

Response to Submissions Report

SSD-62802207



**Showground Station Precinct East
3 Andalusian Way, Castle Hill**



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2	Design Report for Lot 5	Turner Studio
3	Architectural Package for Lots 3 and 4	Group GSA
4	Design Report for Lots 3 and 4	Group GSA
5	Notification Plan for Lot 5	Turner Studio
6	Notification Plan for Lots 3 and 4	Group GSA
7	Solar Diagrams	Turner Studio
8	Design Integrity Report	Deicorp
9	Design Excellence Report Addendum	Deicorp
10	CGI images	Ivolve Studios

11	Amended Transport Assessment including Preliminary Green Travel Plan	JMT Consulting
12	BCA Report for Lot 5	City Plan
13	BCA Report for Lots 3 and 4	City Plan
14	Access Review	MGAC
15	Civil Package	Mott Macdonald
16	Stormwater Management Plans & Report	Mott Macdonald
17	OSD Calculations	Mott Macdonald
18	MUSIC Model	Mott Macdonald
19	DRAINS Model	Mott Macdonald
20	TUFLOW (Flood Model)	Mott Macdonald
21	Flood Report	Mott Macdonald
22	BASIX Reports and Plans	Windtech
23	BASIX Certificates	Windtech
24	Natural Ventilation Statement	Windtech
25	Pedestrian Wind Environment Study & Wind Environment Addendum Memo	Windtech
26	Solar Light Reflectivity Study	Windtech
27	Sunshade Addendum Memo	Windtech
28	Stratum Plans (Lots 3, 4 & 5)	Dawn Walton
29	Landscape Report	Land and Form
30	Landscape Plans	Land and Form
31	Clause 4.6 Height Variation Request	Sutherland and Associates
32	Fire Engineering Review Lots 3 and 4	Affinity Fire Engineering
33	Fire Engineering Review Lot 5	Affinity Fire Engineering
34	Acoustic Assessment and Acoustic Response Letter	Acoustic Logic
35	Staging Plan	Turner Studio
36	Soil Specification Report	SESL Australia
37	Horticultural Review	SESL Australia
38	ESD Memorandum	E-Lab Consulting
39	Letter in Support of Proposed Drained Basement	EI Australia
40	Operational Waste Management Plan	Elephants Foot
41	Dewatering Management Plan	EI Australia

1. Introduction

This Submissions Report has been prepared on behalf of Deicorp Project (Showground East) Pty Ltd (the proponent) to address matters raised by government agencies, local Council, relevant stakeholder groups and the community during public exhibition of the proposed State Significant Development application (SSDA) (SSD-62802207) for a staged residential flat building development at 3 Andalusian Way, Castle Hill (Showground Station Precinct East site).

The SSDA was publicly exhibited between Thursday 14 March 2024 until Wednesday 10 April 2024.

In total, 14 submissions were received following public exhibition of the SSDA. The submissions total includes 12 submissions from state and local government authorities and agencies.

This 'Response to Submissions' (RtS) has been prepared to respond to the issues raised in the submissions, as required under section 59(2) of the Environmental Planning and Assessment Regulation 2021. The RtS has been prepared in accordance with the DPIE 'State significant development guidelines – preparing a submissions report' dated March 2024.

The issues raised in the submissions, and in an issues letter from the Department of Planning and Environment (DPE), have been reviewed by the project team. Each issue raised has been considered and a response provided. Most issues have been addressed through the amendment of the plans and reports that accompanied the development application.

This Submissions Report is supported by the following documentation summarised in **Table 1**.

Table 1: List of Appendices

Appendix	Document	Prepared By
1	Architectural Package for Lot 5	Turner Studio
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3	Architectural Package for Lots 3 and 4	Group GSA
4	Design Report for Lots 3 and 4	Group GSA
5	Notification Plan for Lot 5	Turner Studio
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15	Civil Package	Mott Macdonald
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18	MUSIC Model	Mott Macdonald
19	DRAINS Model	Mott Macdonald
20	TUFLOW (Flood Model)	Mott Macdonald
21	Flood Report	Mott Macdonald
22	BASIX Reports and Plans for Lots 3, 4 and 5	Windtech
23	BASIX Certificates for Lots 3, 4 and 5	Windtech
24	Natural Ventilation Statement	Windtech
25	Pedestrian Wind Environment Study & Wind Environment Addendum Memo	Windtech
26	Solar Light Reflectivity Study	Windtech
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1.1.Exhibited Project

The SSDA seeks approval for the development of a staged residential flat building development comprising five (5) individual buildings. Specifically, the exhibited project included:

- Site preparation, including removal of remnant slabs, tree removal, and excavation;
- Stage construction of 5 buildings (A to E) of between 3 to 16 storeys in height;
- 86,275 square metres of gross floor area;
- 873 dwellings comprised of 138 x 1 bedroom (15.8%), 520 x 2 bedroom (59.6%) and 215 x 3 bedroom (24.61%);
- Basement car parking for 927 cars comprising 873 residential spaces, 43 residential visitor spaces, 5 service car spaces, and 6 car share spaces;
- Minimum 5% Affordable Housing;
- A publicly accessible pedestrian link within Lot 5 between Buildings D and E;
- Landscaping, civil and stormwater works;
- Augmentation of, and connection to, existing utilities as required; and
- Stratum subdivision.

Since public exhibition, the proposal has been refined and amended with a description of the actions taken and changes made provided in Section 3.0.

1. Analysis of Submissions

This section provides a summary of the submissions received including a breakdown of respondent type, nature / position and number of submissions received.

1.1 Breakdown of Submissions

The SSDA was publicly exhibited between Thursday 14 March 2024 until Wednesday 10 April 2024. A total of 15 submissions were received during the exhibition period, including 13 agency submissions and two (2) public submissions from members of the local community.

All submissions were managed by DPE, which included registering and uploading the submissions onto the 'Major Projects website'.

A breakdown of the submissions made by group and issues raised is provided in **Table 2** below with responses provided in **Section 3** with further detail provided in the Register of Submissions, refer to **Appendix A**.

Table 2: Showground Station Precinct East SSDA Submissions

Source	Position	Number of Submissions
Public Authorities		
Department of Planning & Environment (DPE)	Comment	1
The Hills Shire Council (Council)	Comment	2
State Design Review Panel (SDRP)	Additional information required	1
Transport for New South Wales (TfNSW)	Comment	1
Sydney Metro	Additional information required	1
The Biodiversity, Conservation and Science Group (BCS) from the Department of Climate Change, Energy, the Environment and Water (DCCEEW)	Not supported	1
DCCEEW Water Group	Comment	1
Fire and Rescue New South Wales (FRNSW)	No comment	1
Department of Education (DoE)	Comment	1
Sydney Water	Comment	1
Endeavour Energy	Comment	1
TransGrid	No comment	1
General Public		
Anonymous	Comment	1

Anonymous	Not supported	1
SUBTOTAL		15

1.2 Key Themes & Categorisation

The following table summarises the key issues raised in the submissions to the proposal. In accordance with the DPE *State Significant Development Guidelines*, the issues raised in the submissions are summarised in **Table 3** below. A response to submissions is provided in **Section 4** and **5** of this report.

