



**182 – 198 VICTORIA ROAD AND 28 – 30 FAVERSHAM STREET
MARRICKVILLE, NSW 2204**

**DA REPORT
FOR
ESD SERVICES**



**TOGA WICKS PARK DEVELOPMENTS PTY LTD
Client**

**TURNER
Architect**

**EMF GRIFFITHS
Sustainability Consultants**

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SECTION 1.0 INTRODUCTION

EMF Griffiths has been engaged by TOGA Wicks Park Developments Pty Ltd as the sustainability consultants for the proposed development located at 182-198 Victoria Road and 28-30 Faversham Street, Marrickville, Sydney, NSW.

Our role is to develop and implement ESD strategies into the project that address the sustainability targets outlined in the Inner West Council's Marrickville DCP. This report will demonstrate how the proposed development protects, manages and enhances natural systems and promote the efficient use of materials, water and energy to minimise environmental impacts. It will illustrate the project's specific energy efficiency measures to satisfy the Council's energy efficiency performance requirements for the residential, and retail components which have been adopted from Section J and BASIX, thereby demonstrating a "best practice" ESD framework. Further development and reporting shall be undertaken for the subsequent stages.

This report includes descriptions of:-

- Proposed building envelope and fabric requirements as well as the use of passive shading elements.
- Proposed building services energy efficiency measures.

1.1 BUILDING DESCRIPTION

The proposed development at 182-198 Victoria Road and 28-30 Faversham Street, Marrickville will be a mixed-use development comprising residential apartments with retail outlets and residential communal facilities located on the Ground Floor. Atop Level 1 is a communal landscaped area surrounded by five (5) interconnected residential towers ranging from six (6) through to eleven (11) storeys. The retail and residential areas will be served by two (2) levels of Basement car parking. The proposed scheme contains a diverse mix of building heights, recreational spaces and uses that activate the frontages.

The proposed development adopts a range of building heights and forms across the balance of the site and consists of: -

- Car parking: -
 - Retail = Sixty-five (65) [including two (2) accessible], one (1) motorbike and nine (9) external staff bicycle spaces.
 - Residential = Two hundred and fourteen (214) spaces [including fifty-five (55) adaptable, twenty-two (22) visitor, and five (5) accessible visitor], fifteen (15) motorbikes and one-hundred and fifty-nine (159) bicycle spaces for residents, and thirty-two (32) visitor bicycle spaces on Ground Floor].
- Total Residential GFA – 22,787m².
- Total Retail GFA – 2,387m².

Total GFA – 25,417m².

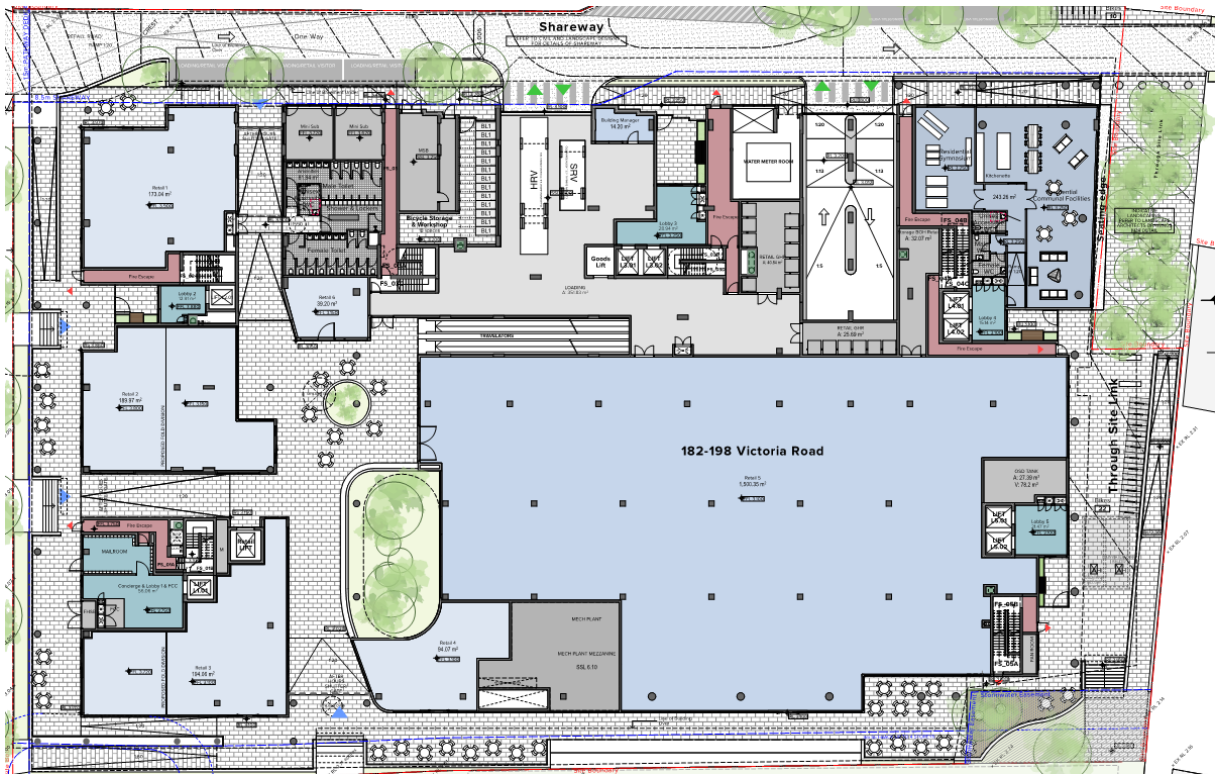


Figure 1: Ground Floor Retail Plan

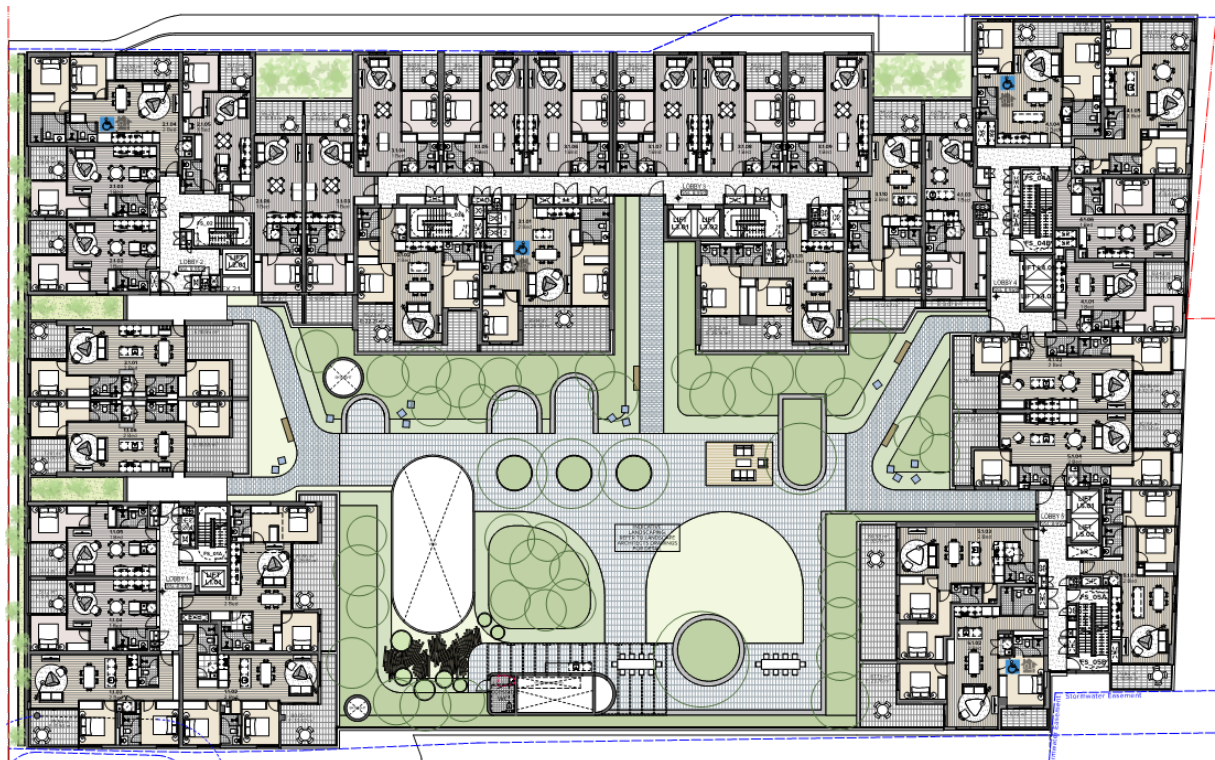


Figure 2: Level 1 Typical Residential Apartment Layout

SECTION 2.0 ESD INITIATIVES

The Marrickville DCP 2011 (Inner West Council) requires proposed residential and non-residential developments to meet certain energy efficiency targets, pursuant to BASIX certification and Section J compliance. Significant measures and initiatives are to be implemented into the design as follows:

2.1 RESIDENTIAL COMPONENTS

The proposed development is located in East Sydney (Climate Zone 56) which requires a BASIX Energy Score of 25 and a Water Score of 40. A number of initiatives have been implemented to ensure these BASIX targets are met, such as LED lighting, high Energy Star rated appliances, and high WELS rated taps and fixtures. Residential apartments are also provided with a 50 kW PV system to reduce peak electricity demand.

