

# BASIX<sup>®</sup>Certificate

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

## Multi Dwelling

Certificate number: 1132917M

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 10/09/2020 published by the Department. This document is available at [www.basix.nsw.gov.au](http://www.basix.nsw.gov.au)

Secretary




Date of issue: Monday, 08 March 2021

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



Planning,  
Industry &  
Environment



Project summary		
Project name	4309 Elanora Shoptop Housing - Grant	
Street address	51 Kalang Road Elanora 2101	
Local Government Area	Northern Beaches Council	
Plan type and plan number	deposited 528120	
Lot no.	2	
Section no.	-	
No. of residential flat buildings	1	
No. of units in residential flat buildings	5	
No. of multi-dwelling houses	0	
No. of single dwelling houses	0	
Project score		
Water	 41	Target 40
Thermal Comfort	 Pass	Target Pass
Energy	 35	Target 35

### Certificate Prepared by

Name / Company Name: Victor Lin & Associates Pty Ltd

ABN (if applicable): 34097383821

# Description of project

## Project address

Project name	4309 Elanora Shoptop Housing - Grant
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## Project type

No. of residential flat buildings	1
No. of units in residential flat buildings	5
No. of multi-dwelling houses	0
No. of single dwelling houses	0

## Site details

Site area (m²)	661.7
Roof area (m²)	219
Non-residential floor area (m²)	197.0
Residential car spaces	7
Non-residential car spaces	7




## Common area landscape

Common area lawn (m²)	141.5
Common area garden (m²)	0.0
Area of indigenous or low water use species (m²)	-

## Assessor details

Assessor number	DMN/19/1894
Certificate number	0005753880
Climate zone	56
Ceiling fan in at least one bedroom	No
Ceiling fan in at least one living room or other conditioned area	No

## Project score

Water	 41	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 - Building1, 5 dwellings, 4 storeys above ground

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
1.1	1	44.0	7.0	0.0	-
2.2	2	57.0	5.0	0.0	-

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
1.2	1	55.0	8.0	0.0	-

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
1.3	3	89.0	5.0	0.0	-

Dwelling no.	No. of bedrooms	Conditioned floor area (m <sup>2</sup> )	Unconditioned floor area (m <sup>2</sup> )	Area of garden & lawn (m <sup>2</sup> )	Indigenous species (min area m <sup>2</sup> )
2.1	2	76.0	5.0	0.0	-

## Description of project

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

### Common areas of unit building - Building1

Common area	Floor area (m²)
Car park area	382.0
Garbage room	12.0
Ground floor lobby	39.0

Common area	Floor area (m²)
Lift car (No.1)	-
Plant room	11.0
Hallway/lobby	44.0

Common area	Floor area (m²)
Lift motor room	5.0
Cleaner	3.5



# Schedule of BASIX commitments

## 1. Commitments for Residential flat buildings - Building1

### (a) Dwellings

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

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

- (i) Water
- (ii) Energy

## 2. Commitments for multi-dwelling houses

## 3. Commitments for single dwelling houses

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

- (i) Water
- (ii) Energy

## Schedule of BASIX commitments

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

### 1. Commitments for Residential flat buildings - Building1

#### (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	4 star (> 6 but <= 7.5 L/min)	4 star	4 star	5 star	no	2.5 star	3 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	gas storage 5 star	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	manual switch on/off	individual fan, ducted to façade or roof	interlocked to light

Dwelling no.	Cooling		Heating		Artificial lighting						Natural lighting	
	living areas	bedroom areas	living areas	bedroom areas	No. of bedrooms &/or study	No. of living &/or dining rooms	Each kitchen	All bathrooms/toilets	Each laundry	All hallways	No. of bathrooms &/or toilets	Main kitchen
1.2	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.5 - 4.0 (zoned)	1-phase airconditioning EER 3.5 - 4.0 (zoned)	1	1	yes	yes	yes	yes	0	yes
1.3	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.5 - 4.0 (zoned)	1-phase airconditioning EER 3.5 - 4.0 (zoned)	1	1	yes	yes	yes	yes	1	no
All other dwellings	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.0 - 3.5 (zoned)	1-phase airconditioning EER 3.5 - 4.0 (zoned)	1-phase airconditioning EER 3.5 - 4.0 (zoned)	1	1	yes	yes	yes	yes	0	no

Dwelling no.	Individual pool		Individual spa		Appliances & other efficiency measures							
	Pool heating system	Timer	Spa heating system	Timer	Kitchen cooktop/oven	Refrigerator	Well ventilated fridge space	Dishwasher	Clothes washer	Clothes dryer	Indoor or sheltered clothes drying line	Private outdoor or unsheltered clothes drying line
All dwellings	-	-	-	-	gas cooktop & electric oven	3.5 star	no	3.5 star	3 star	4 star	yes	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.			

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

Dwelling no.	Thermal loads	
	Area adjusted heating load (in mJ/m <sup>2</sup> /yr)	Area adjusted cooling load (in mJ/m <sup>2</sup> /yr)
1.1	12.7	17.9
1.2	37.3	29.5
1.3	30.9	25.0
2.1	44.8	27.4
All other dwellings	36.7	28.4

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

<b>(i) Water</b>	<b>Show on DA plans</b>	<b>Show on CC/CDC plans &amp; specs</b>	<b>Certifier check</b>
(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.		✓	✓

<b>Common area</b>	<b>Showerheads rating</b>	<b>Toilets rating</b>	<b>Taps rating</b>	<b>Clothes washers rating</b>
All common areas	no common facility	4 star	4 star	no common laundry facility

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

Common area	Common area ventilation system		Common area lighting		
	Ventilation system type	Ventilation efficiency measure	Primary type of artificial lighting	Lighting efficiency measure	Lighting control system/BMS
Car park area	ventilation (supply + exhaust)	carbon monoxide monitor + 2-speed fan	fluorescent	zoned switching with motion sensor	No
Lift car (No.1)	-	-	compact fluorescent	connected to lift call button	No
Lift motor room	no mechanical ventilation	-	fluorescent	manual on / manual off	No
Garbage room	ventilation exhaust only	-	fluorescent	motion sensors	No
Plant room	ventilation supply only	thermostatically controlled	fluorescent	manual on / manual off	No
Cleaner	ventilation exhaust only	interlocked to light	fluorescent	manual on / manual off	No
Ground floor lobby	no mechanical ventilation	-	fluorescent	time clock and motion sensors	No
Hallway/lobby	no mechanical ventilation	-	fluorescent	time clock and motion sensors	No

Central energy systems	Type	Specification
Lift (No. 1)	gearless traction with V V V F motor	Number of levels (including basement): 4



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

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

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

Common area	Showerheads rating	Toilets rating	Taps rating	Clothes washers rating
All common areas	no common facility	4 star	4 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.	✓	✓	✓

## 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).

# Assessor Construction Summary

Project:	Address:	51 Kalang Road Elanora heights NSW 2101		
	Applicant:	Steve Djogo		
Contact:	Name:	James Grant		
	Contact:	<a href="mailto:james@fgarch.com.au">james@fgarch.com.au</a>		
Assessor:	Name:	Ailin Zhang	Company:	Victor Lin & Associates
	Address:	PO Box 5080. Sth Turramurra. 2074	Number:	BDAV/19/1894
	Contact:	0412-988088	Email:	<a href="mailto:ailin@linassociates.com.au">ailin@linassociates.com.au</a>

Ext. Walls:	Construction	Insulation		Colour	Details
	AFS wall system	R1.5		Med	As per plans
Int. Walls:	Construction				Details
	Plasterboard	None			As per plans
	AFS party wall system	None			Party walls
Floors:	Construction	Insulation			Details
	Concrete	None			Carpet, Tiles
Ceilings:	Construction	Insulation			Details
	Suspended Plasterboard	R3.0			Under all roofs & external ceiling with balcony above
Roof:	Construction	Insulation		Colour	Details
	Concrete	None		Med	As per plans
Windows:	Product ID	Glass	Frame	Uw/SHGCw	Window types
		Single Low E		5.60 / 0.36	Awning windows
		Double Low Solar		5.60 / 0.41	Fixed, double hung and sliding windows and doors
		Low E or equivalent		4.90 / 0.33	See table below
		(indicated as 'L')			
		Double High Solar			
		Low E or equivalent		4.30 / 0.53	See table below
	(indicated as 'H')				
Skylights:	Product ID	Glass	Frame	Uw/SHGCw	Details
	N/A				
Other:	Orientation	Terrain	Weatherseals	Climate Zone	Recessed Downlights
	15	Suburban	Yes	56	YES - SEALED TYPE ONLY
					100mm LED at 1 per 5 sqm of ceiling space

Overshadowing Details:	Other Project Building
Assessment:	Drawings: 51 Kalang Road Elanora heights NSW dwgs as stamped
	File Ref: 4309A
	Software: BERS Pro 4.4



Certification Number:	0005753880	Date:	07-March-2021
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Unit No.	Insulation Summary (refer also to table above)									
	Floor Insulation	Wall Insulation R1.5	Ceiling Insulation R3.0	Double Low E	Single Low E				SEALED Recessed Downlight	Sealed exhaust vents
1.1		X			All (L)				X	X
1.2		X	X	All (L)					X	X
1.3		X	X		All (L)				X	X
2.1		X	X	All L)					X	X
2.2		X	X	All (H)					X	X

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# Nationwide House Energy Rating Scheme — Class 2 summary

## NatHERS Certificate No. 0005753880

Generated on 08 Mar 2021 using BERS Pro v4.4.0.1 (3.21)

### Property

**Address** 51 Kalang Road , Elanora heights  
, NSW , 2101

**Lot/DP** 2/528120

**NatHERS climate zone** 56

**Accredited assessor**



Ailin Zhang

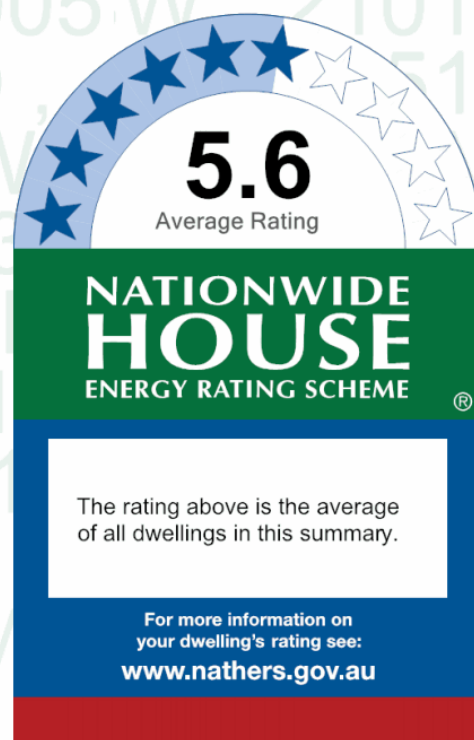
Victor Lin Associates Pty Ltd

ailin@linassociates.com.au

1800884199

**Accreditation No.** DMN/19/1894

**Assessor Accrediting Organisation** Design Matters  
National



### Verification

To verify this certificate, scan the QR code or visit [hstar.com.au/QR/Generate?p=RAwRbifEV](https://hstar.com.au/QR/Generate?p=RAwRbifEV).  
When using either link, ensure you are visiting [hstar.com.au](https://hstar.com.au)

### Summary of all dwellings

Certificate number and link	Unit Number	Heating load (MJ/m <sup>2</sup> /p.a.)	Cooling load (MJ/m <sup>2</sup> /p.a.)	Total load (MJ/m <sup>2</sup> /p.a.)	Star rating
<a href="#">0005753876</a>	1.1	12.7	17.9	30.6	7.7
<a href="#">0005753595</a>	1.2	37.3	29.5	66.8	4.9
<a href="#">0005753561</a>	1.3	30.9	25	55.9	5.7
<a href="#">0005753603</a>	2.1	44.8	27.4	72.2	4.7
<a href="#">0005753579</a>	2.2	36.7	28.4	65.1	5.1
Average		32.48	25.64	58.12	5.62

### National Construction Code (NCC) requirements

The NCC's requirements for NatHERS-rated buildings are detailed in 3.12.0(a)(i) and 3.12.5 of the NCC Volume Two. For apartments the requirements are detailed in J0.2 and J5 to J8 of the NCC Volume One.

In NCC 2019, these requirements include minimum star ratings and separate heating and cooling load limits that need to be met by buildings and apartments through the NatHERS assessment. Requirements additional to the NatHERS assessment that must also be satisfied include, but are not limited to: insulation installation methods, thermal breaks, building sealing, water heating and pumping, and artificial lighting requirements. The NCC and NatHERS Heating and Cooling Load Limits (Australian Building Codes Board Standard) are available at [www.abcb.gov.au](https://www.abcb.gov.au).

State and territory variations and additions to the NCC may also apply.