Table 3: Summary of issues raised

Category	Matters Raised
Procedural matters	• Provide an updated Clause 4.6 variation with further consideration on better design or planning outcomes • Review and amend the proposal to comply with the approved UDG with regard to building heights, setbacks, façade lengths and articulation requirements, deep soil planting, canopy coverage • Submission of revised wind assessment report including wind tunnel study in accordance with requirements of Concept Approval
Built form	• Reconsider and refine proposed building heights • Remove protrusions outside of the approved building envelopes
Apartment Design Guide (ADG)	• Reduce reliance on plenums for cross ventilation for Lot 5 • Increase solar access to communal open spaces • Maximise solar access to living rooms, particularly in Building D2
Landscaping	• Additional details to confirm appropriateness of selected species, soil depth and maintenance of landscaping • Additional details required relating to retaining walls, planting plans, proposed fencing heights and materials
Transport	• Additional swept path analysis required • Submission of a Contingency Traffic Management Plan • Footpaths within the Precinct to comply with minimum requirements of TfNSW Walking Space Guide • Recommendation for installation of continuous footpath treatments across driveways • Provision of improved sight lines to minimise vehicle / pedestrian conflict

	Justification for car parking provision given site's location adjacent to public transport
Sydney Metro Infrastructure	Various technical information, drawings and reports requested
Basement Tunnel	Applicant to be responsible for operation and maintenance of the proposed basement tunnel underneath public domain
Waste	- Provision of bulky waste storage room - Provision of bin cupboard next to chute openings on residential floors - Waste lift undersized - Bin collection rooms to be reduced in size
Flooding	- Submission of revised Flooding Assessment - Flood depth modelling results are inconsistent - Development to incorporate mitigation options within the site to minimise flooding downstream - Various technical issues to be addressed in the stormwater report and civil plans - Additional requirements for the stormwater management strategy
Geotechnical	Additional information required to determine whether the basement shall be designed as a "tanked or drained basement"
Water take and licensing	Confirmation of maximum annual volume of water take due to aquifer interference activities and demonstration of the ability to acquire sufficient water entitlement unless as exemption applies
Acoustic	Confirmation that the design and construction of building meets the EPA – Environmental Criteria for Road Traffic Noise and Australian Standard 3671 – Road Traffic Noise Intrusion – Building Siting and Construction
Development data and documentation	- Additional dimensions to architectural plans to demonstrate consistency with the Concept Approval, approved UDG and the ADG - Additional solar analysis to demonstrate compliance with solar access controls to Station Plaza and Precinct East Park - Details of levels of approved new internal road - Clarification on car parking and allocations - Update of Design Integrity Report to confirm compliance with Concept Approval, approved UDG and ADG - Plans to clearly identify possible future road widening along Carrington Road, Showground Road and De Clambe Drive

2. Actions Taken Since Exhibition

In response to the key issues raised within the submissions, design refinements and clarifications have been made to the proposed development since public exhibition.

This section summarises the changes that have been made to the project since its public exhibition. It also outlines the additional assessment undertaken to respond to the concerns raised with the public agency and public submissions outlined in **Section 3**.

2.1 Further Engagement

2.1.1 DPE

Following receipt of DPE's submission, the project team met with planning officers from DPE on 1 May 2024 via Microsoft Teams to discuss the proposal and content of the submission letter. In summary, the key issues discussed at the meeting related to:

- Building heights and the extent of non-compliances
- Building setbacks and the extent of non-compliances
- Building envelope protrusions
- Solar access controls as prescribed by the UDG
- Building length and articulation
- The extent of the basement below the pedestrian link

Following the meeting, the project team reviewed DPE's feedback and sought to address the design, where feasible. A further Microsoft Teams meeting with DPE took place on 21 May 2024 between the project team and planning officers from DPE to discuss the proposed built form scale and massing. In summary, the following information was presented at the meeting:

- Deicorp identified that compliance with the building heights as set out in the UDG results in adverse overshadowing impacts to the Station Plaza and the Precinct East Park which are required to achieve 65% and 70% solar access at midwinter, respectively. To ensure solar access compliance and maintain compliance with the desired density at the site, redistribution of the building heights across the site is required.
- Articulation of Building C façade through the use of recesses within the design.

DPE planning officers generally supported the redistribution of heights and massing across the site and the articulation of the Building C façade.

2.1.2 State Design Review Panel

On 5 June 2024, a second face to face meeting was held with the SDRP to discuss the scheme. At the meeting, the project team provided an overview of:

- Background of approvals
- The site and its planning context
- Responses to the initial SDRP meeting held on 1 November 2023
- The proposed redistribution of height and building forms to maintain solar access to the nearby Station Plaza and the Precinct East Park
- The architectural design of Lots 3 and 4 and Lot 5.

The SDRP provided comments on 16 June 2024. In summary, the SDRP confirmed the proposed redistribution of height across the precinct which would increase visual interest and create skyline diversity, was supported. A response to the SDRP comments is provided in the Design Excellence Report Addendum at **Appendix 9**.

2.1.3 The Hills Shire Council

A meeting with Council officers took place on 12 June 2024 via Microsoft Teams to discuss the content of Council's submissions letter dated 3 May 2024. In advance of the meeting, Deicorp issued a consolidated response to the RFI with supporting information which comprehensively addressed Council's comments.

At the meeting, feedback was provided from Council's Waterways, Engineers and Resource Recovery Teams who were supportive of the project team responses.

2.1.4 Sydney Metro

Following issue of the Sydney Metro RFI letter dated 17 April 2024, Deicorp emailed Sydney Metro on 10 May 2024 requesting Work as Executed documents for the North West Rail Line to complete the structural assessment of the predicted development effects on Sydney Metro's infrastructure.

Sydney Metro provided correspondence via email identifying they had been unable to source the requested information. As such, a meeting with Sydney Metro took place on 6 August 2024 via Microsoft Teams to discuss a way forward.

At the meeting Deicorp's tunnel design and civil engineering consultant, Delve Underground, provided a summary of the additional information requested to be provided by Sydney Metro and the proposed assumptions to be made in the structural assessment in the absence of the requested information.

At the meeting, Sydney Metro advised nozzle reinforcement drawings would be sent to Deicorp and provided written advice of one of the methods that could be employed to assess and ensure the impacts from the proposed development do not have unacceptable adverse effects on the tunnel lining.

A consolidated response to Sydney Metro's comments is provided at **Table 8**.

2.2 Refinements to the Proposal

Following exhibition, upon review of all the submissions received, a series of design amendments have been made to address the issues raised in the submissions. Specifically, the amendments are summarised in **Table 4** below.

