TO:	Test goes here
R2.0 INSULATION TO:	Test goes here
GLAZING SPEC:	Uw = 88 SHG
GLAZING TYPE:	Test goes here

CLIENT



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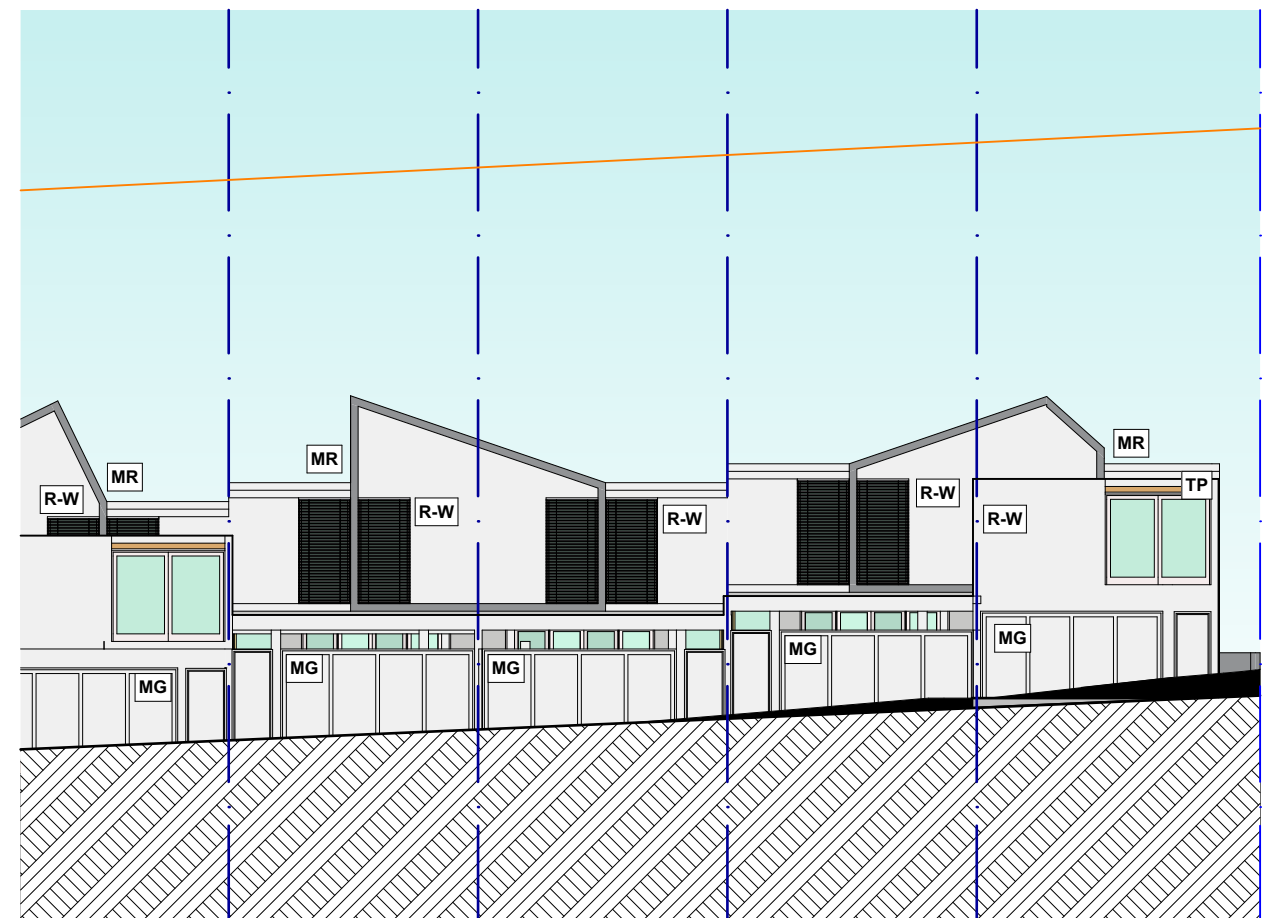
MH/N Design Union Pty Ltd. AEN 94 003 717 682

**PROJECT:**  
Proposed Development at  
Bradley Heights  
Cnr Bradley Street &  
Edgewater Drive Glenmore  
Park NSW

**PROJECT NO:** 17-035  
**DRAWN BY:** MHNDU  
**TO SCALE:** 1:200 @A3  
**DRAWING NO:** REV:

**DRAWING:**  
**EXTERNAL FINISHES**

**DA 6000 (A)**



ELEVATION SOUTH

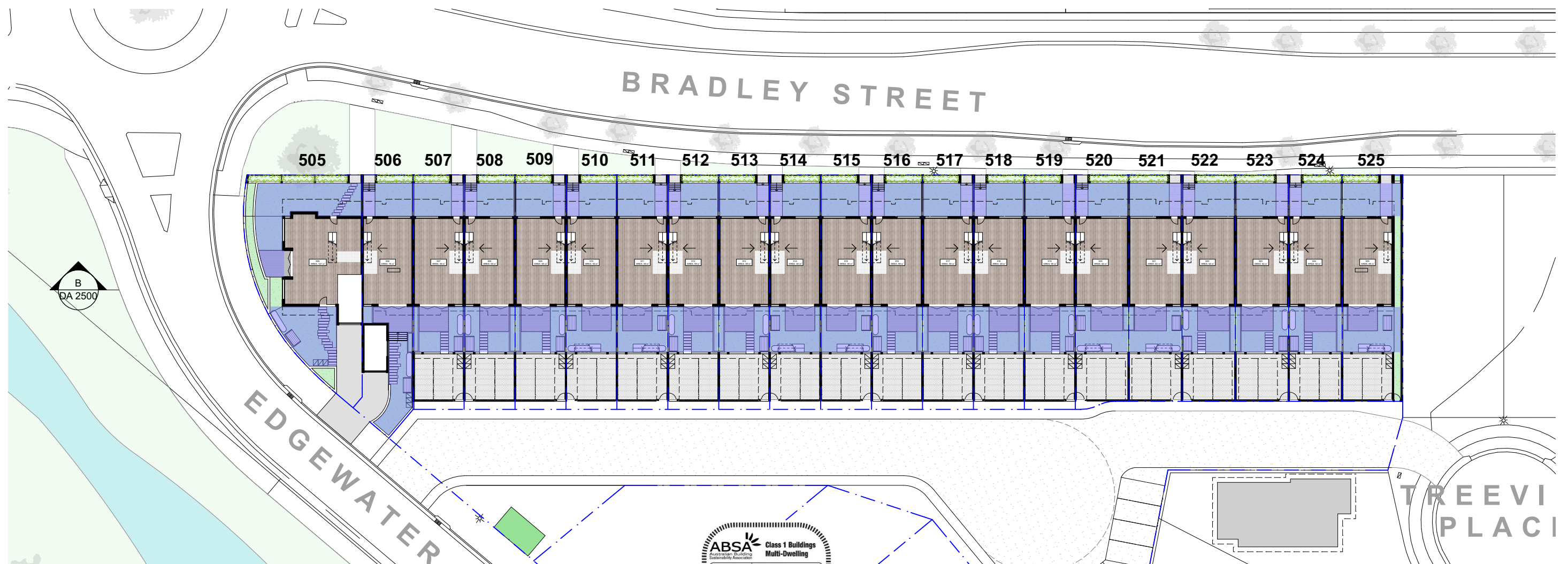
1:200





**PENRITH COUNCIL**  
**LEP 2010 Private Open Space Definition:**  
*Private open space means an area external to a building (including an area of land, terrace, balcony or deck) that is used for private outdoor purposes ancillary to the use of the building.*

PRIVATE OPEN SPACE					
	AREA	SITE	%	R1 CONTROL	COMPLIES
505:	121m <sup>2</sup>	322m <sup>2</sup>	38	20m <sup>2</sup>	YES
506:	75m <sup>2</sup>	196m <sup>2</sup>	38	20m <sup>2</sup>	YES
507-519:	59m <sup>2</sup>	183m <sup>2</sup>	32	20m <sup>2</sup>	YES
w/ Home Office:	59m <sup>2</sup>	183m <sup>2</sup>	32	20m <sup>2</sup>	YES
520:	62m <sup>2</sup>	188m <sup>2</sup>	33	20m <sup>2</sup>	YES
521-524:	62m <sup>2</sup>	185m <sup>2</sup>	34	20m <sup>2</sup>	YES
525:	69m <sup>2</sup>	210m <sup>2</sup>	33	20m <sup>2</sup>	YES