## Explanatory Notes

### About this report

This summary rating is the average rating of all NCC Class 2 dwellings in a development. The individual dwellings' ratings are a comprehensive, dynamic computer modelling evaluation of a home, using the floorplans, elevations and specifications to estimate the energy load. It addresses the building layout, orientation and fabric (i.e. walls, windows, floors, roofs and ceilings), but does not cover the water or energy use of appliances, or energy production of solar panels. For more details about an individual dwelling's assessment, refer to the individual dwelling's NatHERS Certificate (accessible via link).

### Accredited Assessors

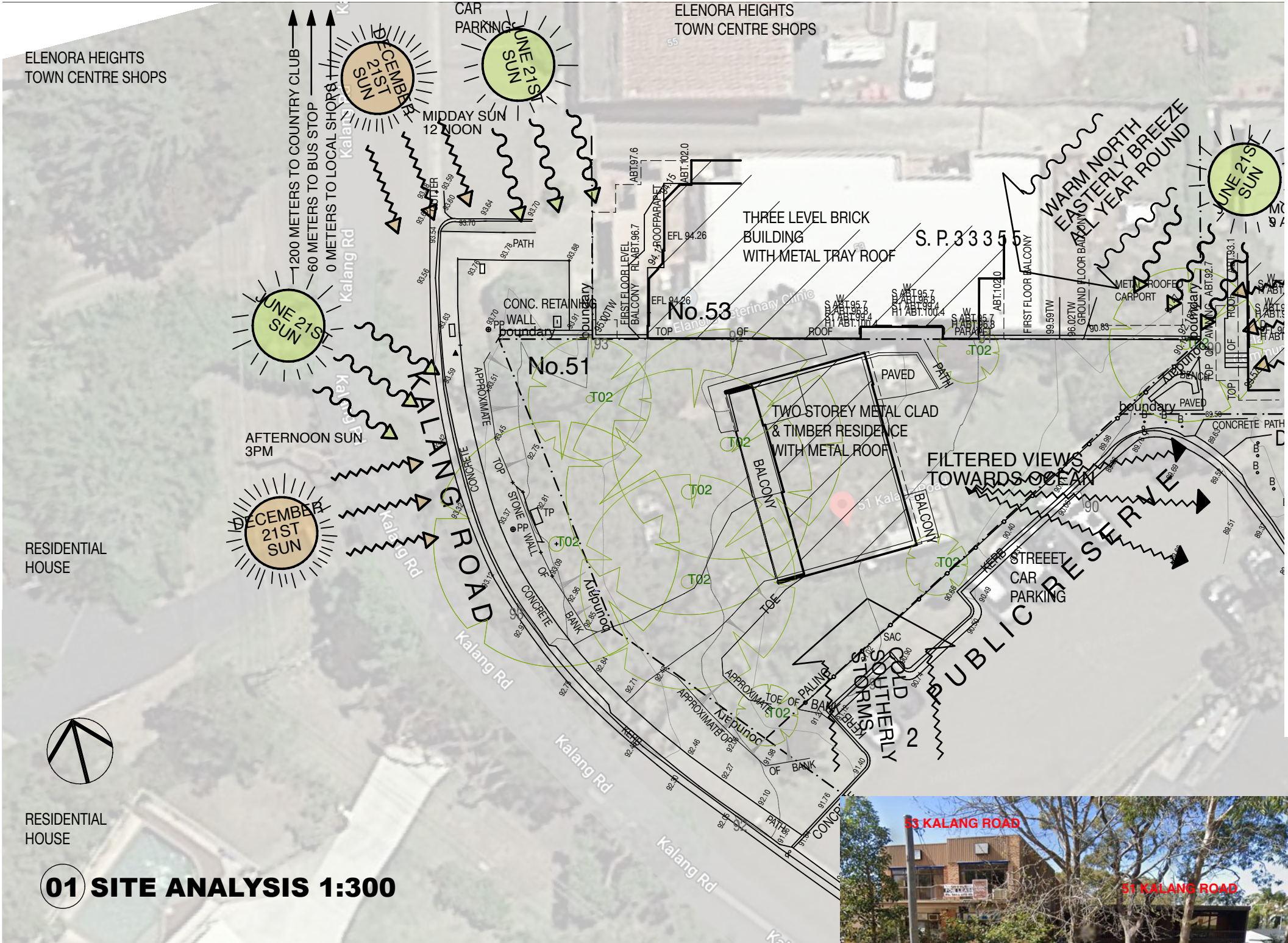
To ensure the NatHERS Certificate is of a high quality, always use an accredited or licenced assessor. NatHERS accredited assessors are members of a professional body called an Assessor Accrediting Organisation (AAO). AAOs have specific quality assurance processes in place, and continuing professional development requirements, to maintain a high and consistent standard of assessments across the country.

Any questions or concerns about this report should be directed to the assessor in the first instance. If the assessor is unable to address these questions or concerns, the AAO specified on the front of this certificate should be contacted.

### Disclaimer

The format of the NatHERS Certificate was developed by the NatHERS Administrator. However the content, input and creation of the NatHERS Certificate is by the assessor. It is the responsibility of the assessor who prepared this certificate to use NatHERS accredited software correctly and follow the NatHERS Technical Notes to produce a NatHERS Certificate.





01 SITE ANALYSIS 1:300



02 STREET VIEW



03 51 KALANG LOCATION PLAN

Assessor Construction Summary

Project:	Address:	51 Kalang Road Elenora heights NSW 2101			
	Applicant:	Steve Djogo			
Contact:	Name:	James Grant			
	Contact:	james@fgarch.com.au			
Assessor:	Name:	Ailin Zhang		Company:	Victor Lin & Associates
	Address:	PO Box 5080, 5th Turramurra. 2074		Number:	BDAV/19/1894
	Contact:	0412-988088		Email:	ailin@linassociates.com.au
Ext. Walls:	Construction	Insulation	Colour	Details	
	AFS wall system	R1.5	Med	As per plans	
Int. Walls:	Construction	Insulation	Colour	Details	
	Plasterboard	None	None	As per plans	
	AFS party wall system	None	None	Party walls	
Floors:	Construction	Insulation	Colour	Details	
	Concrete	None	None	Carpet, Tiles	
Ceilings:	Construction	Insulation	Colour	Details	
	Suspended Plasterboard	R3.0	Med	Under all roofs & external ceiling with balcony above	
Roof:	Construction	Insulation	Colour	Details	
	Concrete	None	Med	As per plans	
Windows:	Product ID	Glass	Frame	Uw/SHGCw	Window types
		Single Low E		5.60 / 0.36	Awning windows
		Double Low Solar		4.90 / 0.33	Fixed, double hung and sliding windows and doors
		Low E or equivalent (indicated as 'L')			
		Double High Solar		4.30 / 0.53	See table below
		Low E or equivalent (indicated as 'H')			
Skylights:	Product ID	Glass	Frame	Uw/SHGCw	Details
	N/A				
Other:	Orientation	Terrain	Weatherseals	Climate Zone	Recessed Downlights
	15	Suburban	Yes	56	YES - SEALED TYPE ONLY
Overshadowing Details:	Other Project Building				
Assessment:	Drawings:	51 Kalang Road Elenora heights NSW dwgs as stamped			
	File Ref:	4309A			
	Software:	BERS Pro 4.4			

Certification Number: 0005753880			Date: 07-March-2021						
Unit No.	Insulation Summary (refer also to table above)								
	Floor Insulation	Wall Insulation R1.5	Ceiling Insulation R3.0	Double Low E	Single Low E			SEALED Recessed Downlight	Sealed exhaust vents
1.1		X			All (L)			X	X
1.2		X	X	All (L)				X	X
1.3		X	X		All (L)			X	X
2.1		X	X	All (L)				X	X
2.2		X	X	All (H)				X	X

Disclaimer: By using this summary you are accepting all the terms of this disclaimer notice. While every effort is made to ensure that the content of this summary is accurate, the summary is provided "as is" and Victor Lin & Associates Pty Ltd, makes no representations or warranties in relation to the accuracy or completeness of the information found on it. In no event will Victor Lin & Associates Pty Ltd, be liable for any damages whatsoever for any differences between this summary and the NatHERS Universal Certificates that relate to this project. You accept that it is your responsibility to check the Universal Certificates and comply with any differences that may exist on those certificates.



Amendments

A ISSUED FOR DA 05/03/21

Architect

**Fortey + Grant Architecture**  
Suite 3/Level 1, 1141 Botany Lane  
Mascot NSW 2020  
mob: 0401 822 223  
email: james@fgarch.com.au  
Nominated Architect James Grant 6540

Project Details

SHOP TOP HOUSING AT

**51 KALANG ROAD  
ELENORA HEIGHTS  
NSW 2101**

This drawing should be read in conjunction with all relevant contracts, specifications, reports and drawings. All dimensions used to be figured dimensions only. Do not scale from drawings. Report any discrepancies to the Architect for a decision before proceeding with work.

Drawn	Approved	Date Printed
JG	JG	5/3/21
Job Number	2002	
Scale	As shown @ A3	

Drawing name

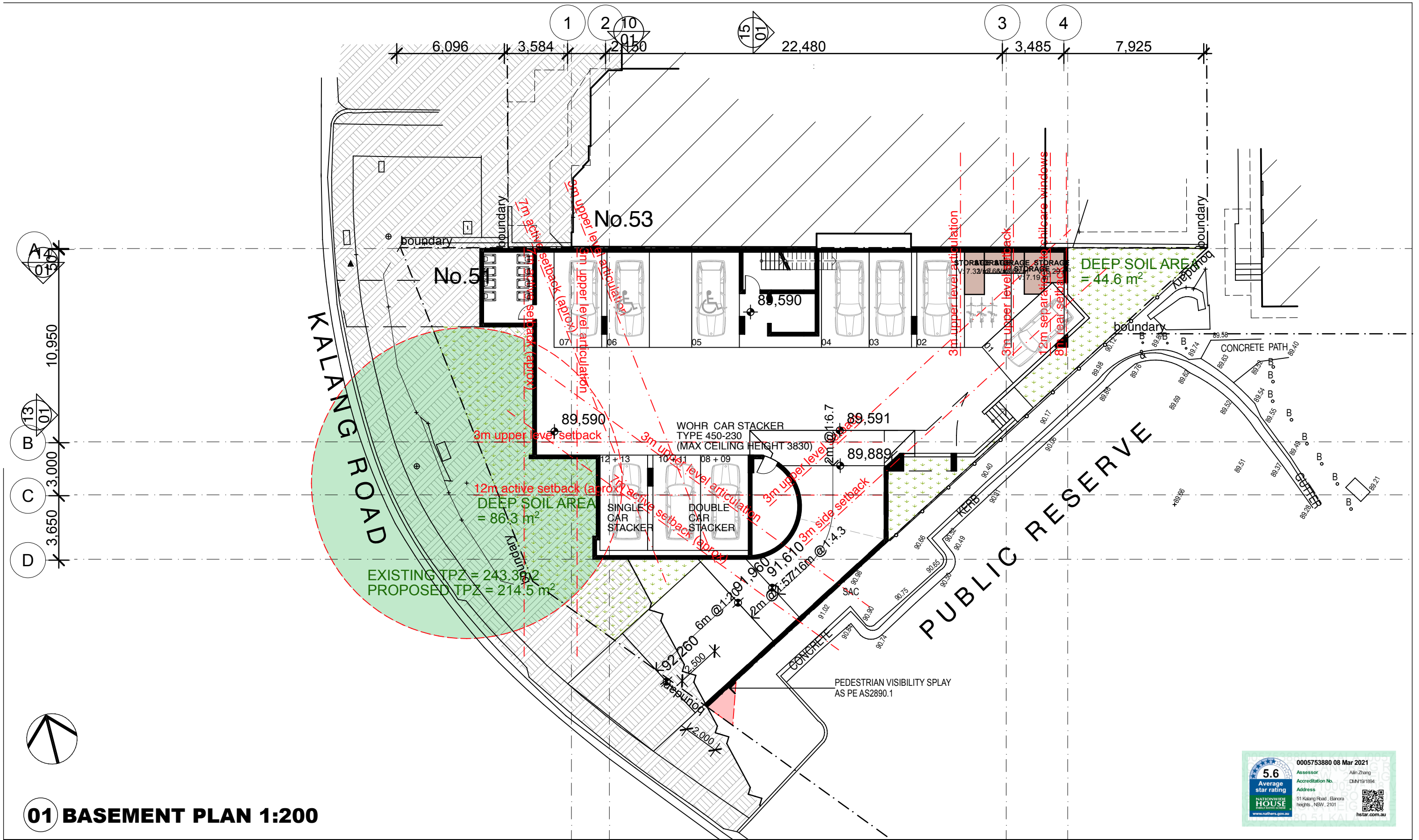
**SITE ANALYSIS**

Drawing Number  
**DA-00**

Amendment  
**A**







01 BASEMENT PLAN 1:200

Amendments		
A	ISSUED FOR DA	05/03/21

**Architect**

**Fortey + Grant Architecture**

Suite 3/Level 1, 1141 Botany Lane  
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mob: 0401 822 223  
email: james@fgarch.com.au