2.2 NON-RESIDENTIAL COMPONENTS

The proposed retail and non-residential areas are committed to implementing the following ESD and energy efficiency initiatives to ensure a “best practice” ESD outcome: -

- Insulation requirements and glazing will be compliant with Section J (refer to Section 3).
- Lighting design for the retail and non-residential areas will be compliant with Section J.
- Heating, ventilation and air-conditioning (HVAC) equipment for the retail and non-residential areas are to be compliant with Section J. Where applicable, packaged air-conditioning units will comply with the MEPS requirements.
- Where applicable, water heater thermal efficiency to be compliant with Section J.
- HVAC fans, motors and pump powers to be compliant with Section J.
- The carpark mechanical ventilation and exhaust systems will be compliant with Section J and include carbon monoxide monitoring with variable speed drives to reduce fan energy consumption.
- Instantaneous electric and electric storage hot water for disabled amenities and retail tenancies respectively to be compliant with Section J.
- Adequate space shall be provided for the storage and collection of general waste, recycling waste (paper, cardboard, plastic), and other applicable waste streams, such as organics.
- Level 1 green roof to Ground Floor retail spaces.

SECTION 3.0 NCC SECTION J COMPLIANCE

The non-residential components of the proposed development will demonstrate compliance with NCC 2016 Section J via the JV3 verification method. The process for establishing JV3 compliance is as follows:-

1. Construct an energy model of a building complying with the Deemed-to-Satisfy (DTS) provisions and including services as outlined in the JV Specification identified in the BCA. (This is referred to as the "reference building").
2. Construct an energy model of the "proposed building" including services complying with the Section J DTS provisions.
3. Run the energy models to compare energy results. Compliance is met when the energy consumption from the "Proposed building" is less than that of the "Reference building".

This method is mainly proposed to offset the glazing performance requirements against other building elements that exceed the DTS requirements. It is expected that the higher performing elements of the architectural design will enable a reduction in glazing performance to the retail areas and therefore allow the building to achieve Section J compliance.

The JV3 modelling will be undertaken in the later stages of the development. Based on the current architectural design, the following building constructions and energy efficiency measures will be required to comply with the DTS provisions of Section J. It should be noted that the following requirements are based on NCC2016 Section J.

3.1 EXTERNAL GLAZING

- Based on the DTS Glazing calculators (refer to Appendix A), the required glazing for the retail and non-residential areas is very stringent. Due to the high level of glazing performance required by the DTS provisions, the potentially unappealing resulting aesthetics and associated costs, the JV3 alternate solution will be adopted.
- As part of the JV3 approach, more acceptable and cost-effective glazing will be proposed to these non-residential spaces, e.g. clear single glazing. It is intended that the remaining building fabric insulation requirements will be increased to offset the lesser glazing performance.
- The inclusion of passive shading elements, such as, the projection of Level 1 apartment balconies to the North, East and West, as well as vertical columns along the North, will help minimise the amount of direct sunlight to the retail spaces and thus assist with Section J compliance. Adjacent buildings to the North and East will also provide good overshadowing to the retail and communal residential areas.

3.2 BUILDING FABRIC

- For the purposes of Section J, the building envelope means the parts of the building's fabric that separate a conditioned space or habitable room from the exterior of the building or a non-conditioned space. Refer to Appendix B for a marked up floor plan detailing the conditioned spaces of this development to be assessed under Section J.
- The following building constructions will be required for the development and anticipated to be met or exceeded in the final design (refer to Appendix C for a marked up floor plan detailing the DTS insulation requirements): -
 - External Walls (between conditioned space and outside): Total R-value = R2.8
 - Internal Walls (between conditioned and non-conditioned spaces): Total R-value = R1.8
 - Exposed Roof (above conditioned spaces): Total R-value = R4.2
 - Internal Floor/Ceiling (between conditioned and non-conditioned spaces): Total R-value = R2.0.
- In order to offset the retail and non-residential glazing, the remaining building fabric and minimum insulation requirements will be made compliant with Section J. This will include maximising the installation of additional insulation to the Basement 1 soffit, external walls and internal walls to non-conditioned spaces. Shading to the North and East will be provided by projected balconies from Level 1, as well as overshadowing from adjacent buildings, and thus help minimise the cooling needs for the non-residential spaces.

- The biggest advantage will be the green roof (Level 1 landscape area) atop the retail supermarket. Green roofs are widely documented to significantly improve building performance by reducing heating and cooling needs. Compared to traditional roofing materials, green roofs have a higher albedo and thus are better at reflecting solar energy. The proposed green roof will reduce heat transfer through the roof and ambient temperatures on the roof surface, thus reducing the need for air-conditioning and heating for the supermarket and retail outlets. The inclusion of waterproofing membranes, soil substrates and planting medium will also boost its insulation performance and help minimise heating energy.
- Additional benefits to the development from the use of a green roof include: -
 - Absorb and retain rainwater to manage stormwater run-off and help filter out pollutants.
 - Hard surfaces in urban environments, such as concrete and asphalt, collect the sun's heat during the day and re-radiate it slowly back into the atmosphere creating an urban heat island effect. With an added layer of vegetation, the external surface temperatures will be reduced and thus help mitigate the negative consequences of urban heat islands. The use of more reflective hardscaping materials, i.e. those with a high solar reflectivity index, are also recommended.
 - The green roof will also contribute to and enhance the biodiversity in the local community
 - Green roofs can contribute to the removal of gaseous pollutants from the air.
 - The green roof will provide the residents, occupants and visitors with a connection to nature, increased visual amenity, and opportunities for recreation and relaxation. Vegetated environments offer positive health benefits to people and afford opportunities for community and social interaction. Exposure to nature through the use of green roofs will also improve people's ability to focus, cope with stress, and generate creative ideas.

3.3 BUILDING SERVICES

- At a minimum, the proposed building services are to be compliant with the DTS provisions of the Section J as outlined below.
- Adequate building sealing is to be provided at doors, windows, walls and fabric construction. Automatic dampers to exhaust fans and air intakes are also required.
- Air-conditioning and ventilation systems are to be compliant with Part J5.
- Lighting and power control devices are to be incorporated and be compliant with Part J6.
- Metering and monitoring systems, as required by Part J8, are to be implemented and made compliant with Section J.

APPENDIX A
DTS GLAZING CALCULATORS

APPENDIX A DTS GLAZING CALCULATORS

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014) HELP

Building name/description: **Wicks Park, 182-198 Victoria Road, Marrickville** Application: **shop display** Climate zone: **5**

Storey: **Ground Floor**

Facade areas:

	N	NE	E	SE	S	SW	W	NW	Internal
Option A		289m²		275m²		412m²	67m²	242m²	n/a
Option B									
Glazing area (A)		81m²		182m²		301m²	31m²	188m²	

Number of rows preferred in table below: **40** (as currently displayed)