**SUBJECT LOT IDENTIFIED AS BUSHFIRE PRONE AREA :  
(REF: AS 3959-2009) BAL 29 CONSTRUCTION  
REQUIREMENTS - DWELLING TO BE CONSTRUCTED IN  
ACCORDANCE WITH AS 3959 & BCA. FURTHER DETAILS TO  
BE PROVIDED WITH CONSTRUCTION DRAWINGS**

REVISIONS	PLOTTED: 28/06/2017
A DEVELOPMENT APPLICATION	28-06-2017
<p>17-035 - Bradley Heights (somerset)</p> <p>CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK. MINDU IS TO BE NOTIFIED OF ANY DISCREPANCIES IN THE DIMENSION AND SETTING OUT OF THE WORK. COPYRIGHT OF DESIGN/SECTION HEREON IS RETAINED BY MINDU. AUTHORITY IS GRANTED FOR ANY REPRODUCTION</p>	

## GENERAL NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA/AUSTRALIAN STANDARDS STATUTORY REGULATIONS AND LOCAL AUTHORITY REQ.
2. CONTRACTOR TO ENSURE CONSISTENCY BETWEEN MATERIALS IS MAINTAINED
3. CONTRACTOR TO NOTIFY MHN OF ANY DISCREPANCIES, DIMENSIONAL INCONSISTENCIES OR THE NEED FOR MODIFICATION PRIOR TO MANUFACTURING
4. MHN TO REVIEW ALL CONTRACTORS DETAILED DRAWINGS / SETTING OUT PRIOR TO CONSTRUCTION.
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6. ALL DIMENSIONS TO BE VERIFIED ON SITE - DO NOT SCALE
7. ALL WORKS TO BE VERIFIED AGAINST DRAWINGS FOLLOWING CONSTRUCTION AND ARCHITECT TO BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH NEXT TRADE

[illegible]

**SPECIFICATIONS (refer to specification attachment)**

- ARTIFICIAL LIGHTING:** TO COMPLY WITH BCA PART CLAUSE 4.1 & AS1680
- RAILSTAIRS HEIGHTS:** TO COMPLY WITH BCA CLAUSE 02.16
- GRASSY OUTGROUNDS & DOWNPIPE:** TO COMPLY WITH ADIN6300 3.0.2
- ENERGY EFFICIENT LIGHTING:** TO COMPLY WITH ADIN6300 3.0.2
- FIRE SERVICES:** TO COMPLY WITH SECTION 6 OF BCA
- HOT WATER SYSTEMS:** TO COMPLY WITH PART 07 OF BCA
- MASONRY:** TO COMPLY WITH AS3700
- METAL/CEILING/CLADDING:** CLAUSE 03.15 & AS1530-4:2005
- METALLIC ARCHITECTURAL FINISHES:** TO COMPLY WITH AS1530-4:2005
- MECHANICAL EXHAUST VENTILATION:** TO COMPLY WITH AS1698 & AS692
- SMOKE ALARMS:** TO COMPLY WITH BCA PART CLAUSE 4 SPEC E2.2 & AS3739
- FENESTRATION:** THEREFORE TO COMPLY WITH CONSTRUCTION SPEC E2.2
- METAL/CEILING/CLADDING PENETRATIONS:** TO COMPLY WITH CLAUSE 03.15 & AS1530-4:2005
- STEAM TRANSMISSION:** TO COMPLY WITH PARTS OF BCA
- STAIN CONSTRUCTION:** TO COMPLY WITH CLAUSE 02.13
- STAIN CONSTRUCTION:** TO COMPLY WITH CLAUSE 02.13
- WATERPROOFING OF WET AREAS:** TO COMPLY WITH AS3740

BASIS COMMITMENTS		ENERGY OPTIONS	
ALL OTHER BASIS COMMITMENTS AS PER BASIS CERTIFICATE AND STAMPED PLANS)			
<b>WATER OPTIONS</b>		<b>ENERGY OPTIONS</b>	
SHOWERS/HEADS:	# STAR	COOLING:	
TOILETS:	# STAR	HEATING:	
CLOTHES WASHERS:	# STAR	VENTILATION:	
KITCHEN TAPS:	# STAR	WATER HEATING:	
BATHROOM TAPS:	# STAR	ENERGY EFFICIENT LIGHTING:	
DISHWASHERS:	# STAR	COOK TOP:	
RAIN WATER TANK:	# L	REFRIGERATOR SPACE:	
STAINLESS STEEL TANK:	# L	CLOTHES DRYING LINE:	
POOL/SPA:	# L	ALTERNATIVE SUPPLY:	
COLLECT RAIN OFF AREA:	# L	POOL/SPA:	
LANDSCAPED AREA TO IRRIGATE:	### sqm		

**THERMAL COMFORT OPTIONS**

Day Phase, EER Rating & Night Zoning Areas	R3.0 INSULATION TO:	Text
Day Phase, EER Rating & Night Zoning Areas	R2.5 INSULATION TO:	Text
Day Phase, EER Rating & Night Zoning Areas	R2.0 INSULATION TO:	Text
Day Phase, EER Rating & Night Zoning Areas	GLAZING SPEC:	Use
Day Phase, EER Rating & Night Zoning Areas	GLAZING TYPE:	Text

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SURREY HILLS SYDNEY NSW 2010

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MHN Design Union Pty Ltd. ABN 94 003 717 682



**PROJECT:**  
Proposed Development at  
Bradley Heights  
Cnr Bradley Street &  
Edgewater Drive Glenmore  
Park NSW

**DRAWING:**  
**PRIVATE OPEN SPACE  
DIAGRAMS**

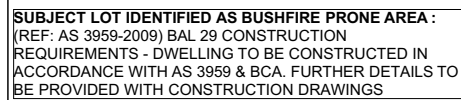
PROJECT NO: 17-035  
DRAWN BY: MHNDU  
TO SCALE: 1:500 @A3  
DRAWING NO: REV:

**DA 9101 (A)**



**PENRITH COUNCIL**  
**LEP 2010 Landscaped Area Definition:**  
*Landscaped area means a part of a site used for growing plants, grasses and trees, but does not include any building, structure or hard paved area.*

	AREA	SITE	%
505:	148m <sup>2</sup>	322m <sup>2</sup>	46
506:	58m <sup>2</sup>	196m <sup>2</sup>	30
507-519:	44m <sup>2</sup>	183m <sup>2</sup>	24
w/ Home Office:	45m <sup>2</sup>	183m <sup>2</sup>	25
520:	47m <sup>2</sup>	188m <sup>2</sup>	25
521-524:	47m <sup>2</sup>	185m <sup>2</sup>	25
525:	70m <sup>2</sup>	210m <sup>2</sup>	33



REVISONS		PLOTTED: 28-06-2017	GENERAL NOTES
A	DEVELOPMENT APPLICATION	28-06-2017	<p>ALL WORKS TO BE IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA / AUSTRALIAN STANDARD STATUTORY REGULATION AND LOCAL AUTHORITY R.C.</p> <p>THE CONTRACTOR SHALL MAINTAIN A CONSTANTLY BETWEEN MATERIALS IS MAINTAINED</p> <p>ANY DISCREPANCIES, DIMENSIONAL INCONSISTENCIES OR THE NEED FOR CLARIFICATION PRIOR TO MANUFACTURE</p> <p>MHT TO REVIEW ALL CONTRACTORS DETAILED DRAWINGS / SETTING OUT PRIOR TO CONSTRUCTION</p> <p>CONTRACTOR TO LIAISE WITH ELECTRICAL CONTRACTORS TO ENSURE ALL POWER/TELECOMMUNICATION REQUIREMENTS ARE ACCESSIBLE</p> <p>ALL DIMENSIONS TO BE VERIFIED ON SITE, DO NOT SCALE DRAWINGS</p> <p>CONTRACTOR TO ADVISE ARCHITECT IMMEDIATELY UPON CONSTRUCTION AND PROCEED TO BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO IMPLEMENTING WITH NEXT TRADE</p>

