

ADVERTISED PLAN

This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright

Moonee Valley Park Trackside Gardens

The information contained in this document that has been produced by Ark Resources Pty Ltd is solely for the use of Ark Resources' Client for the purpose for which it has been prepared and Ark Resources undertakes no duty to or accepts any responsibility to any third party who may rely upon this document.

All material contained in this report is subject to Australian copyright law. Copyright in the document is owned by Ark Resources Pty Ltd. No material from this document may, in any form or by any means, be reproduced, stored in a retrieval system or transmitted, without prior written permission from Ark Resources.

Any enquiries regarding the use of this report should be directed to:

Ark Resources Pty Ltd
ABN 29 086 461 369
Level 4, 127 Market Street
South Melbourne VIC 3205 Australia

+61 3 9636 0280
info@arkresources.com.au
arkresources.com.au

DISCLAIMER

Note that this report has been prepared for the town planning submission only and cannot be used for tender or construction purposes, as sufficient construction detail has not been resolved at the time of publication. Certified NatHERS ratings or Section J analysis, based on Design Development drawings (generally 70%) must be undertaken for any costing or compliance purposes, to determine building materials and glazing thermal performance.

Ark Resources advises contractors not to rely on this document for construction stage cost submissions

Issue	Date	Prepared	Checked	Status
A	18.12.2025	MT/LT/LD	LD	TP Draft
B	19.12.2025	MT/LT/LD	LD	TP Draft
C	22.12.2025	MT/LT/LD	LD	TP
D	02.03.2026	MT/LT/LD	LD	TP (WE TE TC)
E	15.07.2026	MT/LT/LD	LD	TP (WE TE TC)

**ADVERTISED
PLAN**

Contents

1.0	Introduction	3
2.0	Site Description	4
3.0	Key ESD Initiatives	5
4.0	Green Star Building	6
5.0	NatHERS Energy Ratings	8
6.0	Nature Based Cities Scorecard	9
7.0	Water Sensitive Urban Design	10
8.0	Daylight	11
9.0	Conclusion	12

Appendices

Appendix A.	Green Star Building Pathway	13
Appendix B.	NatHERS Energy Rating	25
Appendix C.	Nature Based Cities Scorecard	33
Appendix D.	Daylight Analysis	53
Appendix E.	Solar Photovoltaics	70
Appendix F.	Site Management Plan	72

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

1.0 Introduction

Ark Resources has been engaged by Hamton Hostplus JVMV to provide advice in relation to environmentally sustainable development outcomes from the proposed Moonee Valley Park re-development for Trackside Gardens, Wilson East, Track East and Track Central buildings in Precinct 2 of the development site.

The mixed-use proposal has been designed to meet Clauses 15.01-2S (Building Design) and 53.18 (Stormwater Management) of the Moonee Valley Planning Scheme. This report demonstrates how the development meets policy objectives of Clauses 15.01-2S and 53.18 of the Planning Scheme.

This report contains a summary of:

- Environmental objectives adopted for the development
- Sustainable design initiatives integrated into the design of the project.

Performance outcomes in this report are based on:

- Discussions and correspondence with Sam Raunik, Hamton
- Architectural plans prepared by DKO Architects (Town Planning RFI issue Revision B, issued 09.07.2026).

**ADVERTISED
PLAN**

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

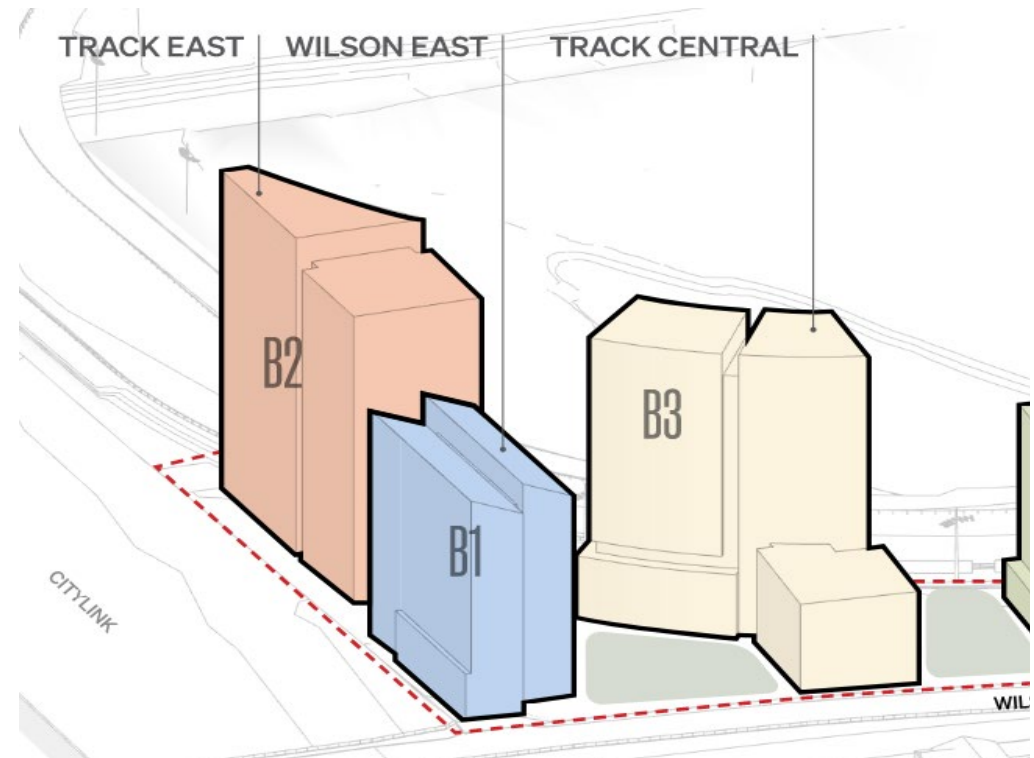
2.0 Site Description

Precinct 2 of the development site comprises the following buildings:

- B1 Wilson East (WE), 152 apartments, 230 bedrooms
- B2 Track East (TE), 189 apartments, 375 bedrooms
- B3 Track Central (TC), 165 apartments, 335 bedrooms
- Located within the Moonee Valley City Council
- Precinct 2 site area 8,500m² (approx.)
- Part of the Moonee Valley Racecourse redevelopment

**ADVERTISED
PLAN**

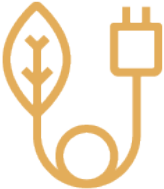
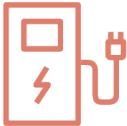
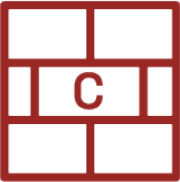
This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright



3.0 Key ESD Initiatives

A detailed analysis has been undertaken in order to nominate the ESD initiatives required and confirm the performance outcomes achieved. The results of this analysis are set out in the remainder of this report.

The following key sustainable design initiatives have been incorporated into this project:

Energy Commitment to 100% Green Power 	Sustainable Transport Electric vehicle chargers and infrastructure, plus extensive bicycle parking spaces 
Materials and Finishes Specification of responsible finishes and reduction in embodied carbon 	Performance High-performance glazing and energy efficient building services, appliances and fixtures 

ADVERTISED PLAN

An assessment of sustainable design outcomes of the Precinct 2 proposal has been undertaken with HERO, Nature Based Cities and Green Star Buildings benchmarking tool. The information presented in this report demonstrates that:

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Green Star Buildings The development achieves a certified 5 Star Green Star Buildings performance standard, considered as ESD 'Excellence' 5 star	NatHERS Ratings The development exceeds the NCC 2022 standard for thermal performance 7.5 stars
Nature Based Cities Scorecard The development will achieve Nature Based Cities Exemplary standard 17 / 20	Stormwater The development meets the Best Practice standard for stormwater quality. 

4.0 Green Star Building

The Green Star Buildings (v1 Rev C) tool has been used as a benchmarking framework for the proposed scheme and demonstrates that the Wilson East, Track East and Track Central buildings have the preliminary design potential to achieve a 5 Star standard, certified by the Green Building Council of Australia.

A detailed Green Star assessment has been undertaken to confirm the credits achievable by the proposed scheme.

Note that the project is intending to be targeting separate Green Star registrations for each building. This will be confirmed by the GBCA during the preparation of the Design Review submission.

The initiatives which contribute to the 5 Star Green Star Buildings ratings are detailed in Appendix A below.

**ADVERTISED
PLAN**

Green Star Building Rating

5
star

Total Points Targeted

41
pts

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Note that a minimum of 35 points must be achieved for a 5 star Green Star Buildings rating to be achieved. The development will attain 5 star Green Star ratings certified with the Green Building Council. Please note that this analysis is based on the best information currently available in relation to the technical and commercial feasibility of the initiatives proposed. Further investigation will be undertaken during design development which may result in change to the package of initiatives specified in order to meet the 5 Star Green Star standard.

Summary of Green Star Building credits targeted.

Credit		Target	Points
1	Industry Development	Credit Achievement	1
2	Responsible Construction	Credit Achievement	1
3	Verification and Handover	Credit Achievement	1
4	Responsible Resource Waste	Minimum Expectation	
5	Responsible Procurement		
6	Responsible Structure	Credit Achievement	3
7	Responsible Envelope		
8	Responsible Systems		
9	Responsible Finishes	Credit Achievement	1
10	Clean Air	Minimum Expectation	
11	Light Quality	Minimum Expectation	
12	Acoustic Comfort	Minimum Expectation	
13	Exposure to Toxins	Credit Achievement	2
14	Amenity and Comfort		
15	Connection to Nature	Credit Achievement	1
16	Climate Change Resilience	Credit Achievement	1
17	Operations Resilience		
18	Community Resilience		
19	Heat Resilience	Credit Achievement	1
20	Grid Resilience		
21	Upfront Carbon Emissions	Credit Achievement	3
22	Energy Use	Credit Achievement	3
23	Energy Source	Exceptional Performance	6
24	Other Carbon Emissions	Credit Achievement	2

25	Water Use	Minimum Expectation	
26	Life Cycle Impacts	Credit Achievement	2
27	Movement and Place	Minimum Expectation	
28	Enjoyable Places		
29	Contribution to Place	Credit Achievement	2
30	Culture, Heritage and Identity		
31	Inclusive Construction Practices	Credit Achievement	1
32	Indigenous Inclusion		
33	Procurement and Workforce Inclusion		
34	Design for Inclusion		
35	Impacts to Nature	Credit Achievement	2
36	Biodiversity Enhancement	Credit Achievement	2
37	Nature Connectivity		
38	Nature Stewardship		
39	Waterway Protection		
40	Market Transformation		
41	Leadership Challenges	Climate Positive Pathway	1
		Tenant Energy Source	5
		TOTAL POINTS	41

Refer to Appendix A for details of credit requirements

ADVERTISED
PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

5.0 NatHERS Energy Ratings

HERO (Version 4.1) energy ratings have been undertaken for a representative sample of the apartments in the Wilson East, Track East and Track Central buildings.

The development achieves a 7.5 star average NatHERS rating which meets the Councils ‘best practice’ standard and represents a high standard of thermal efficiency.

Please refer to Appendix B for details of energy ratings and building construction assumptions.

ADVERTISED
PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

NatHERS Rating

Each residential building will achieve a development average NatHERS energy rating of:

7.5
star

Heating Load Average

58.1
MJ/m²

Cooling Load Average

22.2
MJ/m²

6.0 Nature Based Cities Scorecard

An analysis of the green infrastructure for Precinct 2 has been undertaken using the Nature Based Cities design guidelines.

This tool was introduced as a framework for measuring and assessing the contribution of landscaping to a project's green credentials for the management of urban heat, increasing biodiversity, managing stormwater run-off and increasing liveability of cities.

The Nature Based Cities design guidelines build upon academic research and global development standards to provide a set of practical design principals that can be implemented within a project's planning stage to help achieve better social, environmental, and commercial outcomes.

The scorecard sets the two following levels of achievement: 'Commended' or 'Exemplary'.

Trackside Gardens achieves an 'Exemplary' score and will proceed with the formal accreditation process.

<https://naturebasedcities.org.au/#>

Nature Based Cities Scorecard

Due to the extensive landscaping integrated into the scheme the proposed development meets the 'Exemplary' standard with a score of:

17 / 20

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Please refer Appendix D for the Nature Based Cities Scorecard results.

**ADVERTISED
PLAN**

7.0 Water Sensitive Urban Design

The project is being undertaken as part of the precinct wide redevelopment of the Moonee Valley Racecourse.

The Stormwater Management Strategy Report for the Moonee Valley Park Precinct as amended from time to time and approved by Council should be referred to for compliance with Clause 19.03-3S (Integrated Water Management Policy) of the Planning Scheme.

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

**ADVERTISED
PLAN**

8.0 Daylight

Daylight modelling using the Green Star Buildings Spatial Daylight Autonomy method, has been undertaken to determine internal daylight levels within the bedrooms and living areas (excluding kitchens) on the Lower ground floor, Upper ground floor, L1, L2 and L3 of the Wilson East, Track East and Track Central buildings.

The minimum daylight standard in the Green Star framework is based on demonstrating each living room and bedroom achieve at least 160Lux for a minimum of 80% of daylight hours for 20% of its area.

Results for modelled levels have been extrapolated and confirm that for the three eastern buildings, 100% of living areas and 100% of bedrooms meet the best practice daylight standard.

8.1 Development Summary

		Building Total	Number Compliant	Pass/Fail
Wilson East	Living rooms	152	152	PASS
	Bedrooms	230	230	
Track East	Living rooms	189	189	PASS
	Bedrooms	375	375	
Track Central	Living rooms	165	165	PASS
	Bedrooms	332	332	

Refer to Appendix C for modelling assumptions and contour plots.

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

**ADVERTISED
PLAN**

9.0 Conclusion

This report provides details of a comprehensive package of sustainable design features which will be integrated into the design and specification of the Wilson East, Track East and Track Central buildings, in order to improve environmental outcomes during occupation.

In terms of performance outcomes, the analysis presented in this report demonstrates that the proposed development will:

- attain a certified 5 star Green Star standard based on the Buildings rating tool (V1 Rev C);
- achieve a NatHERS development rating average of 7.5 stars;
- achieve an Exemplary Nature Based Cities score; and
- attain the Best Practice standard for urban stormwater quality

Accordingly, the sustainable design outcomes from the proposed development of Precinct 2, are considered to achieve ESD 'Excellence' and therefore meets the ESD objectives set out in Clauses 15.01-2S and ACZ1 of the Moonee Valley Planning Scheme.

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

**ADVERTISED
PLAN**

Green Star

The combination of design features and services initiatives meets all the standards for ESD 'Excellence' with a certified Green Star Building Rating of:

5
star

NatHERS Ratings

The apartments will achieve a NatHERS rating development average of:

7.5
stars

Best Practice

The development meets the Best Practice standard for stormwater Quality



Appendix A. Green Star Building Pathway

The key design elements and processes which underpin the preliminary Green Star rating are summarised in the table below. The design attributes will be incorporated into the design in accordance with the technical criteria for each credit set out in the Green Star Buildings Technical Manual (v1 Revision C, 18 October 2023).