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS										SHADING		CALCULATED OUTCOMES OK (if inputs are valid)					
ID	Description (optional)	Facing sector		Size			Performance		P&H or device		Shading		Multipliers		Size	Outcomes	
		Option A facade s	Option B facade s	Height (m)	Width (m)	Area (m²)	System U-Value (AFRC)	Total System SHGC (AFRC)	P (m)	H (m)	P/H	G (m)	Heating (S _a)	Cooling (S _c)			
1	Retail 1 NE W1	NE		3.40	5.56		5.0	0.50	1.550	4.200	0.37	0.80	0.98	0.95	18.90	38% of 43%	
2	Retail 1 NE W2	NE		3.40	6.87		5.0	0.50	2.050	4.200	0.49	0.80	0.98	0.90	23.36	45% of 43%	
3	Retail 2 NE W3	NE		3.40	2.91		5.0	0.50	7.010	3.750	1.87	0.35	0.06	0.26	9.89	5% of 43%	
4	Retail 2 NE W4	NE		3.70	2.97		5.0	0.50	device		2.00	0.00	0.00	0.20	10.99	4% of 43%	
5	Retail 3 NE W5	NE		3.70	1.74		5.0	0.50	device		2.00	0.00	0.00	0.20	6.44	2% of 43%	
6	Retail 5 NE W6	NE		4.20	2.70		5.0	0.50	4.300	4.050	1.06	0.80	0.06	0.32	11.34	7% of 43%	
7											ROW SKIPPED (OK if intentional)						
8	Retail 1 SE W1	SE		3.65	5.08		5.0	0.50	3.880	4.550	0.85	0.90	0.87	0.79	18.54	11% of 87%	
9	Retail 2 SE W2	SE		4.30	8.34		5.0	0.50	5.890	4.450	1.32	0.15	0.61	0.50	35.86	18% of 87%	
10	Retail 2 SE W3	SE		4.30	3.37		5.0	0.50	device		2.00	0.00	0.39	0.32	14.49	7% of 87%	
11	Retail 3 SE W4a	SE		4.30	6.13		5.0	0.50	6.840	4.450	1.54	0.15	0.57	0.46	26.36	13% of 87%	
12	Retail 3 SE W4b	SE		4.30	2.79		5.0	0.50	6.840	4.450	1.54	0.15	0.57	0.46	12.00	6% of 87%	
13	Retail 3 SE W4c	SE		4.30	3.88		5.0	0.50	6.040	4.450	1.36	0.15	0.60	0.49	16.68	9% of 87%	
14	Retail 5 SE W5	SE		4.25	3.33		5.0	0.50	9.080	5.150	1.76	0.90	0.67	0.55	14.15	7% of 87%	
15	Retail 5 SE W6a	SE		4.25	3.15		5.0	0.50	1.780	5.150	0.35	0.90	0.98	0.95	13.39	9% of 87%	
16	Retail 5 SE W6b	SE		4.25	5.52		5.0	0.50	1.460	5.150	0.28	0.90	0.98	0.96	23.46	16% of 87%	
17	Retail 6 SE W7	SE		3.90	1.85		5.0	0.50	device		2.00	0.00	0.39	0.32	7.22	3% of 87%	
18											ROW SKIPPED (OK if intentional)						
19	Retail 2 SW W1a	SW		3.35	3.98		5.0	0.50	3.980	3.700	1.08	0.35	0.71	0.59	13.33	4% of 100%	
20	Retail 2 SW W1b	SW		3.65	3.87		5.0	0.50	3.980	4.450	0.89	0.80	0.87	0.79	14.13	4% of 100%	
21	Retail 3 SW W2	SW		4.20	17.65		5.0	0.50	3.220	5.050	0.64	0.85	0.92	0.87	74.13	24% of 100%	
22	Retail 4 SW W3	SW		4.25	7.61		5.0	0.50	1.410	5.050	0.28	0.80	0.98	0.96	32.34	11% of 100%	
23	Retail 5 SW W4	SW		4.35	21.99		5.0	0.50	1.410	5.050	0.28	0.70	0.98	0.96	95.66	34% of 100%	
24	Retail 5 SW W5	SW		4.35	10.79		5.0	0.50	4.740	5.050	0.94	0.70	0.86	0.78	46.94	15% of 100%	
25	Retail 6 SW W6	SW		3.90	6.16		5.0	0.50	3.400	4.450	0.76	0.55	0.90	0.82	24.02	8% of 100%	
26											ROW SKIPPED (OK if intentional)						
27	Retail 4 W W1	W		3.90	5.16		5.0	0.50	6.450	4.450	1.45	0.55	0.69	0.59	20.12	72% of 55%	
28	Retail 6 W W2	W		3.90	2.71		5.0	0.50	device		2.00	0.00	0.00	0.26	10.57	28% of 55%	
29											ROW SKIPPED (OK if intentional)						
30	Retail 1 NW W1	NW		3.55	2.04		5.0	0.50	12.180	4.200	2.90	0.65	0.35	0.35	7.24	2% of 98%	
31	Retail 1 NW W2a	NW		3.55	3.00		5.0	0.50	4.500	4.200	1.07	0.65	0.88	0.63	10.65	6% of 98%	
32	Retail 1 NW W2b	NW		3.55	8.96		5.0	0.50	4.500	4.200	1.07	0.65	0.88	0.63	31.81	17% of 98%	
33	Retail 2 NW W3	NW		3.55	10.30		5.0	0.50	4.440	4.200	1.06	0.65	0.88	0.64	36.57	20% of 98%	
34	Retail 3 NW W4	NW		3.55	4.50		5.0	0.50	4.390	4.200	1.05	0.65	0.89	0.64	15.98	9% of 98%	
35	Retail 5 NW W5a	NW		4.45	8.00		5.0	0.50			0.00	1.00	1.00	35.60	33% of 98%		
36	Retail 5 NW W5b	NW		4.45	2.18		5.0	0.50	1.300	4.450	0.29	0.00	0.90	0.76	9.70	7% of 98%	
37	Retail 5 NW W6	NW		4.45	8.99		5.0	0.50	7.530	4.450	1.69	0.00	0.00	0.23	40.01	7% of 98%	
38																	
39																	
40																	

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if inputs are valid 

Figure 3: BCA Glazing Calculator – Ground Floor Retail

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014) HELP

Building name/description: **Wicks Park, 182-198 Victoria Road, Marrickville**

Application: **other** Climate zone: **5**

Storey: **Ground Floor**

Facade areas:

	N	NE	E	SE	S	SW	W	NW	internal
Option A		148m²		149m²		70.3m²		114m²	
Option B								n/a	
Glazing area (A)	75.6m²		94.7m²		43.7m²		34.7m²		

Number of rows preferred in table below: **15** (as currently displayed)

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS										SHADING		CALCULATED OUTCOMES OK (if inputs are valid)						
Glazing element		Facing sector		Size			Performance		P&H or device		Shading		Multipliers		Size	Outcomes		
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)	P (m)	H (m)	P/H	G (m)	Heating (S _H)	Cooling (S _C)	Area used (m²)	Element share of % of allowance used		
1	Resi Comm NE W1	NE		4.05	11.10		3.8	0.26	2.850	4.900	0.58	0.85	0.97	0.87	44.96	65% of 77%		
2	Resi Comm NE W2	NE		4.05	4.33		3.8	0.26	2.850	4.900	0.58	0.85	0.97	0.87	17.54	25% of 77%		
3	Lobby 3 NE W3	NE		3.65	3.60		3.8	0.26	9.440	4.900	1.93	1.25	0.69	0.50	13.14	10% of 77%		
4											ROW SKIPPED (OK if intentional)							
5	Resi Comm SE W1	SE		4.05	16.02		3.8	0.26			0.00	1.00	1.00		64.88	70% of 100%		
6	Lobby 4 SE W2	SE		4.05	2.83		3.8	0.26	5.700	5.150	1.11	1.10	0.80	0.71	11.46	11% of 100%		
7	Lobby 5 SE W3	SE		4.05	4.53		3.8	0.26	1.600	5.150	0.31	1.10	0.98	0.96	18.35	19% of 100%		
8											ROW SKIPPED (OK if intentional)							
9	Resi Comm SW W1	SW		5.15	5.40		3.8	0.26	4.100	4.900	0.84	-0.25	0.65	0.56	27.81	64% of 76%		
10	BM Office SW W2	SW		3.10	2.50		3.8	0.26	device		2.00	0.00	0.39	0.34	7.75	17% of 76%		
11	Lobby 5 SW W3	SW		4.05	2.02		3.8	0.26	11.000	5.150	2.14	1.10	0.67	0.54	8.18	18% of 76%		
12											ROW SKIPPED (OK if intentional)							
13	Conc Lobby 1 NW W1	NW		3.50	2.07		3.8	0.26	4.430	4.300	1.03	0.80	0.89	0.65	7.25	26% of 23%		
14	Mailroom NW W2	NW		3.50	3.36		3.8	0.26	4.430	4.300	1.03	0.80	0.89	0.65	11.76	43% of 23%		
15	Lobby 2 NW W3	NW		3.50	4.49		3.8	0.26	7.490	4.300	1.74	0.80	0.52	0.40	15.72	31% of 23%		

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Figure 4: BCA Glazing Calculator – Ground Floor Communal Residential Facilities and Lobbies

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014) HELP

Building name/description: **Wicks Park, 182-198 Victoria Road, Marrickville**

Application: **other** Climate zone: **5**

Storey: **Levels 1 to 5**

Facade areas:

	N	NE	E	SE	S	SW	W	NW	internal
Option A		4.67m²				23.5m²		9.74m²	
Option B								n/a	
Glazing area (A)	3.36m²				14.9m²		3.36m²		

Number of rows preferred in table below: **10** (as currently displayed)