Nominated Architect James Grant 6540

**Project Details**

**SHOP TOP HOUSING AT**

**51 KALANG ROAD**  
**ELENORA HEIGHTS**  
**NSW 2101**

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Drawn JG	Approved JG	Date Printed 5/3/21
Job Number	2002	
Scale	As shown @ A3	

Drawing name

**BASEMENT PLAN**

Drawing Number

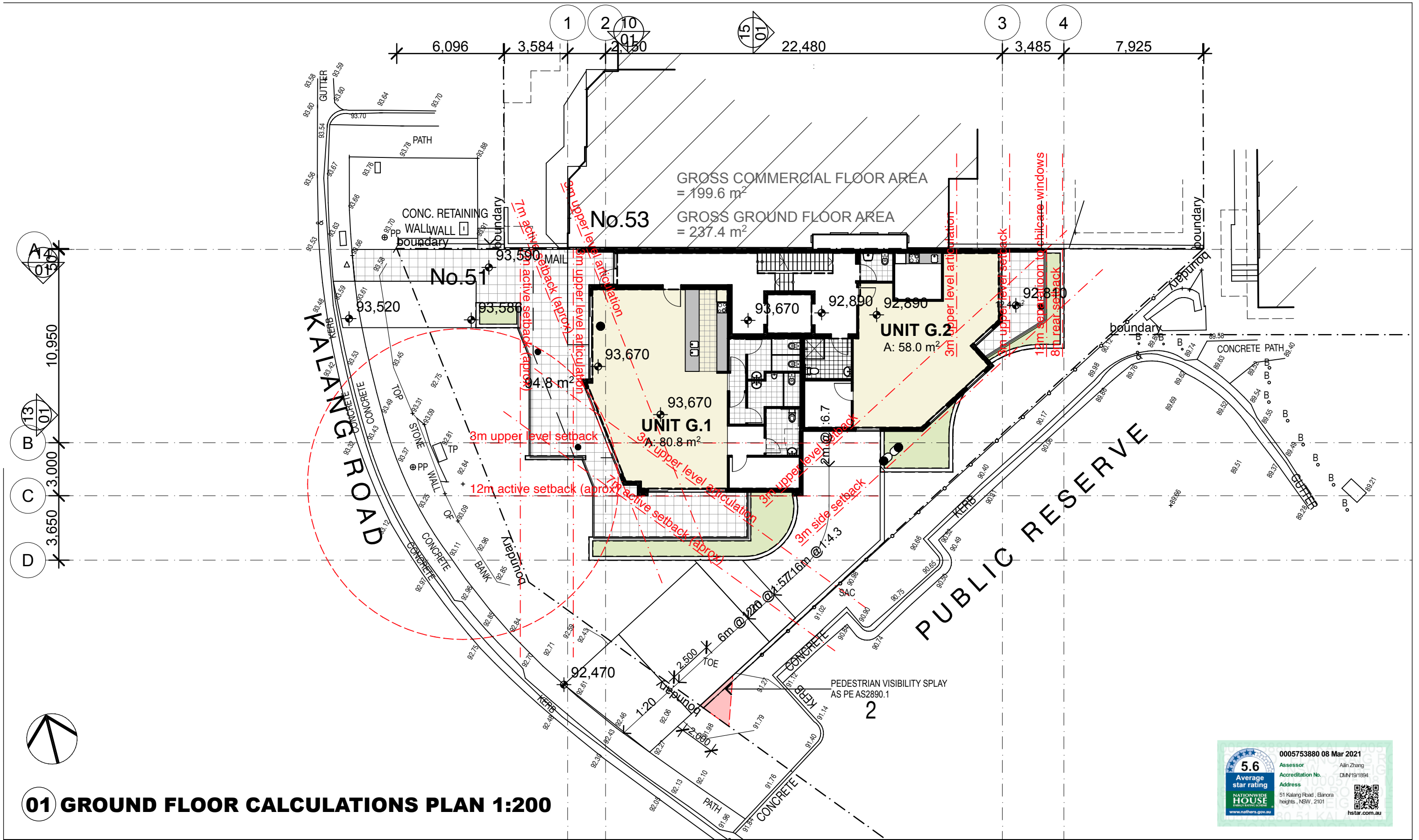
**DA-02**

Amendment

**A**







# 01 GROUND FLOOR CALCULATIONS PLAN 1:200

## Amendments

A ISSUED FOR DA 05/03/21

## Architect

**Fortey + Grant Architecture**  
Suite 3/Level 1, 1141 Botany Lane  
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Nominated Architect James Grant 6540

## Project Details

**SHOP TOP HOUSING AT**  
**51 KALANG ROAD**  
**ELENORA HEIGHTS**  
**NSW 2101**

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Drawn JG	Approved JG	Date Printed 5/3/21
Job Number	2002	
Scale	As shown @ A3	

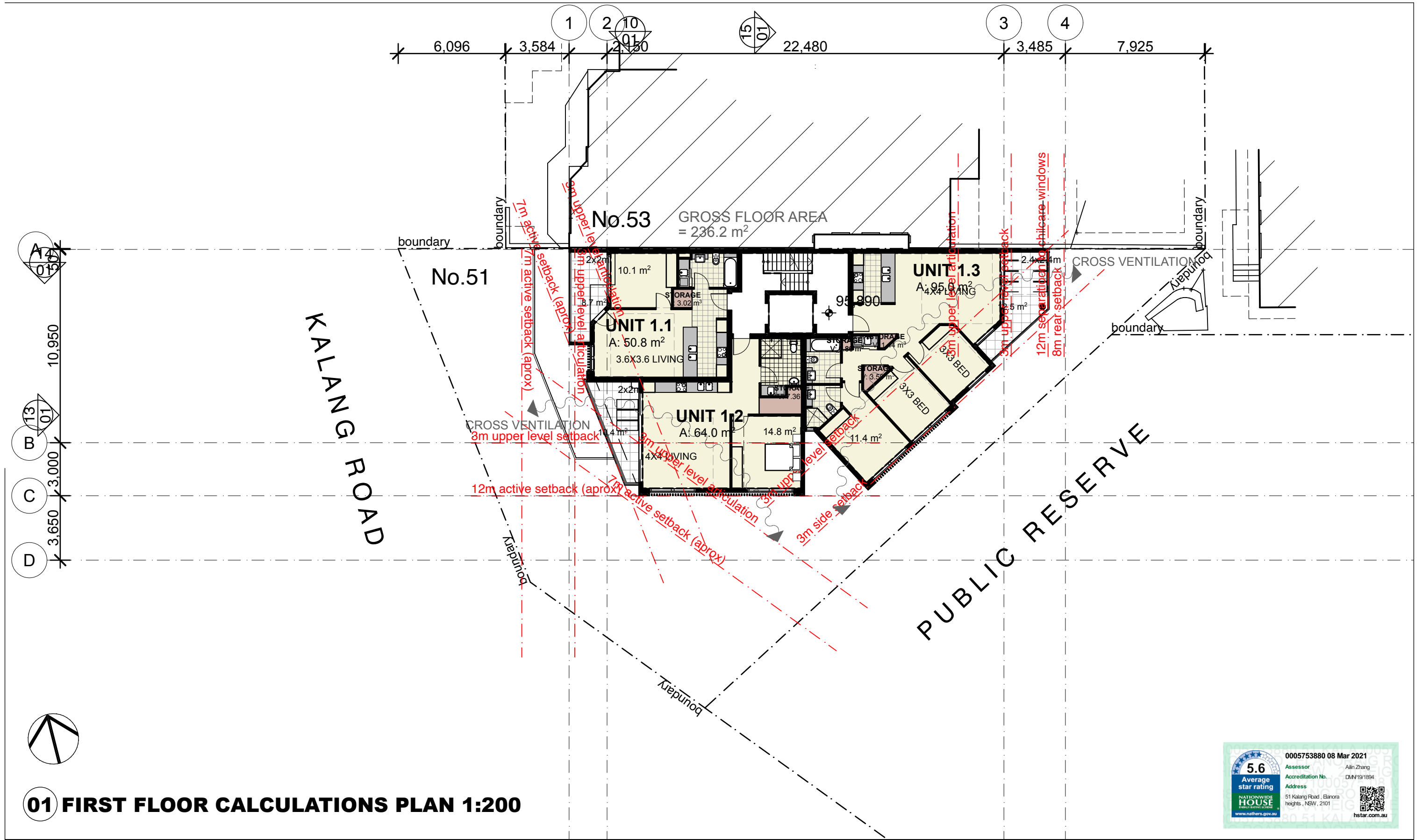
## Drawing name

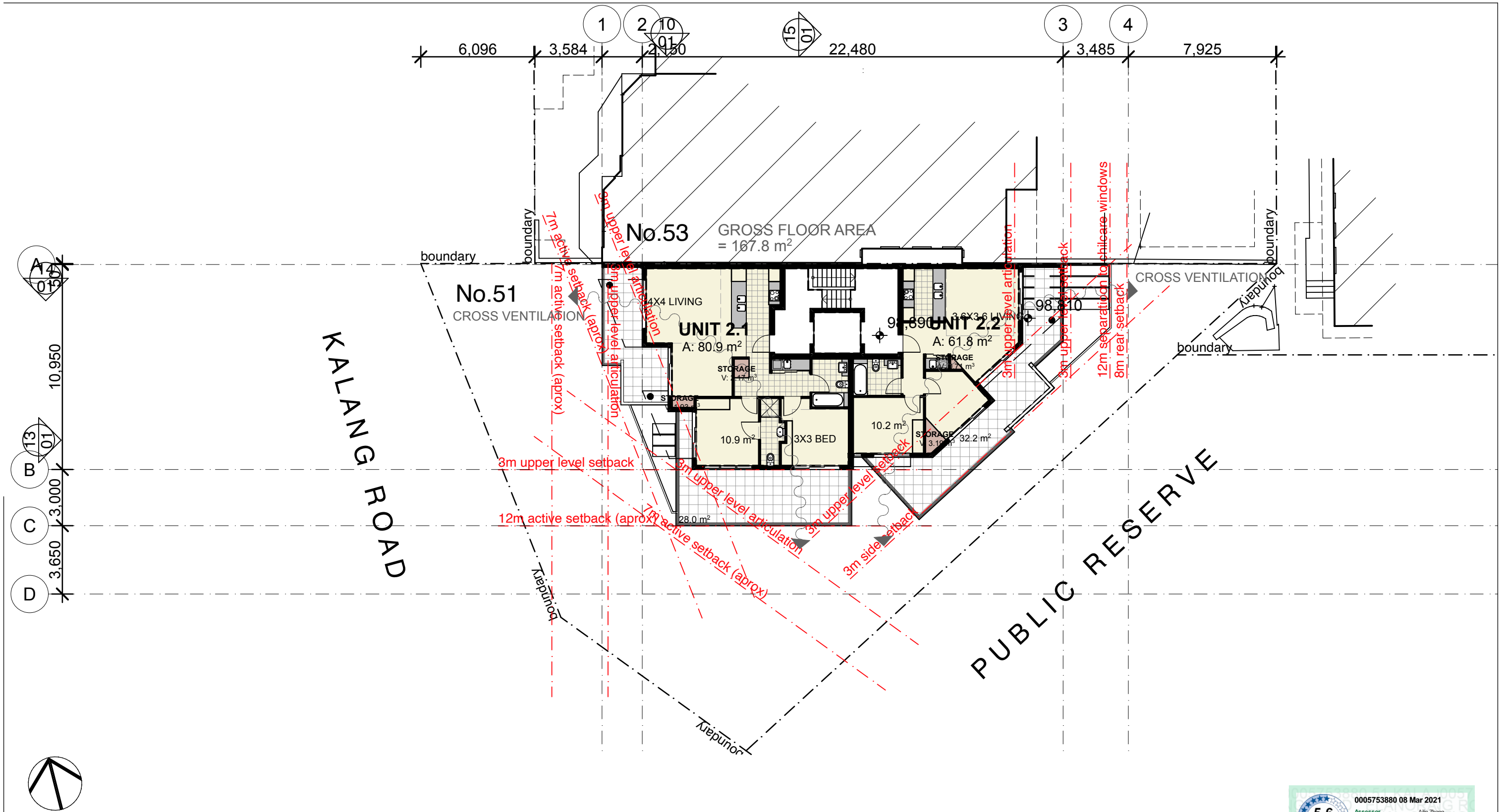
**GROUND FLOOR CALCULATIONS**

Drawing Number

**DA-03**

Amendment  
**A**





## 01 SECOND FLOOR CALCULATIONS PLAN 1:200



### Amendments

A ISSUED FOR DA 05/03/21

### Architect

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Nominated Architect James Grant 6540