Green Star Credit Project Outcomes	Credit outcomes	Target	Project Stage
1 Industry Development The development facilitates industry transformation through partnership, collaboration, and data sharing	The building owner or developer appoints a Green Star Accredited Professional (GSAP).	1	Strategy Brief Concept Design Tender Construction Handover Use
	The building owner or developer discloses the cost of sustainable building practices to the GBCA. The project team must complete, and include in the submission, the Green Star Financial Transparency disclosure template. The template requires and enables the project team to submit the cost of sustainable building practices of the project including design, construction, and documentation to the GBCA.		
	The building owner or developer markets the building’s sustainability achievements. The project team must: – Provide information from the project’s marketing team must answer the questions in the submission form for a Green Star Case Study. The case study seeks information on the sustainability initiatives that the building targeted to enable it being featured on the GBCA’s website – Detail how the building will detail its sustainability achievements to its stakeholders. The stakeholders are defined as the typical building occupants and visitors.		
	The building owner or developer appoints a Green Star Accredited Professional (GSAP).		
2 Responsible Construction The builder’s construction practices reduce impacts and promote opportunities for improved environmental and social outcomes	The builder must have an environmental management system (large builders will need to be ISO14001 accredited).	MINIMUM EXPECTATION	Tender Construction
	The site must have a project specific Environmental Management Plan (EMP). The EMP must be developed to cover the scope of construction activities to assist the head contractor and its service providers to manage environmental performance conditions and impacts arising from demolition, excavation, and construction. It must be implemented from the start of construction and include all works within the project scope.		
	80% of Construction and demolition waste must be recycled.		
	The builder must have an environmental management system (large builders will need to be ISO14001 accredited).		

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Green Star Credit Project Outcomes	Credit outcomes	Target	Project Stage
	Sustainability training is provided to construction workers. The head contractor must provide the following training: - Information on the sustainable building certification(s) sought, including: - the sustainability attributes of the building and their benefits - the value of certification - the role site worker(s) play in delivering a sustainable building		
	90% of construction and demolition waste is diverted from landfill, and waste contractors and facilities comply with the Green Star Construction and Demolition Waste Reporting Criteria	1	
3 Verification and Handover The building has been optimised and handed over to deliver a high level of performance in operation	The building is set up for optimum ongoing management due to its appropriate metering and monitoring systems. The building must have accessible energy and water metering for all common uses, major uses, and major sources. The meters must be connected to a monitoring system capable of capturing and processing the data produced by the meters. The monitoring system must accurately and clearly present the metered data and include reports on consumption trends for the automatic monitoring system. The building has set environmental performance targets, designed and tested for airtightness, been commissioned, and will be tuned. The project team must perform the following: - Prior to construction: - Set environmental performance targets - Perform a services and maintainability review - Design for airtightness - During construction and practical completion: - Commission the building - Engage building tuning service provider - Test for airtightness - After practical completion: - Tune the building over the next 12 months	MINIMUM EXPECTATION	Design Tender Construction Handover Use

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN

Green Star Credit Project Outcomes	Credit outcomes	Target	Project Stage
	The project team create and deliver operations and maintenance information to the facilities management team at the time of handover. Information is available to building users on how to best use the building. The project team must provide operations and maintenance information for all nominated building systems to the building owner (or designated representative). This means: – Appropriate content for all nominated building systems has been developed and provided – The appropriate user group has access to the information they require to deliver best practice environmental outcomes – Guidance on keeping information up to date is provided to the facilities management team in these documents		
	An independent level of verification is provided to the commissioning and tuning activities through the involvement of an independent commissioning agent. or The project uses a soft landings approach that involves the future facilities management team.	1	
4 Responsible Resource Recovery Operational waste can be separated and recovered in a safe and efficient manner The building must have appropriate spaces for waste management and an appropriately sized loading dock	The building is designed for the collection of separate waste streams. The building must provide bins or storage containers to building occupants to enable them to separate their waste. These bins must be labelled and easy to access, and evenly distributed throughout the building. They must also allow for separating the following as a minimum: – General waste going to landfill – Recycling streams to be collected by the building's waste collection service, including: • paper and cardboard • glass • plastic – One additional waste stream identified by the project team. This may include collecting any of the following waste types: • organics, e-waste, batteries etc.	MINIMUM EXPECTATION	Design Handover Use
	The building provides a dedicated and adequately sized waste storage area. A dedicated area, or areas, for the storage and collection of the applicable waste streams must be provided. The storage area must be sized to accommodate all bins or containers, for all applicable waste streams, for at least one collection cycle.		
	The building ensures safe and efficient access to waste storage areas for both occupants and waste collection contractors.		

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Green Star Credit Project Outcomes	Credit outcomes	Target	Project Stage
	A waste specialist and/or contractor must sign-off on the designs to confirm they are adequately sized and located for the safe and convenient storage and collection of the waste streams identified.		
6 Responsible Structure The building's structure is comprised of responsibly manufactured products	50% of all structural components (by cost) meet a Responsible Products Value of at least 10 The structure is defined as load bearing and stability components of a building	3	Design Tender Construction
9 Responsible Finishes The building's internal finishes are comprised of responsibly manufactured products	40% of all internal building finishes (by cost) meet a Responsible Products Value of at least 7. Internal finishes include flooring, plasterboard, paints, ceilings, partitions, doors, internal windows or similar. Joinery used as part of a wall finish may be counted, e.g. wall panelling or fixed shelving/cupboards that make up a partition. Sealants and adhesives used for finishes are also included. Loose furniture is not included.	1	Design Tender Construction
10 Clean Air Pollutants entering the building are minimised, and a high level of fresh air is provided to ensure levels of indoor pollutants are maintained at acceptable levels	Non-residential building ventilation systems must be designed to comply with ASHRAE Standard 62.1:2013 or AS 1668:2012 (whichever is greater) regarding minimum separation distances between pollution sources and outdoor air intakes. All new and existing ductwork that serves the building must be cleaned prior to occupation in accordance with a recognised Standard. The building must be provided with at an adequate amount of outside air. The regularly occupied areas must be provided with good access to outdoor air, appropriate for the activities and conditions by using one of the following options: Where ventilation is by mechanical means, the building must provide outdoor air as per AS1668.2:2012 for the default occupancy. Where ventilation is by natural means, the building must meet natural ventilation requirements as per AS1668.4:2012. Where active heating or cooling is provided, a dedicated and controlled outside air path must be constructed and commissioned at a rate of at least 2.5L/s per bedroom and living space, with a minimum of 5L/s per unit. Outside air must be provided to each space that is heated or cooled. Point source pollutants must be exhausted directly outside (printers, kitchens).	MINIMUM EXPECTATION	Design Tender Construction Handover Use

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Green Star Credit Project Outcomes	Credit outcomes	Target	Project Stage
11 Light Quality The building provides good daylight and its lighting is of high quality	Lighting within the building meets minimum comfort requirements. Lighting within the building must meet the following requirements: – All LED lighting installed has no observable effect as per the standard IEEE 1789-2015 – Light sources must have a minimum Colour Rendering Index (CRI) 85 or higher – Light sources must meet best practice illuminance levels for each task within each space type with a maintained illuminance that meets the levels recommended in AS/NZS 1680.1:2006 – The maintained Illuminance values must achieve a uniformity of no less than that specified in Table 3.2 of AS/NZS 1680.1:2006, with a maintenance factor method as defined in AS/NZS 1680.4 – All light sources must have a maximum of 3 MacAdam Ellipses deviation.	MINIMUM EXPECTATION	Concept Design Tender
	Good lighting levels suitable for the typical tasks in each space are available.		
	The building provides adequate levels of daylight. – Ensures regularly occupied areas are in reasonable proximity to glazed façades, windows, or skylights – Maximises daylight to spaces that prioritise learning, healing, and living: • For apartments, how in 95% of all apartments, the living rooms and all bedrooms have access to a view and daylight.		
12 Acoustic Comfort The building provides acoustic comfort for building occupants	Internal noise levels from services and the outside is limited through an acoustic comfort strategy. The Acoustic Comfort Strategy is to include: – A summary of the Standards, legislation, guidelines, and other requirements that apply to the project – The proposed performance metrics for each of the Acoustic Comfort criteria relevant to the different uses within the building and whether this exceeds minimum legislative or best practice guidelines – Description of how the design solution is intended to achieve the proposed performance metrics	MINIMUM EXPECTATION	Design Tender Construction Handover

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

**ADVERTISED
PLAN**

Green Star Credit Project Outcomes	Credit outcomes	Target	Project Stage																														
13 Exposure to Toxins The building’s occupants are not directly exposed to toxins in the spaces they spend time in	The building’s paints adhesives, sealants, and carpets are low in TVOC or non-toxic. At least 95% of internally applied paints, adhesives, sealants (by volume) and carpets (by area) must meet stipulated ‘Total Volatile Organic Compounds (TVOC) Limits’ below. Paints, Adhesives and Sealants <table><thead><tr><th>Product category</th><th>Max. Total Volatile Organic Compounds (TVOC) content in grams per litre (g/L) of ready to use product</th></tr></thead><tbody><tr><td>General purpose adhesives and sealants</td><td>50</td></tr><tr><td>Interior wall and ceiling paint, all sheen levels</td><td>16</td></tr><tr><td>Trim, varnishes, and wood stains</td><td>75</td></tr><tr><td>Primers, sealers, and prep coats</td><td>65</td></tr><tr><td>One and two pack performance coatings for floors</td><td>140</td></tr><tr><td>Acoustic sealants, architectural sealant, waterproofing membranes and sealant, fire retardant sealants and adhesives</td><td>250</td></tr><tr><td>Structural glazing adhesive, wood flooring and laminate adhesives and sealants</td><td>100</td></tr></tbody></table> Carpets <table><thead><tr><th>Compliance option</th><th>Test protocol</th><th>Limit</th></tr></thead><tbody><tr><td rowspan="2">ASTM D5116</td><td>ASTM D5116 - Total VOC limit*</td><td>limit* 0.5mg/m² per hour</td></tr><tr><td>ASTM D5116 - 4-PC (4-Phenylcyclohexene) *</td><td>0.05mg/m² per hour</td></tr><tr><td>ISO 16000 / EN 13419</td><td>ISO 16000 / EN 13419 - TVOC at three days</td><td>0.5 mg/m² per hour</td></tr><tr><td>ISO 10580 / ISO/TC 219 (Document N238)</td><td>ISO 10580 / ISO/TC 219 (Document N238) - TVOC at 24 hours</td><td>0.5mg/m² per hour</td></tr></tbody></table> ADVERTISED PLAN This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright The building’s engineered wood products are low in TVOC or non-toxic. Either no new engineered wood products are used in the building, or at least 95% (by area) of all engineered wood products meet specified formaldehyde emission limits, as per the following:	Product category	Max. Total Volatile Organic Compounds (TVOC) content in grams per litre (g/L) of ready to use product	General purpose adhesives and sealants	50	Interior wall and ceiling paint, all sheen levels	16	Trim, varnishes, and wood stains	75	Primers, sealers, and prep coats	65	One and two pack performance coatings for floors	140	Acoustic sealants, architectural sealant, waterproofing membranes and sealant, fire retardant sealants and adhesives	250	Structural glazing adhesive, wood flooring and laminate adhesives and sealants	100	Compliance option	Test protocol	Limit	ASTM D5116	ASTM D5116 - Total VOC limit*	limit* 0.5mg/m² per hour	ASTM D5116 - 4-PC (4-Phenylcyclohexene) *	0.05mg/m² per hour	ISO 16000 / EN 13419	ISO 16000 / EN 13419 - TVOC at three days	0.5 mg/m² per hour	ISO 10580 / ISO/TC 219 (Document N238)	ISO 10580 / ISO/TC 219 (Document N238) - TVOC at 24 hours	0.5mg/m² per hour	MINIMUM EXPECTATION	Design Tender Construction Handover
Product category	Max. Total Volatile Organic Compounds (TVOC) content in grams per litre (g/L) of ready to use product																																
General purpose adhesives and sealants	50																																
Interior wall and ceiling paint, all sheen levels	16																																
Trim, varnishes, and wood stains	75																																
Primers, sealers, and prep coats	65																																
One and two pack performance coatings for floors	140																																
Acoustic sealants, architectural sealant, waterproofing membranes and sealant, fire retardant sealants and adhesives	250																																
Structural glazing adhesive, wood flooring and laminate adhesives and sealants	100																																
Compliance option	Test protocol	Limit																															
ASTM D5116	ASTM D5116 - Total VOC limit*	limit* 0.5mg/m² per hour																															
	ASTM D5116 - 4-PC (4-Phenylcyclohexene) *	0.05mg/m² per hour																															
ISO 16000 / EN 13419	ISO 16000 / EN 13419 - TVOC at three days	0.5 mg/m² per hour																															
ISO 10580 / ISO/TC 219 (Document N238)	ISO 10580 / ISO/TC 219 (Document N238) - TVOC at 24 hours	0.5mg/m² per hour																															

ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Green Star Credit Project Outcomes	Credit outcomes	ADVERTISED PLAN		Target	Project Stage																															
This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright	<table><thead><tr><th>Test protocol</th><th>Emissions Limit / Unit of Measurement</th></tr></thead><tbody><tr><td>AS/NZS 2269:2004, testing procedure AS/NZS 2098.11:2005 method 10 for Plywood</td><td>≤1mg/L</td></tr><tr><td>AS/NZS 1859.1:2004 - Particle Board, with use of testing procedure AS/NZS 4266.16:2004 method 16</td><td>≤1.5 mg/L</td></tr><tr><td>AS/NZS 1859.2:2004 - MDF, with use of testing procedure AS/NZS 4266.16:2004 method 16</td><td>≤1mg/L</td></tr><tr><td>AS/NZS 4357.4 - Laminated Veneer Lumber (LVL)</td><td>≤1mg/L</td></tr><tr><td>Japanese Agricultural Standard MAFF Notification No.701 Appendix Clause 3 (11) - LVL</td><td>≤1mg/L</td></tr><tr><td>JIS A 5908:2003- Particle Board and Plywood, with use of testing procedure JIS A 1460</td><td>≤1mg/L</td></tr><tr><td>JIS A 5905:2003 - MDF, with use of testing procedure JIS A 1460</td><td>≤1mg/L</td></tr><tr><td>JIS A1901 (not applicable to Plywood, applicable to high pressure and compact laminates)</td><td>≤0.1 mg/m³hr*</td></tr></tbody></table>	Test protocol	Emissions Limit / Unit of Measurement	AS/NZS 2269:2004, testing procedure AS/NZS 2098.11:2005 method 10 for Plywood	≤1mg/L	AS/NZS 1859.1:2004 - Particle Board, with use of testing procedure AS/NZS 4266.16:2004 method 16	≤1.5 mg/L	AS/NZS 1859.2:2004 - MDF, with use of testing procedure AS/NZS 4266.16:2004 method 16	≤1mg/L	AS/NZS 4357.4 - Laminated Veneer Lumber (LVL)	≤1mg/L	Japanese Agricultural Standard MAFF Notification No.701 Appendix Clause 3 (11) - LVL	≤1mg/L	JIS A 5908:2003- Particle Board and Plywood, with use of testing procedure JIS A 1460	≤1mg/L	JIS A 5905:2003 - MDF, with use of testing procedure JIS A 1460	≤1mg/L	JIS A1901 (not applicable to Plywood, applicable to high pressure and compact laminates)	≤0.1 mg/m³hr*	<table><thead><tr><th>Test protocol</th><th>Emissions Limit / Unit of Measurement</th></tr></thead><tbody><tr><td>ASTM D5116 (applicable to high pressure laminates and compact laminates)</td><td>≤0.1 mg/m³hr</td></tr><tr><td>ISO 16000 part 9, 10 and 11 (also known as EN 13419), applicable to high pressure laminates and compact laminates</td><td>≤0.1 mg/m³hr (at 3 days)</td></tr><tr><td>ASTM D6007</td><td>≤0.12mg/m³**</td></tr><tr><td>ASTM E1333</td><td>≤0.12mg/m³***</td></tr><tr><td>EN 717-1 (also known as DIN EN 717-1)</td><td>≤0.12mg/m</td></tr><tr><td>EN 717-2 (also known as DIN EN 717-2)</td><td>≤3.5mg/m³hr</td></tr></tbody></table>	Test protocol	Emissions Limit / Unit of Measurement	ASTM D5116 (applicable to high pressure laminates and compact laminates)	≤0.1 mg/m³hr	ISO 16000 part 9, 10 and 11 (also known as EN 13419), applicable to high pressure laminates and compact laminates	≤0.1 mg/m³hr (at 3 days)	ASTM D6007	≤0.12mg/m³**	ASTM E1333	≤0.12mg/m³***	EN 717-1 (also known as DIN EN 717-1)	≤0.12mg/m	EN 717-2 (also known as DIN EN 717-2)	≤3.5mg/m³hr		
	Test protocol	Emissions Limit / Unit of Measurement																																		
	AS/NZS 2269:2004, testing procedure AS/NZS 2098.11:2005 method 10 for Plywood	≤1mg/L																																		
	AS/NZS 1859.1:2004 - Particle Board, with use of testing procedure AS/NZS 4266.16:2004 method 16	≤1.5 mg/L																																		
	AS/NZS 1859.2:2004 - MDF, with use of testing procedure AS/NZS 4266.16:2004 method 16	≤1mg/L																																		
AS/NZS 4357.4 - Laminated Veneer Lumber (LVL)	≤1mg/L																																			
Japanese Agricultural Standard MAFF Notification No.701 Appendix Clause 3 (11) - LVL	≤1mg/L																																			
JIS A 5908:2003- Particle Board and Plywood, with use of testing procedure JIS A 1460	≤1mg/L																																			
JIS A 5905:2003 - MDF, with use of testing procedure JIS A 1460	≤1mg/L																																			
JIS A1901 (not applicable to Plywood, applicable to high pressure and compact laminates)	≤0.1 mg/m³hr*																																			
Test protocol	Emissions Limit / Unit of Measurement																																			
ASTM D5116 (applicable to high pressure laminates and compact laminates)	≤0.1 mg/m³hr																																			
ISO 16000 part 9, 10 and 11 (also known as EN 13419), applicable to high pressure laminates and compact laminates	≤0.1 mg/m³hr (at 3 days)																																			
ASTM D6007	≤0.12mg/m³**																																			
ASTM E1333	≤0.12mg/m³***																																			
EN 717-1 (also known as DIN EN 717-1)	≤0.12mg/m																																			
EN 717-2 (also known as DIN EN 717-2)	≤3.5mg/m³hr																																			
	Occupants are not exposed to banned or highly toxic materials in the building. A comprehensive hazardous materials survey must be carried out on any existing buildings or structures on the Project site, in accordance with the relevant Environmental and Work Health and Safety (WHS) legislation.																																			
	On-site tests verify the building has low Volatile Organic Compounds (VOC) and formaldehyde levels as follows: <table><thead><tr><th>Element</th><th>Concentration</th></tr></thead><tbody><tr><td>TVOC</td><td>0.27 ppm</td></tr><tr><td>Formaldehyde</td><td>0.02 ppm</td></tr></tbody></table>			Element	Concentration	TVOC	0.27 ppm	Formaldehyde	0.02 ppm	2																										
Element	Concentration																																			
TVOC	0.27 ppm																																			
Formaldehyde	0.02 ppm																																			
15 Connection to Nature The building fosters connection to nature for building occupants	At least 60% of regularly occupied areas must have a clear line of sight to a high quality internal or external view. All floor areas within 8m from a compliant view meet this credit criterion.			1	Brief Concept Design Tender Handover Use																															
	Indoor plants must be provided in regularly occupied areas. One or more plants in pots with a soil surface area totalling at least 500cm² for every 15m² of the regularly occupied spaces is required. Project teams must provide a narrative against a set of design principles to show how the project’s ambition for nature inspired design has been embedded from design concept stage. OR Occupants can interact with nature either inside the building, or externally through a green façade (or wall) or garden. At least 5% of the building’s regularly occupied areas or land within the site boundary (whichever is greater) must be planted area (either vertical or horizontal).																																			

Green Star Credit Project Outcomes	Credit outcomes	Target	Project Stage
16 Climate Change Resilience The building has been built to respond to the direct and indirect impacts of climate change	The project team completes the climate change pre-screening checklist. The project team communicates the building's exposure to climate change risks to the applicant	MINIMUM EXPECTATION	Strategy Brief Concept Design
	Climate Change Risk & Adaptation assessment undertaken during early stage aligned with AS5334 under RCP 8.5 for 2050 & 2080.	1	
19 Heat Resilience The building reduces its impact on heat island effect	At least 75% of the whole site area comprises of one or a combination of strategies that reduce the heat island effect. The strategies that can be used to reduce the heat island effect are: Vegetation – Green roofs – Roofing materials, including shading structures, having the following: - For roof pitched <15° – a three-year SRI of minimum 64 - For roof pitched >15° – a three-year SRI of minimum 34 – Unshaded hard-scaping elements with a three-year SRI of minimum 34 or an initial SRI of minimum 39 – Hardscaping elements shaded by overhanging vegetation	1	Design Tender Construction
21 Upfront Carbon Emissions The building's upfront carbon emissions from materials and products have been reduced and offset	The building's upfront carbon emissions are at least 10% less than those of a reference building, calculated using the Upfront Carbon Emissions calculator.	MINIMUM EXPECTATION	Strategy Brief Concept Design
	The building's energy use is at least 20% less than a reference building, calculated using the Upfront Carbon Emissions calculator.	3	
	Where an existing building less than 30 years old has been fully or partly demolished for construction, an embodied carbon calculation must be done for the demolished portion and these emissions offset.		

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright.

ADVERTISED PLAN

Green Star Credit Project Outcomes	Credit outcomes	Target	Project Stage
	Where the existing building is between 30 to 50 years old, the contribution must be calculated and discounted at 10% for every two additional years past year 30.		
22 Energy Use (Residential Pathway) The building has low energy consumption	The building has a weighted-area average of NatHERS 7.5 stars	MINIMUM EXPECTATION	Brief Concept Design Tender
	The building meets at least NatHERS 6.0 stars for each sole-occupancy unit		
	The building addresses domestic hot water demand		
	Where a pool exists, it has a pool cover		
	The building has a weighted-area average of NatHERS 7.5 Stars and at least NatHERS 6.0 Stars for each sole-occupancy unit	3	
	The building addresses four out of nine following building services energy uses (to be determined during DD): – Domestic Hot Water – Domestic Hot Water Generation – Heating and Cooling of Sole Occupancy Units – Clothes Drying – Ceiling Fans – Car Parking – Vertical Transportation – Lift Lobbies and Corridors – On-site solar PV		
23 Energy Source The building's energy comes from renewables	The building provides a Zero Carbon Action Plan. The Zero Carbon Action Plan must include a target date by when the building is expected to operate as fossil fuel free. The Zero Carbon Action Plan must cover all energy consumption, procurement, and generation and cannot rely on procuring renewable fuels as its only solution. It must also include infrastructure provided for tenants or future occupants such as gas installations for cooking.	MINIMUM EXPECTATION	Brief Concept Design Tender
	100% of the building's electricity comes from renewable electricity	3	
	100% of the building's energy comes from renewables	3	

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

**ADVERTISED
PLAN**

Green Star Credit Project Outcomes	Credit outcomes	Target	Project Stage
24 Other Carbon Emissions The building's emissions from refrigerants, upfront carbon, and remaining carbon sources are eliminated or offset	The building owner eliminates emissions from high global warming potential refrigerants. or The building owner offsets emissions from refrigerants.	2	Concept Design Tender Construction
25 Water Use (Residential – Class 2 or 3) The building has low water use	The building installs efficient water fixtures: – Taps 5 star – Toilets 4 star – Urinals 5 star – Showers 3 star (<= 7.5 l/m) – Dishwashers 5 star – Washing machines 4 star	MINIMUM EXPECTATION	Design Tender Construction Use
26 Life Cycle Impacts The building has lower environmental impacts from resource use over its lifespan than a typical building	The reduction in life cycle impacts must be demonstrated through a whole-of-building, whole-of-life (cradle to grave) comparative Life Cycle Assessment (LCA), as defined by EN 15978. The results of the LCA must be entered into the GBCA's Life Cycle Assessment calculator.	2	Strategy Brief Concept Design Tender Construction
27 Movement and Place The building's design and location encourage occupants and visitors to use active, low carbon, and public transport options instead of private vehicles	There are showers, lockers, and change rooms in the building The facilities are accessible, inclusive, and located in a safe and protected space The building's access prioritises cycling and includes bicycle parking facilities for each building: • Wilson East: 152 • Track East: 192 • Track Central: 166 • Total bikes across Precinct 2: 510	MINIMUM EXPECTATION 	Strategy Brief Concept Design Tender Construction

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN

Green Star Credit Project Outcomes	Credit outcomes	Target	Project Stage
	Clear, safe and inclusive access to cyclist facilities via 2 lifts. 2-way ramp also provided (non-dedicated) – gradients of 1:10 or greater to incorporate minimum slip resistance classification of P5 in accordance with AS 4586.		
	Sustainable Transport Plan to be prepared and implemented.		
	EV charging infrastructure: - Chargers (minimum 7kW capacity) to 5% of car spaces: - Wilson East: 5 - Track East: 10 - Track Central: 10 - EV charging to include load management supervisor hardware - Electrical containment e.g. trunking/conduit installed to facilitate future installation of cabling supplying to all car spaces (NCC 2022 J9D4)		
	Transport options that reduce the need for private fossil fuel powered vehicles are prioritised.		
	Walkability encouraged via access to at least 10 amenities across 5 categories – Walkscore = 96		
29 Contribution to Place The building's design makes a positive contribution to the quality of the public environment	The project team must provide an urban context report and public realm interface design that outlines the urban context of the development and the design responses. or Independent design reviews are to be held at key points in the development of the design.	2	Strategy Brief Concept Design Construction
31 Inclusive Construction Practices The builder's construction practices promote diversity and reduces physical and mental health impacts	There are provisions for providing gender appropriate facilities and personal protective equipment The head contractor also installs policies on-site to increase awareness and reduces instances of discrimination, racism, and bullying ADVERTISED PLAN	MINIMUM EXPECTATION	Strategy Brief Tender Construction
	The head contractor must show that they have introduced programs and solutions to address Physical and Mental Health of potential site workers and sub-contractors based on a needs analysis. The project must provide an evaluation report to the client and sub-contractors on the effectiveness of the program.	1	

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Green Star Credit Project Outcomes	Credit outcomes	Target	Project Stage
35 Impacts to Nature Ecological value is conserved and protected	The building was not built on, or significantly impacted, a site with a high ecological value	MINIMUM EXPECTATION	Strategy Brief Concept Design
	The building's light pollution has been minimised. All outdoor lighting on the project complies with AS/NZS4282:2019 Control of the obtrusive effects of outdoor lighting.		
	There is ongoing monitoring, reporting, and management of the site's wetland ecosystem		
	The project team must demonstrate how they have attempted to understand their site's historical and current ecological context by documenting the site's current ecological values by type and biomass. This includes terrestrial and aquatic ecological values, geologic features, and soils (including interaction with living things). When determining biodiversity value, the project must reference local, regional, state, and national priorities and strategies.	2	
	If deemed necessary by an Ecologist, at least 50% of existing site with high biodiversity value is retained.		
36 Biodiversity Enhancement The building's landscape enhances the biodiversity of the site	The building's site includes an appropriate landscape area (minimum of 15% of the total Trackside site area = 314m ²)	2	Concept Design Use
	The landscaping includes a diversity of species and prioritises the use of climate-resilient and indigenous plants Significant trees provided, suitable for nesting, at 1 per 500m ² of landscaping		
	The project team develops a site-specific Biodiversity Management Plan and provides it to the building owner or building owner representative. The plan will outline key actions that need to be undertaken in order to maintain the ecological integrity of biodiversity on the site, whether this is existing or that created as part of the development.		
41 Leadership Challenges	Climate Positive Pathway	1	
	Tenant Energy Source At least 40% of tenant space (NLA) has, or will be required to, contractually commit to procuring 100% renewable electricity for the duration of the lease.	5	
Total Green Star Points		41	
Green Star Rating		5 Star	

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN

Ark Resources takes no responsibility for any contractors who base their pricing on this document.

B.1 Results

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Building	Apartment	Star Rating	Energy Demand (MJ/m ²)		
			Total	Heating	Cooling
Wilson East	19.PH.03	6.1	126.7	95.3	31.4
	UG.01	7.7	77.3	47.5	29.9
	UG.02	7.4	85.5	72.1	13.4
	1.01	7.9	70.6	35.6	35.1
	1.02	8.2	64.2	25.5	38.8
	1.03	8.9	42.5	20.6	21.9
	1.04	8.4	55.7	39.4	16.3
	1.05	8.2	62.7	42.6	20.0
	1.06	8.2	62.5	42.6	19.9
	1.07	8.5	53.9	36.0	17.9
	1.08	8.1	65.2	41.1	24.0
	1.09	8.7	49.8	37.7	12.1
	1.10	7.7	76.8	60.0	16.8
	4.01	7.9	70.5	44.5	25.9
	4.02	8.3	59.5	30.5	29.0
	4.03	9.0	40.2	24.8	15.4
	4.04	8.2	64.7	51.0	13.7
	4.05	8.1	65.1	51.3	13.8
	4.06	8.1	65.2	51.4	13.8
	4.07	8.3	61.8	46.8	15.0
	4.08	7.9	71.9	52.4	19.5
	4.09	8.2	63.1	50.3	12.8
	4.10	8.2	64.0	47.3	16.7
	14.01	7.6	82.0	52.9	29.0

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Building	Apartment	Star Rating	Energy Demand (MJ/m ²)		
			Total	Heating	Cooling
Track East	14.02	8.0	68.4	34.0	34.4
	14.03	8.8	46.8	29.6	17.2
	14.04	7.8	73.7	60.7	13.0
	14.05	7.8	73.8	59.9	13.9
	14.06	7.8	74.4	60.3	14.1
	14.07	7.9	70.9	56.6	14.3
	14.08	7.7	78.2	59.2	19.0
	14.09	7.7	77.4	54.9	22.5
	14.10	7.7	78.6	55.9	22.7
	15.01	7.2	92.0	68.0	24.0
	15.02	7.8	76.4	46.3	30.2
	15.03	8.4	58.3	43.8	14.5
	15.04	7.3	90.9	79.6	11.3
	15.05	7.3	91.1	79.3	11.7
	15.06	7.3	91.0	79.2	11.8
	15.07	7.3	88.5	76.2	12.3
	15.08	7.2	92.0	75.6	16.4
	15.09	7.2	91.9	68.4	23.6
	15.10	7.2	94.3	72.2	22.1
	UG.01	7.3	90.7	47.2	43.5
	UG.02	6.0	130.8	89.1	41.7
	UG.03	7.6	81.0	54.6	26.4
	UG.04	7.7	76.7	50.2	26.5
	UG.05	6.4	116.6	68.8	47.7

Building	Apartment	Star Rating	Energy Demand (MJ/m2)		
			Total	Heating	Cooling
	4.01	7.7	78.0	46.7	31.3
	4.02	6.3	120.5	91.8	28.7
	4.03	7.6	80.1	58.3	21.8
	4.04	7.8	75.3	49.9	25.4
	4.05	7.1	96.9	63.6	33.3
	4.06	7.4	85.5	49.7	35.9
	4.07	7.6	80.5	52.7	27.8
	4.08	8.1	67.2	39.0	28.2
	4.09	8.0	67.8	46.0	21.8
	4.10	7.9	69.3	51.1	18.3
	Estimated Development Average	7.5	80.3	58.1	22.2

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

**ADVERTISED
PLAN**

Element	Description	Added R Value
Floor Type	Suspended concrete slabs	
Floor Insulation	Underside of concrete slab over basement: 70mm Rigid board insulation R3.2 (Kooltherm or equivalent)	R 3.2
Wall Insulation	Lightweight party walls: Insulation R 1.5	R 1.5
	Lightweight corridor walls: Insulation R 1.5	R 1.5
	Precast concrete Lift & stairwell walls: Insulation R0.65	R 0.65
	Precast concrete external walls: Insulation R 2.5	R 2.5
	Lightweight clad walls: Insulation R 2.5	R 2.5
Roof Insulation	Concrete roof: 70mm Rigid board insulation R 3.2 (Kooltherm or equivalent)	R 3.2
	Concrete roof: 90mm Rigid board insulation R 4.1 (Kooltherm or equivalent)	R 4.1
	Wilson West Apt 8.01	
	Track Central All Level 19 penthouses	
	All apartment concrete ceilings shared with terraces above: 70mm Rigid board insulation R 3.2 (Kooltherm or equivalent)	R 3.2
Roof Colour	Solar Absorptance – 0.50	
Window Frames	Aluminium thermally broken frames to all windows and glazed doors	
Window Colour	Solar Absorptance – 0.94 Charcoal	
Ceiling Fans	Track East UG.02 Living 4.02 Living	Track Central 3.09 Living
Sky Lights	None	

NOTES

The added insulation R value must be equal to or higher than that specified above to meet the energy rating results.