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS										SHADING		CALCULATED OUTCOMES OK (if inputs are valid)						
Glazing element		Facing sector		Size			Performance		P&H or device		Shading		Multipliers		Size	Outcomes		
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)	P (m)	H (m)	P/H	G (m)	Heating (S _H)	Cooling (S _C)	Area used (m²)	Element share of % of allowance used		
1	Lobby 1	NE		2.10	1.60		4.0	0.40	device		2.00	0.00	0.00	0.20	3.36	100% of 35%		
2	Lobby 2	SW		2.10	2.40		4.0	0.40	device		2.00	0.00	0.39	0.34	5.04	28% of 100%		
3	Lobby 3	SW		1.70	4.13		4.0	0.40				0.00	1.00	1.00	7.02	51% of 100%		
4	Lobby 5	SW		2.10	1.36		4.0	0.40				0.00	1.00	1.00	2.86	21% of 100%		
5	Lobby 4	NW		2.10	1.60		4.0	0.40				0.00	1.00	1.00	3.36	100% of 90%		
6																		
7																		
8																		
9																		
10																		

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Figure 5: BCA Glazing Calculator – Levels 1 to 5 Residential Lobbies

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014) HELP

Building name/description: **Wicks Park, 182-198 Victoria Road, Marrickville**

Application: **other** Climate zone: **5**

Storey: **Levels 6-9**

Facade areas:

Option A	Option B	SW	W	NW	internal
		15.9m ²		9.74m ²	
					n/a

Glazing area (A) 9.88m² 3.36m²

Number of rows preferred in table below: **10** (as currently displayed)

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS							SHADING		CALCULATED OUTCOMES OK (if inputs are valid)							
ID	Description (optional)	Facing sector		Size			Performance		P&H or device		Shading		Multipliers		Size	Outcomes
		Option A facades	Option B facades	Height (m)	Width (m)	Area (m ²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)	P (m)	H (m)	P/H	G (m)	Heating (S _H)	Cooling (S _C)	Area used (m ²)	Element share of % of allowance used
1	Lobby 3	SW		1.70	4.13		4.0	0.32				0.00	1.00	1.00	7.02	71% of 100%
2	Lobby 5	SW		2.10	1.36		4.0	0.32				0.00	1.00	1.00	2.86	29% of 100%
3	Lobby 4	NW		2.10	1.60		4.0	0.32				0.00	1.00	1.00	3.36	100% of 71%
4																
5																
6																
7																
8																
9																
10																

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if inputs are valid 

Figure 6: BCA Glazing Calculator – Levels 6 to 9 Residential Lobbies

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014) HELP

Building name/description: **Wicks Park, 182-198 Victoria Road, Marrickville**

Application: **other** Climate zone: **5**

Storey: **Level 10**

Facade areas:

Option A	Option B	SW	W	NW	internal
		15.9m ²		14.6m ²	
					n/a

Glazing area (A) 9.88m² 3.36m²

Number of rows preferred in table below: **10** (as currently displayed)

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS							SHADING		CALCULATED OUTCOMES OK (if inputs are valid)							
ID	Description (optional)	Facing sector		Size			Performance		P&H or device		Shading		Multipliers		Size	Outcomes
		Option A facades	Option B facades	Height (m)	Width (m)	Area (m ²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)	P (m)	H (m)	P/H	G (m)	Heating (S _H)	Cooling (S _C)	Area used (m ²)	Element share of % of allowance used
1	Lobby 3	SW		1.70	4.13		4.0	0.32				0.00	1.00	1.00	7.02	71% of 100%
2	Lobby 5	SW		2.10	1.36		4.0	0.32				0.00	1.00	1.00	2.86	29% of 100%
3	Lobby 4	NW		2.10	1.60		4.0	0.32				0.00	1.00	1.00	3.36	100% of 47%
4																
5																
6																
7																
8																
9																
10																

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if inputs are valid 

Figure 7: BCA Glazing Calculator – Level 10 Residential Lobbies

NCC VOLUME ONE GLAZING CALCULATOR (first issued with NCC 2014) HELP

Building name/description: **Wicks Park, 182-198 Victoria Road, Marrickville**

Application: **other** Climate zone: **5**

Storey: **Level 11**


Facade areas:

	N	NE	E	SE	S	SW	W	NW	internal	
Option A						17m²		35.4m²		
Option B								n/a		
Glazing area (A)						9.88m²				3.36m²

Number of rows preferred in table below: **10** (as currently displayed)

GLAZING ELEMENTS, ORIENTATION SECTOR, SIZE and PERFORMANCE CHARACTERISTICS							SHADING		CALCULATED OUTCOMES OK (if inputs are valid)								
Glazing element		Facing sector		Size			Performance		P&H or device		Shading		Multipliers		Size		Outcomes
ID	Description (optional)	Option A facades	Option B facades	Height (m)	Width (m)	Area (m²)	Total System U-Value (AFRC)	Total System SHGC (AFRC)	P (m)	H (m)	P/H	G (m)	Heating (S _H)	Cooling (S _C)	Area used (m²)	Element share of % of allowance used	
1	Lobby 3	SW		1.70	4.13		4.0	0.40				0.00	1.00	1.00	7.02	71% of 100%	
2	Lobby 5	SW		2.10	1.36		4.0	0.40				0.00	1.00	1.00	2.86	29% of 100%	
3	Lobby 4	NW		2.10	1.60		4.0	0.40				0.00	1.00	1.00	3.36	100% of 25%	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

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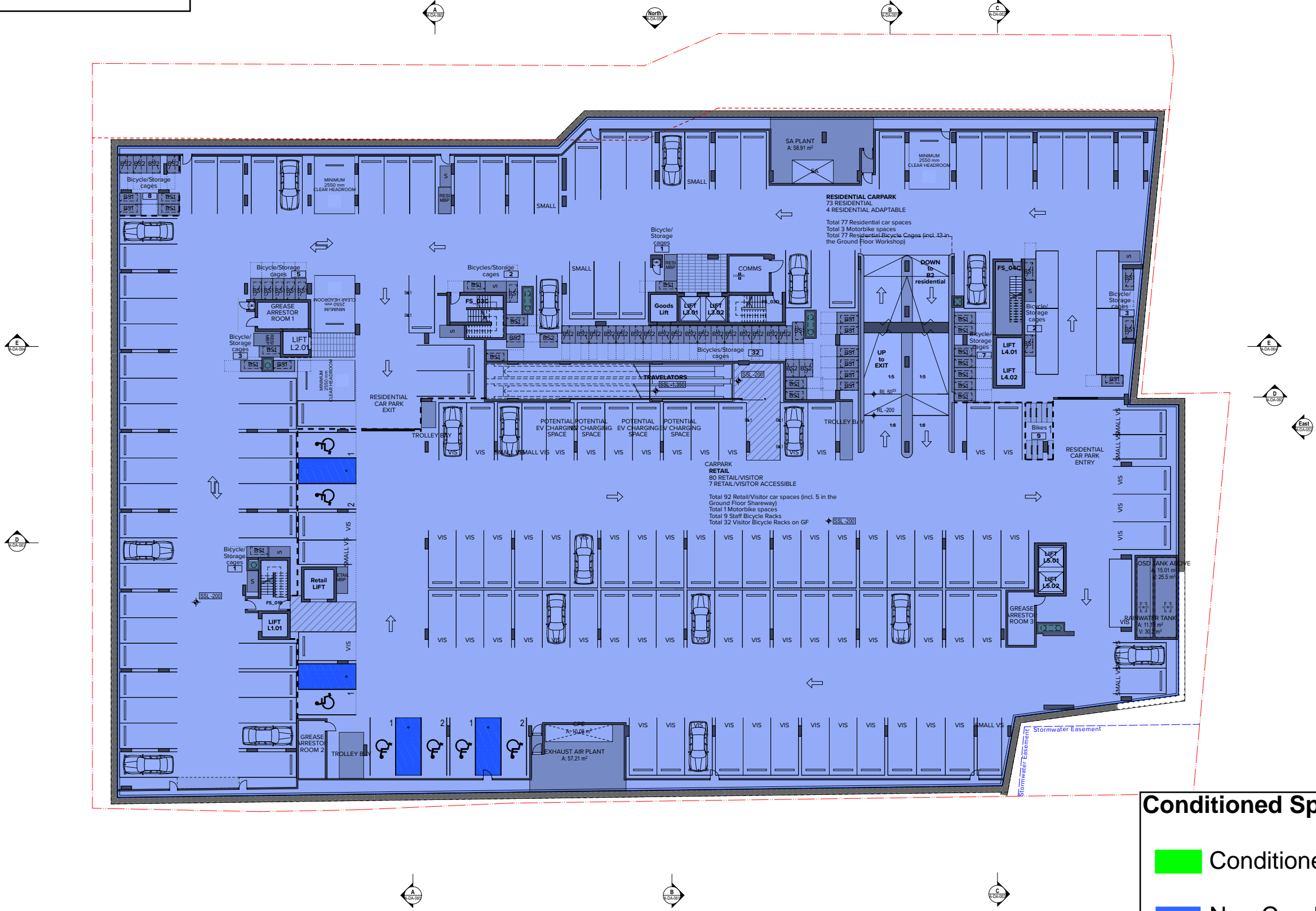
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Figure 8: BCA Glazing Calculator – Level 11 Residential Lobbies

