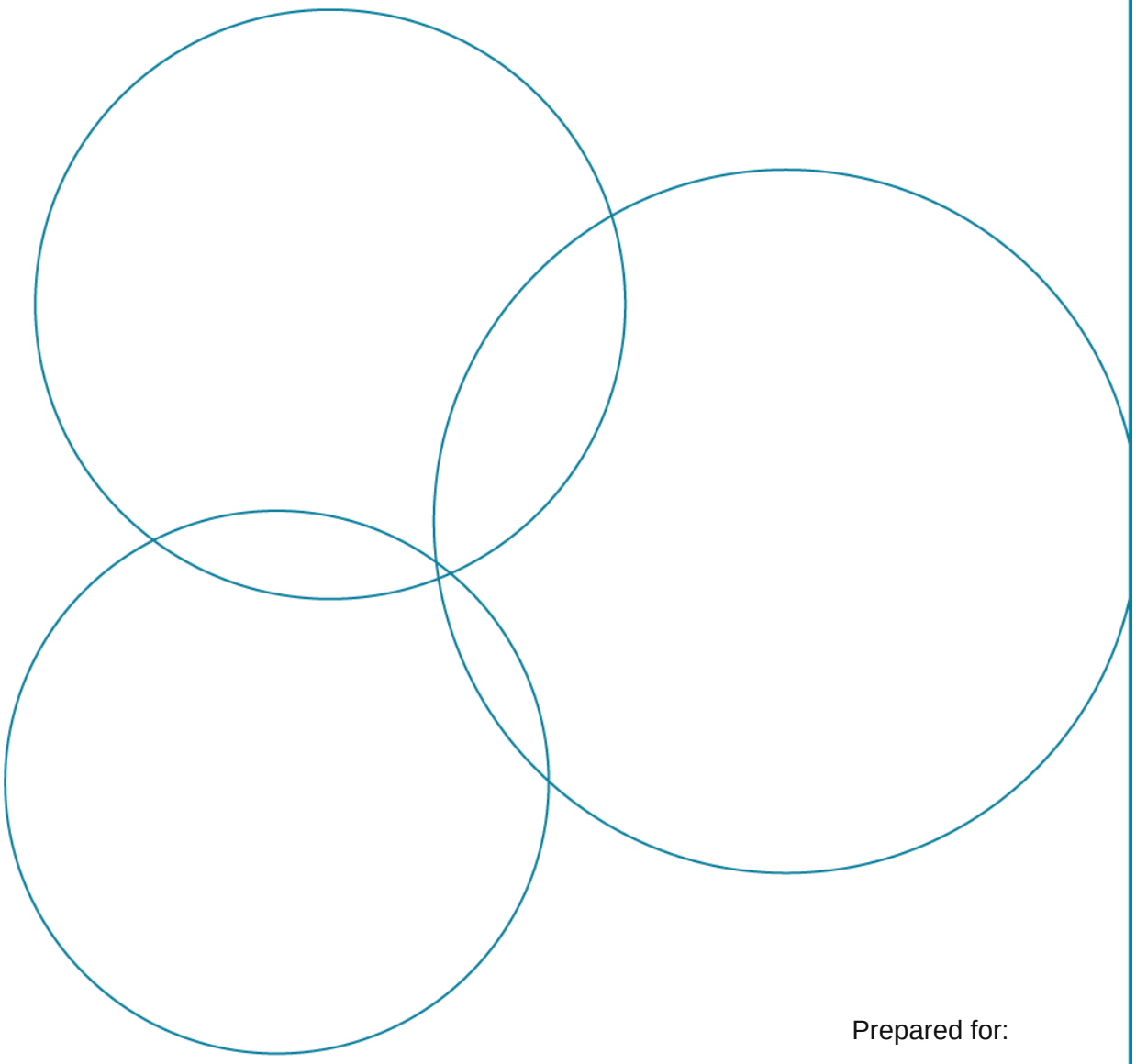
16/07/2015

BASIX Report

1009182 Harbord Diggers



Prepared for:

Mounties Group

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Revision	Description	Date
A	Issued for review	04/06/2015
B	S96 issue	16/07/2015

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The success and realisation of the proposed initiatives will be dependent upon the commitment of the design team, the development of the initiatives through the life of the design and also the implementation into the operation of the building. Without this undertaking the proposed targets may not be achieved.

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1 Introduction

This BASIX report assesses the Harbord Diggers development according to two sustainability tools which regulate residential development, namely:

- BASIX, a planning tool which calculates energy and water efficiency and sets minimum thermal performance requirements;
- NatHERS, which calculates a star rating based on predicted space heating and cooling loads.

2 BASIX

New residential developments in NSW must reduce their energy and water use, according to BASIX requirements developed by the Department of Planning. The objectives of the BASIX scheme are relative to an average development in NSW;

- 40% reduction in water consumption;
- 35% reduction in greenhouse gas emissions and
- Minimum thermal performance requirements for heating and cooling loads.

Strategies employed to achieve these targets are outlined in the following sections.

2.1 BASIX Reduced Water Use

Strategies to achieve a potable water consumption reduction target of 40% are outlined in the table below:

Water Conservation Strategy	
Fixtures[1] (Dwellings)	3-Star showerheads (7.5-9.0 L/min) 4-Star toilets 6-Star kitchen Taps 3-Star bathroom Taps (<8.0 L/min)
Fixtures (Common Areas)	3-Star showerheads (7.5-9.0 L/min) 4-Star toilets 6-Star kitchen Taps 3-Star bathroom Taps (< 8.0 L/min)
Appliances	3.5 Star dishwasher 4.5 Star clothes Washer
Other	Fire sprinkler test water contained in a closed loop system Landscaping to be planted with native or low water use species
Water Saving Required	**40%**
Water Saving Achieved	**46%**

[1] Water Efficiency Labelling - To help to reduce urban water consumption on a national scale, the Australian Government, in collaboration with State and Territory governments, has introduced a Water Efficiency Labelling and Standards (WELS) Scheme, which applies national mandatory water efficiency labelling and minimum performance standards to household water-using products. This system replaces the existing AAA water rating system for appliances but is not a like for like comparison. Fixtures in the water conservation table are approximately equivalent to a 3A rating. The star rating of the appliances can be referenced on the following web site- www.waterrating.gov.au

2.2 BASIX Reduced Energy Use

Strategies to achieve an energy reduction target of 35% are outlined in the table below:

Energy Conservation Strategy	
Appliances	Induction cooktop and electric oven Refrigerators (with ventilated fridge space) as follows: - Buildings A & B: 3.0 Star - Buildings C, D, E & F: 3.5 Star 3.5 Star dishwasher 4.5 Star clothes washer 6.0 Star clothes dryer
Mechanical Systems (Central System and Common Areas)	Electric chiller (COP>4.5) and cooling tower supplying chilled water to Fan Coil Units (FCUs) within dwellings Car Park: Mechanical ventilation (supply and exhaust) with Variable Speed Controllers (VSDs) and CO sensors Garbage Rooms: Continuous mechanical exhaust ventilation Plant: Mechanical exhaust ventilation with thermostatic control Chiller Plant: Mechanical ventilation (supply and exhaust) with thermostatic control Billiards Room: Mechanical ventilation (supply and exhaust) with time clock and BMS control Corridors and Lobbies: Naturally ventilated Air conditioning with time clock and BMS control for the following areas: - Gymnasium - Cinema - Man Shed - Art Room
Mechanical Systems (Dwellings)	Individual fan into central duct with VSD for kitchen, bathroom and laundry exhaust
Electrical Systems (Common Areas)	Car Park: Compact fluorescent or LED with motion sensor controls Corridors and Lobbies: Compact fluorescent or LED with time clock or motion sensor controls Plant: Compact fluorescent or LED with motion sensor controls Compact fluorescent or LED with time clock or motion sensor controls for the following areas: - Gymnasium - Cinema - Man Shed - Art Room

Energy Conservation Strategy	
	- Billiards Room
Electrical Systems (Dwellings)	Dedicated fluorescent or LED lamps, all downlights to be sealed and non-ventilated
Hydraulic Systems	Central gas-fired hot water system with R0.60 external piping insulation for Domestic Hot Water (DHW) and heating hot water to FCUs within dwellings
Vertical Transportation Systems	Gearless traction lifts with VVVF motor Lift cars with LED lighting connected to the lift call buttons
Energy Saving Required	**35%**
Energy Saving Achieved	**35%**

2.4 BASIX Thermal Comfort

2.4.1 Targets

BASIX requires that each unit achieve a minimum thermal performance. This is calculated using National House Energy Rating Scheme (NatHERS), which predicts annual heating and cooling loads for each apartment.

In order to pass BASIX requirements, the following objectives must be met:

- Heating and cooling loads for individual apartments must not exceed the limits specified below; and
- The average of heating and cooling loads of all the proposed apartments in the residential precinct must not exceed the specified averages below.

	Max. Load (MJ/m^2)	Max. Average (MJ/m^2)
Heating	66	51
Cooling	59	49

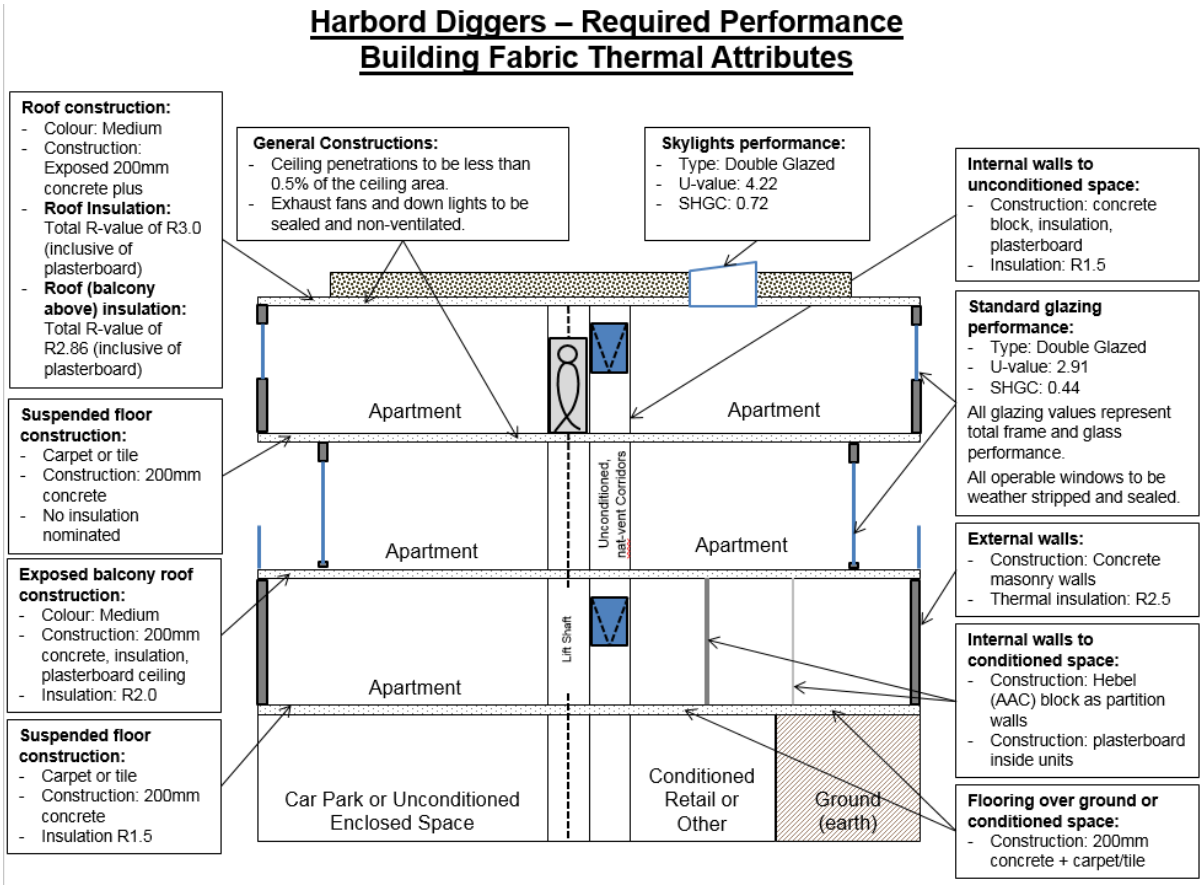
2.4.2 Thermal Comfort Summary

Based on these constructions, the following average thermal comfort scores were achieved for each building of the development:

Building	Heating (MJ/m^2)	Cooling (MJ/m^2)	Total (MJ/m^2)	Star Rating
A	31.0	13.3	44.3	6.7
B	31.3	16.1	47.4	6.3
C	37.4	11.1	48.5	6.3
D	23.7	15.7	39.5	7.1
E	24.4	12.6	37.0	7.1
F	31.9	9.7	41.6	6.8
Average	**28.4**	**13.6**	**42.1**	**6.8**

2.4.3 Constructions

The following construction specifications achieve the thermal comfort requirements:



Appendices

Appendix A: BASIX Certificate

BASIX® Certificate

Building Sustainability Index www.basix.nsw.gov.au

Multi Dwelling

Certificate number: 606272M

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 Planning & Infrastructure. This document is available at www.basix.nsw.gov.au

Director-General
Date of issue: Thursday, 16 July 2015
To be valid, this certificate must be lodged within 3 months of the date of issue.

NSW GOVERNMENT Planning & Infrastructure

Project summary	
Project name	Harbord Diggers - 1009182
Street address	80 Evans Street Freshwater 2096
Local Government Area	Warringah Council
Plan type and plan number	deposited 1136132
Lot no.	100
Section no.	-
No. of residential flat buildings	6
No. of units in residential flat buildings	96
No. of multi-dwelling houses	0
No. of single dwelling houses	0

Project score		
Water	✔ 46	Target 40
Thermal Comfort	✔ Pass	Target Pass
Energy	✔ 35	Target 35

Certificate Prepared by
Name / Company Name: Cundall
ABN (if applicable): 16104924370

Description of project

Project address	
Project name	Harbord Diggers - 1009182
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Section no.	-
Project type	
No. of residential flat buildings	6
No. of units in residential flat buildings	96
No. of multi-dwelling houses	0
No. of single dwelling houses	0
Site details	
Site area (m²)	15699
Roof area (m²)	5242
Non-residential floor area (m²)	0
Residential car spaces	162
Non-residential car spaces	542

Common area landscape		
Common area lawn (m²)	467	
Common area garden (m²)	5493.4	
Area of indigenous or low water use species (m²)	5493.4	
Assessor details		
Assessor number	BDAV/13/1513	
Certificate number	15130014	
Climate zone	56	
Project score		
Water	✔ 46	Target 40
Thermal Comfort	✔ Pass	Target Pass
Energy	✔ 35	Target 35

Description of project

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

Residential flat buildings - Building A, 18 dwellings, 4 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
A001	2	114.0	0.0	0	0
A005	2	118.0	0.0	0	0
A103	2	104.0	0.0	0	0
A201	2	94.0	0.0	0	0
A205	2	118.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
A002	1	93.0	0.0	0	0
A006	2	95.0	0.0	0	0
A104	2	117.0	0.0	0	0
A202	1	82.0	0.0	0	0
A206	2	95.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
A003	2	104.0	0.0	0	0
A101	2	103.0	0.0	0	0
A105	2	118.0	0.0	0	0
A203	2	104.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
A004	2	116.0	0.0	0	0
A102	1	92.0	0.0	0	0
A106	2	95.0	0.0	0	0
A204	2	117.0	0.0	0	0

Residential flat buildings - Building B, 18 dwellings, 4 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
B001	2	122.0	0.0	0	0
B005	2	115.0	0.0	0	0
B103	2	107.0	0.0	0	0
B201	2	103.0	0.0	0	0
B205	2	115.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
B002	2	121.0	0.0	0	0
B006	2	102.0	0.0	0	0
B104	2	114.0	0.0	0	0
B202	2	110.0	0.0	0	0
B206	2	102.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
B003	2	117.0	0.0	0	0
B101	2	113.0	0.0	0	0
B105	2	115.0	0.0	0	0
B203	2	94.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
B004	2	114.0	0.0	0	0
B102	2	121.0	0.0	0	0
B106	2	102.0	0.0	0	0
B204	2	114.0	0.0	0	0

Residential flat buildings - Building D, 24 dwellings, 4 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
D001	2	107.0	0.0	0	0
D005	3	138.0	0.0	0	0
D009	2	115.0	0.0	0	0
D104	3	138.0	0.0	0	0
D108	2	102.0	0.0	0	0
D204	3	151.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
D002	2	104.0	0.0	0	0
D006	2	109.0	0.0	0	0
D101	2	102.0	0.0	0	0
D105	3	138.0	0.0	0	0
D109	2	107.0	0.0	0	0
D205	3	155.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
D003	2	108.0	0.0	0	0
D007	2	111.0	0.0	0	0
D102	2	98.0	0.0	0	0
D106	2	103.0	0.0	0	0
D202	3	153.0	0.0	0	0
D206	2	103.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
D004	3	138.0	0.0	0	0
D008	2	107.0	0.0	0	0
D103	2	102.0	0.0	0	0
D107	2	105.0	0.0	0	0
D203	2	102.0	0.0	0	0
D207	2	107.0	0.0	0	0

Residential flat buildings - Building E, 17 dwellings, 6 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
E101	3	151.0	0.0	0	0
E201	3	123.0	0.0	0	0
E205	3	118.0	0.0	0	0
E304	3	153.0	0.0	0	0
E403	3	133.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
E102	3	148.0	0.0	0	0
E202	3	151.0	0.0	0	0
E301	3	123.0	0.0	0	0
E305	3	165.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
E103	3	153.0	0.0	0	0
E203	3	148.0	0.0	0	0
E302	3	142.0	0.0	0	0
E401	3	143.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
E104	2	118.0	0.0	0	0
E204	2	153.0	0.0	0	0
E303	3	148.0	0.0	0	0
E402	3	148.0	0.0	0	0

Residential flat buildings - Building F, 16 dwellings, 6 storeys above ground

Residential flat buildings - Building C, 3 dwellings, 3 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
C101	3	137.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
C202	2	93.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
C203	2	104.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
F101	3	149.0	0.0	0	0
F201	3	149.0	0.0	0	0
F301	3	149.0	0.0	0	0
F401	3	149.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
F102	3	151.0	0.0	0	0
F202	3	151.0	0.0	0	0
F302	3	151.0	0.0	0	0
F402	3	151.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
F103	3	161.0	0.0	0	0
F203	3	161.0	0.0	0	0
F303	3	161.0	0.0	0	0
F403	3	161.0	0.0	0	0

Dwelling no.	No. of bedrooms	Conditioned floor area (m²)	Unconditioned floor area (m²)	Area of garden & lawn (m²)	Indigenous species (min area m²)
F104	3	134.0	0.0	0	0
F204	3	134.0	0.0	0	0
F304	3	134.0	0.0	0	0
F404	3	134.0	0.0	0	0

Description of project

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

Common areas of unit building - Building A

Common area	Floor area (m²)
Lift car (No. 1)	-

Common areas of unit building - Building B

Common area	Floor area (m²)
Lift car (No. 2)	-

Common areas of unit building - Building D

Common area	Floor area (m²)
Lift car (No. 4)	-

Common area	Floor area (m²)
Lift car (No. 5)	-

Common areas of unit building - Building E

Common area	Floor area (m²)
Lift car (No. 6)	-

Common areas of unit building - Building F

Common area	Floor area (m²)
Lift car (No. 7)	-

Common areas of unit building - Building C

Common area	Floor area (m²)
Lift car (No. 3)	-

Common areas of the development (non-building specific)

Common area	Floor area (m²)
Gym	33
Cold Water Plant	365.6
Fire Service Plant	43.6
Boilers	60.8
Man Shed	47
Stairs Combines	396

Common area	Floor area (m²)
Car park area (No. 1)	7150
Hot Water Plant	104.4
Cleaners Room	31
Cinema	75
Art Room	96

Common area	Floor area (m²)
Combined Garbage/Bin room (No. 1)	491
Fire Sprinklers Plant	21.6
Chillers	545
Billiards	70
Combined Lift Lobbies	1112

Schedule of BASIX commitments

1. Commitments for Residential flat buildings - Building A
    - (a) Dwellings
        - (i) Water
        - (ii) Energy
        - (iii) Thermal Comfort
    - (b) Common areas and central systems/facilities
        - (i) Water
        - (ii) Energy

2. Commitments for Residential flat buildings - Building B
    - (a) Dwellings
        - (i) Water
        - (ii) Energy
        - (iii) Thermal Comfort
    - (b) Common areas and central systems/facilities
        - (i) Water
        - (ii) Energy

3. Commitments for Residential flat buildings - Building D
    - (a) Dwellings
        - (i) Water
        - (ii) Energy
        - (iii) Thermal Comfort
    - (b) Common areas and central systems/facilities
        - (i) Water
        - (ii) Energy

4. Commitments for Residential flat buildings - Building E
    - (a) Dwellings

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

(b) Common areas and central systems/facilities
(i) Water
(ii) Energy

5. Commitments for Residential flat buildings - Building F

(a) Dwellings
(i) Water
(ii) Energy
(iii) Thermal Comfort

(b) Common areas and central systems/facilities
(i) Water
(ii) Energy

6. Commitments for Residential flat buildings - Building C

(a) Dwellings
(i) Water
(ii) Energy
(iii) Thermal Comfort

(b) Common areas and central systems/facilities
(i) Water
(ii) Energy

7. Commitments for multi-dwelling houses

8. Commitments for single dwelling houses

9. Commitments for common areas and central systems/facilities for the development (non-building specific)
(i) Water
(ii) Energy

Schedule of BASIX commitments

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

1. Commitments for Residential flat buildings - Building A

(a) Dwellings

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

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	3 star (> 7.5 but <= 9 L/min)	4 star	6 star	3 star	no	4.5 star	3.5 star	-	-	-	-	-	-	-

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

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

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

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	central hot water system 1	individual fan into central duct + VSD	manual switch on/off	individual fan into central duct + VSD	manual switch on/off	individual fan into central duct + VSD	manual switch on/off

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	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
A002, A102, A202	central cooling system 1	central cooling system 1	central heating system 1	central heating system 1	1 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes
A001, A003, A004, A005, A006, A101, A103, A104, A105, A106, A201, A203, A204, A205, A206	central cooling system 1	central cooling system 1	central heating system 1	central heating system 1	2 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes

	Individual pool		Individual spa		Appliances & other efficiency measures							
Dwelling no.	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	-	-	-	-	induction cooktop & electric oven	3 star (new rating)	yes	3.5 star	4.5 star	6 star	no	no

(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.			
(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/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
A001	16.2	13.5
A002	7.4	13.2
A003	18.5	15
A004	25	13
A005	35.3	11.6

	Thermal loads	
Dwelling no.	**Area adjusted heating load (in mJ/m²/yr)**	**Area adjusted cooling load (in mJ/m²/yr)**
A006	40.9	11.2
A101	30	10.1
A102	14.8	8.1
A103	20.8	13.7
A104	31.4	9.8
A105	38.8	11.6
A106	39	11.5
A201	24.8	15.6
A202	42.2	30.4
A203	33.1	13.3
A204	40	13.4
A205	52.4	12.3
All other dwellings	47.4	11.9

(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	3 star (> 7.5 but <= 9 L/min)	4 star	3 star	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.	✔	✔	✔

	Common area ventilation system		Common area lighting		
Common area	**Ventilation system type**	**Ventilation efficiency measure**	**Primary type of artificial lighting**	**Lighting efficiency measure**	**Lighting control system/BMS**
Lift car (No. 1)	-	-	light-emitting diode	connected to lift call button	Yes

Central energy systems	Type	Specification
Lift (No. 1)	gearless traction with V V V F motor	Number of levels (including basement): 5

2. Commitments for Residential flat buildings - Building B

(a) Dwellings

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

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	3 star (> 7.5 but <= 9 L/min)	4 star	6 star	3 star	no	4.5 star	3.5 star	-	-	-	-	-	-	-

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

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

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

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	central hot water system 1	individual fan into central duct + VSD	manual switch on/off	individual fan into central duct + VSD	manual switch on/off	individual fan into central duct + VSD	manual switch on/off

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	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
All dwellings	central cooling system 1	central cooling system 1	central heating system 1	central heating system 1	2 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes

	Individual pool		Individual spa		Appliances & other efficiency measures							
Dwelling no.	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	-	-	-	-	induction cooktop & electric oven	3 star (new rating)	yes	3.5 star	4.5 star	6 star	no	no

(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.			
(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.			

