



C&J Bova Investments ATF The Bova Property Trust

46-50 Meredith St Bankstown

BASIX Assessment Report

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Revision	01 – Amended Scheme
Subject	46-50 Meredith St Bankstown – BASIX Assessment Report

1. SITE APPRECIATION

The proposed development is located at 46-50 Meredith St Bankstown and consists of:

- Basement car parking
- Ground Floor commercial space & Boarding House Building
- 56 apartments

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. 889092M_02.

Table 1: BASIX Water Commitments

Common Areas and Central Systems	
<u>Area of Indigenous or low water species</u>	<ul style="list-style-type: none"> • <u>Please refer to Appendix B</u>
<u>Rainwater collection</u>	<ul style="list-style-type: none"> • Minimum 5,000L rainwater tank • Roof collection area – minimum 100 m² • Rainwater to be used for landscape irrigation (common areas only)
<u>Fixtures for Common Areas</u>	<ul style="list-style-type: none"> • No Common Areas WC
<u>Fire Sprinkler</u>	<ul style="list-style-type: none"> • Test Water <u>must be diverted</u> to a closed system
Private Dwellings	
<u>Fixtures for apartments</u>	<ul style="list-style-type: none"> • 3-star (Water Rating) showerheads with a flow rate > 6.0L/min & ≤ 7.5L/min • 4-star (Water Rating) toilets • 5-star (Water Rating) kitchen taps • 5-star (Water Rating) bathroom taps • 4-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	Light weight Cladding & Metal Cladding	Insulation: R2.5 Bulk External Wall Insulation with vapour barrier (modelled as Bulk Insulation + Antiglare Foil, total approx R2.7) Light and Medium colour
Internal walls	Plasterboard	
Party Walls	Concrete block & Hebel Power Panel	To Neighbour, corridors, Lift Core & Stairwells
Windows	See Table 3 for total window properties If not specified in Table 3, window properties should be specified as per the details in this Table.	Single glazed, clear with Aluminium frame for sliding doors, sliding & fixed windows Total Window System Properties U-value 6.7 & SHGC 0.70 Single glazed, clear with Aluminium frame for awning windows Total Window System Properties U-value 6.7 & SHGC 0.57
	Window Operability: As per Plans & Elevations	Balcony windows: 45% or 66% (i.e. sliding) Bedroom windows: 10% (BCA D2.24) Other windows: 0% (i.e. fixed) & 90% (i.e. bathroom awning)
	Shading device	As per Plans & Elevations
	Skylight	None
Roof	Concrete	Insulation: See Table 2 Light colour
Ceilings	Plasterboard	Insulation: See Table 2
Floors	Concrete	Insulation: See Table 2 Tiles: Elsewhere Carpet: Bedrooms
Common corridors naturally ventilated		N/A
Recessed downlights assessed		No
Exhaust fans (kitchens, bathrooms, laundry)		All assumed to be sealed

3.2 BERS PRO RESULTS (THERMAL COMFORT)

The simulated heating and cooling loads per dwelling are summarized in Tables 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.

Table 3: BERS Pro Thermal Loads

<i>Unit No.</i>	<i>Additional Treatments Required</i>	<i>Heating Load (MJ/m².yr)</i>	<i>Cooling Load (MJ/m².yr)</i>	<i>Stars</i>	<i>Pass/Fail</i>
G01	R1.0 Bulk Floor Insulation, Total Window System U-value 5.4 & SHGC 0.49 (for awning windows) OR SHGC 0.58 (for fixed & sliding windows/doors) for All windows	44.4	9.8	5.8	Pass
G02	R1.0 Bulk Floor Insulation, Total Window System U-value 5.4 & SHGC 0.49 (for awning windows) OR SHGC 0.58 (for fixed & sliding windows/doors) for All windows	42.2	10.5	5.9	Pass
G03	R0.5 Bulk Floor Insulation	35.4	29.2	5.1	Pass
G04	R0.5 Bulk Floor Insulation, Total Window System U-value 5.4 & SHGC 0.49 (for awning windows) OR SHGC 0.58 (for fixed & sliding windows/doors) for All windows	40.1	18.3	5.4	Pass
G05	R1.2 Bulk Floor Insulation, Total Window System U-value 5.4 & SHGC 0.49 (for awning windows) OR SHGC 0.58 (for fixed & sliding windows/doors) for All windows	44.6	13.7	5.4	Pass
101	Total Window System U-value 5.4 & SHGC 0.49 (for awning windows) OR SHGC 0.58 (for fixed & sliding windows/doors) for All windows	17.8	29.1	6.4	Pass
102	None	38.0	20.1	5.4	Pass
103	R1.0 Bulk Floor Insulation, Total Window System U-value 5.4 & SHGC 0.49 (for awning windows) OR SHGC 0.58 (for fixed & sliding windows/doors) for All Living & Kitchen Balcony windows and doors only	44.2	19.7	5.2	Pass
104	None	32.3	11.5	6.6	Pass
105	None	24.5	12.4	7.2	Pass
106	R0.5 Bulk Floor Insulation to floor areas adj to bike parking	14.1	28.0	6.8	Pass
107	Total Window System U-value 5.4 & SHGC 0.49 (for awning windows) OR SHGC 0.58 (for fixed & sliding windows/doors) for All windows, Hallway West window must have a minimum of 10% openable area for ventilation	7.5	26.2	7.4	Pass
108	None	21.2	18.1	6.9	Pass
109	None	40.2	16.2	5.7	Pass
201	R0.5 Bulk Floor Insulation to exposed floor areas only	41.1	25.0	4.9	Pass
202	None	21.2	19.5	6.9	Pass
203	None	32.7	19.9	5.9	Pass
204	None	33.2	11.3	6.6	Pass
205	None	25.2	12.0	7.2	Pass
206	None	4.3	29.3	7.4	Pass
207	Total Window System U-value 5.4 & SHGC 0.49 (for awning windows) OR SHGC 0.58 (for fixed & sliding windows/doors) for All windows, Hallway West window must have a minimum of 10% openable area for ventilation	8.1	25.7	7.4	Pass
208	None	22.0	17.1	6.9	Pass

