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13/13 Lagoon St,
NARRABEEN NSW 2101

MERITON APARTMENTS

DA Application for:

EPPING PARK, STAGE 3 Buildings 11, 12, 13-14, 15-16, 17

To be built at:

Mobbs Lane, Epping 2121

BASIX Assessment

Issue No.	Description	Author	Date
No. 01	Assessment and certification	TC	23/08/12



This report has been prepared by Efficient Living Pty Ltd on behalf of our client Meriton Apartments. Efficient Living prepares all reports in accordance with the ASBA code of practice and is backed by professional indemnity insurance. This report takes into account our client's instructions and preferred building inclusions.



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INTRODUCTION

Efficient Living has investigated the estimated thermal comfort, water and energy usage of the proposed development to be built at Stage 3 Mobbs Lane, Epping Park.

Heating and cooling loads for the development have been determined using BERS thermal simulation software. The report is based on the architectural drawings provided by Meriton. For further details, refer to the individual BASIX certificates and ABSA reports respectively.

ANALYSIS

The BASIX assessment is divided into three sections, each independently measuring the efficiency of the development. These are Water, Thermal Comfort and Energy.

BASIX requires a minimum target of 40% for the Water section. A BERS pass or fail is required for the thermal comfort section and a minimum required target of 20% for the energy section.

WATER

The proposed development has achieved the BASIX Water target of 40%.

The water usage of the development is calculated based on the number and efficiency of permanent fixtures and appliances such as: taps, showerheads and toilets, the dish washer and clothes washing machine.

The size of the rain tank and number of connections has a huge impact on your water score as does the area of gardens and lawns and whether or not low-water plant species are incorporated.

THERMAL COMFORT

Thermal Comfort targets are set by the department of planning in the form of heating and cooling caps. The buildings thermal physics is measured using BERS thermal performance assessment tools. This equates an expected level of energy consumption to heat and cool each dwelling per annum expressed in MJ (mega joules) per square meter of floor area.

Each unit has individual heating and cooling caps and a weighted average heating and cooling load for the whole development. The weighted average caps are a lot harder to achieve than the individual unit caps.

ENERGY

The proposed development has achieved the energy target of 20% to pass this section.

The energy usage of the development is calculated based on the efficiency of fixed appliances that will be used. This includes the air conditioning system, hot water system, lighting, exhaust fans and the cook top, oven, and clothes drying facilities.

BASIX Inclusions – Stage 3, Mobbs Lane Epping

All units in Mobbs Lane, Epping Park Stage 3 have reached the targets as set for new dwellings in NSW. The inclusions as outlined in the table below have been incorporated in each unit to allow them to reach their environmental sustainability targets.

Construction general	
Glazing	Doors / windows: Single glazed, grey tint: U-value: 6.6 SHGC: 0.58 Low-E glazing upgrades required to: U513 building 12, UG20 & U507 Building 15-16 U-value: 4.66 SHGC: 0.44 - grey tint colour match required.
Roof / ceiling insulation	Roof: Light coloured, concrete slab roof Plasterboard ceiling – R2.0 insulation to top floor units and those units with exposed balcony over.
Wall / floor insulation	External Wall: Pre-cast concrete, no insulation unless listed below: R1.0 wall insulation to: UG12, U204, U220 Building 13-14 UL24, UG20, UG27, U421, U507, U517 Building 15-16 UG10, U302, U309 Building 17 & U513 Building 12 Internal walls within units: Plasterboard on studs - no insulation Inter-tenancy walls: Hebel - no insulation Floor: Concrete – no insulation unless noted otherwise on the ABSA certificate.
BASIX Water inclusions – Score 40/40	
Fixtures (within units)	Showerheads: 3 star (>7.5 but <=9 L/min) Toilets: 4 star Kitchen taps: 4 star Bathroom taps: 4 star
Fixtures (within common areas)	Showerheads: 3 star (>7.5 but <=9 L/min) Toilets: 4 star Bathroom taps: 4 star
Appliances (within units)	Dishwashers: 3 star Clothes washers: At least 70% of all occupants are expected to provide clothes washing machines with a water efficiency of 2 stars or greater.
Central rainwater storage	Tank size: 50 000L Collect run-off from: 100% of all roof areas Connected to: Irrigation of landscaping and 5 car washing bays
Pool & Spa	Pool to have a capacity no greater than 148kL Spa to have a capacity no greater than 8kL and must have a cover
BASIX Energy inclusions – Score Pass 20/20	
Central hot water system	Central gas-fired boiler with R1.0 (~38mm) insulation to ringmain and supply risers
Lift motors	All lifts to have gearless traction with VVVF motor.
Appliances & other efficiency measures (within units)	Gas cooktop & electric oven Dishwashers: 3 star Clothes dryers: 2 star Well ventilated fridge space Clothes washers: At least 70% of all occupants are expected to provide clothes washing machines with an energy efficiency of 2.5 stars or greater.

Heating & cooling (within units)	All units to have individual single phase reverse cycle air conditioning: All 1 bedroom units: 2.0 star – Cooling and 2.5 star - Heating (zoned) [new rating] All 2 bedroom units: 2.0 star – Cooling and 2.5 star - Heating (zoned) [new rating] All 3 bedroom units: 2.0 star – Cooling and 3.0 star - Heating (zoned) [new rating]
Artificial lighting (within units)	Fluorescent lighting, with dedicated fittings, to be provided to all bedrooms, bathrooms and laundries.
Ventilation systems (within units)	Bathroom ventilation: Individual fan, ducted to roof or façade – manual on/manual off Laundry ventilation: Individual fan, ducted to roof or façade – manual on/manual off Kitchen ventilation: Individual fan, not ducted roof – manual switch on/off
Indoor clothes drying lines	Building 17 requires in door clothes drying lines to all units.
Artificial lighting (within common areas)	Indoor pool/spa: compact fluorescent – time clocks Gym: compact fluorescent – time clocks Car park area: fluorescent – zoned switching with motion sensor Lifts: compact fluorescent – connected to lift call button Garbage rooms: fluorescent – motion sensors All plant areas: fluorescent – manual on / manual off Hallways: compact fluorescent – zoned switching with motion sensors
Ventilation systems (within common areas)	Indoor pool/spa: ventilation (supply + exhaust) – time clock or BMS controlled Gym: air conditioning system – time clock or BMS controlled Car park area: ventilation (supply + exhaust) - carbon monoxide monitor + VSD fan Garbage rooms: ventilation exhaust only – no efficiency measure required Plant rooms: ventilation supply only – interlocked to light Change rooms: ventilation (supply + exhaust) – time clock or BMS controlled Hallways: ventilation supply only – time clock or BMS controlled
Pool & Spa	Pool and spa heating systems: Electric heat pump Both pool and spa pumps to be controlled by a timer
Photovoltaic cells	5 peak kW's of photovoltaic cells are required to building 17.