APPENDIX B

ARCHITECTURAL FLOOR PLANS – CONDITIONED SPACES MARK-UP

BASEMENT 01



Conditioned Spaces

 Conditioned Areas

 Non-Conditioned Areas

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Project Title
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28 - 30 Faversham St Marrickville

Drawing Title

GA Plans

Basement 01

Scale
1:200 @A1, 50% @A3
Status
For Information

Project No. **18041** Drawn by **TURNER** North
 Dwg No. **A-DA-009** Rev **3**

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Darlinghurst NSW 2010
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GROUND FLOOR



Conditioned Spaces

Conditioned Areas

Non-Conditioned Areas

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Drawing Title
GA Plans
Ground Level

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Dwg No.
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LEVEL 01



Conditioned Spaces

Conditioned Areas

Non-Conditioned Areas

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LEVELS 02 to 05 TYPICAL

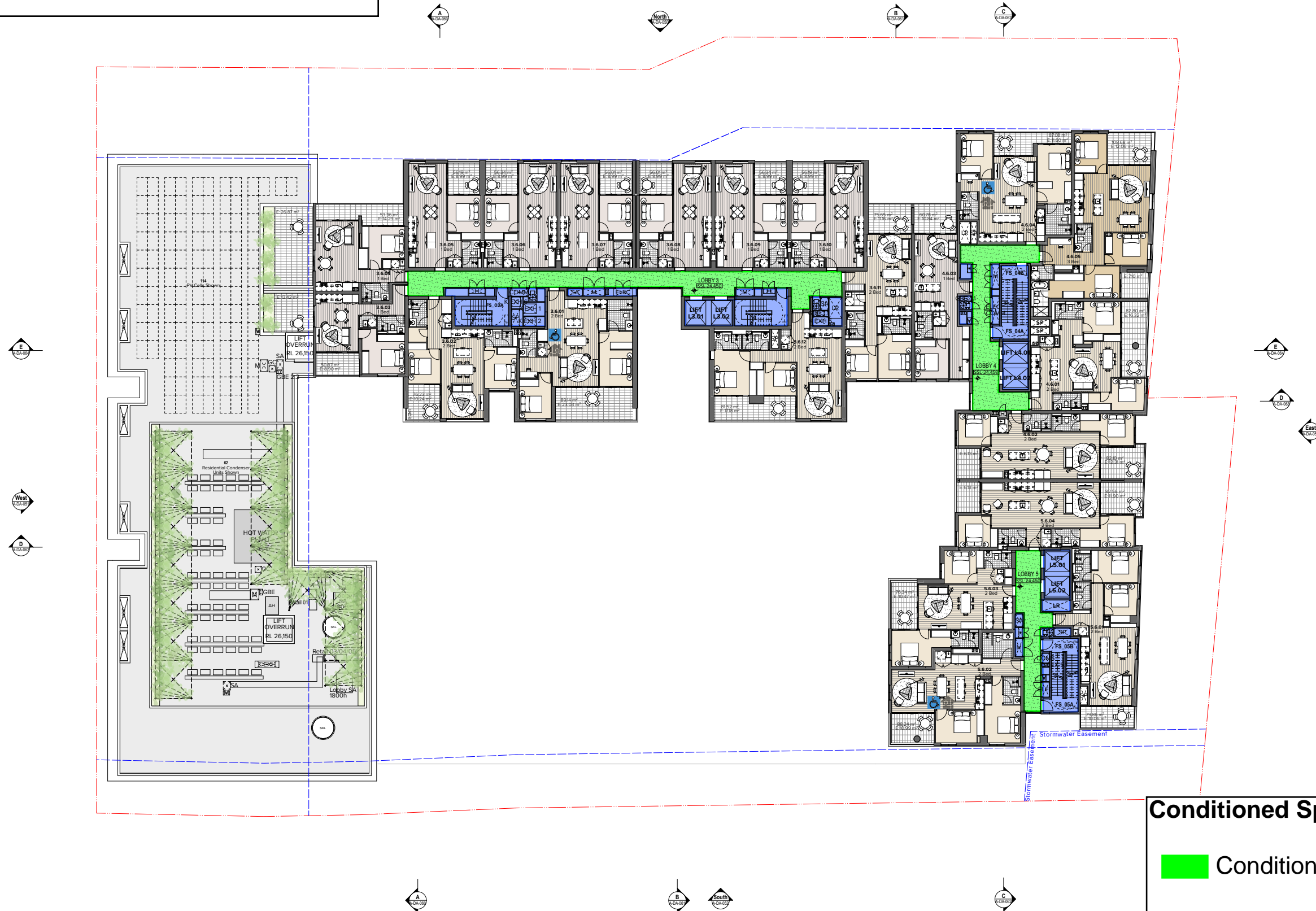


Conditioned Spaces

Conditioned Areas

Non-Conditioned Areas

LEVELS 06 to 09 TYPICAL



Conditioned Spaces

- Conditioned Areas
- Non-Conditioned Areas

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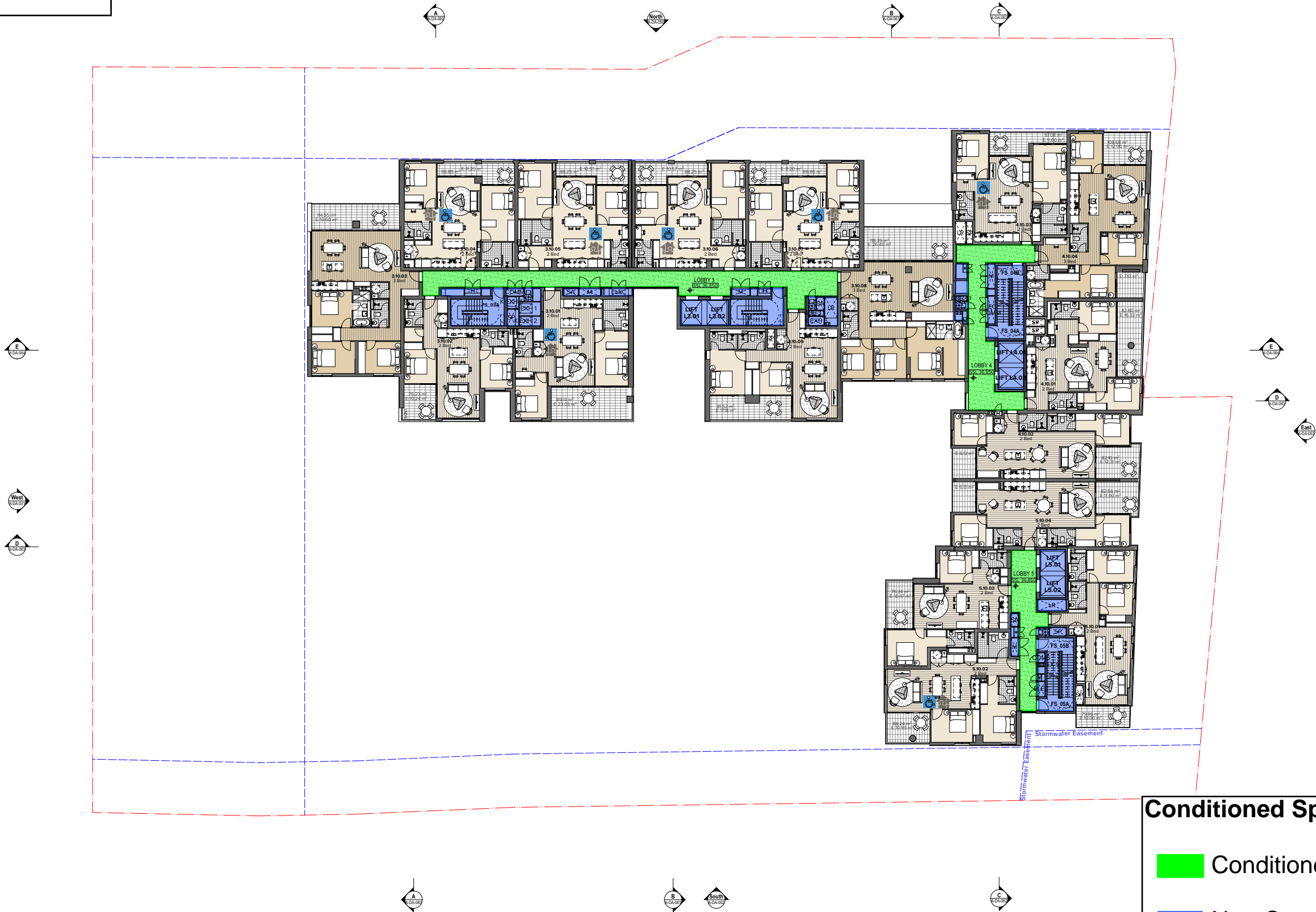
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LEVEL 10



