Glenstone Group

8 Linksview Ave, Leonay

BASIX Assessment Report

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Revision	00
Subject	8 Linksview Ave, Leonay – BASIX Assessment Report

1. SITE APPRECIATION

The proposed development is located at 8 Linksview Ave, Leonay and consists of:

- 6 new residential dwellings

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. 985450M.

Table 1: BASIX Water Commitments

Common Areas and Central Systems	
Area of Indigenous or low water species	• None • Please refer to Appendix B for further details

Rainwater collection	• 6,000L rainwater tank
	• Roof collection area - 300m^2
	• Rainwater to be used for:
	  • Common areas and private landscape irrigation
	  • Laundry

Private Dwellings	
Fixtures for apartments	• 3-star (Water Rating) showerheads with a flow rate > 4.5L/min & ≤ 6.0L/min • 4-star (Water Rating) toilets • 6-star (Water Rating) kitchen taps • 6-star (Water Rating) bathroom taps

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	Weatherboard	**Insulation: See Table 3**
		Light colour: Absorptance< 0.3
Internal walls	Plasterboard	
Party walls	Brick	**Insulation: R1.0 both sides for fire safety**
		Common corridors
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.	6mm Single glazed, clear with Aluminium frame **for sliding doors, sliding & fixed windows** Total Window System Properties **U-value 6.7 & SHGC 0.70**
	See Table 3 for total window properties If not specified in Table 3, window properties should be specified as per the details column in this Table	6mm 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**
Roof	Metal	**Insulation: See Table 3**
		Medium colour: 0.3<absorptance< 0.85
Ceilings	Plasterboard	**Insulation: See Table 3**
Floors	Concrete	**Insulation: See Table 3**
		Tiles: Wet areas only
		Carpet: Bedrooms only
		Timber: Elsewhere

Element	*Material*	*Detail*
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 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. 985450M & NatHERS Universal Certificate No. 0003494950 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	R2.5 Bulk External Wall Insulation with vapour barrier, R3.0 Bulk Ceiling Insulation, R1.3 Anticon Roof Insulation, Bath & Ensuite to have at least 90% ventilation opening i.e. awning	40.2	43.0	6.2	Pass
2	R2.5 Bulk External Wall Insulation with vapour barrier, R3.0 Bulk Ceiling Insulation, R1.3 Anticon Roof Insulation, Bath & Ensuite to have at least 90% ventilation opening i.e. awning	37.7	44.2	6.3	Pass
3	R2.5 Bulk External Wall Insulation with vapour barrier except to garage, R3.0 Bulk Ceiling Insulation except to garage, R1.3 Anticon Roof Insulation except to garage, Bath to have at least 90% ventilation opening i.e. awning, Dining & Ensuite window to have at least 45% ventilation opening i.e. sliding, Single glazed Low Solar gain Low-E with aluminium frame with total window properties U-value 5.6 & SHGC 0.41 to sliding doors, sliding & fixed windows, Single glazed Low Solar gain Low-E with aluminium frame with total window properties U-value 5.6 & SHGC 0.36 to awning windows	47.1	47.7	5.7	Pass
4	R2.5 Bulk External Wall Insulation with vapour barrier, R3.0 Bulk Ceiling Insulation, R1.3 Anticon Roof Insulation, Ensuite & Bath to have at least 90% ventilation opening i.e. awning, Bed 1 window to have at least 45% ventilation opening i.e. sliding	34.6	34.1	6.9	Pass
5	R2.5 Bulk External Wall Insulation with vapour barrier except to garage, R3.0 Bulk Ceiling Insulation except to garage, R1.3 Anticon Roof Insulation except to garage, Ensuite & Bath to have at least 90% ventilation opening i.e. awning, Bed 1 window to have at least 45% ventilation opening i.e. sliding	41.2	40.7	6.3	Pass
6	R2.5 Bulk External Wall Insulation with vapour barrier except to garage, R2.5 Internal Wall Insulation to walls adjacent to garage only, R3.5 Bulk Ceiling Insulation except to garage, R1.3 Anticon Roof Insulation except to garage, Ensuite & Bath to have at least 90% ventilation opening i.e. awning, Single glazed High Solar gain Low-E with aluminium frame with total window properties U-value 5.4 & SHGC 0.58 to sliding doors, sliding & fixed windows, Single glazed High Solar gain Low-E with aluminium frame with total window properties U-value 5.4 & SHGC 0.49 to awning windows	54.8	21.0	6.6	Pass

4. BASIX ENERGY SECTION

The proposed development will meet the mandatory BASIX Energy target of 50% as long as the energy commitments detailed in Table 4 are installed.