14-035 - Bradley Hayes [Dimension]  
 CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK. MINUS IS TO  
 BE NOTIFIED OF ANY DISCREPANCIES IN THE DIMENSION AND SETTING OUT OF THE WORK. COPYRIGHT OF  
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CLAUSE 8.14 - MATERIALS & FORMS CONSTRUCTIONS	CLAUSE D2.17 - HANDRAILS
SPEC C.11 - FIRE RESISTING CONSTRUCTION	CLAUSE D2.21 - OPERATION OF LATCH
SPEC C.12 - FIRE RESISTING CONSTRUCTION	CLAUSE D2.22 - SIGNS OF DOOR
SPEC C.13 - PERFORMANCE OF EXTERNAL WALLS IN A FIRE	CLAUSE D2.2 - GENERAL BUILDING ACCESS REQUIREMENTS
CLAUSE C.2.6 - VERTICAL SEPARATION OF OPENINGS IN EXTERNAL WALL	CLAUSE D2.3 - PARTS OF BUILDING TO BE ACCESSIBLE
CLAUSE C.2.7 - VERTICAL SEPARATION OF EQUIPPED	CLAUSE D2.4 - IDENTIFICATION OF ACCESSIBLE
CLAUSE C.2.13 - ELECTRICITY SUPPLY PROTECTION	CLAUSE D.8 - TACTILE INDICATORS
CLAUSE C.2.14 - PROTECTION OF PROTECTION OF SYSTEMS	CLAUSE D.9 - SOUND INSULATION OF EXTERIOR AREAS
CLAUSE C.2.8 - OPENING IN FIRE ISOLATED EXITS	CLAUSE F.1.9/1.10 - DAMP PROOFING
CLAUSE C.2.3 - INSULATION FOR SERVICE INSTALLATIONS	CLAUSE 2.3 - CONSTRUCTION OF SANITARY COMPARTMENTS
CLAUSE D.10 - DIVIDER BETWEEN EQUIPPED	CLAUSE F.4.1 - LIGHTING AND LIGHTING
CLAUSE D.2.7 - INSTALLATIONS IN EXITS AND PATHS OF TRAVEL	CLAUSE F.5.4 - SOUND INSULATION OF FLOORS
CLAUSE D.2.13 - SOUND INSULATION OF FLOORS	CLAUSE F.5.5 - SOUND INSULATION OF WALLS
CLAUSE D.2.14 - LANDINGS	CLAUSE F.5.6 - SOUND INSULATION OF SERVICES
CLAUSE D.15 - THRESHOLDS	CLAUSE F.5.7 - SOUND INSULATION OF PUMPS
CLAUSE D.16 - BALUSTRADES	

AIRCRAFT LIGHTING: TO COMPLY WITH BCA PART 4 CLAUSE 4.4 & 4.5  
 BALCONY RAILINGS: TO COMPLY WITH BCA PART 4 CLAUSE 4.10  
 DRAINAGE GUTTERS & DOWNPIPES: TO COMPLY WITH AS/NZS 3500  
 ENERGY EFFICIENT CYCLAZING: TO COMPLY WITH J2 OF BCA  
 FIRE SERVICES: TO COMPLY WITH SECTION E OF BCA  
 HOT WATER SYSTEMS: TO COMPLY WITH PART 3 OF BCA  
 MASONRY: TO COMPLY WITH AS3570  
 MECHANICAL HYDRAULIC: BCA CLAUSE 15 & AS1530-4:2005  
 MECHANICAL VENTILATION: TO COMPLY WITH J2 OF BCA  
 MECHANICAL EXHAUST VENTILATION: TO COMPLY WITH AS1698 &  
 SMOKE ALARMS: TO COMPLY WITH BCA PART CLAUSE 5 SPEC 2 &  
 PENETRATIONS: THROUGH FIRE RATED CONSTRUCTION FOR  
 MECHANICAL PENETRATIONS: TO COMPLY WITH BCA CLAUSE  
 15 & AS1530-4:2005  
 SOUND TRANSMISSION: TO COMPLY WITH PARTS OF BCA  
 STAIR CONSTRUCTION: TO COMPLY WITH BCA CLAUSE 12.13  
 STAIR CONSTRUCTION: TO COMPLY WITH BCA CLAUSE 12.13

WATER OPTIONS		ENERGY OPTIONS	
SHOWERHEADS:	## STAR	COOLING:	
TOILETS:	## STAR	HEATING:	
CLOTHES WASHERS:	## STAR	VENTILATION:	
KITCHEN TAPS:	## STAR	WATER HEATING:	
BATHROOM TAPS:	## STAR	ENERGY EFFICIENT LIGHTING:	
DISHWASHERS:	## STAR	COOK TOPS:	
RAIN WATER TANK:	## L	REFRIGERATOR SPACE:	
STORM WATER TANK:	## L	CLOTHES DRYING LINES:	
POOL/S:	## L	ALTERNATIVE SUPPLY:	
COLLECT RUN OFF AREA:	### sqm		
LANDSCAPED AREA TO IRRIGATE:	### sqm		

**ENERGY OPTIONS**

COOLING:

HEATING:

VENTILATION:

WATER HEATING:

ENERGY EFFICIENT LIGHTING:

COOK TOPS:

REFRIGERATOR SPACE:

CLOTHES DRYING LINES:

ALTERNATIVE SUPPLY:

**THERMAL COMFORT OPTIONS:**

R3.0 INSULATION TO:	T
R2.5 INSULATION TO:	T
R2.0 INSULATION TO:	T
GLAZING SPEC:	U
GLAZING TYPE:	T

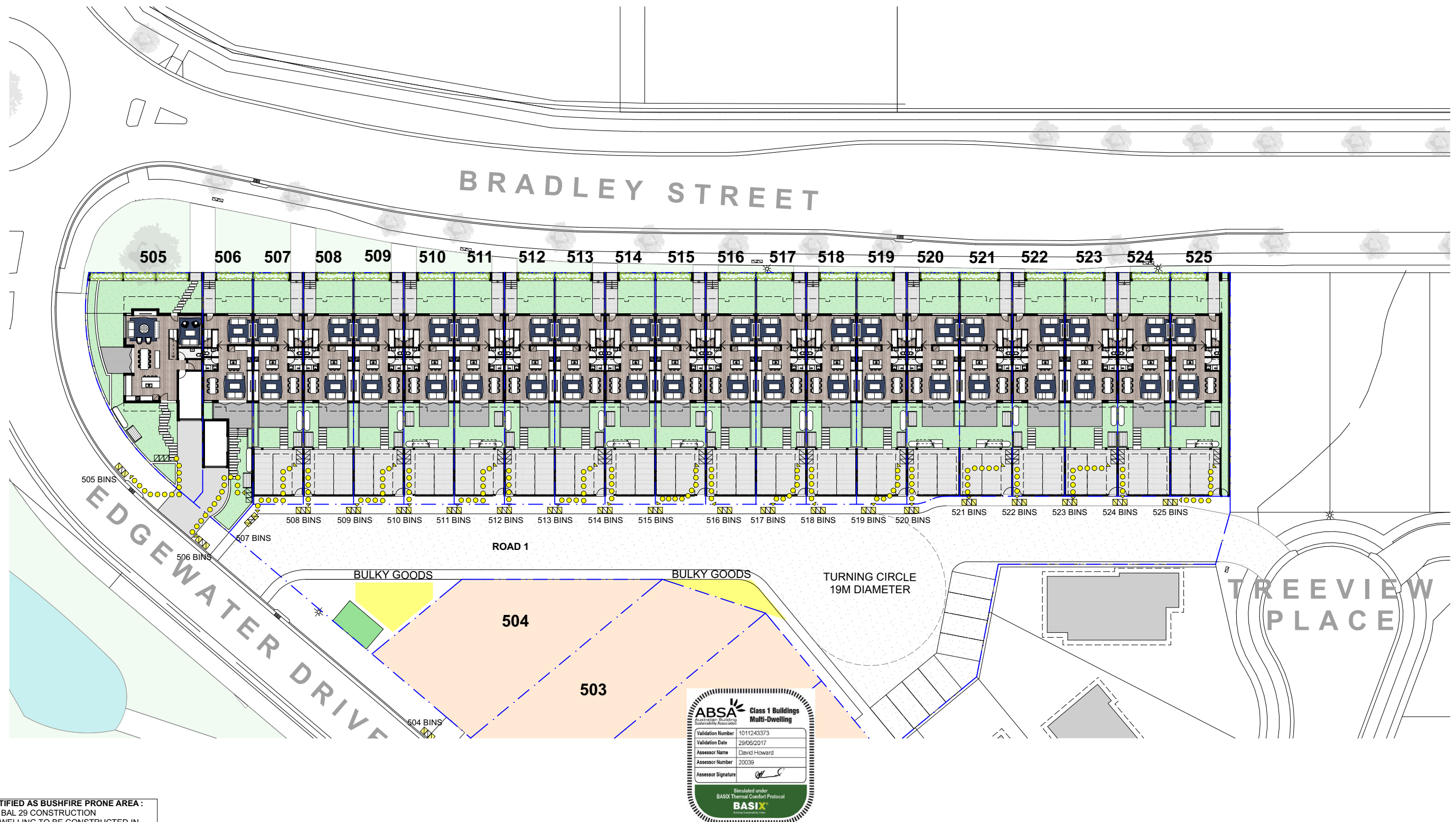


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F +61 2 9101 1100  
**www.mhndu.com**  
MHN Design Union Pty Ltd. ABN 94 003 717 682

**DRAWING:  
LANDSCAPE AREA  
DIAGRAMS**

DA 9102 (A)

# WASTE MGT PLAN



**SUBJECT LOT IDENTIFIED AS BUSHFIRE PRONE AREA :**  
(REF: AS 3959-2009) BAL 29 CONSTRUCTION  
REQUIREMENTS - DWELLING TO BE CONSTRUCTED IN  
ACCORDANCE WITH AS 3959 & BCA. FURTHER DETAILS TO  
BE PROVIDED WITH CONSTRUCTION DRAWINGS

[illegible]

ALL CONSTRUCTION TO COMPLY AT MINIMUM W/ BCA CLAUSES & AUSTRALIAN STANDARDS

CLAUSE B 14. MATERIAL & FORMS CONSTRUCTIONS  
SPEC. C 11. FIRE RESISTING CONSTRUCTION  
SPEC. C 10. FIRE HAZARD PROPERTIES  
SPEC. C 11. PERFORMANCE OF EXTERNAL WALLS IN A FIRE  
SPEC. C 12.6. VERTICAL SEPARATION OF OPENINGS IN EXTERNAL WALLS  
CLAUSE C 12. SEPARATION OF EQUIPMENT  
CLAUSE C 13. ELECTRICITY SUPPLY SYSTEM  
SPEC. C 13. ACCEPTABLE METHODS OF PROTECTION (OF OPENINGS)  
CLAUSE C 18. OPENING IN FIRE ISOLATED EXITS  
CLAUSE C 15. OPENING FOR SERVICE INSTALLATIONS  
CLAUSE D 10. DISCHARGE FIRE EXITS  
CLAUSE D 7. INSTALLATIONS IN STAIRS AND PATHS OF TRAVEL  
CLAUSE D 13. GORGES AND RISERS  
CLAUSE D 14. LANDINGS  
CLAUSE D 13.9. THROUGHLOUVERS  
CLAUSE D 16. BALUSTRADES

- CLAUSE D2.17 - HANDRAILS
- CLAUSE D2.21 - OPERATION OF LATCH
- CLAUSE D2.23 - SIGNS ON DOORS
- CLAUSE D3.2 - GENERAL BUILDING ACCESS REQUIREMENTS
- CL. CLAUSE D3.3 - PARTS OF BUILDING TO BE ACCESSIBLE
- CLAUSE D3.6 - IDENT. OF ACCESSIBLE FACIL/SERV/FEATURE
- CLAUSE D3.8 - TACTILE INDICATORS
- CLAUSE D4.17 - WATERPROOFING OF WET AREAS
- CLAUSE F1.9/F1.10 - DAMP PROOFING
- CLAUSE 2.5 - CONSTRUCTION OF SANITARY COMPARTMENT
- PART F4 - LIGHTING AND VENTILATION
- CLAUSE F5.4 - SOUND INSULATION OF FLOORS
- CLAUSE F5.5 - SOUND INSULATION OF WALLS
- CLAUSE F5.6 - SOUND INSULATION OF CEILING
- CLAUSE F5.7 - SOUND INSULATION OF PUMPS

**SPECIFICATIONS** (refer to specification attachment)

AIRCRAFT LIGHTING: TO COMPLY WITH BCA PART 4 CLAUSE 6.4 & AS  
 3530.10  
 DRAINAGE GUTTERS & DOWNPIPES: TO COMPLY WITH AS/NZS 3500  
 ENERGY EFFICIENT CYCLAZING: TO COMPLY WITH J2 OF BCA  
 FIRE SERVICES: TO COMPLY WITH SECTION E OF BCA  
 NOT W/OUT BEING TESTED TO COMPLY WITH PART J2 OF BCA  
 MASONRY: TO COMPLY WITH AS3570  
 MECH/ELEC/HYDRAULIC: BCA CLAUSE 15 & AS1530-4:2005  
 MECH/ELEC/HYDRAULIC: TO COMPLY WITH PART J2 OF BCA  
 MECHANICAL EXHAUST VENTILATION: TO COMPLY WITH AS1698 &  
 SMOKE ALARMS: TO COMPLY WITH BCA PART CLAUSE 6 SPEC 2 &  
 PENETRATIONS: THROUGH FIRE RATED CONSTRUCTION FOR  
 MECH/ELEC/HYDRAULIC PENETRATIONS: TO COMPLY WITH BCA CLAUSE  
 15 & AS1530-4:2005  
 SOUND TRANSMISSION: TO COMPLY WITH PARTS OF BCA  
 STAIR CONSTRUCTION: TO COMPLY WITH PARTS OF BCA  
 STAIR CONSTRUCTION: TO COMPLY WITH BCA CLAUSE D2.13

## BASIX COMMITMENTS

WATER OPTIONS		ENERGY OPTIONS	
SHOWERSHEADS:	\$ STAR	COOLING:	
TOILETS:	\$ STAR	HEATING:	
CLOTHES WASHERS:	\$ STAR	VENTILATION:	
KITCHEN TAPS:	\$ STAR	WATER HEATING:	
BATHROOM TAPS:	\$ STAR	ENERGY EFFICIENT LIGHTING:	
DISHWASHERS:	\$ STAR	COOK TOPS:	
RAIN WATER TANK:	\$ L	REFRIGERATOR:	
STORM WATER TANK:	\$ L	CLOTHES DRYING LINES:	
POOL SPA:	\$ L	ALTERNATIVE SUPPLY:	
COLLECT RUN OFF AREA:	\$\$\$ sqm		
LANDSCAPED AREA TO IRRIGATE:	\$\$\$ sqm		

---

**Thermal Comfort Options**  
 R3.0 INSULATION TO:  
 R2.5 INSULATION TO:  
 R2.0 INSULATION TO:  
 GLAZING SPEC:  
 GLAZING TYPE:

CLIENT



**MHNDU**NION

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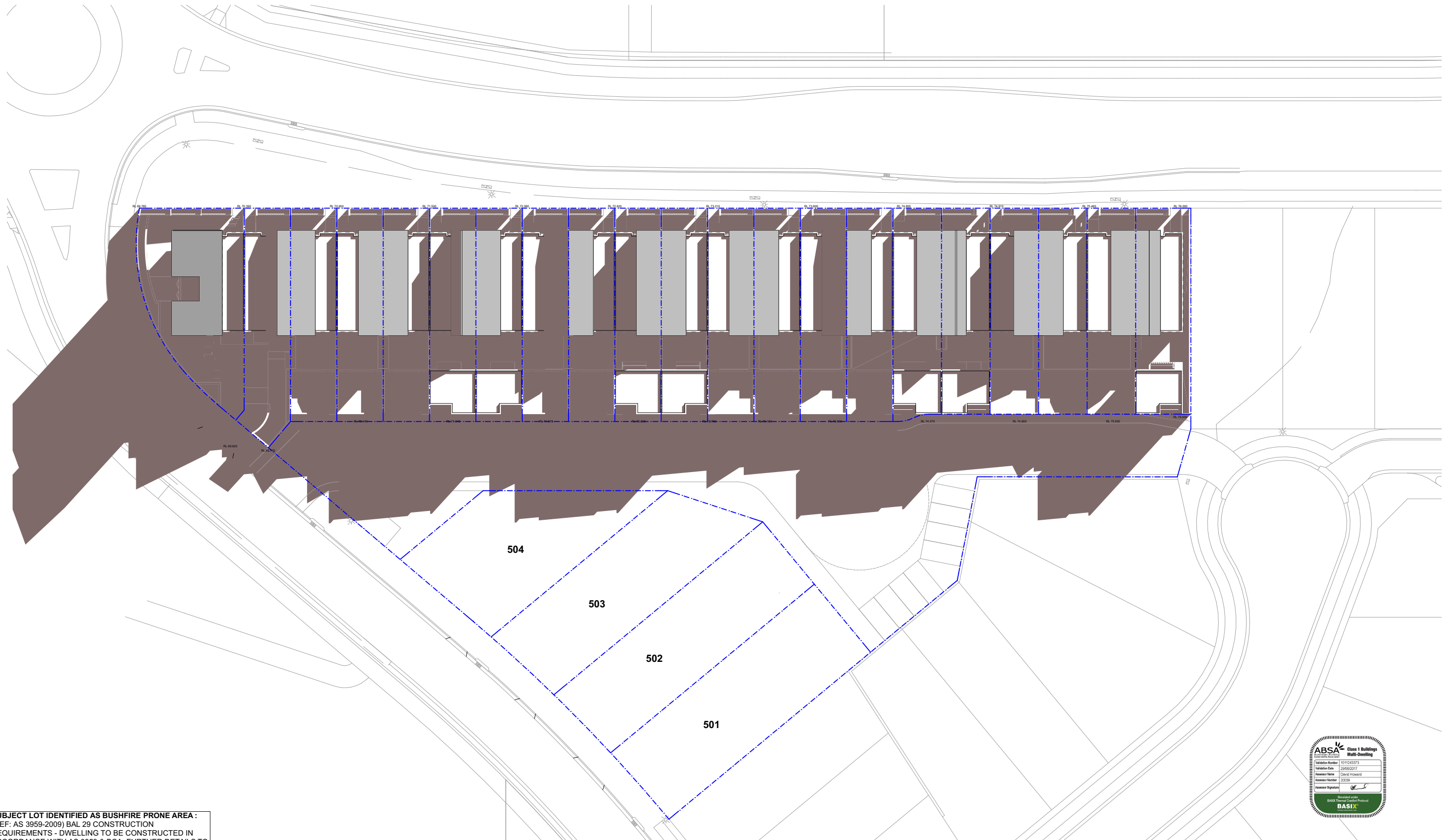
**PROJECT:**  
Proposed Development at  
Bradley Heights  
Cnr Bradley Street &  
Edgewater Drive Glenmore  
Park NSW

**DRAWING:**  
**WASTE MGT PLAN**

PROJECT NO: 17-035  
DRAWN BY: MHNDU  
TO SCALE: 1:500 @A3  
DRAWING NO: REV:

DA 9300 (A)

# SHADOWS JUNE 21st 9am



**SUBJECT LOT IDENTIFIED AS BUSHFIRE PRONE AREA :**  
(REF: AS 3959-2009) BAL 29 CONSTRUCTION  
REQUIREMENTS - DWELLING TO BE CONSTRUCTED IN  
ACCORDANCE WITH AS 3959 & BCA. FURTHER DETAILS TO  
BE PROVIDED WITH CONSTRUCTION DRAWINGS

REVISIONS	PLOTTED: 28/06/2017
A DEVELOPMENT APPLICATION	28-06-2017
<p>17-035 - Bradley Heights [bimensor]  CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK. MINDU IS TO BE NOTIFIED OF ANY DISCREPANCIES IN THE DIMENSION AND SETTING OUT OF THE WORK. COPYRIGHT OF PERSONS SUCHAN HERSON IS RETAINED BY MINDU. AUTHORITY IS DECLARED TO ANY REPRODUCTION</p>	

## GENERAL NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA/AUSTRALIAN STANDARDS/STATUTORY REGULATIONS AND LOCAL AUTHORITY REQ.
2. CONTRACTOR TO ENSURE CONSISTENCY BETWEEN DRAWINGS. MATERIALS IS MAINTAINED.
3. CONTRACTOR TO NOTIFY MHN OF ANY DISCREPANCIES, DIMENSIONAL INCONSISTENCIES OR THE NEED FOR MODIFICATION PRIOR TO MANUFACTURING.
4. MHN TO REVIEW ALL CONTRACTORS DETAILED DRAWINGS / SETTING OUT PRIOR TO CONSTRUCTION.
5. CONTRACTOR TO LIAISE WITH ELECTRICAL CONTRACTORS TO ENSURE ALL POWER/DATA/COMMUNICATION REQUIREMENTS ARE ACCESSIBLE.
6. ALL DIMENSIONS TO BE VERIFIED ON SITE - DO NOT SCALE.
7. ALL WORKS TO BE VERIFIED AGAINST DRAWINGS FOLLOWING CONSTRUCTION AND ARCHITECT TO BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH NEXT TRADE.

**ALL CONSTRUCTION TO COMPLY AT MINIMUM WITH:**

- CLAUSe B 1.4 - MATERIAL & FORMS CONSTRUCTIONS
- SPEC. C 1.1 - FIRE RESISTING CONSTRUCTION
- SPEC. C 1.10 - FIRE HAZARD PROPERTIES
- CLAUSe C 1.11 - PERFORMANCE OF EXTERNAL WALLS IN A FIRE
- CLAUSe C2.6.1 - VERTICAL SEPARATION OF OPENINGS IN EXTERNAL WALLS
- CLAUSe C2.12 - SEPARATION OF EQUIPMENT
- CLAUSe C2.13 - ELECTRICITY SUPPLY SYSTEM
- CLAUSe C.3 - ACCEPTABLE METHODS OF PROTECTION (OF OPENINGS)
- CLAUSe C2.8 - OPENING IN FIRE ISOLATED EXITS
- CLAUSe C3.15 - OPENING FOR SERVICE INSTALLATIONS
- CLAUSe D1.10 - DISCHARGE FROM EXITS
- CLAUSe D2.7 - INSTALLATIONS IN EXITS AND PATHS OF TRAVEL
- CLAUSe D2.13 - GOINGS AND RISERS
- CLAUSe D2.14 - LANDINGS
- CLAUSe D2.15 - THRESHOLDS
- CLAUSe D2.16 - BALUSTRADES

**BCA CLAUSES & AUSTRALIAN STANDARDS**

CLAUSE D2.17 - HANDRAILS  
CLAUSE D2.21 - OPERATION OF LATCH  
CLAUSE D2.23 - SIGNS ON DOORS  
CLAUSE D2.23 - GENERAL BUILDING ACCESS REQUIREMENTS  
CLAUSE D3.3 - PARTS OF BUILDING TO BE ACCESSIBLE  
CLAUSE D3.6 - IDENT. OF ACCESSIBLE FACILITIES/FEATURES  
CLAUSE D3.8 - TACTILE INDICATORS  
(35) CLAUSE F1.7 - WATERPROOFING OF JET BASINS  
CLAUSE F1.3F1.10 - DAMP PROOFING  
CLAUSE 2.5 - CONSTRUCTION OF SANITARY COMPARTMENTS  
PART F4 - LIGHTING AND VENTILATION  
CLAUSE F5.4 - SOUND INSULATION OF FLOORS  
CLAUSE F5.5 - SOUND INSULATION OF WALLS  
CLAUSE F5.6 - SOUND INSULATION OF SERVICES  
CLAUSE F5.7 - SOUND INSULATION OF PIPES