Table 4: Design Refinements to the Proposal

Location	Proposed refinements
Buildings A/B	
Basement	Minor amendments and reconfiguration of car parking layout
	Bike parking relocated
	Roller door relocated
	Tunnel to Building C basement reduced in width from double lane to single lane driveway
	Waste lift size increased
Building A	
Ground	Fire egress pathway redesigned
Upper levels	Waste bin and cupboard added on all levels
	Reconfiguration of units
Roof	Service zone adjusted and hot water and plant area added
Building B	
Lower Ground floor	Waste areas amended (bin numbers, waste holding area and waste rooms)
Upper levels	Reconfiguration of units
	Building B1 reduced in height from 16 storeys to 13 storeys
Roof	Relocation of communal open space and services to Level 12
Building C	
Basement	Basement extent reduced
	All car parking removed with exception of one (1) service car space
Lower Ground Floor	Stair added from street to fire control room and fire stair
	Fire booster location adjusted
Ground	Street access to Carrington Road added to each lobby on ground floor
Upper levels	Waste bin and cupboard added on all levels
	Reconfiguration of units
	Addition of two storeys (Levels 15 and 16)

Roof	Stepped roof plane on Levels 15 and 16, with communal open space provided via stair access between these levels
External	Incorporation of a central recess to the building on northern and southern elevations to create two distinct building forms Material and façade articulation updated Horizontal shading added to the northern façade for solar shading
Buildings D/E	
Basement	Removal of the lower ground floor basement connection underneath the publicly accessible link under Buildings E1 and E2 and provision of a 2m deep set down for soil depth. Reconfiguration of car parking, driveways, services and service rooms Reconfiguration of bicycle parking
Buildings D1 and D2	
Ground	Townhouses in Building D1 and D2 to include weather protection and screening to provide additional amenity without exceeding the building envelope controls
Upper levels	Replanning of apartment layouts to increase number of units that are dual aspect for natural cross ventilation Reduction of building footprint to ensure all building elements including facade articulation are within the building envelope with the exception of D2 solar shading elements as noted below under 'external' Skylights added in various locations to achieve solar and cross ventilation compliance Building D1 reduced in height from 16 storeys to 15 storeys
External	Additional solar shading screens on northern extent of Building D2
Buildings E1 and E2	
Ground	Building E1 core, fire stair and services reconfigured to achieve dual aspect apartments and reduce number of plenums for natural cross ventilation purposes. Building E1 lobby relocated to improve wayfinding and increase its interface with the publicly accessible link and increase visibility Townhouses in Building E1 to include weather protection and screening to provide additional amenity without exceeding the building envelope controls
Upper levels	Relocation of carparking exhaust within communal open space at Level 03 Reduction of building footprint to ensure all building elements including facade articulation is within the building envelope with the exception of E2 solar shading elements as noted below under 'external' Skylights added in various locations to achieve solar and cross ventilation compliance Building E1 and E2 core, fire stair and services reconfigured to achieve dual aspect

	apartments and reduce number of plenums for natural cross ventilation purposes.
	Building E1 increased in height from eight (8) storeys to nine (9) storeys
	Building E2 increase in height from 16 storeys to 18 storeys
Roof	Communal rooftop open space provided on Level 08 to Building E1 (previously provided on Level 07)
	Communal rooftop open space provided on Level 17 to Building E2 (previously provided on Level 15)
External	Additional solar shading screens on northern extent of Building E2

The revised development particulars of the proposal are provided in **Table 5** below.

Table 5: Revised Development Particulars

Item	Buildings A, B & C	Buildings D & E	Total
Building Height	Building A – 55m Building B1 – 46m, Building B2 – 56m Building C – 57m	Building D1 – 54m Building D2 – 58m Building E1 – 33m Building E2 – 66m	N/A
Gross Floor Area	Building A – 10,807sqm Building B – 15,192sqm Building C – 14,113sqm Total – 40,112sqm	Building D1 – 14,200sqm Building D2 – 14,420sqm Building E1 – 4,800sqm Building E2 – 12,743sqm Total – 46,163sqm	86,275sqm
FSR	Site Area – 8,387sqm FSR – 4.78:1	Site Area – 11,970sqm FSR – 3.86:1	Site Area – 20,357sqm FSR – 4.24:1
Dwelling Mix	1 bedroom – 68 apartments 2 bedroom – 251 apartments 3 bedroom – 101 apartments Total: 420 apartments	1 bedroom – 68 apartments 2 bedroom – 276 apartments 3 bedroom – 109 apartments Total: 453 apartments	1 bedroom – 136 apartments 2 bedroom – 527 apartments 3 bedroom – 210 apartments Total: 873 apartments
Affordable Housing	44 units (11 x 1 bedroom, 22 x 2 bedroom & 11 x 3 bedroom)	N/A	44 units equating to 5% of total dwellings
Car Parking	446 spaces	451 spaces	917 spaces including 18 spaces to be allocated back to apartments after 10 years

Bicycle Parking	140 residential spaces 35 residential visitor spaces	151 residential spaces 38 residential visitor spaces	291 residential spaces 73 residential visitor spaces
Common Open Space	31% (2,616sqm from total site area of 8,387sqm)	25% (3,358sqm from total site area of 11,970sqm)	29% (5,974sqm from total site area of 20,357sqm)
Deep Soil Area	15% (1,287sqm from total site area of 8,387sqm)	9.02% (1,080sqm from total site area of 11,970sqm)	11.6% (2,367sqm from total site area of 20,357sqm)
Solar Access for Apartments	70.2% (295 out of 420 apartments) achieve two hours of solar access at midwinter	70.9% (322 out of 453 apartments) achieve two hours of solar access at midwinter	70.7% (617 out of 873 apartments)
Cross Ventilation for Apartments	60.9% (151 out of 248 apartments located in the first nine storeys)	60.48% (176 out of 291 apartments located in the first nine storeys)	60.67% (327 out of 539 apartments located in the first nine storeys)

Details of the design refinements are illustrated in the Architectural Plans at **Appendix 1** and **Appendix 3**.

A summary of the key design changes is provided below.

2.2.1 Redistribution of Building Height

Following discussion with DPE and SDRP, to achieve solar compliance to the Precinct East Park and the Station Plaza as required by the UDG whilst maintaining compliance with the desired density envisaged for the Precinct, building heights have been redistributed across the site.

Figure 1 identifies the areas which have been reduced in height in grey and the areas which have increased in height in green.

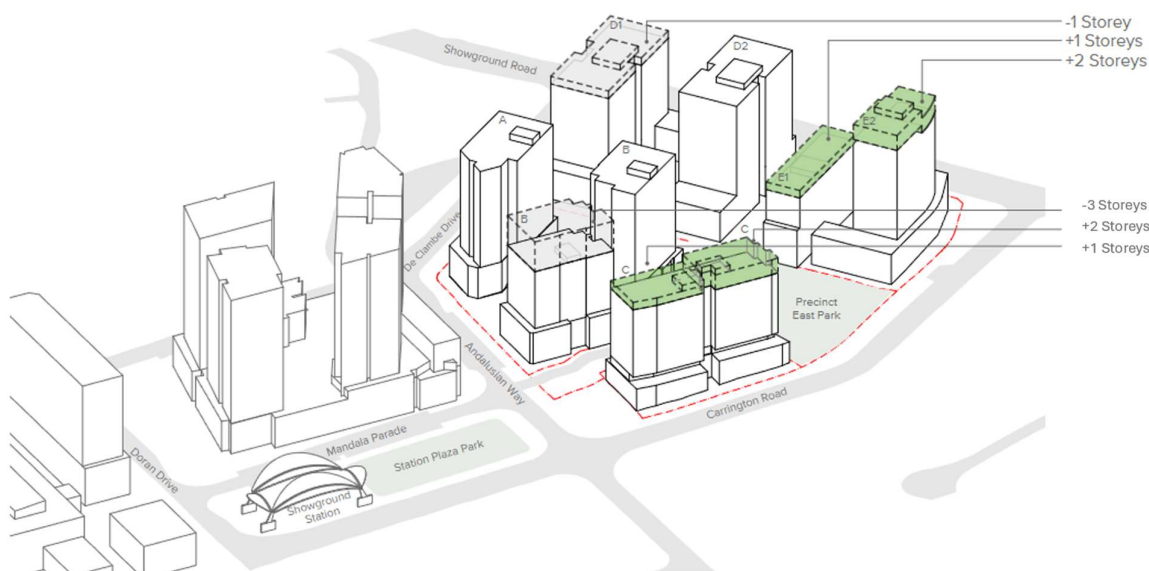


Figure 1: Proposed redistribution of building height (Source: Turner Studio)

Figure 2 identifies that the amended built form results in a compliant quantum of solar access to the Station Plaza and Precinct East Park, which require 65% and 70% of their respective extents, achieve a minimum of two hours of sunlight between 9am and 3pm at midwinter.