Table 4: BASIX Energy Commitments

Component		*Commitment*
Private Dwellings	Alternative Energy	• Units 4 & 5 to have 0.7 kW photovoltaic systems
	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, 1-phase air-conditioning • Cooling: Living & Beds to have individual 2-star, 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 a private outdoor clothes drying line

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. 985450M provided.

[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.

APPENDIX A - ARCHITECTURAL DRAWINGS

The building sustainability performance assessment carried out in this report was based on the following architectural drawings supplied by IDG Architects received on 18th December 2018.

GLE18074_DA_0000_A.pdf
GLE18074_DA_0001_A.pdf
GLE18074_DA_0002_B.pdf

GLE18074_DA_0100_C.pdf
GLE18074_DA_0101_B.pdf
GLE18074_DA_0200_B.pdf

GLE18074_DA_1100_I.pdf
GLE18074_DA_1101_D.pdf
GLE18074_DA_2000_C.pdf
GLE18074_DA_2001_C.pdf
GLE18074_DA_3000_C.pdf
GLE18074_DA_9000_A.pdf
GLE18074_DA_9100_A.pdf
GLE18074_DA_9300_A.pdf
GLE18074_DA_9600_B.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 *

Notes for assessor

Number of Unit-Buildings

Building Name(s)	"Building 1"
Common area of lawn (m²) *	-
Common area of garden (exlcuding lawn) (m²) *	83
Common area of indigenous species (m²) *	-

WATER - dwellings

Private area landscape

Notes for assessor

For *each dwelling*, gather the following information:

How many units have private garden & lawn. Please list these separately below: 6

Unit No.	Total area of Private garden (m²)	Total area of Private lawn (m²)	Area of indigenous species (m²)
1	15	29	-
2	16	30	-
3	48	39	-
4	35	27	-
5	21	49	-
6	23	41	-

integratedDESIGNgroup
architects | bathurst penrith sydney

waste management report

multi-unit development
8 linksview avenue LEONAY
prepared for Glenstone Group

applicant and project details	
applicant details	
name	Dominic Hogan
representative	Integrated Design Group
address	3/152 Old Bathurst Road, Emu Plains 2750
phone	1300 664 357
email	dominic@glenstone.com.au
project details	
site address	8 linksview avenue LEONAY
existing building(s) and/or other structure(s) on site	The existing site currently contains a 1 storey brick residential dwelling, and an unground pool.
description of proposed development	- Demolition of existing buildings - New 6 unit dwellings - Landscaping works

waste transfer and recycling centre
Throughout this report reference is made to the nominated Waste transfer and recycling centre. We note that for this development this refers to SUEZ Advanced Waste Treatment Facility, Kemps Creek