**SPECIFICATIONS (refer to specification attachment)**

**ARTIFICIAL LIGHTING:** TO COMPLY WITH BICA PART CLASSIFIER 4.4 & AS1616

**BAULSTRADE HEIGHTS:** TO COMPLY WITH BICA CLAUSE D2.16

**DRAINAGE GUTTERS & DOWNSPIES:** TO COMPLY WITH AS/NZS 3500.3.2

**ENERGY EFFICIENT GLAZING:** TO COMPLY WITH Z2 OF BICA

**FIRE SERVICES:** TO COMPLY WITH SECTION E OF BICA

**HOT WATER SYSTEM:** TO COMPLY WITH BICA PART CLASSIFIER 3.5

**MASONRY:** TO COMPLY WITH AS3700

**MECHANICAL/HEATING/RAILC:** BICA CL. 15 & AS1530 & 4.05

**MISCELLANEOUS:** TO COMPLY WITH BICA PART CLASSIFIER 2.05

**METAL MECHANICAL EXHAUST VENTILATION:** TO COMPLY WITH AS1608 & AS1

**SMOKE ALARMS:** TO COMPLY WITH BICA PART CLAUSE & SPEC E2.2 & A

**PENETRATIONS:** THROUGH FIRE RATED CONSTRUCTION FOR BICA CLAUSE D2.16

**SEALANT PENETRATIONS:** TO COMPLY WITH BICA CLAUSE D2.16 & AS1530 & 2.05

**SOUND TRANSMISSION:** TO COMPLY WITH PARTS OF BICA

**STAIR CONSTRUCTION:** TO COMPLY WITH BICA CLAUSE D2.13

**STAIR CONSTRUCTION:** TO COMPLY WITH BICA CLAUSE D2.13

**WATERPROOFING OF WET AREAS:** TO COMPLY WITH AS13740

BASIC COMMITMENTS		(ALL OTHER BASIC COMMITMENTS AS PER BASIC CERTIFICATE)	
WATER OPTIONS		ENERGY OPTIONS	
SHOWERHEADS:	\$ STAR	COOLING:	\$ STAR
TOILETS:	\$ STAR	HEATING:	\$ STAR
CLOTHES WASHERS:	\$ STAR	VENTILATION:	\$ STAR
KITCHEN TAPS:	\$ STAR	WATER HEAT:	\$ STAR
BATHROOM TAPS:	\$ STAR	ENERGY EFFICI:	\$ STAR
DISHWASHERS:	\$ STAR	COOK TOPS:	\$ STAR
RAIN WATER TANK:	\$ L	REFRIGERATOR:	\$ STAR
STORM WATER TANK:	\$ L	CLOTHES DRY:	\$ STAR
POOL/SPA:	\$ L	ALTERNATIVE:	\$ STAR
COLLECT RUN OFF AREA:	\$ \$ \$ sqm	POOL/SPA:	\$ STAR
LANDSCAPED AREA TO IRRIGATE:	\$ \$ \$ sqm		

E AND STAMPED PLANS)	
<b>CTIONS</b>	<b>THERMAL COMFOR</b>
Insert Phase, EER Rating & Day/Night Zoning Areas	R3.0 INSULATION TO:
Insert Phase, EER Rating & Day/Night Zoning Areas	R2.5 INSULATION TO:
Text goes here	GLAZING SPEC:
# STAR	GLAZING TYPE:
# STAR	
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### sqm	

**MHNDU**  
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MHIN Design Union Pty Ltd. ABN 94 003 717 682

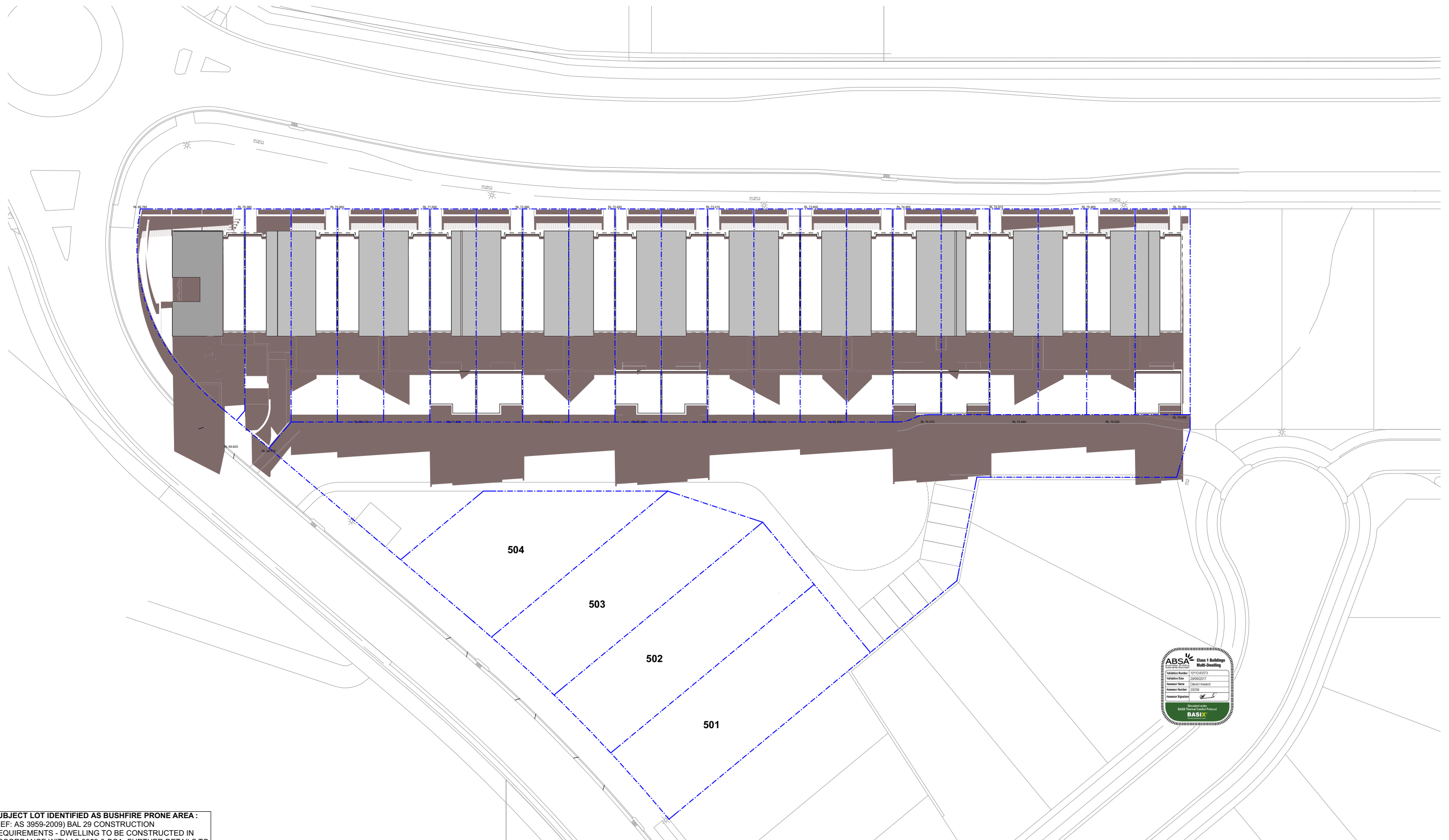
**PROJECT:**  
Proposed Development  
Bradley Heights  
Cnr Bradley St  
Edgewater Dr  
Park NSW

**DRAWING:**  
**SHADOWS**  
9am

PROJECT NO: 17-035  
DRAWN BY: MHNDU  
TO SCALE: 1:500 @A3  
DRAWING NO: REV:



# SHADOWS JUNE 21st 12pm



**SUBJECT LOT IDENTIFIED AS BUSHFIRE PRONE AREA :**  
(REF: AS 3959-2009) BAL 29 CONSTRUCTION  
REQUIREMENTS - DWELLING TO BE CONSTRUCTED IN  
ACCORDANCE WITH AS 3959 & BCA. FURTHER DETAILS TO  
BE PROVIDED WITH CONSTRUCTION DRAWINGS