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
B001	39.9	10.2
B003	10.6	9.5
B004	46	12.3
B005	18.7	14.8
B006	59	12.1
B101	20.2	9.5
B102	17.1	14.5
B103	19.6	11
B104	36.9	13.2
B106	61.5	11.3
B201	25.2	15.5
B202	27.6	25.5
B203	22	19.9
B204	35.1	18.1
B205	28.8	19.3

	Thermal loads	
Dwelling no.	**Area adjusted heating load (in mJ/m²/yr)**	**Area adjusted cooling load (in mJ/m²/yr)**
B206	59.8	11.7
All other dwellings	19.5	12

(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	3 star (> 7.5 but <= 9 L/min)	4 star	3 star	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.	✔	✔	✔

	Common area ventilation system		Common area lighting		
Common area	**Ventilation system type**	**Ventilation efficiency measure**	**Primary type of artificial lighting**	**Lighting efficiency measure**	**Lighting control system/BMS**
Lift car (No. 2)	-	-	light-emitting diode	connected to lift call button	Yes

Central energy systems	Type	Specification
Lift (No. 2)	gearless traction with V V V F motor	Number of levels (including basement): 5

3. Commitments for Residential flat buildings - Building D

(a) Dwellings

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

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	3 star (> 7.5 but <= 9 L/min)	4 star	6 star	3 star	no	4.5 star	3.5 star	-	-	-	-	-	-	-

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

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

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

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	central hot water system 1	individual fan into central duct + VSD	manual switch on/off	individual fan into central duct + VSD	manual switch on/off	individual fan into central duct + VSD	manual switch on/off

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	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
D004, D005, D104, D105, D202, D204, D205	central cooling system 1	central cooling system 1	central heating system 1	central heating system 1	3 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes
D001, D002, D003, D006, D007, D008, D009, D101, D102, D103, D106, D107, D108, D109, D203, D206, D207	central cooling system 1	central cooling system 1	central heating system 1	central heating system 1	2 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes

	Individual pool		Individual spa		Appliances & other efficiency measures							
Dwelling no.	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	-	-	-	-	induction cooktop & electric oven	3.5 star (new rating)	yes	3.5 star	4.5 star	6 star	no	no

(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.			
(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/m²/yr)**	**Area adjusted cooling load (in mJ/m²/yr)**
D001	34.9	8
D002	32.6	15.5
D003	19.8	13.5
D004	12.9	14.3
D005	20.6	15

	Thermal loads	
Dwelling no.	**Area adjusted heating load (in mJ/m²/yr)**	**Area adjusted cooling load (in mJ/m²/yr)**
D006	20.9	11.7
D007	22.6	8.8
D008	45.9	11.7
D009	46.8	17.1
D101	30.4	8.9
D102	17.5	15.1
D103	15.4	17.7
D104	3.4	42.6
D105	4.2	7
D106	7.6	10.5
D107	16.2	11.9
D108	23.7	16.9
D109	17.6	8.4
D202	23.5	21.3
D203	25.3	20.2
D204	35.2	18.7
D205	33.1	16.1
D206	24.2	24.7
All other dwellings	35.2	22

(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	3 star (> 7.5 but <= 9 L/min)	4 star	3 star	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.	✔	✔	✔

	Common area ventilation system		Common area lighting		
Common area	**Ventilation system type**	**Ventilation efficiency measure**	**Primary type of artificial lighting**	**Lighting efficiency measure**	**Lighting control system/BMS**
Lift car (No. 4)	-	-	light-emitting diode	connected to lift call button	Yes
Lift car (No. 5)	-	-	light-emitting diode	connected to lift call button	Yes

Central energy systems	Type	Specification
Lift (No. 4)	gearless traction with V V V F motor	Number of levels (including basement): 5
Lift (No. 5)	gearless traction with V V V F motor	Number of levels (including basement): 5

4. Commitments for Residential flat buildings - Building E

(a) Dwellings

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

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	3 star (> 7.5 but <= 9 L/min)	4 star	6 star	3 star	no	4.5 star	3.5 star	-	-	-	-	-	-	-

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

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

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

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	central hot water system 1	individual fan into central duct + VSD	manual switch on/off	individual fan into central duct + VSD	manual switch on/off	individual fan into central duct + VSD	manual switch on/off

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	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
E204	central cooling system 1	central cooling system 1	central heating system 1	central heating system 1	2 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes
E101, E102, E103, E104, E201, E202, E203, E205, E301, E302, E303, E304, E305, E401, E402, E403	central cooling system 1	central cooling system 1	central heating system 1	central heating system 1	3 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes

	Individual pool		Individual spa		Appliances & other efficiency measures							
Dwelling no.	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	-	-	-	-	induction cooktop & electric oven	3.5 star (new rating)	yes	3.5 star	4.5 star	6 star	no	no

(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.			
(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/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
E101	14.8	8.5
E102	14.7	12.6
E103	25.7	15.7
E104	36.9	9.2
E201	42.2	15.5

	Thermal loads	
Dwelling no.	**Area adjusted heating load (in mJ/m²/yr)**	**Area adjusted cooling load (in mJ/m²/yr)**
E202	5	7.9
E203	13.5	11.6
E204	16.8	16.2
E205	44.8	18.5
E301	44.8	18.3
E302	17	10.6
E303	22.4	15.3
E304	30.9	11.7
E305	31	11.6
E401	23.3	12.7
E402	32	14.6
All other dwellings	17.7	12.5

(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	3 star (> 7.5 but <= 9 L/min)	4 star	3 star	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.	✔	✔	✔

	Common area ventilation system		Common area lighting		
Common area	**Ventilation system type**	**Ventilation efficiency measure**	**Primary type of artificial lighting**	**Lighting efficiency measure**	**Lighting control system/BMS**
Lift car (No. 6)	-	-	light-emitting diode	connected to lift call button	Yes

Central energy systems	Type	Specification
Lift (No. 6)	gearless traction with V V V F motor	Number of levels (including basement): 8

5. Commitments for Residential flat buildings - Building F

(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
F303, F304, F401, F402, F403, F404	3 star (> 7.5 but <= 9 L/min)	4 star	6 star	3 star	no	4.5 star	3.5 star	-	-	-	-	-	-	-
F101, F102, F103, F104, F201, F202, F203, F204, F301, F302	3 star (> 7.5 but <= 9 L/min)	4 star	6 star	3 star	no	4.5 star	3.5 star	-	-	-	-	-	-	-

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

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(a) The applicant must comply with the commitments listed below in carrying out the development of a dwelling listed in a table below.			
(b) The applicant must install each hot water system specified for the dwelling in the table below, so that the dwelling's hot water is supplied by that system. If the table specifies a central hot water system for the dwelling, then the applicant must connect that central system to the dwelling, so that the dwelling's hot water is supplied by that central system.	✔	✔	✔
(c) The applicant must install, in each bathroom, kitchen and laundry of the dwelling, the ventilation system specified for that room in the table below. Each such ventilation system must have the operation control specified for it in the table.		✔	✔

(ii) Energy	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(d) The applicant must install the cooling and heating system/s specified for the dwelling under the "Living areas" and "Bedroom areas" headings of the "Cooling" and "Heating" columns in the table below, in/for at least 1 living/bedroom area of the dwelling. If no cooling or heating system is specified in the table for "Living areas" or "Bedroom areas", then no systems may be installed in any such areas. If the term "zoned" is specified beside an air conditioning system, then the system must provide for day/night zoning between living areas and bedrooms.		✔	✔
(e) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Artificial lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that the "primary type of artificial lighting" for each such room in the dwelling is fluorescent lighting or light emitting diode (LED) lighting. If the term "dedicated" is specified for a particular room or area, then the light fittings in that room or area must only be capable of being used for fluorescent lighting or light emitting diode (LED) lighting.		✔	✔
(f) This commitment applies to each room or area of the dwelling which is referred to in a heading to the "Natural lighting" column of the table below (but only to the extent specified for that room or area). The applicant must ensure that each such room or area is fitted with a window and/or skylight.	✔	✔	✔
(g) This commitment applies if the applicant installs a water heating system for the dwelling's pool or spa. The applicant must: (aa) install the system specified for the pool in the "Individual Pool" column of the table below (or alternatively must not install any system for the pool). If specified, the applicant must install a timer, to control the pool's pump; and (bb) install the system specified for the spa in the "Individual Spa" column of the table below (or alternatively must not install any system for the spa). If specified, the applicant must install a timer to control the spa's pump.		✔ ✔	
(h) The applicant must install in the dwelling: (aa) the kitchen cook-top and oven specified for that dwelling in the "Appliances & other efficiency measures" column of the table below; (bb) each appliance for which a rating is specified for that dwelling in the "Appliances & other efficiency measures" column of the table, and ensure that the appliance has that minimum rating; and (cc) any clothes drying line specified for the dwelling in the "Appliances & other efficiency measures" column of the table.		✔ ✔ ✔	✔
(i) If specified in the table, the applicant must carry out the development so that each refrigerator space in the dwelling is "well ventilated".		✔	

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	central hot water system 1	individual fan into central duct + VSD	manual switch on/off	individual fan into central duct + VSD	manual switch on/off	individual fan into central duct + VSD	manual switch on/off

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	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
All dwellings	central cooling system 1	central cooling system 1	central heating system 1	central heating system 1	3 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes

	Individual pool		Individual spa		Appliances & other efficiency measures							
Dwelling no.	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	-	-	-	-	induction cooktop & electric oven	3.5 star (new rating)	yes	3.5 star	4.5 star	6 star	no	no

(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.			
(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.			

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
F101	34.3	7.7
F102	14.7	7.1
F103	32.4	8.8
F104	51.1	10.2
F201	16.4	8.3
F202	27.7	9.6
F203	33.2	8.5
F204	36.8	9.6
F301	16.7	7.9
F302	25	9.3
F303	34	8.4
F304	36.9	10.1
F401	27.3	12.4
F402	34.7	12.2
F403	43.9	11.8

	Thermal loads	
Dwelling no.	**Area adjusted heating load (in mJ/m²/yr)**	**Area adjusted cooling load (in mJ/m²/yr)**
All other dwellings	45.1	13.7

(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	3 star (> 7.5 but <= 9 L/min)	4 star	3 star	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.	✔	✔	✔

	Common area ventilation system		Common area lighting		
Common area	**Ventilation system type**	**Ventilation efficiency measure**	**Primary type of artificial lighting**	**Lighting efficiency measure**	**Lighting control system/BMS**
Lift car (No. 7)	-	-	light-emitting diode	connected to lift call button	Yes

Central energy systems	Type	Specification
Lift (No. 7)	gearless traction with V V V F motor	Number of levels (including basement): 8

6. Commitments for Residential flat buildings - Building C

(a) Dwellings

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

	Fixtures					Appliances		Individual pool				Individual spa		
Dwelling no.	All shower-heads	All toilet flushing systems	All kitchen taps	All bathroom taps	HW recirculation or diversion	All clothes washers	All dish-washers	Volume (max volume)	Pool cover	Pool location	Pool shaded	Volume (max volume)	Spa cover	Spa shaded
All dwellings	3 star (> 7.5 but <= 9 L/min)	4 star	6 star	3 star	no	4.5 star	3.5 star	-	-	-	-	-	-	-

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

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

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

	Hot water	Bathroom ventilation system		Kitchen ventilation system		Laundry ventilation system	
Dwelling no.	Hot water system	Each bathroom	Operation control	Each kitchen	Operation control	Each laundry	Operation control
All dwellings	central hot water system 1	individual fan into central duct + VSD	manual switch on/off	individual fan into central duct + VSD	manual switch on/off	individual fan into central duct + VSD	manual switch on/off

	Cooling		Heating		Artificial lighting						Natural lighting	
Dwelling no.	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
All dwellings	central cooling system 1	central cooling system 1	central heating system 1	central heating system 1	2 (dedicated)	1 (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	yes (dedicated)	0	yes

	Individual pool		Individual spa		Appliances & other efficiency measures							
Dwelling no.	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	-	-	-	-	induction cooktop & electric oven	3.5 star (new rating)	yes	3.5 star	4.5 star	6 star	no	no

(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.			
(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.			

(iii) Thermal Comfort	Show on DA plans	Show on CC/CDC plans & specs	Certifier check
(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/m²/yr)	Area adjusted cooling load (in mJ/m²/yr)
C101	29.5	11.3
C202	28.3	8.5
All other dwellings	54.4	13.6

(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	3 star (> 7.5 but <= 9 L/min)	4 star	3 star	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.	✔	✔	✔

	Common area ventilation system		Common area lighting		
Common area	**Ventilation system type**	**Ventilation efficiency measure**	**Primary type of artificial lighting**	**Lighting efficiency measure**	**Lighting control system/BMS**
Lift car (No. 3)	-	-	light-emitting diode	connected to lift call button	Yes

Central energy systems	Type	Specification
Lift (No. 3)	gearless traction with V V V F motor	Number of levels (including basement): 4

9. 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	3 star (> 7.5 but <= 9 L/min)	4 star	3 star	no common laundry facility

Central systems	Size	Configuration	Connection (to allow for...)
Fire sprinkler system (No. 1)	-	So that fire sprinkler test water is contained within the fire sprinkler system for re-use, rather than disposed.	-

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

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

	Common area ventilation system		Common area lighting		
Common area	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Gym	air conditioning system	time clock or BMS controlled	compact fluorescent	time clocks	No
Car park area (No. 1)	ventilation (supply + exhaust)	carbon monoxide monitor + VSD fan	fluorescent	motion sensors	Yes
Combined Garbage/Bin room (No. 1)	ventilation exhaust only	-	fluorescent	motion sensors	Yes
Cold Water Plant	ventilation exhaust only	thermostatically controlled	fluorescent	motion sensors	Yes
Hot Water Plant	ventilation exhaust only	thermostatically controlled	fluorescent	motion sensors	Yes
Fire Sprinklers Plant	ventilation exhaust only	thermostatically controlled	fluorescent	motion sensors	Yes
Fire Service Plant	ventilation exhaust only	thermostatically controlled	fluorescent	motion sensors	Yes
Cleaners Room	no mechanical ventilation	-	fluorescent	motion sensors	Yes
Chillers	ventilation (supply + exhaust)	thermostatically controlled	fluorescent	motion sensors	Yes
Boilers	ventilation exhaust only	thermostatically controlled	fluorescent	motion sensors	Yes
Cinema	air conditioning system	time clock or BMS controlled	compact fluorescent	motion sensors	Yes
Billiards	ventilation (supply + exhaust)	time clock or BMS controlled	compact fluorescent	motion sensors	Yes
Man Shed	air conditioning system	time clock or BMS controlled	compact fluorescent	motion sensors	Yes
Art Room	air conditioning system	time clock or BMS controlled	compact fluorescent	motion sensors	Yes
Combined Lift Lobbies	no mechanical ventilation	-	compact fluorescent	time clock and motion sensors	Yes

	Common area ventilation system		Common area lighting		
Common area	**Ventilation system type**	**Ventilation efficiency measure**	**Primary type of artificial lighting**	**Lighting efficiency measure**	**Lighting control system/BMS**
Stairs Combines	no mechanical ventilation	-	compact fluorescent	time clock and motion sensors	Yes

Central energy systems	Type	Specification
Central hot water system (No. 1)	gas-fired storage (manifolded)	Piping insulation (ringmain & supply risers): (a) Piping external to building: R0.6 (~25 mm); (b) Piping internal to building: R0.6 (~25 mm)
Central cooling system (No. 1)	chilled water fan coil units	Energy source: electric driven compressor Heat rejection method: cooling tower Unit efficiency (min): high - COP > 4.5
Central heating system (No. 1)	fan coil + heated water	Energy source: gas boiler

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).

Appendix B: Thermal Certificate

Energy Rating Certificate Number 14070006

☐ single-dwelling rating _____ stars

☒ multi-unit development (attach listing of ratings) heating _____ MJ/m²
If selected, data specified is the average across the entire development cooling _____ MJ/m²

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

Assessor Signature _____ Date 24/06/15

CUNDALL

NatHERS Thermal Performance Certificate

Project Location	Harbord Diggers 80 Evans Street Freshwater
Accredited Assessor	Patrick Phelan
Organisation	Cundall
Date	24/06/15

Building Element	**Construction**
Overhangs and Shading	As per architectural drawings and elevations
External Wall	Concrete masonary wall with insulation R-Value 2.5
Internal Walls to Unconditioned	Concrete masonary wall with insulation R-Value 2.5
Internal Walls	Plasterboard
Exposed Roof	Concrete insulation R-Value 3.0, with areas of green of R0.25 with plasterboard
Roof With Balcony Above	Concrete with R-Value 2.0
Floor	200mm concrete and carpet / tile
Ceiling	Sustpended slab
Windows and Other Glazed Elements	Three types of glazing as per stamped drawings: - Aluminium Double Glazed Air Fill Low E (U=4.3, SHGC=0.47) - Aluminium Double Glazed Air Fill Clear-Clear (U=4.8, SHGC=0.59) - Aluminimium Single Glazed Clear (U=6.7, SHGC=0.7)
Ceiling Penetrations	Exaust fans in kitchen/living and bathroom spaces Downlights as per default NatHERS requirements

Energy Rating Certificate Number 14070006

☐ single-dwelling rating _____ stars

☒ multi-unit development (attach listing of ratings) heating _____ MJ/m²
If selected, data specified is the average across the entire development cooling _____ MJ/m²

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

Assessor Signature _____ Date 24/06/15

Cundall Results

Unit Number	Heating	Cooling	Star Rating
A-001	16.2	13.2	7.7
A-002	7.4	13.1	8.4
A-003	18.4	14.8	7.4
A-004	24.3	12.8	7.1
A-005	35.3	11.7	6.3
A-006	40.8	10.9	5.9
A-101	30	9.7	6.9
A-102	14.8	8.4	8.3
A-103	20.8	14	7.3
A-104	30.7	9.7	6.8
A-105	38.9	11.4	6
A-106	38.9	11.1	6
A-201	24.8	15.6	6.9
A-202	42.2	27.4	4.6
A-203	33	13.3	6.4
A-204	40	13.4	5.8
A-205	52.5	13	5
A-206	47.3	11.9	7
B-001	39.8	10	6.1
B-002	19.5	11.5	7.5
B-003	10.6	9.5	5.8
B-004	46	12.4	5.4
B-005	18.8	14.9	7.4
B-006	59	12	4.7
B-101	20.2	9.3	7.7
B-102	17.1	14.1	7.5
B-103	19.6	10.7	7.6
B-104	36.9	13.2	4.4
B-105	19.6	12	7.5
B-106	61.5	11.3	4.6
B-201	25.3	15.9	6.9
B-202	27.6	25.1	5.8
B-203	22.1	20.6	6.8
B-204	35.3	18.1	5.8
B-205	28.8	19.3	6.2
B-206	59.9	12.2	4.7
C101	29.4	11	6.9
C102	28.4	8.6	7.2
C103	54.4	13.6	4.9
D_001	34.9	7.9	6.7
D_002	32.5	15.4	6.2
D_003	19.5	13.6	7.4
D_004	19	9	7.9
D_005	20.6	15.1	7.2
D_006	20.7	11.7	7.4
D_007	22.8	8.9	7.9
D_008	46	11.8	5.5
D_009	46.8	17.1	5.1
D_101	30.5	8.9	6.9
D_102	17.5	15.1	7.4
D_103	15.2	17.3	7.4
D_104	6.9	11.7	6.4
D_105	4.3	6.9	9.3
D_106	7.5	10.5	8.7
D_107	16.2	11.9	7.8
D_108	23.2	16.7	7.4
D_109	17.5	8.4	8
D_202	23.5	21.3	6.5
D_203	25.3	20.2	6.4
D_204	36.9	18.2	6.8
D_205	33.1	14.5	6.4
D_206	23.2	23.4	7.1
D_207	34.2	21.3	7.3
E_101	16.5	8.8	8.0

Energy Rating
Certificate Number 14070006
☐ single-dwelling rating ____ stars
☒ multi-unit development (attach listing of ratings) heating ____ MJ/m²
If selected, data specified is the average across the entire development cooling ____ MJ/m²
Recessed downlights confirmation: ☒ Rated with ☐ Rated without
Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407
Assessor Signature ____ Date 24/06/15

E_102	14.7	12.5	7.9
E_103	28.4	16.1	6.8
E_104	36.9	9.3	6.4
E_105	42.3	15.2	5.5
E_201	4.9	7.9	9.1
E_202	13.5	11.6	8.1
E_203	16.8	16.2	7.4
E_204	34.5	9.1	6.6
E_205	45	18.4	5.2
E_301	18	10.9	7.9
E_302	22.3	12.1	7.3
E_303	22.3	15.3	7.1
E_304	31	11.7	6.7
E_401	24.8	11.7	7.2
E_402	32	14.6	6.4
E_403	17.9	12.4	7.7
F-101	34.3	7.7	6.8
F-102	14.7	7.3	8.3
F-103	32.4	8.5	6.8
F-104	51.2	10.1	5.3
F-201	16.3	8.3	8.1
F-202	27.7	9.6	7.1
F-203	33.2	8.4	6.8
F-204	36.9	9.5	6.4
F-301	16.6	8.1	8.1
F-302	25.0	9.2	7.3
F-303	34.1	8.3	6.7
F-304	36.9	9.8	6.3
F-401	27.3	12.5	6.9
F-402	34.7	12.2	6.3
F-403	43.9	11.8	5.7
F-404	45.1	13.7	5.4

Appendix C: Stamped Drawing Set

CHILDCARE	
Basement 1	
CHILDCARE (ACCESSIBLE)	1
CHILDCARE DROPOFF	23
CHILDCARE PARKING TOTAL	24

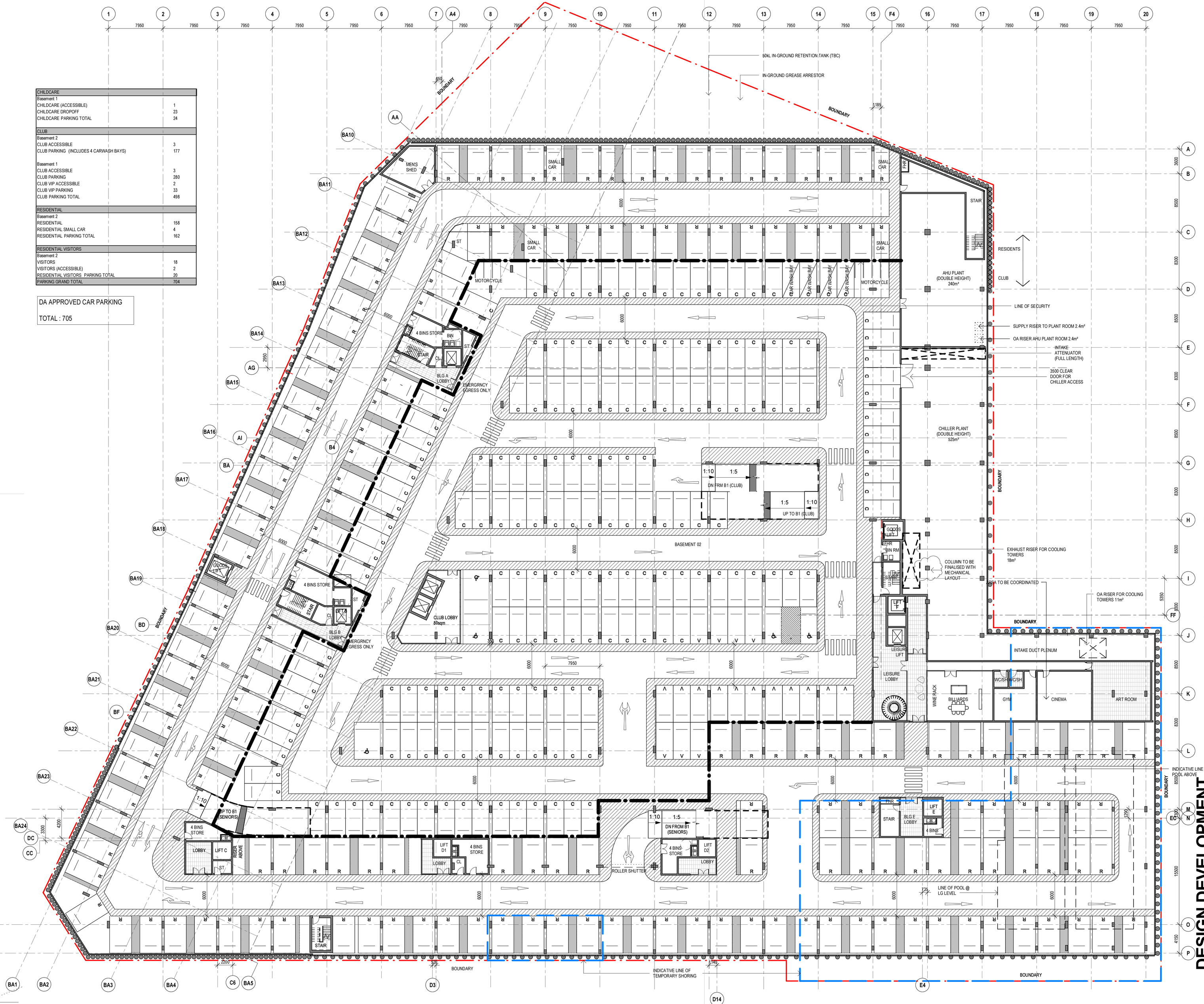
CLUB	
Basement 2	
CLUB ACCESSIBLE	3
CLUB PARKING (INCLUDES 4 CARWASH BAYS)	177
Basement 1	
CLUB ACCESSIBLE	3
CLUB PARKING	280
CLUB VIP ACCESSIBLE	2
CLUB VIP PARKING	33
CLUB PARKING TOTAL	498