Conditioned Spaces

- Conditioned Areas
- Non-Conditioned Areas

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LEVEL 11



Conditioned Areas

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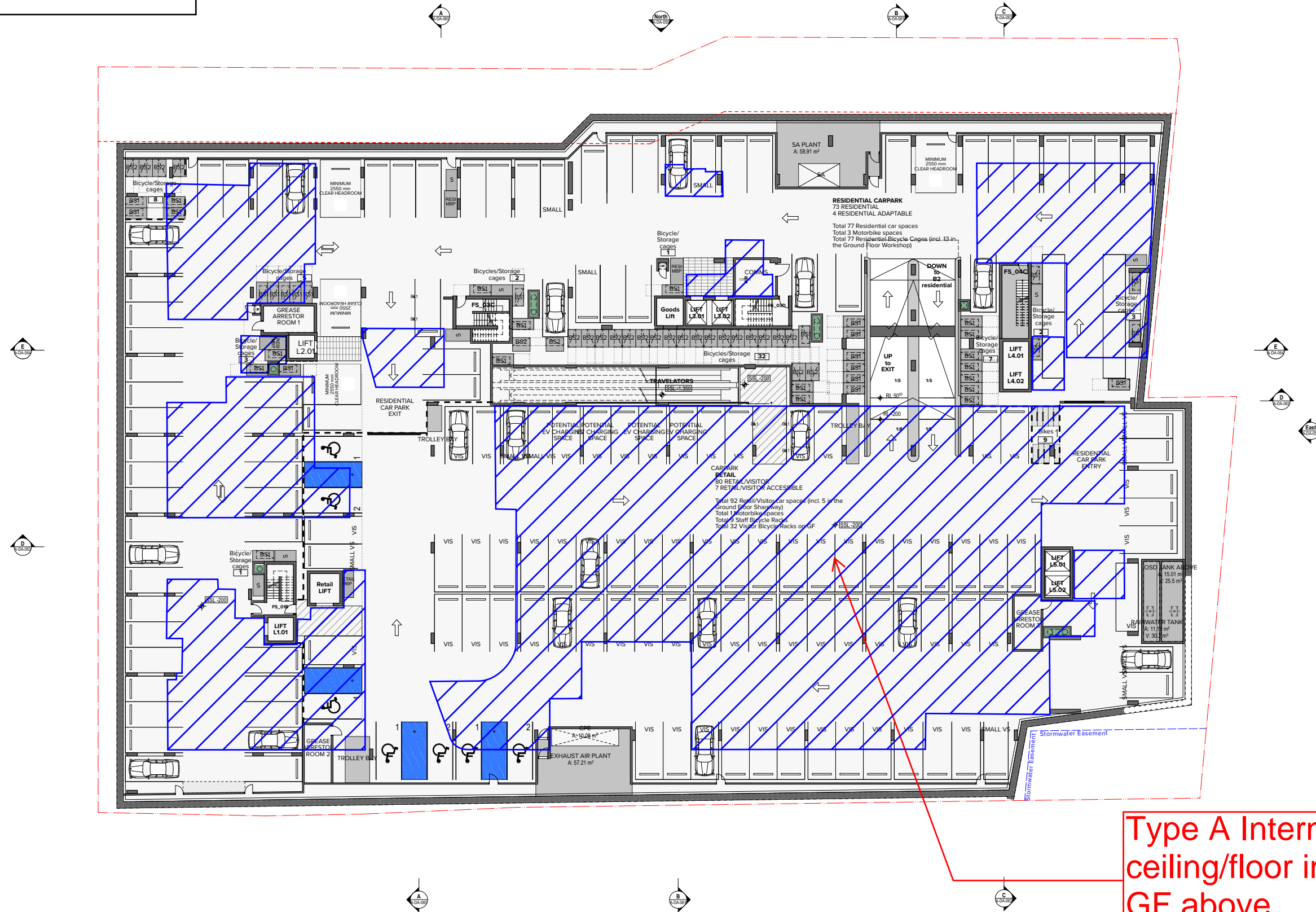
APPENDIX C

ARCHITECTURAL FLOOR PLANS – PROPOSED INSULATION MARK-UPS

DTS Insulation Legend

-  Type BRK External Wall (Total R-value = R2.8 with R2.22 insulation)
-  Type PB Internal Wall (Total R-value = R1.8 with R1.24 insulation)
-  Type BLK Internal Wall (Total R-value = R1.8 with R1.39 insulation)
-  Type PC Internal Wall (Total R-value = R1.8 with R1.42 insulation)
-  Type Aa Green Roof NO Ceiling (Total R-value = R4.2 with R2.90 insulation)
-  Type Ba Concrete Roof NO Ceiling (Total R-value = R4.2 with R3.90 insulation)
-  Type Bb Concrete Roof + PB (Total R-value = R4.2 with R3.62 insulation)
-  Type A Internal Ceiling/Floor NO PB (Total R-value = R2.0 with R1.58 insulation)
-  Type B Internal Ceiling/Floor + PB (Total R-value = R2.0 with R1.30 insulation)
-  Type A Exposed Suspended Floor (Total R-value = R2.0 with R1.70 insulation)

BASEMENT 01



Type A Internal
ceiling/floor insulation to
GF above

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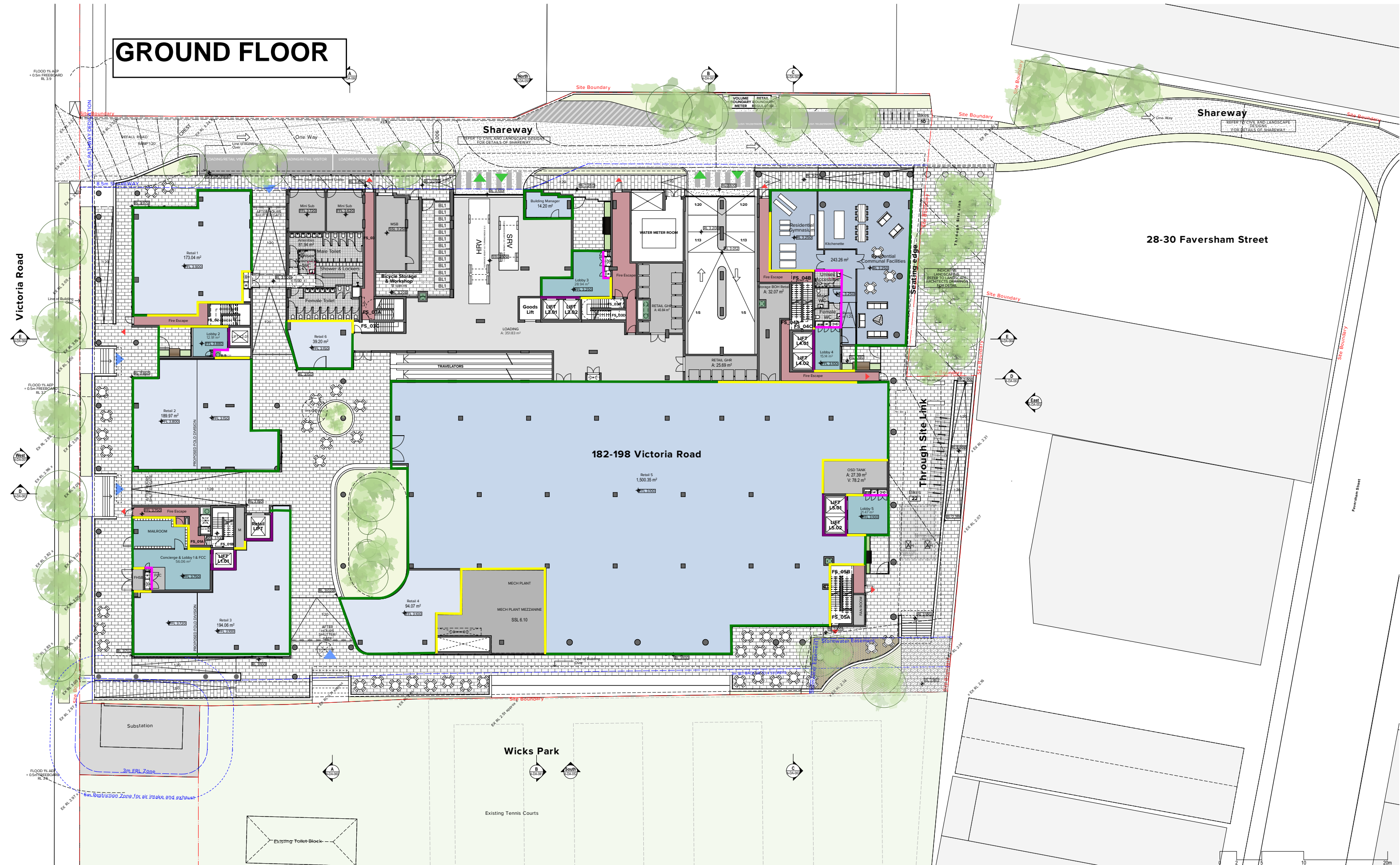
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GROUND FLOOR



