SHOWGROUND PRECINCT
EAST | LOT 5
ARCHITECTURAL REPORT

20TH AUGUST 2024

DEICORP

TURNER

ACKNOWLEDGEMENT

TURNER acknowledges the Bediagal of the Darug Nation traditional custodians of the land, on which the project will be sighted. We pay respect to their Elders past, present and emerging and extend that respect to all Aboriginal and Torres Strait Islander peoples who live work and meet on these lands.

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PART 1_ANALYSIS

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1.01| PROJECT TEAM

Client	Deicorp PTY LTD
Job No	23003
File Name	23003_DA Architectural Report
Document Title	Architectural Design Report
Date	20th January 2024
Status	DA Submission

Project Manager	Deicorp PTY LTD
Architect	TURNER
Planner	Sutherland and Associates Planning
Landscape Architect	Land and Form Studio
Traffic	JMT Consulting
Civil Engineer	Mott MacDonald
Mechanical	JHA
Electrical	JHA
Hydraulics	JHA
Fire	JHA
Vertical Transport	JHA
Waste	Elephants Foot
BCA	City Plan
Access	MGAC
BASIX	Windtech
Stormwater	Mott MacDonald

Structural	ABC Consultants
Arborist	Raintree Consulting
CGI	Ivolve Studios
Wind	Windtech
Flood Engineer	Mott MacDonald
Fire Engineer	Afinity
Value Engineer/QS	Vittirio Catania

QUALITY ASSURANCE

Report Contact & Author

James McCarthy jmccarthy@turnerstudio.com.au

QUALITY CONTROL

This document is for discussion purposes only unless signed and dated by a Director of Turner

Reviewed by:	**Dated:**
James McCarthy	14/08/2024

TURNER

Architecture
Urban Design
Interiors
Environmental Graphics

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Nominated NSW Registered Architect
Nicholas Turner, No. 6695



James McCarthy
Director
Registered Architect 10759

1.02| TURNER TEAM



James McCarthy
Director

James brings to projects a strong conceptual framework that is underpinned by a wide experience of construction processes and techniques. At Turner, James has worked on an extensive range of master-planning and innovative commercial, urban and affordable housing and mixed-use projects.

James believes in creating people focused designs that deliver a sense of place which is inspiring and memorable. James brings a wealth of experience, leading the design and delivery of a wide range of project types including masterplanned communities, medium to high-density apartments, social and affordable housing, retail, aged care, and increasingly, hybrid combinations of these typologies.



James Lauman
Senior Associate



Tiffany Kuo
Senior Project Designer



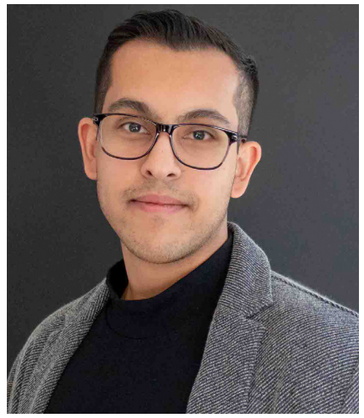
Tomas Moore
Senior Designer



Mike Kang
Senior Architect



Jacqui Liang
Senior Designer



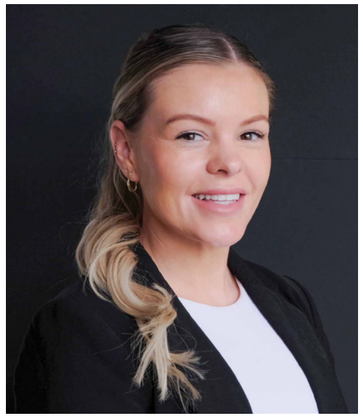
Brandon Pais
Senior Designer



Edwin Tung
Designer



Ivy Chen
Designer



Jenna Grant
Designer



Nicole Hua
Designer



Ophelia Wu
Designer



Phamo Song
Designer



Ritik Kothari
Designer



Vinit Gadve
Designer

1.03| EXECUTIVE SUMMARY



Pages from the Department of Planning & Environment's Showground Station Precinct Proposal | December 2015

This report has been prepared by TURNER on behalf of Deicorp PTY LTD as part of the State Significant Development Application for Showground Precinct East, Lot 5.

The site has a unique opportunity to improve upon the existing built environment and contribute positively to the future vision and aspirations of Hills Showground Station Precinct.

The existing pedestrian network enables quick access to Hills Showground Metro Station, bus routes along De Clambe Drive and Showground Road, as well as, a range of retail and employment opportunities with the proximity to Doran Drive Plaza.

Key Metrics

Site Area:	27,298m^2
Developable Site Area (Proposed Lot 5):	11,970m^2
Resi. Units:	448
Proposed GFA (Combined total across all Buildings):	45,669m^2
Floor to Floor Height:	3.2m
New Resi Parking (including visitors):	477



The precinct offers an opportunity for an appropriate built form within the site setbacks & maximum building heights. A diversity of housing types and generous communal open space will foster a sense of community and a fine grain urban design approach.

1.04| SEPP (HOUSING)

SEPP (HOUSING) DESIGN VERIFICATION STATEMENT

We confirm that James McCarthy has directed the design of Showground Precinct East Lot 5, on behalf of Deicorp PTY LTD.

The design has been prepared in accordance with the design quality principles and requirements set out in the State Environmental Planning Policy (Housing) 2021 - Design Quality of Residential Flat Development.

James McCarthy is registered as an architect in accordance with the NSW Architects Act 2003.

Signed



James McCarthy
Director
Registered Architect 10759

TURNER



North East perspective from the corner of Showground Road and De Clambe Drive

STRATEGIC CONTEXT 1.1

STRATEGIC POLICY 1.11

POLICY CONTROLS 1.12

HISTORY 1.13

1.11| strategic policy

The proposal aligns with key State and Local policy documents, supporting the growth and long term success of Castle Hill

STATE

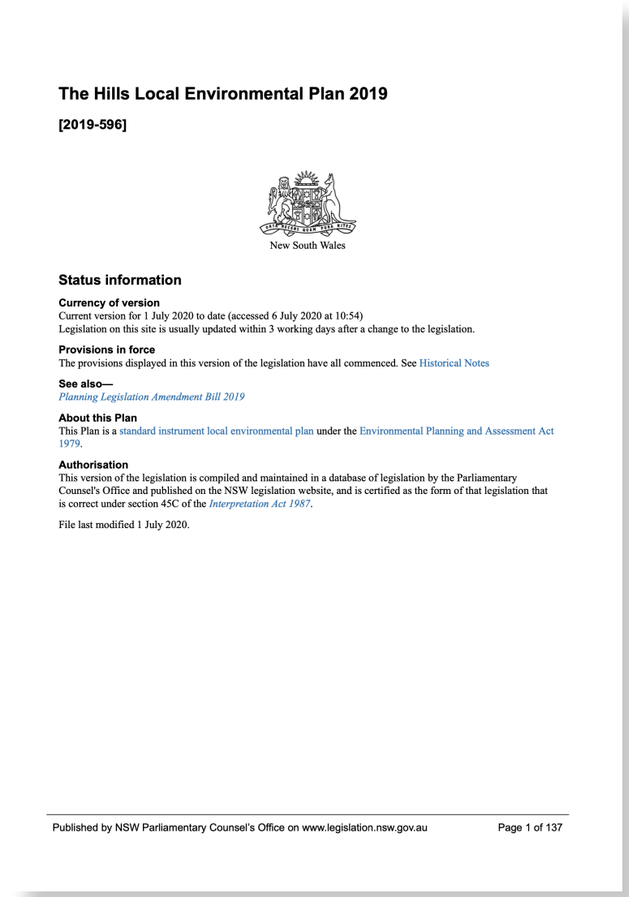


Hills Showground Master Plan | Adopted Masterplan
2020



Hills Showground Station Precinct | Urban Design Guide
2021

LOCAL



The Hills Local Environmental Plan 2019

[2019-596]

New South Wales

Status information

Currency of version
Current version for 1 July 2020 to date (accessed 6 July 2020 at 10:54)
Legislation on this site is usually updated within 3 working days after a change to the legislation.

Provisions in force
The provisions displayed in this version of the legislation have all commenced. See Historical Notes

See also—
Planning Legislation Amendment Bill 2019

About this Plan
This Plan is a standard instrument local environmental plan under the Environmental Planning and Assessment Act 1979.

Authorisation
This version of the legislation is compiled and maintained in a database of legislation by the Parliamentary Counsel's Office and published on the NSW legislation website, and is certified as the form of that legislation that is correct under section 45C of the *Interpretation Act 1987*.

File last modified 1 July 2020.

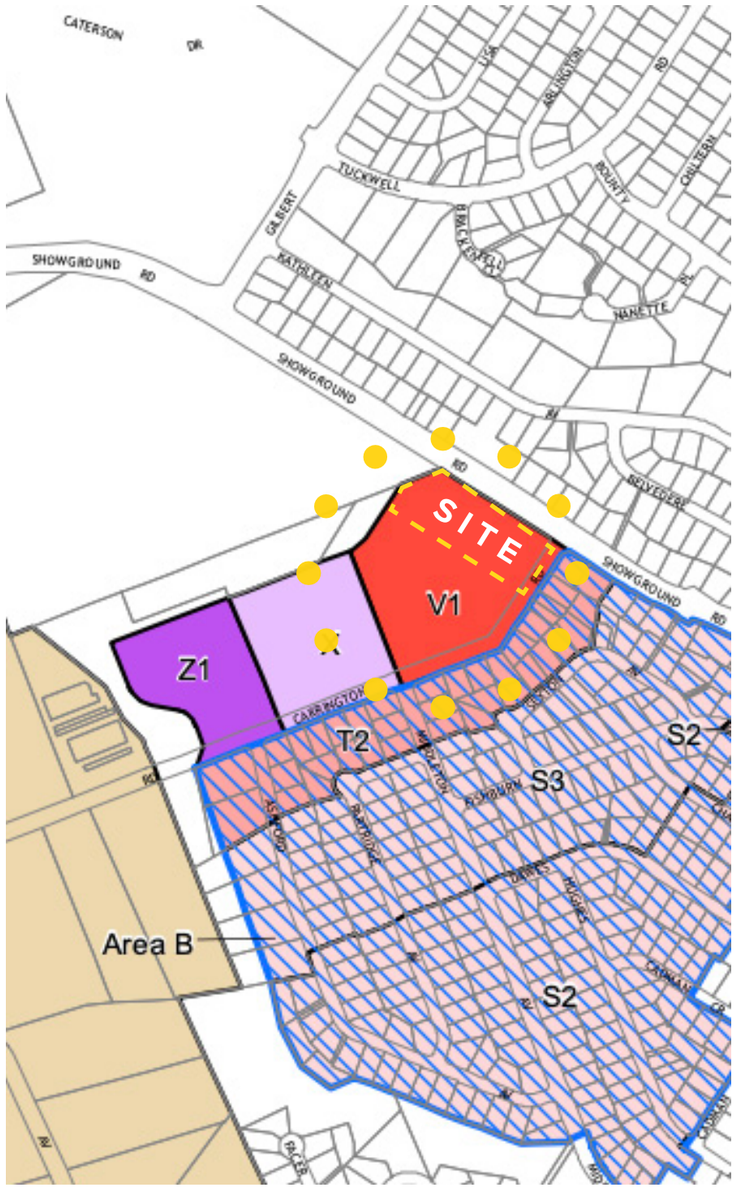
Published by NSW Parliamentary Counsel's Office on www.legislation.nsw.gov.au Page 1 of 137

The Hills LEP 2019
2019

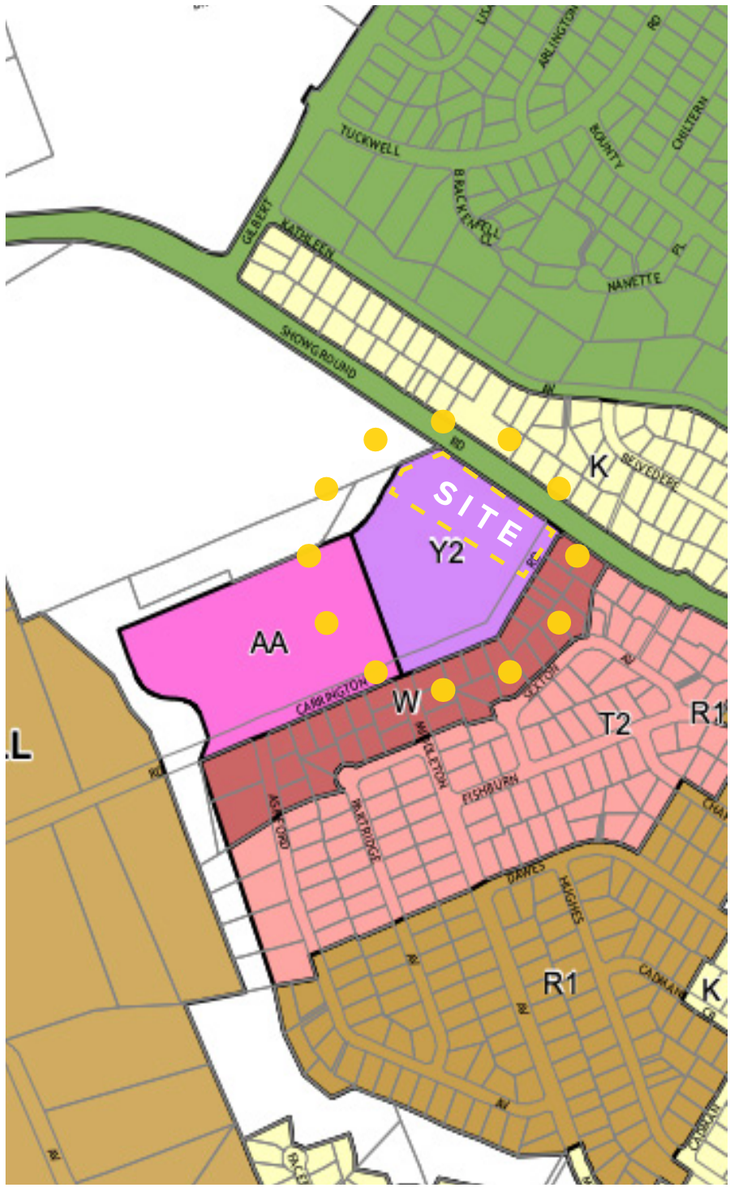
1.12| POLICY CONTROLS | LEP KEY CONTROLS

Relevant documents: The Hills Local Environmental Plan 2019

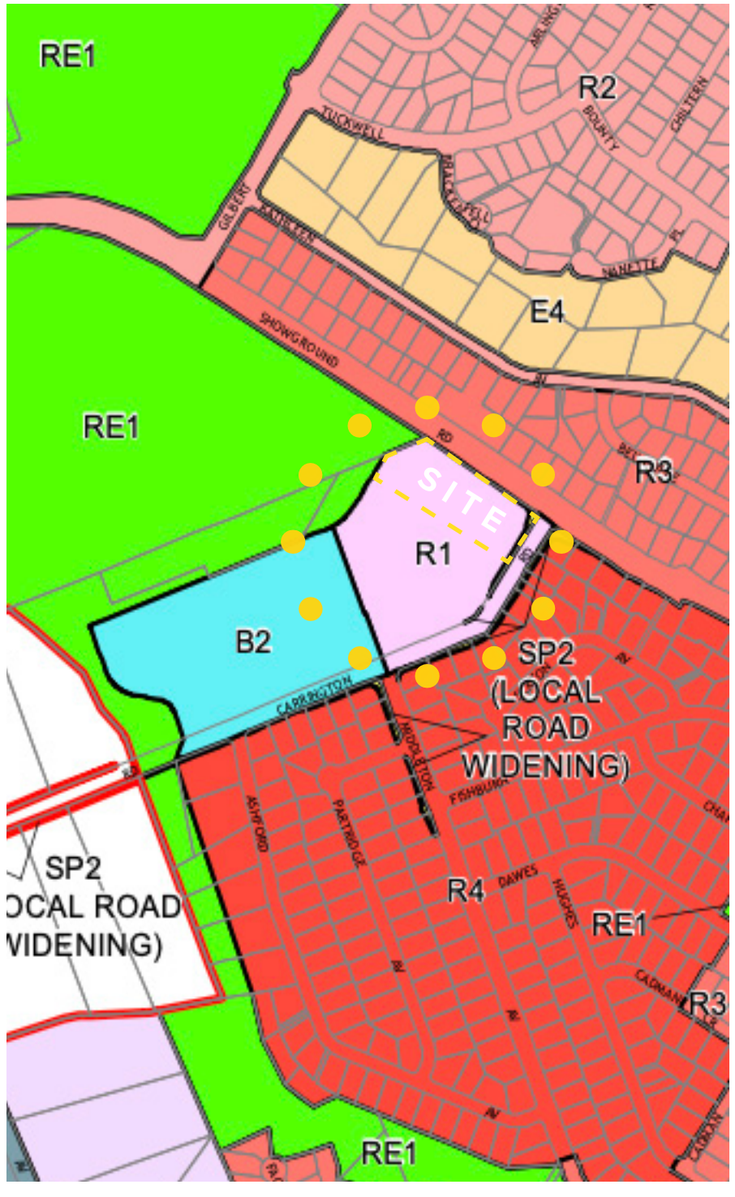
V1 | 3:1 FSR



Y2 | 52m HEIGHT



R1 | General Residential



1.13| HISTORY | Pre and Post Settlement

PRE- EUROPEAN

The original inhabitants of the Castle Hill area were the Darug people. The Darug were the custodians of the majority of what is now the Greater Sydney Region. A AHIMS register search indicates that there are 27 known Aboriginal sites within 1km of the subject site. The area has since seen substantial transformation over time beginning with European development where little information remains on how they have utilised the local area.

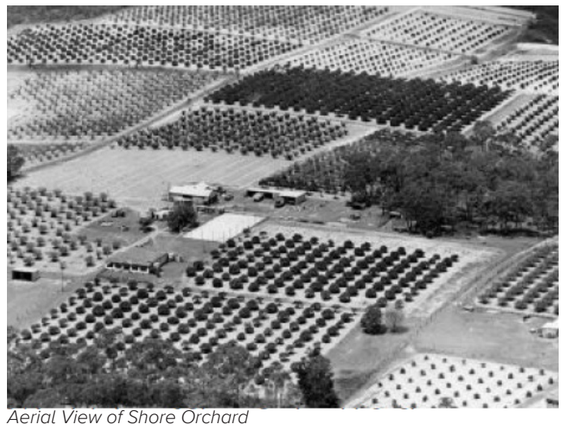
The McCardle Cultural Heritage's archaelogical due diligence report, notes that due to the subject site's proximity to water, the location wouldn't have been favourable for long term camping but would have been suitable for hunting and gathering.

POST- EUROPEAN

Castle Hill colonial history started in the late 1700s where it was first settled by Europeans. Land grants to Richard Richardson saw the evolution of the Bella Vista farm complex. In 1842, ownership was transferred to William Pearce who built a homestead and named their farm 'Bella Vista'. The area was primarily used for small scale agriculture until the mid 1990s and since then has largely developed into a residential and business area. This development saw the extensive clearance of original native vegetation and any form of construction involves modification of the topography and as such displaces and/or destroys any cultural materials that may have been present. The homestead and several other farm outbuildings have been preserved and is now owned by The Hills Shire council.



Aerial View of Bella Vista Homestead



Aerial View of Shore Orchard



View of trams at Castle Hill Loop



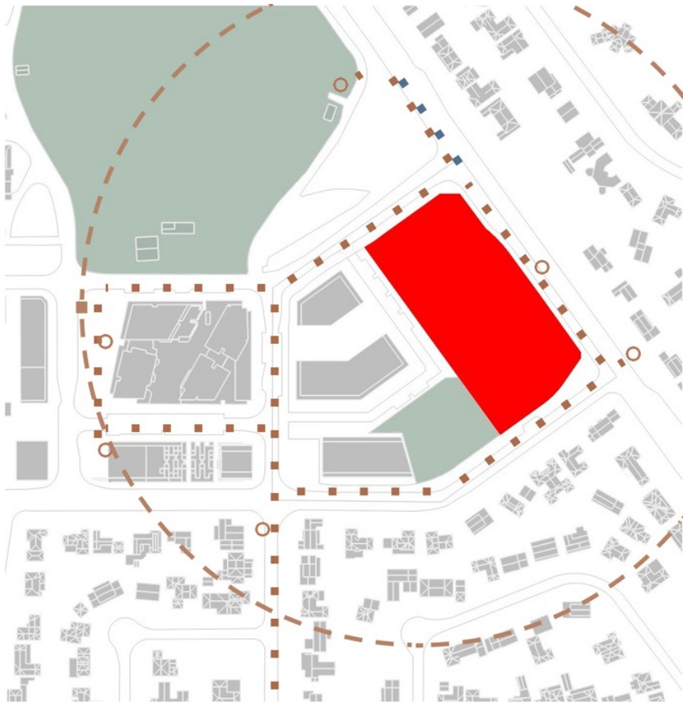
Kellyville Subdivision Plans 1932

URBAN ANALYSIS 1.2

TRANSPORT NETWORKS 1.21

SITE CONTEXT 1.22

1.21| TRANSPORT NETWORKS



PEDESTRIAN & BICYCLE

- Site
- Primary pedestrian route
- Destination
- Proposed connection
- 200m from Site
- Bicycle Route



Sydney Metro North West Corridor

MOVEMENT AND TRANSPORT NETWORKS

The existing pedestrian network enables quick access to Hills Showground Metro Station, bus routes along De Clambe Drive and Showground Road, as well as, a range of retail and employment opportunities with the proximity to Doran Drive Plaza.

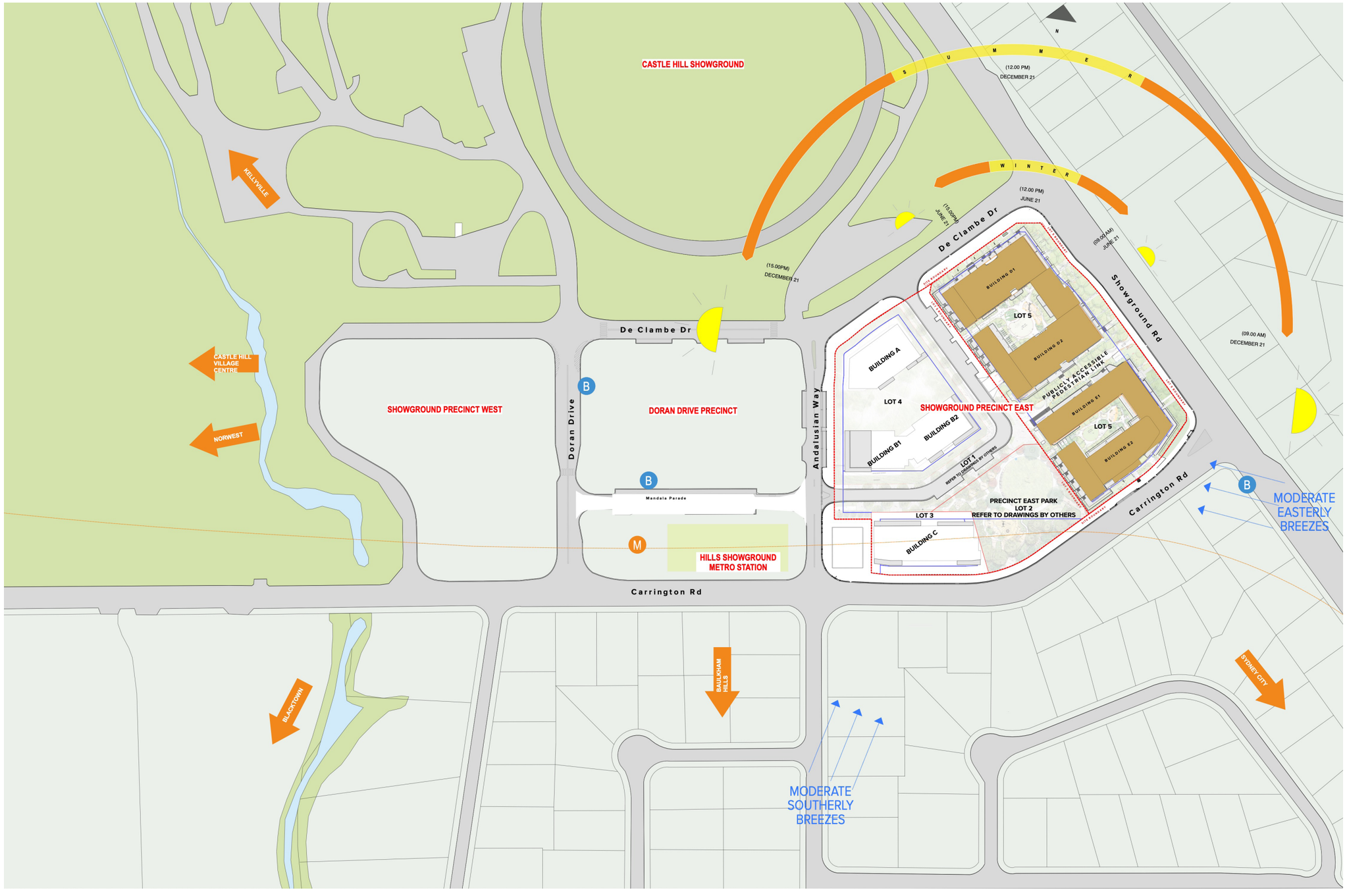
Showground Precinct East, Lot 5 is located within the Hills Showground Station Precinct area. With the continual growth and evolution of the area, Castle Hill benefits from a number of significant public transport infrastructure including:

- Sydney Buses
- Sydney Metro North West Rail Link

1.22| SITE CONTEXT



1.22| SITE CONTEXT - Analysis



1.22| SITE CONTEXT - Key Views

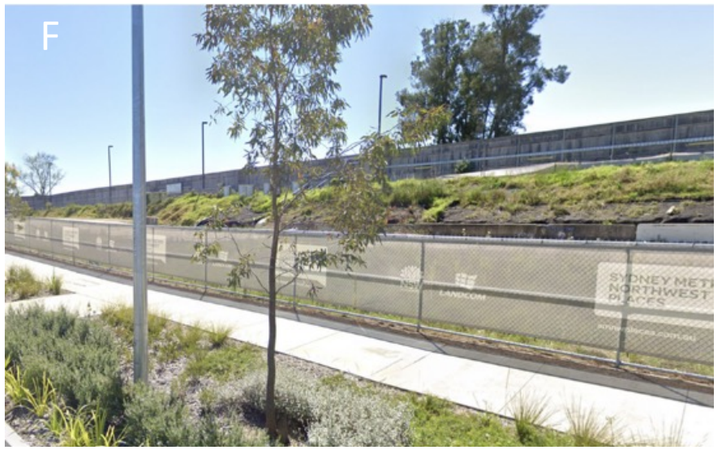








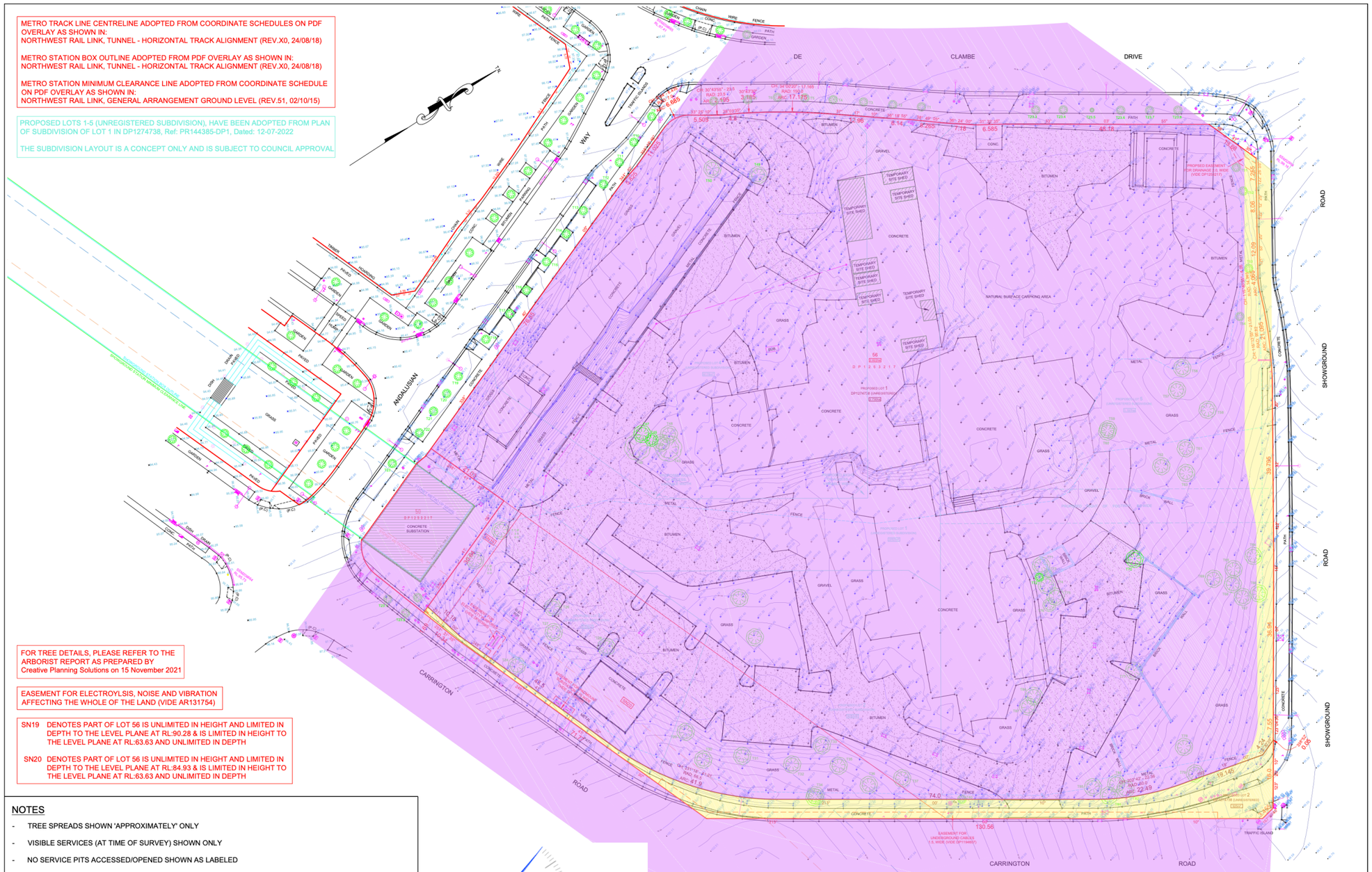






1.22| SITE CONTEXT_Survey (by Daw & Walton on 02 AUG 2023, DRAWN ON 30 NOV 2023)

- Site area taken as 27,298 sqm
- Proposed lot (inc. SWC) as 11,980 sqm
- Approximate 2.5m fall N to S
- Approximate 3m fall from E to W



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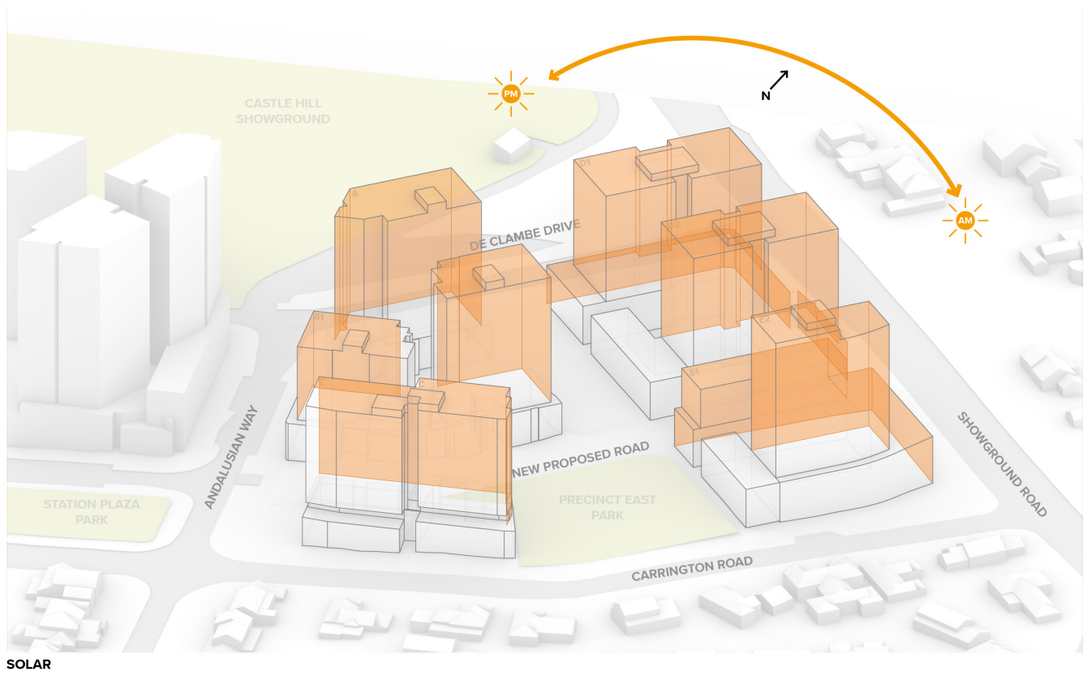
SITE ANALYSIS 1.3

SITE ANALYSIS 1.31

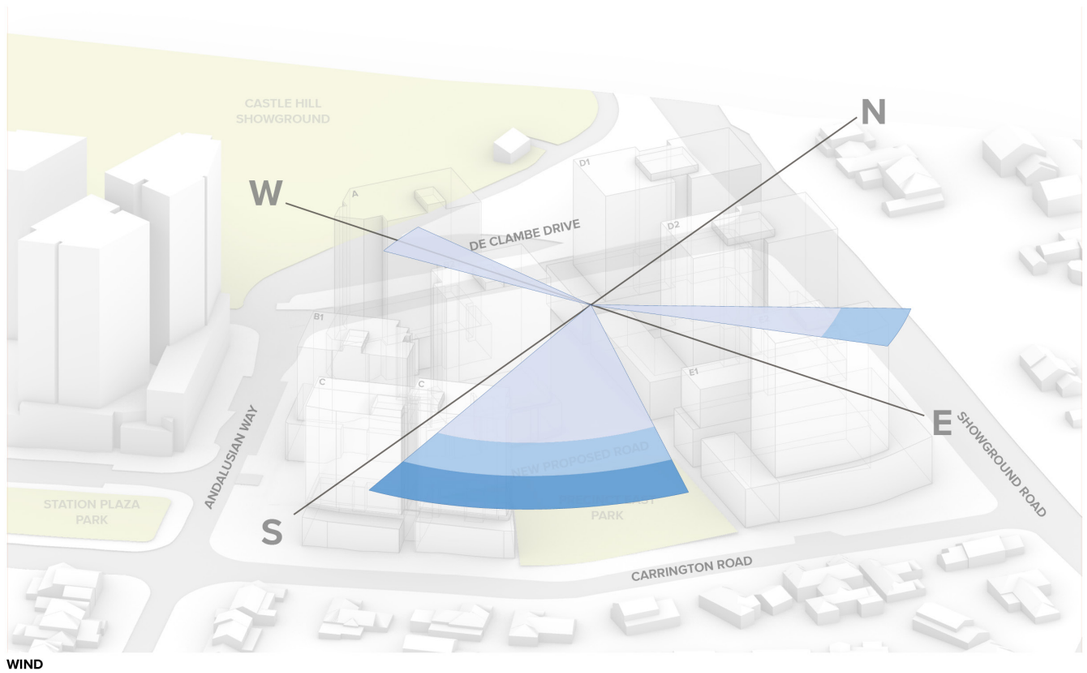
1.31|SITE ANALYSIS

SUN ANALYSIS



SOLAR
LEGEND
RECEIVES >2HRS SOLAR ACCESS

WIND ROSE



WIND
LEGEND
LIGHT WIND
GENTLE WIND
MODERATE WIND

The site benefits from generous open space including the Public park and publicly accessible pedestrian link, landscaped podiums and rooftops.

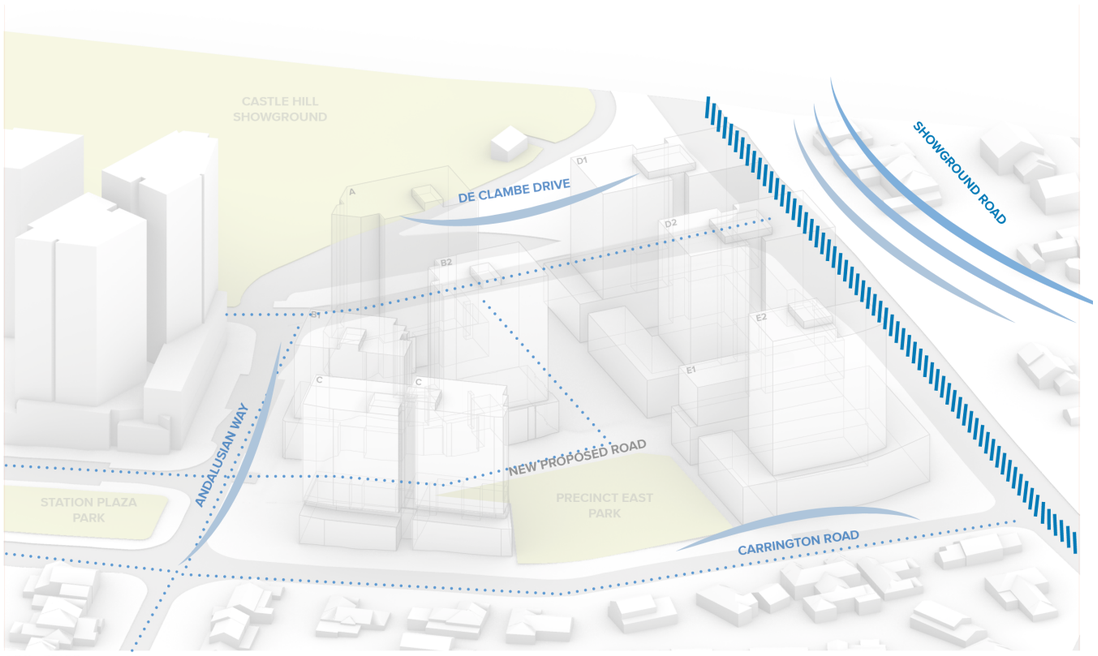
The proposed development maintains building separation that aligns with the prescribed controls in the Urban Design Guide. Allowing increased sunlight into the podiums and mitigating the overshadowing of each other.

Location of buildings frontages parallel to De Clambe Drive and Showground Road also provides the best solution to solar access and compliance to apartments.

Refer to Shadow Analysis for further information.

1.31|SITE ANALYSIS

ACOUSTIC CONTAMINATION



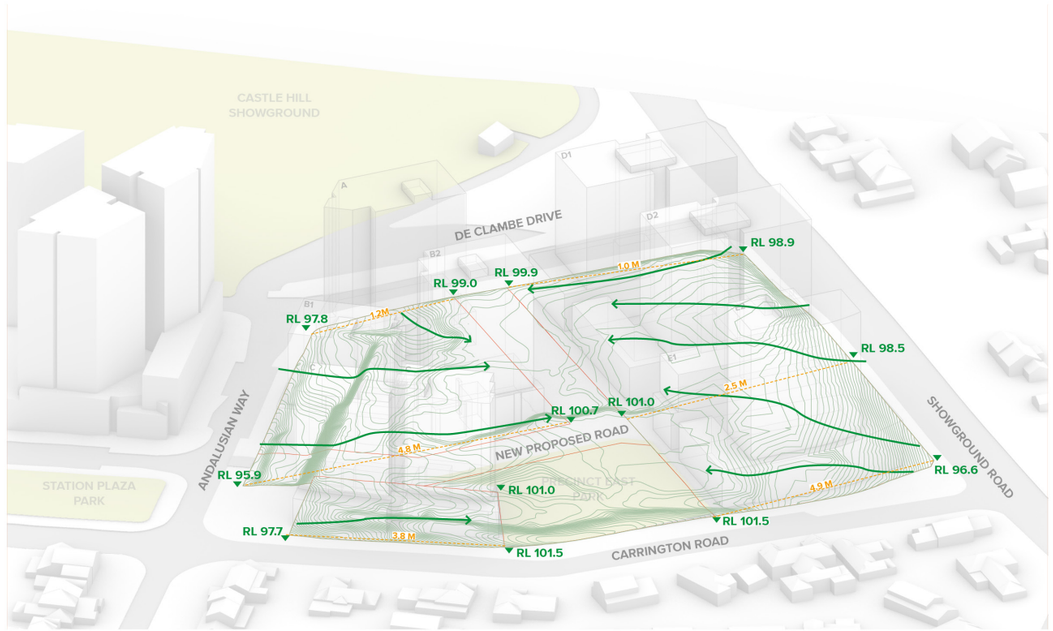
ACOUSTICS

LEGEND

- PRIMARY ROAD
- SECONDARY ROAD
- NOISE LEVEL HIGH
- NOISE LEVEL MEDIUM
- NOISE LEVEL LOW

The site is situated between De Clambe Drive and Carrington road and adjacent to Showground Road which generates noise polution at street level.

SLOPING TERRAIN



TERRAIN

The site terrain presents with a gentle slope across the site. Refer to survey for further information.

PART 2_PROPOSAL

BRIEF 2.0

VISION 2.01

DESIGN CUES 2.02

CONNECTING WITH COUNTRY 2.03

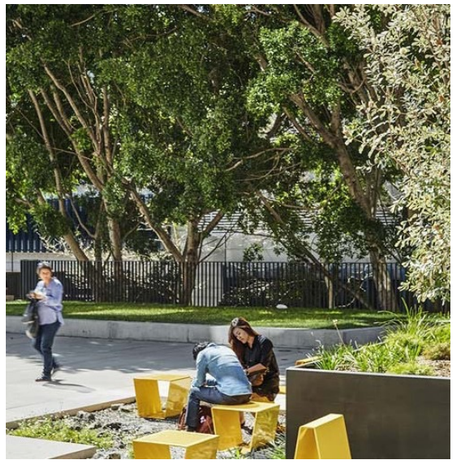
2.01| VISION | KEY DESIGN PILLARS



Local Identity



Connectivity Through
Enhanced Access And Amenity



Integrated And
Meaningful Landscaping



Providing High Amenity For All
Residents

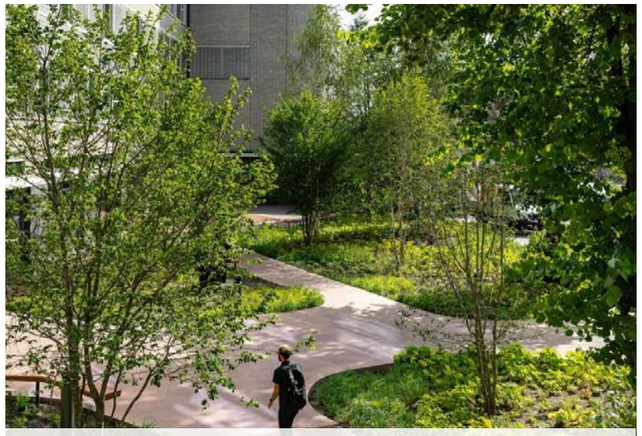


Diversity Of Built Form

2.01| VISION | SUSTAINABILITY - good design principles & passive methods



Solar Panels



Landscaping



Respecting Riparian Zones



Electric Vehicle parking



Tree Canopy Coverage



Shading strategies within continous balcony and materiality

2.01| VISION | PRINCIPLES



Residents to have a connection to culturally significant natural elements in the surrounding context such as the Cattai Creek



Sustainable systems and strategies that create a healthy balance to the urban environment for community resilience



Views and outlook towards green



Pedestrian first streets and links that are attractive, safe and enjoyable to move through



Inviting spaces and places for residents and the community that builds pride and belonging



Spaces and places that work harder and encourages engagement and social interaction



A distinct buidling identity informed by the unique local character of the site

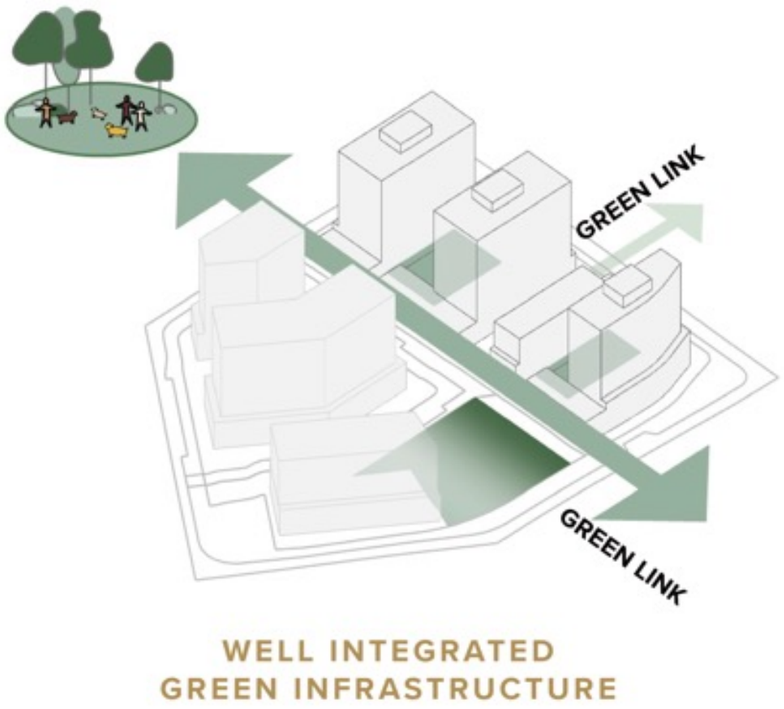


Every building to maximise the extent of landscaped areas



Find the opportunities that allow the residents directly connect to nature

2.02| DESIGN CUES | Response to Green Network





ENHANCING THE GREEN NETWORK

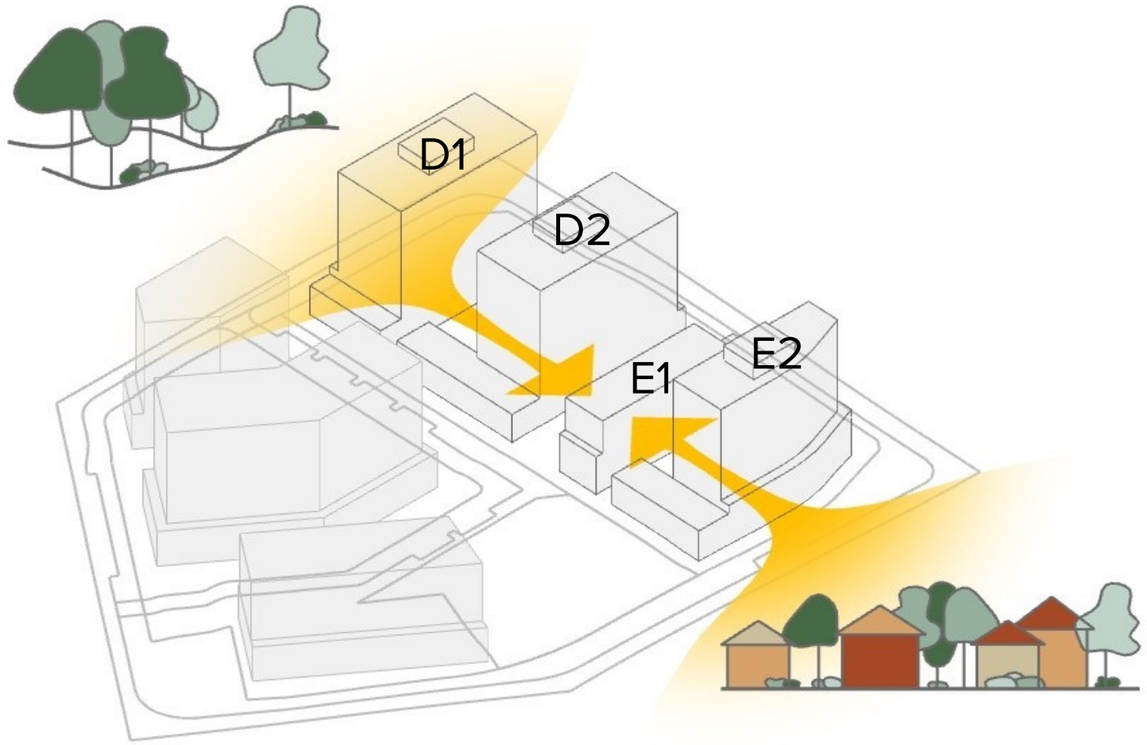
The proposal looks to add additional landscaped spaces in the form of a publicly accessible pedestrian link which incorporates elements of connection to Country, dedicated parks and a landscaped podium that will complete a network of green links. Providing a visual connection from the the Showgrounds to the new public park within the wider Showground Precinct East site.

2.02| DESIGN CUES | Response to Local Identity

LINK BETWEEN THE SHOWGROUND AND SUBURBAN CONTEXT

The proposal is a residential village that bridges the connection between the park-lands and suburban neighbourhood.











CONNECTION TO THE SHOWGROUND

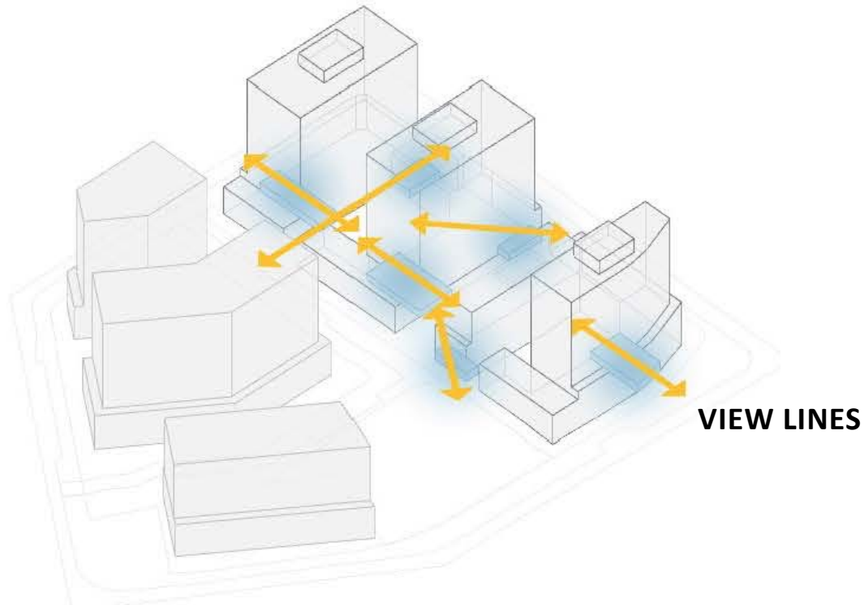
Buildings D1 and D2 will take its inspiration and design cues from the extensive parklands and its natural surroundings

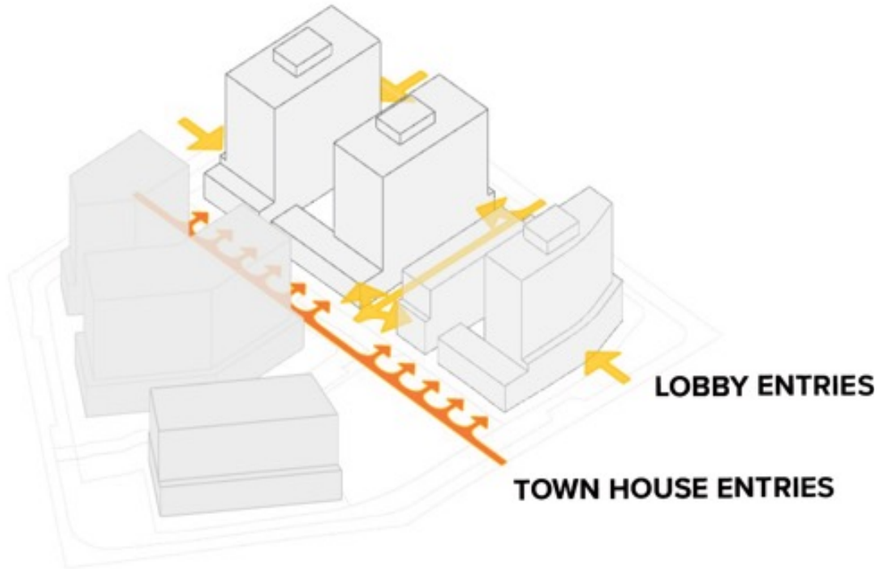
CONNECTION TO THE SUBURBAN CONTEXT

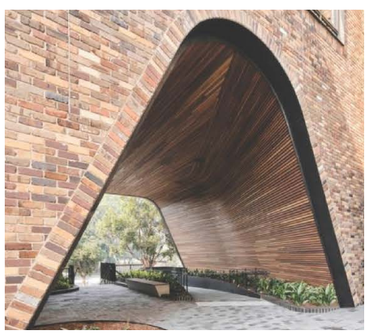
Buildings E1 and E2 will take its inspiration and design cues from the suburban grid and strong brick vernacular architecture from the existing neighbourhood

2.02| DESIGN CUES | Access and Connection

DEFINED BUILDING ENTRIES AND SIGHT LINES







CONNECTION TO THE SHOWGROUND

The sight lines of buildings D1 and D2 prioritises connection to green spaces such as the Showgrounds, communal open space and the publicly accessible pedestrian link.

The sight lines of buildings E1 and E2 prioritises connection to the social and suburban context such as views to surrounding built form and to the new public park.



CONNECTION TO THE SUBURBAN CONTEXT

The proposal enhances building identity through well defined building entries and promotes connection and meeting points between the public and private domain.