RESIDENTIAL	
Basement 2	
RESIDENTIAL	158
RESIDENTIAL SMALL CAR	4
RESIDENTIAL PARKING TOTAL	162

RESIDENTIAL VISITORS	
Basement 2	
VISITORS	18
VISITORS (ACCESSIBLE)	2
RESIDENTIAL VISITORS PARKING TOTAL	20
PARKING GRAND TOTAL	704

DA APPROVED CAR PARKING

TOTAL : 705



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A	ISSUED FOR QS COSTING	19.12.2014
B	ISSUED FOR COORDINATION	16.01.2015
C	50% DESIGN DEVELOPMENT	30.01.2015
D	90% DESIGN DEVELOPMENT	20.02.2015
E	ISSUED FOR INFORMATION	24.02.2015
F	ISSUED FOR INFORMATION	02.03.2015
G	ISSUED FOR INFORMATION	03.03.2015
H	ISSUED FOR INFORMATION	26.03.2015
I	ISSUED FOR INFORMATION	20.04.2015
J	ISSUED FOR INFORMATION	23.04.2015
K	ISSUED FOR COORDINATION FOR 100% DD	24.04.2015
L	ISSUED FOR COORDINATION FOR 100% DD	27.04.2015
M	ISSUED FOR COORDINATION FOR 100% DD	28.04.2015
N	100% DESIGN DEVELOPMENT	30.04.2015

Energy Rating Certificate Number 14070006

☐ single-dwelling rating _____ stars

☒ multi-unit development (attach listing of ratings) heating _____ MJ/m²

If selected, data specified is the average across the entire development cooling _____ MJ/m²

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

Assessor Signature _____ Date 24/06/15

client

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DESIGN DEVELOPMENT

project
Harbord Diggers
80 Evans Street Freshwater

drawing
Overall Basement Level 2 Plan

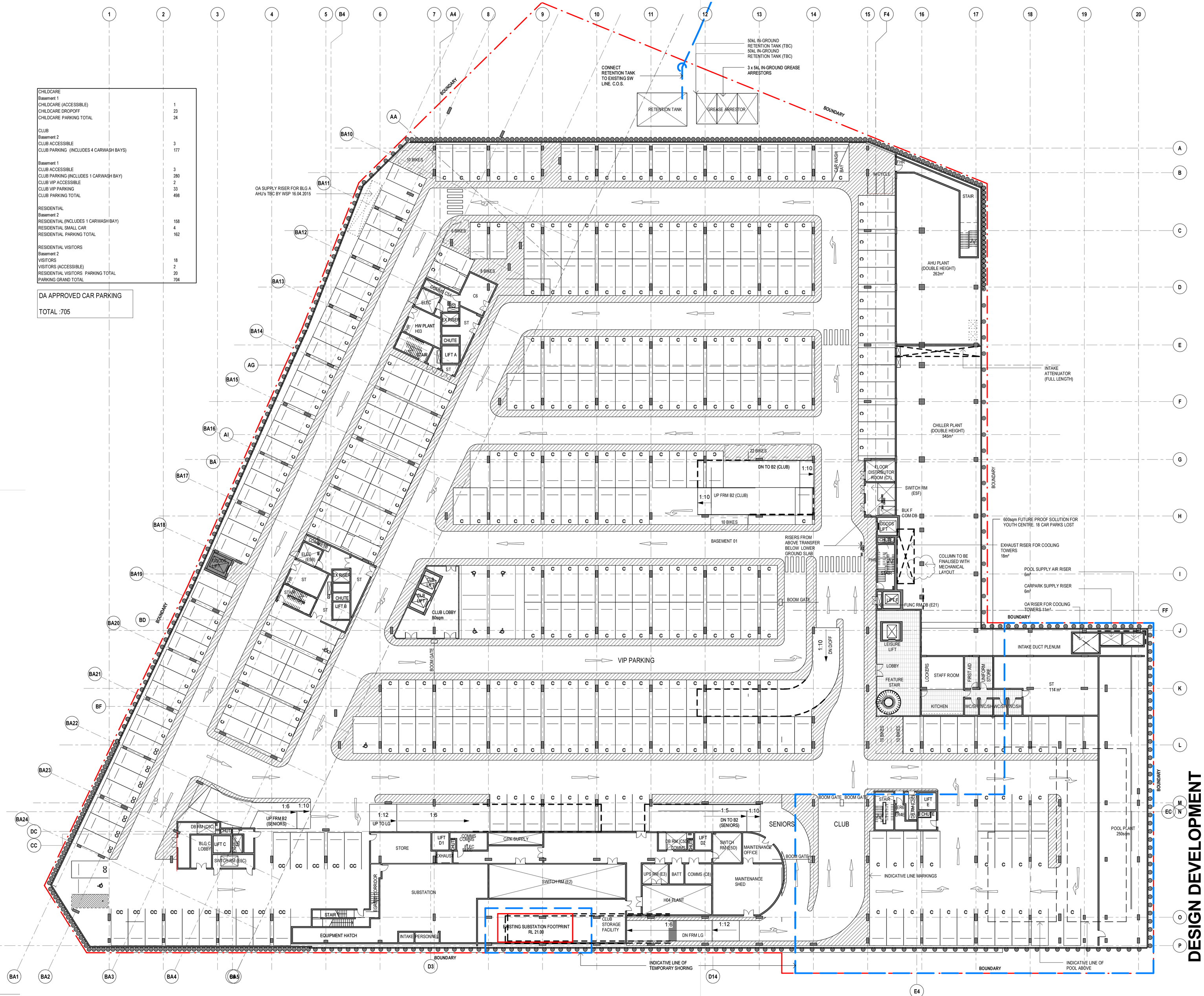
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drawn	DV		**A1000**
checked	MC & TR	issue	
project no	AR-140132 CRF-1354		**N**

1/05/2015 7:00:12 PM

CHILDCARE	
Basement 1	
CHILDCARE (ACCESSIBLE)	1
CHILDCARE DROPOFF	23
CHILDCARE PARKING TOTAL	24
CLUB	
Basement 2	
CLUB ACCESSIBLE	3
CLUB PARKING (INCLUDES 4 CARWASH BAYS)	177
Basement 1	
CLUB ACCESSIBLE	3
CLUB PARKING (INCLUDES 1 CARWASH BAY)	280
CLUB VIP ACCESSIBLE	2
CLUB VIP PARKING	33
CLUB PARKING TOTAL	498
RESIDENTIAL	
Basement 2	
RESIDENTIAL (INCLUDES 1 CARWASH BAY)	158
RESIDENTIAL SMALL CAR	4
RESIDENTIAL PARKING TOTAL	162
RESIDENTIAL VISITORS	
Basement 2	
VISITORS	18
VISITORS (ACCESSIBLE)	2
RESIDENTIAL VISITORS PARKING TOTAL	20
PARKING GRAND TOTAL	704

DA APPROVED CAR PARKING

TOTAL :705



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F	ISSUED FOR INFORMATION	02.03.2015
G	ISSUED FOR INFORMATION	03.03.2015
H	ISSUED FOR INFORMATION	26.03.2015
I	ISSUED FOR INFORMATION	20.04.2015
J	ISSUED FOR INFORMATION	23.04.2015
K	ISSUED FOR COORDINATION FOR 100% DD	24.04.2015
L	ISSUED FOR COORDINATION FOR 100% DD	27.04.2015
M	ISSUED FOR COORDINATION FOR 100% DD	28.04.2015
N	100% DESIGN DEVELOPMENT	30.04.2015

Energy Rating Certificate Number 14070006

☐ single-dwelling rating _____ stars

☒ multi-unit development (attach listing of ratings) *If selected, data specified is the average across the entire development* heating _____ MJ/m² cooling _____ MJ/m²

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

Assessor Signature _____ Date 24/06/15

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DESIGN DEVELOPMENT

project

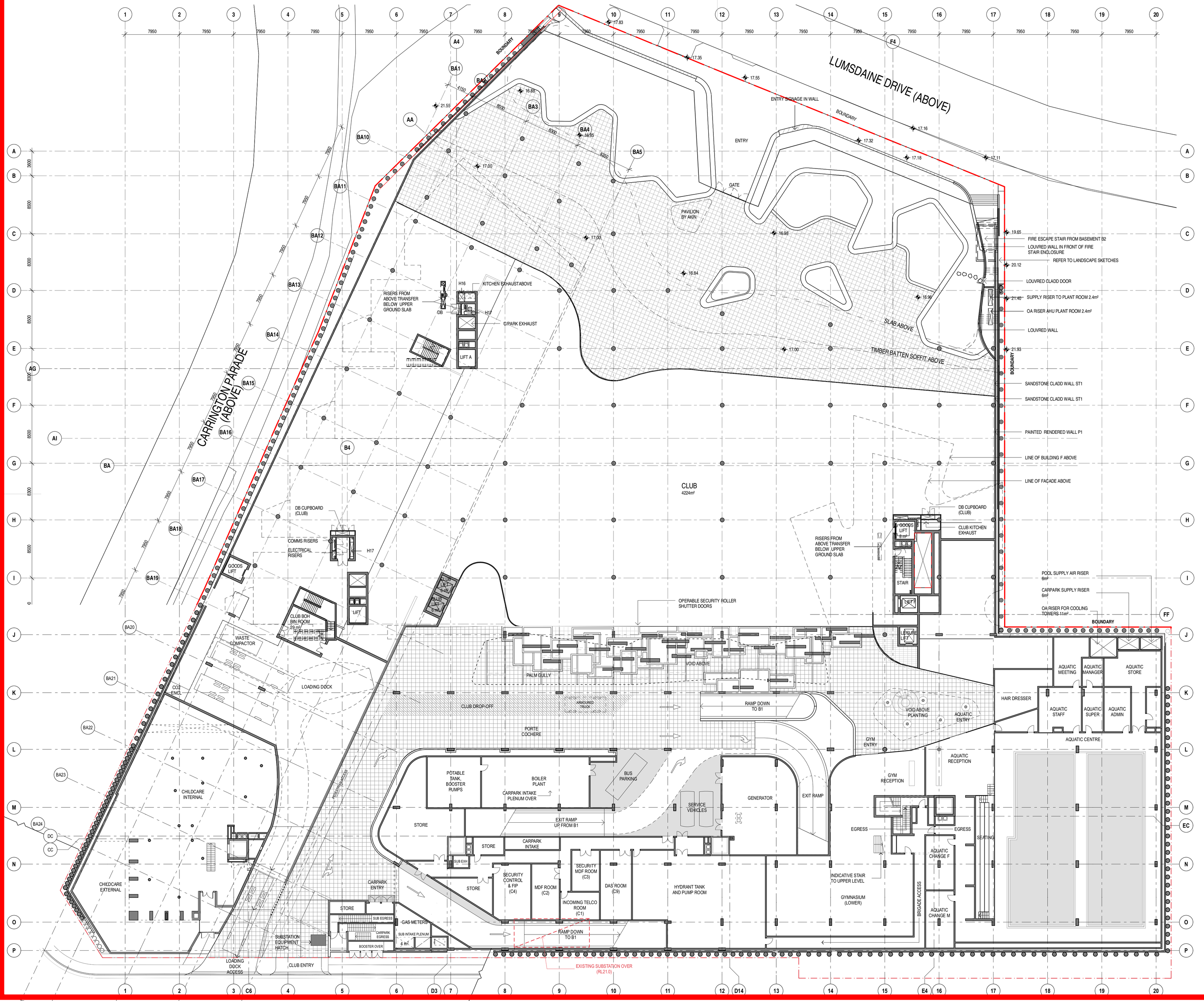
Harbord Diggers
80 Evans Street Freshwater

drawing

Overall Basement Level 1 Plan

scale	1 : 250 at A1	status	drawing no.
drawn	DV		**A1001**
checked	MC & TR	issue	
project no	AR-140132 CRF-1354		**N**

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	ISSUED FOR COORDINATION	19.01.2015
B	ISSUED FOR INFORMATION	28.01.2015
C	50% DESIGN DEVELOPMENT	30.01.2015
D	ISSUED FOR INFORMATION	18.02.2015
E	80% DESIGN DEVELOPMENT	23.02.2015
F	ISSUED FOR INFORMATION	24.02.2015
G	ISSUED FOR INFORMATION	02.03.2015
H	ISSUED FOR INFORMATION	04.03.2015
I	ISSUED FOR INFORMATION	26.03.2015
J	ISSUED FOR INFORMATION	13.04.2015
K	ISSUED FOR INFORMATION	14.04.2015
L	ISSUED FOR INFORMATION	20.04.2015
M	ISSUED FOR COORDINATION FOR 100% DD	24.04.2015
N	ISSUED FOR COORDINATION FOR 100% DD	28.04.2015
0	100% DESIGN DEVELOPMENT	30.04.2015

Energy Rating Certificate Number 14070006

- ☐ single-dwelling rating ____ stars
- ☒ multi-unit development (attach listing of ratings) heating ____ MJ/m²
  If selected, data specified is the average across the entire development cooling ____ MJ/m²
- Recessed downlights confirmation: ☒ Rated with ☐ Rated without
- Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407
- Assessor Signature ____ Date 24/06/15

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DESIGN DEVELOPMENT

project
Harbord Diggers
80 Evans Street Freshwater

drawing
Overall Lower Ground Level Plan

scale	1:250, 1:1 at A1	status	drawing no.
drawn	DA, MT		**A1002**
checked	MC & TR	issue	
project no	AR-140132 CRF-1354		**O**

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	ISSUED FOR COORDINATION	19.01.2015
B	ISSUED FOR INFORMATION	28.01.2015
C	50% DESIGN DEVELOPMENT	30.01.2015
D	80% DESIGN DEVELOPMENT	23.02.2015
E	ISSUED FOR INFORMATION	26.03.2015
F	ISSUED FOR INFORMATION	15.04.2015
G	ISSUED FOR INFORMATION	20.04.2015
H	ISSUED FOR COORDINATION FOR 100% DD	24.04.2015
I	ISSUED FOR COORDINATION FOR 100% DD	28.04.2015
J	100% DESIGN DEVELOPMENT	30.04.2015

Energy Rating Certificate Number 14070006

☐ single-dwelling rating _____ stars

☒ multi-unit development (attach listing of ratings) heating _____ MJ/m²
If selected, data specified is the average across the entire development cooling _____ MJ/m²

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

Assessor Signature _____ Date 24/06/15

client

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DESIGN DEVELOPMENT

project
Harbord Diggers
80 Evans Street Freshwater

drawing
Overall Upper Ground Plan

scale	1:250, 1:1 at A1	status	drawing no.
drawn	DA, MT		**A1003**
checked	MC & TR	issue	
project no	AR-140132 CRF-1354		**J**

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	ISSUED FOR COORDINATION	19.01.2015
B	50% DESIGN DEVELOPMENT	30.01.2015
C	80% DESIGN DEVELOPMENT	23.03.2015
D	ISSUED FOR INFORMATION	26.03.2015
E	ISSUED FOR INFORMATION	15.04.2015
F	ISSUED FOR INFORMATION	20.04.2015
G	ISSUED FOR COORDINATION FOR 100% DD	24.04.2015
H	100% DESIGN DEVELOPMENT	30.04.2015

client

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project

Harbord Diggers
80 Evans Street Freshwater

drawing

Overall Level 1 Plan

DESIGN DEVELOPMENT

scale	1:250, 1:1 at A1	status	drawing no.
drawn	DA, MT		**A1004**
checked	MC & TR	issue	
project no	AR-140132 CRF-1354		**H**

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C	80% DESIGN DEVELOPMENT	23.03.2015
D	ISSUED FOR INFORMATION	26.03.2015
E	ISSUED FOR INFORMATION	15.04.2015
F	ISSUED FOR INFORMATION	20.04.2015
G	ISSUED FOR COORDINATION FOR 100% DD	24.04.2015
H	I100% DESIGN DEVELOPMENT	30.04.2015

Energy Rating Certificate Number 14070006

☐ single-dwelling rating _____ stars

☒ multi-unit development (attach listing of ratings) *If selected, data specified is the average across the entire development* heating _____ MJ/m² cooling _____ MJ/m²

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

Assessor Signature _____ Date 24/06/15

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DESIGN DEVELOPMENT

project

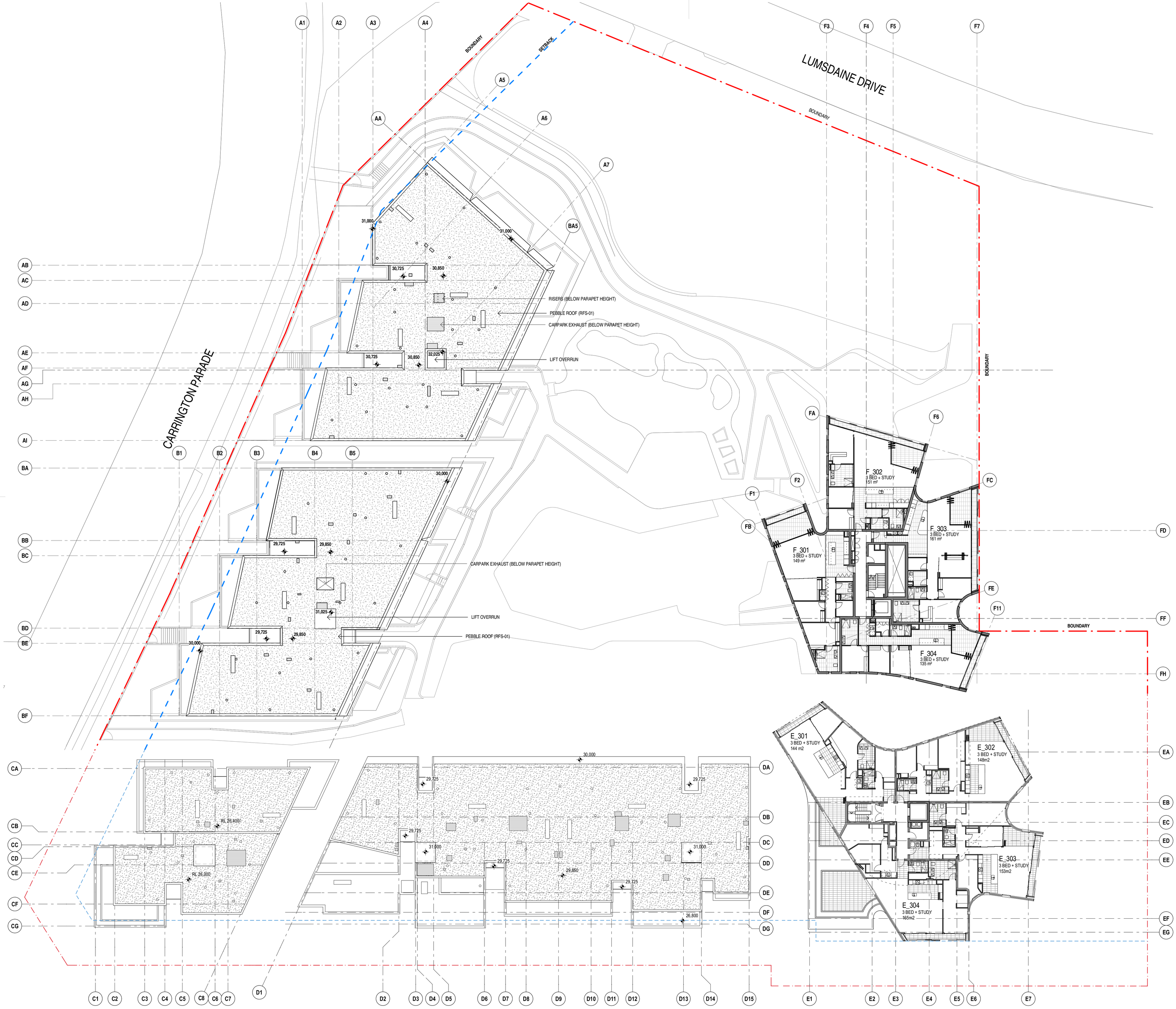
Harbord Diggers
80 Evans Street Freshwater

drawing

Overall Level 2 Plan

scale	1:250, 1:1 at A1	status	drawing no.
drawn	DA, MT		**A1005**
checked	MC & TR	issue	
project no	AR-140132 CRF-1354		H

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E	ISSUED FOR INFORMATION	15.04.2015
F	ISSUED FOR INFORMATION	20.04.2015
G	ISSUED FOR COORDINATION FOR 100% DD	24.04.2015
H	I100% DESIGN DEVELOPMENT	30.04.2015

Energy Rating Certificate Number 14070006

☐ single-dwelling rating _____ stars

☒ multi-unit development (attach listing of ratings) *If selected, data specified is the average across the entire development* heating _____ MJ/m² cooling _____ MJ/m²

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

Assessor Signature _____ Date 24/06/15

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project

Harbord Diggers
80 Evans Street Freshwater

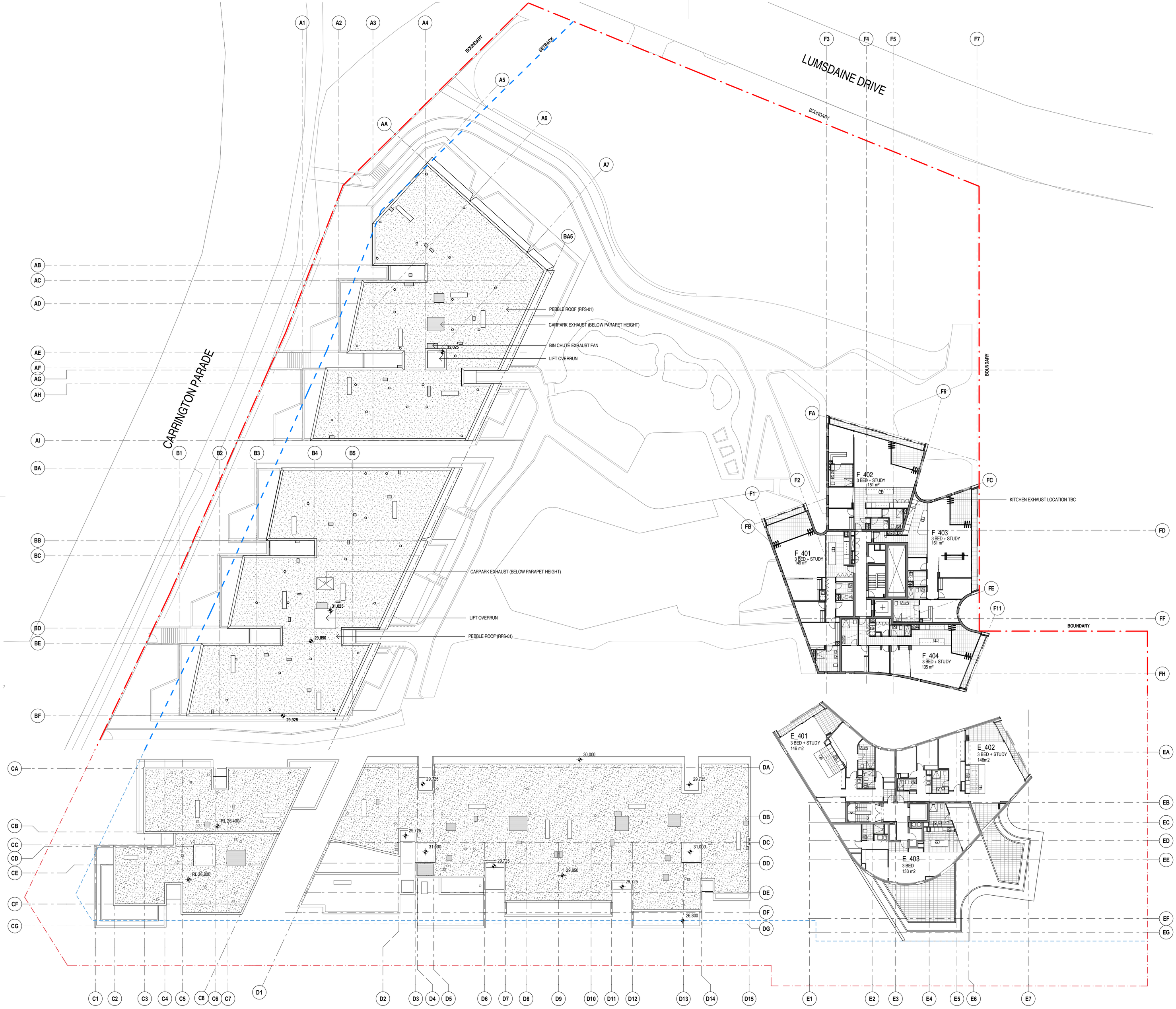
drawing

Overall Level 3 Plan

scale	1:250, 1:1 at A1	status	drawing no.
drawn	DA, MT		**A1006**
checked	MC & TR	issue	
project no	AR-140132 CRF-1354		H