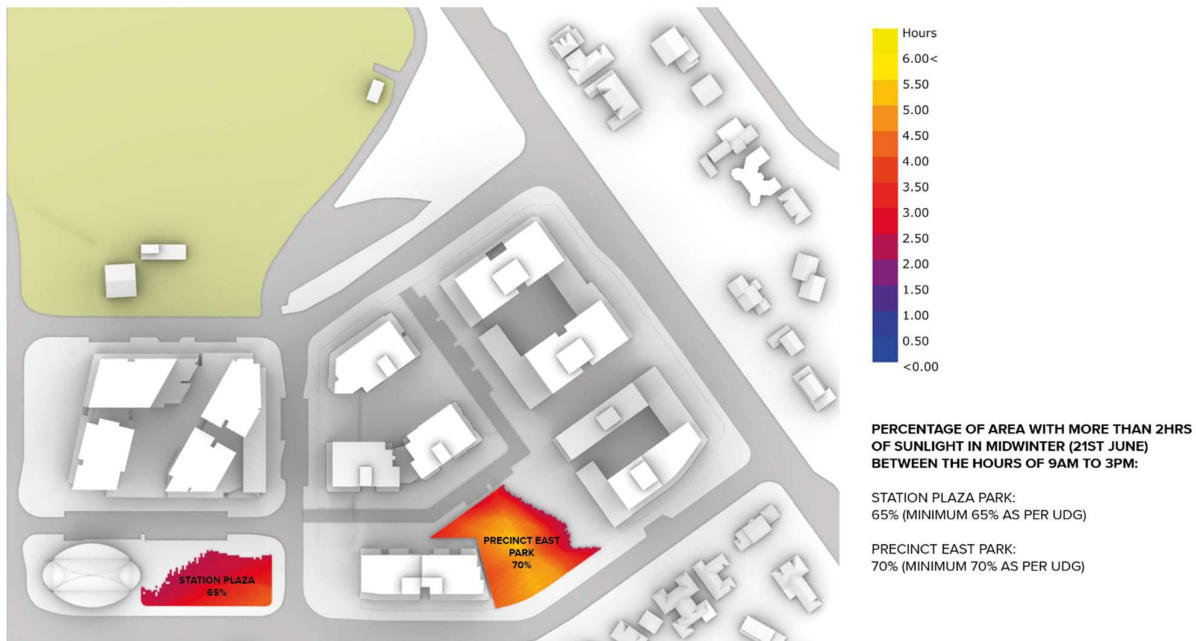


Figure 2: Solar diagrams demonstrating compliance to Station Plaza and Precinct East Park (Source: Turner Studio)

Not only does the amended built form massing improve solar access, but the height redistribution has introduced height variation not only within the buildings, but across the Precinct. It is noted that greater height variation within the Precinct was requested by the SDRP at the initial meeting held on 1st November 2023.

The additional height has been purposefully located to the south of the Precinct to improve amenity and improve solar access to public and private open spaces. The redistributed height responds to the planning controls and likely future form of development in the broader Hills Showground precinct on the southern side of Carrington Road. This includes promoting a consistent height and form along Carrington Road and ensuring future development is capable of meeting ADG requirements.

2.2.2 Amendments to Building Envelopes

In response to comments from DPE, to maintain compliance with the approved Concept envelopes and the building envelope controls contained in the UDG, reductions have been made to the building footprints to ensure the majority of building elements including the basement extent and façade articulation are located within the building envelope.

The only exception relates to the introduction of awnings and solar shading louvres which have been added to respond to the SDRP's comment that effective sun shading should be provided to reduce summer heat gain and improve energy performance. The protrusions for solar shading elements are minor (varying between 250mm and 150mm) and are limited to the northern extents of the B1, B2, D2 and E2 towers (refer **Figure 3** to **Figure 5** below).

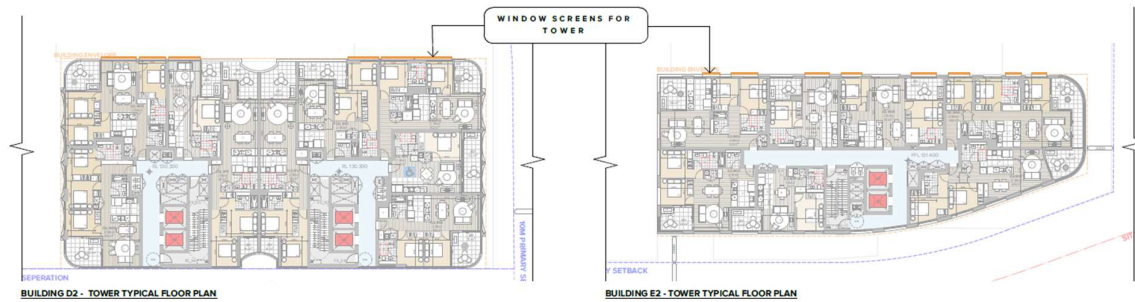


Figure 3: Plan of window screen locations on towers D2 and E2 which protrude beyond the approved envelope by approximately 250mm (Source: Turner Studio)

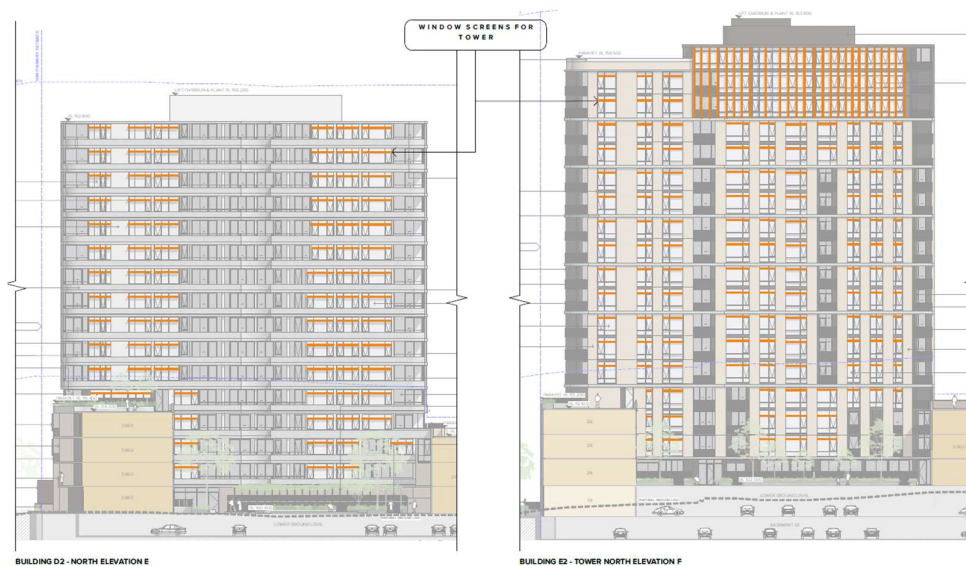


Figure 4: Elevation of window screen locations on towers D2 and E2 which protrude beyond the approved envelope by approximately 250mm (Source: Turner Studio)



Figure 5: Plan of sunhood locations on towers B1 and B2 which protrude beyond the approved envelope by approximately 150mm (Source: Group GSA)

2.2.3 Reduction of Basement C Basement Extent

To ameliorate issues with the adjacent Sydney Metro tunnel, Basement C has been reduced in size, with all car parking removed with the exception of one (1) service car space. All car parking for residents and visitors in Building C is located in the adjoining basement underneath Buildings A and B and is accessed through the basement tunnel which provides pedestrian access.