### Project Details

**SHOP TOP HOUSING AT**  
**51 KALANG ROAD**  
**ELENORA HEIGHTS**  
**NSW 2101**

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Drawn JG	Approved JG	Date Printed 5/3/21
Job Number	2002	
Scale	As shown @ A3	

Drawing name

**SECOND FLOOR  
CALCULATIONS**

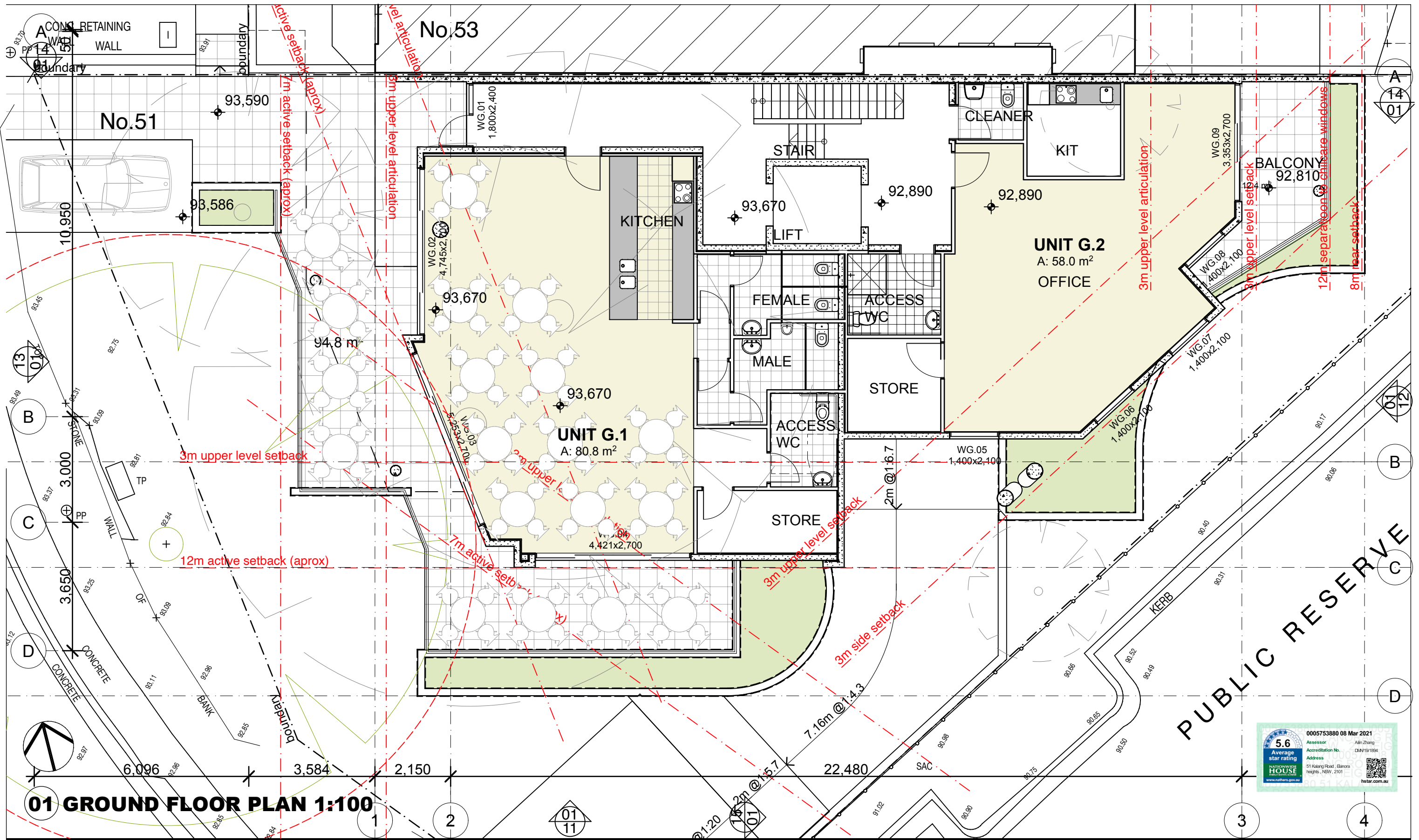
Drawing Number

**DA-05**

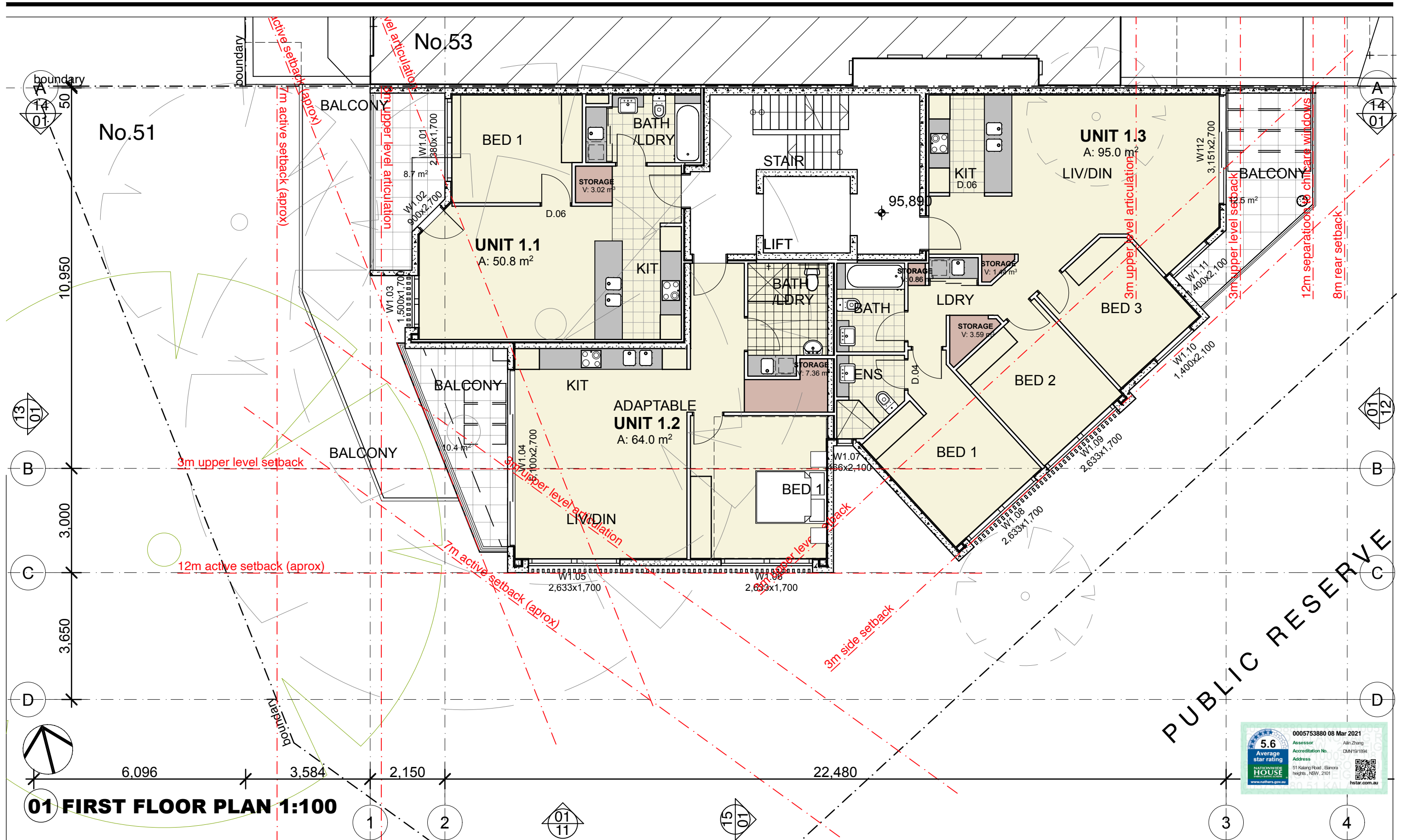
Amendment  
**A**











**Amendments**  
A ISSUED FOR DA 05/03/21

**Architect**  
**Fortey + Grant Architecture**  
Suite 3/Level 1, 1141 Botany Lane  
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email: james@fgarch.com.au  
Nominated Architect James Grant 6540

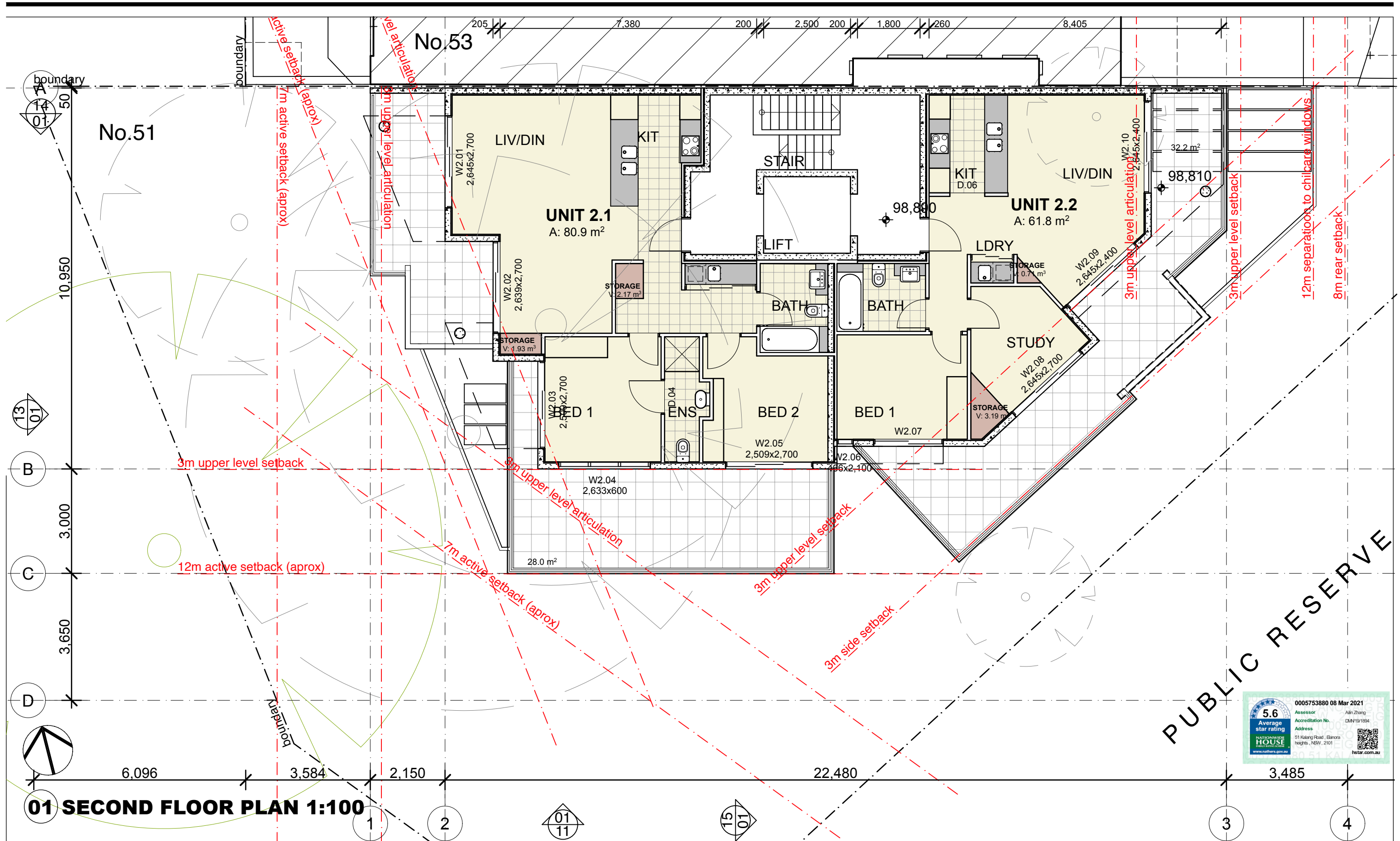
**Project Details**  
**SHOP TOP HOUSING AT**  
**51 KALANG ROAD**  
**ELENORA HEIGHTS**  
**NSW 2101**

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Drawn JG	Approved JG	Date Printed 5/3/21
Job Number	2002	
Scale	As shown @ A3	

Drawing name  
**FIRST FLOOR PLAN**  
Drawing Number  
**DA-08**  
Amendment  
**A**