DESIGN DEVELOPMENT

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E	ISSUED FOR INFORMATION	15.04.2015
F	ISSUED FOR INFORMATION	20.04.2015
G	ISSUED FOR COORDINATION FOR 100% DD	24.04.2015
H	I100% DESIGN DEVELOPMENT	30.04.2015

Energy Rating Certificate Number 14070006

- ☐ single-dwelling rating ____ stars
- ☒ multi-unit development (attach listing of ratings) *If selected, data specified is the average across the entire development* heating ____ MJ/m² cooling ____ MJ/m²

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

Assessor Signature _____ Date 24/06/15

client

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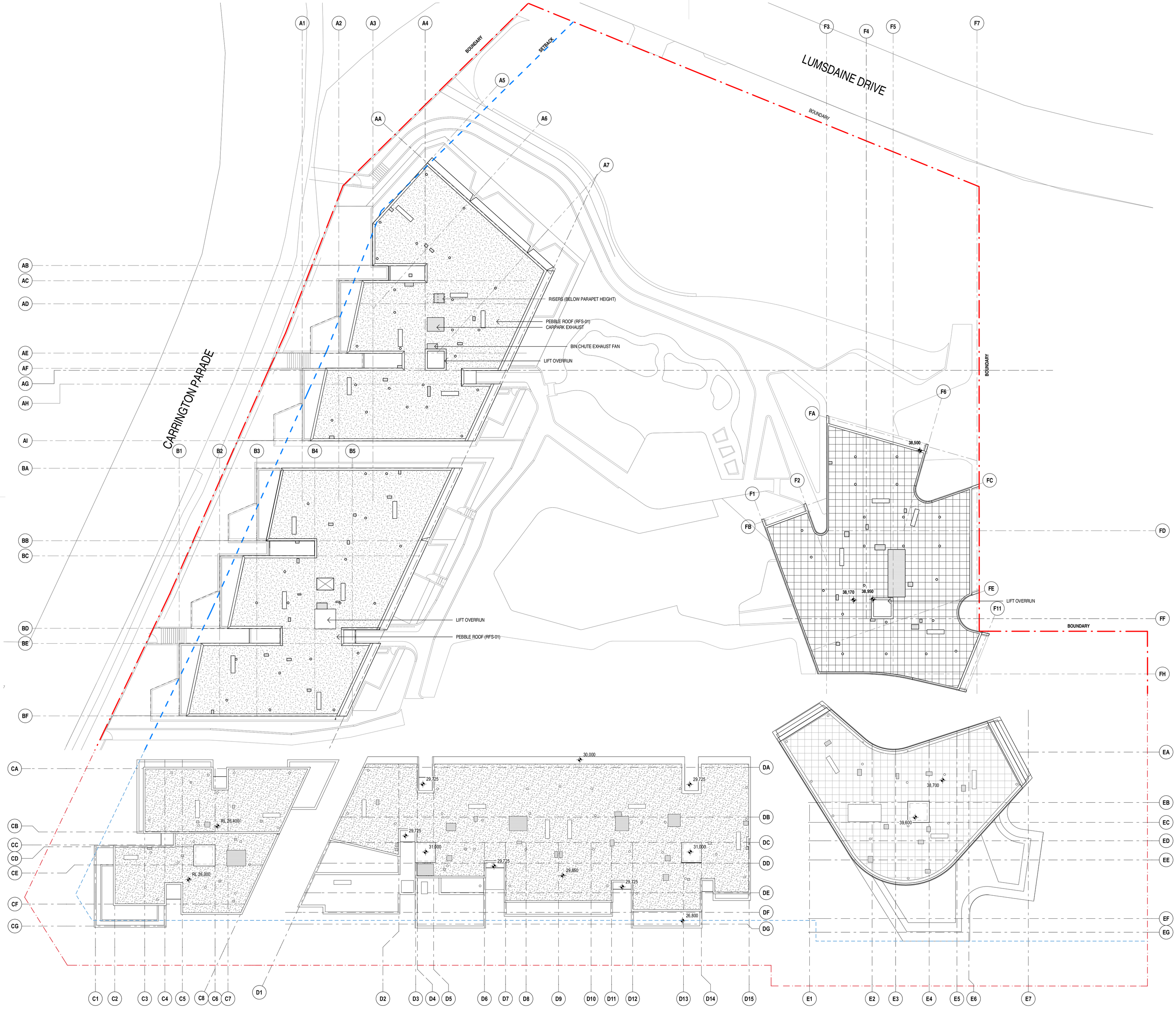
DESIGN DEVELOPMENT

project
Harbord Diggers
80 Evans Street Freshwater

drawing
Overall Level 4 Plan

scale	1:250, 1:1 at A1	status	drawing no.
drawn	DA, MT		**A1007**
checked	MC & TR	issue	
project no	AR-140132 CRF-1354		H

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B	50% DESIGN DEVELOPMENT	30.01.2015
C	80% DESIGN DEVELOPMENT	23.03.2015
D	ISSUED FOR INFORMATION	26.03.2015
E	ISSUED FOR INFORMATION	15.04.2015
F	ISSUED FOR INFORMATION	20.04.2015
G	ISSUED FOR COORDINATION FOR 100% DD	24.04.2015
H	!100% DESIGN DEVELOPMENT	30.04.2015

Energy Rating Certificate Number 14070006

☐ single-dwelling rating _____ stars

☒ multi-unit development (attach listing of ratings) *If selected, data specified is the average across the entire development* heating _____ MJ/m² cooling _____ MJ/m²

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

Assessor Signature _____ Date 24/06/15

client

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DESIGN DEVELOPMENT

project

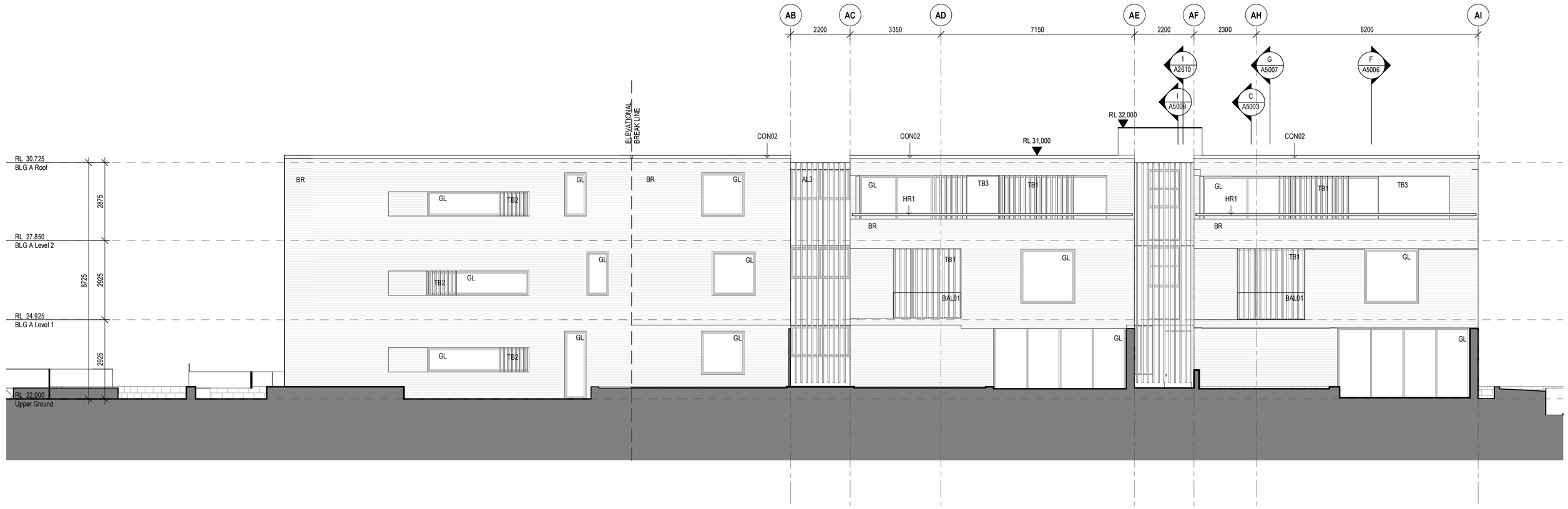
Harbord Diggers
80 Evans Street Freshwater

drawing

Overall Roof Level Plan

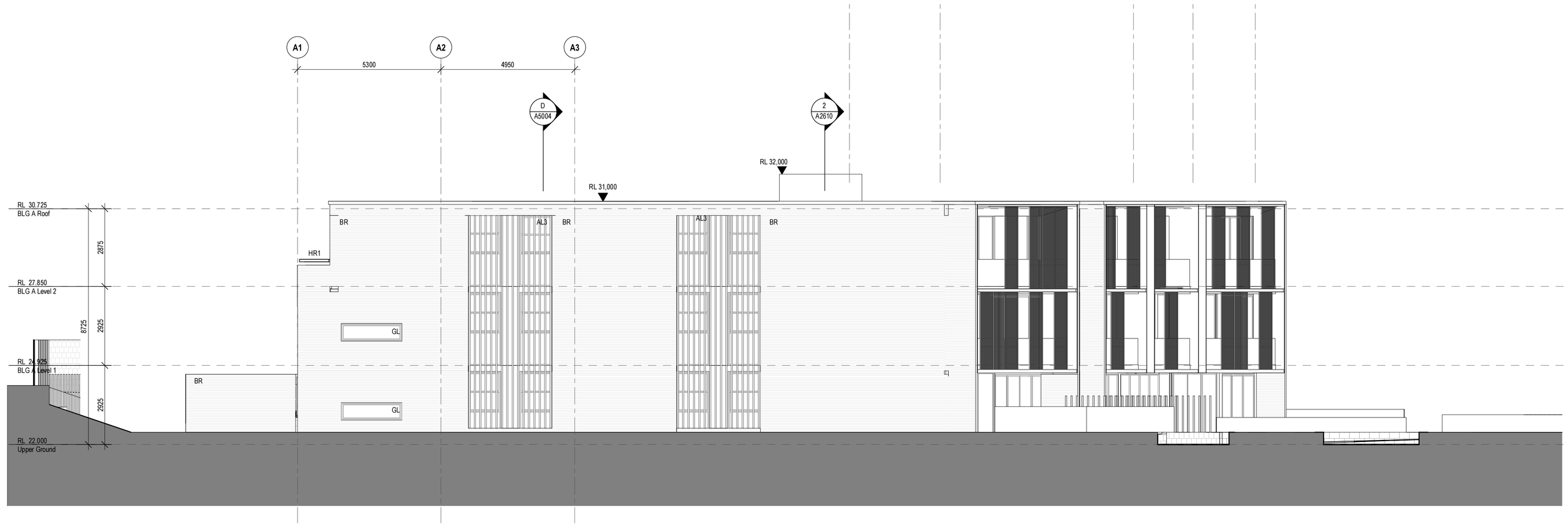
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drawn	DA, MT		**A1008**
checked	MC & TR	issue	
project no	AR-140132 CRF-1354		H

1/05/15 4:19 PM



1 Building A-Elevation A1

1 : 100



2 Building A-Elevation A2

1 : 100

3 Building A-Elevation A3

1 : 100

FINISHES LEGEND

AL1	DARK BRONZE ANODISED ALUMINUM WINDOW FRAMES
AL2	DARK BRONZE ANODISED ALUMINUM VERTICAL OPERABLE SLIDING SCREENS
AL3	DARK BRONZE ANODISED ALUMINUM VERTICAL BATTENS
AL4	DARK BRONZE ANODISED ALUMINUM EDGE CLADDING
BAL01	LOW IRON FRAMELESS BALUSTRADE
AF	VERTICAL ANODISED ALUMINUM FENCE
CON01	SEALED CONCRETE
CON02	PRECAST CONCRETE FINISH
CON03	UNSEALED CONCRETE
CP1	CARPET TYPE 1 (APARTMENTS)
CP2	CARPET TYPE 2 (LOBBY)
P1	PAINTED CONCRETE FINISH 1
P2	PAINTED CONCRETE FINISH 2
ST1	STONE CLADDING
TB1	SLIDING VERTICAL TIMBER BATTENS
TB2	FIXED VERTICAL TIMBER BATTENS
TB3	SOLID TIMBER CLADDING
TB4	TIMBER FENCE
TB5	FIREWOOD BATTEN SOFFIT
T1	300 X 600 FLOOR TILE (INTERNAL)
T2	300 X 600 BALCONY FLOOR TILE (EXTERNAL)
T3	300X300 WALL TILE
T4	300 X 100 WALL TILE
T5	STAIR TREAD (WITH CONTRASTING NOSING)
T6	DARK GRANITE PAVERS (EXTERNAL)
T7	TERRACE FLOOR TILE (EXTERNAL)
T8	LIGHT GRANITE PAVERS (EXTERNAL)
T9	DARK GRANITE PAVERS (EXTERNAL) - TRAFFICABLE
RFS01	PEBBLE ROOF
RL01	ROOF LIGHT
ARS	ADAPTIVE REUSE SLAB
RO	ROOF OUTLET
FU	EXHAUST FAN UNIT
VS	VENTILATION STACK
BR	BRICK
PBL1	PEBBLES TYPE 1
HR1	TIMBER HANDRAIL
FM1	INTEGRATED FLOOR MAT - APARTMENTS
FM2	INTEGRATED FLOOR MATS - MAIN LOBBY
OF	OVER FLOW
ME	MECHANICAL EXHAUST
KE	KITCHEN EXHAUST
TE	TOILET EXHAUST
COL	STEEL COLUMN
PB1	PLASTERBOARD CEILING
PB2	PLASTERBOARD CEILING MOISTURE RESISTANT
GL	GLASS

- All WG frameless glass bifold doors
- All balcony, roof terrace and ground floor terrace glass sliding doors
- Full height windows behind aluminium screens, colourback spandrel glass

Energy Rating Certificate Number 14070006

☐ single-dwelling rating _____ stars

☒ multi-unit development (attach listing of ratings) heating _____ MJ/m²
If selected, data specified is the average across the entire development cooling _____ MJ/m²

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

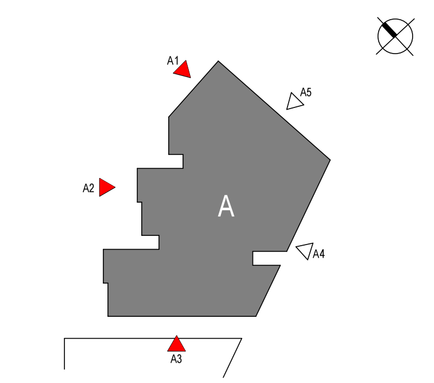
Assessor Signature _____ Date 24/06/15

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issue	amendment	date
A	50% DESIGN DEVELOPMENT	30.01.2015
B	ISSUED FOR INFORMATION	26.03.2015
C	ISSUED FOR COORDINATION FOR 100% DD	24.04.2015
D	100% DESIGN DEVELOPMENT	30.04.2015



client

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project

Harbord Diggers
80 Evans Street Freshwater

drawing

Elevations - Building A - Sheet 1

DESIGN DEVELOPMENT

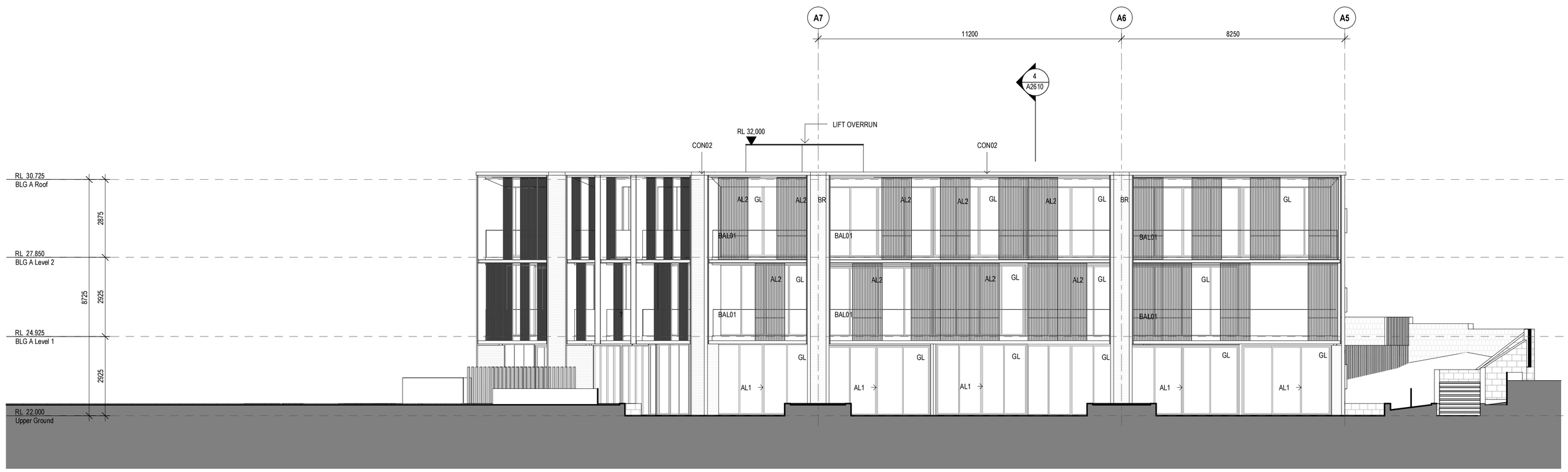
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drawn	PW		**A2110**
checked	MC & TR	issue	
project no	AR-140132 CRF-1354		**D**

1/05/2015 6:08:37 PM



1 Building A-Elevation A4

1 : 100



2 Building A-Elevation A5

1 : 100

FINISHES LEGEND

AL1	DARK BRONZE ANODISED ALUMINUM WINDOW FRAMES
AL2	DARK BRONZE ANODISED ALUMINUM VERTICAL OPERABLE SLIDING SCREENS
AL3	DARK BRONZE ANODISED ALUMINUM VERTICAL BATTENS
AL4	DARK BRONZE ANODISED ALUMINUM EDGE CLADDING
BAL01	LOW IRON FRAMELESS BALUSTRADE
AF	VERTICAL ANODISED ALUMINIUM FENCE
CON01	SEALED CONCRETE
CON02	PRECAST CONCRETE FINISH
CON03	UNSEALED CONCRETE
CP1	CARPET TYPE 1 (APARTMENTS)
CP2	CARPET TYPE 2 (LOBBY)
P1	PAINTED CONCRETE FINISH 1
P2	PAINTED CONCRETE FINISH 2
ST1	STONE CLADDING
TB1	SLIDING VERTICAL TIMBER BATTENS
TB2	FIXED VERTICAL TIMBER BATTENS
TB3	SOLID TIMBER CLADDING
TB4	TIMBER FENCE
TB5	FIREWOOD BATTEN SOFFIT
T1	300 X 600 FLOOR TILE (INTERNAL)
T2	300 X 600 BALCONY FLOOR TILE (EXTERNAL)
T3	300X300 WALL TILE
T4	300 X 100 WALL TILE
T5	STAIR TREAD (WITH CONTRASTING NOSING)
T6	DARK GRANITE PAVERS (EXTERNAL)
T7	TERRACE FLOOR TILE (EXTERNAL)
T8	LIGHT GRANITE PAVERS (EXTERNAL)
T9	DARK GRANITE PAVERS (EXTERNAL) - TRAFFICABLE
RFS01	PEBBLE ROOF
RL01	ROOF LIGHT
ARS	ADAPTIVE REUSE SLAB
RO	ROOF OUTLET
FU	EXHAUST FAN UNIT
VS	VENTILATION STACK
BR	BRICK
PBL1	PEBBLES TYPE 1
HR1	TIMBER HANDRAIL
FM1	INTEGRATED FLOOR MAT - APARTMENTS
FM2	INTEGRATED FLOOR MATS - MAIN LOBBY
OF	OVER FLOW
ME	MECHANICAL EXHAUST
KE	KITCHEN EXHAUST
TE	TOILET EXHAUST
COL	STEEL COLUMN
PB1	PLASTERBOARD CEILING
PB2	PLASTERBOARD CEILING MOISTURE RESISTANT
GL	GLASS

- All WG frameless glass bifold doors
- All balcony, roof terrace and ground floor terrace glass sliding doors
- Full height windows behind aluminium screens, colourback spandrel glass

Energy Rating Certificate Number 14070006

☐ single-dwelling rating _____ stars

☒ multi-unit development (attach listing of ratings) heating _____ MJ/m²
If selected, data specified is the average across the entire development cooling _____ MJ/m²

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

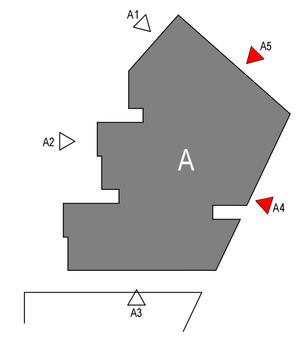
Assessor Signature _____ Date 24/06/15

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D	100% DESIGN DEVELOPMENT	30.04.2015



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DESIGN DEVELOPMENT

project

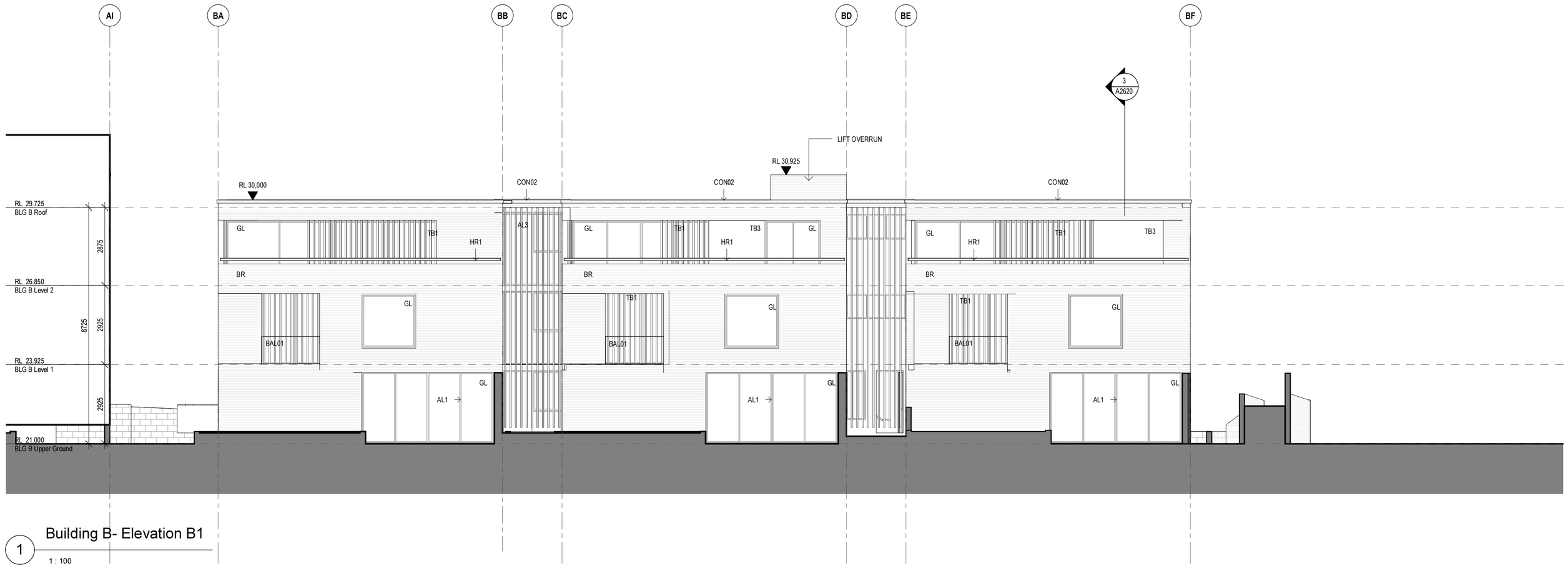
Harbord Diggers
80 Evans Street Freshwater

drawing

Elevations - Building A - Sheet 2

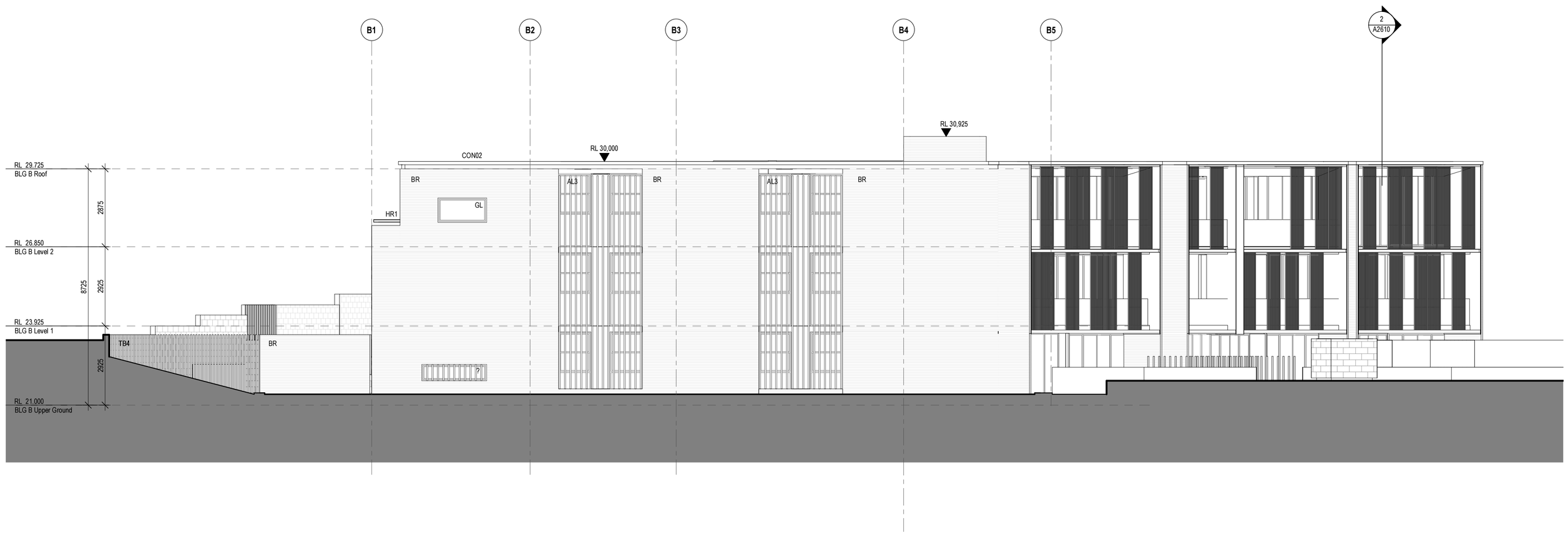
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checked	MC & TR	issue	
project no	AR-140132 CRF-1354		**D**