Figure 6: Previous submitted layout of Basement 01 showing extent of basement underneath Building C with two way tunnel to basement underneath Buildings A and B

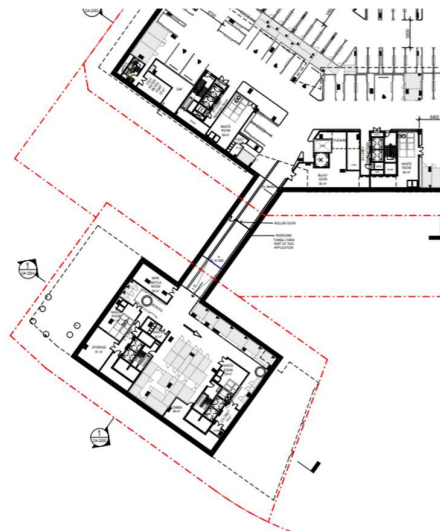


Figure 7: Amended layout of Basement 01 showing rationalised extent of basement underneath Building C with single lane tunnel to basement underneath Buildings A and B

2.2.4 Improved Articulation and Modulation to Building C

In response to DPE and SDRP comments, Building C has been redesigned to read as two separate buildings, with a central recess creating two distinct building forms. The form and massing of the building has been broken into two distinct towers, a light white mix of brick to the western tower and sand mix to the eastern tower. The use of brick offers a common dialogue between each tower, although treated in various ways. The figures below illustrate how the design has been amended.



Figure 8: Previously submitted northern elevation of Building C (Source: Group GSA)



Figure 9: Amended northern elevation of Building C (Source: Group GSA)

2.2.5 Additional Building Entrances from Carrington Road to Building C

In response to SDRP comments, the design of Building C has been amended to provide access from both ground floor lobbies to Carrington Road. Access and sightlines have been improved to create a greater sense of connectivity and choice of access for residents and visitors. The additional entries are provided within the site's 5m setback and have been designed in close collaboration with landscape architects Land and Form to ensure the stairs and access pathways are nestled within planters and trees.

Refer to the figures below demonstrating the amendments to the layout at ground floor level to Building C.

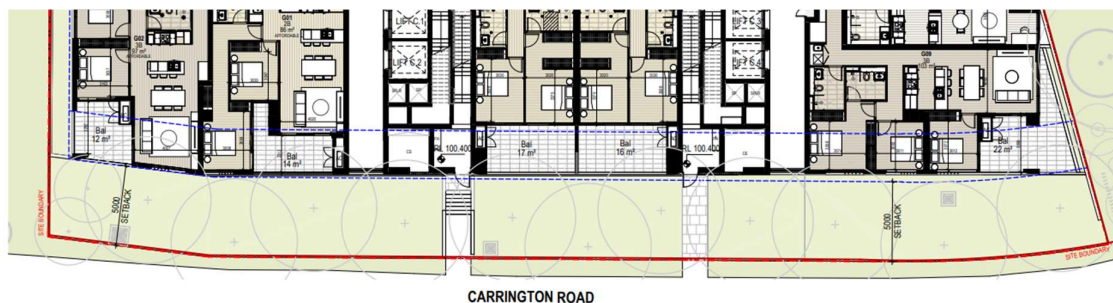


Figure 10: Previously submitted SSDA scheme with no access provided from Carrington Road at ground floor level (Source: Group GSA)

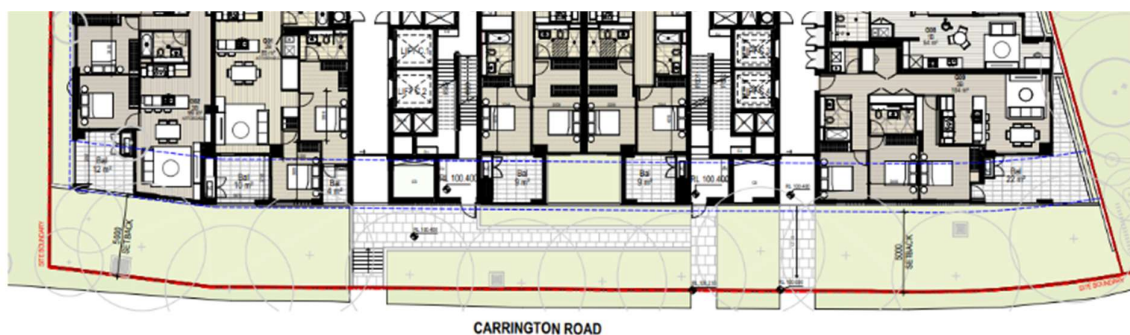


Figure 11: Amended proposal with two separate entries from Carrington Road to the residential entries at ground floor level (Source: Group GSA)

2.2.6 Improved Residential Amenity

In response to DPE and SDRP comments, improvements have been made to reduce reliance on horizontal plenums and increase apartments achieving natural cross ventilation and amend apartment layouts to maximise solar access to living rooms. This comment was focused on Buildings D2 and E1.

Apartment layouts have been reconfigured to create open and logical typologies with the intent of improving amenity which includes orientation to district views, increased cross ventilation where possible and solar access to living rooms, particularly in Buildings E1 and D2.

The lodged scheme included 29 apartments with horizontal plenums in Building E. The amended scheme includes a reconfiguration of Building E and nine apartments are now reliant on plenums to achieve cross ventilation.

Refer to the figures below demonstrating the amendments to the layout in the Building E1 upper levels to improve residential amenity.



Figure 12: SSDA lodged scheme showing typical layout of Building E1 upper level (Source: Turner Studio)

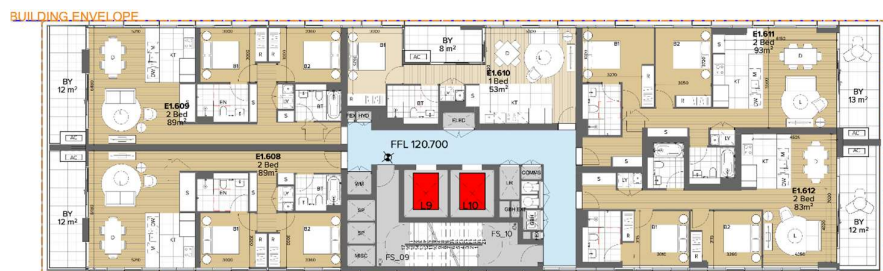


Figure 13: Amended SSDA scheme showing revised typical layout of Building E1 upper level (Source: Turner Studio)

2.2.7 Extent of Basement Underneath Publicly Accessible Pedestrian Link

In response to DPE and SDRP comments, the extent of the basement located underneath the publicly accessible pedestrian link has been rationalised. The lodged scheme included a connection at lower ground level along the western extent of the link (refer **Figure 14**).