**5.6**  
Average  
star rating

**NATHERS  
HOUSE**  
TRUSTED DAYCARE CENTRE

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

**0005753880 08 Mar 2021**

**Assessor**  
Ailin Zhang

**Accreditation No.**  
DMN191894

**Address**  
51 Kelang Road, Blandora  
heights , NSW, 2101



**hstar.com.au**

## Amendments

A ISSUED FOR DA

05/03/21

## Architect



**Fortey + Grant Architecture**

Suite 3/Level 1, 1141 Botany Lane

**Mascot NSW 2020**

**mob: 0401 822 223**

email: [james@fgarch.com.au](mailto:james@fgarch.com.au)

Nominated Architect James Grant 6540

## Project Details

## SHOP TOP HOUSING AT

**51 KALANG ROAD  
ELENORA HEIGHTS  
NSW 2101**

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Drawn  
JG

Approved  
JG

Date Printed  
**5/3/21**

Job Number

2002

Scale

As shown @ A3

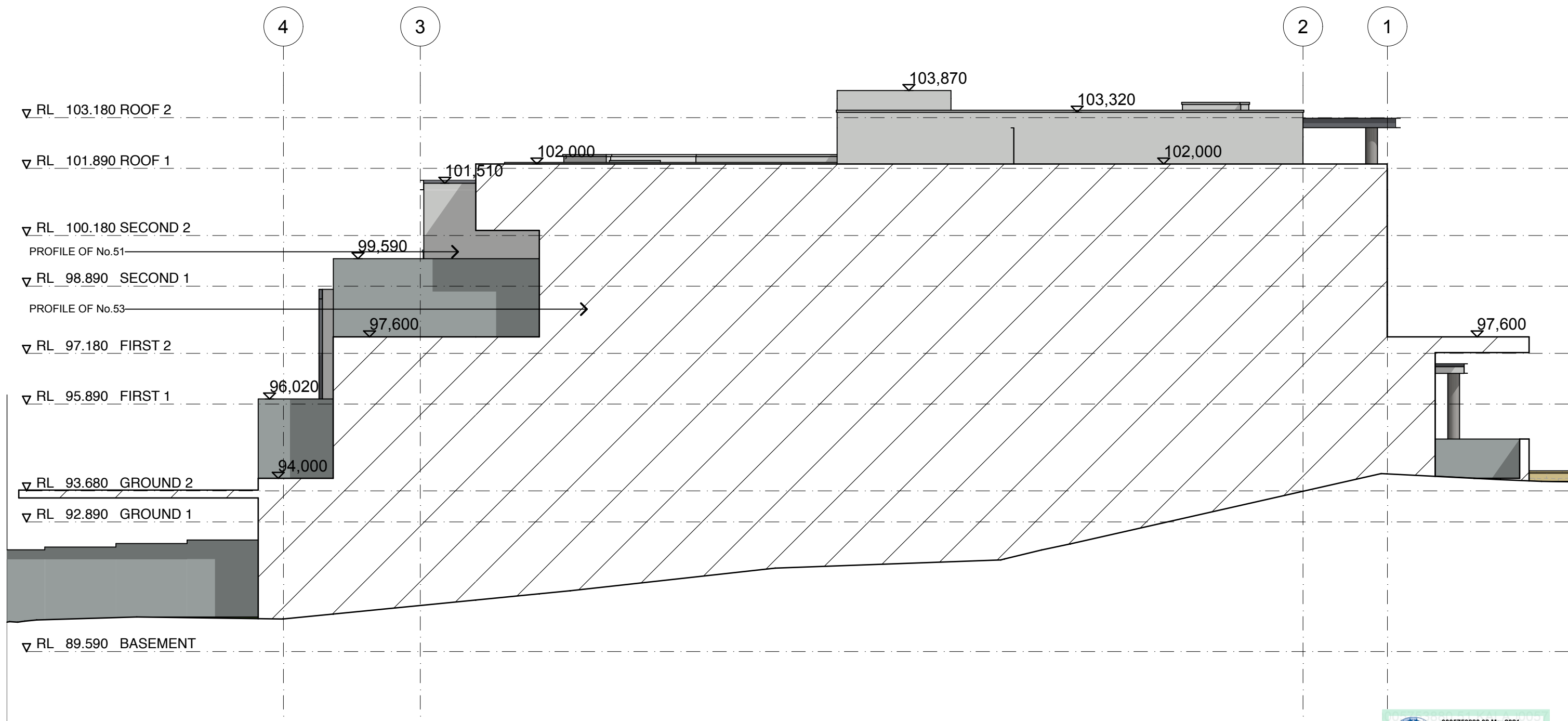
Drawing name

## SECOND FLOOR PLAN

Drawing Number

**DA-09**

Amendment



## 01 NORTH ELEVATION 1:100



### Amendments

A ISSUED FOR DA 05/03/21

### Architect

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Nominated Architect James Grant 6540

### Project Details

SHOP TOP HOUSING AT

**51 KALANG ROAD  
ELENORA HEIGHTS  
NSW 2101**

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Drawn JG	Approved JG	Date Printed 5/3/21
Job Number	2002	
Scale	As shown @ A3	

Drawing name

**NORTH ELEVATION**

Drawing Number

**DA-10**

Amendment  
**A**





## 01 SOUTH ELEVATION 1:100



### Amendments

A ISSUED FOR DA 05/03/21

### Architect

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Suite 3/Level 1, 1141 Botany Lane  
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Nominated Architect James Grant 6540

### Project Details

SHOP TOP HOUSING AT

**51 KALANG ROAD  
ELENORA HEIGHTS  
NSW 2101**

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Drawn JG	Approved JG	Date Printed 5/3/21
Job Number	2002	
Scale	As shown @ A3	

Drawing name

**SOUTH ELEVATION**

Drawing Number

**DA-11**

Amendment  
**A**



## 01 EAST ELEVATION 1:100



### Amendments

A ISSUED FOR DA 05/03/21

### Architect

**Fortey + Grant Architecture**  
Suite 3/Level 1, 1141 Botany Lane  
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Nominated Architect James Grant 6540

### Project Details

**SHOP TOP HOUSING AT**  
**51 KALANG ROAD**  
**ELENORA HEIGHTS**  
**NSW 2101**

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Drawn JG	Approved JG	Date Printed 5/3/21
Job Number	2002	
Scale	As shown @ A3	

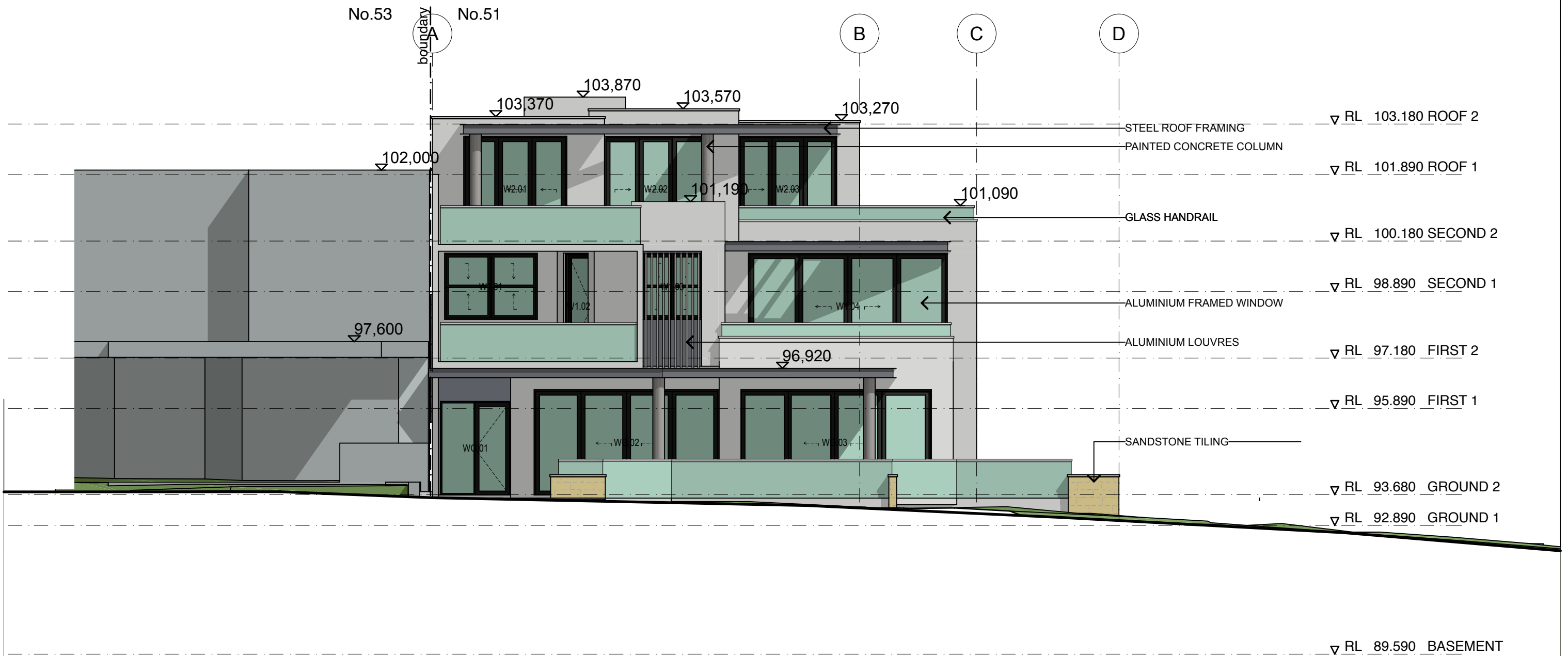
Drawing name

**EAST ELEVATION**

Drawing Number

**DA-12**

Amendment  
**A**



## 01 WEST ELEVATION 1:100



### Amendments

A ISSUED FOR DA 05/03/21

### Architect

**Fortey + Grant Architecture**  
Suite 3/Level 1, 1141 Botany Lane  
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email: james@fgarch.com.au  
Nominated Architect James Grant 6540

### Project Details

**SHOP TOP HOUSING AT**  
**51 KALANG ROAD**  
**ELENORA HEIGHTS**  
**NSW 2101**

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Drawn JG	Approved JG	Date Printed 5/3/21
Job Number	2002	
Scale	As shown @ A3	

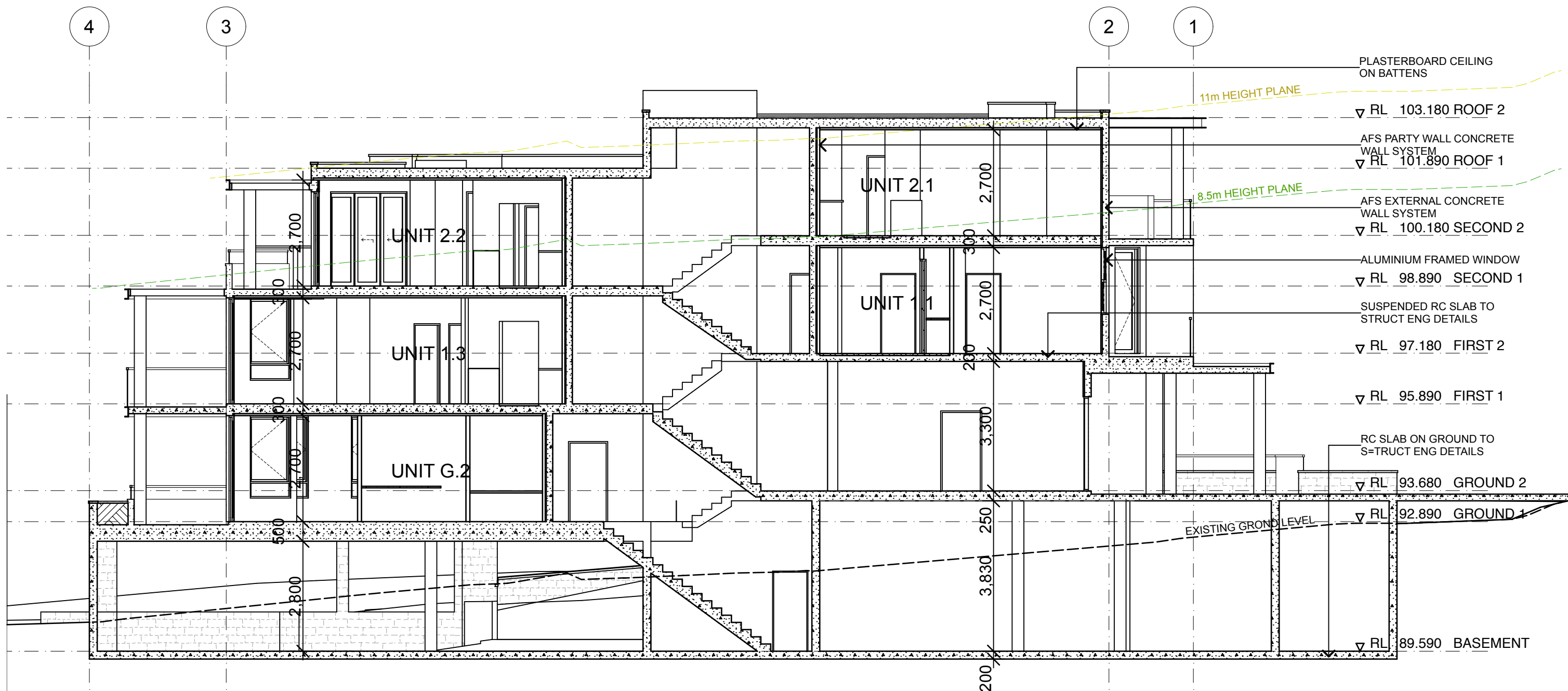
Drawing name

**WEST ELEVATION**

Drawing Number

**DA-13**

Amendment  
**A**



## 01 SECTION 1:100



### Amendments

A ISSUED FOR DA 05/03/21

### Architect



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Nominated Architect James Grant 6540