REVISIONS		PLOTTED: 28/08/2017
A	DEVELOPMENT APPLICATION	28-06-2017

## GENERAL NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA/AUSTRALIAN STANDARDS STATUTORY REGULATIONS AND LOCAL AUTHORITY REG.
2. CONTRACTOR TO ENSURE CONSISTENCY BETWEEN MATERIALS IS MAINTAINED
3. CONTRACTOR TO NOTIFY MHH OF ANY DISCREPANCIES, DIMENSIONAL INCONSISTENCIES OR THE NEED FOR CLARIFICATION PRIOR TO MANUFACTURING
4. MHH TO REVIEW ALL CONTRACTORS DETAILED DRAWINGS / SETTING OUT PRIOR TO CONSTRUCTION.
5. CONTRACTOR TO Liaise WITH ELECTRICAL CONTRACTORS TO ENSURE ALL POWERDATA/COMMUNICATION REQUIREMENTS ARE ACCESSIBLE.
6. ALL DIMENSIONS TO BE VERIFIED ON SITE - DO NOT SCALE
7. ALL WORKS TO BE VERIFIED AGAINST DRAWINGS FOLLOWING CONSTRUCTION AND ARCHITECT TO BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH NEXT TRADE

ALL CONSTRUCTION TO COMPLY AT MINIMUM W/ BCA CLAUSES & AUSTRALIAN STANDARDS

CLAUSE B 14 - MATERIAL & FORMS CONSTRUCTIONS  
SPEC. C11.1 - FIRE RESISTING CONSTRUCTION  
SPEC. C11.10 - FIRE HAZARD PROPERTIES  
SPEC. C12.1 - PERFORMANCE OF WALLS IN A FIRE  
CLAUSE C2.6 - VERTICAL SEPARATION OF OPENINGS IN EXTERNAL WALL  
CLAUSE C2.12 - SEPARATION OF EQUIPMENT  
CLAUSE C2.13 - ELECTRICITY SUPPLY SYSTEM  
CLAUSE C3.1 - ACCEPTABLE METHODS OF PROTECTION (OF OPENINGS)  
CLAUSE C3.8 - OPENING IN FIRE ISOLATED EXITS  
CLAUSE C3.15 - OPENING FOR SERVICE INSTALLATIONS  
CLAUSE C4.10 - DISCHARGE EXITS  
CLAUSE D2.7 - INSTALLATIONS IN EXITS AND PATHS OF TRAVEL  
CLAUSE D2.13 - GOINGS AND RISERS  
CLAUSE D2.14 - LANDINGS  
CLAUSE D2.15 - THRESHOLDS  
CLAUSE D2.16 - BALLTRADES

- CLAUSE D2.17 - HANDRAILS
- CLAUSE D2.21 - OPERATION OF LATCH
- CLAUSE D2.23 - SIGNS ON DOORS
- CLAUSE D3.2 - GENERAL BUILDING ACCESS REQUIREMENTS
- CL. CLAUSE D3.3 - PARTS OF BUILDING TO BE ACCESSIBLE
- CLAUSE D3.6 - IDENT. OF ACCESSIBLE FACIL/SERVICE/FEATURE
- CLAUSE D3.8 - TACTILE INDICATORS
- CL. CLAUSE F1.7 - WATERPROOFING OF WET AREAS
- CL. CLAUSE F1.9/F1.10 - DAMP PROOFING
- CL. CLAUSE 2.5 - CONSTRUCTION OF SANITARY COMPARTMENT
- PART F4 - LIGHTING AND VENTILATION
- CL. CLAUSE F5.4 - SOUND INSULATION OF FLOORS
- CL. CLAUSE F5.5 - SOUND INSULATION OF WALLS
- CL. CLAUSE F5.6 - SOUND INSULATION OF SERVICES
- CL. CLAUSE F5.7 - SOUND INSULATION OF PUMPS

**SPECIFICATIONS** (refer to specification attachment)

AIRLIGHT LIGHTING: TO COMPLY WITH BICA PART CLAUSES 4.4 & 4.5  
 BALANCE VALVES: TO COMPLY WITH BICA PART CLAUSES 4.4 & 4.5  
 DRAINAGE GUTTERS & DOWNPIPES: TO COMPLY WITH AS/NZS 3500.30  
 2. ENERGY EFFICIENCY/GLAZING: TO COMPLY WITH J2 OF BICA  
 FIRE SAFETY: TO COMPLY WITH BICA PART CLAUSES 4.4 & 4.5  
 HOT WATER: SYSTEMS TO COMPLY WITH PART J7 OF BICA  
 MASONRY: TO COMPLY WITH AS/3570  
 MECHANICAL AIR CONDITIONING: TO COMPLY WITH AS/1530 4.05  
 MECHANICAL EXHAUST VENTILATION: TO COMPLY WITH AS/1606 & AS/1608  
 MOVABLE PARTS: TO COMPLY WITH BICA PART CLAUSES 4.2 & 4.4  
 PENETRATIONS: THROUGH FIRE RATED CONSTRUCTION FOR  
 MECH/ELECTRIC/CLIMATE PENETRATIONS TO COMPLY WITH BICA CLAUSE  
 3.15 & AS/10310 4.2005  
 SOUND: TO COMPLY WITH BICA PART CLAUSES 4.4 & 4.5  
 STAIR CONSTRUCTION: TO COMPLY WITH BICA CLAUSE D2 13  
 STAIR CONSTRUCTION: TO COMPLY WITH BICA CLAUSE D2 13  
 WATER: TO COMPLY WITH BICA PART CLAUSES 4.4 & 4.5

**BASIX COMMITMENTS**  
(ALL OTHER BASIX COMMITMENTS AS PER BASIX CERTIFICATE AND STAMPED PLANS)

**WATER OPTIONS**  
SHOWERHEADS:  
TOILETS:  
CLOTHES WASHERS:  
KITCHEN TAPS:  
BATHROOM TAPS:  
DISHWASHERS:  
RAIN WATER TANK:  
STORM WATER TANK:  
POOL/SPA:  
COLLECT RUN OFF /  
LANDSCAPED AREA:

**ENERGY OPTIONS**

# STAR COOLING:  
 # STAR HEATING:  
 # STAR VENTILATION:  
 # STAR WATER HEATING:  
 # L ENERGY EFFICIENT LIGHTING:  
 # L COOK TOPS:  
 # L REFRIGERATOR SPACE:  
 CLOTHES DRYING LINES:  
 ALTERNATIVE SUPPLY:  
 POOL/SPA:

**Insert Phase, EER Rating & Day/Night Zoning Areas**  
**Insert Phase, EER Rating & Day/Night Zoning Areas**  
 Text goes here  
 # STAR  
 # STAR  
 Text goes here  
 Text goes here  
 Text goes here  
 Text goes here  
 # # sign

**THERMAL COMFORT OPTIONS**  
 R30 INSULATION TO:  
 R2.5 INSULATION TO:  
 R20 INSULATION TO:  
 GLAZING SPEC:  
 GLAZING TYPE:

CLIENT



**MHNDU**NION

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SURRY HILLS SYDNEY NSW 2010

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F +61 2 9101 1100

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MH-N Design Union Pty Ltd. AEN 94 003 717 682

**PROJECT:**  
Proposed Development at  
Bradley Heights  
Cnr Bradley Street &  
Edgewater Drive Glenmore  
Park NSW

**DRAWING:**  
**SHADOWS JUNE 21st**  
**12pm**

**PROJECT NO:** 17-035  
**DRAWN BY:** MHNDU  
**TO SCALE:** 1:500 @A3  
**DRAWING NO:** REV:

**DA 9402 (A)**

**SHADOWS JUNE 21st 3pm**

504

503

502

501

**ABS** Class 1 Buildings Multi-Dwelling  
 Validation Number: 1511543373  
 Validation Date: 20/05/2017  
 Assessor Name: David Howard  
 Assessor Number: 20070  
 Assessor Signature: [Signature]  
 BASIX logo

**SUBJECT LOT IDENTIFIED AS BUSHFIRE PRONE AREA:**  
 (REF: AS 3959-2009) BAL 29 CONSTRUCTION  
 REQUIREMENTS - DWELLING TO BE CONSTRUCTED IN  
 ACCORDANCE WITH AS 3959 & BCA. FURTHER DETAILS TO

REVISIONS \_\_\_\_\_ PLOTTED: 28/09/2017

A DEVELOPMENT APPLICATION 28-06-2017

17-035 - Bradley Heights (overview)

CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK. MINDU IS TO BE NOTIFIED OF ANY DISCREPANCIES IN THE DIMENSION AND SETTING OUT OF THE WORK. COPYRIGHT OF DESIGNS SHOWN HEREON IS RETAINED BY MINDU. AUTHORITY IS REQUIRED FOR ANY REPRODUCTION