All insulation specified for construction must meet Fire Engineer requirements.

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

B.3 Glazing

Window Type		Description	Whole of Window Value		Location
			U	SHGC	
Aluminium Sliding Door	Specified Glazing	CAP-133-07 Double glazed 6mm EnergyTech Clear/12mm Argon/6mm Clear	2.40	0.40	Throughout all apartments
	Energy Rating Software Equivalent	AWS-089-08 AWS Res Series 704 Flush Sliding door DG 6.38mm ComPlusGy/12mm Argon gap/6mm Clear	2.41	0.40	
Aluminium Fixed Window		CAP-157-06 Double glazed 6mm EnergyTech Clear/12mm Argon/6mm Clear	2.16	0.51	Throughout all apartments
Aluminium Awning Window		CAP-116-04 Double glazed 6mm EnergyTech Clear/12mm Argon/6mm Clear	2.87	0.39	Throughout all apartments
Aluminium Hinged Door		CAP-115-04 Double glazed 6mm EnergyTech Clear/12mm Argon/6mm Clear	2.73	0.42	Throughout all apartments

GLAZING NOTES

Window system values used in the NatHERS ratings must be tested by an accredited professional according to the Technical Protocols and Procedures Manual for Energy Rating of Fenestration by the Australian Fenestration Rating Council, as per the NatHERS Technical Note (2023) and NCC 2022 Volume Two Housing Provisions. Energy ratings cannot be certified for NCC compliance until documentation is provided demonstrating window system performance values have been tested according to this protocol.

The energy rating software accredited by the Australian Building Codes Board contains a relatively limited library of window systems. When the glazing systems specified are not available in the software, the protocol requires that the glazing type which most closely matches the specified glazing is selected for the purpose of calculating the energy rating.

The table above sets out the glazing specified for the purposes of calculating the energy rating.

The whole of window U – Value must be equal or lower than the energy rating software value and the whole of window SHGC – Value must be within +/-5% of the energy rating software value.

The NatHERS results above require additional operable windows and spandrel to Track Central Level 19, and Track EastUG.01 & UG.02, 4.02 and 4.01.

ADVERTISED
PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

B.4 General Rating Assumptions

Item	Details
Floor Coverings	Tiles to bathrooms and laundries Carpet to bedrooms Timber boards to kitchen, living and all other areas
Draught Proofing	Weather strips to all entry & external doors and windows. Seal all exhaust fans.
Down lights	Recessed down lights in ceiling /roof space to be fitted with fire proof unvented down light covers (external roof areas only) to provide air tightness and contact with insulation
General	All party walls are classed as neighbour walls.
Shading	Overshadowing from adjoining buildings has been incorporated into the energy ratings
Ceiling Calculation	Calculation for loss of ceiling insulation due to down lights, exhaust fans, ceiling speakers etc. have been incorporated into the energy rating where applicable

NOTES

Changes to any of the above stated specifications may affect energy performance and invalidate the energy ratings detailed in this report.

Inadequate sealing of gaps and cracks can negatively affect the energy performance of a dwelling. Provide sealing in accordance with NCC 2022 Part J5.

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

**ADVERTISED
PLAN**

B.5 Whole of Home

NCC 2022 introduced the NatHERS Whole of Home assessment for class 2 buildings through Part J3D15.

Whole of Home assessments incorporate the energy consumption of fixed appliances—such as space heating and cooling systems, domestic hot water units, lighting, pool and spa pumps, and renewable energy systems (e.g. PV and batteries).

The assessment produces a quantified estimate of an annual energy use budget defined for Whole of Home performance. The tool enables scenario testing and system trade-offs, allowing for optimisation of design and appliance specifications to achieve regulatory compliance and improve building performance outcomes.

Class 2 dwellings must have a minimum Whole of Home score of 50, when using NatHERS software, to meet Part J3D15.

Wilson East	Air Conditioning		Hot Water		Stovetop	Oven	Lighting	Batteries	Solar PV	Swimming pool	Whole of Home Score
	Cooling (SEER MEPS 2019)	Heating (SEER MEPS 2019)	Type	STCs	Type	Type	W/m2		System Size		
Minimum score all apartments	2.5	3.5	Heat Pump	21	Electric	Electric	4.0	N/A	N/A	N/A	50

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any

Track East	Air Conditioning		Hot Water		Stovetop	Oven	Lighting	Batteries	Solar PV	Swimming pool	Whole of Home Score
	Cooling (SEER MEPS 2019)	Heating (SEER MEPS 2019)	Type	STCs	Type	Type	W/m2		System Size		
Apt UG.02	3.0	4.0	Heat Pump	35	Electric	Electric	3.50	N/A	N/A	N/A	50
Apt 4.02	3.0	4.0	Heat Pump	35	Electric	Electric	3.50	N/A	N/A	N/A	51
Minimum score all other apartments	2.5	3.5	Heat Pump	35	Induction	Electric	4.0	N/A	N/A	N/A	50

**ADVERTISED
PLAN**

Track Central	Air Conditioning		Hot Water		Stovetop	Oven	Lighting	Batteries	Solar PV	Swimming pool	Whole of Home Score
	Cooling (SEER MEPS 2019)	Heating (SEER MEPS 2019)	Type	STCs	Type	Type	W/m2		System Size		
Apt 18.03	3.0	4.0	Heat Pump	35	Electric	Electric	4.0	N/A	N/A	N/A	50
Apt 3.09	3.0	4.0	Heat Pump	35	Electric	Electric	4.0	N/A	N/A	N/A	51
Apt 3.11	3.0	4.0	Heat Pump	35	Electric	Electric	4.0	N/A	N/A	N/A	52
Apt 19.PH.02	3.5	4.5	Heat Pump	35	Electric	Electric	4.0	N/A	N/A	N/A	51
Apt 19.PH.03	3.5	4.5	Heat Pump	35	Electric	Electric	4.0	N/A	N/A	N/A	51
Minimum score all other apartments	2.5	3.5	Heat Pump	35	Electric	Electric	4.0	N/A	N/A	N/A	50

ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Appendix C. Nature Based Cities Scorecard

Refer to the Landscape Report prepared by Tract for more detail of the Nature Based Cities assessment for the entire Trackside Gardens site.

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

	1 POINT	2 POINTS	EXPLANATORY NOTES	RESULTS	
				Add score results below	
Views & Site Planning	☐ At least 50% of apartments have a view to green open space.	☒ All apartments have a view to green open space.	Green open space can be on or off site and include: • Parks, Gardens or communal open spaces with at least 3 canopy trees visible from apartment. • Streets with trees. At least 3 street trees should be visible from the apartment. Aligns with Green Star Credit 15 – Connection to Nature (Views)	Percentage of apartments with views to green open space?*	100%
				Score	2
Private Open Space	☐ At least 10% of residential apartments have planting within their private open space.	☒ At least 20% of residential apartments have planting within their private open space including all ground level residential apartments.	Planting includes fixed and irrigated planters such as balcony planters, in-situ planters, or in-ground planting. It does not include pot plants.	Percentage of apartments with planting within their private open space?*	> 20%
				Percentage of ground level apartments with planting within their private open space?*	> 20%
				Score	2
Communal Spaces	☐ Provide landscaped, communal open space with a minimum area of 30sqm or 2.5sqm per dwelling, whichever is greater. A minimum 30sqm of the communal open space is to receive at least 2 hours of sunlight.	☒ Provide landscaped, communal open space with a minimum area of 30sqm or 3.5 sqm per dwelling, whichever is greater. A minimum 30sqm of the communal open space is to receive at least 4 hours of sunlight.	Communal open space must be on site, accessible to all residents and tenants, and include at least 1 canopy tree or pergola with climbers and at least 20% planted area. The hours of sunlight required are to be calculated at the winter solstice (21st June) and apply to at least 30 square metres of the designated communal open space. Aligns with the intent of BESS Urban Ecology – 1.1 Communal Open Space.	Area (sqm) of communal open space?*	2886
				Does 30sqm of communal open space receive at least 2 hours sunlight?*	Yes
				Does 30sqm of communal open space receive at least 4 hours sunlight?*	Yes
				Score	2

Tract

*Mandatory information

317-0724-02_RPO01 MVP North East Precinct

14 July 2026

49 / 53

ADVERTISED PLAN

ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

	1 POINT	2 POINTS	EXPLANATORY NOTES	RESULTS
				Add score results below
Existing trees ☒ N/A there are no existing high or moderate value trees on site. If there are no high value trees on-site points can be achieved by: 1 Point: Retain at least 50% of moderate value trees. 2 Points: Retain all moderate value trees. If this applies to the project site, please tick the corresponding points box on the right.	☐ Retain all high value trees.	☐ Retain all high value trees and at least 50% of moderate value trees.	Tree value is to be assessed by a Consultant Arborist prior to commencement of the development. Retention of trees is preferred, but if a tree can't be retained in its location, it is acceptable to transplant the tree if it remains on the development site. Relocation of trees must be carried out by a suitably qualified tree transplanter under the supervision of an arborist. Aligns with the intent of the Green Factor Tool: Category – In Ground Retained / Existing.	Are there existing trees on site? (Y/N)* <u>2</u> Percentage of high value trees retained?* <u>N/A</u> Percentage of existing moderate value trees retained?* <u>67%</u> Score <u>1</u>
Canopy Trees	☒ Provide at least 1 large canopy tree per 2,000sqm.	☐ Provide at least 1 large canopy tree per 1,000sqm, including at least 1 large habitat tree per 5,000sqm.	A large canopy tree is at least 12 metres high with a canopy spread of at least 8 metres when mature. Retained existing trees can be included in the calculations. Habitat tree is a tree that can reach 15 metres height or can be demonstrated to provide wildlife habitat. Aligns with Green Star Credit 36 – Biodiversity Enhancement.	Number of large canopy trees?* <u>5</u> Number of large habitat canopy trees?* <u>0</u> Score <u>1</u>
Canopy Cover	☐ Provide a minimum of 15% canopy coverage across the site from trees and/or climbers on pergolas.	☒ Provide a minimum of 20% canopy coverage across the site from trees and/or climbers on pergolas.	Canopy cover is the total land area that will be covered by tree canopy and climbers on pergolas, calculated using the expected mature spread of the proposed trees and pergola area to be covered by climbers. Trees planted outside the site boundary (e.g., street trees) can be included in calculations. Adequate soil volumes must be demonstrated to gain these points. Required soil volume is to be calculated in cubic metres by multiplying the mature canopy area of a tree by 0.6. Exemplary Standard aligns with Enviro Development 1.3.11 Canopy Cover (1 credit)	What is the percentage of canopy cover?* <u>20%</u> Has adequate soil volume been demonstrated? (Y/N)* <u>Y</u> Score <u>2</u>

Tract
*Mandatory information

317-0724-02_RPO01 MVP North East Precinct

14 July 2026

50 / 53

	1 POINT	2 POINTS	EXPLANATORY NOTES	RESULTS	
				Add score results below	
Biodiversity	☒ Plant at least 60% indigenous plants.	☐ Plant at least 80% indigenous plants. Implement a diverse planting palette with 10/20/30 benchmark.	Indigenous means native to the site's bioregion as defined by the state government authority responsible for environment. 10/20/30 benchmark means no more than 10% of any species, 20% of any one genus and 30% of any single family. Exemplary Standard aligns with Green Star Credit 36 – Biodiversity Enhancement.	Percentage of indigenous plants proposed?*	60%
				Will 10/20/30 benchmark be achieved? (Y/N)*	Y
				Score	1
Ecology	☐ Engage a qualified Ecologist to provide a report of recommendation for development.	☒ Engage a qualified Ecologist to provide a report of recommendations for the development and implement all core recommendations. Ecologist to prepare a Biodiversity Management Plan. 50% of any identified high value biodiversity area must be retained in order to achieve core recommendations.	The Biodiversity Management Plan should include an assessment of the current site conditions, potential threats and recommended actions to mitigate threats and enhance habitat. The Ecologist should be engaged early enough to influence key decision making. They will carry out a site survey to understand existing biodiversity and to provide appropriate and meaningful ecological enhancement recommendations. The purpose of the Biodiversity Management Plan is to ensure recommendations achieve the intended outcomes. Exemplary Standard aligns with Green Star Credit 36 – Biodiversity Enhancement.	Has an ecologist been engaged and will core recommendations be implemented? (Y/N)*	Y
				Will core recommendations be implemented? (Y/N)*	Y
				Will a Biodiversity Management Plan be prepared? (Y/N)*	Y
				Has any area of the site been identified as having high value biodiversity? (Y/N)*	N
				Will 50% of identified high value biodiversity area be retained? (Y/N)*	N/A
				Score	2

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN

	1 POINT	2 POINTS	EXPLANATORY NOTES	RESULTS	
				Add score results below	
Planted area	☐ Garden bed area at a minimum 15% horizontally across the site.	☒ Garden bed area at a minimum 20% horizontally across the site.	Garden bed area includes mulched and irrigated in-ground planting beds, on-structure planters with a minimum 300mm soil depth and internal planting to lobbies or communal spaces. Minimum Standard aligns with Green Star Credit 36 – Biodiversity Enhancement. Exemplary Standard aligns with Enviro Development 1.3.3 Green Infrastructure. Consistent with BESS: Urban Ecology – 2.1 Vegetation.	What percentage is garden bed, horizontally across the site?*	22%
ADVERTISED PLAN				Score	2
Vertical Greening	☐ Vertical greening to provide at least 3% coverage of the lowest 4 storeys of the building.	☒ Vertical greening to provide at least 10% coverage of the lowest 4 storeys of the building, or 5% of the total facade.	Vertical greening includes climbing plants, well maintained green walls and shrubs in balcony planters that are visible from street level. All planting must be irrigated. The preference is to concentrate façade greening at the lower levels of buildings where it can be appreciated by people at street level. Vegetated coverage is calculated based on the expected vertical area to be covered by the plants at maturity as a percentage of the façade area on an elevation. Internal green walls can be included in the calculations. Generally aligns with Green Star Credit 36 – Biodiversity Enhancement, BESS Urban Ecology – 2.3 Green Walls & Facades, Green Factor Tool Green Wall & Green Facade and Enviro Development 1.3.3 – Green Infrastructure, though no minimum areas are provided in these rating tools.	Percentage of coverage of lowest 4 storeys?*	> 10%
This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright				Percentage of coverage of total facade?*	> 5%
				Score	2
Out of a possible 20 points you must score 12–15 points to be accredited as a Commended Nature Based Cities project, and 16 points or more to be accredited as an Exemplary Nature Based Cities project. Please note: If existing trees are not located on-site, the calculation is based off 18 points. In this case, 11–14 points are required for Commended Nature Based Cities accreditation and 15 points or more are required for Exemplary Nature Based Cities accreditation.				Provisional Score	17

[†]Track
*Mandatory information

317-0724-02_RP001 MVP North East Precinct

14 July 2026

52 / 53

Appendix D. Daylight Analysis

This Appendix provides a summary of the analysis of Internal Daylight Levels bedrooms and living areas (excluding kitchens) on the Lower ground floor, Upper ground floor, L1, L2 and L3 of the Wilson East, Track East and Track Central buildings, using the Green Star Buildings Spatial Daylight Autonomy performance standard (sDA).