### Project Details

**SHOP TOP HOUSING AT**

**51 KALANG ROAD  
ELENORA HEIGHTS  
NSW 2101**

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Drawn JG	Approved JG	Date Printed 5/3/21
Job Number	2002	
Scale	As shown @ A3	

Drawing name

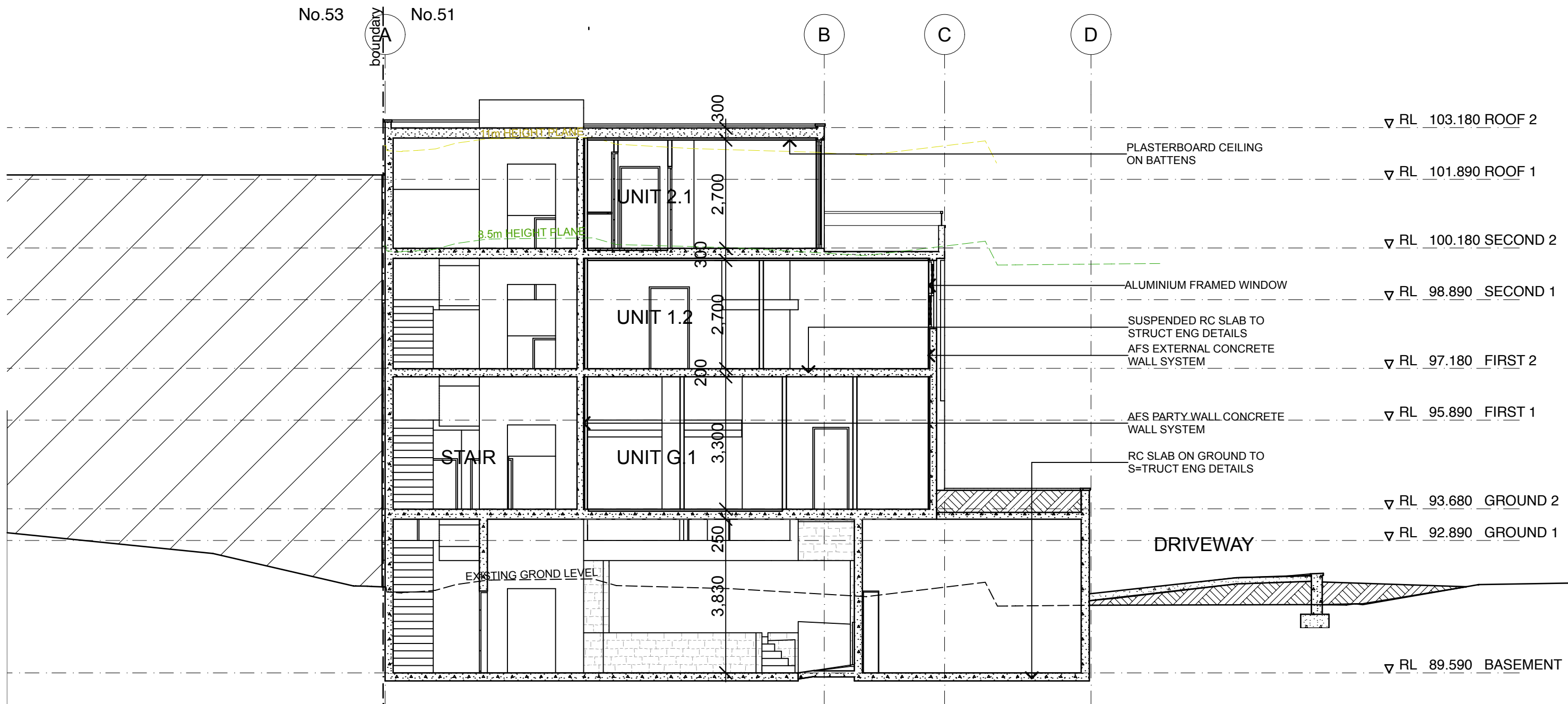
**SECTION**

Drawing Number

**DA-14**

Amendment

**A**



## 01 SECTION 1:100



### Amendments

A ISSUED FOR DA 05/03/21

### Architect

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Nominated Architect James Grant 6540

### Project Details

SHOP TOP HOUSING AT

**51 KALANG ROAD  
ELENORA HEIGHTS  
NSW 2101**

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Drawn JG	Approved JG	Date Printed 5/3/21
Job Number	2002	
Scale	As shown @ A3	

Drawing name

**SECTION**

Drawing Number

**DA-15**

Amendment  
**A**



CALCULATIONS

SITE AREA	661.7m2	ALLOWABLE LANDSCAPE AREA	132.3m2 (20%) or 5 x 35 = 175m2	PITTWATER LEP 2014 (Map 13) LAND ZONED B2 LOCAL CENTRE NO MIN LOT SIZE HEIGHT OF BUILDINGS 11m (map 13A) FLOOR SPACE RATIO - NONE ACID SULPHATE SOIL CLASS 5 NO LAND RESERVATIONS AND ACQUISITIONS NOT A HERITAGE ITEM NOT NEAR A HERITAGE ITEM NOT IN A CONSERVATION AREA NOT IN THE FORESHORE BUILDING LINE NO ADDITIONAL PERMITTED USES NO BIODIVERSITY NOT FORESHORE EFFECTED NO GEOTECHNICAL HAZARD NOT URBAN RELEASE LAND
SITE ZONE	D5 ELENORA HEIGHTS LOCALITY	PROPOSED LANDSCAPE AREA	176.8m2	
PROPOSED GROSS FLOOR AREA	641.8m2	ALLOWABLE SITE COVERAGE	693m2 (60%)	
ALLOWABLE FSR	NOT APPLICABLE	PROPOSED SITE COVERAGE	566.1m2 (excludes balconies)	
PROPOSED COMMERCIAL GROSS FLOOR AREA	195.9m2 (30%)	REQUIRED ACCESSIBLE UNITS	1 UNITS	
ALLOWABLE FSR	NOT APPLICABLE	PROPOSED ACCESSIBLE UNITS	1 UNITS (20%)	
ALLOWABLE DEEP SOIL	174m2 min (15%)	REQUIRED ADAPTABLE UNITS	2 - 1 = 1 UNITS (30%)	
DEEP SOIL AREA	130.9m2	PROPOSED ADAPTABLE UNITS	1 UNITS	

SEPP 65

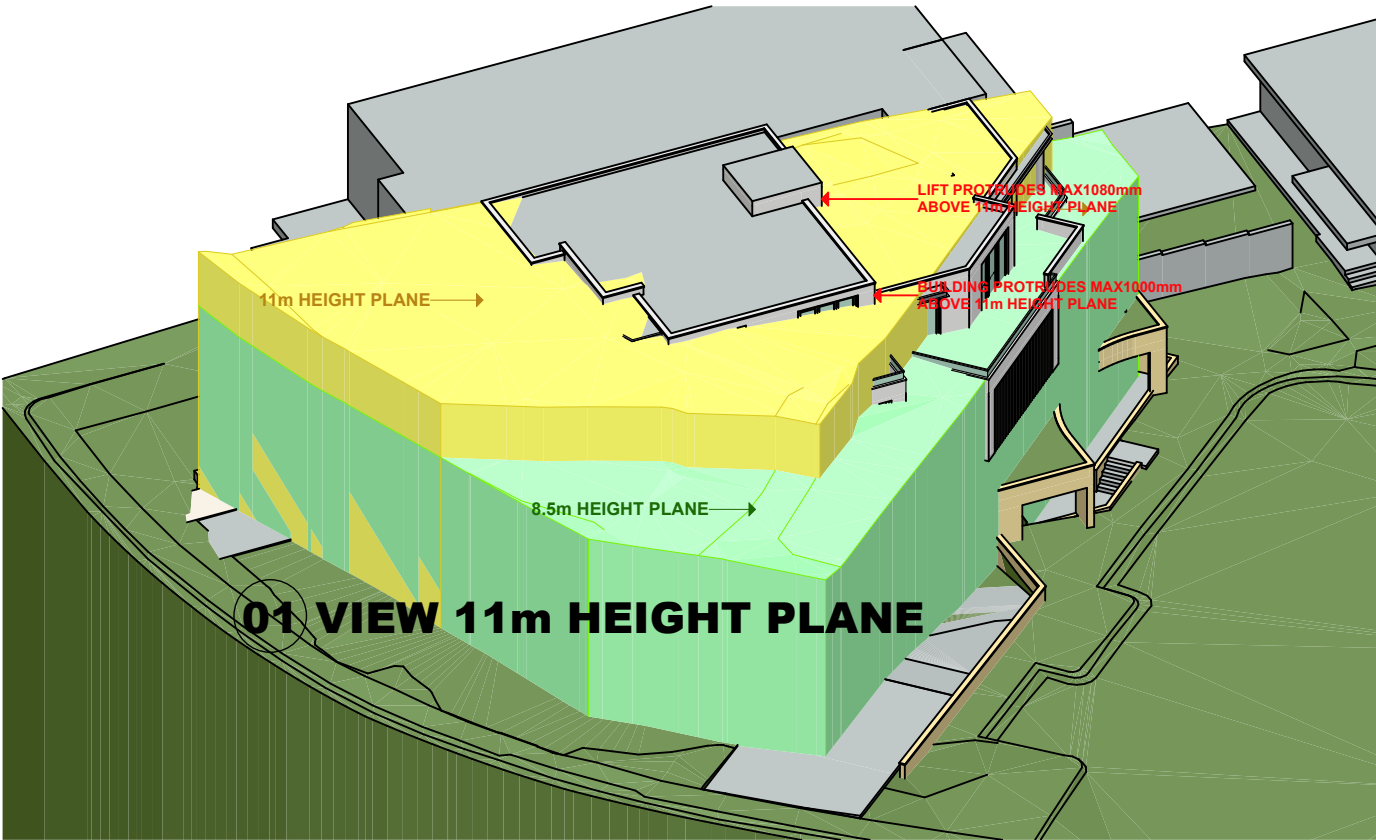
TOTAL NO OF UNITS = 5 Resideintial Units + 2 Commercial Units		
25% UNITS WITH EXTERNAL KITCHENS = 2	2 SUPPLIED (20%)	
70% UNITS WITH 3 HOURS SUN = 4 (4 out of 5 units get 2 hours sun)	4 SUPPLIED	
60% UNITS WITH CROSS VENTILATION = 3	4 SUPPLIED	
10% SINGLE ASPECT UNITS FACING SOUTH = 1	0 SUPPLIED	

UNIT YIELD

2 x COMERCIAL UNITS (TOTAL 138.7m2)  
3 x 1 BED UNITS  
1 x 2 BED UNITS  
1 x 3 BED UNITS

CAR PARKING (Council requirements)

1 bed units	1 SPACE REQUIRED	3
2 bed units	2 SPACES REQUIRED	2
3 bed units	2 SPACES REQUIRED	2
VISITOR SPACES	1 SPACE PER 3 UNITS REQUIRED	1.7
CAFE	1 SPACE PER 30m2	3
VISITOR SPACES	1 SPACE PER 3 UNITS REQUIRED	2
BICYCLE PARKING	1 SPACE/3 DWELLINGS + 1 VISITOR SPACE /12 DWELLINGS	



41 SHOWN  
6 SHOWN



Amendments		
A	ISSUED FOR DA	05/03/21

Architect

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Suite 3/Level 1, 1141 Botany Lane  
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mob: 0401 822 223  
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Nominated Architect James Grant 6540

Project Details

SHOP TOP HOUSING AT

**51 KALANG ROAD  
ELENORA HEIGHTS  
NSW 2101**

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Drawn JG	Approved JG	Date Printed 5/3/21
Job Number	2002	
Scale	As shown @ A3	

