Olter Investments Pty Ltd

71-75 Victoria Rd, Drummoyne

BASIX Assessment Report

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1. SITE APPRECIATION

The proposed development is located at 71-75 Victoria Rd, Drummoyne and consists of:

- 31 new residential units

2. BASIX WATER SECTION

The proposed development will meet the mandatory BASIX water target of 40% as long as the water commitments detailed in Table 1 are installed. For details of the requirements necessary to achieve this target, please refer to the BASIX Certificate No. 1171118M_03.

Table 1: BASIX Water Commitments

Common Areas and Central Systems	
Area of Indigenous or low water species	• 85m^2 • For more details , please refer to Appendix B

Rainwater collection	• 5,000L rainwater tank
	• Minimum roof collection area - 200m^2
	• Rainwater to be used for:
	  • Common area landscape irrigation
	  • Carwash bay

Fixtures	• 4-star (Water Rating) showerheads with a flow rate > 6.0L/min & ≤ 7.5L/min • 4-star (Water Rating) toilets • 4-star (Water Rating) taps
Fire Sprinkler	• Test water **not to be diverted** to a closed system
Private Dwellings	
Fixtures for apartments	• 4-star (Water Rating) showerheads with a flow rate > 4.5L/min & ≤ 6L/min • 4-star (Water Rating) toilets • 5-star (Water Rating) kitchen taps • 5-star (Water Rating) bathroom taps • 4.5-star (Water Rating) dishwashers

3. BASIX THERMAL COMFORT SECTION

The thermal performance of the development has been evaluated using BERS Pro 2nd Generation software. The BERS Pro computer simulation of residential developments forms part of the Nationwide House Energy Rating Scheme, and is used to assess the potential of a residential development to have low heating and cooling energy requirements once operational.

3.1 MODELLING ASSUMPTIONS

The "base-case" building fabric and glazing and associated thermal performance specifications are described in Table 2 below as these assumptions are based on the nominated preferred construction materials indicated by the architect.

Note: Table 2 must be read in conjunction with Table 3. Table 3 outlines additional thermal enhancements / treatments to meet the mandatory thermal load targets to achieve compliance.

Table 2: Base Case Assumptions on Construction and Fabric

Element	*Material*	*Detail*
External walls	75mm Hebel, lined	**Insulation: See Table 3**
		Medium colour: 0.475<absorptance< 0.70
Internal walls	Plasterboard	
Party walls	75mm Hebel, lined	Common corridors, Neighbour, Fire stairs & lifts
	Type 1	Total Window System Properties **U-value 5.4 & SHGC 0.58 for sliding doors, sliding & fixed windows** **And** Total Window System Properties **U-value 5.4 & SHGC 0.49 for bifold doors, awning & casement windows**
	Type 2	Total Window System Properties **U-value 4.9 & SHGC 0.33 for sliding doors, sliding & fixed windows** **And** Total Window System Properties **U-value 4.9 & SHGC 0.33 for bifold doors, awning & casement windows**
	Type 3	Total Window System Properties **U-value 3.0 & SHGC 0.26 for sliding doors, sliding & fixed windows** **And** Total Window System Properties **U-value 3.0 &**

Element	*Material*	*Detail*
		SHGC 0.27 for bifold doors, awning & casement windows
	Window Operability	Balcony windows: **45% (i.e. sliding)** Bedroom windows: **10%** (BCA D2.24) All other non-balcony windows: **0% (i.e. fixed)**
	Shading device	Balcony windows: **60% opacity** Non-balcony windows: **60% opacity**
Skylight	**Type 1**	**U-value 4.2 & SHGC 0.72**
Roof	Concrete	**Insulation: See Table 3**
		Medium colour: 0.475<absorptance< 0.70
Ceilings	Plasterboard	**Insulation: See Table 3**
Floors	Concrete	**Insulation: See Table 3**
		Tiles: Wet areas only
		Carpet: Elsewhere
Common corridors naturally ventilated		Yes
Recessed downlights assessed		No
Exhaust fans (kitchens, bathrooms, laundry)		**All assumed to be sealed**
Note: Only a ±5% SHGC tolerance to the value stated above & U-value can be greater than or equal to the value stated above		