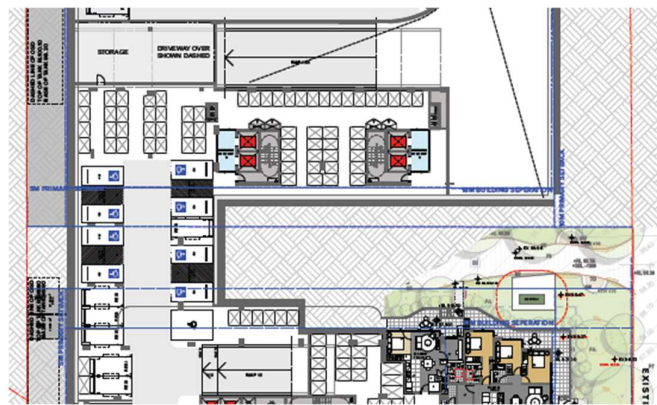


Figure 14: SSDA lodged scheme showing lower ground floor including basement

The amended scheme does not include any basement at lower ground level and instead provides for a minimum 2m set down of the basement slab underneath along the site link's full extent to provide for significant soil depth sufficient for large tree types and quality soft landscaping, refer **Figure 15**. The set down allows for a flush condition within the public domain, free of mounding and retaining walls and results in a more open and permeable streetscape.

Accompanying this application is a report prepared by SELS Australia (**Appendix 36**) which confirms the soil specifications and minimum 2m soil depth within the pedestrian link are sufficient for the proposed mass planting.

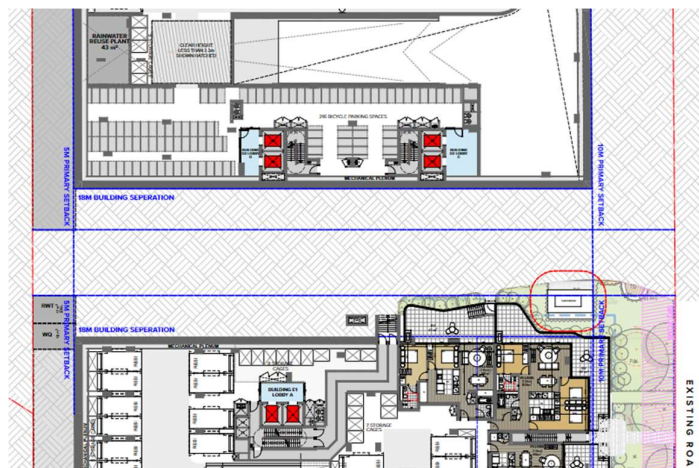


Figure 15: Amended SSDA scheme showing removal of lower ground floor basement underneath the publicly accessible pedestrian link

3. Response to Submissions

3.1 Response to the Department of Planning & Environment submission

Table 6 sets out a response to each issue raised by the DPE submission.

Table 6: Department of Planning Submission & Response

Issue	Comment	Response
Built Form	a. Reconsider and refine the proposed building heights to:	Response – Lotti Wilkinson, Head of Planning at Deicorp During the assessment of the application, it was identified that compliance with the heights set out in Section 5.2.8 of the UDG would result in non-compliances with the solar access controls contained in the UDG at Section 2.16(1). Specifically, adverse overshadowing would occur to the Station Plaza and Precinct East Park which are required to achieve 65% and 70% solar access at midwinter, respectively. During the assessment of the application, this issue was identified with the DPE and it was agreed that to ensure solar access compliance whilst maintaining compliance with the desired density envisaged for the Precinct, a redistribution of building heights across the Precinct would be required. At the meeting with the SDRP on 5th June 2024, Decicorp’s design team presented an amended massing diagram of the Precinct which proposed redistributed building heights to enable compliance with the solar access provisions contained in Section 2.16(1). Importantly, this redistribution sought to maintain the anticipated density of development for the Precinct allowed under the UDG and the Concept Approval (SSD 9653). The amended heights have been reconsidered and refined to address the following: Compliant solar access is provided to the Station Plaza and Precinct East Park as required by Section 2.16(1) of the UDG.
	i. Respond to the topography of the land.	
	ii. Consider opportunities to modulate building heights and break up bulk and scale of the proposed buildings.	
	iii. Minimise overshadowing impacts to public open space and surrounding residential properties.	

- The amended heights better respond to the topography of the site, with height reductions in the northern extent of the site and adjacent to Andalusian Way and additional height located in the southern extent of the site which is the highest part of the site.
- The amended heights introduce variation not only within buildings, but across the Precinct. It is acknowledged that at the initial SDRP meeting held on 1st November 2023, the SDRP specifically made the following comments in relation to building heights:

“It is understood that there is limited scope to amend the approved Concept Plan. However, it is noted that the precinct would benefit from greater variation in building heights. Explore the potential to reduce the height of the north of the site and add more height to the south to improve amenity, particularly increased solar access.”

Consistent with the above SDRP comments, the amended proposal provides additional height to the southernmost buildings (Building C, E1 and E2).

- The proposed height responds to the planning controls and likely future form of development in the broader Hills Showground precinct on the southern side of Carrington Road. This includes promoting a consistent height and form along Carrington Road and ensuring future development is capable of meeting ADG requirements.
- The redistribution of heights within the Precinct will deliver the anticipated density for the Precinct which is envisaged in the UDG.

- b. Submit a revised Clause 4.6 variation in respect to the building height standard with further considerations on better design or planning outcomes and avoid any additional external impacts.

Response – Aaron Sutherland, Director at Sutherland & Associates

A revised Clause 4.6 variation has been prepared by Sutherland and Associates

and accompanies this resubmission (**Appendix 31**).

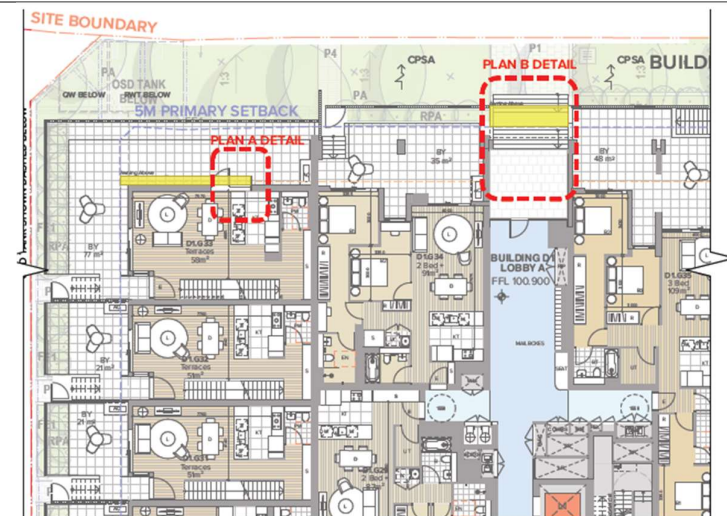
- c. Notwithstanding the proposed modifications seeking height variation, amend the proposal to remove protrusions outside the approved building envelopes.

Response – Lotti Wilkinson, Head of Planning at Deicorp

In response to comments from DPE, to maintain compliance with the approved Concept envelopes and the building envelope controls contained in the UDG, reductions have been made to the building footprints to ensure the majority of building elements including the basement extent and façade articulation are located within the building envelope.

The only exception relates to the introduction of awnings and solar shading louvres which have been added to respond to the SDRP's comment that effective sun shading should be provided to reduce summer heat gain and improve energy performance. The protrusions for solar shading elements are minor (varying between 250mm and 150mm) and are limited to the northern extents of the B1, B2, D2 and E2 towers (refer to **Figure 3, Figure 4 & Figure 5**).