2.03| CONNECTING WITH COUNTRY | Landscape

A landscape rich in cultural and historic signifigance

The Bendigal of the Darug nation are the traditional custodians of the land in which the project is sited. Evidence of their presence can be found through the Shire area in which showed that they relied heavily on the plant and animal resources from the Hawkesbury River as well as the flora of the surrounding valleys and hills.

The later European settlers cleared an extensive amount of original native vegetation in the 1800s for repurposing agricultural and pastoral uses.

Understanding a place's heritage and significance to all peoples who have lived and valued is vital to creating a positive long-term legacy, and a key part of reconciliation.

It is this site's cultural heritage of connection to landscape and wetlands that can inform and influence our new proposal. The site sits within an extensive verdant green context of wetlands and parklands and has the potential to reconnect the green grid. By embracing local endemic plant species, we can support increased biodiversity. Land and Form Studio Landscape Architects have created a lush but drought resistant landscape that takes its cue from the surrounding context.

Turner Architects has worked closely with Land and Form Studio Landscape Architects to bring this generous landscaping into the street edges of the proposed development. Of key consideration is the publicly accessible pedestrian link which will intergrate indigenous public art holistically with the landscape and architecture.







2.03| CONNECTING WITH COUNTRY | Public Art

A landscape rich in cultural and historic signifigance

Cattai Creek has a deep historical significance and cultural values to the Bediagal (Darug People).

The creek is a location where many Aboriginal artefacts have been recorded. The creek would have been key to everyday life of Bediagal people providing fresh water, food, natural resources and used as a camp site and ceremonial spiritual place.

Danny Eastwood, a well-respected elder of the Western Sydney Aboriginal Community, has been engaged by Deicorp to inform the holistic integration between the built environment and connection to country.

The methodology develop for Showground East Public art opportunity involved:

-Historical research

-Curatorial team discussed with local indigenous and Aboriginal knowledge holders and community members who have identified the potential for storylines and language significant to the native birds in the landscape of the Castle Hills Area.

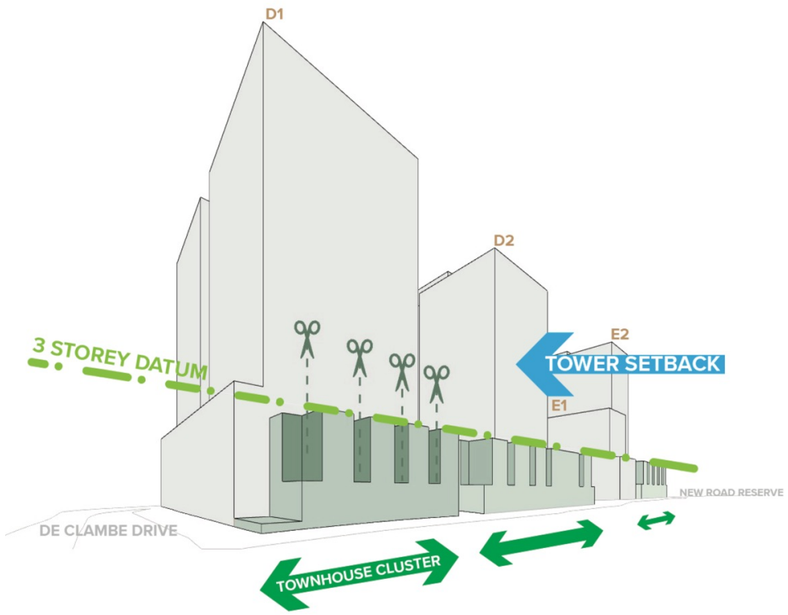


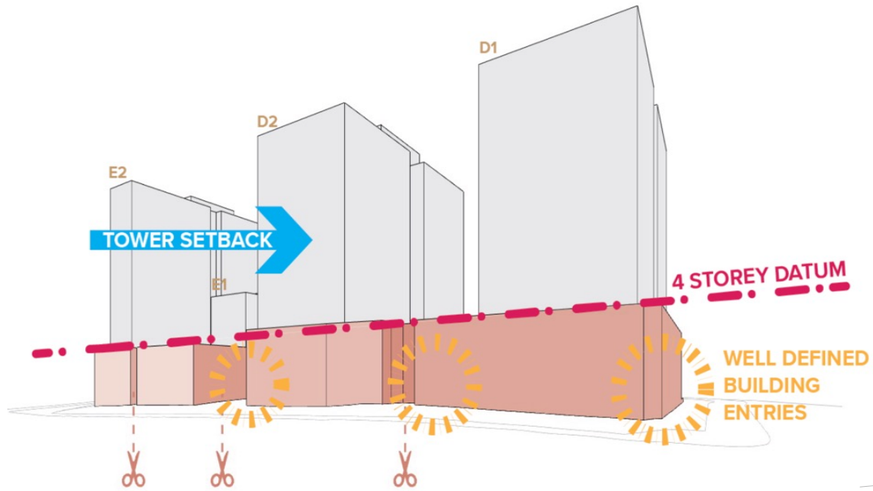


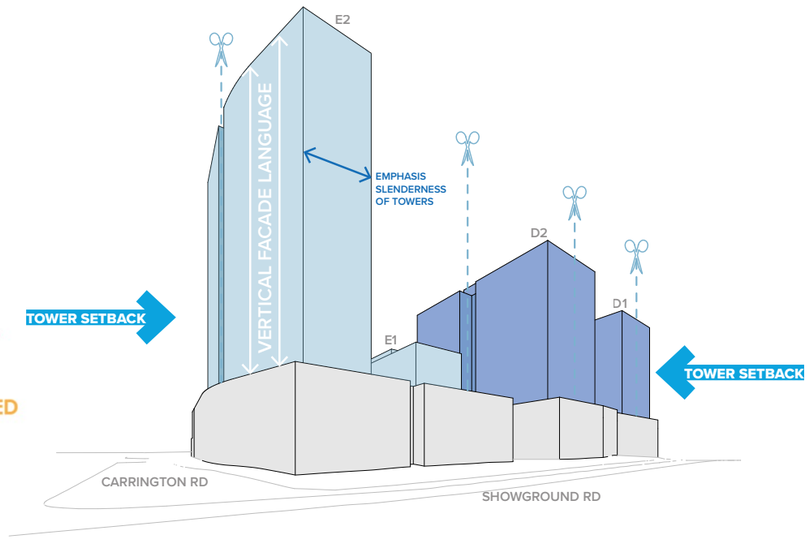
PLACE MAKING & ARCHITECTURE 2.1

KEY DESIGN CONSIDERATION 2.11
BUILDING CHARACTER 2.12
ACCESS STRATEGIES 2.13
LANDSCAPE & OPEN SPACE 2.14
MATERIALS AND FINISHES 2.15
PERSPECTIVES 2.16
SHADOW ANALYSIS 2.17
COMMUNAL SPACE 2.18
AMENITY SUMMARY 2.19

2.11| KEY DESIGN CONSIDERATIONS







For the precinct to read as a cohesive grouping of buildings with a considered streetscape, there needs to be key datums and alignments precinct-wide.

These datums and alignments have been established in the very detailed and prescriptive Concept Plan Urban Design Guidelines. Street setbacks, stepped facades, facade lengths, and building height datums have all been established by the Concept Plan approval.

This planning context has provided for a very coherent and consistent approach to building massing across the Showgrounds East Precinct. Turner is fully compliant with the setbacks and building separation as set out by the Concept Plan approval and is therefore in alignment with the vision and design intent of the precinct.

2.11| BUILDING CHARACTER | Townhouses





Townhouses

Townhouses offer housing diversity and unique character

Human scale streetscape achieved with a 3 storey datum

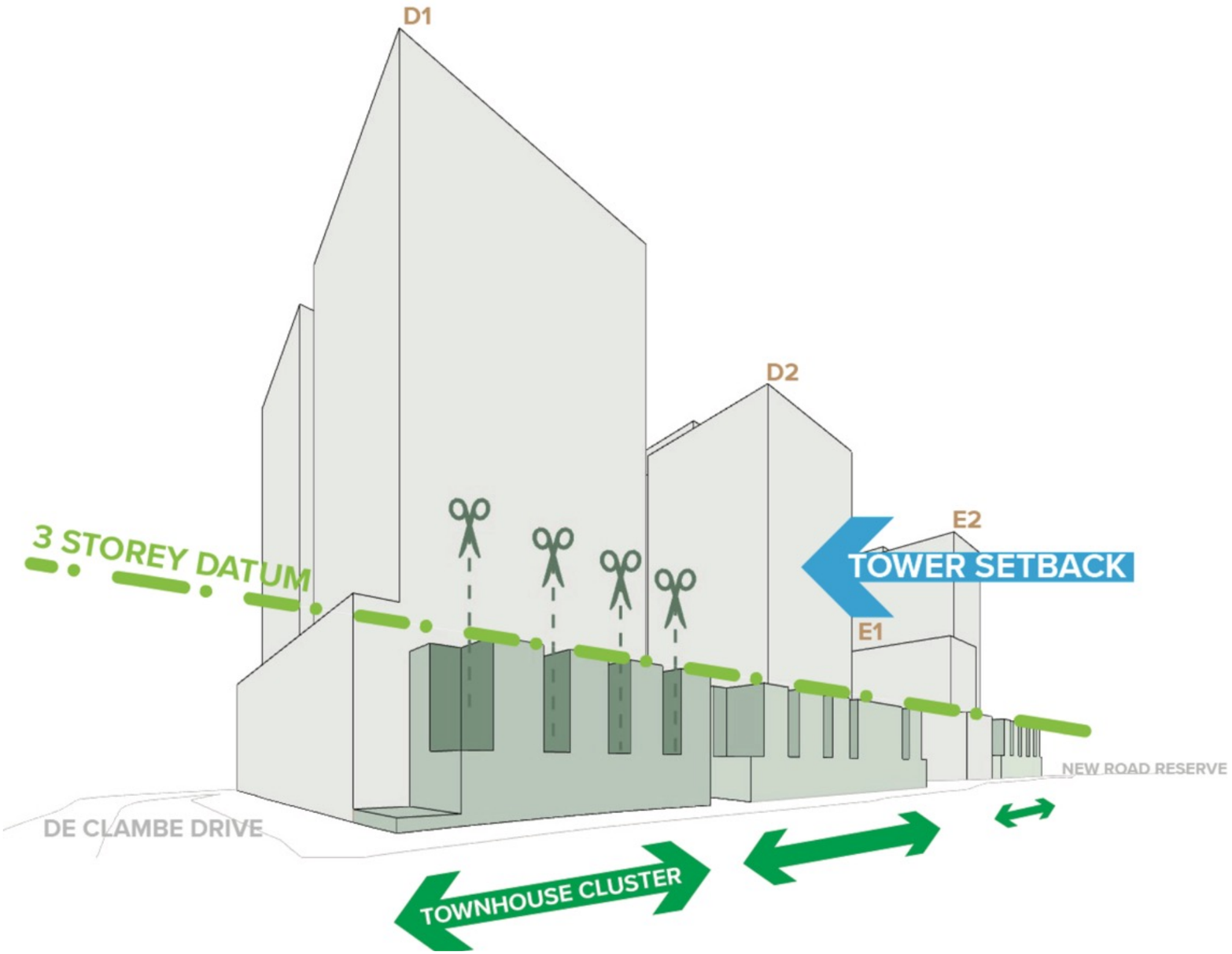
Towers are set back from the townhouses to emphasise the range of building typology

Facade indented and stepped so that townhouses are expressed as individual homes

Use of brick provides texture and quality

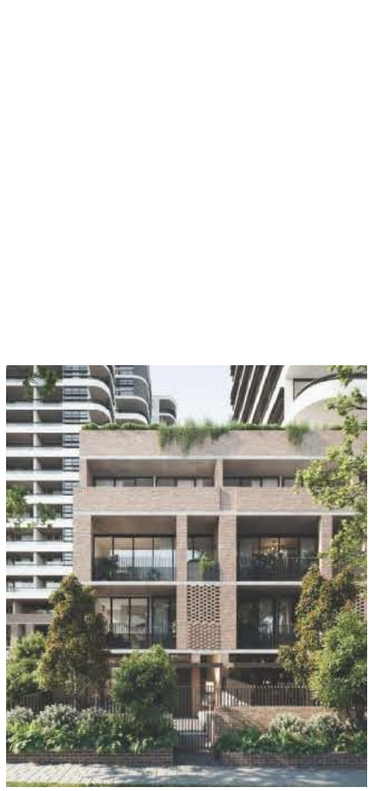
Bespoke and playful detailing

Landscaping to soften street edge interface and provide privacy



2.11| BUILDING CHARACTER | Podium





Podium

4 storey datum to podium base

Towers deliberately set back from the podium for emphasis of building typology range

Relief in building facade lengths through indentation

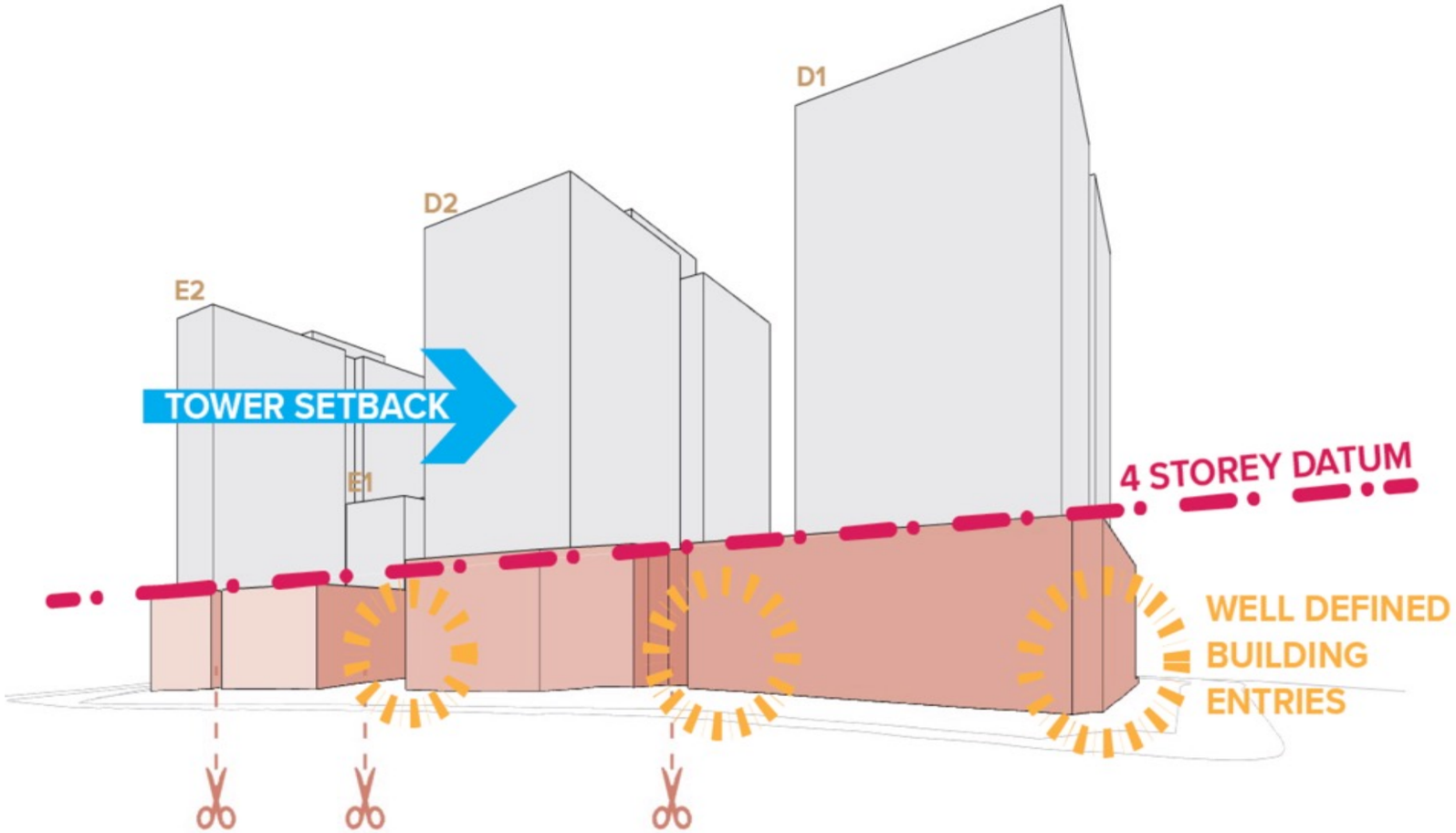
Defined building entries that are intuitive for wayfinding and support cross site view lines

Use of brick to provide a sense of weight and grounding of the podium facades in contrast to the lighter expression of the towers above

Landscaping to soften street edge interface and provide privacy

Bespoke and playful detailing

Landscaping to soften street edge interface and provide privacy



2.11| BUILDING CHARACTER | Towers





Towers

Towers set back from the podium base

Vertical articulation of tower architecture to increase slenderness

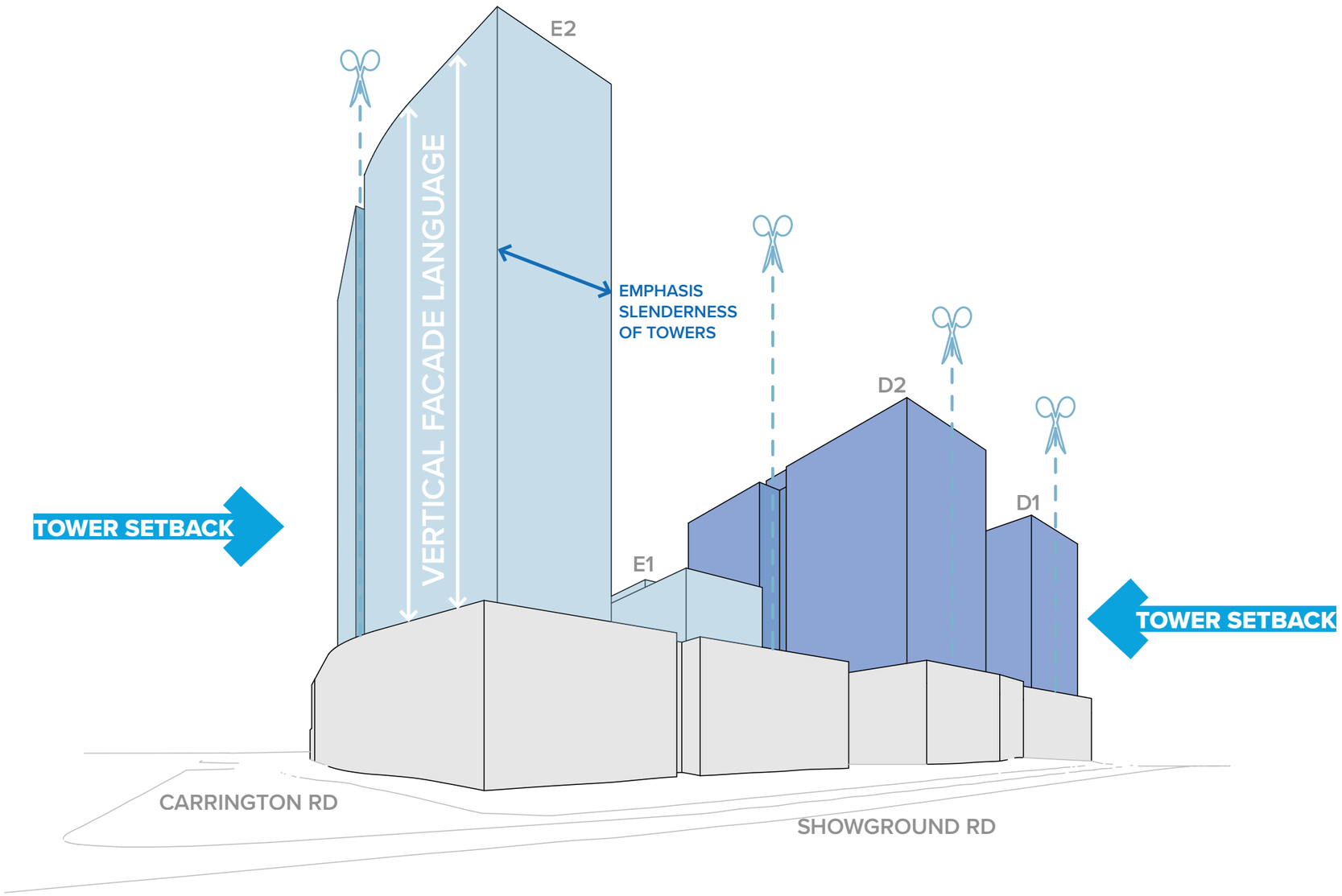
Relief in tower facade lengths through indentation

Lighter facade expression to contrast against the more solid brick architecture of the podium base

Rooftop plantrooms to be set back to minimise visual impact

Bespoke and playful detailing

Landscaping to soften street edge interface and provide privacy



2.13 BUILDING CHARACTER | Informed by building envelope

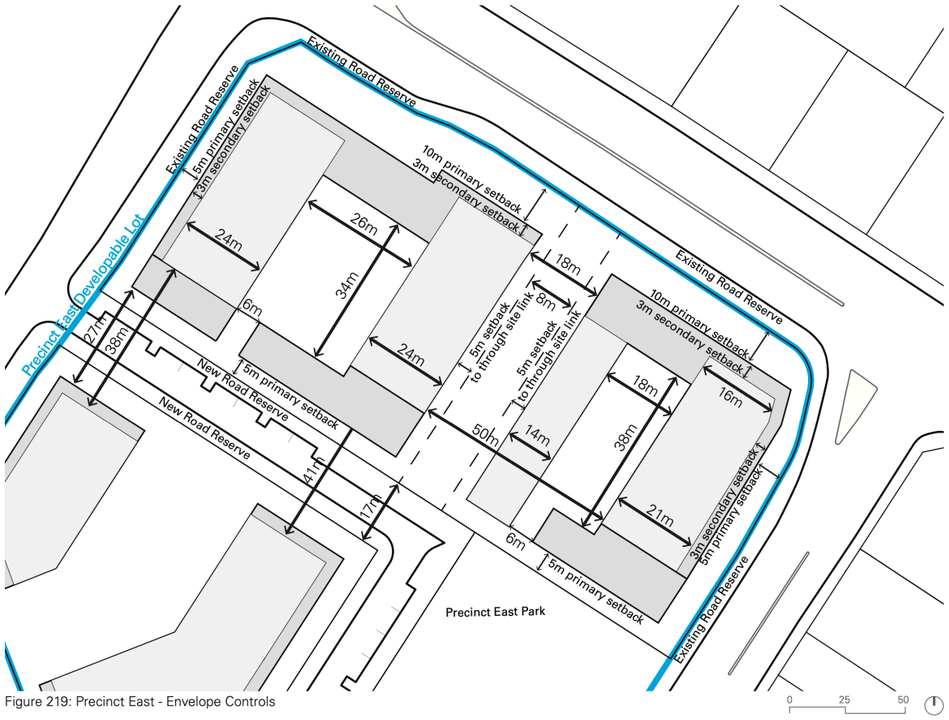
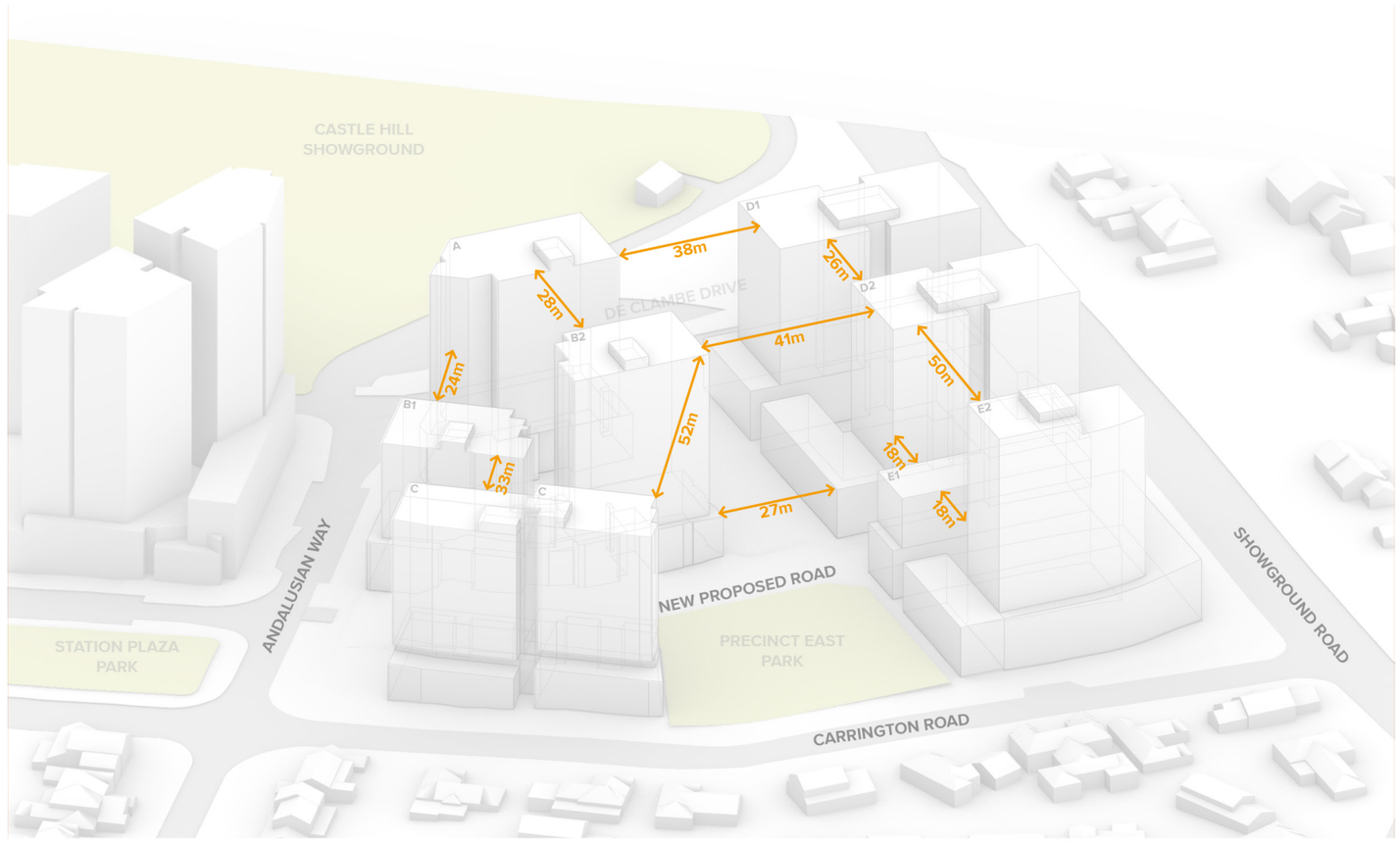