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1 Building B- Elevation B1

1 : 100



2 Building B- Elevation B2

1 : 100

FINISHES LEGEND

AL1	DARK BRONZE ANODISED ALUMINUM WINDOW FRAMES
AL2	DARK BRONZE ANODISED ALUMINUM VERTICAL OPERABLE SLIDING SCREENS
AL3	DARK BRONZE ANODISED ALUMINUM VERTICAL BATTENS
AL4	DARK BRONZE ANODISED ALUMINUM EDGE CLADDING
BAL01	LOW IRON FRAMELESS BALUSTRADE
AF	VERTICAL ANODISED ALUMINIUM FENCE
CON01	SEALED CONCRETE
CON02	PRECAST CONCRETE FINISH
CON03	UNSEALED CONCRETE
CP1	CARPET TYPE 1 (APARTMENTS)
CP2	CARPET TYPE 2 (LOBBY)
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P2	PAINTED CONCRETE FINISH 2
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TB2	FIXED VERTICAL TIMBER BATTENS
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TB5	FIREWOOD BATTEN SOFFIT
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T2	300 X 600 BALCONY FLOOR TILE (EXTERNAL)
T3	300X300 WALL TILE
T4	300 X 100 WALL TILE
T5	STAIR TREAD (WITH CONTRASTING NOSING)
T6	DARK GRANITE PAVERS (EXTERNAL)
T7	TERRACE FLOOR TILE (EXTERNAL)
T8	LIGHT GRANITE PAVERS (EXTERNAL)
T9	DARK GRANITE PAVERS (EXTERNAL) - TRAFFICABLE
RF301	PEBBLE ROOF
RL01	ROOF LIGHT
ARS	ADAPTIVE REUSE SLAB
RO	ROOF OUTLET
FU	EXHAUST FAN UNIT
VS	VENTILATION STACK
BR	BRICK
PBL1	PEBBLES TYPE 1
HR1	TIMBER HANDRAIL
FM1	INTEGRATED FLOOR MAT - APARTMENTS
FM2	INTEGRATED FLOOR MATS - MAIN LOBBY
OF	OVER FLOW
ME	MECHANICAL EXHAUST
KE	KITCHEN EXHAUST
TE	TOILET EXHAUST
COL	STEEL COLUMN
PB1	PLASTERBOARD CEILING
PB2	PLASTERBOARD CEILING MOISTURE RESISTANT
GL	GLASS

- All WG frameless glass bifold doors
- All balcony, roof terrace and ground floor terrace glass sliding doors
- Full height windows behind aluminium screens, colourback spandrel glass

Energy Rating Certificate Number 14070006

☐ single-dwelling rating _____ stars

☒ multi-unit development (attach listing of ratings) heating _____ MJ/m²
If selected, data specified is the average across the entire development cooling _____ MJ/m²

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

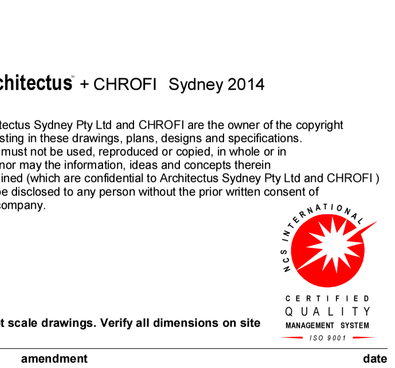
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project

Harbord Diggers
80 Evans Street Freshwater

drawing

Elevations - Building B - Sheet 1

scale	status	drawing no.
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drawn: PW		
checked: MC & TR	issue	**D**
project no: AR-140132, CRF-1354		

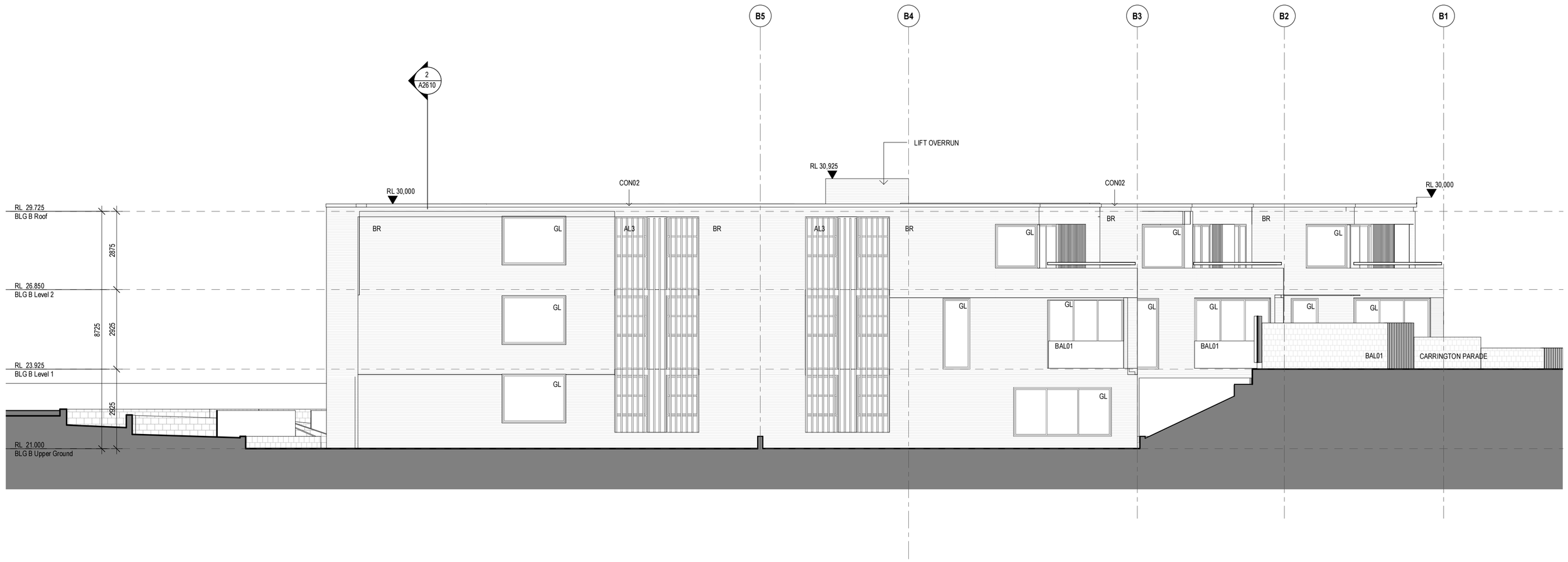
DESIGN DEVELOPMENT

1/05/2015 6:08:51 PM



1 Building B- Elevation B3

1 : 100



2 Building B- Elevation B4

1 : 100

FINISHES LEGEND

AL1	DARK BRONZE ANODISED ALUMINUM WINDOW FRAMES
AL2	DARK BRONZE ANODISED ALUMINUM VERTICAL OPERABLE SLIDING SCREENS
AL3	DARK BRONZE ANODISED ALUMINUM VERTICAL BATTENS
AL4	DARK BRONZE ANODISED ALUMINUM EDGE CLADDING
BAL01	LOW IRON FRAMELESS BALUSTRADE
AF	VERTICAL ANODISED ALUMINIUM FENCE
CON01	SEALED CONCRETE
CON02	PRECAST CONCRETE FINISH
CON03	UNSEALED CONCRETE
CP1	CARPET TYPE 1 (APARTMENTS)
CP2	CARPET TYPE 2 (LOBBY)
P1	PAINTED CONCRETE FINISH 1
P2	PAINTED CONCRETE FINISH 2
ST1	STONE CLADDING
TB1	SLIDING VERTICAL TIMBER BATTENS
TB2	FIXED VERTICAL TIMBER BATTENS
TB3	SOLID TIMBER CLADDING
TB4	TIMBER FENCE
TB5	FIREWOOD BATTEN SOFFIT
T1	300 X 600 FLOOR TILE (INTERNAL)
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T3	300X300 WALL TILE
T4	300 X 100 WALL TILE
T5	STAIR TREAD (WITH CONTRASTING NOSING)
T6	DARK GRANITE PAVERS (EXTERNAL)
T7	TERRACE FLOOR TILE (EXTERNAL)
T8	LIGHT GRANITE PAVERS (EXTERNAL)
T9	DARK GRANITE PAVERS (EXTERNAL) - TRAFFICABLE
RFS01	PEBBLE ROOF
RL01	ROOF LIGHT
ARS	ADAPTIVE REUSE SLAB
RO	ROOF OUTLET
FU	EXHAUST FAN UNIT
VS	VENTILATION STACK
BR	BRICK
PBL1	PEBBLES TYPE 1
HR1	TIMBER HANDRAIL
FM1	INTEGRATED FLOOR MAT - APARTMENTS
FM2	INTEGRATED FLOOR MATS - MAIN LOBBY
OF	OVER FLOW
ME	MECHANICAL EXHAUST
KE	KITCHEN EXHAUST
TE	TOILET EXHAUST
COL	STEEL COLUMN
PB1	PLASTERBOARD CEILING
PB2	PLASTERBOARD CEILING MOISTURE RESISTANT
GL	GLASS

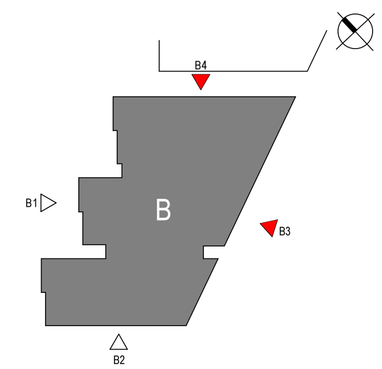
- All WG frameless glass bifold doors
- All balcony, roof terrace and ground floor terrace glass sliding doors
- Full height windows behind aluminium screens, colourback spandrel glass

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D	100% DESIGN DEVELOPMENT	30.04.2015



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DESIGN DEVELOPMENT

project

Harbord Diggers
80 Evans Street Freshwater

drawing

Elevations - Building B - Sheet 2

scale	1 : 100 at A1	status	drawing no.
drawn	PW		**A2121**
checked	MC & TR	issue	
project no	AR-140132 CRF-1354		**D**

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Energy Rating Certificate Number 14070006

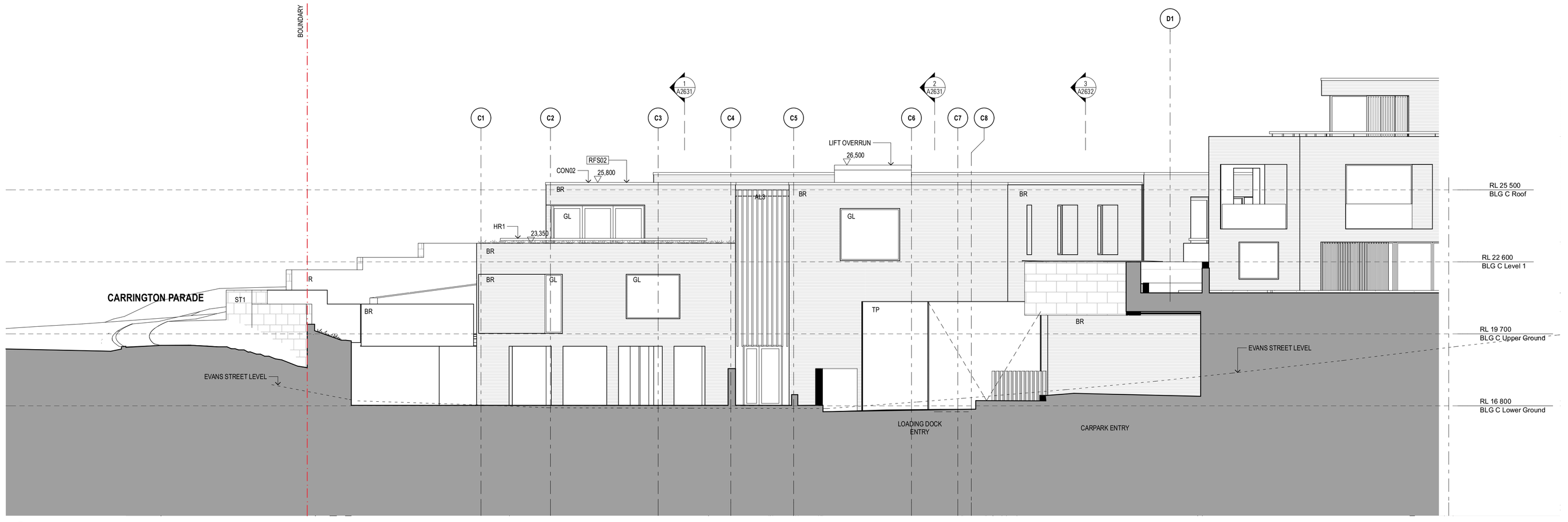
☐ single-dwelling rating _____ stars

☒ multi-unit development (attach listing of ratings) heating _____ MJ/m²
If selected, data specified is the average across the entire development cooling _____ MJ/m²

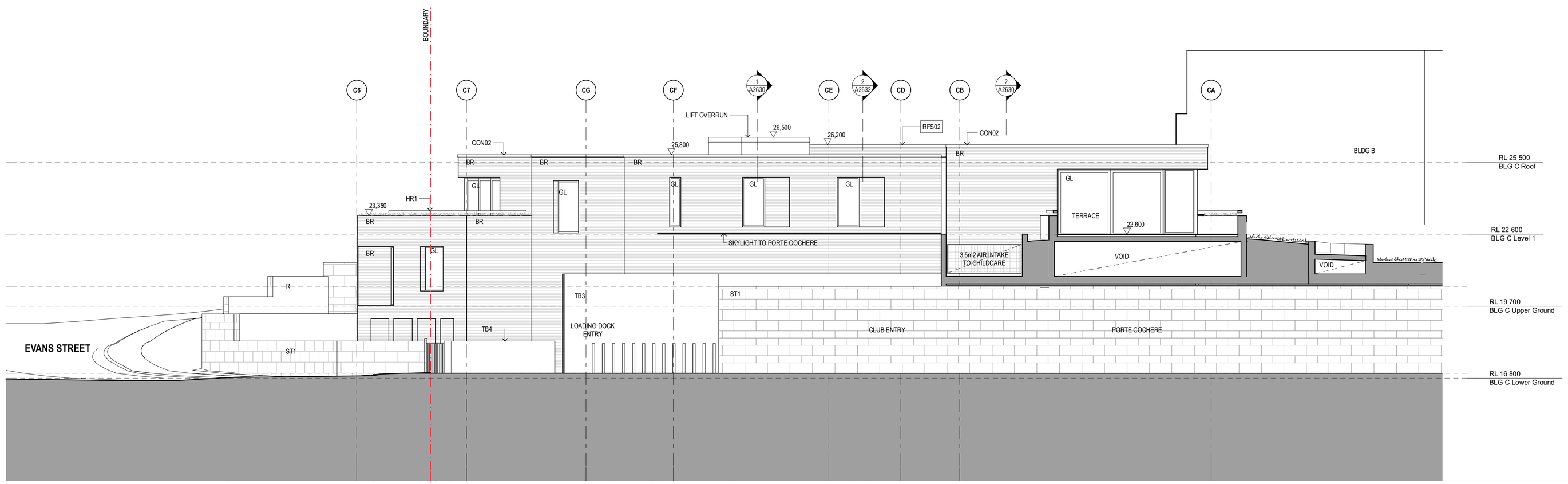
Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

Assessor Signature _____ Date 24/06/15



1 Building C - Elevation C1
Scale 1:100



2 Building C - Elevation C2
Scale 1:100

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D	100% DESIGN DEVELOPMENT	30.04.2015

FINISHES LEGEND

AL1	DARK BRONZE ANODISED ALUMINUM WINDOW FRAMES
AL2	DARK BRONZE ANODISED ALUMINUM VERTICAL OPERABLE SLIDING SCREENS
AL3	DARK BRONZE ANODISED ALUMINUM VERTICAL BATTENS
AL4	DARK BRONZE ANODISED ALUMINUM EDGE CLADDING
BAL01	LOW IRON FRAMELESS BALUSTRADE
AF	VERTICAL ANODISED ALUMINIUM FENCE
CON01	SEALED CONCRETE
CON02	PRECAST CONCRETE FINISH
CP1	CARPET TYPE 1 (APARTMENTS)
CP2	CARPET TYPE 2 (LOBBY)
P1	PAINTED CONCRETE FINISH 1
P2	PAINTED CONCRETE FINISH 2
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TB1	SLIDING VERTICAL TIMBER BATTENS
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TB4	TIMBER FENCE
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T8	LIGHT GRANITE PAVERS (EXTERNAL)
T9	DARK GRANITE PAVERS (EXTERNAL) - TRAFFICABLE
RF501	PEBBLE ROOF
RL01	ROOF LIGHT
ARB	ADAPTIVE REUSE SLAB
RO	ROOF OUTLET
FU	EXHAUST FAN UNIT
VS	VENTILATION STACK
BR	BRICK
PBLT	PEBBLES TYPE 1
HR1	TIMBER HANDRAIL
FM1	INTEGRATED FLOOR MAT - APARTMENTS
FM2	INTEGRATED FLOOR MATS - MAIN LOBBY
OF	OVER FLOW
ME	MECHANICAL EXHAUST
KE	KITCHEN EXHAUST
TE	TOILET EXHAUST
COL	STEEL COLUMN
GL1	GLASS BALUSTRADE
GL2	SLIDING GLASS DOORS
GL2	FRAMELESS GLASS BIFOLD
GL3	SPANDREL GLASS

GL - GLASS

- All WG frameless glass bifold doors
- All balcony, roof terrace and ground floor terrace glass sliding doors
- Full height windows behind aluminium screens, colourback spandrel glass

Energy Rating Certificate Number 14070006

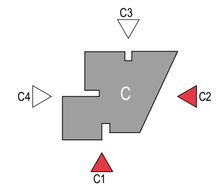
☐ single-dwelling rating _____ stars

☒ multi-unit development (attach listing of ratings) heating _____ MJ/m²
If selected, data specified is the average across the entire development cooling _____ MJ/m²

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

Assessor Signature _____ Date 24/06/15



client

harbord diggers mountiesgroup

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sydney@architectus.com.au

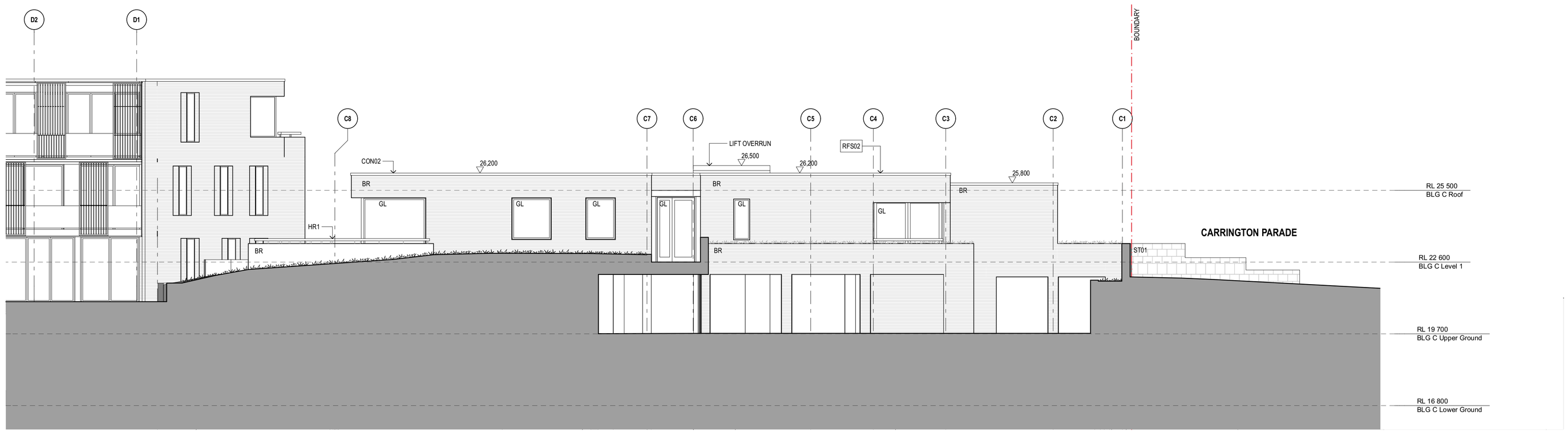
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T (61 2) 9977 3700
sydney@chrofi.com

DESIGN DEVELOPMENT

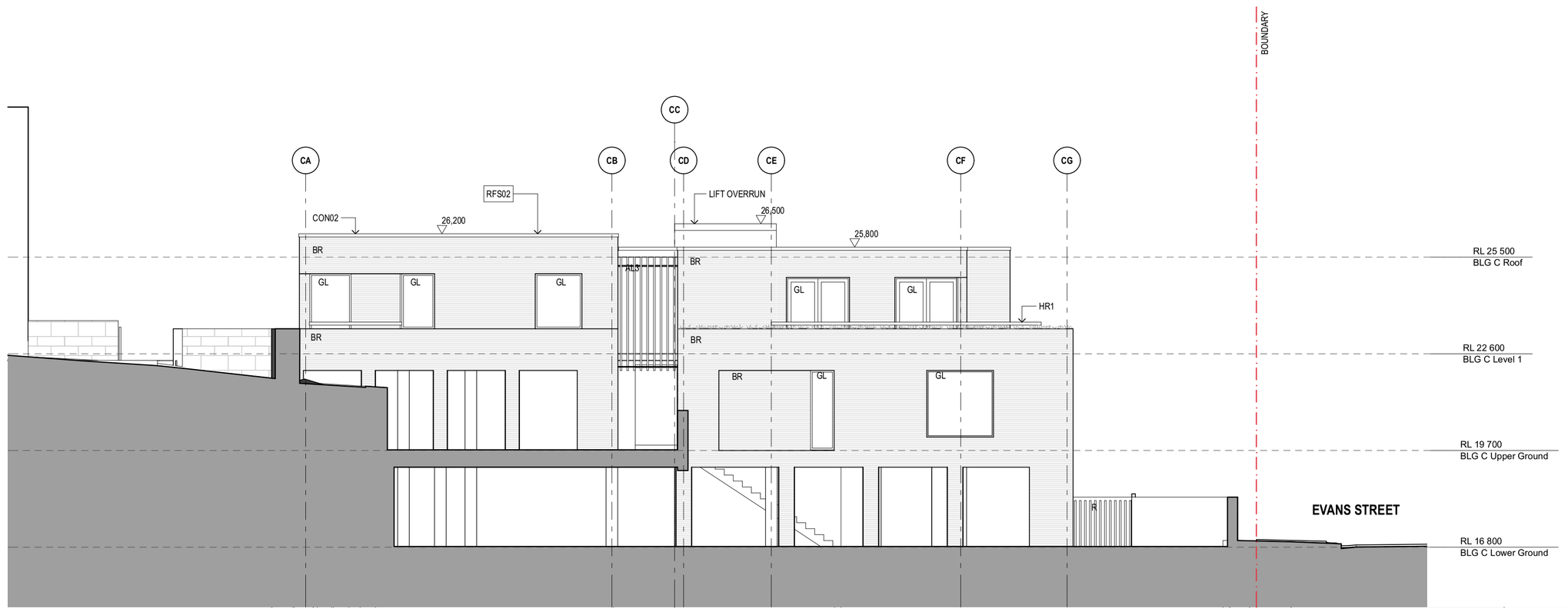
project
Harbord Diggers
80 Evans Street Freshwater

drawing
Elevations - Building C - Sheet 1

scale	1:100 at A1	status	drawing no.
drawn	MT		**A2130**
checked	MC & TR	issue	
project no	AR-140132 CRF-1354		**D**