High levels of daylight are deemed to have at least 160 lux due to daylight during 80% of the nominated hours.

The model accounts for shading and obstructions provided by adjacent structures.

D.1 Modelling Assumptions

The following assumptions have been made for the Visible Light Transmittance (VLT) values for all glazing applicable to this analysis:

Assumed Glazing Visual Light Transmittance

Glazing Type	Visible Light Transmittance (VLT)
	%
External Glazing – Clear, Double Glazing(WE, TC façade & behind balcony) (TE behind balcony)	70
External Glazing –Tinted, Double Glazing (TE façade)	50
Balustrade	60

ADVERTISED PLAN

Assumed Surface Reflectances

Construction Element	Reflectance (%)	Description
Floors	30	Assumes a light-coloured timber/carpet
Internal Walls	70	Light coloured finish
Ceilings	80	Light coloured finish
External Balcony Walls	40	Medium coloured finish
Balcony Floor	40	Light coloured paver
Soffit	40	Medium coloured finish
External Walls	40	Medium coloured finish
Adjacent Buildings	40	Assumes medium-coloured wall/roof
Roads	10	Dark colour
Grass/Green areas	20	Dark colour

Sky conditions: Perez sky

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

D.2 Wilson East

D.2.1 Model Images

ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

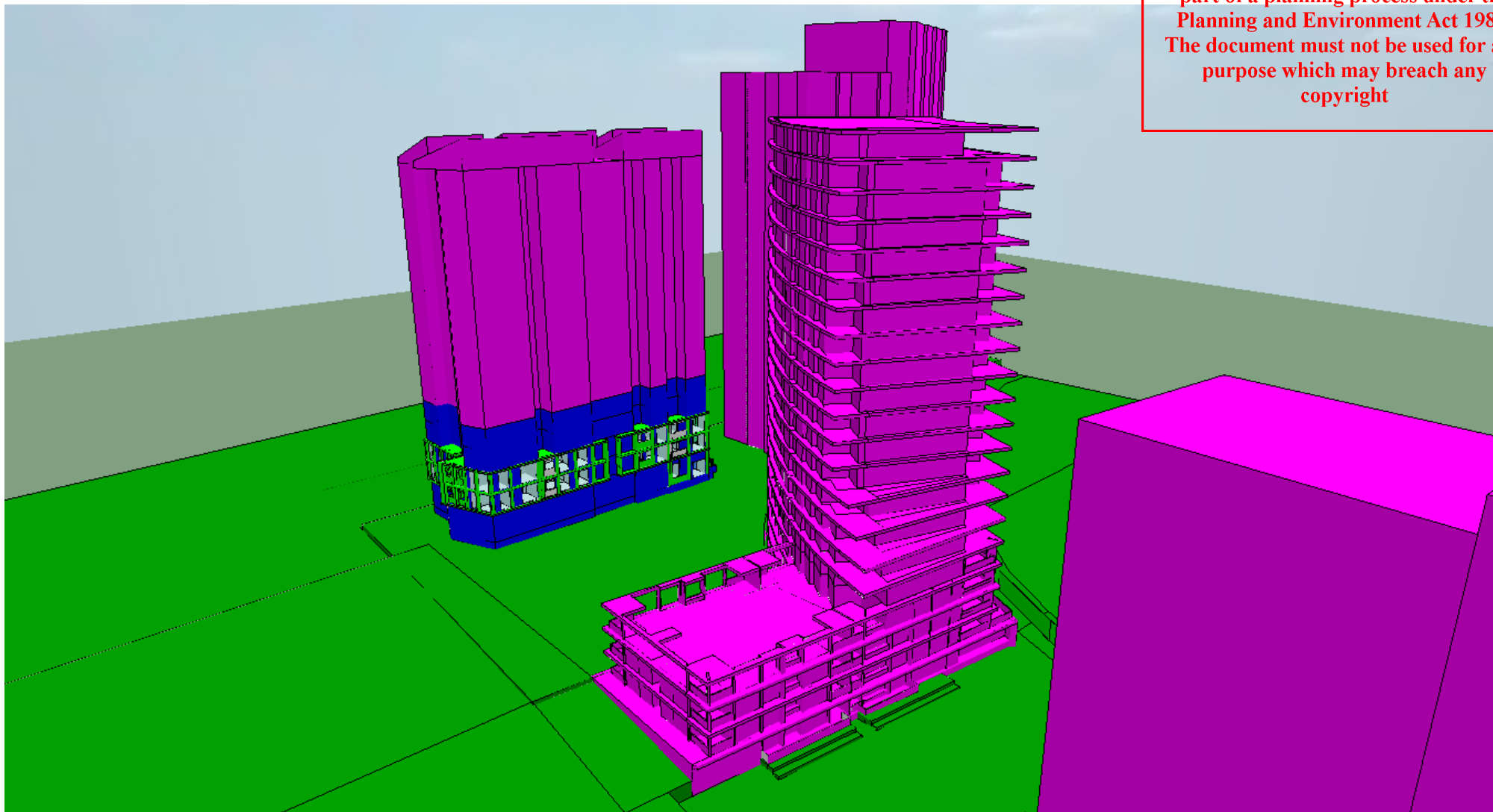


Figure 1 IES VE Model view from North-West

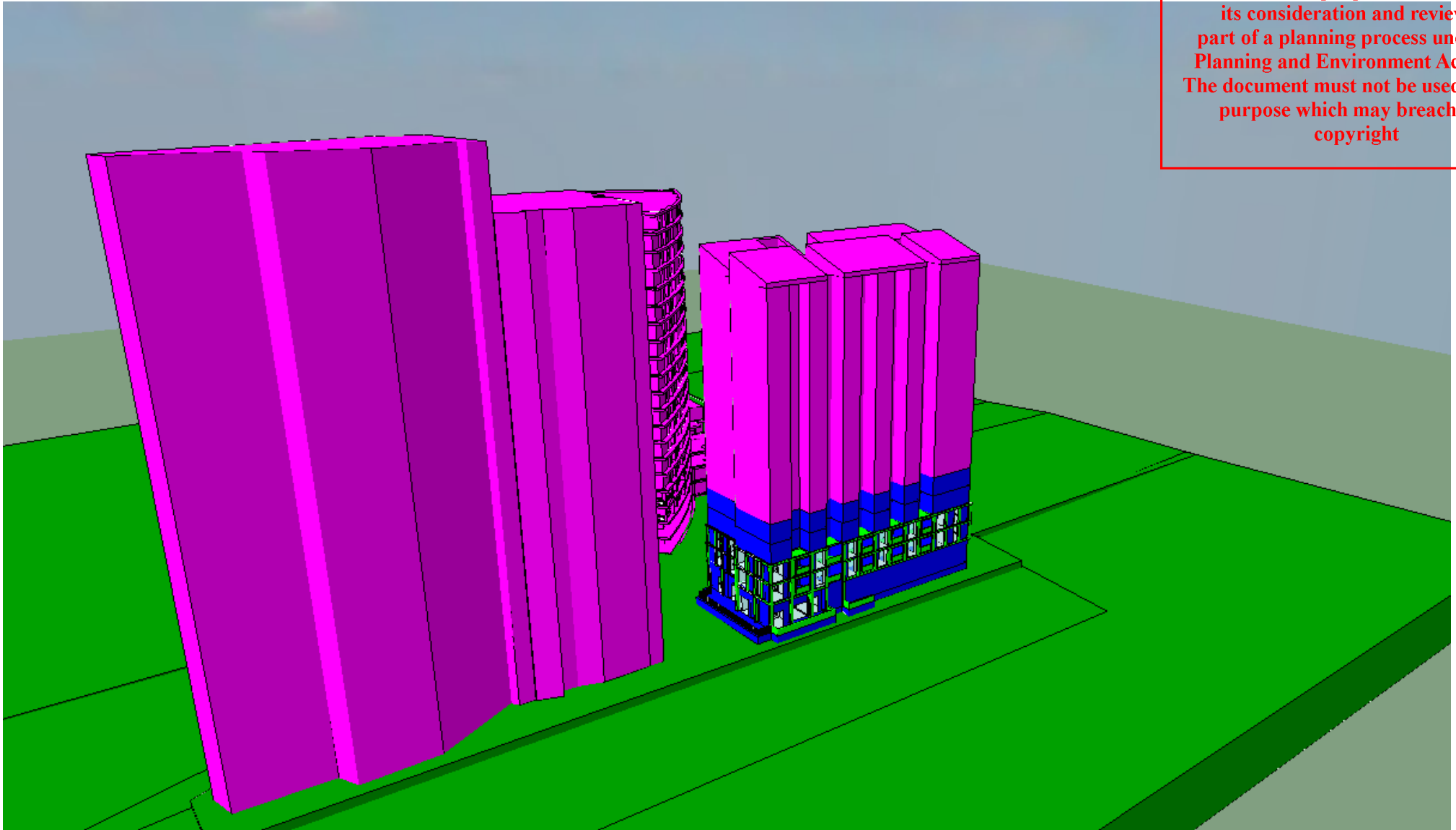


Figure 2 IES VE Model view from South-East

ADVERTISED PLAN

ADVERTISED PLAN

D.2.2 Results

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Building	Level	Apartment	Area Weighted % compliance to sDA	Individual space results			
				BED 1	BED 2	BED 3	LIVING 1
Wilson East	Upper Ground	LGF.001	93%	100%	100%		83%
Wilson East	Upper Ground	LGF.002	100%	100%	100%	100%	100%
Wilson East	Level 01	101	94%	100%	75%		100%
Wilson East	Level 01	102	100%	100%	100%		100%
Wilson East	Level 01	103	96%	100%	100%		88%
Wilson East	Level 01	104	59%	100%			27%
Wilson East	Level 01	105	74%	100%			54%
Wilson East	Level 01	106	74%	100%			54%
Wilson East	Level 01	107	100%	100%			100%
Wilson East	Level 01	108	80%	100%	100%		52%
Wilson East	Level 01	109	73%	100%	100%		36%
Wilson East	Level 01	110	58%	100%			24%
Wilson East	Level 02	201	92%	100%	69%		100%
Wilson East	Level 02	202	100%	100%	100%		100%
Wilson East	Level 02	203	96%	100%	100%		88%
Wilson East	Level 02	204	58%	100%			25%
Wilson East	Level 02	205	72%	100%			50%
Wilson East	Level 02	206	72%	100%			50%
Wilson East	Level 02	207	100%	100%			100%
Wilson East	Level 02	208	87%	100%	100%		70%
Wilson East	Level 02	209	70%	100%	100%		28%
Wilson East	Level 02	210	59%	100%			25%