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LEVEL 01

Type A Exposed
Suspended Floor
to GF Loading
Dock below

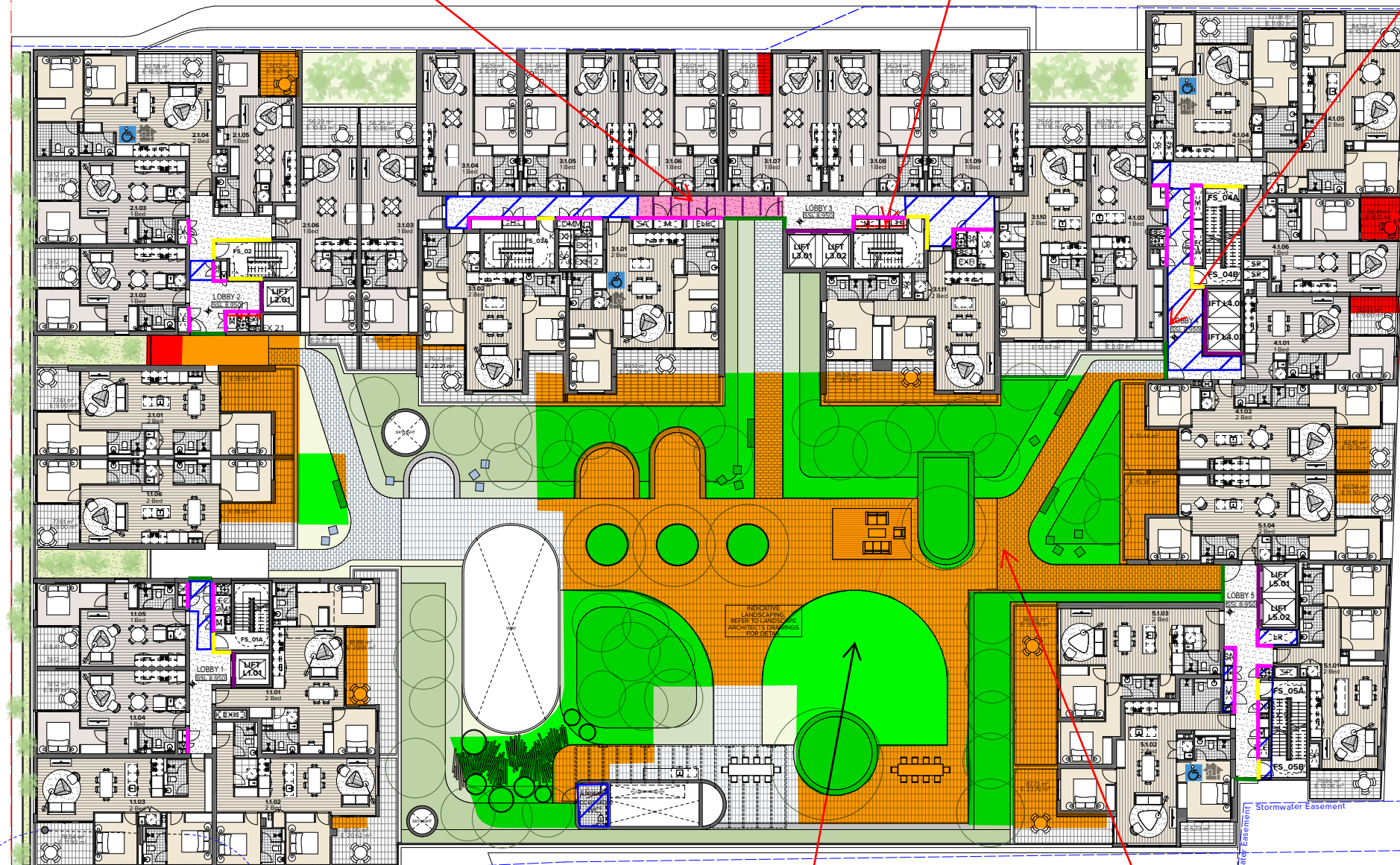
Type B Internal
ceiling/floor
insulation to GF
Lobby below

Type A Internal
ceiling/floor
insulation to GF
Retail BOH below

Type Bb
Concrete Roof
insulation to GF
Lobby below

Type Ba
Concrete Roof
insulation to GF
Retail below

Type A Green Roof to GF Retail below



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LEVELS 02 to 05 TYPICAL



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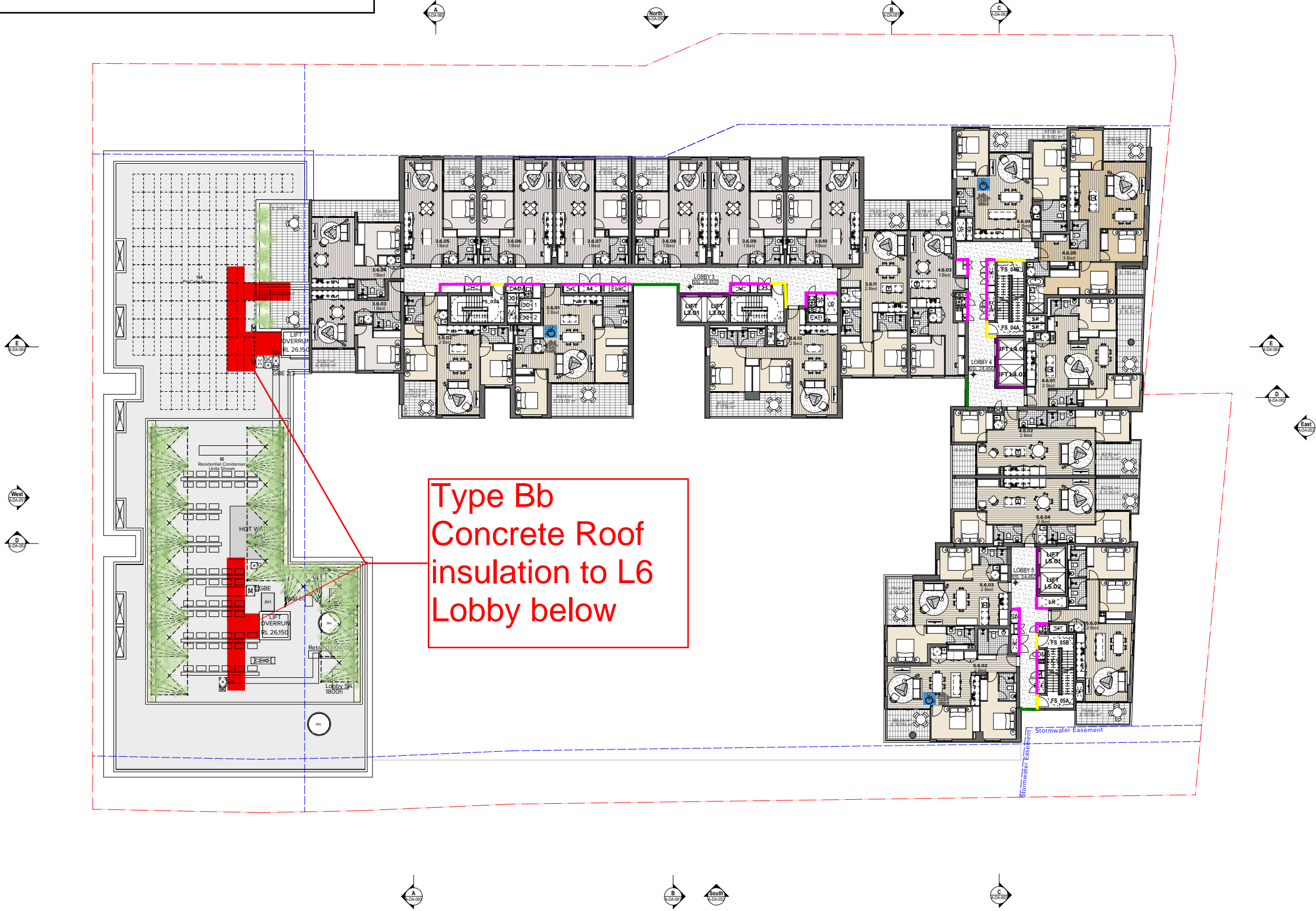
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LEVELS 06 to 09 TYPICAL