REVISIONS \_\_\_\_\_ PLOTTED: 28/09/2017

A DEVELOPMENT APPLICATION 28-06-2017

17-035 - Bradley Heights (overview)

CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK. MINDU IS TO BE NOTIFIED OF ANY DISCREPANCIES IN THE DIMENSION AND SETTING OUT OF THE WORK. COPYRIGHT OF DESIGNS SHOWN HEREON IS RETAINED BY MINDU. AUTHORITY IS REQUIRED FOR ANY REPRODUCTION

## GENERAL NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH THE BUILDING CODE OF AUSTRALIA/AUSTRALIAN STANDARDS/STATUTORY REGULATIONS AND LOCAL AUTHORITY REG.
2. CONTRACTOR TO ENSURE CONSISTENCY BETWEEN MATERIALS IS MAINTAINED
3. CONTRACTOR TO NOTIFY MWH OF ANY DISCREPANCIES, DIMENSIONAL INCONSISTENCIES OR THE NEED FOR CLARIFICATION PRIOR TO MANUFACTURING
4. MWH TO REVIEW ALL CONTRACTORS DETAILED DRAWINGS / SETTING OUT PRIOR TO CONSTRUCTION.
5. CONTRACTOR TO Liaise WITH ELECTRICAL CONTRACTORS TO ENSURE ALL POWER/DATA/COMMUNICATION REQUIREMENTS ARE ACCESSIBLE.
6. ALL DISCRESSIONS TO BE VERIFIED ON SITE - DO NOT SCALE
7. ALL WORKS TO BE VERIFIED AGAINST DRAWINGS FOLLOWING CONSTRUCTION AND ARCHITECT TO BE NOTIFIED OF ANY DISCREPANCIES PRIOR TO PROCEEDINGS WITH NEXT TRADE

## ALL CONSTRUCTION TO COMPLY AT MINIMUM W/BCA CLASSES & AUSTRALIAN STANDARDS

CLAUSE 1-4: MATERIAL & FORMS CONSTRUCTION	CLAUSE 17-1: HANDRAILS
CLAUSE 1-5: FINISHES	CLAUSE 17-2: OPERATION OF LATCH
SPEC 10-1: FIRE-RESISTANT WALLS & PARTITIONS	CLAUSE 18-1: SOUND INSULATION
SPEC 10-2: FIRE-RESISTANT ROOFING	CLAUSE 18-2: SOUND INSULATION
CLAUSE 1-6: VERTICAL SEPARATION OF OPENINGS IN EXTERNAL WALL	CLAUSE 18-3: PARTS OF BUILDING TO BE ACCESSIBLE
CLAUSE 1-7: VERTICAL SEPARATION OF OPENINGS IN EXTERNAL WALL	CLAUSE 18-4: VENTILATION OF ACCESSIBLE TOILETS
CLAUSE 12-1: ELECTRICITY SUPPLY SYSTEM	CLAUSE 18-5: FACILITY IDENTIFICATION
CLAUSE 12-2: SEPARATION OF EQUIPMENT (SEPARATION OF OPENINGS)	CLAUSE 18-6: CONSTRUCTION OF PLAY AREAS
CLAUSE 13-3: OPENING IN FIRE ISOLATED ELEVATOR	CLAUSE P1-10-1: DAMP PROOFING
CLAUSE 14-1: DISCHARGE FROM EXITS	CLAUSE P1-10-2: CONSTRUCTION OF ENTRYWAY CANOPY
CLAUSE 14-2: DISCHARGE FROM EXITS	PART 14-1: LIGHTING AND VENTILATION
CLAUSE 14-3: DISCHARGE FROM EXITS	CLAUSE 14-2: SOUND INSULATION OF FLOORS
CLAUSE 14-4: DISCHARGE FROM EXITS	CLAUSE 14-3: SOUND INSULATION OF FLOORS
CLAUSE 14-5: DISCHARGE FROM EXITS	CLAUSE 14-4: SOUND INSULATION OF SERVICES
CLAUSE 14-6: DISCHARGE FROM EXITS	CLAUSE P1-7: SOUND INSULATION OF PUMPS
CLAUSE 16-1: BALUSTRADES	

**SPECIFICATIONS (refer to specification attachment)**

**ASTM LISTING:** TO COMPLY WITH BCA PART CLAUSES 4.4 & 4.5

**RAILROADS:** TO COMPLY WITH BCA CLAUSE D2

**RAILROAD GUTTERS & DOWNPIPES:** TO COMPLY WITH ASIN28 3500

**ENERGY EFFICIENCY GLAZING:** TO COMPLY WITH 2.0 OF BCA

**CLIMATE:** TO COMPLY WITH BCA PART CLAUSE 2.1

**HOT WATER SYSTEMS:** TO COMPLY WITH PART 7 OF BCA

**MASONRY:** TO COMPLY WITH AS3700

**METAL ROOFING:** BCA CLAUSE 3.15 & AS1530-4:2005

**METAL ROOFING AIR CONDITIONING:** TO COMPLY WITH PART 5 OF BCA

**MECHANICAL EXHAUST VENTILATION:** TO COMPLY WITH AS1668 & 1

**SMOKE ALARMS:** TO COMPLY WITH BCA PART CLAUSE 3 & SPEC 2.2

**PENETRATIONS THROUGH ROOF AREAS:** TO COMPLY WITH BCA PART CLAUSE 3.15

**METAL ROOFING PENETRATIONS:** TO COMPLY WITH BCA CLAUSE 3.15 & AS1530-4:2005

**SOUND INSULATION:** TO COMPLY WITH PARTS OF BCA

**STAIR CONSTRUCTION:** TO COMPLY WITH BCA CLAUSE D2.13

**STAIR CONSTRUCTION:** TO COMPLY WITH BCA CLAUSE D2.13

**WATERPROOFING OF WEET AREAS:** TO COMPLY WITH AS3740

BASIC COMMITMENTS		ALL OTHER BASIC COMMITMENTS AS PER BASIC CERTIFICATE AND STAMPED PLANS	
<b>WATER OPTIONS</b>		<b>ENERGY OPTIONS</b>	
SHOWERHEADS:	# STAR	COOLING:	Ind
TOILETS:	# STAR		Du
KITCHEN WASHERS:	# STAR	HEATING:	Du
KITCHEN TAPS:	# STAR		Te
BATHROOM TAPS:	# STAR	VENTILATION:	Te
DISHWASHERS:	# STAR	WATER HEATING:	Te
RAIN WATER TANK:	# L	ENERGY EFFICIENT LIGHTING:	Te
STORM WATER TANK:	# L	COOK TOPS:	Te
POOL/SPA:	# STAR	REFRIGERATOR:	Te
COLLECT RAIN OFF AREA:	#H# sign	CLOTHES DRYING LINES:	Te
LANDSCAPED AREA TO IRRIGATE:	#H# sign	ALTERNATIVE SUPPLY:	Te
		POOL/SPA:	#H#

**ENERGY OPTIONS**

COOLING:

HEATING:

VENTILATION:

WATER HEATING:

ENERGY EFFICIENT LIGHTING:

COOK TOPS:

REFRIGERATOR SPACE:

CLOTHES DRYING LINES:

ALTERNATIVE SUPPLY:

POOL/SPA:

Insert Phase, EE  
DayNight Zoning  
Insert Phase, EE  
DayNight Zoning  
Text goes here  
# STAR  
# STAR  
Text goes here  
Text goes here  
Text goes here  
Text goes here  
### com

**THERMAL COMFORT OPTIONS**  
R3.0 INSULATION TO:  
R2.5 INSULATION TO:  
R2.0 INSULATION TO:  
GLAZING SPEC:  
GLAZING TYPE:

**CLIENT**



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MHn Design Union Pty Ltd. AEN 94 003 717 682

**PROJECT:**  
Proposed Development at  
Bradley Heights  
Cnr Bradley Street &  
Edgewater Drive Glenmore  
Park NSW

**DRAWING:**  
**SHADOWS JUNE 21st**  
**3pm**

PROJECT NO: 17-035  
DRAWN BY: MHNDU  
TO SCALE: 1:500 @A3  
DRAWING NO: REV:

**DA 9403 (A**