In addition, awnings to Building D1 on its northern and western extent project beyond the building envelope by approximately 1.2m and 1.4m, respectively and an awning to the northernmost terrace, D1.G33, protrudes beyond the envelope by 310mm. The location and extent of these protrusions is shown in **Figure 16** and **Figure 17** below.



BUILDING D1 GROUND FLOOR PLAN

Figure 16: Building D1 ground floor plan showing protrusions outside of building envelope in yellow (Source: Turner Studio)



BUILDING D1 & D2 - GROUND FLOOR PLAN

Figure 17: Building D1 & D2 ground floor plan showing awning protrusion outside of building envelope in yellow (Source: Turner Studio)

The awnings are required for weather protection and solar shading, with only very small extents protruding outside of the approved envelopes which is considered acceptable.

d. Review and amend the proposal to comply with the approved Urban Design Guidelines (UDG), in particular requirements regarding:

- maximum number of storeys
- primary and secondary setbacks
- maximum building facade lengths and articulation requirements
- no basements permitted beneath the new pedestrian link
- deep soil planting and canopy coverage.

Response – Lotti Wilkinson, Head of Planning at Deicorp

Maximum number of storeys

Compliance with the building heights set out in the Urban Design Guidelines results in adverse overshadowing impacts to the Station Plaza and the Precinct East Park which are required to achieve 65% and 70% solar access at midwinter, respectively. To ensure solar access compliance and maintain compliance with the desired density at the site, the amended proposal has redistributed the building heights across the site.

The revised built form and massing was discussed with the SDRP on 5th June 2024. The SDRP supported the redistribution of height across the precinct, noting it results in increased visual interest and skyline diversity.

Primary and secondary setbacks

The amended proposal complies with the primary and secondary setbacks prescribed for the site in the UDG.

Maximum building facade lengths and articulation requirements

Building C has been redesigned to incorporate a central recess on all levels to create two distinct and separate building forms. To assist in further articulating this façade, revised materials are proposed. Refer to **Figure 9** which demonstrates the revised articulation and façade treatment to this building.

No basements permitted beneath the new pedestrian link

A key design move has been the consolidation of the car park entries and loading docks for Buildings D and E into a single entry/exit point located on the sub-divided road. This has removed the need for driveways and hard

landscaping at the western end of the publicly accessible pedestrian link.

The consolidated car park of Buildings D and E generally sits directly under the footprint of the buildings overhead, as well as the publicly accessible pedestrian link. The extent of car park has generous setbacks from all site boundaries to allow for significant deep soil area above, which is in excess of the ADG requirements.

Within the publicly accessible pedestrian link, the proposal incorporates a minimum 2m set down of the basement slab. This allows for significant soil depth sufficient for large tree types and quality soft landscaping. This set down also allows for a flush condition within the public domain, free of mounding and low retaining walls, for a more open and permeable streetscape.

Accompanying this application is a report prepared by SELS Australia (**Appendix 36**) which confirms the soil specifications within the pedestrian link are sufficient for the proposed mass planting. A further report has been prepared by SELS Australia (**Appendix 37**) which endorses the proposed planting schedule in the pedestrian link.

Deep soil planting and canopy coverage

The accompanying Landscape Plans prepared by Land and Form at **Appendix 30** demonstrate compliance with the requirement for 40% tree canopy cover for the pedestrian link and the private open space areas.

Amenity	a. Review and update architectural drawings to include adequate dimensions to demonstrate consistency with the Concept Approval, approved UDG and the Apartment Design Guide.	Response – Lotti Wilkinson, Head of Planning at Deicorp
	b. Submit additional solar analysis demonstrating the surrounding public open spaces (Station Plaza and Precinct East Park)	Updated architectural drawings of Lot 5 have been prepared by Turner Studio and are provided at Appendix 1 and updated architectural drawings of Lots 3 and 4 have been prepared by Group GSA and are provided at Appendix 3. The drawings include additional dimensions to demonstrate consistency with the Concept Approval, approved UDG and the Apartment Design Guide. Response – Lotti Wilkinson, Head of Planning at Deicorp Turner Studio have prepared solar diagrams (Appendix 7) demonstrating

	maintain solar access in accordance with the Concept Approval and the approved UDG.	compliance with the UDG requirements to maintain a compliant quantum of solar access to the Station Plaza and Precinct East Park, which require 65% and 70% of their respective extents, achieve a minimum of two hours of sunlight between 9am and 3pm at midwinter.
	c. Review and amend the proposed apartment/ floorplan layouts to reduce reliance on plenums for natural cross-ventilation for Buildings on Lot 5.	Response – Lotti Wilkinson, Head of Planning at Deicorp The lodged scheme included 3 apartments with horizontal plenums in Building D and 29 apartments with horizontal plenums in Building E. The location and orientation of apartments within Building E has been amended to reduce the reliance of plenums. Ten apartments within Building E are now reliant on horizontal plenums for natural cross-ventilation. For further information, refer to the Natural Ventilation Strategy prepared by Windtech (Appendix 24).
	d. Submit a revised wind assessment report, including a wind tunnel study, in accordance with Condition C12 of the Concept Approval.	Response – Lotti Wilkinson, Head of Planning at Deicorp A Wind Assessment Report and Addendum have been prepared by Windtech (Appendix 25).
	e. Provide additional landscaping details to demonstrate the proposed landscaping are appropriate and suitable in terms of selected species, soil depth, use and maintenance, particularly the establishment of native planting along the proposed Cattai Creek Walk.	Response – Lotti Wilkinson, Head of Planning at Deicorp Accompanying this application is a report prepared by SELS Australia (Appendix 37) which endorses the planting schedule proposed within the proposed Cattai Creek Walk. A further report has been prepared by SESL Australia (Appendix 36) which confirms the soil specifications within the pedestrian link are sufficient for the proposed mass planting.
Others	a. Review consistency of architectural plans, reports and documentation, in particular:	
	Provide details and levels of the approved new internal road.	Response – Lotti Wilkinson, Head of Planning at Deicorp Details and levels of the approved new internal road is shown on the revised architectural plans provided at Appendix 1 and 3.

-
- Clarify proposed number of car parking and allocations.

Response – Lotti Wilkinson, Head of Planning at Deicorp

Car parking numbers and allocations are illustrated in the architectural plans at **Appendix 1** and **3** and also discussed in the revised Transport Assessment at **Appendix 11**.

-
- Update the Design Integrity Reports to confirm compliance with Concept Approval, approved UDG and the Apartment Design Guide.

Response – Lotti Wilkinson, Head of Planning at Deicorp

A consolidated Design Integrity Report has been prepared by Deicorp (**Appendix 8**).

-
- Ensure supporting documentation makes references to correct environmental planning instruments.

Response – Lotti Wilkinson, Head of Planning at Deicorp

Supporting documentation has been amended to reference the correct environmental planning instruments.

-
- Submit a revised Flooding Assessment report, addressing the issues raised by BCS.

Response – Lotti Wilkinson, Head of Planning at Deicorp

A revised Flooding Assessment has been prepared by Mott Macdonald to address the issues raised by BCS (**Appendix 21**).

3.2 Response to The Hills Shire Council Submission

Table 7 sets out a response to each issue raised by The Hills Shire Council in their letters dated 10 April 2024 and 3 May 2024.