Unit No.	Additional Treatments Required	Heating Load (MJ/m².yr)	Cooling Load (MJ/m².yr)	Stars	Pass/Fail
209	None	41.2	15.8	5.6	Pass
301	None	34.8	21.4	5.7	Pass
302	None	25.1	17.2	6.8	Pass
303	R3.5 Bulk Ceiling Insulation to exposed areas only	45.1	15.5	5.4	Pass
304	R1.5 Bulk Ceiling Insulation to exposed areas only	40.9	9.9	6.0	Pass
305	None	41.9	11.5	5.9	Pass
306	None	6.4	25.8	7.4	Pass
307	Total Window System U-value 5.4 & SHGC 0.49 (for awning windows) OR SHGC 0.58 (for fixed & sliding windows/doors) for All windows, Hallway West window must have a minimum of 10% openable area for ventilation	31.5	22.8	5.8	Pass
308	None	26.8	14.4	6.9	Pass
309	R3.5 Bulk Ceiling Insulation to exposed areas only, Total Window System U-value 5.4 & SHGC 0.49 (for awning windows) OR SHGC 0.58 (for fixed & sliding windows/doors) for All windows	45.0	12.1	5.6	Pass
401	None	33.6	21.4	5.8	Pass
402	R1.0 Bulk Floor Insulation to exposed floor areas only	41.9	23.4	5.1	Pass
403	None	34.0	27.5	5.3	Pass
404	None	31.4	22.2	5.9	Pass
405	None	42.8	22.8	5.1	Pass
406	None	6.9	25.7	7.4	Pass
407	Total Window System U-value 5.4 & SHGC 0.49 (for awning windows) OR SHGC 0.58 (for fixed & sliding windows/doors) for All windows, Living Area West window must be Awning type for ventilation	16.1	28.9	6.5	Pass
408	None	30.1	18.6	6.2	Pass
501	None	34.1	21.7	5.7	Pass
502	None	36.4	23.4	5.4	Pass
503	None	34.3	27.4	5.3	Pass
504	None	29.6	23.1	5.9	Pass
505	None	37.5	23.5	5.4	Pass
506	None	7.1	25.5	7.4	Pass
507	Total Window System U-value 5.4 & SHGC 0.49 (for awning windows) OR SHGC 0.58 (for fixed & sliding windows/doors) for All windows, Living Area West window must be Awning type for ventilation	16.5	28.7	6.4	Pass
508	None	30.5	18.3	6.2	Pass
601	R3.5 Bulk Ceiling Insulation	44.7	23.7	4.9	Pass
602	R5.0 Bulk Ceiling Insulation	43.2	24.2	4.9	Pass
603	R3.5 Bulk Ceiling Insulation	45.3	21.8	4.9	Pass
604	R3.5 Bulk Ceiling Insulation	31.6	25.7	5.6	Pass
605	R3.5 Bulk Ceiling Insulation	30.8	25.9	5.6	Pass
606	R3.5 Bulk Ceiling Insulation	14.7	26.2	6.9	Pass
607	R3.5 Bulk Ceiling Insulation, Total Window	29.3	27.0	5.7	Pass

Unit No.	Additional Treatments Required	Heating Load (MJ/m².yr)	Cooling Load (MJ/m².yr)	Stars	Pass/Fail
	System U-value 5.4 & SHGC 0.49 (for awning windows) OR SHGC 0.58 (for fixed & sliding windows/doors) for All windows, Living Area West window must be Awning type for ventilation				
608	R3.5 Bulk Ceiling Insulation	41.3	20.5	5.3	Pass