D.2.2.3 sDA Plots

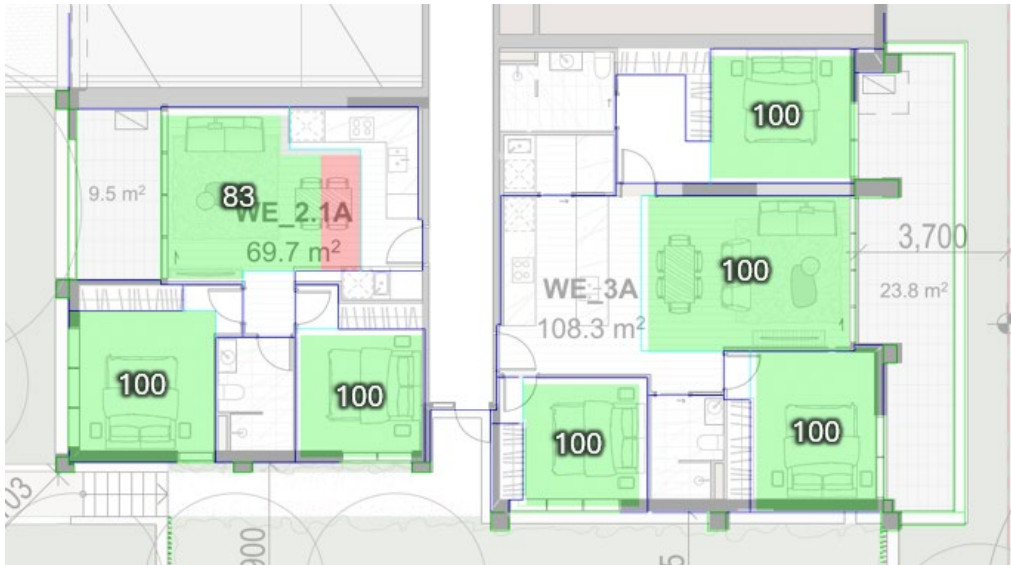


Figure 3 Upper GF Wilson East

Legend

Applicable to all sDA Plots

-  >160 lux, 80% of daylight hours
-  <160 lux, 80% of daylight hours

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

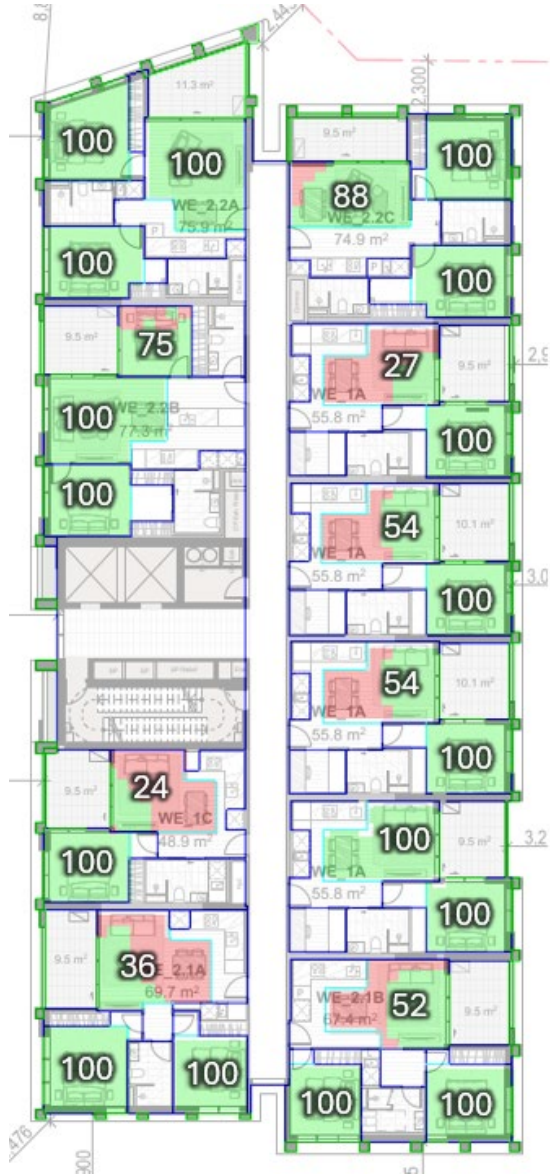


Figure 4 Level 01 Wilson East

ADVERTISED
PLAN

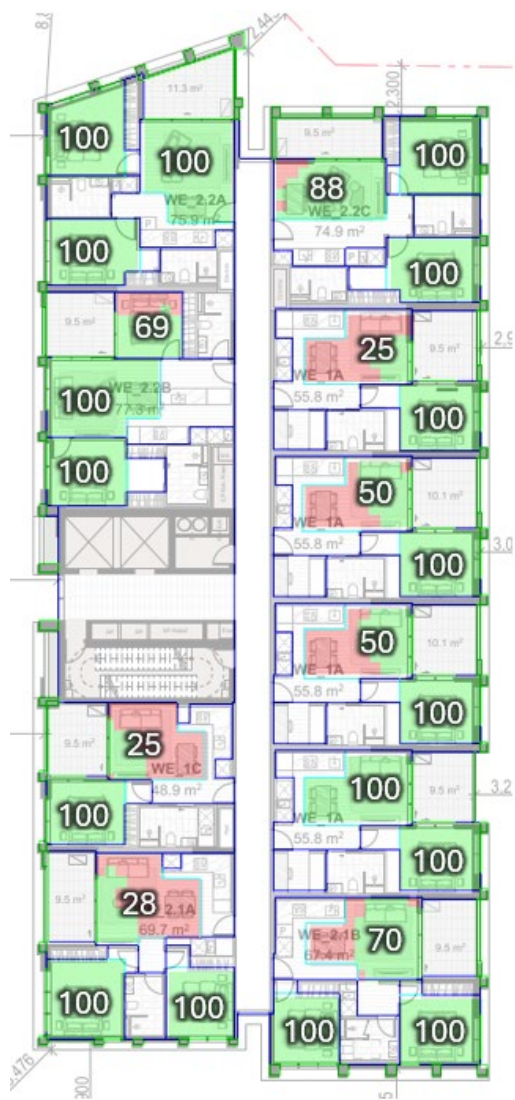


Figure 5 Level 02 Wilson East

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

**ADVERTISED
PLAN**

D.3 Track East

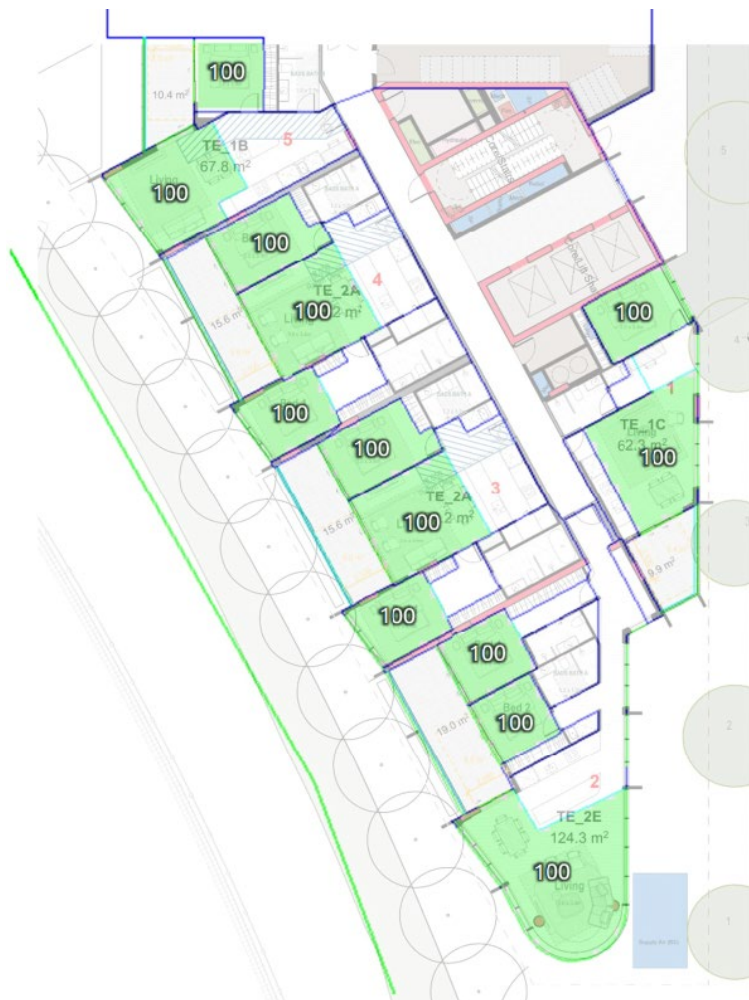
D.3.1 Results

ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

Building	Level	Apartment	Area Weighted % compliance to sDA	Individual space results		
				BED 1	BED 2	LIVING 1
Track East	Upper Ground	UG.1	100%	100%		100%
Track East	Upper Ground	UG.2	100%	100%	100%	100%
Track East	Upper Ground	UG.3	100%	100%	100%	100%
Track East	Upper Ground	UG.4	100%	100%	100%	100%
Track East	Upper Ground	UG.5	100%	100%		100%
Track East	Level 1	L1.1	100%	100%		100%
Track East	Level 1	L1.2	100%	100%	100%	100%
Track East	Level 1	L1.3	100%	100%	100%	100%
Track East	Level 1	L1.4	100%	100%	100%	100%
Track East	Level 1	L1.5	100%	100%		100%
Track East	Level 1	L1.6	100%	100%	100%	100%
Track East	Level 1	L1.7	100%	100%	100%	100%
Track East	Level 1	L1.8	100%	100%	100%	100%
Track East	Level 1	L1.9	100%	100%		100%
Track East	Level 1	L1.10	100%	100%	100%	100%
Track East	Level 2	L2.1	100%	100%		100%
Track East	Level 2	L2.2	100%	100%	100%	100%
Track East	Level 2	L2.3	100%	100%	100%	100%
Track East	Level 2	L2.4	100%	100%	100%	100%
Track East	Level 2	L2.5	100%	100%		100%
Track East	Level 2	L2.6	100%	100%	100%	100%
Track East	Level 2	L2.7	100%	100%	100%	100%
Track East	Level 2	L2.8	100%	100%	100%	100%
Track East	Level 2	L2.9	100%	100%		100%
Track East	Level 2	L2.10	100%	100%	100%	100%