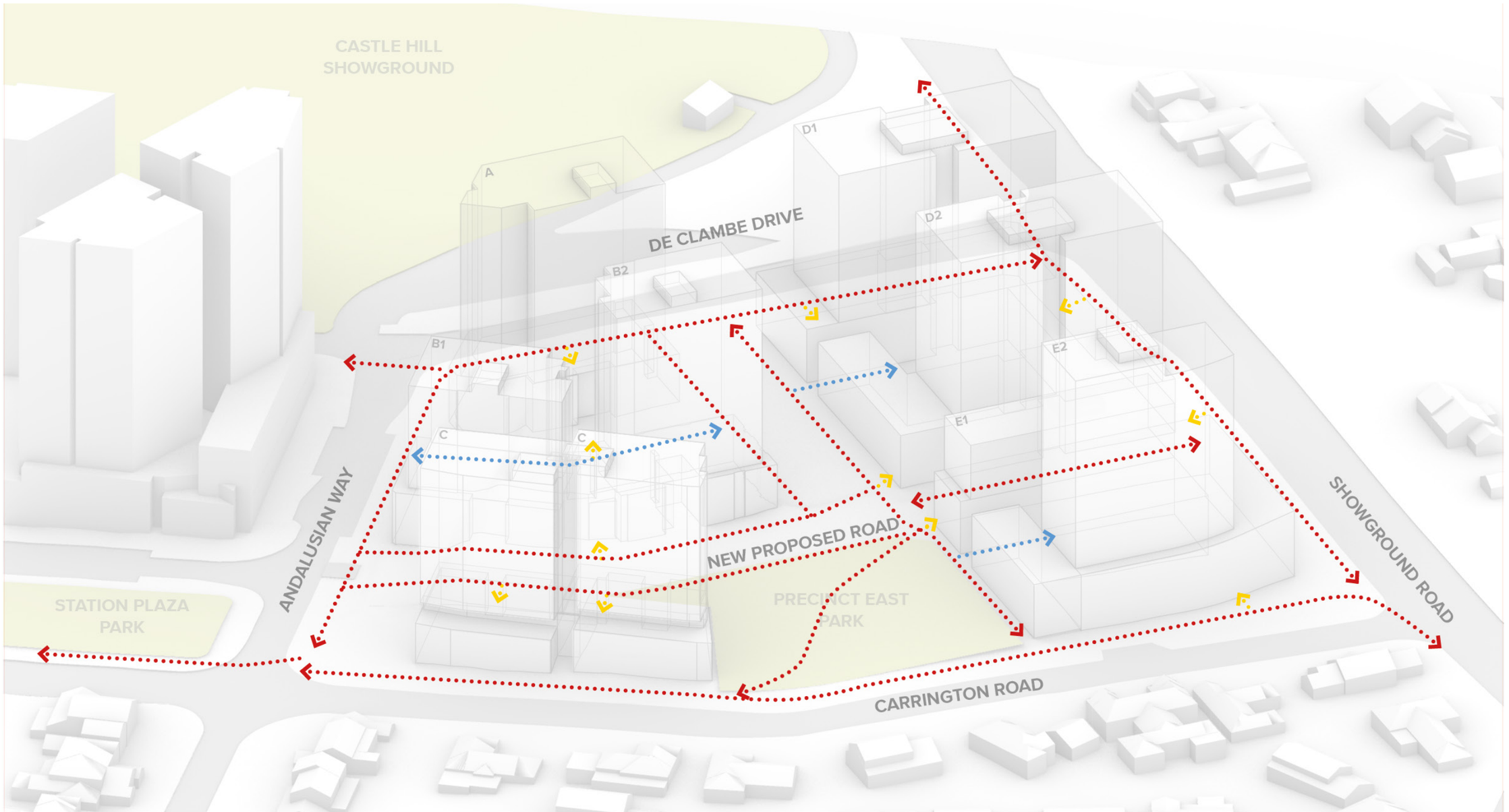
Figure 219: Precinct East - Envelope Controls



BUILDING SEPARATION

Exerpt from the Urban Design Guide

2.13|ACCESS STRATEGIES | Pedestrian Priority Site

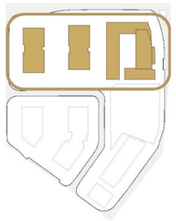


PEDESTRIAN MOVEMENT

LEGEND

- PUBLIC DOMAIN MOVEMENT
- PRIVATE DOMAIN MOVEMENT
- LOBBY ENTRANCE

2.13|ACCESS STRATEGIES | Interface Between Movement Networks

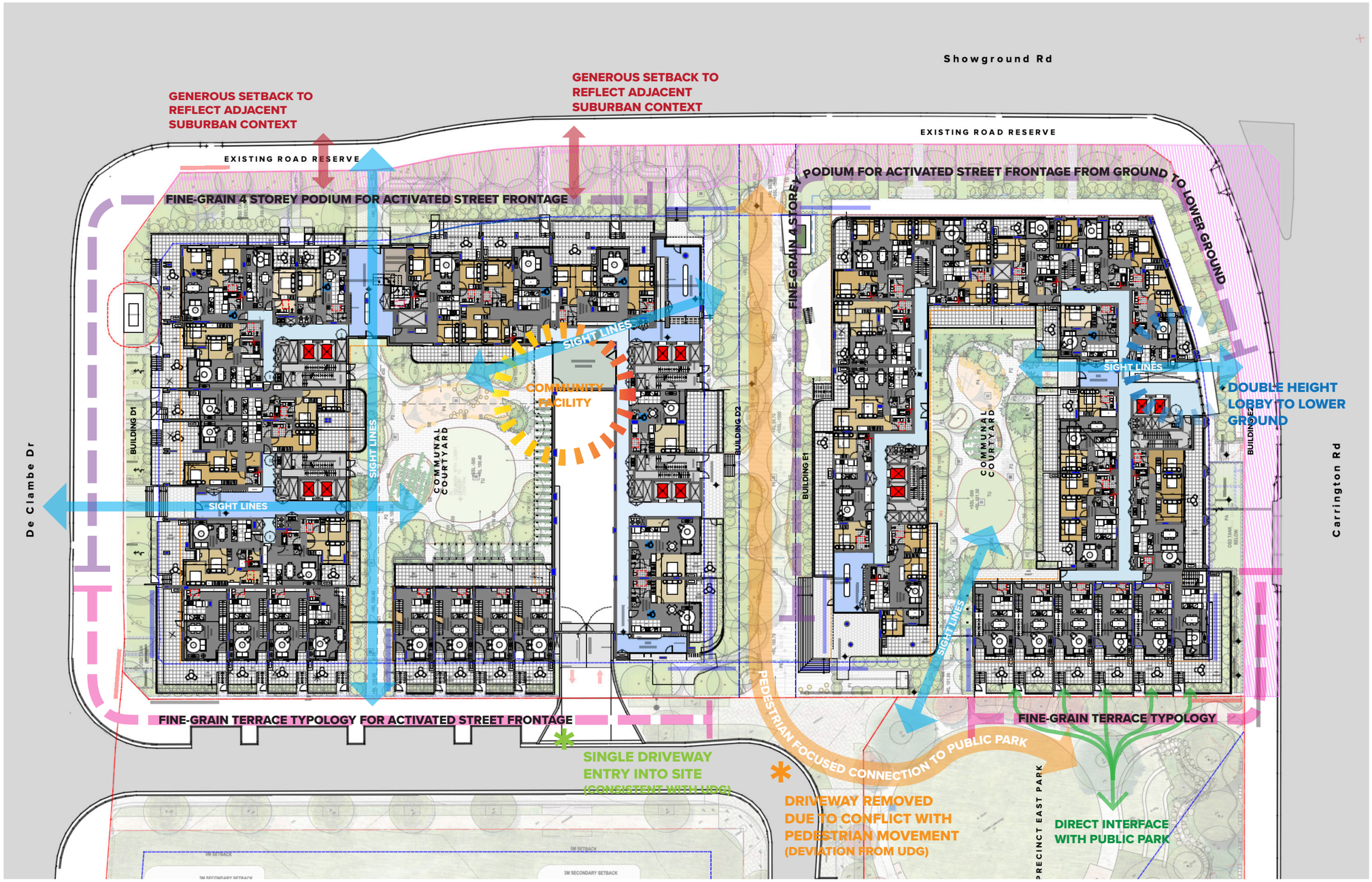


Single combined car park and loading dock entry from the sub-divided road

Pedestrian focused movement from the Precinct East Park to the Publicly Accessible Pedestrian Link

Sightlines established across building E1 lobby into the Communal Courtyard space

Fine grain terrace typology with access directly from street

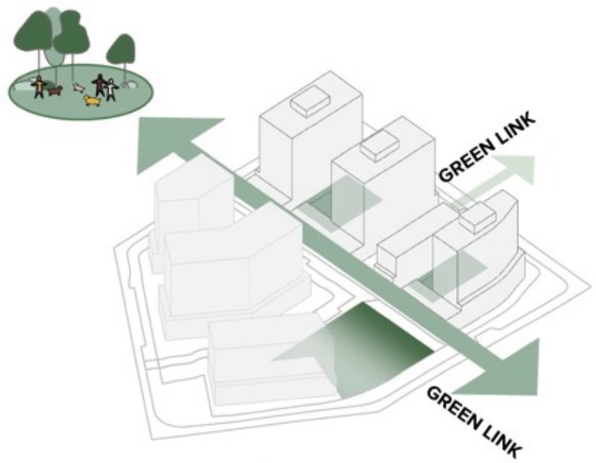


2.14| LANDSCAPE & OPEN SPACE | Connecting to the Green Network

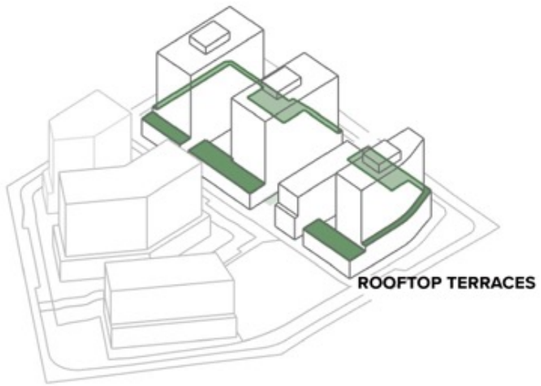
ENHANCING THE GREEN NETWORK

The proposal looks to add additional landscaped spaces in the form of a publicly accessible pedestrian link which incorporates elements of connection to country, dedicated parks and a landscaped podium that will complete a network of green links to allow buildings to sit within the landscape and providing a visual connection from the Showgrounds to the new public park within the site.

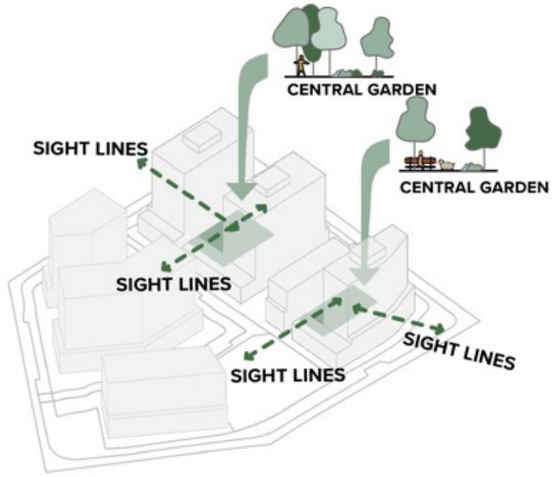




WELL INTEGRATED
GREEN INFRASTRUCTURE

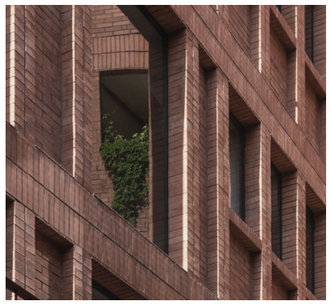


PROMOTE SUSTAINABLE
ENVIRONMENT THROUGH
INTEGRATION OF GREEN LADDER

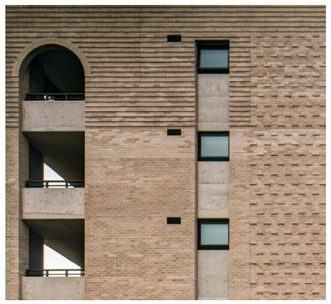


CREATING POCKETS OF
CENTRAL GARDENS

2.15| MATERIALS AND FINISHES | Facade Inspiration and Materiality



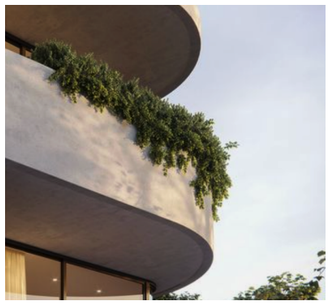
BW1 BOWRAL BRICK 76 BOWRAL BROWN



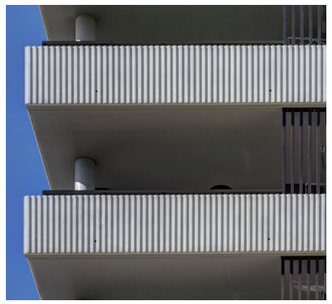
BW2 BOWRAL BRICK 76 SIMMENTAL SILVER



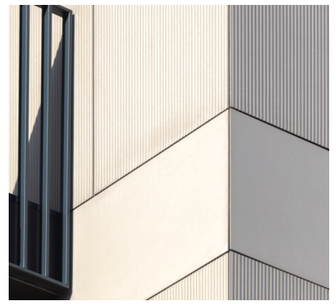
BW3 AUSTRAL BRICK HAMPTONS WHITEHAVEN



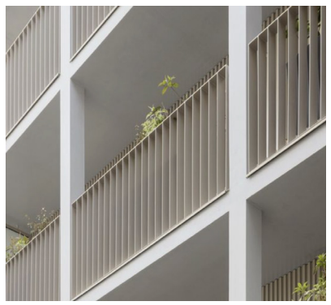
CON1 CONCRETE NATURAL FINISH



CON2 CONCRETE TEXTURED FINISH



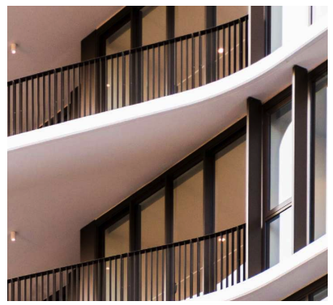
CLD1 EQUITONE_LINES



PCF1 DULUX TONE FLAT WHITE



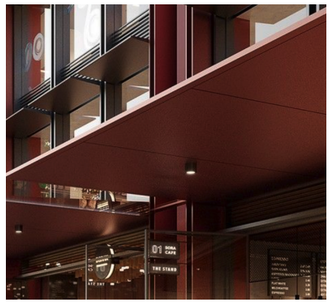
PCF2 DULUX TONE MEDIUM BRONZE



PCF3 DULUX TONE DARK BRONZE



PCF4 DULUX TONE MATT DUNE



PCF5 INTERPON RED BUSH APPLE



PCF6 DULUX COPPER METALLIC KINETIC

2.15| MATERIALS AND FINISHES | Facade Character

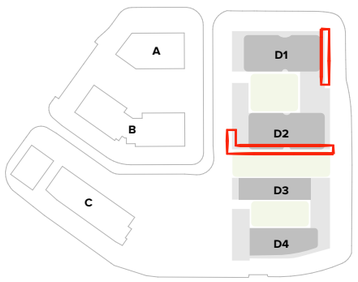






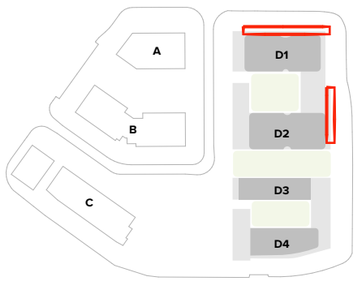
BUILDING D2 PODIUM





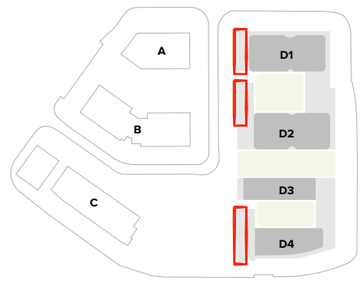
BUILDING D1 PODIUM





TOWNHOUSES





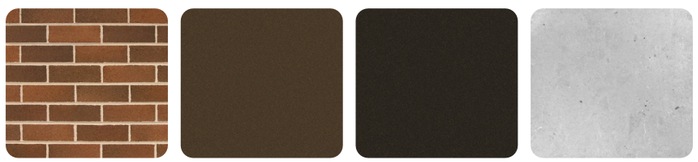
2.15| MATERIALS AND FINISHES | Facade Character

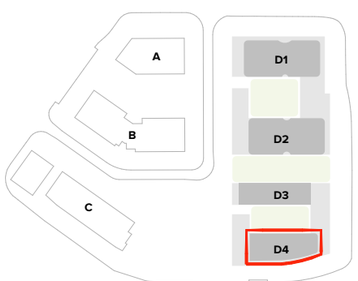






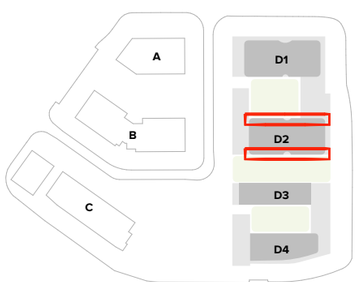
BUILDING E2 TOWER





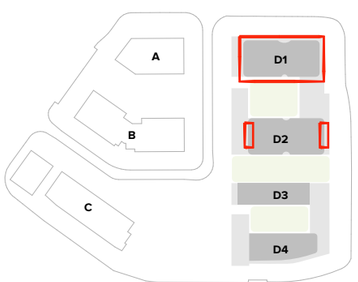
BUILDING D2 TOWER





BUILDING D1 TOWER





2.15| MATERIALS AND FINISHES | Facade Character

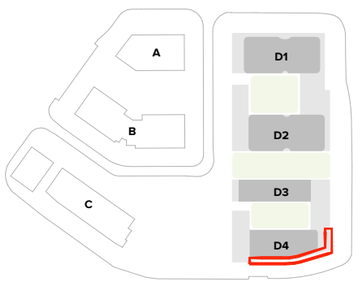






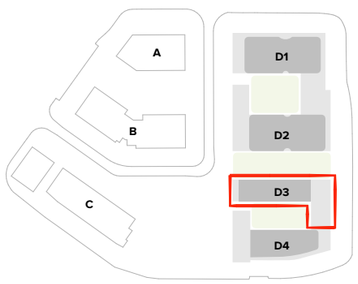
BUILDING E2 PODIUM





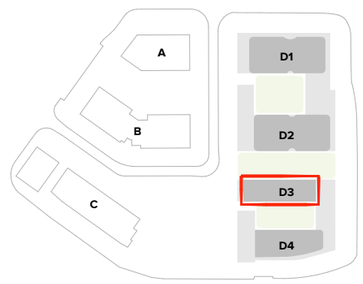
BUILDING E1 PODIUM





BUILDING E1 TOWER





2.16| PERSPECTIVES



South West Perspective from sub-division road

2.16| PERSPECTIVES



Northern perspective from Showground Road

2.16| PERSPECTIVES



South east perspective from corner of De Clambe Drive and Andelusian Way

2.16| PERSPECTIVES



North East perspective from the corner of Showground Road and De Clambe Drive

2.16| PERSPECTIVES



North West Perspective from corner of Carrington Road and Showground Road

2.16| PERSPECTIVES



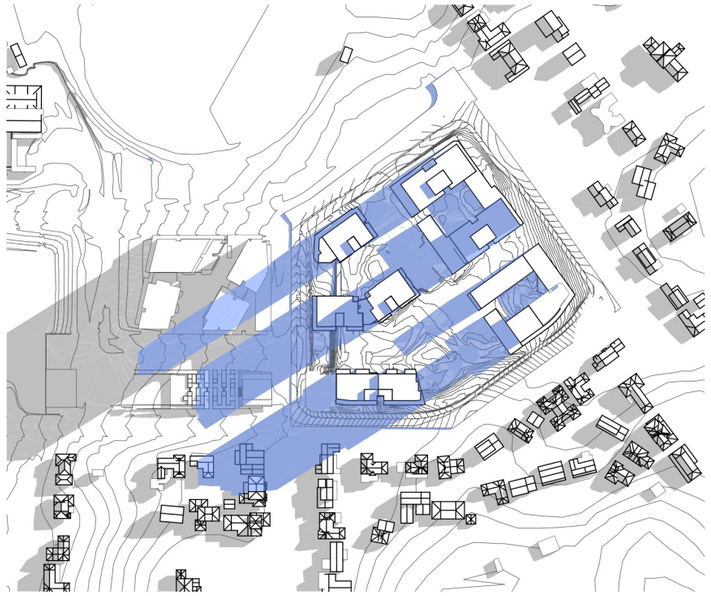
View from Carrington Road (Public Park)

2.16| PERSPECTIVES

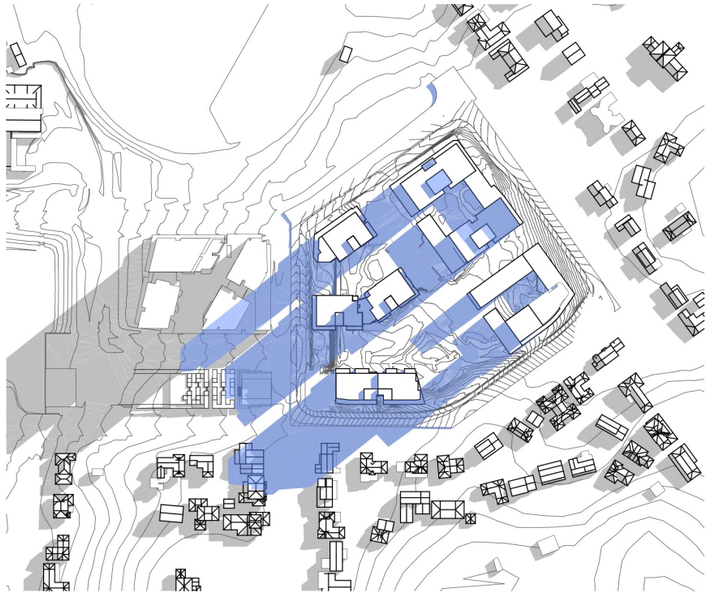


Aerial View from Carrington Road (Public Park)

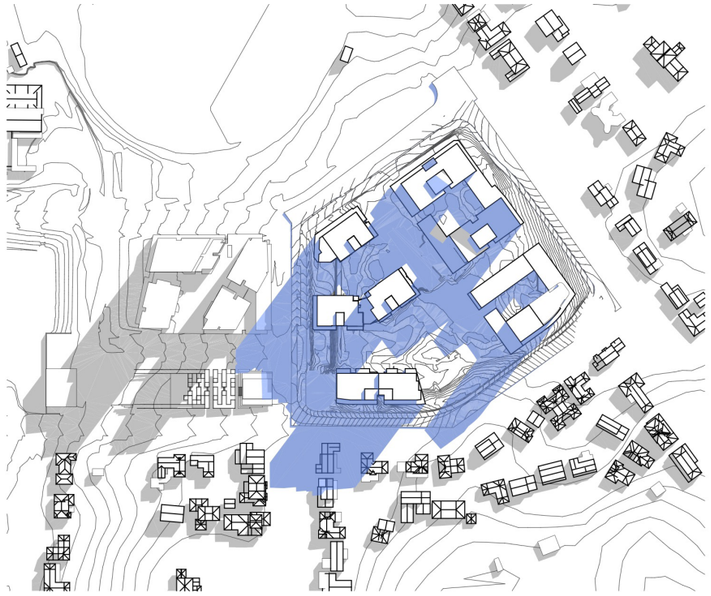
2.17| SHADOW ANALYSIS | June 21st



June 21st 9AM



June 21st 10AM



June 21st 11AM



June 21st 12PM

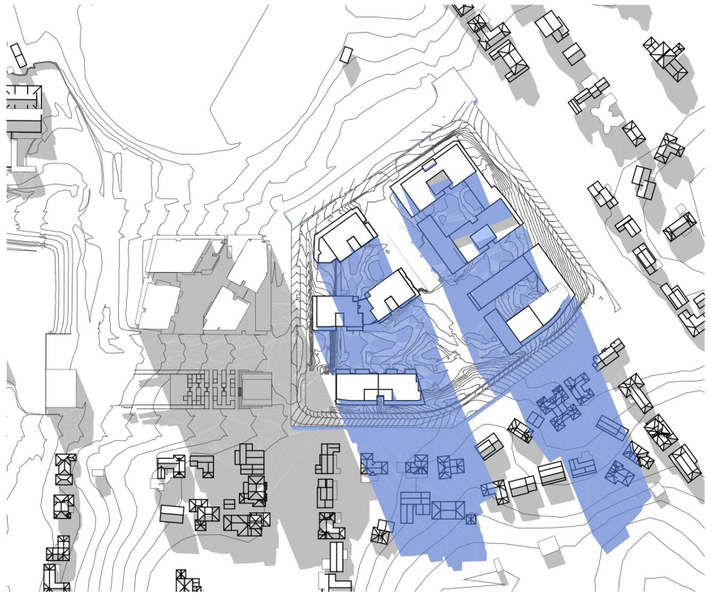


June 21st 1PM



June 21st 2PM

2.17| SHADOW ANALYSIS | June 21st



June 21st 3PM

2.18| COMMUNAL OPEN SPACE | Area



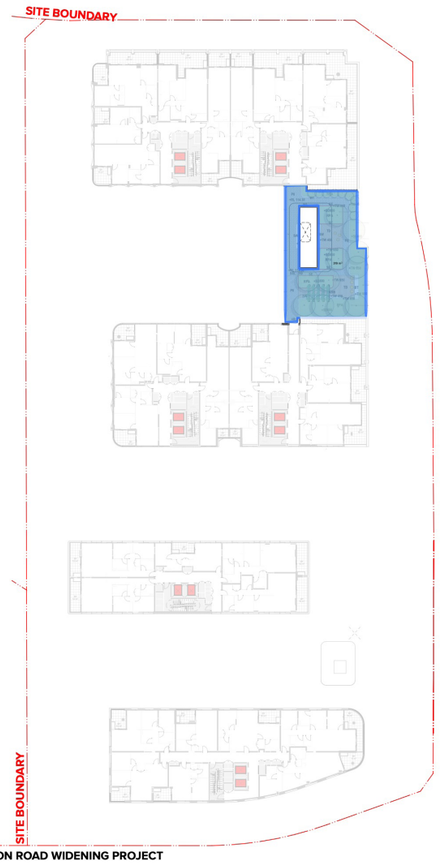
GROUND FLOOR

Communal Open Space: 1,423 m²



LEVEL 03

Communal Open Space: 944m²



LEVEL 04

Communal Open Space: 319 m²

ADG COMPLIANCE:

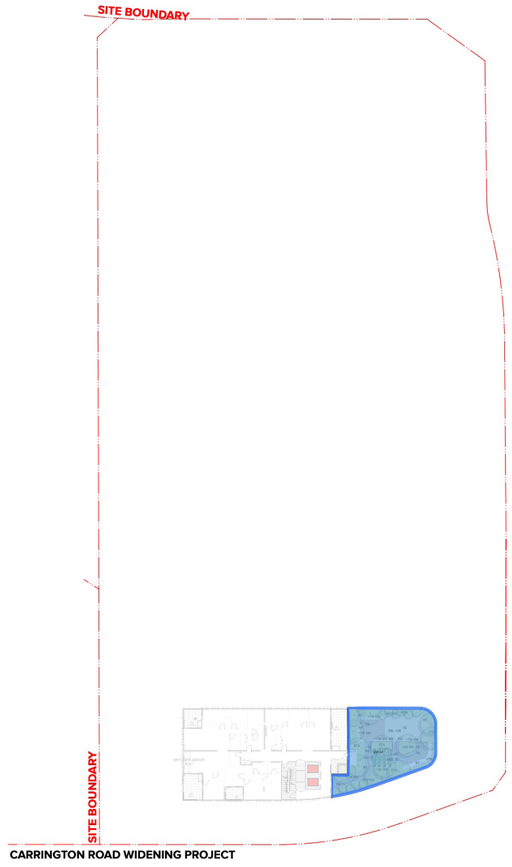
The plans for the proposed development achieves 25% of Communal Open Space at 3,358 sqm.