1 Building C - Elevation C3
Scale 1:100



2 Building C - Elevation C4
Scale 1:100

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issue	amendment	date
A	50% DESIGN DEVELOPMENT	30.01.2015
B	ISSUED FOR INFORMATION	26.03.2015
C	ISSUED FOR COORDINATION FOR 100% DD	24.04.2015
D	100% DESIGN DEVELOPMENT	30.04.2015

FINISHES LEGEND

AL1	DARK BRONZE ANODISED ALUMINUM WINDOW FRAMES
AL2	DARK BRONZE ANODISED ALUMINUM VERTICAL OPERABLE SLIDING SCREENS
AL3	DARK BRONZE ANODISED ALUMINUM VERTICAL BATTENS
AL4	DARK BRONZE ANODISED ALUMINUM EDGE CLADDING
BAL01	LOW IRON FRAMELESS BALUSTRADE
AF	VERTICAL ANODISED ALUMINUM FENCE
CON01	SEALED CONCRETE
CON02	PRECAST CONCRETE FINISH
CP01	CARPET TYPE 1 (APARTMENTS)
CP1	CARPET TYPE 1 (APARTMENTS)
CP2	CARPET TYPE 2 (LOBBY)
P1	PAINTED CONCRETE FINISH 1
P2	PAINTED CONCRETE FINISH 2
ST1	STONE CLADDING
TB1	SLIDING VERTICAL TIMBER BATTENS
TB2	FIXED VERTICAL TIMBER BATTENS
TB3	SOLID TIMBER CLADDING
TB4	TIMBER FENCE
TB6	FIREWOOD BATTEN SOFFIT
T1	300 X 600 FLOOR TILE (INTERNAL)
T2	300 X 600 BALCONY FLOOR TILE (EXTERNAL)
T3	300X300 WALL TILE
T4	300 X 100 WALL TILE
T5	STAIR TREAD (WITH CONTRASTING NOSING)
T6	DARK GRANITE PAVERS (EXTERNAL)
T7	TERRACE FLOOR TILE (EXTERNAL)
T8	LIGHT GRANITE PAVERS (EXTERNAL)
T9	DARK GRANITE PAVERS (EXTERNAL) - TRAFFICABLE
RF501	PEBBLE ROOF
RL01	ROOF LIGHT
ARB	ADAPTIVE REUSE SLAB
RO	ROOF OUTLET
FU	EXHAUST FAN UNIT
VS	VENTILATION STACK
BR	BRICK
PBLT	PEBBLES TYPE 1
HR1	TIMBER HANDRAIL
FM1	INTEGRATED FLOOR MAT - APARTMENTS
FM2	INTEGRATED FLOOR MATS - MAIN LOBBY
OF	OVER FLOW
ME	MECHANICAL EXHAUST
KE	KITCHEN EXHAUST
TE	TOILET EXHAUST
COL	STEEL COLUMN
GL	GLASS BALUSTRADE
GL1	SLIDING GLASS DOORS
GL2	FRAMELESS GLASS BIFOLD
GL3	SPANDREL GLASS

GL - GLASS

- All WG frameless glass bifold doors
- All balcony, roof terrace and ground floor terrace glass sliding doors
- Full height windows behind aluminium screens, colourback spandrel glass

Energy Rating — Certificate Number 14070006

- ☐ single-dwelling rating ____ stars
- ☒ multi-unit development (attach listing of ratings) — heating ____ MJ/m² — cooling ____ MJ/m²
  If selected, data specified is the average across the entire development

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

Assessor Signature _____ Date 24/06/15

C3 / C4 / C / C2 / C1

client

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DESIGN DEVELOPMENT

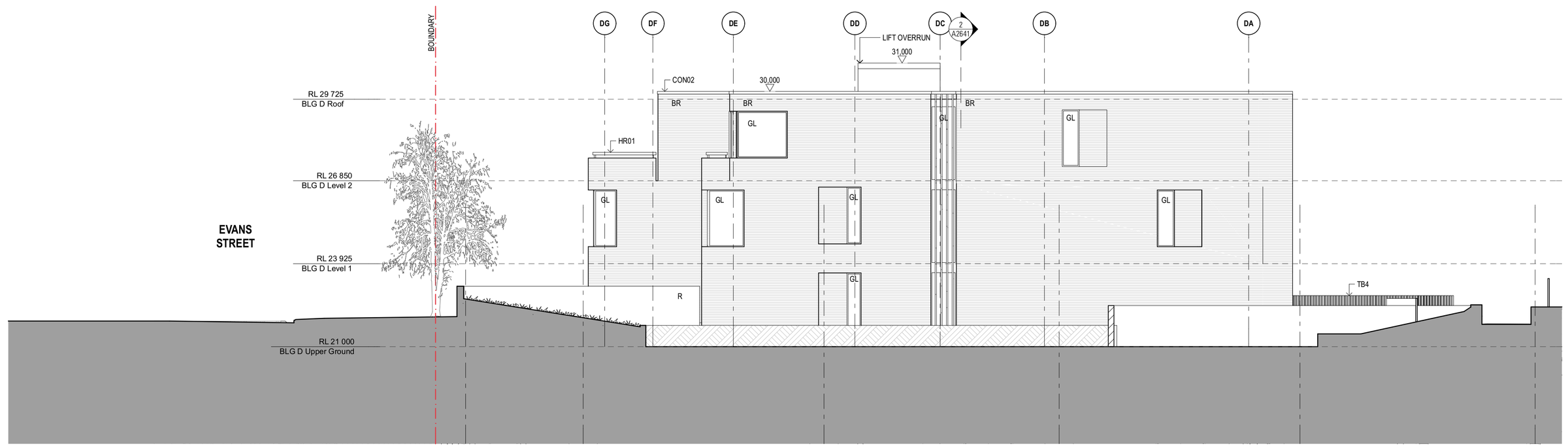
project
Harbord Diggers
80 Evans Street Freshwater

drawing
Elevations - Building C - Sheet 2

scale	status	drawing no.
1:100 at A1		A2131
drawn: MT		
checked: MC & TR	issue	D
project no: AR-140132 CRF-1354		



1 Building D - Elevation D1
Scale 1:100



2 Building D - Elevation D2
Scale 1:100

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IAS INTERNATIONAL CERTIFIED QUALITY MANAGEMENT SYSTEM ISO 9001

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B	ISSUED FOR INFORMATION	26.03.2015
C	ISSUED FOR COORDINATION FOR 100% DD	24.04.2015
D	100% DESIGN DEVELOPMENT	30.04.2015

FINISHES LEGEND

AL1	DARK BRONZE ANODISED ALUMINUM WINDOW FRAMES
AL2	DARK BRONZE ANODISED ALUMINUM VERTICAL OPERABLE SLIDING SCREENS
AL3	DARK BRONZE ANODISED ALUMINUM VERTICAL BATTENS
AL4	DARK BRONZE ANODISED ALUMINUM EDGE CLADDING
BAL01	LOW IRON FRAMELESS BALUSTRADE
AF	VERTICAL ANODISED ALUMINIUM FENCE
CON01	SEALED CONCRETE
CON02	PRECAST CONCRETE FINISH
CP1	CARPET TYPE 1 (APARTMENTS)
CP2	CARPET TYPE 2 (LOBBY)
P1	PAINTED CONCRETE FINISH 1
P2	PAINTED CONCRETE FINISH 2
ST1	STONE CLADDING
TB1	SLIDING VERTICAL TIMBER BATTENS
TB2	FIXED VERTICAL TIMBER BATTENS
TB3	SOLID TIMBER CLADDING
TB4	TIMBER FENCE
TB5	FIREWOOD BATTEN SOFFIT
T1	300 X 600 FLOOR TILE (INTERNAL)
T2	300 X 600 BALCONY FLOOR TILE (EXTERNAL)
T3	300X300 WALL TILE
T4	300 X 100 WALL TILE
T5	STAIR TREAD (WITH CONTRASTING NOSING)
T6	DARK GRANITE PAVERS (EXTERNAL)
T7	TERRACE FLOOR TILE (EXTERNAL)
T8	LIGHT GRANITE PAVERS (EXTERNAL)
T9	DARK GRANITE PAVERS (EXTERNAL) - TRAFFICABLE
RF501	PEBBLE ROOF
RL01	ROOF LIGHT
ARB	ADAPTIVE REUSE SLAB
RO	ROOF OUTLET
FU	EXHAUST FAN UNIT
VS	VENTILATION STACK
BR	BRICK
PBLT	PEBBLES TYPE 1
HR1	TIMBER HANDRAIL
FM1	INTEGRATED FLOOR MAT - APARTMENTS
FM2	INTEGRATED FLOOR MATS - MAIN LOBBY
OF	OVER FLOW
ME	MECHANICAL EXHAUST
KE	KITCHEN EXHAUST
TE	TOILET EXHAUST
COL	STEEL COLUMN
GL	GLASS
GL1	SLIDING GLASS DOORS
GL2	FRAMELESS GLASS BIFOLD
GL3	SPANDREL GLASS

GL - GLASS

- All WG frameless glass bifold doors
- All balcony, roof terrace and ground floor terrace glass sliding doors
- Full height windows behind aluminium screens, colourback spandrel glass

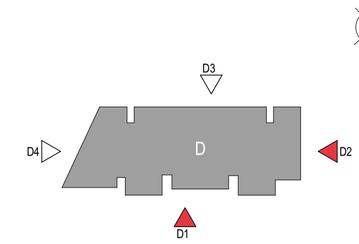
Energy Rating — Certificate Number 14070006

- ☐ single-dwelling rating ____ stars
- ☒ multi-unit development (attach listing of ratings) heating ____ MJ/m² cooling ____ MJ/m²
  If selected, data specified is the average across the entire development

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

Assessor Signature _____ Date 24/06/15



client

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DESIGN DEVELOPMENT

project
Harbord Diggers
80 Evans Street Freshwater

drawing
Elevations - Building D - Sheet 1

scale	1:100 at A1	status	drawing no.
drawn	MT		**A2140**
checked	MC & TR	issue	
project no	AR-140132 CRF-1354		**D**



1 Building D - Elevation D3
Scale 1:100



2 Building D - Elevation D4
Scale 1:100

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C	ISSUED FOR COORDINATION FOR 100% DD	24.04.2015
D	100% DESIGN DEVELOPMENT	30.04.2015

FINISHES LEGEND

AL1	DARK BRONZE ANODISED ALUMINUM WINDOW FRAMES
AL2	DARK BRONZE ANODISED ALUMINUM VERTICAL OPERABLE SLIDING SCREENS
AL3	DARK BRONZE ANODISED ALUMINUM VERTICAL BATTENS
AL4	DARK BRONZE ANODISED ALUMINUM EDGE CLADDING
BAL01	LOW IRON FRAMELESS BALUSTRADE
AF	VERTICAL ANODISED ALUMINUM FENCE
CON01	SEALED CONCRETE
CON02	PRECAST CONCRETE FINISH
CP1	CARPET TYPE 1 (APARTMENTS)
CP2	CARPET TYPE 2 (APARTMENTS)
CP3	CARPET TYPE 2 (LOBBY)
P1	PAINTED CONCRETE FINISH 1
P2	PAINTED CONCRETE FINISH 2
ST1	STONE CLADDING
TB1	SLIDING VERTICAL TIMBER BATTENS
TB2	FIXED VERTICAL TIMBER BATTENS
TB3	SOLID TIMBER CLADDING
TB4	TIMBER FENCE
TB5	FIREWOOD BATTEN SOFFIT
T1	300 X 600 FLOOR TILE (INTERNAL)
T2	300 X 600 BALCONY FLOOR TILE (EXTERNAL)
T3	300X300 WALL TILE
T4	300 X 100 WALL TILE
T5	STAIR TREAD (WITH CONTRASTING NOSING)
T6	DARK GRANITE PAVERS (EXTERNAL)
T7	TERRACE FLOOR TILE (EXTERNAL)
T8	LIGHT GRANITE PAVERS (EXTERNAL)
T9	DARK GRANITE PAVERS (EXTERNAL) - TRAFFICABLE
RFS01	PEBBLE ROOF
RL01	ROOF LIGHT
ARB	ADAPTIVE REUSE SLAB
RO	ROOF OUTLET
FU	EXHAUST FAN UNIT
VS	VENTILATION STACK
BR	BRICK
PBLT	PEBBLES TYPE 1
HR1	TIMBER HANDRAIL
FM1	INTEGRATED FLOOR MAT - APARTMENTS
FM2	INTEGRATED FLOOR MATS - MAIN LOBBY
OF	OVER FLOW
ME	MECHANICAL EXHAUST
KE	KITCHEN EXHAUST
TE	TOILET EXHAUST
COL	STEEL COLUMN
GL	GLASS BALUSTRADE
GL1	SLIDING GLASS DOORS
GL2	FRAMELESS GLASS BIFOLD
GL3	SPANDREL GLASS

GL - GLASS

- All WG frameless glass bifold doors
- All balcony, roof terrace and ground floor terrace glass sliding doors
- Full height windows behind aluminium screens, colourback spandrel glass

Energy Rating Certificate Number 14070006

☐ single-dwelling rating _____ stars

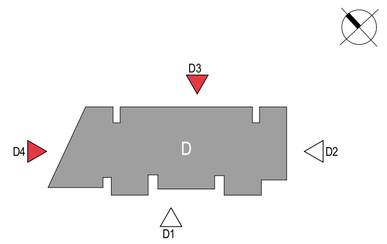
☒ multi-unit development (attach listing of ratings) *If selected, data specified is the average across the entire development* heating _____ MJ/m² cooling _____ MJ/m²

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

Assessor Signature _____ Date 24/06/15

DESIGN DEVELOPMENT



client

harbord diggers mountiesgroup

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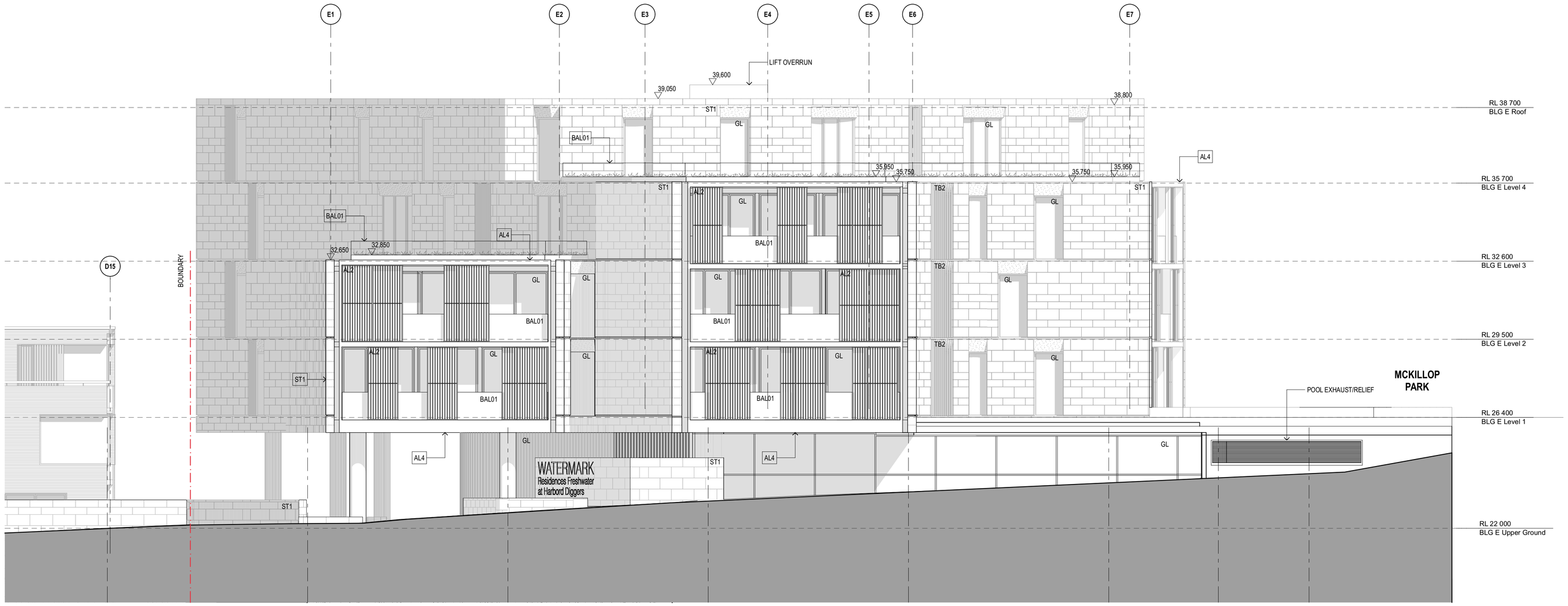
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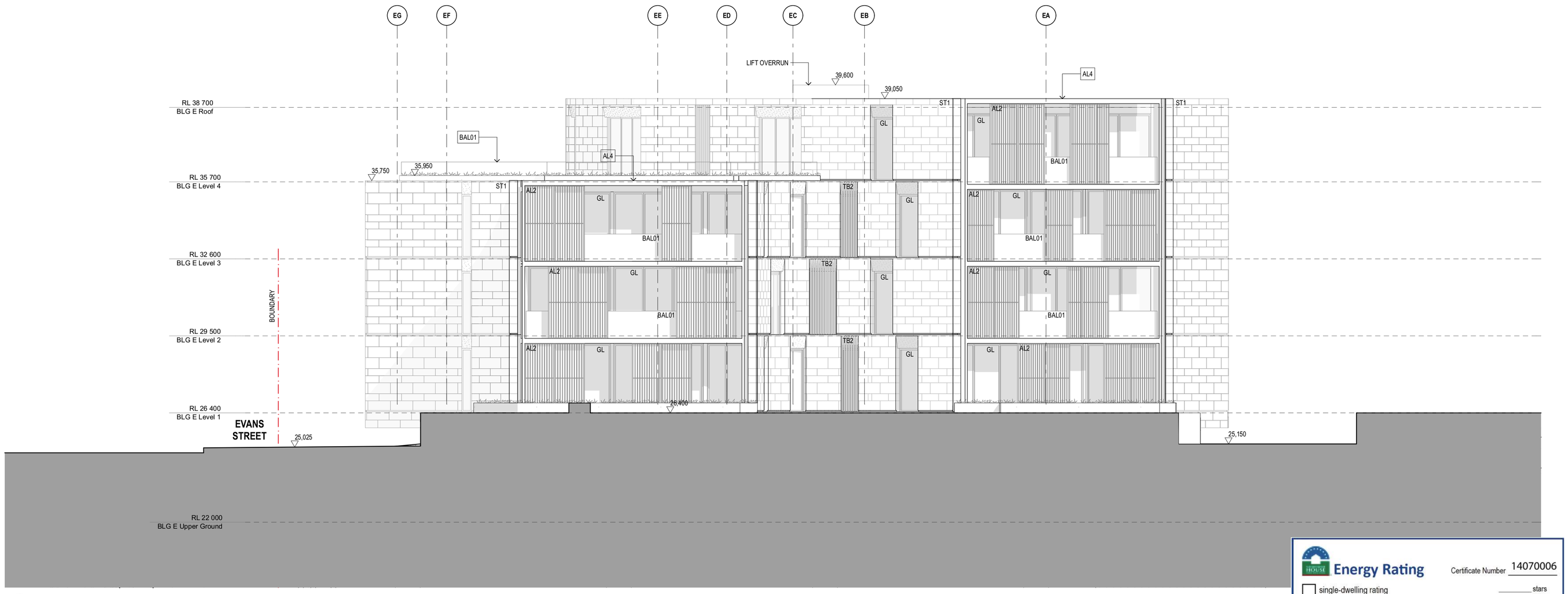
project
Harbord Diggers
80 Evans Street Freshwater

drawing
Elevations - Building D - Sheet 2

scale	1:100 at A1	status	drawing no.
drawn	MT		**A2141**
checked	MC & TR	issue	
project no	AR-140132 CRF-1354		**D**



1 Building E - Elevation E1
Scale 1:100



2 Building E - Elevation E2
Scale 1:100

Energy Rating Certificate Number 14070006

- ☐ single-dwelling rating ____ stars
- ☒ multi-unit development (attach listing of ratings) *If selected, data specified is the average across the entire development.* heating ____ MJ/m² cooling ____ MJ/m²

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

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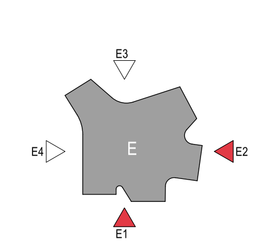
issue	amendment	date
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C	ISSUED FOR COORDINATION FOR 100% DD	24.04.2015
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FINISHES LEGEND

AL1	DARK BRONZE ANODISED ALUMINUM WINDOW FRAMES
AL2	DARK BRONZE ANODISED ALUMINUM VERTICAL OPERABLE SLIDING SCREENS
AL3	DARK BRONZE ANODISED ALUMINUM VERTICAL BATTENS
AL4	DARK BRONZE ANODISED ALUMINUM EDGE CLADDING
BAL01	LOW IRON FRAMELESS BALUSTRADE
AF	VERTICAL ANODISED ALUMINIUM FENCE
CONG1	SEALED CONCRETE
CONG2	PRECAST CONCRETE FINISH
CP1	CARPET TYPE 1 (APARTMENTS)
CP2	CARPET TYPE 2 (LOBBY)
P1	PAINTED CONCRETE FINISH 1
P2	PAINTED CONCRETE FINISH 2
ST1	STONE CLADDING
TB1	SLIDING VERTICAL TIMBER BATTENS
TB2	FIXED VERTICAL TIMBER BATTENS
TB3	SOLID TIMBER CLADDING
TB4	TIMBER FENCE
TB5	FIREWOOD BATTEN SOFFIT
T1	300 X 600 FLOOR TILE (INTERNAL)
T2	300 X 600 BALCONY FLOOR TILE (EXTERNAL)
T3	300X300 WALL TILE
T4	300 X 100 WALL TILE
T5	STAIR TREAD (WITH CONTRASTING NOSING)
T6	DARK GRANITE PAVERS (EXTERNAL)
T7	TERRACE FLOOR TILE (EXTERNAL)
T8	LIGHT GRANITE PAVERS (EXTERNAL)
T9	DARK GRANITE PAVERS (EXTERNAL) - TRAFFICABLE
RF501	PEBBLE ROOF
RL01	ROOF LIGHT
ARB	ADAPTIVE REUSE SLAB
RO	ROOF OUTLET
FU	EXHAUST FAN UNIT
VS	VENTILATION STACK
BR	BROK
PBLT	PEBBLES TYPE 1
HR1	TIMBER HANDRAIL
FM1	INTEGRATED FLOOR MAT - APARTMENTS
FM2	INTEGRATED FLOOR MATS - MAIN LOBBY
OF	OVER FLOW
ME	MECHANICAL EXHAUST
KE	KITCHEN EXHAUST
TE	TOILET EXHAUST
COL	STEEL COLUMN
GL1	GLASS BALUSTRADE
GL2	SLIDING GLASS DOORS
GL2	FRAMELESS GLASS BIFOLD
GL3	SPANDREL GLASS