D.3.2 sDA Plots



This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

**ADVERTISED
PLAN**

Figure 6 Upper Ground Track East

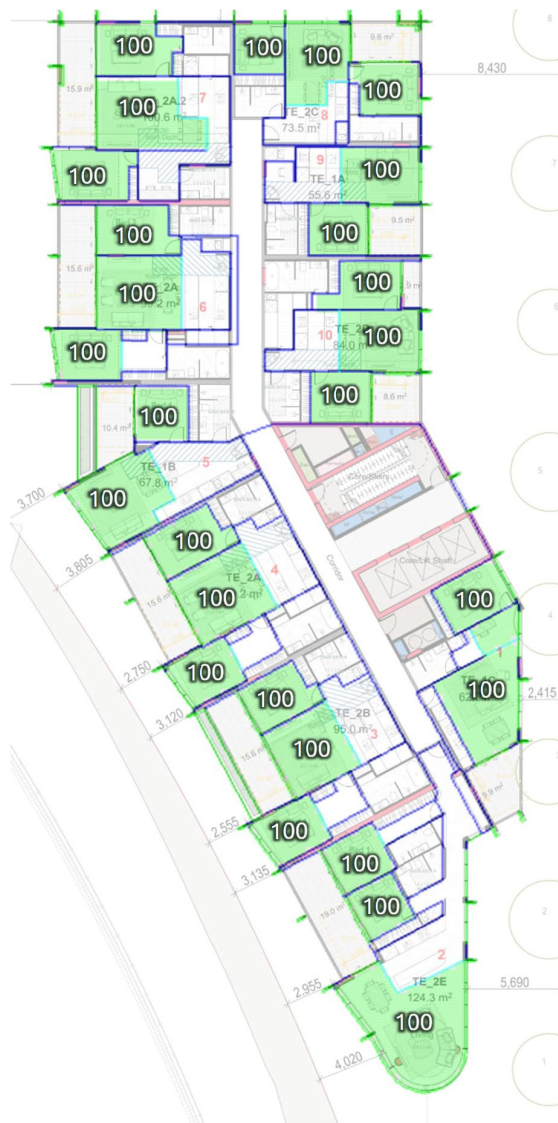


Figure 7 Level 01 Track East

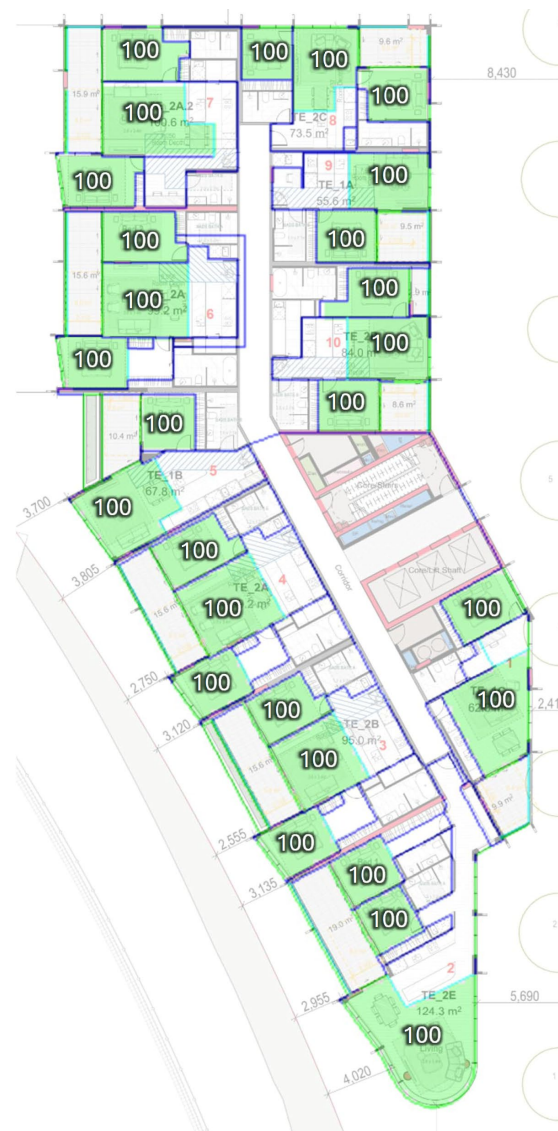


Figure 8 Level 02 Track East

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

**ADVERTISED
PLAN**

D.3.3 Model Images

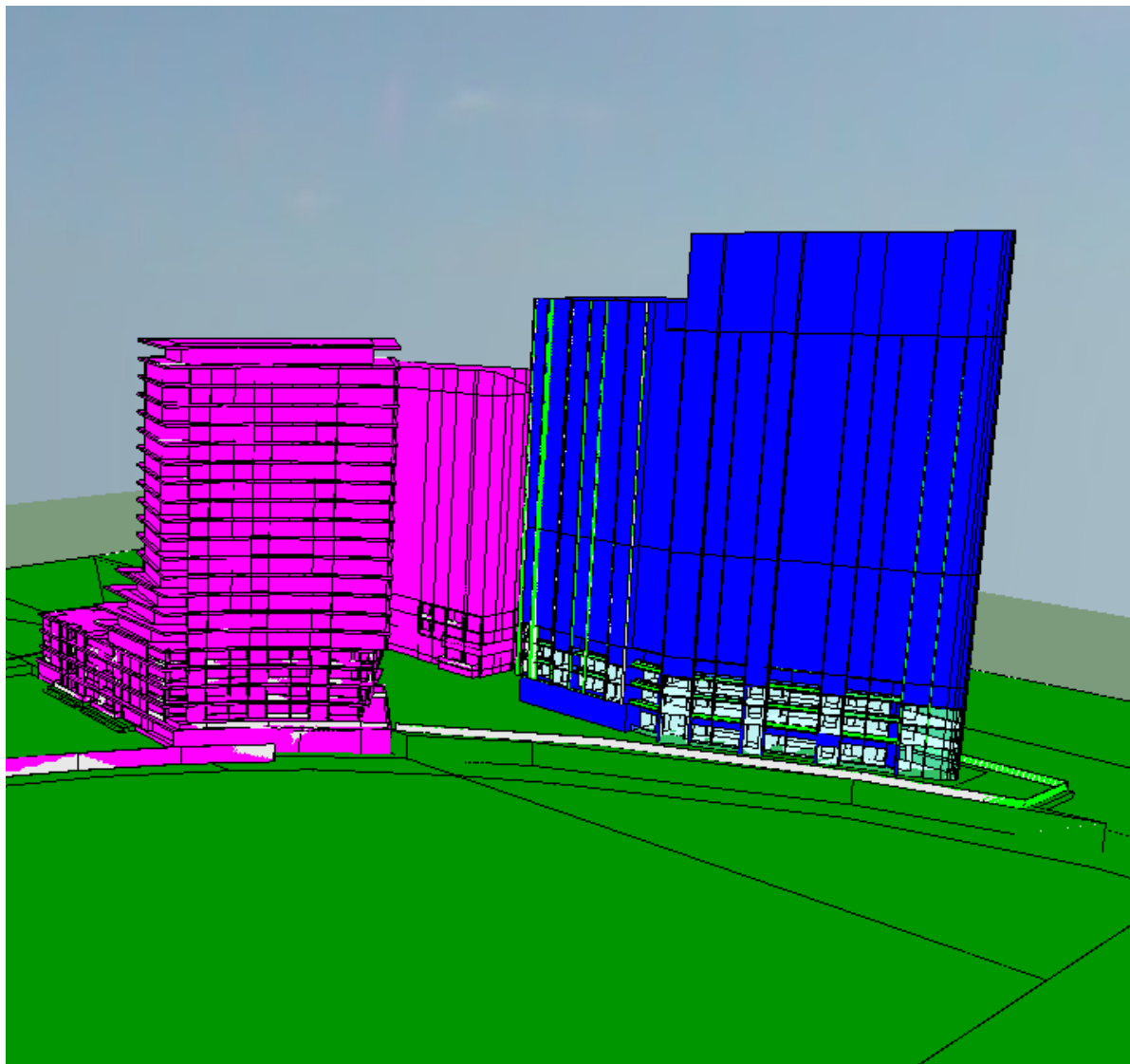


Figure 9 IES VE Model South-West view - Track East

This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright

**ADVERTISED
PLAN**

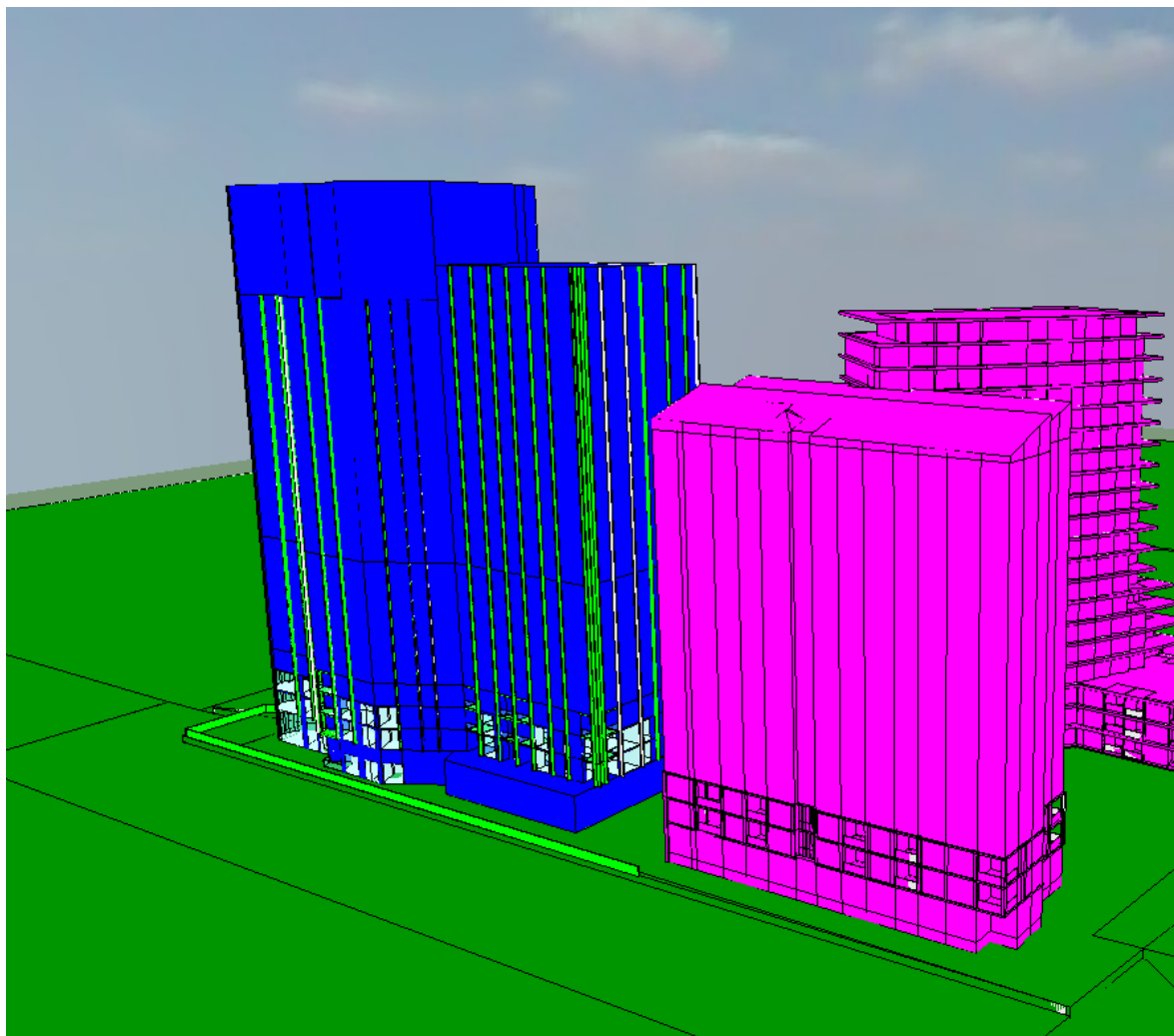


Figure 10 IES VE Model view from North-East – Track East

This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright

**ADVERTISED
PLAN**

D.4 Track Central

D.4.1 Results

ADVERTISED PLAN

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

				Individual space results			
Building	Level	Apartment	Area Weighted % compliance to sDA	BED 1	BED 2	BED 3	LIVING 1
Track Central	Lower GF	LGF 01	100%	100%	100%		100%
Track Central	Lower GF	LGF 02	100%	100%			100%
Track Central	Lower GF	LGF 03	97%	91%			100%
Track Central	Upper GF	UGF.01	100%	100%	100%		100%
Track Central	Upper GF	UGF.02	100%	100%			100%
Track Central	Upper GF	UGF.03	100%	100%			100%
Track Central	Upper GF	UGF.04	97%	92%			100%
Track Central	Upper GF	UGF.05	100%	100%	100%	100%	100%
Track Central	Upper GF	UGF.06	100%	100%	100%		100%
Track Central	Upper GF	UGF.07	100%	100%	100%		100%
Track Central	Upper GF	UGF.08	100%	100%	100%		100%
Track Central	Upper GF	UGF.09	76%	25%	100%		100%
Track Central	Upper GF	UGF.10	100%	100%	100%		100%
Track Central	Upper GF	UGF.11	100%	100%	100%		100%
Track Central	Level 01	L1.01	100%	100%	100%		100%
Track Central	Level 01	L1.02	100%	100%			100%
Track Central	Level 01	L1.03	100%	100%			100%
Track Central	Level 01	L1.04	92%	80%			100%
Track Central	Level 01	L1.05	99%	100%	100%	100%	96%
Track Central	Level 01	L1.06	99%	100%	100%		97%

				Individual space results			
Building	Level	Apartment	Area Weighted % compliance to sDA	BED 1	BED 2	BED 3	LIVING 1
Track Central	Level 01	L1.07	100%	100%	100%		100%
Track Central	Level 01	L1.08	98%	100%	100%		95%
Track Central	Level 01	L1.09	100%	100%			100%
Track Central	Level 01	L1.10	100%	100%	100%		100%
Track Central	Level 01	L1.11	100%	100%	100%		100%
Track Central	Level 02	L2.01	100%	100%			100%
Track Central	Level 02	L2.02	96%	94%			100%
Track Central	Level 02	L2.03	96%	94%			100%
Track Central	Level 02	L2.04	88%	80%			100%
Track Central	Level 02	L2.05	99%	100%	100%	100%	96%
Track Central	Level 02	L2.06	100%	100%	100%		100%
Track Central	Level 02	L2.07	100%	100%	100%		100%
Track Central	Level 02	L2.08	99%	100%	100%		96%
Track Central	Level 02	L2.09	100%	100%	100%		100%
Track Central	Level 02	L2.10	100%	100%	100%		100%
Track Central	Level 02	L2.11	71%	21%	95%		100%
Track Central	Level 02	L2.12	95%	90%	100%		100%
Track Central	Level 02	L2.13	100%	100%	100%		100%