2.18| COMMUNAL OPEN SPACE | Area



LEVEL 08

Communal Open Space: 435 m²



LEVEL 17

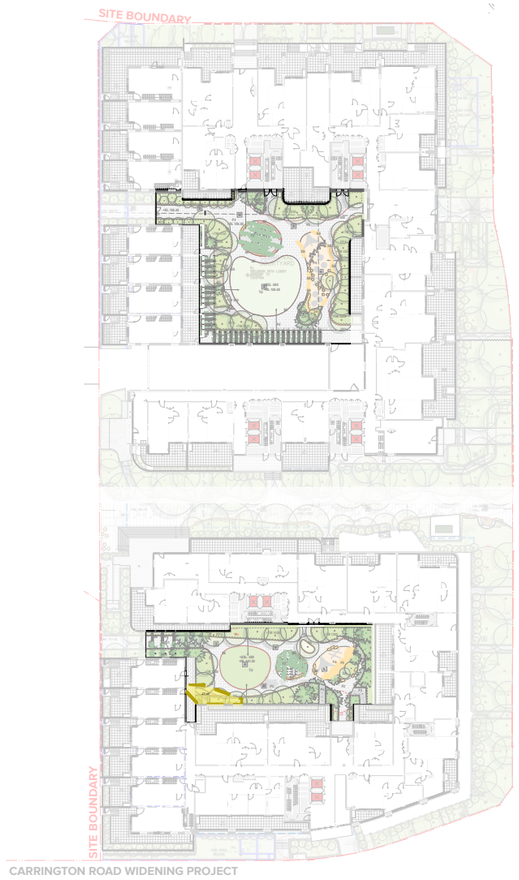
Communal Open Space: 237 m²

Communal Open Space (COS)

ADG COMPLIANCE:

The plans for the proposed development achieves 25% of Communal Open Space at 3,358 sqm.

2.18| COMMUNAL OPEN SPACE | Solar Access



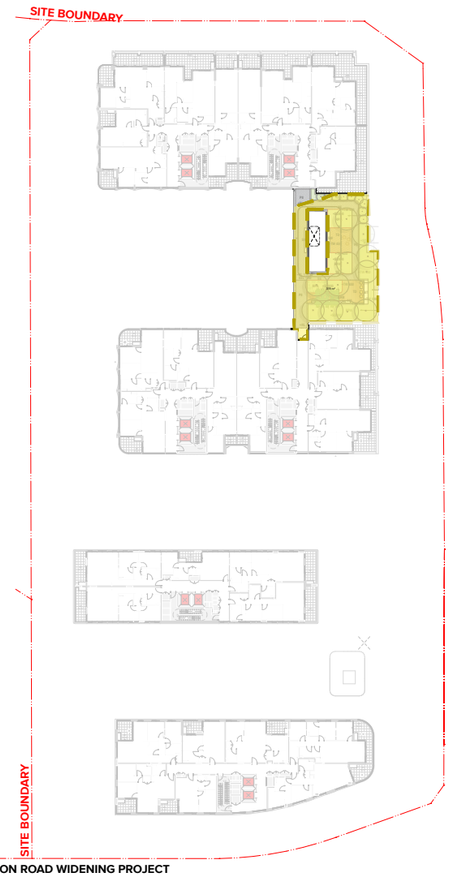
Ground Level

Communal Open Space: 27m²



LEVEL 03

Communal Open Space: 472m²



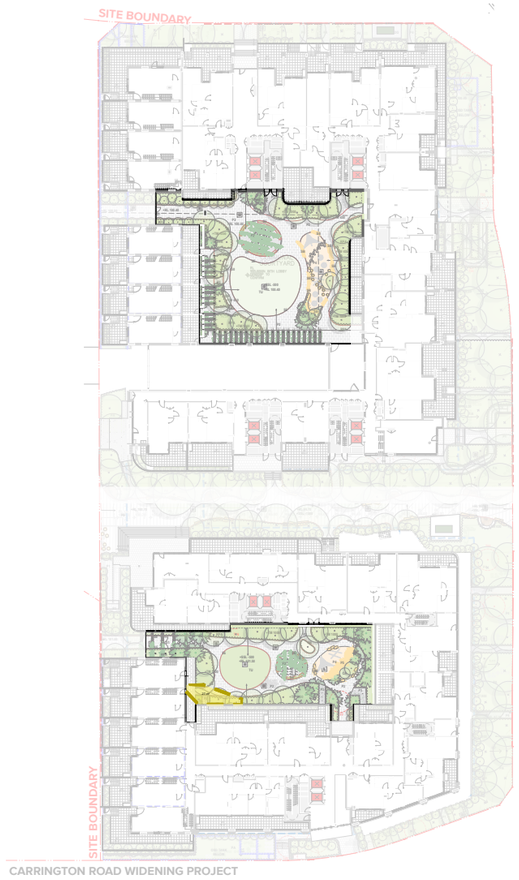
LEVEL 04

Communal Open Space: 319 m²

ADG COMPLIANCE:

The plans for the proposed development achieves 51.1% of Communal Principal Open Space receiving 2h of solar at 1,529 sqm.

2.18| COMMUNAL OPEN SPACE | Solar Access



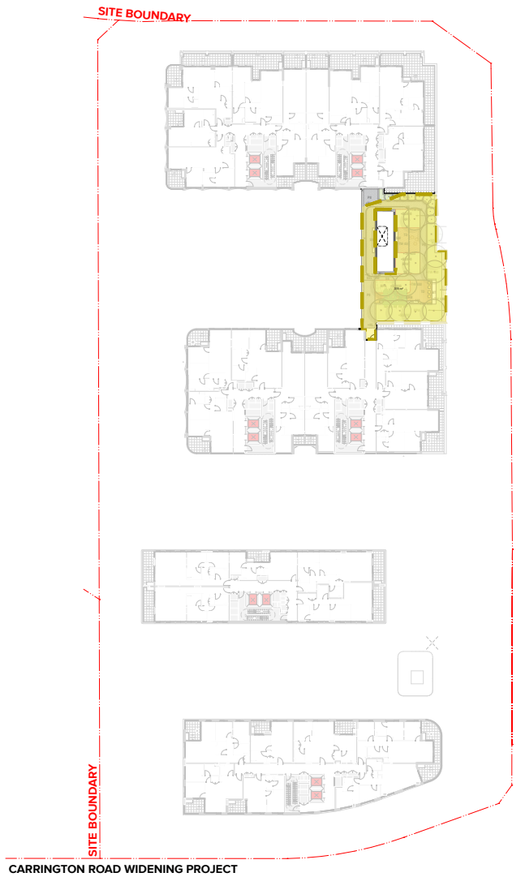
Ground Level

Communal Open Space: 27m²



LEVEL 03

Communal Open Space: 472m²



LEVEL 04

Communal Open Space: 319 m²

ADG COMPLIANCE:

The plans for the proposed development achieves 51.1% of Communal Principal Open Space receiving 2h of solar at 1,529 sqm.

2.19| AMENITY SUMMARY - Landscaping and Deep Soil



LOWER GROUND FLOOR

Deep Soil: 447 m²



GROUND FLOOR

Deep Soil: 633 m²

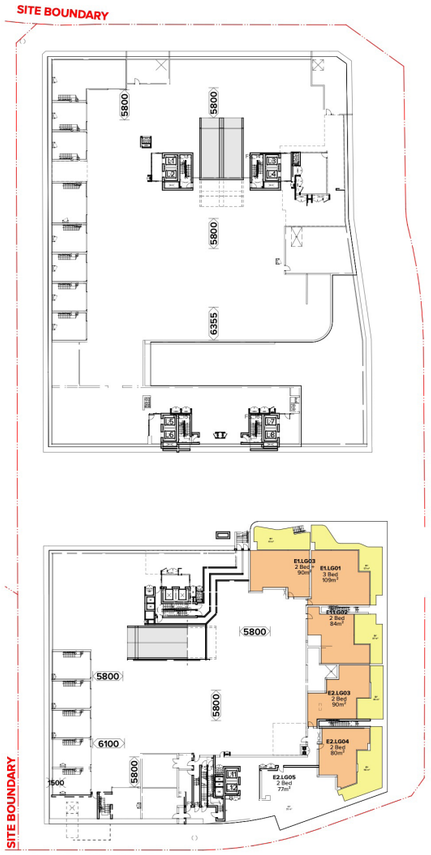
Deep Soil (With reference to ADG)

ADG COMPLIANCE:

ADG Minimum 7% of site to be Deep Soil:

The plans for the proposed development achieves 9.02% Deep Soil at 1,080sqm

2.19| AMENITY SUMMARY | Solar



LOWER GROUND FLOOR

Solar Access: 5

Solar Access

No Direct sunlight: 0



GROUND FLOOR

Solar Access: 21

Solar Access

No Direct sunlight: 11



LEVEL 01

Solar Access: 19

Solar Access

No Direct sunlight: 5



LEVEL 02

Solar Access: 22

Solar Access

No Direct sunlight: 4

ADG COMPLIANCE:

AGD Minimum % of apartments achieving 2 hours solar access: ≥ 70%

The plans for the proposed development achieves 70.9% 2 hours solar access: 322 apartments

ADG Maximum % of apartments receiving no direct sunlight: ≤ 15%

The plans for the proposed development achieves 8.4% no direct sunlight: 38 apartments

2.19| AMENITY SUMMARY | Solar



LEVEL 03

Solar Access: 19

Solar Access

No Direct sunlight: 1



LEVEL 04

Solar Access: 20

Solar Access

No Direct sunlight: 2



LEVEL 05

Solar Access: 20

Solar Access

No Direct sunlight: 2

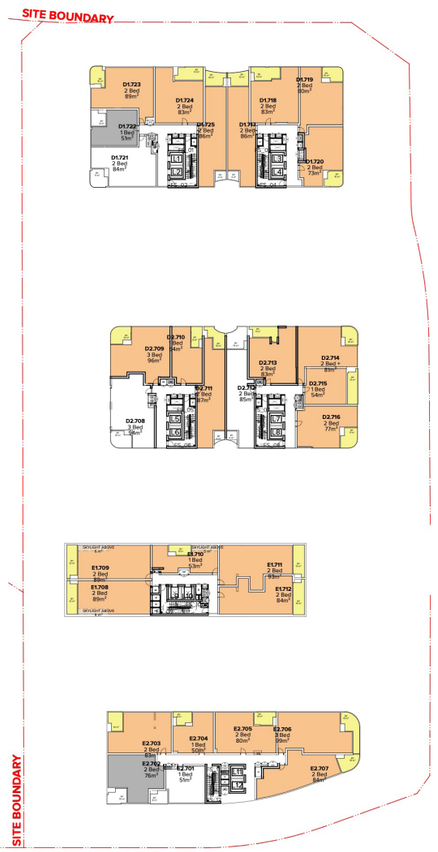
LEVEL 06

Solar Access: 24*

Solar Access

No Direct sunlight: 2

*Skylights on E1.508, E1.509, E1.510, E1.511.



LEVEL 07-09

Solar Access: 54

Solar Access

No Direct sunlight: 6

LEVEL 10

Solar Access: 19 (E2.705 included)

Solar Access

No Direct sunlight: 2

ADG COMPLIANCE:

AGD Minimum % of apartments achieving 2 hours solar access: ≥ 70%

The plans for the proposed development achieves 70.9% 2 hours solar access: 322 apartments

ADG Maximum % of apartments receiving no direct sunlight: ≤ 15%

The plans for the proposed development achieves 8.4% no direct sunlight: 38 apartments

2.19| AMENITY SUMMARY | Solar



LEVEL 11

Solar Access: 17

Solar Access

No Direct sunlight: 2



LEVEL 12

Solar Access: 19

Solar Access

No Direct sunlight: 1

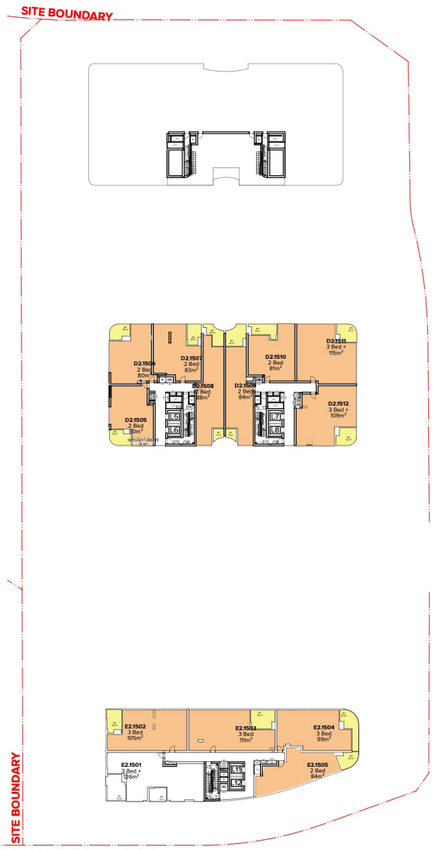


LEVEL 13-14

Solar Access: 36

Solar Access

No Direct sunlight: 0



LEVEL 15

Solar Access: 20

Solar Access

No Direct sunlight: 0

ADG COMPLIANCE:

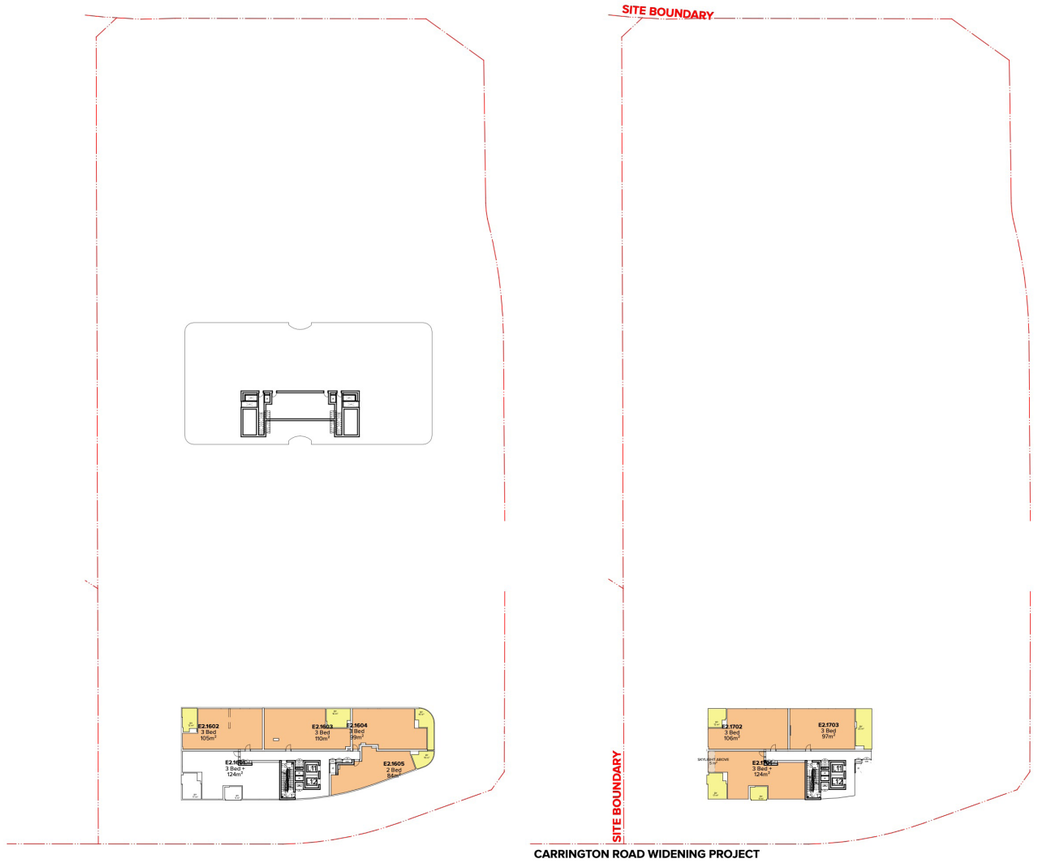
AGD Minimum % of apartments achieving 2 hours solar access: ≥ 70%

The plans for the proposed development achieves 70.9% 2 hours solar access: 322 apartments

ADG Maximum % of apartments receiving no direct sunlight: ≤ 15%

The plans for the proposed development achieves 8.4% no direct sunlight: 38 apartments

2.19| AMENITY SUMMARY | Solar



LEVEL 16

Solar Access: 4

Solar Access

No Direct sunlight

LEVEL 17

Solar Access: 3

Solar Access

No Direct sunlight

ADG COMPLIANCE:

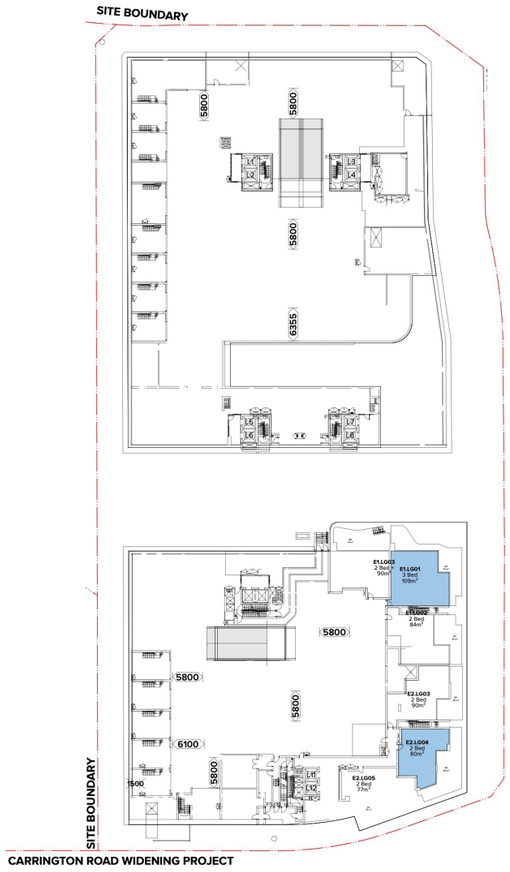
AGD Minimum % of apartments achieving 2 hours solar access: ≥ 70%

The plans for the proposed development achieves 70.9% 2 hours solar access: 322 apartments

ADG Maximum % of apartments receiving no direct sunlight: ≤ 15%

The plans for the proposed development achieves 8.4% no direct sunlight: 38 apartments

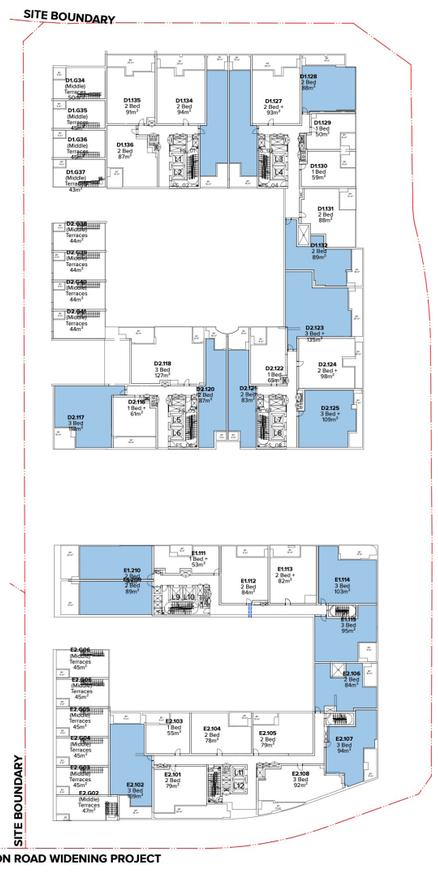
2.19| AMENITY SUMMARY | Cross ventilation



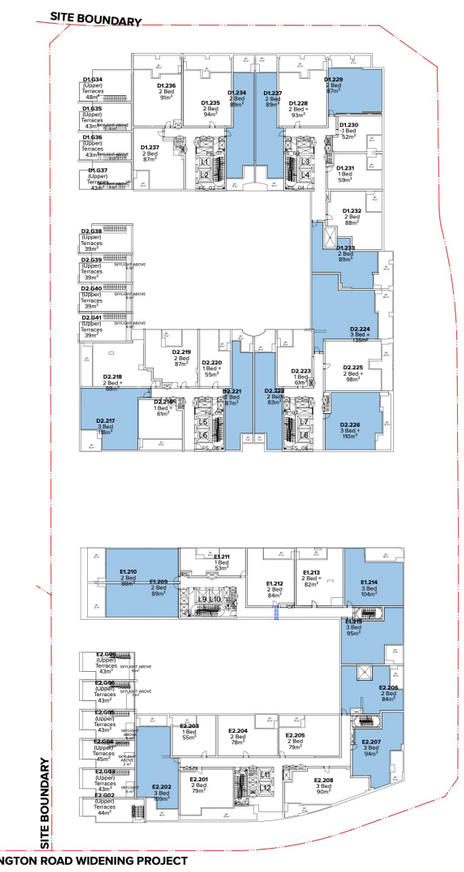
LOWER GROUND FLOOR



GROUND FLOOR



LEVEL 01



LEVEL 02

ADG COMPLIANCE:

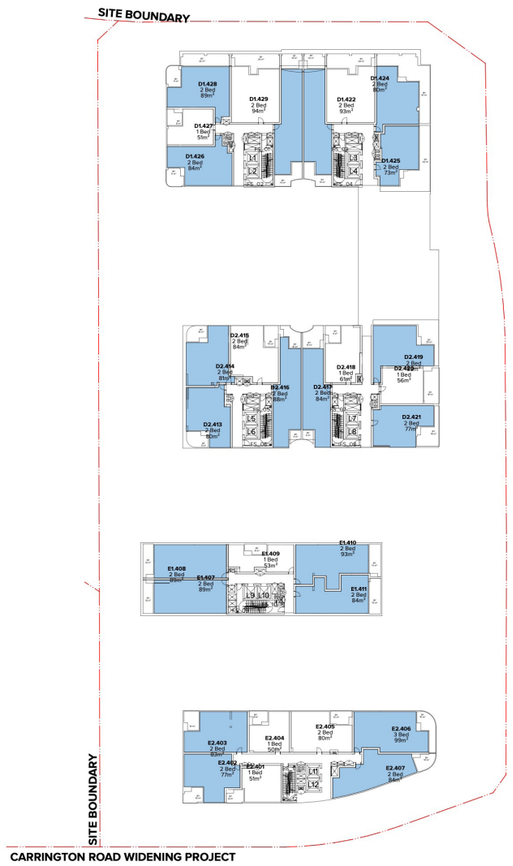
ADG Minimum 60% of apartments to be naturally ventilated:

The plans for the proposed development achieves 60.48% naturally ventilated units : 176 / 291 (first 9 storeys)

2.19| AMENITY SUMMARY - cross ventilation



LEVEL 03



LEVEL 04



LEVEL 05-06



LEVEL 07

***Level 7 Apartments**
Cross Ventilation achieved in E1.609, E1.610, E1.611 via Skylights

ADG COMPLIANCE:

ADG Minimum 60% of apartments to be naturally ventilated:

The plans for the proposed development achieves 60.48% naturally ventilated units : 176 / 291 (first 9 storeys)

2.19| AMENITY SUMMARY - cross ventilation



LEVEL 08

ADG COMPLIANCE:

ADG Minimum 60% of apartments to be naturally ventilated:

The plans for the proposed development achieves 60.48% naturally ventilated units : 176 / 291 (first 9 storeys)

2.19| AMENITY SUMMARY - GFA



BASEMENT 01-02



LOWER GROUND FLOOR



GROUND FLOOR



LEVEL 01

TOTAL GFA CALCULATION:

The plans for the proposed development achieves 46,163sqm of GFA

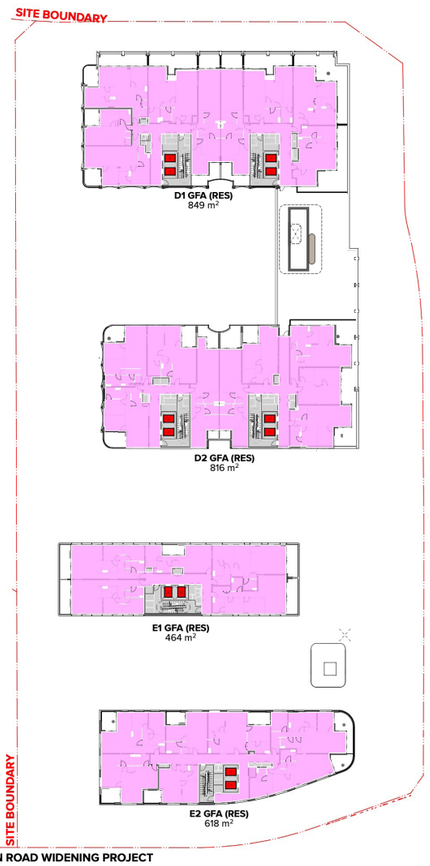
2.19| AMENITY SUMMARY | GFA



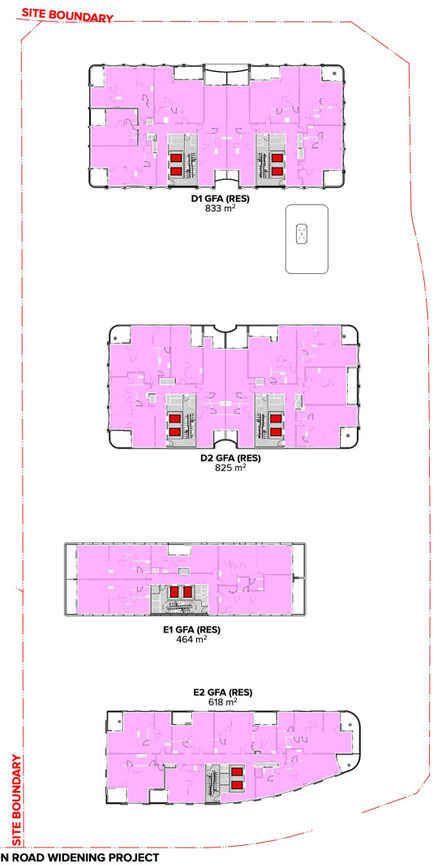
LEVEL 02



LEVEL 03



LEVEL 04

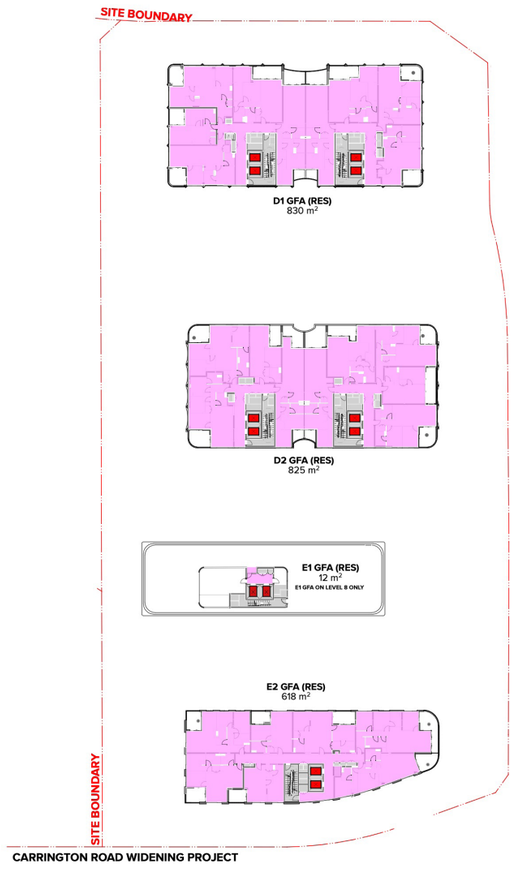


LEVEL 05-07

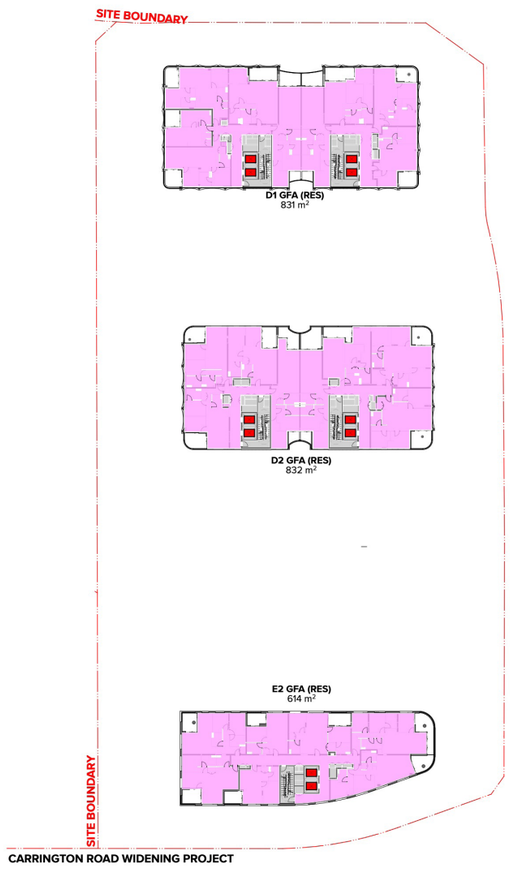
TOTAL GFA CALCULATION:

The plans for the proposed development achieves 46,163sqm of GFA

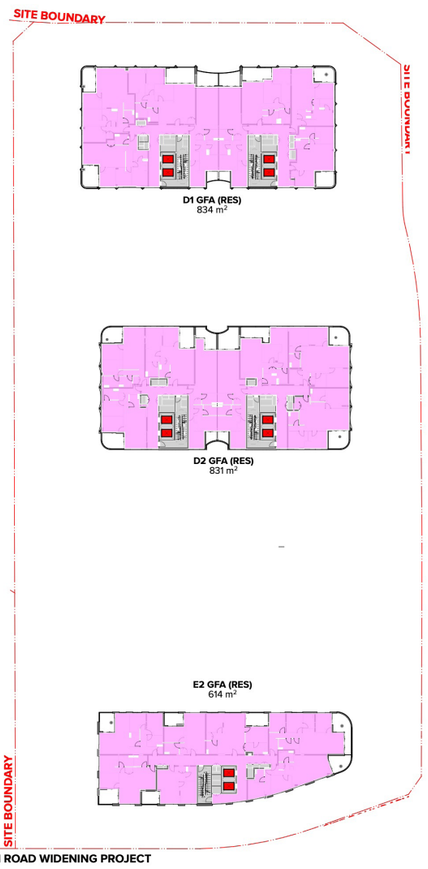
2.19| AMENITY SUMMARY | GFA



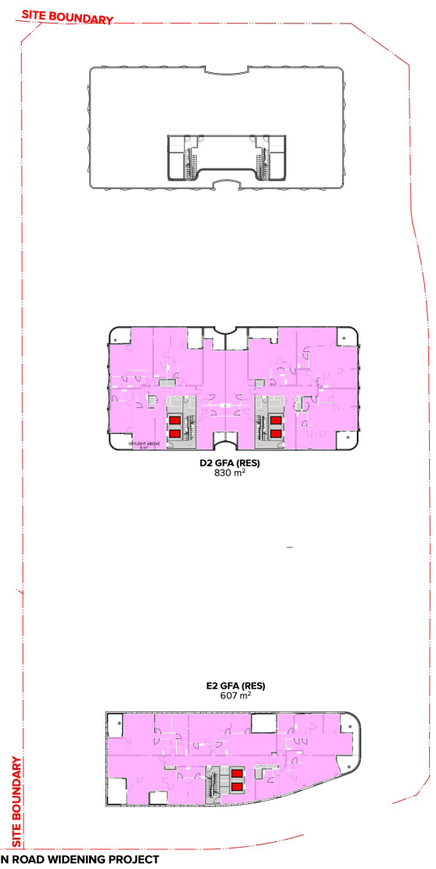
LEVEL 08-10



LEVEL 11



LEVEL 12-14

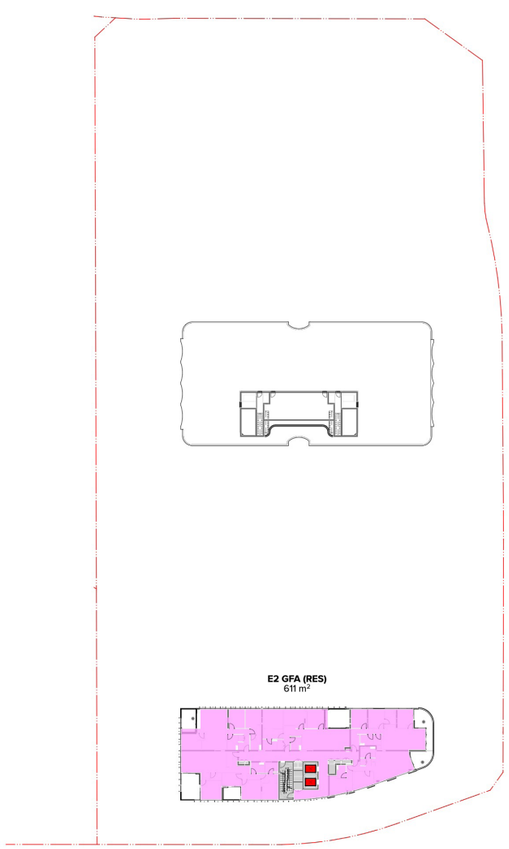


LEVEL 15

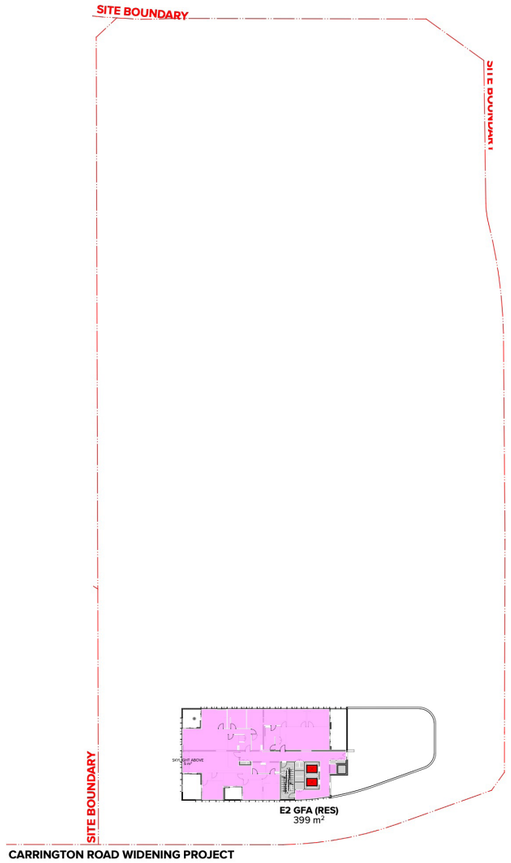
TOTAL GFA CALCULATION:

The plans for the proposed development achieves 46,163sqm of GFA

2.19| AMENITY SUMMARY - GFA



LEVEL 16



LEVEL 17

TOTAL GFA CALCULATION:

The plans for the proposed development achieves 46,163sqm of GFA

SEPP 65 PRINCIPLES 3.1

CONTEXT & NEIGHBOURHOOD 3.11

BUILT FORM & SCALE 3.12

DENSITY 3.13

SUSTAINABILITY 3.14

LANDSCAPE 3.15

AMENITY 3.16

SAFETY 3.17

HOUSING, DIVERSITY & SOCIAL INTERACTION 3.18

AESTHETICS 3.19

3.11| Context & neighbourhood

REQUIREMENT

Good design responds and contributes to its context. Context is the key natural and built features of an area, their relationship and the character they create when combined. It also includes social, economic, health and environmental conditions.

Responding to context involves identifying the desirable elements of an area's existing or future character. Well-designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood.

Consideration of local context is important for all sites, including sites in established areas, those undergoing change or identified for change.

PROPOSAL

The future vision for the Hills Showground Station Precinct anticipates an intensification of residential development around the Hills Showground Station. The Showgrounds East Precinct will provide a variety and mix of housing choice, a new public park, and a new publicly accessible through site link, providing greenery within the ground plane with extensive canopy coverage and a mix of retail/commercial uses directly adjacent to the metro station. Collectively this will form a highly activated precinct as a vibrant, activated centre, connecting the existing and future communities in the surrounding neighbourhoods. This aligns with the approved Concept Plan and Urban Design Guidelines, with further detail within the Urban Design Report.

The success of the proposal will be driven by the meaningful activation of the primary streetscapes, and the permeability of the ground plane. The design team welcomes and fully embraces this design principle, which has shaped the current proposal. The previous suburban, single use, and car focused urban character is being reimagined as a more dynamic urban renewal centre with high amenity and generous parks, setbacks, and green links.

The architectural response for podium and the Building E1 tower take their design ques from the vernacular suburban character of the existing residential context. Extensive use of brick, with bespoke playful detailing references the domestic and charming architecture of the adjacent streetscapes.

The remaining Building D1, D2 and D3 towers are more open and glazed to avail the outlook over the verdant green context. Extensive landscaping drawings this green context into the heart of the development via new parks, new public accessible through site links, via the view lines into the lush green central courtyards, and via the extensive landscaping that is proposed to all podium rooftops and to the rooftop of the E1 tower.



Northern perspective from Showground Road

3.12| Built form & scale

REQUIREMENT

Good design achieves a scale, bulk and height appropriate to the existing or future desired character of the street and surrounding buildings.

Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements.

Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.

PROPOSAL

The design team acknowledges the importance of an appropriate scale and built form to the lower levels, and for meaningful activation of the streetscapes. The podium base has been designed as series of smaller scale buildings, ranging from three to four storeys, that are varied in character. Their palette is made up of a variety of brick colours that offer a robust, high quality and low maintenance finish. Collectively, this grouping of buildings creates a dynamic, fine-grain, and interesting street interface. This supports the future character of the precinct as outlined within the Approved Concept Plan and Urban Design Guidelines. Buildings D & E in Lot 5 fully comply with the approved building envelopes, set-backs and number of storeys.

The four towers have their slender narrow end facing the street edges of Showgrounds Road and Mandala Parade. The towers are set back from the lower levels, creating strong horizontal datums to the street wall condition.

The longer northern facades of Buildings D1 & D1 are indented midway in the façade to break up the massing into sub-parts.

As part of the desired diversity of architectural language and built form, the towers offer a range of architectural expression, articulation and indentation. This gives a strong street identity, marks the primary entries to the precinct, and emphasises the vertical slender proportions of the buildings. This varied approach to built form avoids a homogenous outcome.



South West Perspective from sub-division road

3.13| Density

REQUIREMENT

Good design achieves a high level of amenity for residents and each apartment, resulting in a density appropriate to the site and its context.

Appropriate densities are consistent with the area's existing or projected population. Appropriate densities can be sustained by existing or proposed infrastructure, public transport, access to jobs, community facilities and the environment.

PROPOSAL

The Hills Showgrounds Station Precinct will contribute significantly in achieving the government's objectives to deliver more housing in new mixed-use communities close to public transport. As part of the Northwest Priority Growth Area, The Hills Showgrounds Station Precinct is well positioned to provide new homes, and amenities, being strategically located along Metro Northwest Line with excellent access to employment. The result of this density is increased active street frontages, as per the Approved Concept Plan and Urban Design Guidelines.

The catalyst for renewal is the new metro station, a key part of delivering the increased connectivity that will make the wider community part of the 30-minute city, connecting to opportunities for jobs, services, education and recreation. As part of the Northwest Priority Growth Area, The Hills Showgrounds Station Precinct is set within a context that is evolving from a car focused, low density, suburban character, to a new vibrant mixed use and pedestrian focused community, which will continue to grow and evolve into the future. The adjacent Doran Drive Precinct, which is already under construction, includes a large format supermarket, retail, a dining precinct, medical centre, childcare, and a community centre designed for the use of the wider precinct.

The Showgrounds Precinct East will allow new housing to be provided within this evolving context, with 873 apartments overall, of which Turner are designing 448 new residential dwellings in Buildings D & E in Lot 5.

The proposed mix shows a diversity of 1 bed, 2 bed, and 3 bed apartments. Within these apartment types, there is a range of size and layouts that offer choice and amenity.

Large family friendly three storey townhouses are located along the western edge of Buildings C & D within Lot 5, overlooking the proposed new Eastern Park.

Residents can enjoy the extensive existing verdant green Castlehill Showgrounds to the north of the development, while a new public accessible Eastern Park to being delivered in the heart of Showgrounds Precinct East. This important new community amenity is located adjacent to Carrington Road and allows for all the new buildings in the eastern precinct to be directly 'parkside'.

This excellent mix of services, amenities, and access to significant public parklands makes this area uniquely suitable for the proposed densities.



View from Carrington Road

3.14| Sustainability

REQUIREMENT

Good design combines positive environmental, social and economic outcomes.

Good sustainable design includes use of natural cross ventilation and sunlight for the amenity and liveability of residents and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operation costs. Other elements include recycling and reuse of materials and waste, use of sustainable materials, and deep soil zones for groundwater recharge and vegetation.

PROPOSAL

The Showground Precinct East proposal is designed with sustainable initiatives to contribute positively to the environmental, social and economic aspects of the area as a green neighbourhood with great amenity. E-Lab have led the sustainable focus within the design team, identifying a series of Ecologically Sustainable Design (ESD) principles throughout the design process. Refer to ESD report which confirms that the design is capable of achieving a 5 star Green Star standard, equivalent to Green Star Buildings v1, 2023.

Sustainable Transport and Movement
The existing infrastructure of new streets and laneways within The Hills Showgrounds Station Precinct provide a high level of connection to the surrounding context including established bus network and Metro line. This is further amplified within the Showground Precinct East site through the pedestrian connectivity included within the proposed publicly accessibly pedestrian link to bridge between Showground Road, sub-divided road within the site and the new public park. Pedestrians and cyclists are prioritised with the establishment of a finer grain network of links. The publicly accessible pedestrian link and the public park acts as an extension of the lot 5 development, blurring the interface between public and private domain which creates opportunities for passive surveillance.

Reduce the Heat Island Effect
The provision of public infrastructure that increases the public domain through new open spaces, and meaningful landscape interventions provides for green photosynthetic infrastructure such as street trees and parks. The extensive canopy cover will provide respite from the heat of the summer sun and will shade the streets to reduce the effects of the urban heat island effect. The types and diversity of species provided support flora and fauna. The proposal achieves the deep soil and open space recommendations of the ADG and in doing so will provide a variety of open space and landscaped areas to enhance the overall amenity for the residents and assist in mitigating the heat island effect. Materials within the public domain and roof tops have been chosen to mitigate Heat Island Effect, in line with best practice design principles.

Stormwater
Incorporation of water sensitive urban design (WSUD) features will contribute to a green and resilient urban environment.

Reduce Resource Consumption
Passive design principles optimise natural daylighting and solar access to primary internal and external areas. Energy efficient appliances and water efficient devices will be specified to comply with BASIX requirements to minimise water consumption and resources. On-site energy generation will also contribute to reduce resource consumption.



Aerial View from Carrington Road

3.15| LANDSCAPE

REQUIREMENT

Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well-designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood.

Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-ordinating water and soil management, solar access, micro-climate, tree canopy, habitat values, and preserving green networks.

Good landscape design optimises usability, privacy and opportunities for social interaction, equitable access, respect for neighbours' amenity, and provides for practical establishment and long-term management.

PROPOSAL

Showground Precinct East is structured around a series of interconnected new open spaces as an extension of the broader Green Grid. A diverse network of open spaces make a more connected place.

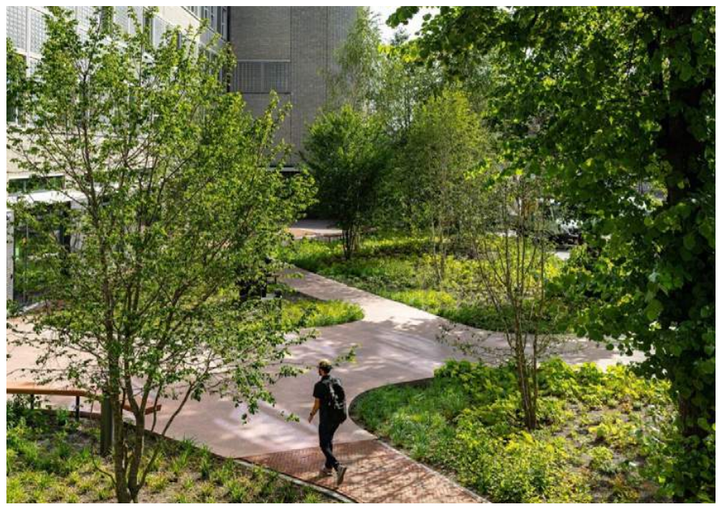
A high performing public domain provides amenity and comfort for all users. The public domain strategy incorporates a new public park at the heart of the development with extensive planting and canopy cover to connect key landscape hubs and emphasise the Garden Shire identity. Secure communal open spaces within the lot 5 development provide visual and thematic connection between the public and private domain. Together with Land and Form, the Architectural design team has worked to ensure that the built form is considered holistically with the landscape intent and the surrounding context.

Private open space typologies provide increased greenery and amenity, connecting people to nature. Rooftop gardens on buildings increase communal access to open space and provide additional typologies to the open space network. Enhanced amenity is provided due to their location, including improved solar access and district views aligning with the approved concept State Significant Development Application (SSD-9653), subsequent modifications and Urban Design Guidelines.

Refer to Landscape Design Report by Land and Form for further detail.









3.16| AMENITY

REQUIREMENT

Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident wellbeing.

Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and services areas and ease of access for all age groups and degrees of mobility.

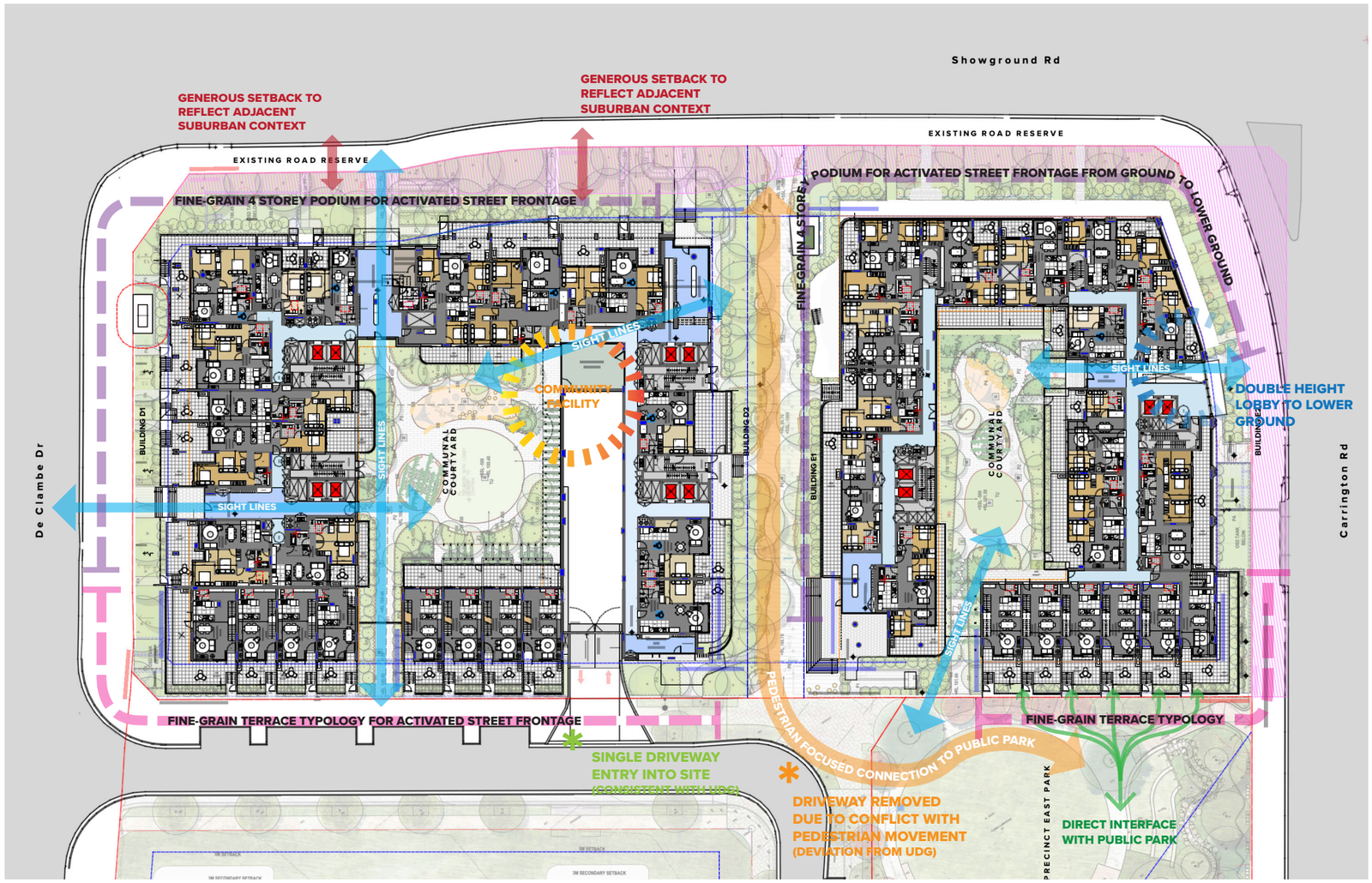
PROPOSAL

The proposal has been designed in line with the objectives and principles of the Apartment Design Guide (ADG), the requirements of the National Construction Code (NCC), and the approved concept State Significant Development Application (SSD-9653), subsequent modifications and Urban Design Guidelines, among others.

The NSW Government Architect's 'Better Placed' document has informed the development of a number of strategies to ensure that the future natural and built environment will be healthy, responsive, integrated, equitable and resilient. Health and well-being are prioritised by providing open space access to both residents and the community. The extensive tree canopy coverage strategy creates a highly landscaped environment that connects people to nature and at a broader scale connects to the regional Green Grid.

The hierarchy of open spaces range from the publicly accessible pedestrian link that connects Showground Road to the sub-divided road, to the new public park at the heart of the site, to the communal landscaped areas at street grade and to a series of more intimate communal rooftop terraces. Each of these spaces have been orientated to maximise solar access and district views. Everyday experience is enriched through active frontages, a pedestrian scale, diversity in materials, and finer grain of the urban and built form.

The diversity of housing typologies and layouts, including three-storey townhouses, 1 – 3 bedrooms, adaptable and liveable apartments provides housing choice and equitable access to services and amenities. The proposed built form and dwellings satisfies SEPP (Housing) and the Apartment Design Guide's objectives for building separation, apartment sizes, floor to ceiling heights, solar access, natural ventilation, and communal open space, among others.



3.17| SAFETY

REQUIREMENT

Good design optimises safety and security within the development and the public domain. It provides for quality public and private spaces that are clearly defined and fit for the intended purpose. Opportunities to maximise passive surveillance of public and communal areas promote safety.

A positive relationship between public and private spaces is achieved through clearly defined secure access points and well-lit and visible areas that are easily maintained and appropriate to the location and purpose.

PROPOSAL

Showground Precinct East (Lot 5) is designed to be a welcoming and safe place for people to live and visit. Direct, legible and safe movement for all users is provided with a focus on pedestrian priority across the precinct. Loading and service areas are designed to be entirely within the site on Basement 01 with a single secure driveway for all vehicular access to minimise impact on the streetscape and interface with pedestrian movement. The location of the driveway is discrete and integrated into the architectural expression.