Drawing name

**HEIGHT PLANE AND  
CALCULATIONS**

Drawing Number

**DA-16**

Amendment

**A**



01 MATERIALS VIEW

1 - DULUX  
LEXICON

2 - METALWORK  
COLORBOND  
WOODLAND GREY

4 - COLUMNS  
COLORBOND  
WALLABY

3 - SANDSTONE CLADDING

5 - GLASS HANDRAILS



Amendments		
A	ISSUED FOR DA	05/03/21

Architect

**Fortey + Grant Architecture**  
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Mascot NSW 2020  
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Project Details

SHOP TOP HOUSING AT

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ELENORA HEIGHTS  
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Drawn JG	Approved JG	Date Printed 5/3/21
Job Number	2002	
Scale	As shown @ A3	

Drawing name

**MATERIALS AND  
FINISHES SCHEDULE**

Drawing Number	Amendment
<b>DA-17</b>	<b>A</b>





Amendments

A ISSUED FOR DA 05/03/21

Architect



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Nominated Architect James Grant 6540

Project Details

SHOP TOP HOUSING AT

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Drawn JG	Approved JG	Date Printed 5/3/21
Job Number	2002	
Scale	As shown @ A3	

Drawing name

**PHOTOMONTAGE**

Drawing Number

**DA-18**

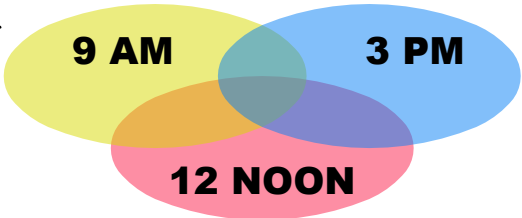
Amendment  
**A**







**01 SHADOW DIAGRAMS 1:200**



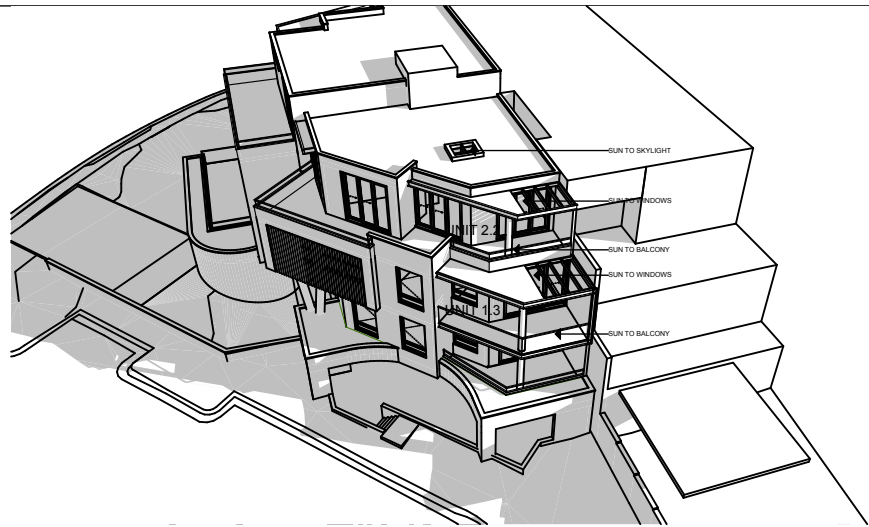
**Amendments**  
A ISSUED FOR DA 05/03/21

**Architect**  
**Fortey + Grant Architecture**  
Suite 3/Level 1, 1141 Botany Lane  
Mascot NSW 2020  
mob: 0401 822 223  
email: james@fgarch.com.au  
Nominated Architect James Grant 6540

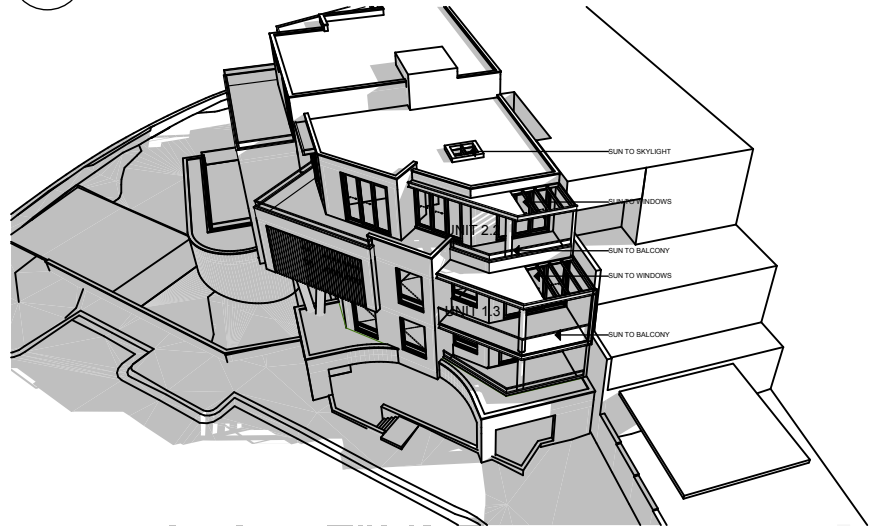
**Project Details**  
**SHOP TOP HOUSING AT**  
**51 KALANG ROAD**  
**ELENORA HEIGHTS**  
**NSW 2101**

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Drawn JG	Approved JG	Date Printed 5/3/21
Job Number	2002	
Scale	As shown @ A3	

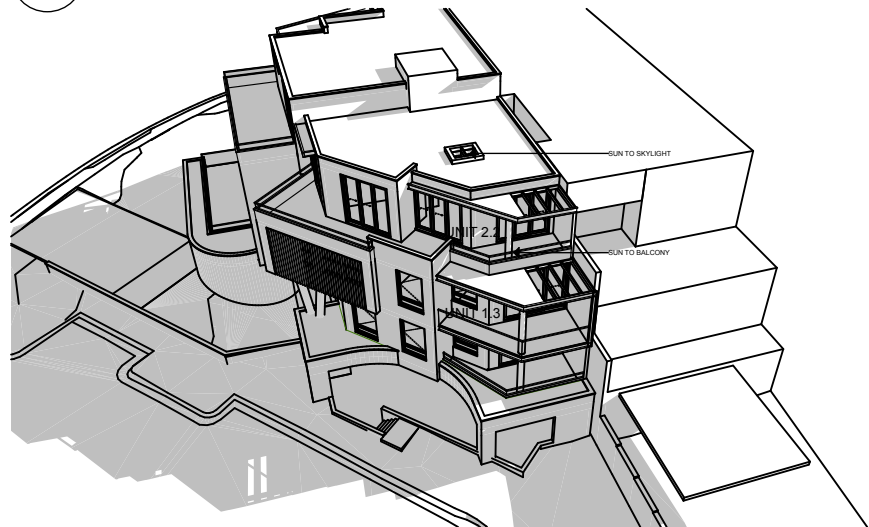
Drawing name  
**PLAN SHADOW DIAGRAMS**  
Drawing Number  
**DA-19**  
Amendment  
**A**



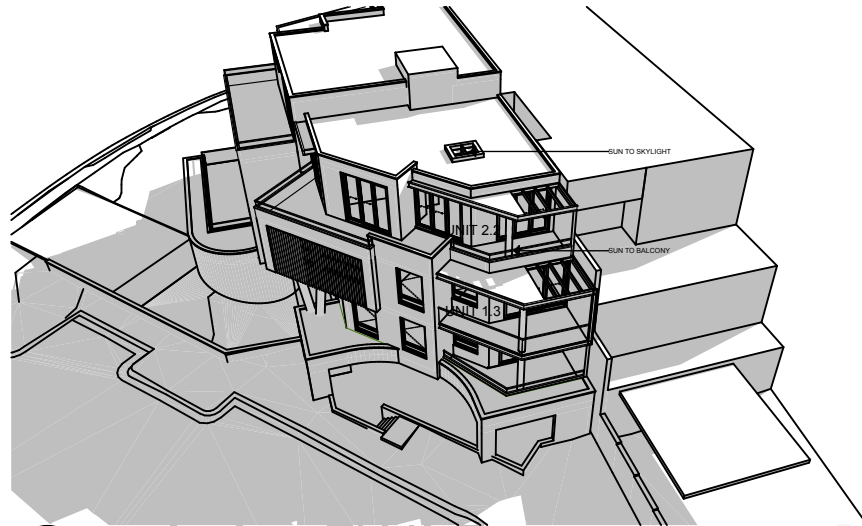
01 EAST VIEW JUNE 21ST 9AM



02 EAST VIEW JUNE 21ST 10AM



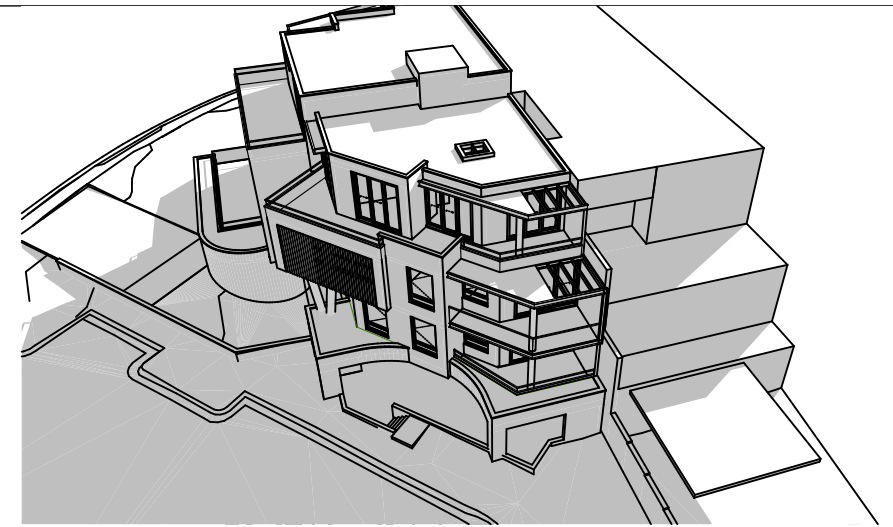
03 EAST VIEW JUNE 21ST 11AM



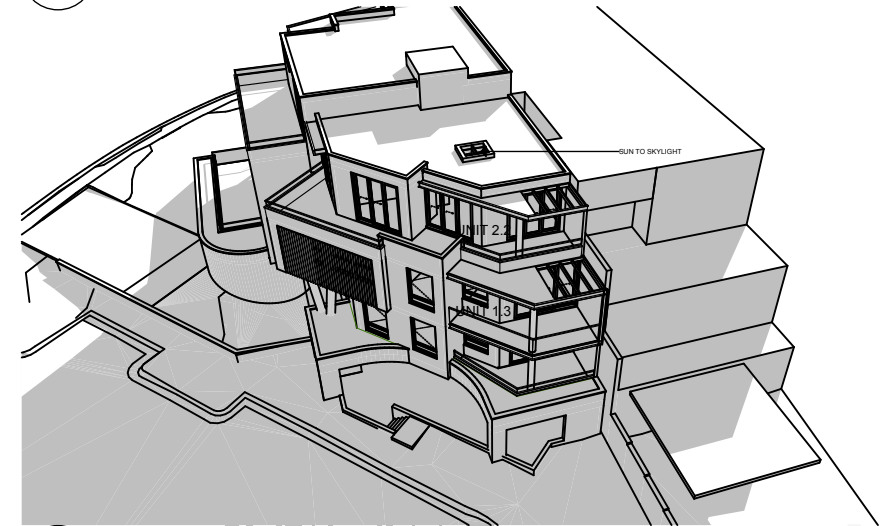
04 EAST VIEW JUNE 21ST 12NOON

UNIT 1.3  
BALCONY - 1 HOUR SUN  
LIVING - 1 HOUR SUN

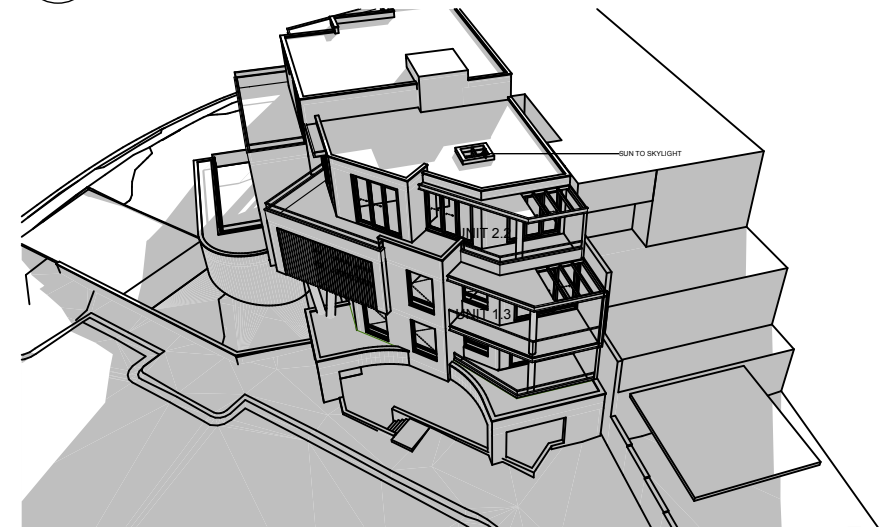
UNIT 2.2  
BALCONY - 3 HOURS SUN  
LIVING - 6 HOURS SUN



05 EAST VIEW JUNE 21ST 1PM



06 EAST VIEW JUNE 21ST 2PM



07 EAST VIEW JUNE 21ST 3PM

#### Amendments

A ISSUED FOR DA 05/03/21

#### Architect

**Fortey + Grant Architecture**  
Suite 3/Level 1, 1141 Botany Lane  
Mascot NSW 2020  
mob: 0401 822 223  
email: james@fgarch.com.au  
Nominated Architect James Grant 6540

#### Project Details

**SHOP TOP HOUSING AT**  
**51 KALANG ROAD**  
**ELENORA HEIGHTS**  
**NSW 2101**

This drawing should be read in conjunction with all relevant contracts, specifications, reports and drawings. All dimensions used to be figured dimensions only. Do not scale from drawings. Report any discrepancies to the Architect for a decision before proceeding with work.