GL - GLASS

- All WG frameless glass bifold doors
- All balcony, roof terrace and ground floor terrace glass sliding doors
- Full height windows behind aluminium screens, colourback spandrel glass



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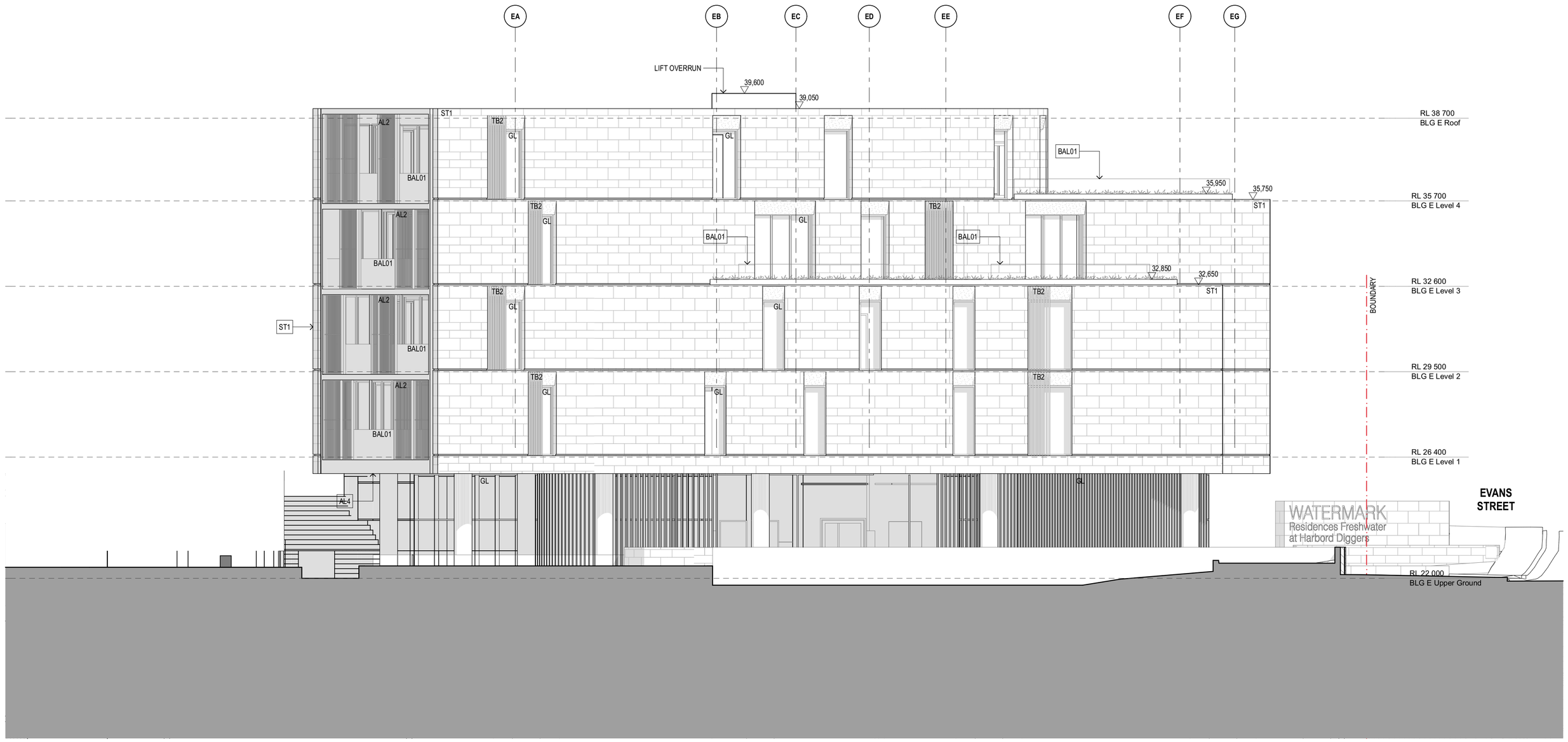
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DESIGN DEVELOPMENT

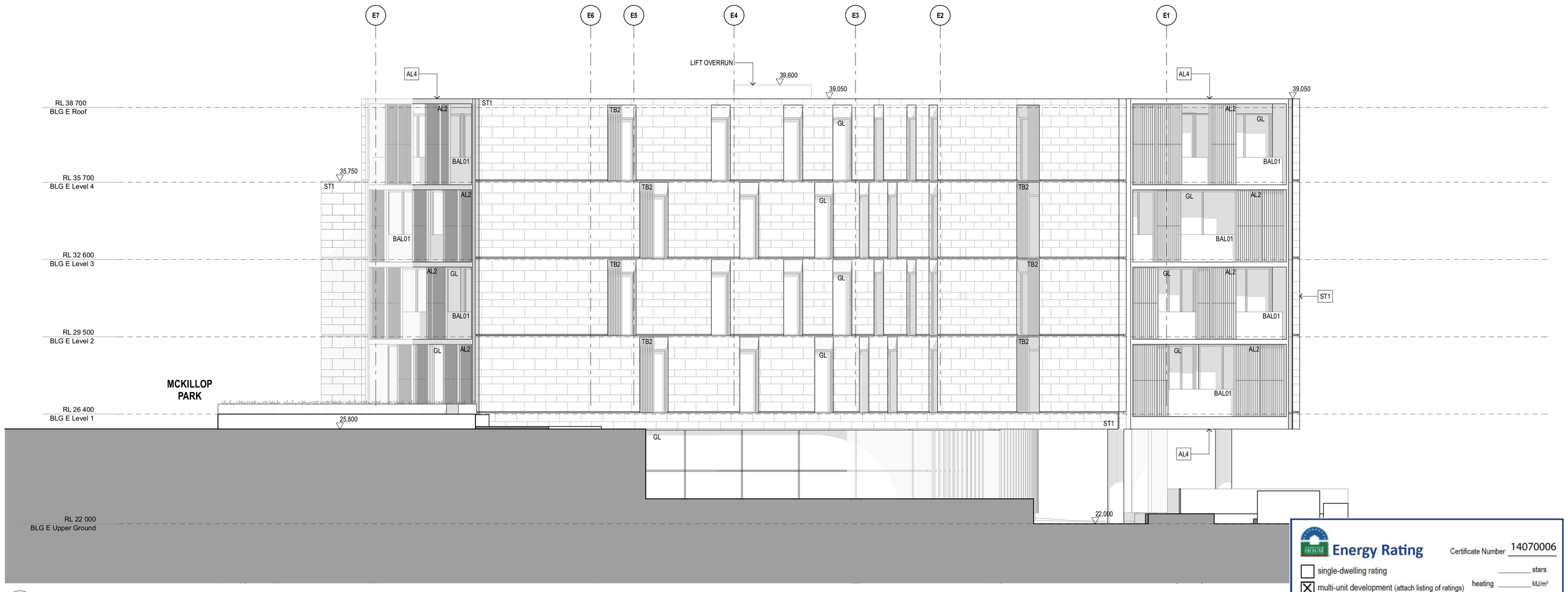
project
Harbord Diggers
80 Evans Street Freshwater

drawing
Elevations - Building E - Sheet 1

scale	1:100 at A1	status	drawing no.
drawn	MT		**A2150**
checked	MC & TR	issue	
project no	AR-140132 CRF-1354		**D**



1 Building E - Elevation E4
Scale 1:100



2 Building E - Elevation E3
Scale 1:100

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D	100% DESIGN DEVELOPMENT	30.04.2015

FINISHES LEGEND

AL1	DARK BRONZE ANODISED ALUMINUM WINDOW FRAMES
AL2	DARK BRONZE ANODISED ALUMINUM VERTICAL OPERABLE SLIDING SCREENS
AL3	DARK BRONZE ANODISED ALUMINUM VERTICAL BATTENS
AL4	DARK BRONZE ANODISED ALUMINUM EDGE CLADDING
BAL01	LOW IRON FRAMELESS BALUSTRADE
AF	VERTICAL ANODISED ALUMINIUM FENCE
CON01	SEALED CONCRETE
CON02	PRECAST CONCRETE FINISH
CP1	CARPET TYPE 1 (APARTMENTS)
CP2	CARPET TYPE 2 (APARTMENTS)
CP3	CARPET TYPE 2 (LOBBY)
P1	PAINTED CONCRETE FINISH 1
P2	PAINTED CONCRETE FINISH 2
ST1	STONE CLADDING
TB1	SLIDING VERTICAL TIMBER BATTENS
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TB3	SOLID TIMBER CLADDING
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RF501	PEBBLE ROOF
RL01	ROOF LIGHT
ARB	ADAPTIVE REUSE SLAB
RO	ROOF OUTLET
FU	EXHAUST FAN UNIT
VS	VENTILATION STACK
BR	BROK
PBLT	PEBBLES TYPE 1
HR1	TIMBER HANDRAIL
FM1	INTEGRATED FLOOR MAT - APARTMENTS
FM2	INTEGRATED FLOOR MATS - MAIN LOBBY
OF	OVER FLOW
ME	MECHANICAL EXHAUST
KE	KITCHEN EXHAUST
TE	TOILET EXHAUST
COL	STEEL COLUMN
GL1	GLASS BALUSTRADE
GL2	SLIDING GLASS DOORS
GL2	FRAMELESS GLASS BIFOLD
GL3	SPANDREL GLASS

GL - GLASS

- All WG frameless glass bifold doors
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- Full height windows behind aluminium screens, colourback spandrel glass

Energy Rating — Certificate Number 14070006

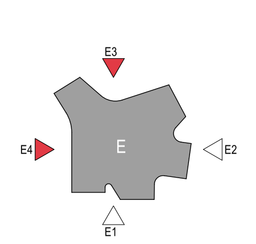
☐ single-dwelling rating _____ stars

☒ multi-unit development (attach listing of ratings) — heating _____ MJ/m² — cooling _____ MJ/m²
If selected, data specified is the average across the entire development

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

Assessor Signature _____ Date 24/06/15



client

harbord diggers
mountiesgroup

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sydney@architectus.com.au

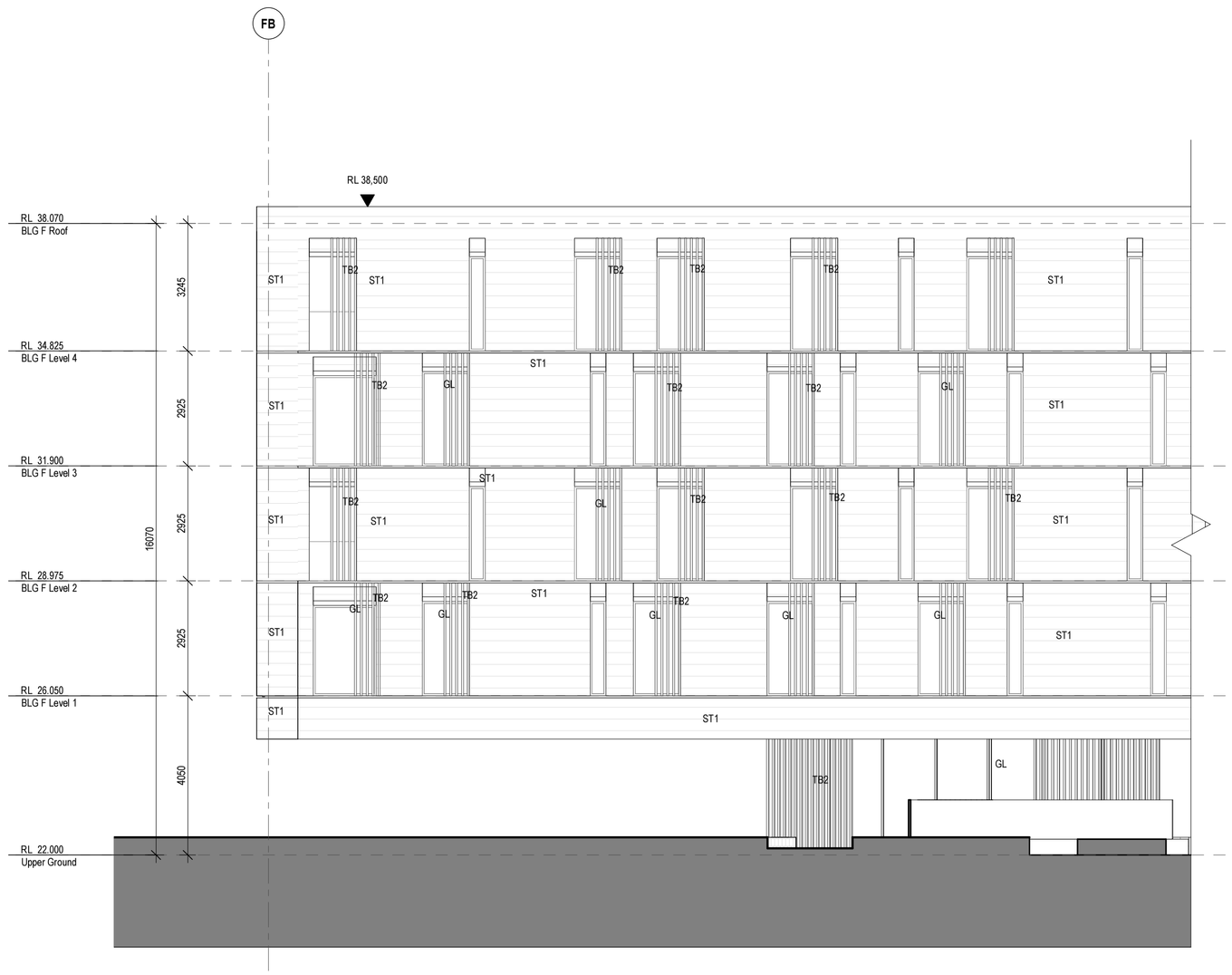
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sydney@chrofi.com

DESIGN DEVELOPMENT

project
Harbord Diggers
80 Evans Street Freshwater

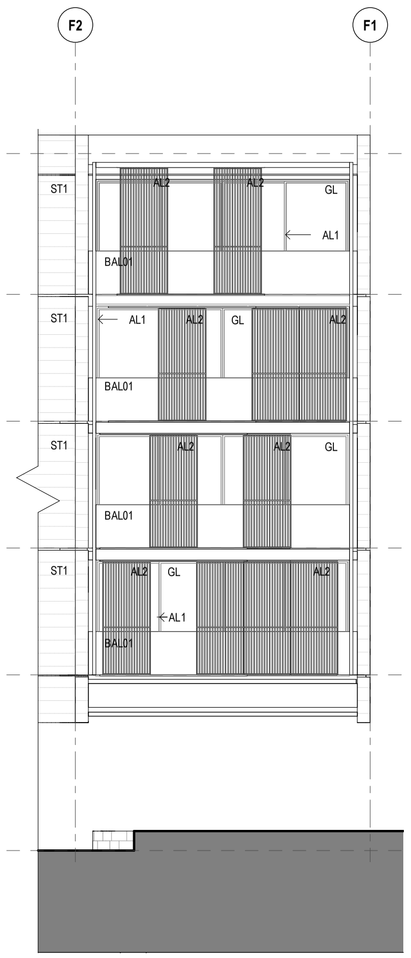
drawing
Elevations - Building E - Sheet 2

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drawn	MT		**A2151**
checked	MC & TR	issue	
project no	AR-140132 CRF-1354		**D**



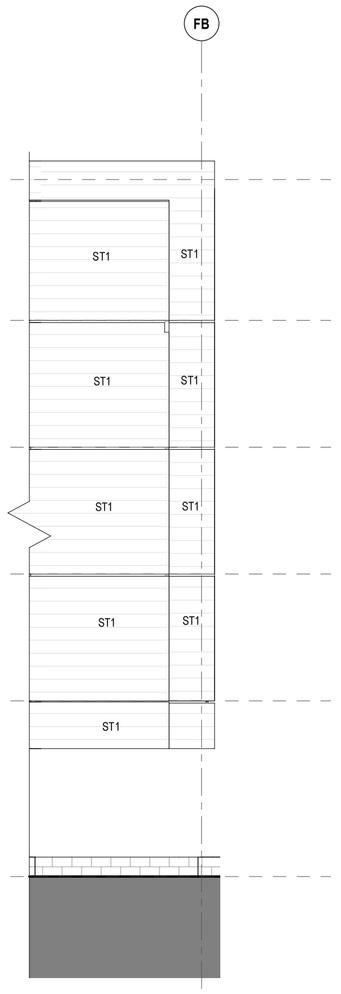
1 Building F Elevation F1

1 : 100



2 Building F Elevation F2

1 : 100



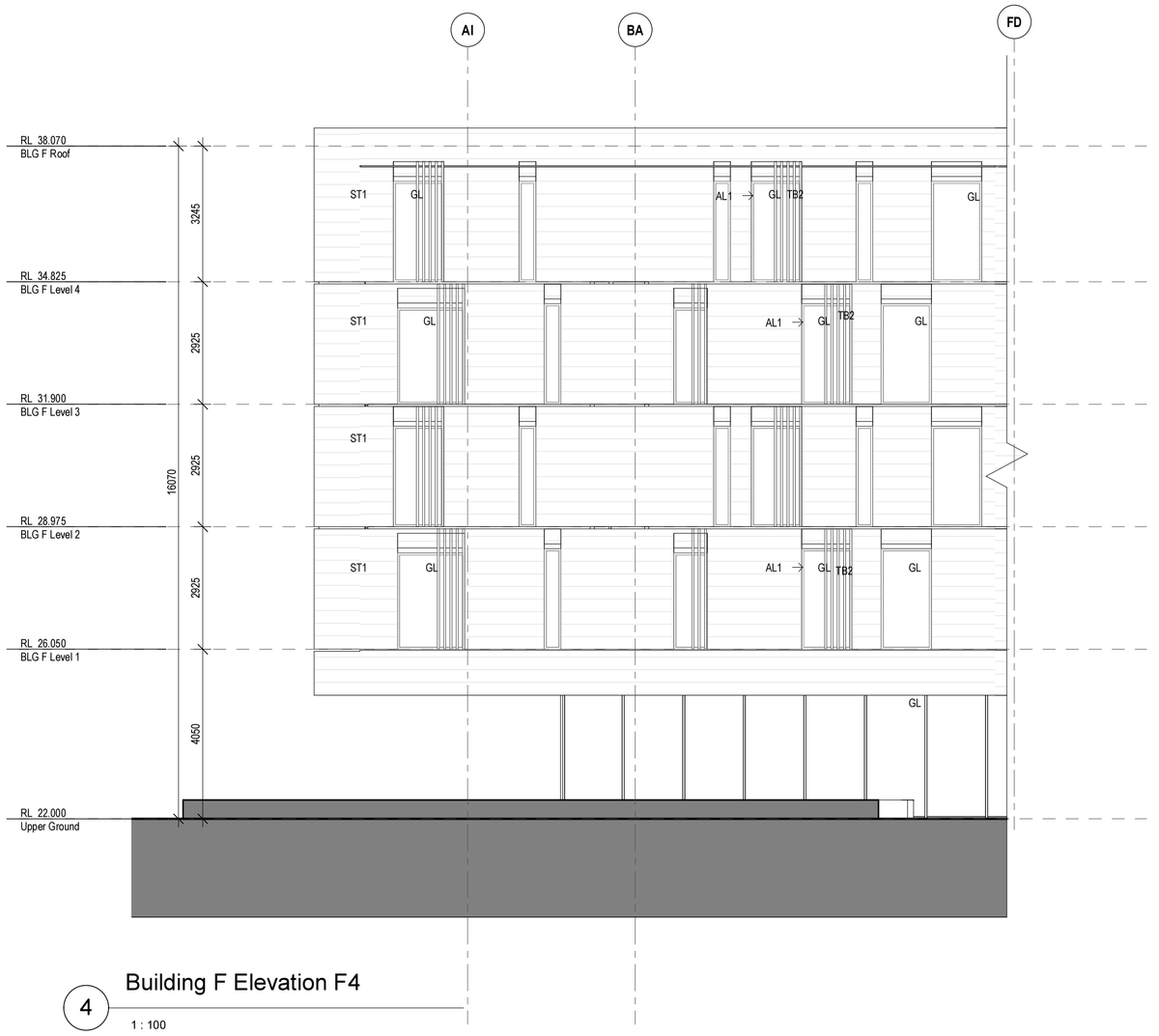
3 Building F Elevation F3

1 : 100

FINISHES LEGEND

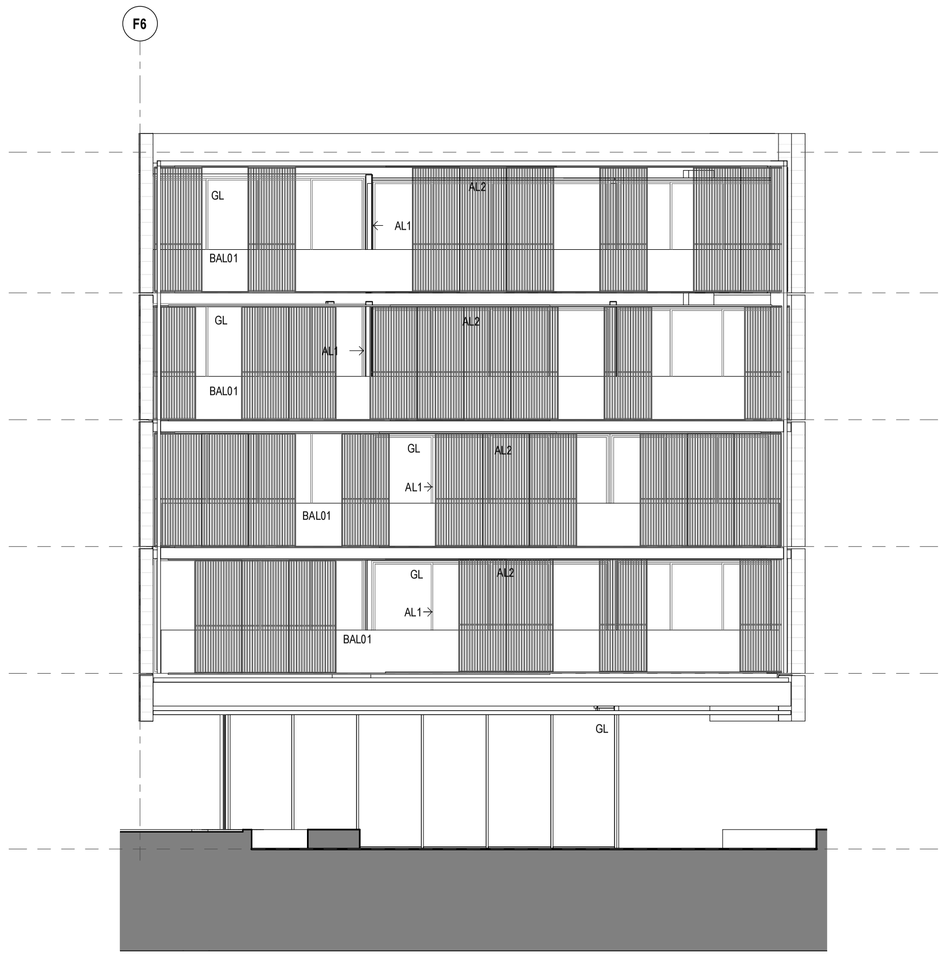
AL1	DARK BRONZE ANODISED ALUMINUM WINDOW FRAMES
AL2	DARK BRONZE ANODISED ALUMINUM VERTICAL OPERABLE SLIDING SCREENS
AL3	DARK BRONZE ANODISED ALUMINUM VERTICAL BATTENS
AL4	DARK BRONZE ANODISED ALUMINUM EDGE CLADDING
BAL01	LOW IRON FRAMELESS BALUSTRADE
AF	VERTICAL ANODISED ALUMINIUM FENCE
CON01	SEALED CONCRETE
CON02	PRECAST CONCRETE FINISH
CON03	UNSEALED CONCRETE
CP1	CARPET TYPE 1 (APARTMENTS)
CP2	CARPET TYPE 2 (LOBBY)
P1	PAINTED CONCRETE FINISH 1
P2	PAINTED CONCRETE FINISH 2
ST1	STONE CLADDING
TB1	SLIDING VERTICAL TIMBER BATTENS
TB2	FIXED VERTICAL TIMBER BATTENS
TB3	SOLID TIMBER CLADDING
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TB5	FIREWOOD BATTEN SOFFIT
T1	300 X 600 FLOOR TILE (INTERNAL)
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T8	LIGHT GRANITE PAVERS (EXTERNAL)
T9	DARK GRANITE PAVERS (EXTERNAL) - TRAFFICABLE
RFS01	PEBBLE ROOF
RL01	ROOF LIGHT
ARS	ADAPTIVE REUSE SLAB
RO	ROOF OUTLET
FU	EXHAUST FAN UNIT
VS	VENTILATION STACK
BR	BRICK
PBL1	PEBBLES TYPE 1
HR1	TIMBER HANDRAIL
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COL	STEEL COLUMN
PB1	PLASTERBOARD CEILING
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GL	GLASS