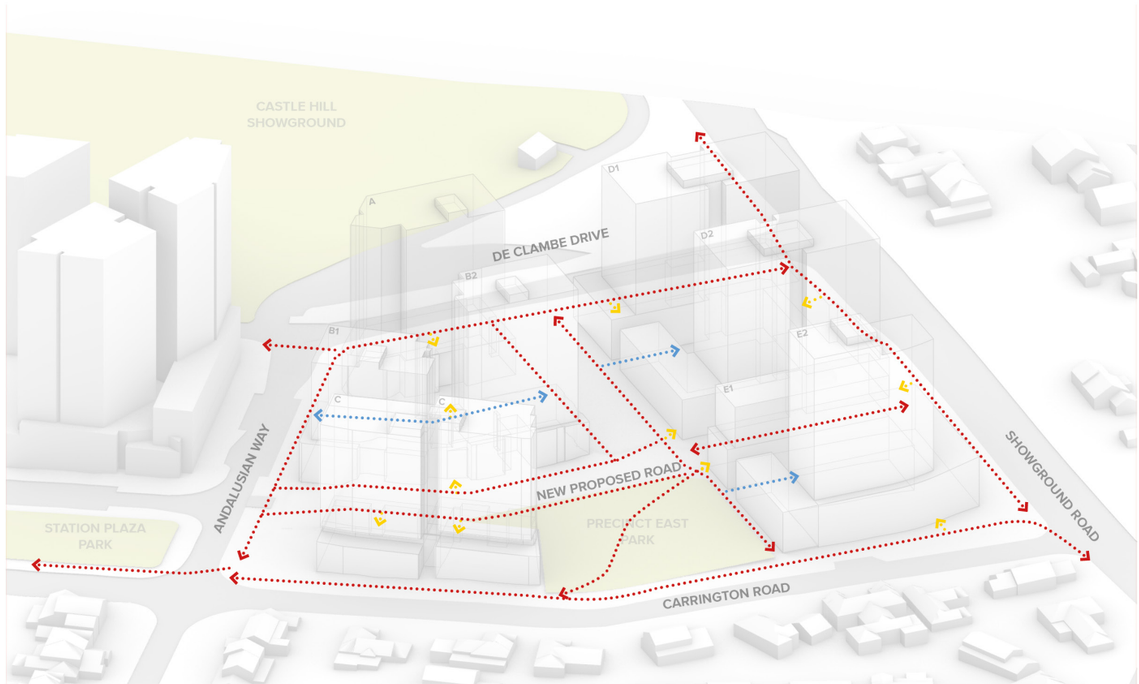
A physically well-connected neighbourhood
As a pedestrian priority environment, the proposal has carefully integrated ground level permeability. Safe movement, good connections and access are provided through public places that provide well defined routes and clear sightlines (day and night) so residents and visitors can see and be seen. Apartment windows and balconies enjoy aspects over the public domain to encourage passive surveillance and pedestrian safety.

Well defined public and private spaces
Urban and built form elements, shaped by the open space and public domain configuration, promote a diversity of built form responses and clear definition of the public domain. Buildings define the public domain, reinforcing sightlines and strengthening views to and from key spaces, internal and external, allowing good passive surveillance.
While street/park frontage units generally have secure and direct access from the public domain to their private open space, they are situated 600mm above external ground level, as prescribed in the Urban Design Guide, with additional 1200mm screening for security, visual privacy and separation between public and private domain. Planting is provided as visual buffer between public domain and private open space and to soften the interface between the two.

Improved surveillance of public spaces.
Visibility and surveillance of the public environment is maximised by providing public places that are overlooked from adjoining buildings, for ‘eyes on the street’ or ‘natural surveillance’. Ground level retail, dining, community uses, and residential lobbies and living areas within the neighbourhood streets provide for good activation and connectivity – both physically and visually – with the street network and public domain.

Creating a sense of ownership
Clearly defined private and public space improve public safety and will encourage residents to take responsibility and pride in places they use and inhabit.

Management and maintenance
Attractive public places will encourage use of the spaces, a sense of ownership and improve people’s perception of how safe a place is. This in-turn supports their desire to continue to occupy and use those places.



3.18| HOUSING, DIVERSITY & SOCIAL INTERACTION

REQUIREMENT

Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets.

Well-designed apartment developments respond to social context by providing housing and facilities to suit the existing and future social mix.

Good design involves practical and flexible features, including different types of communal spaces for a broad range of people and providing opportunities for social interaction among residents.

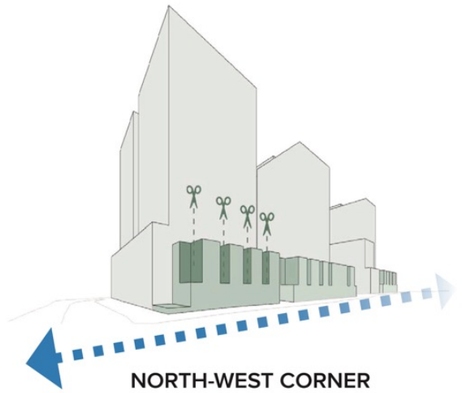
PROPOSAL

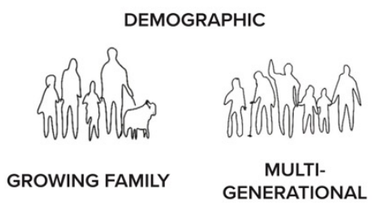
Showground Precinct East (lot 5) provides a diversity of housing typologies including three-storey townhouses, 1 – 3 bedrooms, adaptable and liveable apartments to suit a varied demographic. The layouts are generally designed to prioritise clean lines and logical, connected spaces to allow for flexibility in furniture layout and uses. Showground Precinct East (lot 5) taps into the wider Hills Showground Station Precinct for employment/service opportunities, existing established movement/transportation networks and amenity to suit the needs of the user and enrich the existing neighbourhood. Accessibility and proximity to the above benefits combined with the provision of adaptable units (10% of dwellings) and liveable units (100% of dwellings) ensure that the housing typology on offer allows for graceful aging-in-place and future needs of the user.

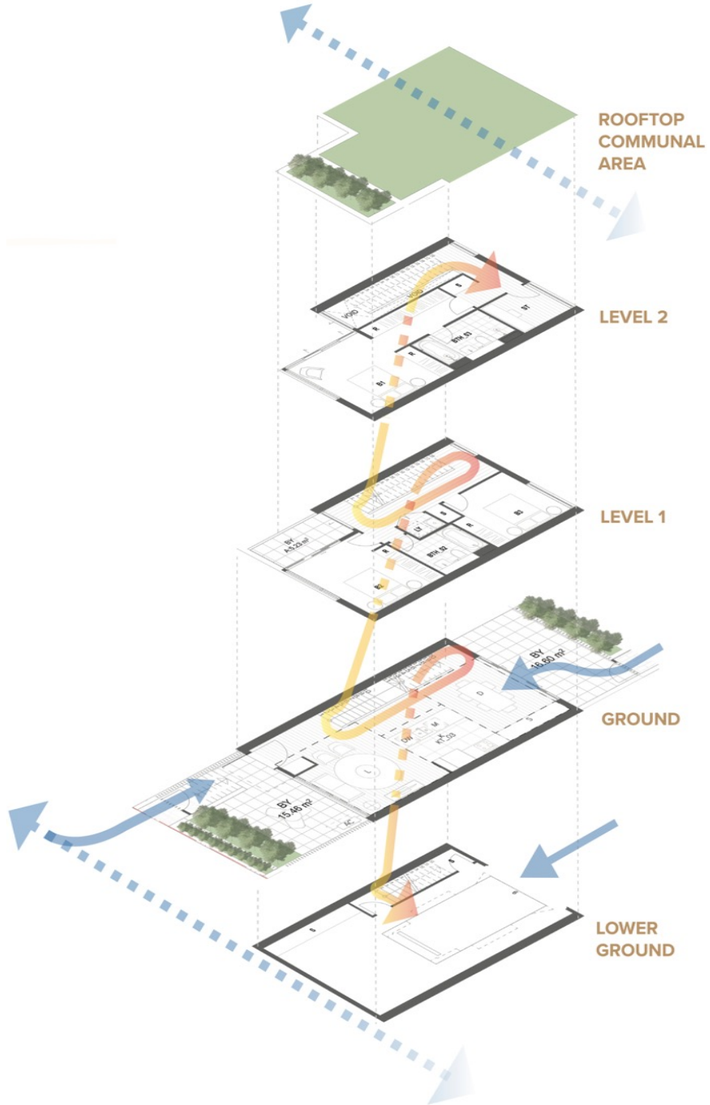
Dwellings accommodate a range of types and sizes allowing a variety of options for different demographics and price points to support housing diversity and affordability. The housing typologies are generally balanced between all buildings, situated to key outlooks and positioned for solar access and cross ventilation to deliver healthy environments that are pleasant to be in, as well as satisfy considerations for ground level activation, relationship to context, and solar access provisions to public, communal, and private open space.

Within the buildings, communal open spaces have been designed to engender community spirit for residents by offering a variety of open spaces including areas for groups to meet and socialise and also for more quiet individual activities. All common areas are designed for equitable access.

The orientation of buildings and apartments have been designed to leverage outlook onto the new public domain as well as district views to connect residents to nature. A diversity of architectural language provides a rich and diverse character. All apartments meet or exceed the minimum apartment size recommendations of the ADG. Apartment layouts have been developed to maximise the number of north facing units and units with street and district views.







3.19| AESTHETICS



South West Perspective from sub-division road

REQUIREMENT

Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure. Good design uses a variety of materials, colours and textures.

The visual appearance of a well designed apartment development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape.

PROPOSAL

For the precinct to read as a cohesive grouping of buildings with a considered streetscape, there needs to be key datums and alignments precinct-wide. These datums and alignments have been established in the very detailed and prescriptive Concept Plan Urban Design Guidelines. Street setbacks, stepped facades, facade lengths, and building height datums have all been established by the Concept Plan approval. This planning context has provided for a very coherent and consistent approach to building massing across the Showgrounds East Precinct. Turner is fully compliant with the setbacks and building separation as set out by the Concept Plan approval and is therefore in alignment with the vision and design intent of the precinct.

With regards to architectural styles and design intent, the above highly prescriptive and consistent building massing requirements allows the subsequent architectural language to be highly diverse and playful but still read with as a coherent streetscape. The architectural response by Turner has aimed to provide some familial elements across all buildings that tie the design intent together, but also allow for sufficient diversity of materials and façade design.

The Turner designed Building D & E podium buildings champion the use of brick. This high quality and low maintenance material brings colour and texture to the lower levels of the buildings and ensures the quality of the facades into the future. The podium facade types change at intervals along the street edge to ensure a playfulness and diversity. The strong use of brick at these lower levels grounds the buildings. The streetscapes are characterised by generous setbacks which deep soil and significant tree canopy coverage, further adding to the fine grain human scale of the townhouses, private terraces, fences, planters, and gates.

The Building D1 and D2 towers above are more open in their façade design to avail of the significant northern views over the adjacent Showgrounds. Building D1 has a strong vertical emphasis, with two storey stepped brick piers captured by expressed slab edges that have a deep scalloped edge detail. Building D2 is charactised by a strong horizontal emphasis with natural finish concrete spandrels that create a highly graphic façade composition. The colour tones of the Building D1 & D2 towers are of light white and silvery hues, in contrast to the darker brick tones of the podium below.

Building E1 integrates some of the horizontal proportions of the adjacent Building D2 so that the proposed publicly accessible pedestrian through site link has a coherent and calm streetscape, where the landscaping and Designing for Country artwork is the hero, and the buildings are the backdrop. The Building E1 upper levels are envisaged as a pavilion-like building, with extensive glazing enjoying the outlook over the proposed publicly accessible pedestrian through site link, and to the new Eastern Park. The façade uses a combination of warm bronze tones and alternating and projecting screen elements.

Building E2 sits at a key corner at the junction of Carrington Road and Showgrounds Road. It's needs to manage traffic noise and other privacy considerations at it's lower levels. In contrast to the mainly glazed Building E1, the adjacent Building E2 uses bring as it's predominant material to all levels. This use of brick is in recognition of the vernacular architecture of the surrounding suburban streets. The façade uses a jump scale of two and three storey proportions to capture the vertical brick blades.

The narrow 18m Building E2 has a rounded nose as it comes to the corner at Showgrounds Road, wrapped by continuous bronze vertical metal balustrades. The top of the Building E2 tower is marked by a stepping roofscape the follows the steep topography of this part of the site and creates a glazed 'crown'.
The resulting design for the proposed buildings allows for a highly considered outcome with a balance of diversity in architecture, that is linked by familial architectural elements and materials.

ADG OBJECTIVES 3.2

RESPONSE TO ADG OBJECTIVES 3.21

3.21| RESPONSE TO ADG OBJECTIVES

Objective	Comment
3A Site analysis	
Objective 3A-1 *Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context*	Complies • A site analysis plan is included in the architectural drawings. • The proposal builds upon the principles of the Precinct Masterplan and Urban Design Guide.
3B Orientation	
Objective 3B -1 *Building types and layouts respond to the streetscape and site while optimising solar access within the development*	Complies • The proposal builds upon the strategies, objectives and massing of the Precinct Masterplan and Urban Design Guide. • The proposal includes a variety of building typologies of differing heights and scales across the site including 3 storey townhouses to promote walkability and activation of the streetscape and adjacent public park. • Lobbies located at key points along the ground plane and sight lines through lobbies into communal open space create activation of streetscape and permeability through the site. • Solar access maximised where possible to the publicly accessible pedestrian link, private communal open space, roads and public park.
Objective 3B-2 *Overshadowing of neighbouring properties is minimised during mid-winter:* • Living areas, private open space and communal open space should receive solar access in accordance with sections 3D and 4A	Complies • The building forms are aligned with the Precinct Masterplan and Urban Design Guide. • The proposal maximises solar access maximised where possible to the publicly accessible pedestrian link, private communal open space, roads and public park. • Refer to the amenity and shadow diagrams for further information.
3C Public Domain Interface	
Objective 3C-1 *Transition between private and public domain is achieved without compromising safety and security* • Maximum 1m level change between private terraces, front gardens and dwelling entries above the street level • The height of solid fences or walls should be limited to 1m	Complies • Single controlled truck/vehicular access point into the site for residents, visitors and waste collection from the sub-divided road. • Lobbies located at key points along the ground plane and sight lines through lobbies into communal open space create activation of streetscape and permeability through the site. • Residential access points are carefully located with secured and controlled access. Appropriate wayfinding signage proposed allowing for increased legibility for residents and visitors. • Apartment windows and balconies enjoy aspects over the public domain to encourage passive surveillance. • 3 storey townhouses along the sub-division road and public park promotes walkability and activation of the public domain.
Objective 3C-2 *Amenity of the public domain is retained and enhanced*	Complies • The site has been cleared and offers no existing public domain nor landscape • The proposal builds upon the principles and objectives of the Precinct Masterplan and Urban Design Guide to deliver an extensive, high quality new public domain to the precinct and broader community. • The public domain on offer includes a large publicly accessible park. • The design minimises the prominence of service areas and carpark entries by consolidating these areas and locating them away from the primary public domain and pedestrian routes. Refer to the landscape design report for further information.
3D Communal and Public Open Space	
Objective 3D-1 *An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping* ***Design Criteria*** Communal open space has a minimum area equal to 25% of the site (see figure 3D.3) Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid-winter)	Complies • >25% of site area is provided as communal open space • The proposal provides a diversity of communal outdoor spaces for the amenity of residents and visitors to the site - on ground, at podium levels and on the certain rooftop levels. • The proposal achieves 50% sunlight to the principal usable part of the communal open space for a minimum of 2 hours of mid-winter sun between 9am-3pm. Refer to the Communal Open Space Solar diagrams for further information.
Objective 3D-2 *Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting*	Complies • A range of spaces are provided within the communal open spaces that range from shaded areas for seating, BBQ and dining areas and opportunities for planting to increase the amenity for residents.
Objective 3D-3 *Communal open space is designed to maximise safety*	Complies • The primary communal open space is located at the junction between lobby sight lines and separated with a secured fence and lobby control points.
Objective 3D-4 Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood	Complies • Public open space is provided across the precinct in line with the Precinct Masterplan and Urban Design Guide. • This public domain includes a large publicly accessible park at the heart of the site, which has multiple points of entry from various street frontages. • The public domain incorporates and extends pedestrian networks and connections between the metro, Castle Hill Showground and future developments.
3E Deep Soil Zone	
Objective 3E-1 Deep soil zones provide areas on the site that allow for and support healthy plant and tree growth. They improve residential amenity and promote management of water and air quality ***Design Criteria*** Deep soil zones are to meet the following minimum requirements: Site area: less than 650m2 — Minimum dimensions: - — Deep soil zone (% of site area): 7% Site area: 650m2 - 1,500m2 — Minimum dimensions: 3m Site area: greater than 1,500m2 — Minimum dimensions: 6m Site area: greater than 1,500m2 with significant existing tree cover — Minimum dimensions: 6m	Complies >7% of the site is provided as Deep soil zone. Refer to the Architectural Deep Soil diagrams for further information.
3F Visual Privacy	

3.21| RESPONSE TO ADG OBJECTIVES

Objective	Comment
Objective 3F-1 *Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy* Direct lines of sight should be avoided for windows and balconies across corners No separation is required between blank walls	**Complies with objectives** • Building separation is in line with the Precinct Masterplan, Urban Design Guide and objectives of the ADG. • The proposed layouts have generally been designed to avoid direct lines of sight between opposing buildings • Additional design elements have been proposed to ensure visual privacy is achieved, including angled window orientations and opaque glazing (when a secondary window has been provided to a habitable area). Refer to architectural drawings for further information.
Objective 3F-2 *Site and building design elements increase privacy without compromising access to light and air and balance outlook and views from habitable rooms and private open space*	**Complies** • Outlook and privacy are managed by orientation, building articulation, and dividing walls.

Design Criteria

Separation between windows and balconies is provided to ensure visual privacy is achieved. Minimum required separation distances from buildings to the side and rear boundaries are as follows:

Building Height	Habitable Rooms + Balconies	Non-Habitable Rooms
Up to 12m (4 Storeys)	6m	3m
Up to 25m (5-8 Storeys)	9m	4.5m
Over 25m (9+ Storeys)	12m	6m

Note:

Separation distances between buildings on the same site should combine required building separations depending on the type of room (see figure 3F.2)

Gallery access circulation should be treated as habitable space when measuring privacy separation distances between neighbouring properties

3G Pedestrian Access and Entries	
Objective 3G-1 *Building entries and pedestrian access connects to and addresses the public domain*	**Complies** • Residential lobbies are legible, have a direct connection to the street network or public domain.
Objective 3G-2 *Access, entries and pathways are accessible and easy to identify*	**Complies** • All entry lobbies have at grade thresholds and accessible paths of travel for inclusive access.
Objective 3G-3 *Large sites provide pedestrian links for access to streets and connection to destinations*	**Complies** • The site proposes a number of pedestrian movement corridors through the precinct that link the key arrival points and active nodes. • These include the publicly accessible pedestrian link – running north-south from Showground Road to the sub-divided road within the site and the publicly accessible park- running east-west from the sub-divided road to Carrington Road.
3H Vehicle Access	
Objective 3H-1 *Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes*	**Complies** • The car park entry point generally aligns with the location nominated in the Precinct Masterplan and Urban Design Guide with the exclusion of the carpark entry point nominated at the corner of the sub -divided road to prioritise pedestrian paths through the site and safety of the public park. • Single controlled truck/vehicular access point into the site for residents, visitors and waste collection from the sub-divided road. • Crossings and driveways are located to allow the smooth ingress of traffic and to avoid conflicts with pedestrian routes. • Clear sight lines are provided at the carpark entry/exit point and vehicle crossings. • Pedestrian and vehicle access points have been separated. Refer to the traffic report submitted with this proposal for further information.

3.21| RESPONSE TO ADG OBJECTIVES

3J Bicycle and Car Parking	
Objective 3J-1 *Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas* *Where a car share scheme operates locally, provide car share parking spaces within the development. Car share spaces, when provided, should be on site* **Design Criteria** For development in the following locations: On sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or On land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre The minimum car parking requirement for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less The car parking needs for a development must be provided off street	Complies • Carparking is provided at rates as prescribed within the approved concept State Significant Development Application (SSD-9653), subsequent modifications and Urban Design Guidelines • Carshare spaces have been provided within the site on Basement 01 near the single vehicular driveway ramp and will be supported by clear wayfinding signage. Refer to the traffic report submitted with this proposal for further information.
Objective 3J-2 *Parking and facilities are provided for other modes of transport* Secure undercover bicycle parking should be provided that is easily accessible from both the public domain and common areas Conveniently located charging stations are provided for electric vehicles, where desirable	Complies • Bicycle parking is provided at rates as prescribed within the approved concept State Significant Development Application (SSD-9653), subsequent modifications and Urban Design Guidelines Refer to the traffic report submitted with this proposal for further information.
Objective 3J-3 *Car park design and access is safe and secure*	Complies • Single controlled truck/vehicular access point into the site for residents, visitors and waste collection from the sub-divided road. • With the combined residential and retail carpark entrance, clear wayfinding to be developed during the detailed design phase to establish clear vehicular routes to designated areas of the carpark, increasing legibility and safety.
Objective 3J-4 *Visual and environmental impacts of underground car parking are minimized* *Protrusion of car parks should not exceed 1m above ground level.*	Complies • Car parking is located below grade on Lower Ground, Basement 01 and Basement 02. • The entries to the basement are minimised in width and are integrated into the façade expression.
Objective 3J-5 Visual and environmental impacts of on-grade car parking are minimised	N/A
Objective 3J-6 *Visual and environmental impacts of above ground enclosed car parking are minimised*	N/A
4A Solar and Daylight Access	
Objective 4A-1 *To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space* **Design Criteria** Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas In all other areas, living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 3 hours direct sunlight between 9 am and 3 pm at mid winter A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm a mid winter	Complies • The proposal achieves more than 70% solar access to apartment living areas and balconies between 9am-3pm in mid-winter • <15% of apartments receive no-direct sunlight between 9am and 3pm mid winter across the precinct. Refer to the architectural drawings and amenity diagrams for further information.
Objective 4A-2 *Daylight access is maximised where sunlight is limited* Courtyards, skylights and high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms	Complies Where sunlight is limited, glazing has been proportioned to ensure daylight access is maximised.
Objective 4A-3 *Design incorporates shading and glare control, particularly for warmer months*	Complies • Solar control shading is provided through the design of the façade articulation, slab projections and the proportion of glazing to the north, east and western facades

3.21| RESPONSE TO ADG OBJECTIVES

Objective 4C-2 *Ceiling height increases the sense of space in apartments and provides for well-proportioned rooms*	**Complies** Ground level dwellings have increased floor-to-floor of 3.6m allowing for increased ceiling heights to the habitable area as to provide a sense of space. This allows for increased solar access and a generous internal volume.
Objective 4C-3 *Ceiling heights contribute to the flexibility of building use over the life of the building*	**Complies** Ground level communal facilities and lobbies have increased floor-to-floor of 3.6m allowing for increased ceiling heights to provide a sense of space. Lobby situated on Lower Ground enjoys a double height space and sight lines from the lobby entry to the communal open space on Ground Level.
4D Apartment Size and Layout	
Objective 4D-1 *The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity*	**Complies** • Apartments satisfy the requirements of the ADG. • Two bedroom apartments with two bathrooms include an additional 5m² as per the ADG criteria. • A range of apartment typologies are provided including 3 storey "terrace" apartments, apartments with street access, adaptable and liveable apartments. • Habitable rooms include operable windows for daylight and ventilation.
Objective 4D-2 *Environmental performance of the apartment is maximised*	**Complies** • Apartment depths to the primary living area generally satisfy ADG requirements

Design Criteria

Apartments are required to have the following minimum internal areas:

Apartment Type	Minimum Internal Area
Studio	35m²
1 Bedroom	50m²
2 Bedroom	70m²
3 Bedroom	90m²

The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5m² each

A fourth bedroom and further additional bedrooms increase the minimum internal area by 12m² each

Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room. Daylight and air may not be borrowed from other rooms

Design Criteria

Habitable room depths are limited to a maximum of 2.5 x the ceiling height

In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window

Objective 4D-3

Apartment layouts are designed to accommodate a variety of household activities and needs

Design Criteria

Master bedrooms have a minimum area of 10m² and other bedrooms 9m² (excluding wardrobe space)

Bedrooms have a minimum dimension of 3m (excluding wardrobe space)

Living rooms or combined living/dining rooms have a minimum width of:

3.6m for studio and 1 bedroom apartments

4m for 2 and 3 bedroom apartments

The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts

Apartment layouts allow flexibility over time, design solutions may include:

All bedrooms allow a minimum length of 1.5m for robes

The main bedroom of an apartment or a studio apartment should be provided with a wardrobe of a minimum 1.8m long, 0.6m deep and 2.1m high

Dimensions that facilitate a range of activities and privacy levels

Complies

- Bedrooms in all apartments are designed to generally allow a minimum of 10m² in master bedrooms and 9m² in other bedrooms.
- Living rooms to 1-bedroom apartments have a minimum width of 3.6m
- Living rooms to 2 bedroom apartments have a minimum width of 4m
- The width of cross-through apartments are a minimum of 4m wide.
- All bedrooms have built-in robes with a minimum lineal dimension of 1.5m.
- Main bedrooms are provided with built in robes with a minimum lineal dimension of 1.8m.

3.21| RESPONSE TO ADG OBJECTIVES

4E Private Open Spaces and Balconies

Objective 4E-1

Design Criteria All apartments are required to have primary balconies as follows		
Dwelling Type	Minimum Area	Minimum Depth
Studio	4m²	-
1 Bedroom	8m²	2m
2 Bedroom	10m²	2m
3+ Bedroom	12m²	2.4m
The minimum balcony depth to be counted as contributing to the balcony area is 1m For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a balcony. It must have a minimum area of 15m² and a minimum depth of 3m		

Complies

- Apartments meet or exceed the ADG requirements for balcony and terrace areas.
- All balconies meet or exceed the ADG recommended widths of 2m for 1 and 2 bedroom apartments and 2.4m for 3 bedroom apartments.
- Ground level and podium private open spaces have a minimum area of 15m2 and a minimum depth of 3m.
- Balconies have been integrated into the facade and building design, responding to the context and the desired objectives of the ADG.
- The varied balcony forms across the precinct enhance the facade articulation.

Objective 4E-2

Primary private open space and balconies are appropriately located to enhance liveability for residents

Complies

- All balconies connect directly to the primary living areas and generally located to maximise solar access and/or outlook
- Where possible, bedrooms also connect to the external space

Objective 4E-3

Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building

Complies

The proposal responds positively to this design criteria, with the balconies providing articulation, depth, shadow and activation across the facades

Objective 4E-4

Private open space and balcony design maximises safety

Complies

- Balcony design typically maximised the safety for the end-users with consideration of balustrade heights and climb-ability.
- Elements such as AC units <1m from fall protection to be addressed during detail documentation with enclosures to prevent horizontal protrusions between 150mm-760mm range.

4F Common Circulation and Spaces

Objective 4F-1

Common circulation spaces achieve good amenity and properly service the number of apartments

Design Criteria The maximum number of apartments off a circulation core on a single level is eight For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40

Where design criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level

Complies

- Circulation cores typically service 10 or less apartments per level. Each circulation core has access to natural light and ventilation.

Objective 4F-2

Common circulation spaces promote safety and provide for social interaction between residents

Direct and legible access should be provided between vertical circulation points and apartment entries by minimising corridor or gallery length to give short, straight, clear sight lines

Complies

- Common circulation spaces are designed to provide safe, legible spaces to foster interaction and harmony between residents.
- Lobbies are located off the street and active public domain to maximised visibility and legibility.