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

D.4.2 sDA Plots

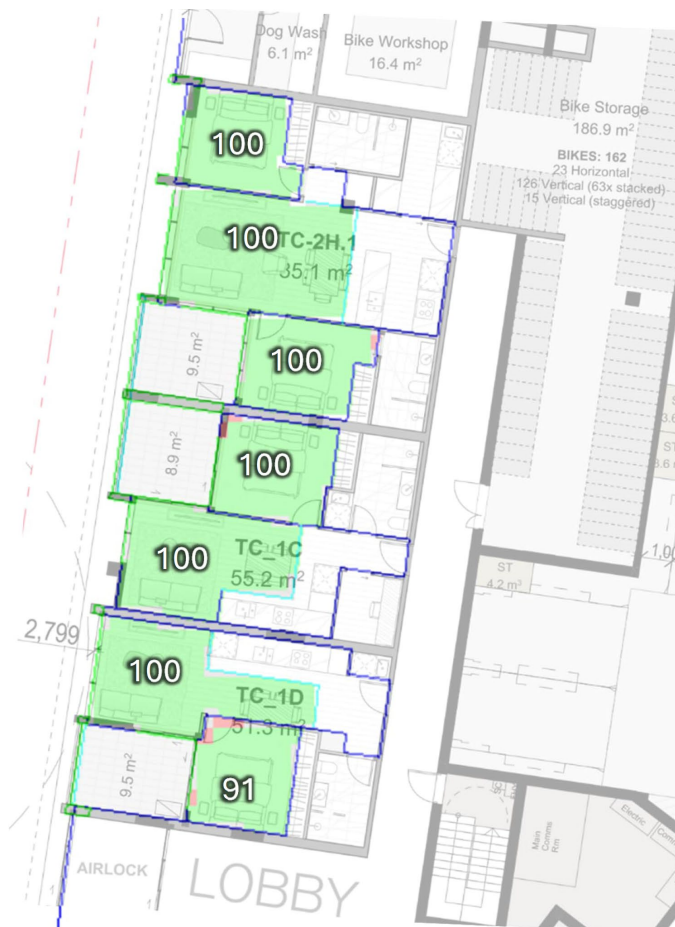


Figure 11 Lower GF Track Central

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

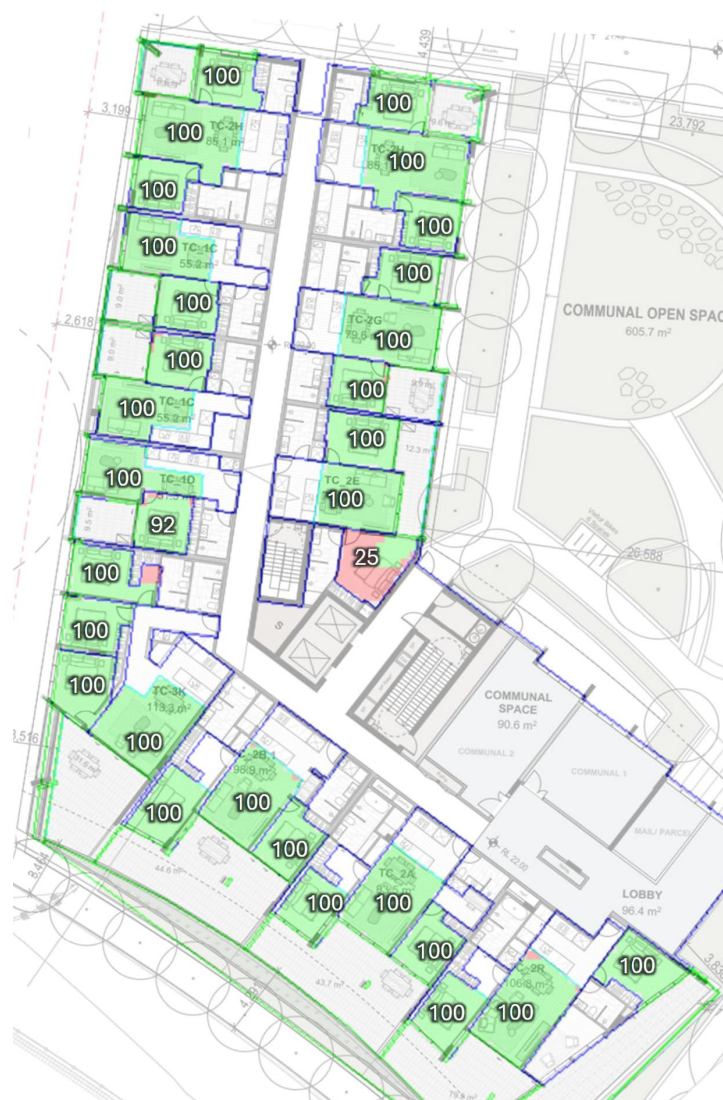


Figure 12 Upper GF Track Central

ADVERTISED PLAN

ADVERTISED PLAN

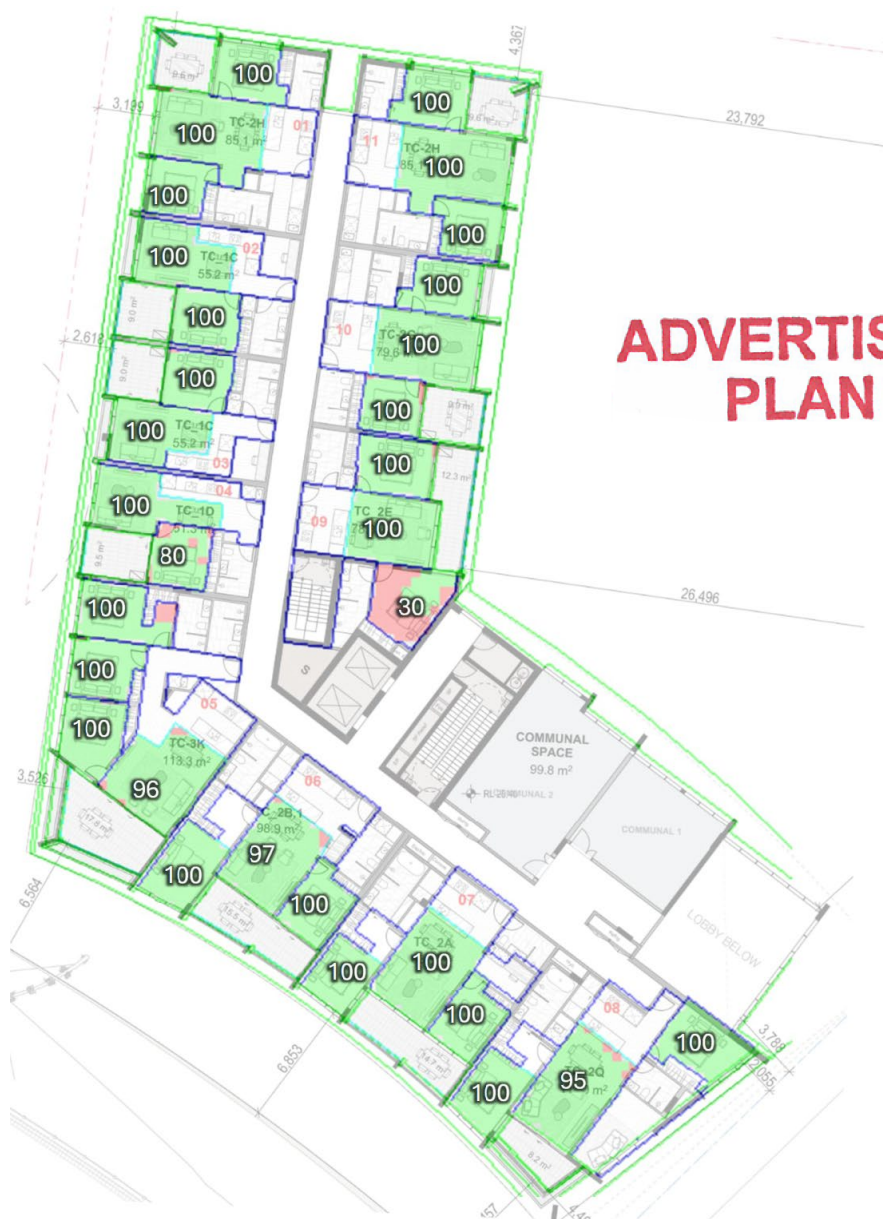


Figure 13 Level 1 Track Central

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

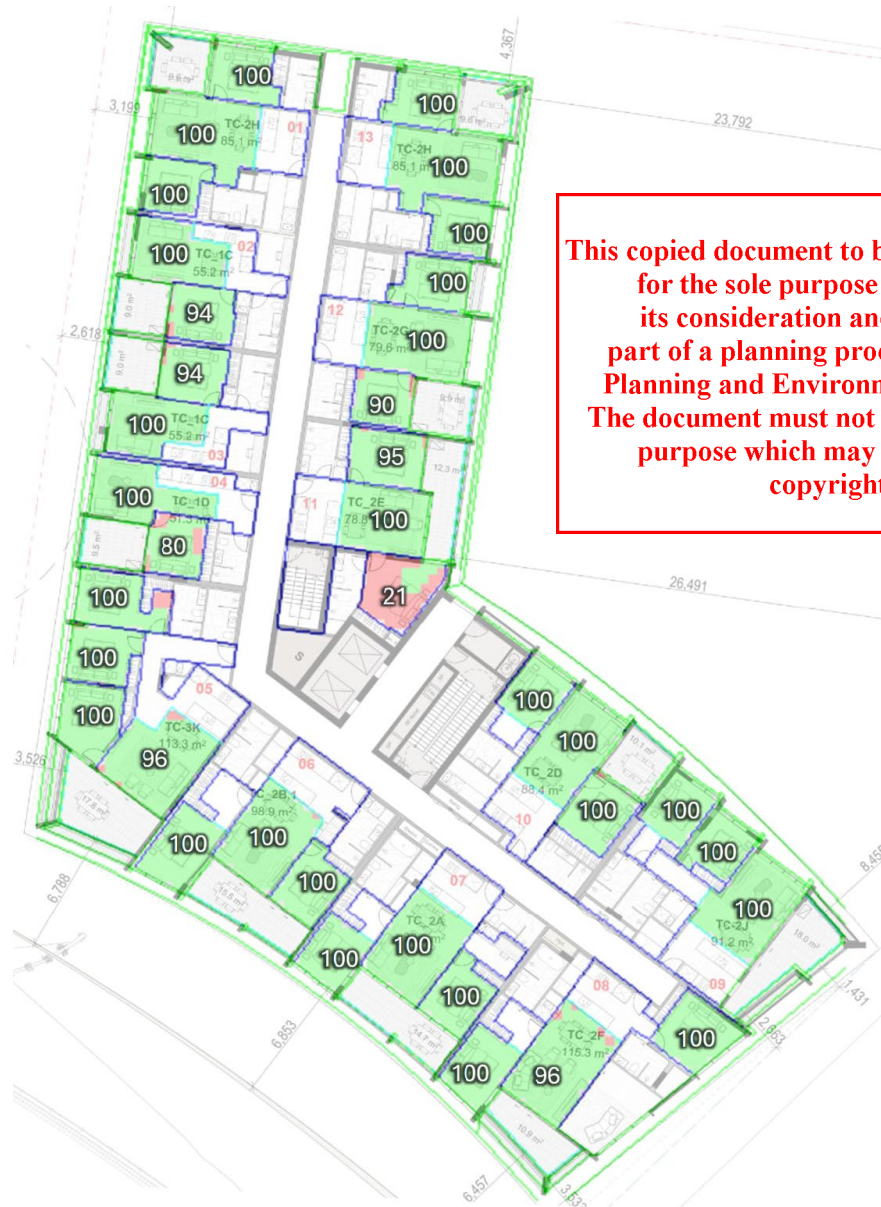


Figure 14 Level 2 Track Central

D.4.3 Model Images

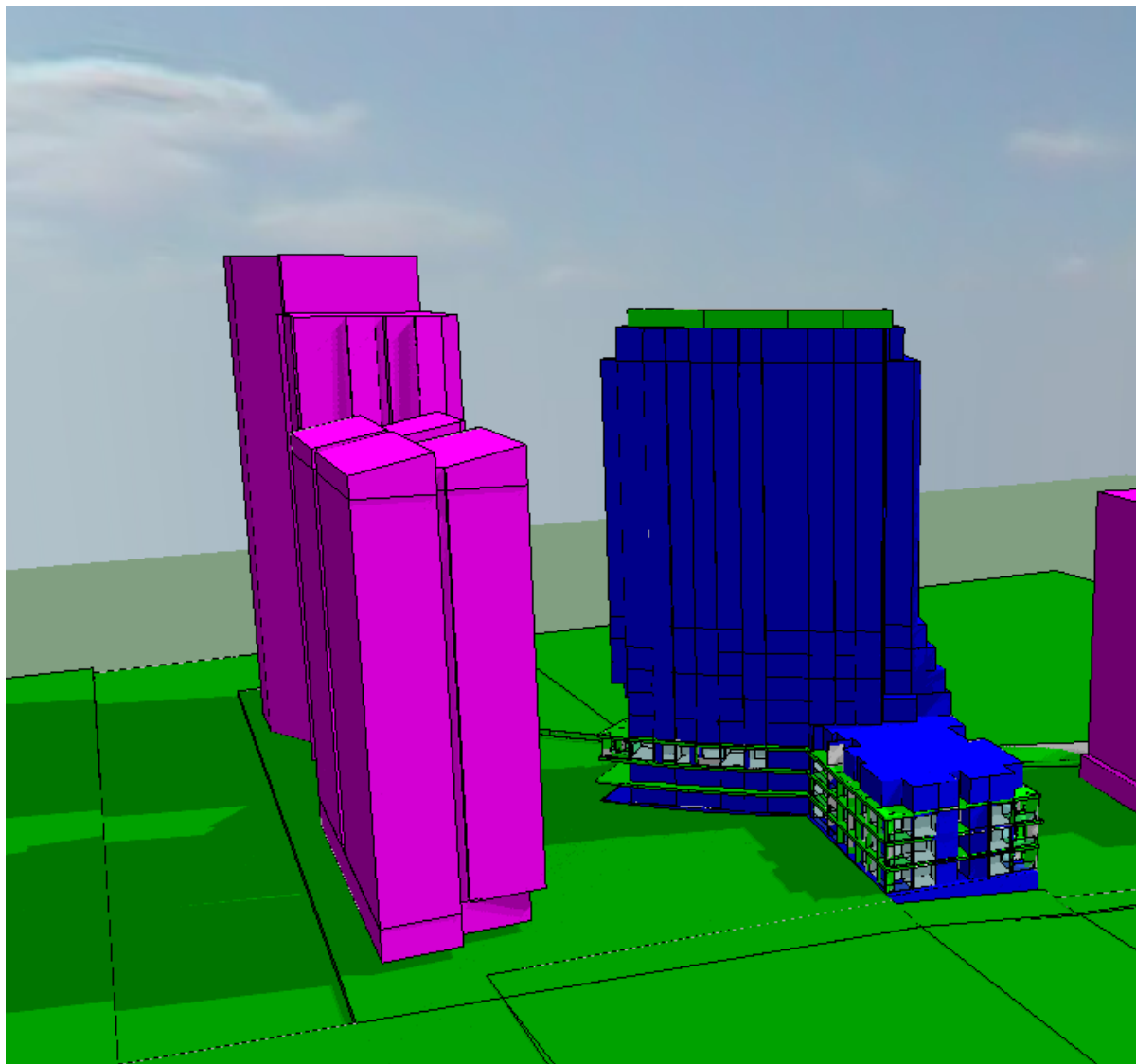


Figure 15 IES VE Model view from North-East - Track Central

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

**ADVERTISED
PLAN**

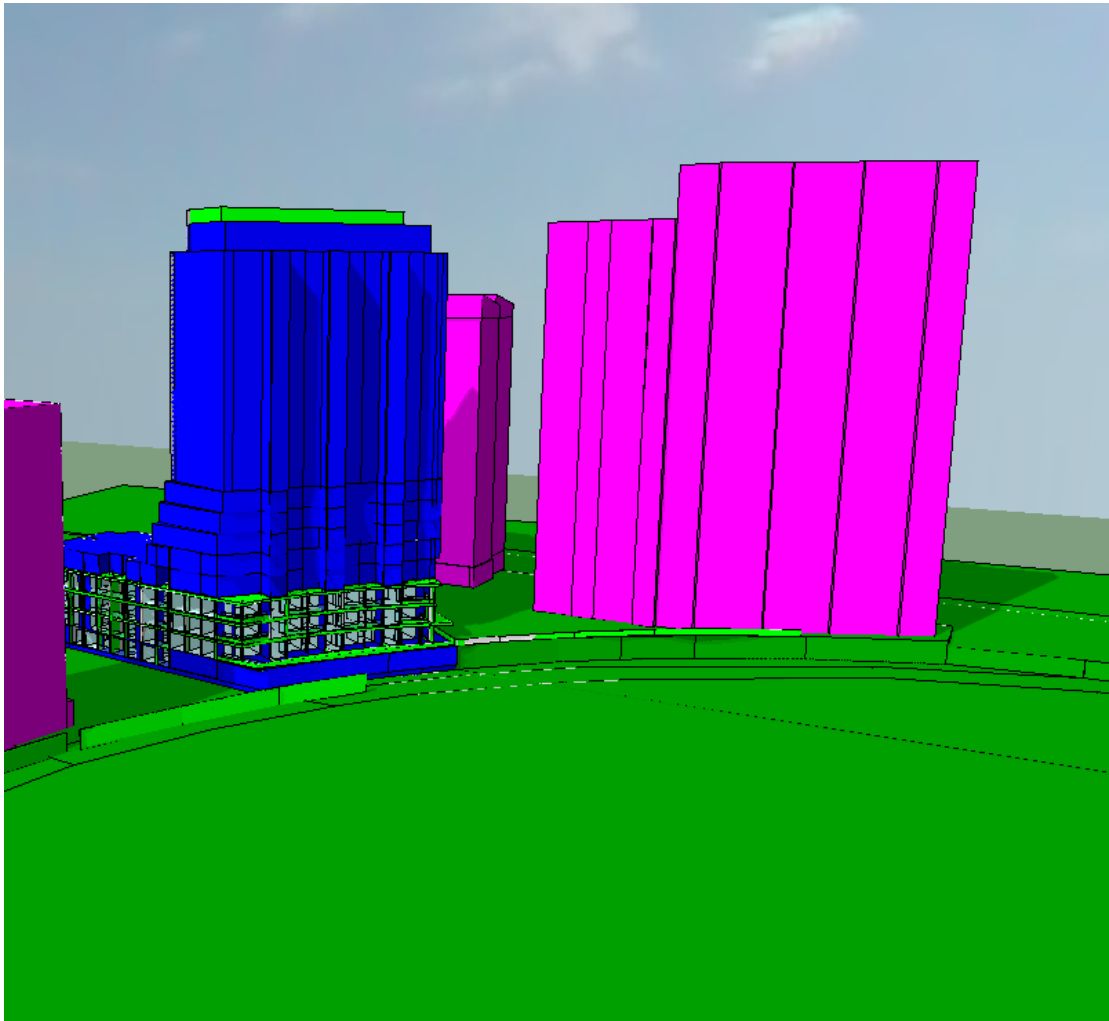


Figure 16 IES VE Model view from South-West

This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright

**ADVERTISED
PLAN**

Appendix E. Solar Photovoltaics

During the construction phase, high-efficiency solar PV modules with a total capacity of 112 kWp will be installed to of the Wilson East, Track East and Track Central buildings, as per the preliminary layouts indicated below.

PV modules will have at least 500Wp capacity (60 cell panels, 1,100 x 2,100mm). High-efficiency modules deliver more compact arrays with inherently lower embodied ecological impact per unit of generation than standard efficiency modules.

- Wilson East, 82 panels = 41kWp
- Track East, 100 panels (550W)= 55.0kWp
- Track Central, 32 panels = 16kWp
- **Total Precinct 2 capacity 112kWp**

**ADVERTISED
PLAN**

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

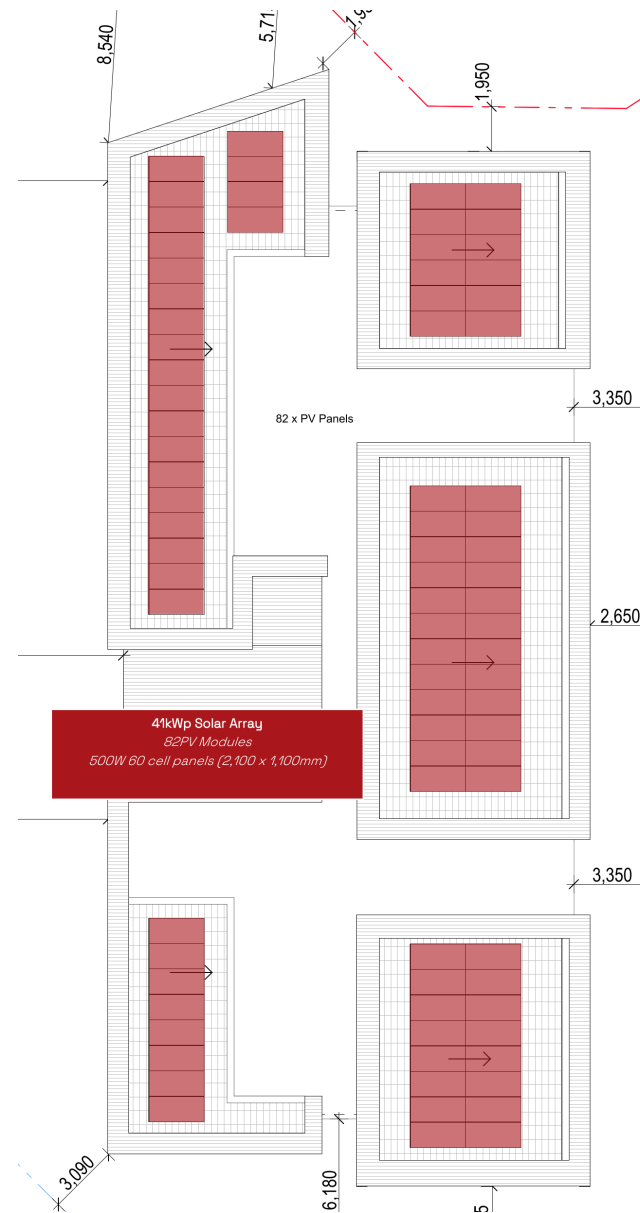


Figure 17 Wilson East Solar Array



Figure 18 Track East Solar Array

**ADVERTISED
PLAN**



Figure 19 Track Central Solar Array

**This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright**

Appendix F. Site Management Plan

During the construction phase, the key pollutants at risk of entering the stormwater system include:

- Sediments (soil, sand, gravel and concrete washings); and
- Litter, debris etc.

These pollutants arise from factors such as dirt from construction vehicles, stockpiles located close to surface runoff flow paths, and surface runoff from disturbed areas during earthmoving and construction works. It is therefore important to have measures that either prevent or minimise the pollutant loads entering stormwater system during construction.

In order to mitigate the impacts of the above pollutants on the stormwater system, the following stormwater management strategies will be implemented during the construction phase as appropriate:

- Installation of onsite erosion and sediment control measures. All installed control measures shall be regularly inspected & maintained to ensure their effectiveness. Such measures may include (but not limited to):
 - Silt fences
 - sediment traps
 - hay bales
 - geotextile fabrics
- Where possible, litter bins with a lid will be used to prevent litter from getting blown away and potentially entering stormwater drains.

Additionally, the following work practices shall be adopted to reduce stormwater pollution:

- Site induction by the head contractor/ builder to make personnel aware of stormwater management measures in place
- Employ suitable measures to reduce mud being carried off-site into the roadways such as installing a rumble grid/ gravel/ crushed-rock driveway (or equivalent measure) to provide clean access for delivery vehicles, removing mud from vehicle tyres with a shovel etc.
- Safe handling and storage of chemicals, paints, oils and other elements that could wash off site to prevent them from entering stormwater drains.
- Where practicable, stockpiles will be covered, located within the site's fence and away from the lowest point of the site where surface runoff will drain to. This initiative will minimise erosion.

Accordingly, the measures presented above are considered appropriate for the proposed development at this stage of the project. The measures will reduce the pollutants entering stormwater system from the site during construction works thereby protecting waterways.

**ADVERTISED
PLAN**

This copied document to be made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright

ADVERTISED PLAN

This copied document to be made available
for the sole purpose of enabling
its consideration and review as
part of a planning process under the
Planning and Environment Act 1987.
The document must not be used for any
purpose which may breach any
copyright

Level 4, 127 Market Street
South Melbourne VIC 3205
+61 3 9636 0280

Level 1, 241 Commonwealth Street
Surry Hills NSW 2010
+61 2 8379 8968

arkresources.com.au
info@arkresources.com.au

Ark Resources