- All WG frameless glass bifold doors
- All balcony, roof terrace and ground floor terrace glass sliding doors
- Full height windows behind aluminium screens, colourback spandrel glass



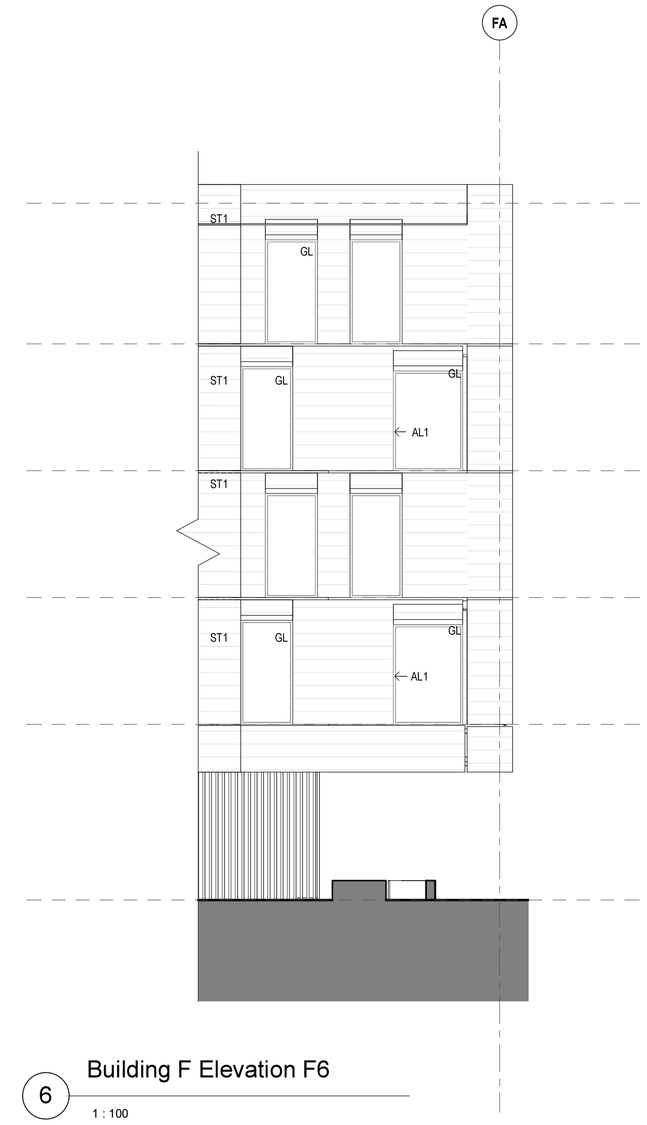
4 Building F Elevation F4

1 : 100



5 Building F Elevation F5

1 : 100



6 Building F Elevation F6

1 : 100

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Do not scale drawings. Verify all dimensions on site

issue	amendment	date
A	ISSUED FOR INFORMATION	26.03.2015
B	ISSUED FOR COORDINATION FOR 100% DD	24.04.2015
C	100% DESIGN DEVELOPMENT	30.04.2015

Energy Rating Certificate Number 14070006

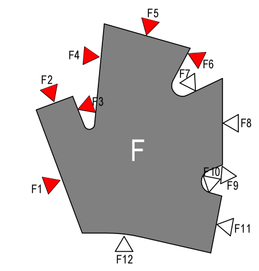
☐ single-dwelling rating _____ stars

☒ multi-unit development (attach listing of ratings) heating _____ MJ/m²
If selected, data specified is the average across the entire development cooling _____ MJ/m²

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

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project

Harbord Diggers
80 Evans Street Freshwater

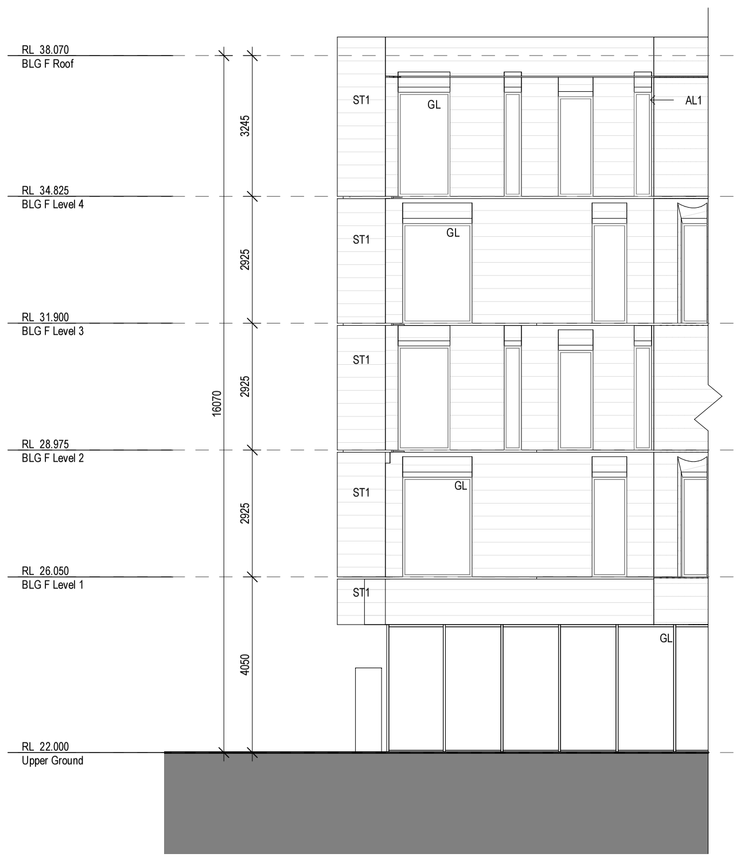
drawing

Elevations - Building F - Sheet 1

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drawn	PW		**A2160**
checked	MC & TR	issue	
project no	AR-140132 CRF-1354		**C**

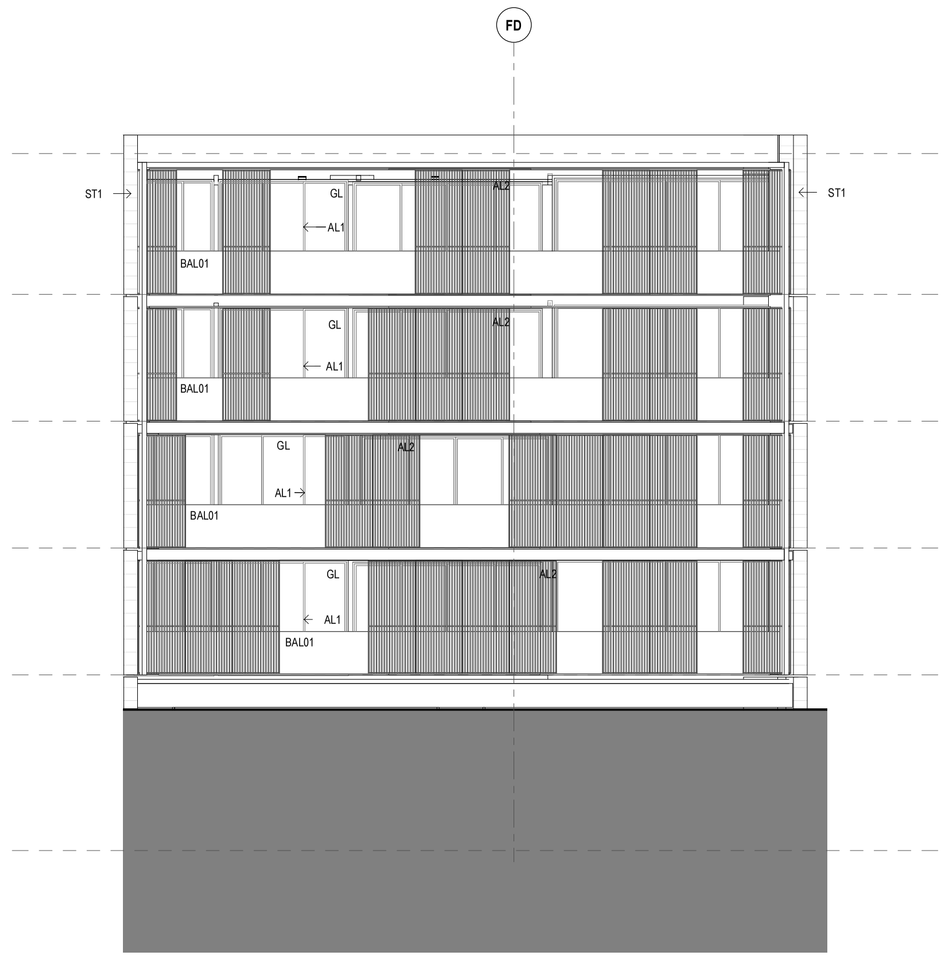
DESIGN DEVELOPMENT

1/05/2015 6:09:06 PM



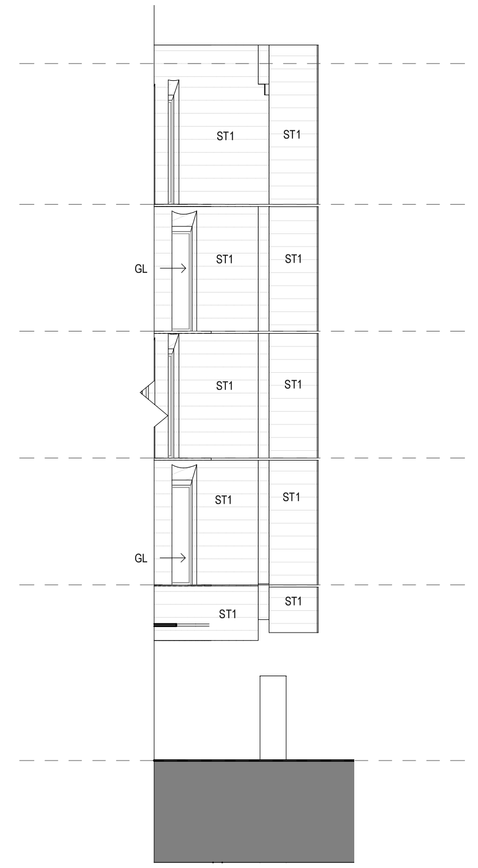
2 Building F Elevation F7

1 : 100



3 Building F Elevation F8

1 : 100



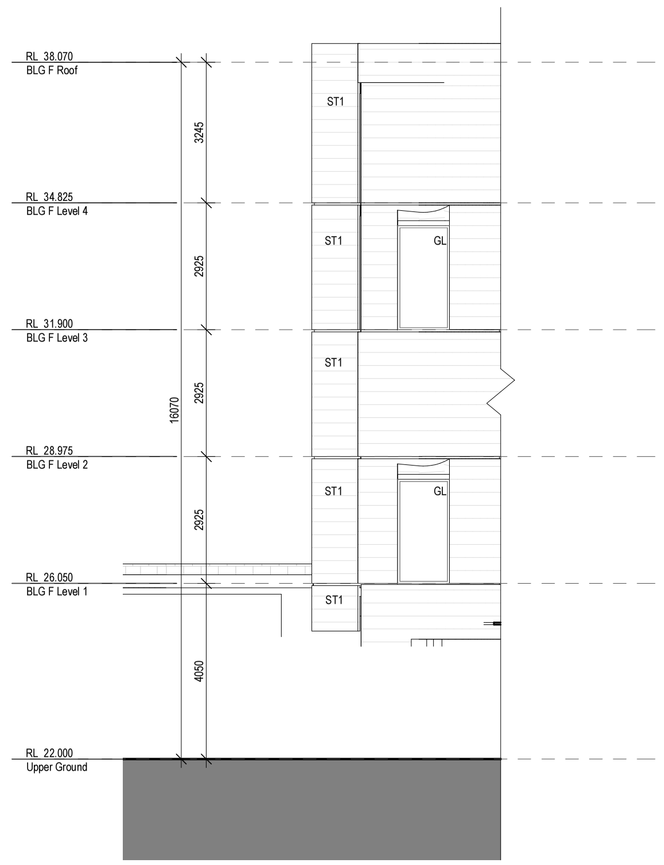
4 Building F Elevation F9

1 : 100

FINISHES LEGEND

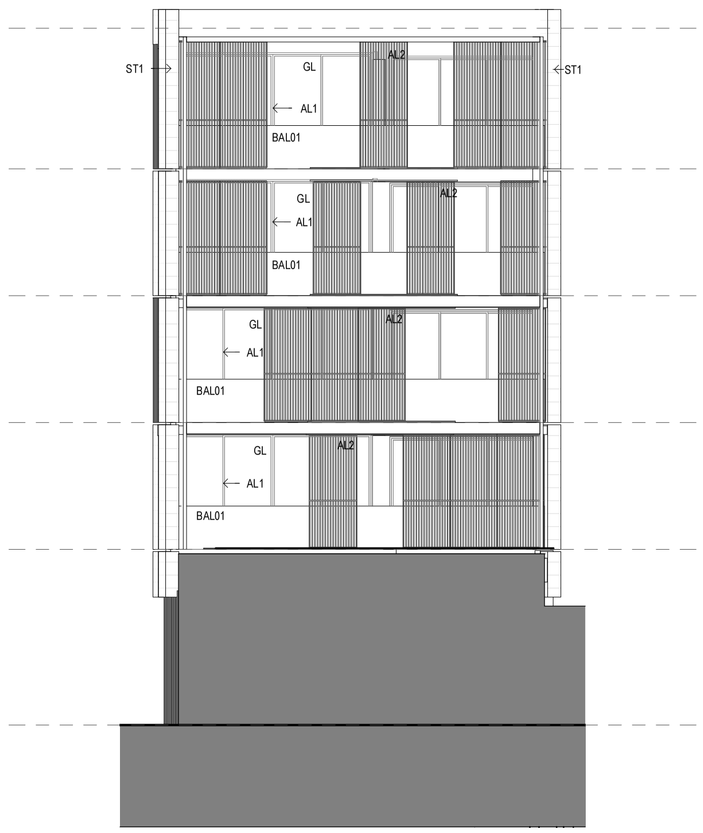
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RO	ROOF OUTLET
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OF	OVER FLOW
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COL	STEEL COLUMN
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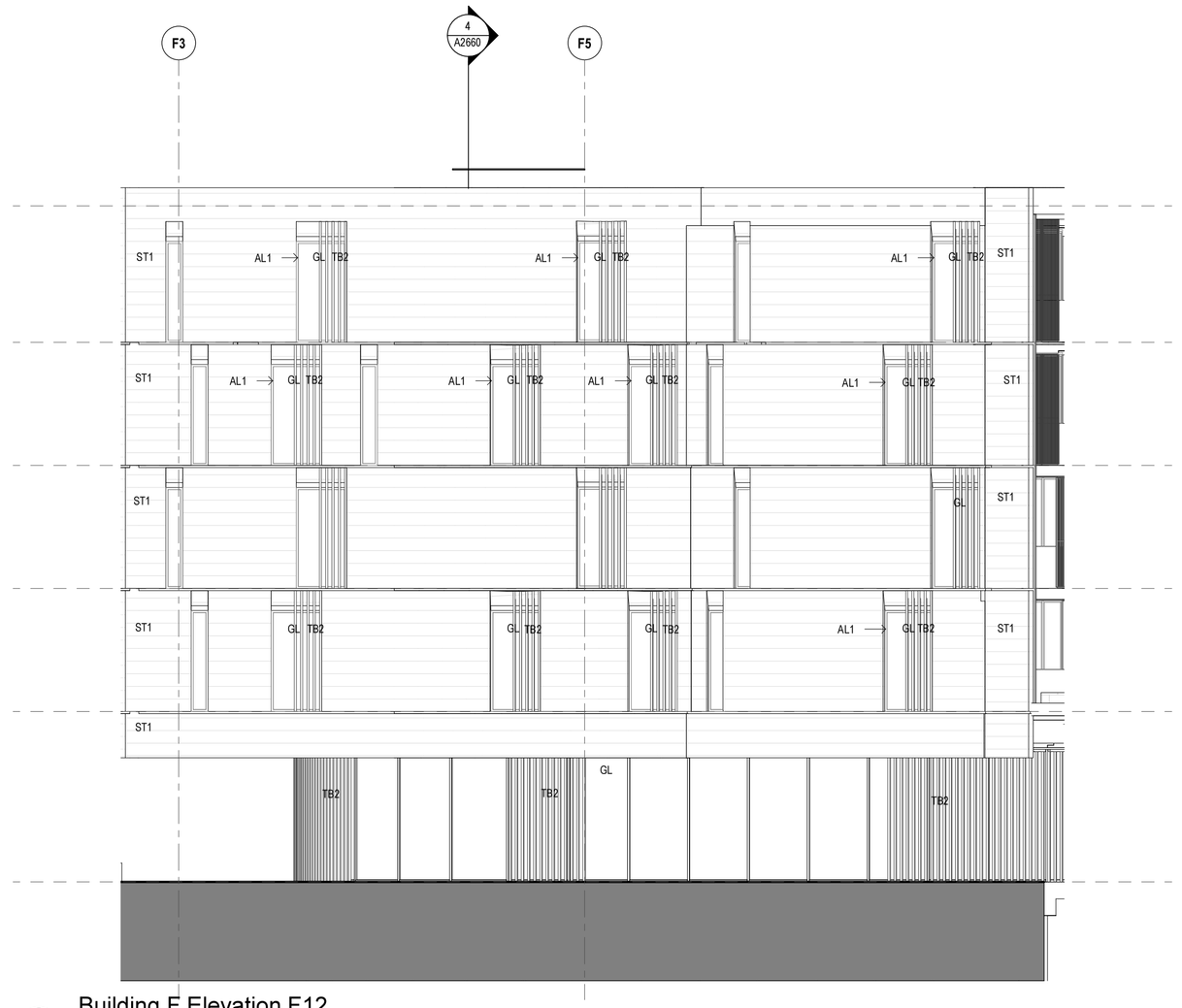
5 Building F Elevation F10

1 : 100



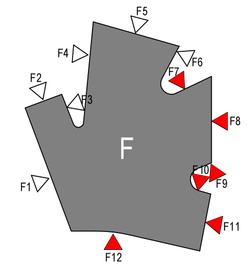
6 Building F Elevation F11

1 : 100



1 Building F Elevation F12

1 : 100



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C	100% DESIGN DEVELOPMENT	30.04.2015

Energy Rating Certificate Number 14070006

☐ single-dwelling rating _____ stars

☒ multi-unit development (attach listing of ratings) heating _____ MJ/m²
If selected, data specified is the average across the entire development cooling _____ MJ/m²

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

Assessor Signature _____ Date 24/06/15

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project

Harbord Diggers
80 Evans Street Freshwater

drawing

Elevations - Building F - Sheet 2

scale	1 : 100 at A1	status	drawing no.
drawn	PW		**A2161**
checked	MC & TR	issue	
project no	AR-140132 CRF-1354		**C**

DESIGN DEVELOPMENT

1/05/2015 6:09:13 PM

Energy Rating Certificate Number 14070006

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Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

Assessor Signature _____ Date 24/06/15

CUNDALL

NatHERS Thermal Performance Certificate

Project Location	Harbord Diggers 80 Evans Street Freshwater
Accredited Assessor	Patrick Phelan
Organisation	Cundall
Date	24/06/15

Building Element	**Construction**
Overhangs and Shading	As per architectural drawings and elevations
External Wall	Concrete masonary wall with insulation R-Value 2.5
Internal Walls to Unconditioned	Concrete masonary wall with insulation R-Value 2.5
Internal Walls	Plasterboard
Exposed Roof	Concrete insulation R-Value 3.0
Roof With Balcony Above	Concrete with R-Value 2.0
Floor	200mm concrete and carpet / tile
Floor Above Unconditioned (E.g. Car Park Ceiling)	200mm concrete with insulation R-Value 1.5
Ceiling	Sustpended slab
Windows and Other Glazed Elements	Three types of glazing as per stamped drawings: - Aluminium Double Glazed Air Fill Low E (U=4.3, SHGC=0.47) - Aluminium Double Glazed Air Fill Clear-Clear (U=4.8, SHGC=0.59) - Aluminimium Single Glazed Clear (U=6.7, SHGC=0.7)
Ceiling Penetrations	Exaust fans in kitchen/living and bathroom spaces Downlights as per default NatHERS requirements

Energy Rating Certificate Number 14070006

☐ single-dwelling rating _____ stars

☒ multi-unit development (attach listing of ratings) heating _____ MJ/m²
If selected, data specified is the average across the entire development cooling _____ MJ/m²

Recessed downlights confirmation: ☒ Rated with ☐ Rated without

Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407

Assessor Signature _____ Date 24/06/15

Cundall Results

Unit Number	Heating	Cooling	Star Rating
A-001	16.2	13.2	7.7
A-002	7.4	13.1	8.4
A-003	18.4	14.8	7.4
A-004	24.3	12.8	7.1
A-005	35.3	11.7	6.3
A-006	40.8	10.9	5.9
A-101	30	9.7	6.9
A-102	14.8	8.4	8.3
A-103	20.8	14	7.3
A-104	30.7	9.7	6.8
A-105	38.9	11.4	6
A-106	38.9	11.1	6
A-201	24.8	15.6	6.9
A-202	42.2	27.4	4.6
A-203	33	13.3	6.4
A-204	40	13.4	5.8
A-205	52.5	13	5
A-206	47.3	11.9	7
B-001	39.8	10	6.1
B-002	19.5	11.5	7.5
B-003	10.6	9.5	5.8
B-004	46	12.4	5.4
B-005	18.8	14.9	7.4
B-006	59	12	4.7
B-101	20.2	9.3	7.7
B-102	17.1	14.1	7.5
B-103	19.6	10.7	7.6
B-104	36.9	13.2	4.4
B-105	19.6	12	7.5
B-106	61.5	11.3	4.6
B-201	25.3	15.9	6.9
B-202	27.6	25.1	5.8
B-203	22.1	20.6	6.8
B-204	35.3	18.1	5.8
B-205	28.8	19.3	6.2
B-206	59.9	12.2	4.7
C101	29.4	11	6.9
C102	28.4	8.6	7.2
C103	54.4	13.6	4.9
D_001	34.9	7.9	6.7
D_002	32.5	15.4	6.2
D_003	19.5	13.6	7.4
D_004	19	9	7.9
D_005	20.6	15.1	7.2
D_006	20.7	11.7	7.4
D_007	22.8	8.9	7.9
D_008	46	11.8	5.5
D_009	46.8	17.1	5.1
D_101	30.5	8.9	6.9
D_102	17.5	15.1	7.4
D_103	15.2	17.3	7.4
D_104	6.9	11.7	6.4
D_105	4.3	6.9	9.3
D_106	7.5	10.5	8.7
D_107	16.2	11.9	7.8
D_108	23.2	16.7	7.4
D_109	17.5	8.4	8
D_202	23.5	21.3	6.5
D_203	25.3	20.2	6.4
D_204	36.9	18.2	6.8
D_205	33.1	14.5	6.4
D_206	23.2	23.4	7.1
D_207	34.2	21.3	7.3
E_101	16.5	8.8	8.0

Energy Rating
Certificate Number 14070006
☐ single-dwelling rating ____ stars
☒ multi-unit development (attach listing of ratings) heating ____ MJ/m²
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Assessor Name/Number Patrick Phelan VIC/BDAV/12/1407
Assessor Signature ____ Date 24/06/15

E_102	14.7	12.5	7.9
E_103	28.4	16.1	6.8
E_104	36.9	9.3	6.4
E_105	42.3	15.2	5.5
E_201	4.9	7.9	9.1
E_202	13.5	11.6	8.1
E_203	16.8	16.2	7.4
E_204	34.5	9.1	6.6
E_205	45	18.4	5.2
E_301	18	10.9	7.9
E_302	22.3	12.1	7.3
E_303	22.3	15.3	7.1
E_304	31	11.7	6.7
E_401	24.8	11.7	7.2
E_402	32	14.6	6.4
E_403	17.9	12.4	7.7
F-101	34.3	7.7	6.8
F-102	14.7	7.3	8.3
F-103	32.4	8.5	6.8
F-104	51.2	10.1	5.3
F-201	16.3	8.3	8.1
F-202	27.7	9.6	7.1
F-203	33.2	8.4	6.8
F-204	36.9	9.5	6.4
F-301	16.6	8.1	8.1
F-302	25.0	9.2	7.3
F-303	34.1	8.3	6.7
F-304	36.9	9.8	6.3
F-401	27.3	12.5	6.9
F-402	34.7	12.2	6.3
F-403	43.9	11.8	5.7
F-404	45.1	13.7	5.4