Type Bb
Concrete Roof
insulation to L6
Lobby below


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Drawing Title

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LEVEL 10



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Drawing Title
GA Plans
Level 10

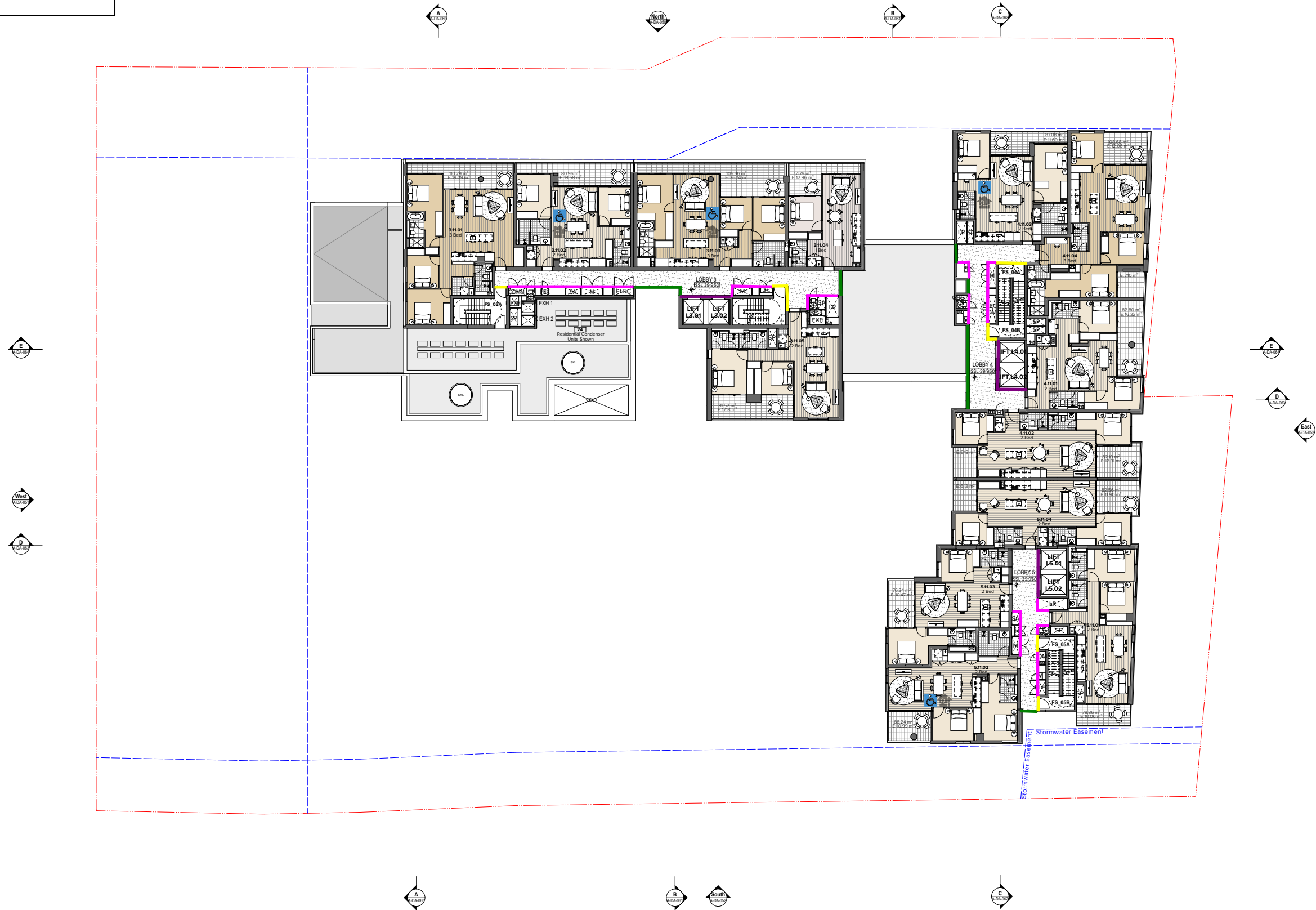
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LEVEL 11



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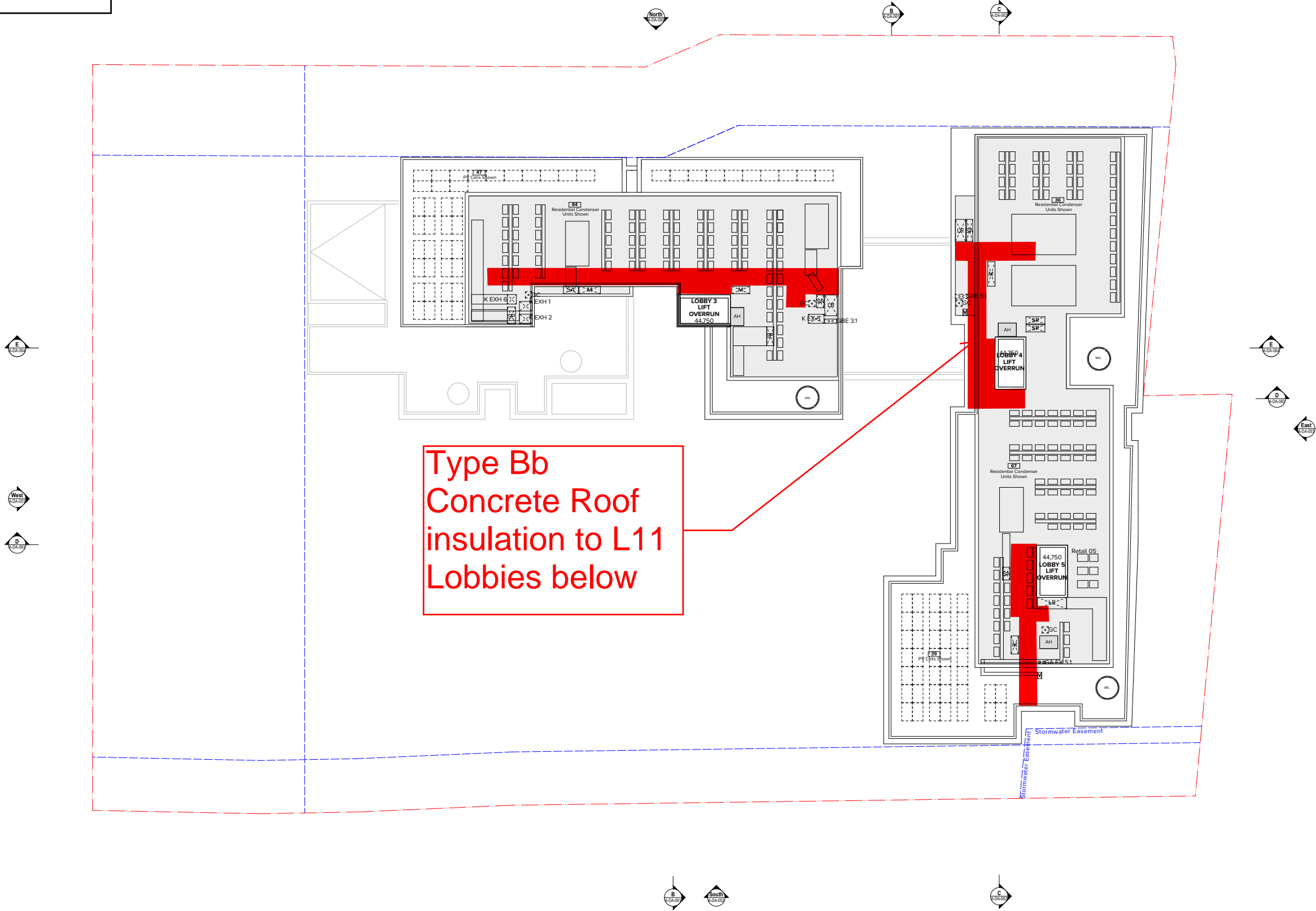
Drawing Title
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28 - 30 Faversham St Marrickville
GA Plans
Level 11

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Status	Dwg No.	Rev	
For Information	A-DA-021	4	

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ROOF



Type Bb
Concrete Roof
insulation to L11
Lobbies below

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Drawing Title
GA Plans
Roof Level

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