3.2 BERS PRO RESULTS (THERMAL COMFORT)

The simulated heating and cooling loads per dwelling are summarized in Table 3 below. Where the dwellings have failed to meet the thermal load targets additional thermal enhancements / treatments are provided. This is typically in the form of bulk insulation. These additional thermal treatments are required to pass the BASIX Thermal performance requirements. Please refer to BASIX Certificate No. 1171118M_03 & NatHERS Universal Certificate No. 0005729950 for details.

Table 3: BERS Pro Thermal Loads

Unit No.	*Additional Treatments Required*	*Heating Load (MJ/m².yr)*	*Cooling Load (MJ/m².yr)*	*Stars*	*Pass/Fail*
1.01	R1.0 Bulk Floor Insulation (total floor system R-value of Rt1.11) R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 1 windows	33.7	15.3	6.2	Pass
1.02	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 2 windows	4.5	24.2	7.8	Pass
1.03	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 2 windows	4.6	24.3	7.8	Pass
1.04	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 2 windows	4.6	24.3	7.8	Pass
1.05	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 2 windows	44.6	26.8	4.7	Pass
1.06	R1.5 Bulk Floor Insulation (total floor system R-	45.1	21.3	4.9	Pass

Unit No.	Additional Treatments Required	Heating Load ($MJ/m^2.yr$)	Cooling Load ($MJ/m^2.yr$)	Stars	Pass/Fail
	value of Rt1.61) R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 2 windows				
1.07	R1.5 Bulk Floor Insulation (total floor system R-value of Rt1.61) R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 2 windows	32.8	25.3	5.4	Pass
2.01	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 1 windows	23.5	16.2	6.9	Pass
2.02	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 2 windows	4.8	24.2	7.7	Pass
2.03	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 1 windows	9.8	21.6	7.6	Pass
2.04	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 2 windows	33.6	26.9	5.3	Pass
2.05	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 2 windows	33.5	23.2	5.6	Pass
2.06	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 2 windows	27.9	26.7	5.7	Pass
3.01	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 1 windows	26.9	14.7	6.8	Pass
3.02	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 2 windows	7.4	22.1	7.7	Pass
3.03	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 1 windows	12.5	20.0	7.4	Pass
3.04	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 2 windows	38.7	24.7	5.2	Pass
3.05	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 2 windows	37.1	19.7	5.6	Pass
3.06	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 2 windows	32.1	25.0	5.6	Pass
4.01	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 1 windows	27.5	14.7	6.7	Pass
4.02	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 2 windows	7.9	21.9	7.7	Pass
4.03	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 1 windows	12.9	19.9	7.4	Pass
4.04	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 2 windows	39.6	24.6	5.1	Pass

Unit No.	*Additional Treatments Required*	*Heating Load (MJ/m².yr)*	*Cooling Load (MJ/m².yr)*	*Stars*	*Pass/Fail*
4.05	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 2 windows	36.5	19.7	5.6	Pass
4.06	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 2 windows	32.8	24.5	5.5	Pass
5.01	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 1 windows R2.0 Bulk Ceiling Insulation (total ceiling/roof system R-value of Rt2.16)	35.4	24.9	5.4	Pass
5.02	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 3 windows R2.0 Bulk Ceiling Insulation (total ceiling/roof system R-value of Rt2.16)	9.8	29.5	6.9	Pass
5.03	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 3 windows R2.0 Bulk Ceiling Insulation (total ceiling/roof system R-value of Rt2.16)	14.2	23.8	7.1	Pass
5.04	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 3 windows R2.0 Bulk Ceiling Insulation (total ceiling/roof system R-value of Rt2.16)	33.8	27.8	5.3	Pass
5.05	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 2 windows R2.0 Bulk Ceiling Insulation (total ceiling/roof system R-value of Rt2.16) Type 1 skylight	45.2	29.4	4.5	Pass
5.06	R2.5 Bulk External Wall Insulation (total wall system R-value of Rt3.14) Type 3 windows R2.0 Bulk Ceiling Insulation (total ceiling/roof system R-value of Rt2.16) Type 1 skylight	30.7	27.2	5.5	Pass

4. BASIX ENERGY SECTION

The proposed development will meet the mandatory BASIX Energy target of 25% as long as the energy commitments detailed in Table 4 are installed.