Drawn JG	Approved JG	Date Printed 5/3/21
Job Number	2002	
Scale	As shown @ A3	

Drawing name

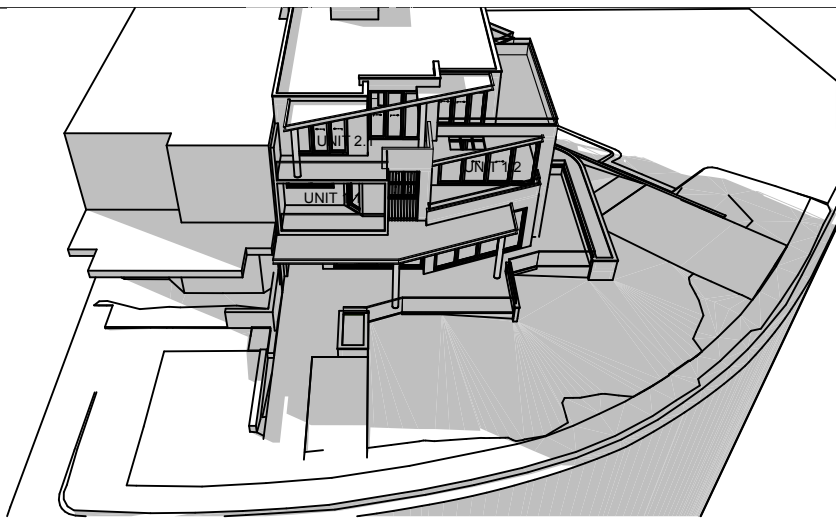
**EAST SHADOW VIEWS**  
**21ST JUNE**

Drawing Number

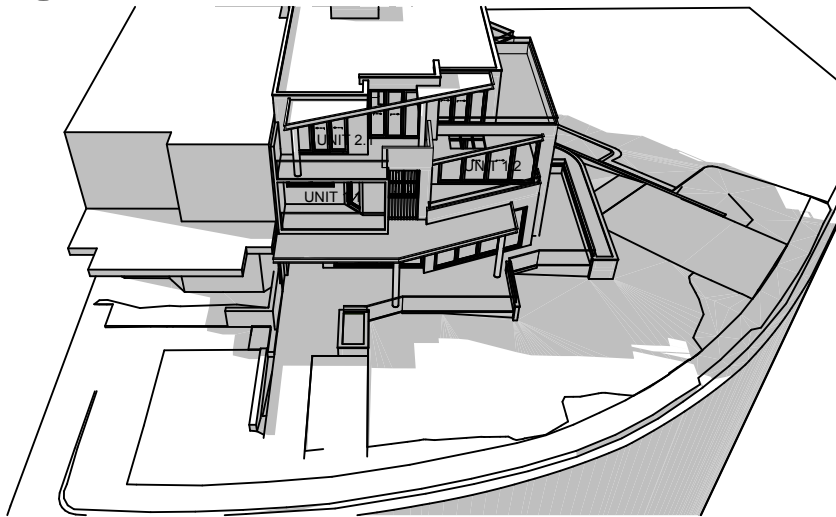
**DA-20**

Amendment  
**A**

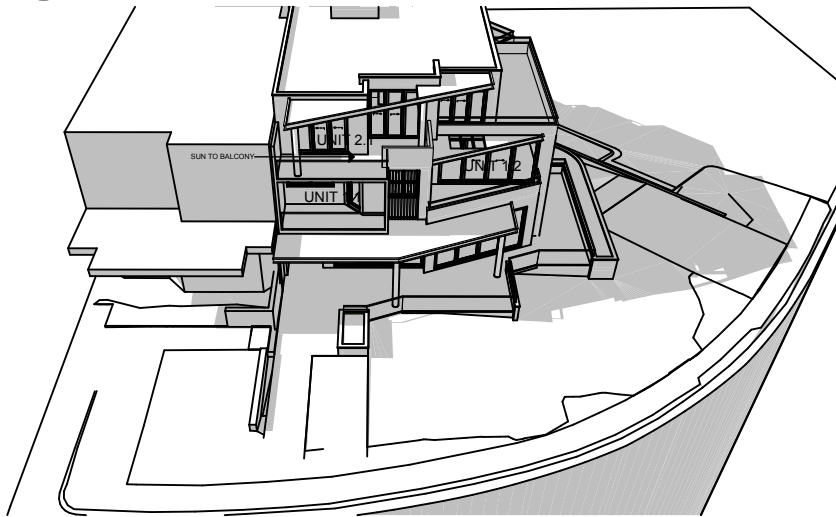




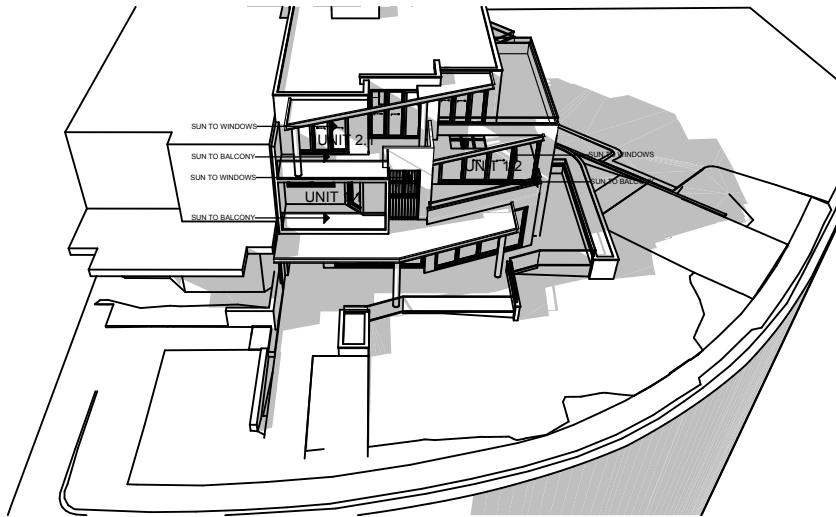
01 WEST VIEW JUNE 21ST 9AM



02 WEST VIEW JUNE 21ST 10AM



03 WEST VIEW JUNE 21ST 11AM

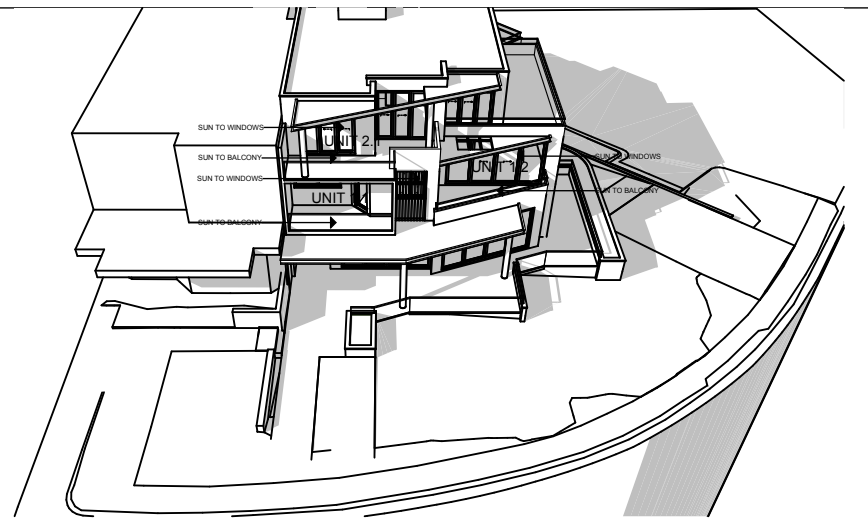


04 WEST VIEW JUNE 21ST 12NOON

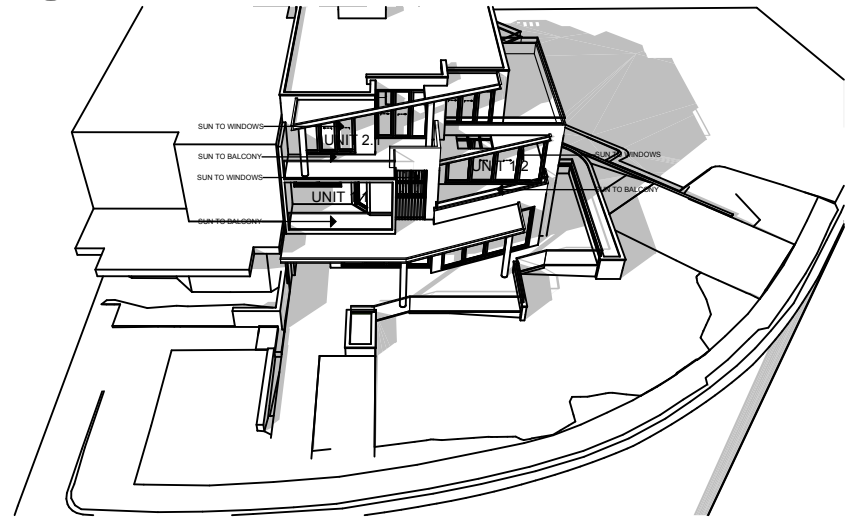
UNIT 1.1  
BALCONY - 3 HOURS SUN  
LIVING - 3 HOURS SUN

UNIT 1.2  
BALCONY - 3 HOURS SUN  
LIVING - 3 HOURS SUN

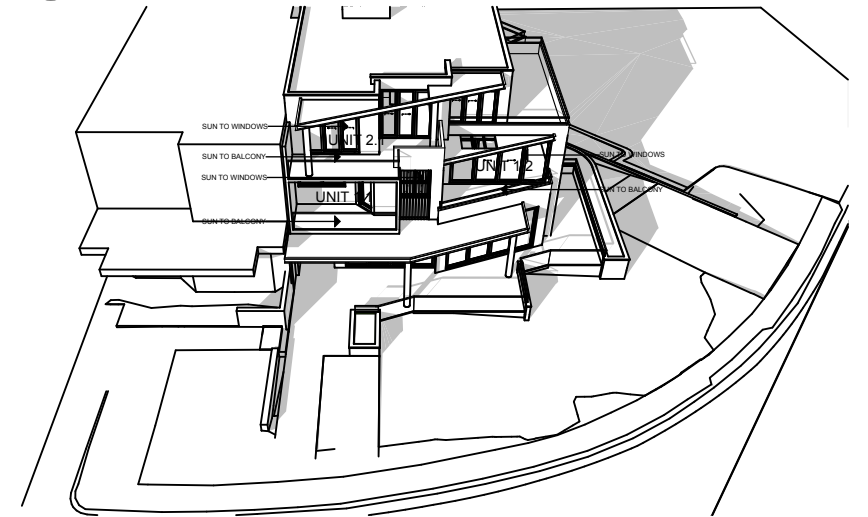
UNIT 2.1  
BALCONY - 4 HOURS SUN  
LIVING - 3 HOURS SUN



05 WEST VIEW JUNE 21ST 1PM



06 WEST VIEW JUNE 21ST 2PM



07 WEST VIEW JUNE 21ST 3PM

Amendments

A ISSUED FOR DA 05/03/21

Architect

**Fortey + Grant Architecture**  
Suite 3/Level 1, 1141 Botany Lane  
Mascot NSW 2020  
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email: james@fgarch.com.au  
Nominated Architect James Grant 6540

Project Details

SHOP TOP HOUSING AT

**51 KALANG ROAD  
ELENORA HEIGHTS  
NSW 2101**

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Drawn JG	Approved JG	Date Printed 5/3/21
Job Number	2002	
Scale	As shown @ A3	

Drawing name

**WEST SHADOW VIEWS  
21ST JUNE**

Drawing Number

**DA-21**

Amendment  
**A**