3.21| RESPONSE TO ADG OBJECTIVES

Objective	Comment
4G Storage	
Objective 4G-1 *Adequate, well designed storage is provided in each apartment* Storage is accessible from either circulation or living areas. Left over space such as under stairs is used for storage **Design Criteria** In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided: Dwelling Type — Storage Size (Volume) Studio — 4m³ 1 Bedroom — 6m³ 2 Bedroom — 8m³ 3+ Bedroom — 10m³ At least 50% of the required storage is to be located within the apartment.	**Complies** • Apartments are provided with storage facilities that satisfy ADG recommendations. • Apartments that do not accommodate the entire storage volume within the unit, locate a minimum of 50% of the required storage within the apartment with the remainder located in secure and accessible locations within the basement. A variety of storage types are provided, accessed off living rooms and circulation corridors within the apartments.
Objective 4G-2 *Additional storage is conveniently located, accessible and nominated for individual apartments*	**Complies** • Additional storage is typically located in basement areas within consolidated storage areas. These areas will be individually attributed and secured. Refer to the architectural drawings for further information.
4H Acoustic Privacy	
Objective 4H-1 *Noise transfer is minimised through the siting of buildings and building layout*	**Complies** • Adequate building separation is provided within the development in line with the approved concept State Significant Development Application (SSD-9653), subsequent modifications and Urban Design Guidelines. Refer to the acoustic report for further information.
Objective 4H-2 *Noise impacts are mitigated within apartments through layout and acoustic treatments*	**Complies** • Internal apartment layout separates noisy spaces from quiet spaces, rooms with similar noise requirements have been grouped together. • Storage, circulation areas and non-habitable rooms are located to buffer noise from external sources • The party walls (walls shared with other apartments) will be appropriately insulated in accordance with NCC requirements.

4J Noise and Pollution	
Objective 4J-1 *In noisy or hostile environments, the impacts of external noise and pollution are minimised through the careful siting and layout of buildings* Achieving the design criteria in this Apartment Design Guide may not be possible in some situations due to noise and pollution. Where developments are unable to achieve the design criteria, alternatives may be considered in the following areas: • Solar and daylight access • Private open space and balconies • Natural cross ventilation	**Complies** • Building location and adherence to prescribed setbacks is in line with the approved concept State Significant Development Application (SSD-9653), subsequent modifications and Urban Design Guidelines. • Solid architectural layout and expression along main roads with higher level of noise pollution. • Solid architectural layout and expression on the 4 storey podium to act as a buffer to noise generated from surrounding roads, ground level pedestrian activity and public park.
Objective 4J-2 • *Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission*	**Complies** Refer to Acoustic Report.

3.21| RESPONSE TO ADG OBJECTIVES

Objective	Comment
4K Apartment Mix	
Objective 4K-1 *A range of apartment types and sizes is provided to cater for different household types now and into the future* A variety of apartment types is provided The apartment mix is appropriate, taking into consideration: the distance to public transport, employment and education centres the current market demands and projected future demographic trends the demand for social and affordable housing different cultural and socioeconomic groups Flexible apartment configurations are provided to support diverse household types and stages of life including single person households, families, multi-generational families and group households	Complies • A variety of apartment types are provided including 3 storey terrace apartments, courtyard apartments, adaptable and liveable apartments. • The sizing of apartments varies within each typology to allow multiple users including 1, 2 and 3 bedroom apartments, including those with study areas. • The proposed apartment mix complies with 2.9 Diversity and Inclusion in the Urban Design Guidelines.
Objective 4K-2 *The apartment mix is distributed to suitable locations within the building* Different apartment types are located to achieve successful facade composition and to optimise solar access (see figure 4K.3) Larger apartment types are located on the ground or roof level where there is potential for more open space and on corners where more building frontage is available	Complies • Different apartment types have been located to provide diversity across the precinct while contributing to facade composition and optimising solar access. • Larger apartment types have been located on the upper levels and corners of the building, where more building frontage is available for increased solar access and district views. Similarly, apartments placed at podium take advantage of increased area within terraces for open space.
4L Ground Floor Apartments	
Objective 4L-1 *Street frontage activity is maximised where ground floor apartments are located* Direct street access should be provided to ground floor apartments Activity is achieved through front gardens, terraces and the facade of the building. Design solutions may include: -Both street, foyer and other common internal circulation -Entrances to ground floor apartments -Private open space is next to the street -Doors and windows face the street Retail or home office spaces should be located along street frontages Ground floor apartment layouts support small office home office (SOHO) use to provide future opportunities for conversion into commercial or retail areas. In these cases provide higher floor to ceiling heights and ground floor amenities for easy conversion	Complies • Different apartment types have been located to provide diversity across the precinct while contributing to facade composition and optimising solar access. • Apartment windows and balconies enjoy aspects over the public domain to encourage passive surveillance. • 3 storey townhouses along the sub-division road and public park promotes walkability and activation of the public domain. • Apartments located on street frontages and at podium take advantage of increased width and area in their private open spaces. • Apartments located on Lower Ground and Ground Level generally have secure and direct access from the public domain to their private open space.
Objective 4L-2 *Design of ground floor apartments delivers amenity and safety for residents* Privacy and safety should be provided without obstructing casual surveillance. Design solutions may include: Elevation of private gardens and terraces above the street level by 1-1.5m (see figure 4L.4) Landscaping and private courtyards Window sill heights that minimise sight lines into apartments Integrating balustrades, safety bars or screens with the exterior design	Complies • Ground floor units are situated 600mm above external ground level, as prescribed in the Urban Design Guide, with additional 1200mm screening for security and visual privacy. • 3 storey townhouses and apartments located on street frontages generally have secure and direct access from the public domain to their private open space. • Planting is provided as visual buffer between public domain and private open space and to soften the interface between the two.

3.21| RESPONSE TO ADG OBJECTIVES

Objective	Comment
4M Facades	
Objective 4M-1 *Building facades provide visual interest along the street while respecting the character of the local area* Design solutions for front building facades may include: a composition of varied building elements a defined base, middle and top of buildings revealing and concealing certain elements changes in texture, material, detail and colour to modify the prominence of elements Building services should be integrated within the overall facade Building facades should be well resolved with an appropriate scale and proportion to the streetscape and human scale. Design solutions may include: well composed horizontal and vertical elements variation in floor heights to enhance the human scale elements that are proportional and arranged in patterns public artwork or treatments to exterior blank walls grouping of floors or elements such as balconies and windows on taller buildings Building facades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights Shadow is created on the facade throughout the day with building articulation, balconies and deeper window reveals	Complies • The proposal utilises several façade typologies across the precinct, responding to the building topography, orientation and interface with the surrounding context. • The design of the facades incorporates variation of vertical and horizontal elements with suitable floor height to achieve better human scale for the end-users. • Various building typologies, including 2 storey townhouses, offer housing diversity, unique character and promotes an activated human-scale streetscape. • Facades are strategically indented and stepped to provide relief. • Use of brick to provide a sense of weight and grounding of the podium facades in contrast to the lighter expression of the towers above. Connection to the surrounding context and vernacular architecture.
Objective 4M-2 *Building functions are expressed by the façade* Building entries should be clearly defined Important corners are given visual prominence through a change in articulation, materials or colour, roof expression or changes in height The apartment layout should be expressed externally through facade features such as party walls and floor slabs	Complies • Building lobbies are legible and well located, by providing a double height or expressive awnings as to differentiate between building entry and residential zones and enhance building identity from the street. • The terrace apartments typologies are articulated through an expression of double height 'box' for visual prominence and improvement of apartment amenities. Refer to the architectural drawings and perspectives for further information.
4N Roof Design	
Objective 4N-1 Roof treatments are integrated into the building design and positively respond to the street Roof design relates to the street. Design solutions may include: special roof features and strong corners use of skillion or very low pitch hipped roofs breaking down the massing of the roof by using smaller elements to avoid bulk using materials or a pitched form complementary to adjacent buildings Roof treatments should be integrated with the building design. Design solutions may include: roof design proportionate to the overall building size, scale and form roof materials compliment the building service elements are integrated	Complies • Roof treatments have been integrated with the façade design as a continuation of the building with materials and pattern to compliment the architecture • Service elements have been integrated into the roof design, set back from the roof perimeter and sufficiently screened where possible.
Objective 4N—2 *Opportunities to use roof space for residential accommodation and open space are maximised* Habitable roof space should be provided with good levels of amenity. Design solutions may include: -penthouse apartments -dormer or clerestory windows -openable skylights Open space is provided on roof tops subject to acceptable visual and acoustic privacy, comfort levels, safety and security considerations	Complies • The proposal provides several communal roof gardens for residents with a variety of uses to enhance amenity and user experience.
Objective 4N—3 *Roof design incorporates sustainability features* Roof design maximises solar access to apartments during winter and provides shade during summer. Design solutions may include: the roof lifts to the north eaves and overhangs shade walls and windows from summer sun Skylights and ventilation systems should be integrated into the roof design	Complies • The proposal provides solar panels across the rooftops to facilitate on-site renewable energy generation. • Roof colours and treatments have been selected to minimise heat gain and sit sympathetically within the composition • A number of buildings have rooftop communal areas that incorporate planting and shade structures that mitigate urban heat island effect while providing ecological benefits. • These roof gardens include vegetable garden beds for planting by residents to encourage food production. Refer to the landscape architect and architectural drawings and perspectives for further information.
4O Landscape Design	

3.21| RESPONSE TO ADG OBJECTIVES

Objective 4O—1 *Landscape design is viable and sustainable* Landscape design should be environmentally sustainable and can enhance environmental performance by incorporating: -diverse and appropriate planting -bio-filtration gardens -appropriately planted shading trees -areas for residents to plant vegetables and herbs -composting -green roofs or walls -Ongoing maintenance plans should be prepared Microclimate is enhanced by: -appropriately scaled trees near the eastern and western elevations for shade -a balance of evergreen and deciduous trees to provide shading in summer and sunlight access in winter -shade structures such as pergolas for balconies and courtyards	**Complies** • The design of the public domain and open space incorporates a diverse network of spaces that address the climatic conditions along with the selection of appropriate materials and finishes. A selection of plants, trees and materiality has been carefully considered to ensure that they are suited to the site conditions. Refer to the landscape design report for further information.
Objective 4O—2 *Landscape design contributes to the streetscape and amenity* Landscape design responds to the existing site conditions including: -changes of levels -views -significant landscape features including trees and rock outcrops Significant landscape features should be protected by: -tree protection zones (see figure 4O.5) -appropriate signage and fencing during construction -Plants selected should be endemic to the region and reflect the local ecology	**Complies** Refer to the landscape design report for further information.

Objective	Comment
4P Planting on Structures	
Objective 4P—1 *Appropriate soil profiles are provided* Structures are reinforced for additional saturated soil weight Soil volume is appropriate for plant growth, considerations include: modifying depths and widths according to the planting mix and irrigation frequency free draining and long soil life span tree anchorage Minimum soil standards for plant sizes should be provided in accordance with Table 5	**Complies** The proposed development includes planting and provides appropriate soil volume to facilitate plant growth, including 1500mm beneath publicly accessible pedestrian link to facilitate landscape growth. Refer to the landscape design report for further information.
Objective 4P—2 *Plant growth is optimised with appropriate selection and maintenance*	**Complies** Refer to the landscape design report for further information.
Objective 4P—3 *Planting on structures contributes to the quality and amenity of communal and public open spaces*	**Complies** The proposed development incorporates planting on grade, roofs and podium structures which will contribute positively to the development. Refer to the landscape design report for further information.
4Q Universal Design	
Objective 4Q—1 *Universal design features are included in apartment design to promote flexible housing for all community members* Developments achieve a benchmark of 20% of the total apartments incorporating the Livable Housing Guideline's silver level universal design features	**Complies** • 100% of the apartments comply with the silver level universal design standard. Refer to architectural package for further information.
Objective 4Q—2 *A variety of apartments with adaptable designs are provided* Adaptable housing should be provided in accordance with the relevant council policy Design solutions for adaptable apartments include: convenient access to communal and public areas high level of solar access minimal structural change and residential amenity loss when adapted larger car parking spaces for accessibility parking titled separately from apartments or shared car parking arrangements	**Complies** • Adaptable apartments will be provided at a rate of 10% in the development to meet DCP requirements. • Several different apartment types are used as adaptable apartments Refer to architectural package for further information.
Objective 4Q—3 *Apartment layouts are flexible and accommodate a range of lifestyle needs*	**Complies** • The apartment layouts are provided to be flexible and suitable for a wide demographic range

Plant type	Soil Depth	Soil Area
Large Trees	1,200mm	10 x 10m or equivalent
Medium Trees	1,000mm	6 x 6m or equivalent
Small Trees	800mm	3.5 x 3.5m or equivalent
Shrubs	500-600mm	
Ground Cover	300-450mm	
Turf	200mm	

3.21| RESPONSE TO ADG OBJECTIVES

Apartment design incorporates flexible design solutions which may include: • Rooms with multiple functions • Dual master bedroom apartments with separate bathrooms • Larger apartments with various living space options Open plan 'loft' style apartments with only a fixed kitchen, laundry and bathroom	• Simple room shapes and clean lines are favoured to better facilitate a range of furniture layouts and uses.

4R Adaptive Re-Use	
Objective 4R—1 *New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place*	N/A
Objective 4R—2 *Adapted buildings provide residential amenity while not precluding future adaptive reuse*	N/A

3.21| RESPONSE TO ADG OBJECTIVES

Objective	Comment
4S Mixed Use	
Objective 4S-1 *Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement*	N/A
Objective 4S-2 *Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents*	N/A
4T Awnings and Signage	
Objective 4T-1 *Awnings are well located and complement and integrate with the building design* Awnings should be located along streets with high pedestrian activity and active frontages A number of the following design solutions are used: continuous awnings are maintained and provided in areas with an existing pattern height, depth, material and form complements the existing street character protection from the sun and rain is provided awnings are wrapped around the secondary frontages of corner sites awnings are retractable in areas without an established pattern Awnings should be located over building entries for building address and public domain amenity Awnings relate to residential windows, balconies, street tree planting, power poles and street infrastructure Gutters and down pipes should be integrated and concealed Lighting under awnings should be provided for pedestrian safety	**Complies** • Expressed awnings have been provided to differentiate between building entry and residential zones and enhance building identity from the street. These are integrated into the overall architectural expression
Objective 4T—2 *Signage responds to the context and desired streetscape character* Signage should be integrated into the building design and respond to the scale, proportion and detailing of the development Legible and discrete way finding should be provided for larger developments Signage is limited to being on and below awnings and a single facade sign on the primary street frontage	• All buildings within Lot 5 are residential only and not mixed use. • Lobbies have been located at key corners for prominent street visibility and identity and provide clear sight lines through the site into communal open spaces which allows for intuitive wayfinding. • Clear wayfinding in the form of signage to be developed during the design documentation phase to establish clear vehicular and pedestrian routes to designated areas of the site, increasing legibility and safety.
4U Energy Efficiency	
Objective 4U—1 *Development incorporates passive environmental design* Adequate natural light is provided to habitable rooms (see 4A Solar and daylight access) Well located, screened outdoor areas should be provided for clothes drying	**Complies** • Mechanical exhaust is located on rooftops with minimum separation requirements to openings driven by NCC to prevent warm air from impacting residents. • In accordance with the ADG, units achieve cross ventilation, providing fresh air and cooling breezes to residents
Objective 4U—2 *Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer*	**Complies** • Awnings and pergolas on communal open spaces are provided where suitable for protection from the sun. • Other areas utilise the extensive canopy cover to provide shade and refuge from the heat. A selection of plants, trees and
A number of the following design solutions are used: the use of smart glass or other technologies on north and west elevations thermal mass in the floors and walls of north facing rooms is maximised polished concrete floors, tiles or timber rather than carpet insulated roofs, walls and floors and seals on window and door openings overhangs and shading devices such as awnings, blinds and screens Provision of consolidated heating and cooling infrastructure should be located in a centralised location (e.g. the basement)	materiality has been carefully considered to ensure that they are suited to the site conditions. • The Architectural design incorporates well considered selection of colours, materials and finishes that address the climatic conditions.
Objective 4U—3 *Adequate natural ventilation minimises the need for mechanical ventilation* A number of the following design solutions are used: rooms with similar usage are grouped together natural cross ventilation for apartments is optimised natural ventilation is provided to all habitable rooms and as many non-habitable rooms, common areas and circulation spaces as possible	**Complies** • Natural ventilation is generally provided to habitable rooms and to circulation spaces.

3.21| RESPONSE TO ADG OBJECTIVES

Objective	Comment
4V Water Management	
Objective 4V—1 *Potable water use is minimised*	Complies • The development incorporates water efficient fittings, appliances and waste-water re-use. To be addressed during detailed documentation. • Plant selections are designed for the microclimate and are typically low-water use. Refer to the landscape design report for further information.
Objective 4V—2 *Urban stormwater is treated on site before being discharged to receiving waters*	Complies Refer to the stormwater and flood management report by Mott MacDonald.
Objective 4V—3 *Flood management systems are integrated into site design*	Complies Refer to the stormwater and flood management report by Mott MacDonald.
4W Waste Management	
Objective 4W-1 *Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents* Adequately sized storage areas for rubbish bins should be located discreetly away from the front of the development or in the basement car park Waste and recycling storage areas should be well ventilated Circulation design allows bins to be easily manoeuvred between storage and collection points Temporary storage should be provided for large bulk items such as mattresses A waste management plan should be prepared	Complies • All residential garbage rooms are located on Basement 01 and serviced by garbage chutes. • The main garbage holding room and bulky goods are in close proximity to the loading dock/collection point for efficient waste collection and easy manoeuvring of bins.
Objective 4W-2 *Domestic waste is minimised by providing safe and convenient source separation and recycling* All dwellings should have a waste and recycling cupboard or temporary storage area of sufficient size to hold two days worth of waste and recycling Communal waste and recycling rooms are in convenient and accessible locations related to each vertical core Alternative waste disposal methods such as composting should be provided	Complies • Communal waste rooms – housing a garbage chute and recycling bins – are provided for residents in convenient and accessible locations related to each vertical core. • Waste and recycling storage areas are ventilated and have durable and washable finishes • All dwellings have sufficient internal space for the holding of waste and recycling.
4X Building Maintenance	
Objective 4X-1 *Building design detail provides protection from weathering* A number of the following design solutions are used: roof overhangs to protect walls hoods over windows and doors to protect openings detailing horizontal edges with drip lines to avoid staining of surfaces methods to eliminate or reduce planter box leaching appropriate design and material selection for hostile locations	Complies • Building materials are selected to withstand the demands of the environment and to weather gracefully. • Painted and applied finishes are minimised. • Slab projection with drip groove proposed where suitable to perform as weather protection. • Planters offset from building façade to prevent condensation and leaching into internal areas.
Objective 4X-2 *Systems and access enable ease of maintenance* Window design enables cleaning from the inside of the building Building maintenance systems should be incorporated and integrated into the design of the building form, roof and facade Design solutions do not require external scaffolding for maintenance access Manually operated systems such as blinds, sunshades and curtains are used in preference to mechanical systems Centralised maintenance, services and storage should be provided for communal open space areas within the building	Complies • Suitable access for cleaning is to be provided from the public domain or appropriately controlled roof access. • Spatial provisions for future internal sun shading devices have been allowed for.
Objective 4X-3 *Material selection reduces ongoing maintenance costs* A number of the following design solutions are used: sensors to control artificial lighting in common circulation and spaces natural materials that weather well and improve with time such as face brickwork easily cleaned surfaces that are graffiti resistant robust and durable materials and finishes are used in locations which receive heavy wear and tear, such as common circulation areas and lift interiors	Complies • The use of applied finishes is minimised in the development. • Communal areas are readily accessible for maintenance. • Well considered and robust materials have been selected across the development.

ARCHITECTURAL DRAWINGS 4.1

DRAWING REGISTER 4.11

4.11| DRAWING REGISTER

Series	Drawing No.	Drawing Name	Scale	Size
General				
	DA-000-001	Cover Sheet		A1
	DA-000-002	Title Sheet		A1
Siteworks				
	DA-010-010	Context Plan		A1
	DA-010-011	Site Plan	1:500	A1
	DA-010-012	Site Analysis	1:1000	A1
	DA-010-016	Staging Diagram 01	1:500	A1
	DA-010-017	Staging Diagram 02	1:250	A1
GA Plans Overall				
	DA-110-005	Basement 02	1:500	A1
	DA-110-006	Basement 01	1:500	A1
	DA-110-007	Lower Ground Level	1:500	A1
	DA-110-008	Ground Level	1:500	A1
	DA-110-010	Level 01	1:500	A1
	DA-110-020	Level 02	1:500	A1
	DA-110-030	Level 03	1:500	A1
	DA-110-040	Level 04	1:500	A1
	DA-110-050	Level 05	1:500	A1
	DA-110-060	Level 06	1:500	A1
	DA-110-070	Level 07	1:500	A1
	DA-110-080	Level 08	1:500	A1
	DA-110-090	Level 09	1:500	A1
	DA-110-100	Level 10	1:500	A1
	DA-110-110	Level 11	1:500	A1
	DA-110-120	Level 12	1:500	A1
	DA-110-130	Level 13	1:500	A1
	DA-110-140	Level 14	1:500	A1
	DA-110-150	Level 15	1:500	A1
	DA-110-160	Level 16	1:500	A1
	DA-110-170	Level 17	1:500	A1
	DA-110-180	Roof Level	1:500	A1
	DA-110-190	Plant Roof Plan	1:500	A1
GA Plans Building D				
	DA-111-006	Basement 02	1:200	A1
	DA-111-007	Basement 01	1:200	A1
	DA-111-008	Lower Ground Level	1:200	A1
	DA-111-009	Ground Level	1:200	A1
	DA-111-010	Level 01	1:200	A1
	DA-111-020	Level 02	1:200	A1
	DA-111-030	Level 03	1:200	A1
	DA-111-040	Level 04	1:200	A1
	DA-111-050	Level 05	1:200	A1
	DA-111-060	Level 06	1:200	A1
	DA-111-070	Level 07	1:200	A1
	DA-111-080	Level 08	1:200	A1
	DA-111-090	Level 09	1:200	A1
	DA-111-100	Level 10	1:200	A1
	DA-111-110	Level 11	1:200	A1
	DA-111-120	Level 12	1:200	A1
	DA-111-130	Level 13	1:200	A1
	DA-111-140	Level 14	1:200	A1
	DA-111-150	Level 15	1:200	A1
	DA-111-160	Roof Level	1:200	A1

Series	Drawing No.	Drawing Name	Scale	Size
GA Plans Building E				
	DA-112-006	Basement 02	1:200	A1
	DA-112-007	Basement 01	1:200	A1
	DA-112-008	Lower Ground Level	1:200	A1
	DA-112-009	Ground Level	1:200	A1
	DA-112-010	Level 01	1:200	A1
	DA-112-020	Level 02	1:200	A1
	DA-112-030	Level 03	1:200	A1
	DA-112-040	Level 04	1:200	A1
	DA-112-050	Level 05	1:200	A1
	DA-112-060	Level 06	1:200	A1
	DA-112-070	Level 07	1:200	A1
	DA-112-080	Level 08	1:200	A1
	DA-112-090	Level 09	1:200	A1
	DA-112-100	Level 10	1:200	A1
	DA-112-110	Level 11	1:200	A1
	DA-112-120	Level 12	1:200	A1
	DA-112-130	Level 13	1:200	A1
	DA-112-140	Level 14	1:200	A1
	DA-112-150	Level 15	1:200	A1
	DA-112-160	Level 16	1:200	A1
	DA-112-170	Level 17	1:200	A1
	DA-112-180	Roof Level	1:200	A1
GA Elevations				
	DA-210-101	Building D1 North Elevation	1:200	A1
	DA-210-102	Building D1 South Elevation	1:200	A1
	DA-210-201	Building D2 North Elevation	1:200	A1
	DA-210-202	Building D2 South Elevation	1:200	A1
	DA-210-301	Building E1 North Elevation	1:200	A1
	DA-210-302	Building E1 South Elevation	1:200	A1
	DA-210-401	Building E2 North Elevation	1:200	A1
	DA-210-402	Building E2 South Elevations	1:200	A1
	DA-210-501	Building E East Elevation	1:200	A1
	DA-210-502	Building D East Elevation	1:200	A1
	DA-210-503	Building D West Elevation	1:200	A1
	DA-210-504	Building E West Elevation	1:200	A1
	DA-210-601	Building D Internal Courtyard East Elevation	1:200	A1
	DA-210-602	Building E Internal Courtyard East Elevation	1:200	A1
GA Sections				
	DA-310-101	Section AA	1:250	A1
GA Ramp Sections				
	DA-320-101	Ramps 1,2,3&4	1:100...	A1
Shadow Diagrams				
	DA-700-001	June 21st Sheet 01		A1
	DA-700-002	June 21st Sheet 02		A1
	DA-700-003	December 21st Sheet 01		A1
	DA-700-004	December 21st Sheet 02		A1
Sun Eye Views				
	DA-710-001	Sun Eye Views Sheet 01		A1
	DA-710-002	Sun Eye Views Sheet 02		A1
	DA-710-003	Sun Eye Views Sheet 03		A1
	DA-710-004	Sun Eye Views Sheet 04		A1
	DA-710-005	Sun Eye Views Sheet 05		A1
	DA-710-006	Sun Eye Views Sheet 06		A1
	DA-710-007	Sun Eye Views Sheet 07		A1

Series	Drawing No.	Drawing Name	Scale	Size
Apartment Amenity Diagrams (ADG)				
	DA-720-200	Solar Diagrams 01	1:500	A1
	DA-720-201	Solar Diagrams 02	1:500	A1
	DA-720-202	Solar Diagrams 03	1:500	A1
	DA-720-202	Solar Diagrams 04	1:500	A1
	DA-720-300	Cross Ventilation Diagrams 01	1:500	A1
	DA-720-301	Cross Ventilation Diagrams 02	1:500	A1
	DA-720-302	Cross Ventilation Diagrams 03	1:500	A1
Communal Space Diagrams (ADG)				
	DA-730-101	Deep Soil Diagram 01	1:500	A1
	DA-730-201	Communal Open Space Sheet 1	1:500	A1
	DA-730-202	Communal Open Space Sheet 2	1:500	A1
	DA-730-203	Communal Open Space Solar Sheet 1	1:500	A1
	DA-730-204	Communal Open Space Solar Sheet 2	1:500	A1
Storage Compliance Diagrams				
	DA-740-001	Storage Compliance 01	1:500	A1
	DA-740-002	Storage Compliance 02	1:500	A1
	DA-740-003	Storage Compliance 03	1:500	A1
	DA-740-100	Waste Management Diagram	1:500	A1
GFA Diagrams				
	DA-770-100	GFA Diagrams 01	1:500	A1
	DA-770-101	GFA Diagrams 02	1:500	A1
	DA-770-102	GFA Diagrams 03	1:500	A1
	DA-770-103	GFA Diagrams 04	1:500	A1
Adaptable Plan Layouts				
	DA-810-001	Pre and Post Adaptable Layout 01	1:100	A1
	DA-810-002	Pre and Post Adaptable Layout 02	1:100	A1
	DA-810-003	Pre and Post Adaptable Layout 03	1:100	A1
	DA-810-004	Pre and Post Adaptable Layout 04	1:100	A1
Waste Strategy				
	DA-820-001	Waste Strategy Diagram Ground Level	1:500	A1
	DA-820-003	Waste Strategy Diagram Basement 01 No Swept...	1:500	A1
Materials & Finishes Board				
	DA-890-001	External Materials and Finishes		A1