4. BASIX ENERGY SECTION

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

Table 4: BASIX Energy Commitments

Component		Commitment
Common Areas and Central Systems	<u>Hot Water System</u>	<ul style="list-style-type: none"> Gas Fired Boiler Central HWS with R0.6 (25mm) internal piping insulation
	<u>Lifts</u>	<ul style="list-style-type: none"> All lifts to use Gearless traction with VVVF motor servicing all levels
	<u>Ventilation</u>	<ul style="list-style-type: none"> Car park: Ventilation (supply & exhaust) with CO Monitor & VSD Fan Switch Rooms: Ventilation (exhaust only), continuous Plant Rooms: Ventilation (exhaust only), continuous Garbage Rooms: Ventilation (exhaust only) Hallways & lobbies: No mechanical ventilation
	<u>Lighting</u>	<ul style="list-style-type: none"> Car park: Fluorescent lighting with time clocks and motion sensors Lift Cars: LED lights, connected to lift call button Garbage Rooms: Fluorescent lighting with motion sensors Switch & Plant Rooms: Fluorescent lighting with manual on/off button All Hallways & lobbies: LED lighting with time clocks and motion sensors
	<u>Others</u>	<ul style="list-style-type: none"> None
Private Dwellings	<u>Hot Water System</u>	<ul style="list-style-type: none"> Centralised HWS above
	<u>Ventilation</u>	<ul style="list-style-type: none"> Kitchen Exhaust: Individual fan, ducted to roof or façade, with manual on/off switch Bathroom Exhaust: Individual fan, ducted to roof or façade, with manual on/off switch Laundry Exhaust: Individual fan, ducted to roof or façade, with manual on/off switch
	<u>Heating & Cooling</u>	<ul style="list-style-type: none"> Heating: Living & Beds to have individual 1-phase air-conditioning with 1.5 Stars (New Rating) Cooling: Living & Beds to have individual 1 phase air-conditioning with 1.5 Stars (New Rating)
	<u>Lighting</u>	<ul style="list-style-type: none"> At least 80% of light fittings (including the main light fittings) in all apartments' hallways, laundries, bathrooms and kitchens must use Fluorescent or LED lights with dedicated fittings¹
	<u>Other</u>	<ul style="list-style-type: none"> Gas cook top and electric oven in all units Install minimum 3.5-star (energy rating) dishwashers in all units Install minimum 1.5-star (energy rating) dryers in all units

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. 889092M_02 provided.

APPENDIX A - ARCHITECTURAL DRAWINGS

The building sustainability performance assessment carried out in this report was based on the following architectural drawings supplied by Glyde Architects received on 01 Nov 2019.

[100-02 Site Plan_\[R\].pdf](#)
[110-00 Basement 1 & 2_\[S\].pdf](#)
[110-01 Ground & Level 1_\[S\].pdf](#)
[110-02 Levels 2 & 3_\[S\].pdf](#)
[110-03 Levels 4 & 5_\[S\].pdf](#)
[110-04 Level 6 & Roof_\[S\].pdf](#)
[310-02 Ramp Sections_\[P\].pdf](#)
[310-01 Sections_\[P\].pdf](#)
[710-01 GFA Diagrams_\[P\].pdf](#)
[720-01 Shadow Study June 21st_\[O\].pdf](#)
[720-02 View From The Sun June 21st 0900-0930hrs_\[B\].pdf](#)
[720-03 View From The Sun June 21st 1000-1030hrs_\[B\].pdf](#)
[720-04 View From The Sun June 21st 1100-1130hrs_\[B\].pdf](#)
[210-01 Elevations_\[P\].pdf](#)
[720-05 View From The Sun June 21st 1200-1230hrs_\[B\].pdf](#)
[720-06 View From The Sun June 21st 1300-1330hrs_\[B\].pdf](#)
[720-08 View From The Sun June 21st 1500hrs_\[B\].pdf](#)
[810-02 Adaptable Room types_\[O\].pdf](#)
[720-07 View From The Sun June 21st 1400-1430hrs_\[B\].pdf](#)
[810-01 Cross Ventilation, Solar & Storage_\[P\].pdf](#)
[810-03 Materials_\[O\].pdf](#)
[810-04 Height Limit Diagram_\[A\].pdf](#)
[900-01 Visualisation_\[O\].pdf](#)

APPENDIX B – Landscaping Areas

BASIX for Multi Dwellings - Landscape Checklist				
WATER - Central systems and common areas				
Common area landscape Please fill out mandatory fields marked in a * Number of Unit-Buildings <input type="text"/> Building Name(s) <input type="text" value="Building 1"/> Common area of lawn (m ²) * <input type="text" value="241"/> Common area of garden (excluding lawn) (m ²) * <input type="text" value="826"/> Common area of indigenous species (m ²) * <input type="text" value="580"/>			Notes for assessor	
WATER - dwellings				
Private area landscape <u>For each dwelling, gather the following information:</u> How many units have private garden & lawn. Please list these separately below <input type="text" value="4"/>			Notes for assessor	
Unit No.	Total area of Private garden (m ²)	Total area of Private lawn (m ²)		Area of indigenous species (m ²)
UG-01	7.9	0		5.9
UG-02	5.8	0		4.4
UG-03	3.3	0		2.5
UG-05	7.9	0		5.9