Table 4: BASIX Energy Commitments

Component		*Commitment*
Common Areas	Hot Water System	• See Private dwellings
	Lifts	• All lifts to use Gearless traction with VVVF motor servicing all levels

Component		Commitment
	Ventilation	• Car park: Ventilation (supply & exhaust) with a CO monoxide monitor & VSD fan • Garbage Rooms: Ventilation (exhaust only), continuous • Plant/Service Rooms: Ventilation (supply only), thermostatically controlled • Hallways & lobbies: No mechanical ventilation
	Lighting	• Car park: LED lighting with motion sensors • Lift Cars: LED lighting connected to lift call button • Garbage Rooms: LED lighting with motion sensors • Plant/Service Room: LED lighting with manual on/off switch • Hallways & lobbies: LED lighting with motion sensors + time clock
Private Dwellings	Hot Water System	• Individual Instantaneous Gas Hot Water System with 6 Stars Rating
	Ventilation	• Kitchen, Bathroom & Laundry Exhaust: Individual fan, ducted to roof or façade, with manual on/off switch
	Heating & Cooling	• Heating: Living & Beds to have individual 2-star (average zone) 1-phase air-conditioning • Cooling Living & Beds to have individual 2-star (average zone) 1-phase air-conditioning
	Lighting	• At least 80% of light fittings (including the main light fitting) in all hallways, laundries, bathrooms, kitchens, bedrooms and living areas to use Fluorescent or LED lights with dedicated fittings[1]
	Other	• Gas cook top and electric oven • Install 4-star (energy rating) dishwashers • Install 2-star (energy rating) dryers

[1] Definition of dedicated fittings is a light fitting that is only capable of accepting fluorescent or LED (Light Emitting Diode) lamps. It will not accept incandescent, halogen or any other non-fluorescent or non-LED lamps.

5. CONCLUSION

The proposed development has been assessed to optimise its thermal performance (passive and fabric design) using the Nationwide House Energy Rating scheme (NatHERS) and also been assessed in terms of its ability to conserve water and minimise energy consumption through BASIX Tool.

With the commitment recommendations contained within this report the proposed development is able to meet BASIX requirements and is BASIX compliant.

For further details, please refer to the BASIX Certificate No. 1171118M_03 provided.

APPENDIX A - ARCHITECTURAL DRAWINGS

The building sustainability performance assessment carried out in this report was based on the following architectural drawings supplied by PBD Architects received on 15th September 2022.

- DA001 - Project Summary-D
- DA100 - Basement 2 Plan-C
- DA101 - Basement 1 Plan-C
- DA102 - Ground Floor Plan-D
- DA103 - Level 1 Plan-D
- DA104 - Typical level 2 - 4 Plan-D
- DA106 - Level 5 Plan-D
- DA107 - Roof Terrace-D
- DA200 - Elevations - 01-D
- DA201 - Elevations - 02-D
- DA300 - Section A-D
- DA301 - Section B-D
- DA302 - Section C-D

APPENDIX B – Landscaping Areas

Common Area Landscape	**Common area garden (m^2)**	204.7	
	Common area indigenous species	30%	
Private dwellings	**Unit**	**Private Garden (m^2)**	**Area of indigenous species (m^2)**
	1.01	5.8	2.9
	1.02	1.9	0.95
	1.03	1.9	0.95
	1.04	1.9	0.95
	1.07	6.1	3.05