signature _____

date _____

demolition					
type of waste generated	**estimated waste: volume (m^2 or m^3) weight (t)**	**intent**			**method of onsite reuse, contractor and recycling outlet and/or waste depot to be used**
		reuse	**recycle**	**disposal**	
excavation material	$2m^3$		✓	✓	Excess material will be removed by excavation contractor to nominated waste transfer/recycle centre.
green waste	$1250m^2$	✓			Removed trees to be mulched, stored on site, and re-used in landscaping.
bricks/pavers	$27m^3$	✓	✓		All waste bricks will be crushed and utilised at the principal entrance to the site for gravel shaker ramp to minimise soil deposits on the surrounding road network.
concrete	$311m^2$	✓	✓		Reused for filling, levelling or road base. All excess material to be recycled at nominated waste transfer/recycle centre.
timber (specify)	$47m^2$	✓	✓		Reuse for formwork, remainder removed from site and recycled off site at nominated waste transfer/recycle centre
plasterboard	$278m^2$		✓	✓	Any leftovers to be disposed of or recycled at nominated waste transfer/recycle centre.
roof tiles	$170m^2$		✓	✓	Any leftovers to be disposed of or recycled at nominated waste transfer/recycle centre.
glass	$9m^2$		✓	✓	Any leftovers to be disposed of or recycled at nominated waste transfer/recycle centre.
fixtures & fittings	$1m^3$		✓	✓	Any leftovers to be disposed of or recycled at nominated waste transfer/recycle centre.
hazardous/special waste e.g. asbestos (specify)	TBC at demolition			✓	All quantities of asbestos will be determined at the time of demolition. Removal and Disposal will be in accordance with the relevant Australian Standards, OH&S and EPA guidelines. All work to be completed by a suitably qualified and registered contractor.
Waste generation quantities are estimated based on area. Detailed volumes and recycling / disposal locations to be confirmed by contractor / builder at construction stage.					

construction

type of waste generated	estimated waste: volume (m^3 or m^3) weight (t)	intent			method of onsite reuse, contractor and recycling outlet and/or waste depot to be used
		reuse	recycle	disposal	
excavation material	50m^3	✓		✓	Excess material will be relocated on site, for landscape works.
green waste	5m^3	✓	✓		Mulched, composted in landscape
bricks/pavers	4m^3	✓	✓		Offcuts crushed and used in landscape. Excess material removed by contractor to nominated waste transfer/recycle centre.
concrete	3m^3		✓	✓	Excess material removed by contractor to nominated waste transfer/recycle centre.
timber (specify)	10m^2	✓	✓		Reuse for formwork, remainder removed from site and recycled off site at nominated waste transfer/recycle centre.
plasterboard (offcuts)	8m^2	✓	✓		Removal for recycling or return to supplier.
metal (roof sheet)	3m^2				Recycled by appropriate sub-contractor.
floor coverings	10m^2		✓	✓	Any leftovers to be disposed of or recycled by appropriate sub-contractor.
packaging (used pallets, pallet wrap)	1m^3		✓		Recycled by appropriate sub-contractor.
containers (cans, plastic, glass)	0.5m^3		✓		Recycled by appropriate sub-contractor.
paper/cardboard	1m^3		✓		Recycled by appropriate sub-contractor.

Waste generation quantities are estimated based on area. Detailed volumes and recycling / disposal locations to be confirmed by contractor / builder at construction stage.

ongoing operation (multi-unit dwellings waste management guidelines)			
type of waste generated	**households**		
	expected volume per week	**Proposed on-site storage and treatment facilities**	**Destination**
mixed garbage collection - waste that is not recyclable	1440L (3 x 240L bin collected twice per week)	stored within site boundary in the communal waste area and placed on kerbside at linksview avenue on collection day	Collected twice weekly and diverted to SUEZ Advanced Waste Treatment Facility, Kemps Creek. For processing into low grade compost, suitable to be used in landfill cover or mine site rehabilitation
recycling collection -recycling bottles -cans -cartons -paper and cardboard	720L (3 x 240L bin collected weekly)	stored within site boundary in the communal waste area and placed on kerbside at linksview avenue on collection day	weekly by council, reprocessed at council's nominated recycling facility
Clean up collections -household rubbish too big for your bin - small items must be bagged or boxed -broken / unwanted furniture -garden clippings (bagged or boxed) -tree branches up to 10cm diameter and up to 1.2 m lengths, tied in manageable bundles.	1.8 x 1.2m, box trailer load (4 available clean ups on request)	placed on the kerbside at linksview avenue on request (can be stored in the allocated bulky goods storage on site)	by council, reprocessed at council's nominated recycling facility
Waste generation quantities are estimated based on rates provided in the Penrith City Council - Waste Management Guidelines for Multi Unit Housing. All waste facilities designed on site comply with the requirements listed in the Penrith City Council - Waste Management Guidelines for Multi Unit Housing.			