Table 7: The Hills Shire Council Submissions & Responses

Issue	Comment	Response
Letter dated 10 April 2024		
Open Space and Recreation	In relation to open space, a park of 3,500m² is proposed in the north-east of the development. Whilst open space is a requirement for this development and the greater Showground Precinct, there are currently parks located within 400m of existing and future residences, consistent with Council's Recreation Strategy. These parks include: • Castle Hill Showground – completed Master Plan. • Cockayne Reserve – which is incorporated into the Cattai Creek Corridor Master Plan and ensuing construction works will commence shortly. • Chapman Avenue Reserve – proposed for expansion and re-development as part of future separate planning proposals in the precinct. Depending of the level of investment proposed for the identified local park (Precinct East Park) within the development, an option may be to remove this park and have the capital invested into the Showground project. Should the local park remain, it would need to meet the levels of service outlined in the Recreation Strategy, noting it would be a Local – Urban Park (high density area), therefore attracting a higher level of embellishment. Whilst the local park solar plan identifies 65% of sunlight for 2 hours	Response – Lotti Wilkinson, Head of Planning at Deicorp Precinct East Park has been approved by Council under development application (DA) 988/2022/DA. The park's design, location and size is consistent with the Urban Design Guidelines which specify prescriptive controls for its intended use to meet the passive recreational needs of the local community. Deicorp is committed to delivering the Precinct East Park which has been approved by Council. The removal of this park from the Precinct is not considered appropriate and would be contrary to the controls identified in the Urban Design Guidelines. The Urban Design Guidelines specify that 70% of the park is to achieve a minimum of two hours of sunlight between 9am and 3pm on 21 June. The amended proposal maintains compliance with this requirement to provide a high level of amenity year-round.

during the winter solstice, we are still concerned this is quite minimal for a site that will consist of plantings such as trees, shrubs and turf, and the ability to keep this vegetation thriving during this period of the year with anticipated high use. The grassed area appears to be in the north of the park, likely to receive the least amount of sunlight.

Additionally, future developments on the south-eastern side of Carrington Road will create increased shadowing upon the park. This will be a similar scenario for the two other pockets of open space along Carrington Road between Doran Drive and Andalusian Way.

It is to be noted that the Showground Arena is designated for upgrade under the Western Sydney Infrastructure Grants Program. The arena will be developed to accommodate a variety of sports, festivals and cultural events. An upgrade of lighting is proposed to meet current Australian Lighting Standard for this site. The lighting design includes four lighting towers located within the arena. the lighting levels will initially attain a level of 500Lux with the capacity to upgrade to 1500Lux. It is therefore suggested that the proponent considers some form of block-out screens to reduce any light glare on the apartment's that directly face the arena.

Sports, festivals, and events will also create a level of noise and as this development is in close proximity to the arena it could be expected that for a sports event and music festival the noise level could reach between 75(dBA) - 110(dBA). *NSW EPA Noise Guide for Local Government (January 2023) page 166.*

It is therefore suggested that all windows and glass doors that face the arena be triple glazed to reduce the impact of noise at such levels.

Response – Peipei Feng, Project Engineer at Acoustic Logic

Potential noise impact from special events at Castle Hill Showground to the proposed development has been assessed in the Acoustic Report prepared by Acoustic Logic dated 15 December 2023. Specifically, a summary of the assessment findings is presented below with reference to the location of content in the report:

- Section 3.1 – Figure 1 shows the noise measurement locations conducted by Acoustic Logic.
- Section 5.5.3 presents the attended noise measurement levels from special events. Prediction has been made for future façade noise levels resulting from special events considering distance attenuation and any barrier effect.

Section 6.4.1 presents external glazing recommendations based on predicted façade noise levels. For the worst affected northern facades of buildings A and D (with line of sight to the showground), external glazing with thickness of 10.38mm laminated is sufficient to achieve compliance with designed internal noise criteria presented in Section 6.3.1 of the report (namely 35Db(a)Leq(9hr) for bedroom, and 40Db(A)(Leq(15hr) for living room with windows closed.

Landscaping

It is recommended that further details are provided on Landscape Plans which include:

- Retaining walls and planter boxes, with Top of Wall (TOW) heights for all retaining walls or planter boxes.
- Fully detailed planting plans indicating species locations on plan and in planting schedule including name, size and quantities.
- Proposed fencing heights and materials. All fencing and retaining walls along street frontages are to be setback to allow for planting forward.

The development is to ensure that any planting above basement extents or on slab are in accordance with the *THDCP Part C Section 3 – Landscaping* minimum soil depth requirements where:

- 1.2m for large trees, 1m for medium trees and 800mm for small trees;
- 500-600mm for shrubs;
- 300-450mm for groundcover; and
- 200mm for turf.

Note: this is the soil depth alone and not the overall depth of the planter, and that mounding to achieve soil depth is not supported.

If the framework for landscaping is not approved under the Concept DA, a minimum of 50% of the site is to be landscaped as per *THDCP Part D Section 19 – Showground Station Precinct Clause 6.3 (1)* and *THDCP Part B Section 5 – Residential Flat Building Clause 3.6 (a)*. Please provide Landscape Area diagrams that clearly show areas of landscape area. Note that landscape areas are to have a minimum width of 2m to be

Response – Charlie Robinson, Director at Land and Form Landscape Architects (RLA 5898)

An amended Landscape Report (**Appendix 29**) and Landscape Plans (**Appendix 30**) have been prepared by Land and Form which address these requirements. The proposed fencing design is shown on the architectural plans (**Appendix 1 and 3**).

Response – Charlie Robinson, Director at Land and Form Landscape Architects (RLA 5898)

Soil depths are in accordance with *THDCP Part C Section 3 – Landscaping* minimum soil depth and ADG planting on Structures.

Plans indicate TOW and SSL set down in slab – where they vary from 400mm set down to 150mm set down on rooftops.

Response – Charlie Robinson, Director at Land and Form Landscape Architects (RLA 5898)

Noted. Please refer to tree canopy and landscape diagrams included as part of the Landscape Plans at **Appendix 30**.

The site achieves the 40% canopy target in accordance with the UDG. The site achieves the 33% total landscape areas which exceeds the 15% required in

included in the landscape area calculations.

Ensure that fencing is integrated with landscaping with variations in the planting to provide an attractive street frontage. All boundary fencing/walls fronting a street are to be setback to allow for landscaping.

Street Trees planting is to be in accordance with the *Showground Precinct Public Domain Plan* and *Showground Precinct Verge Treatment* details.

'Driveways are to be screened by a minimum of two metre wide landscaping strip on either side.' in accordance with *THDCP Part C Section 3 – Landscaping Clause 3.12 Car Parking*.

Location of stormwater and fire egress paths are to be coordinated with landscape designs to reduce conflicts with planting.

Indicate the location and detail of letterboxes, fire services such as boosters and substations, and integrate into landscaping.

the UDG.

Response – Charlie Robinson, Director at Land and Form Landscape Architects (RLA 5898)

Fencing has been setback a minimum 1.5m to allow for a landscape treatment. Refer to the architectural plans (**Appendix 1** and **3**) for fence types. Suspended mesh walkways are also proposed to landscape and deep soil zones.

Response – Charlie Robinson, Director at Land and Form Landscape Architects (RLA 5898)

DA 988/2022/DA approved the location of street trees within the public domain. The subject SSDA seeks approval of the publicly accessible pedestrian link which includes a continuous tree canopy as required by the Urban Design Guidelines.

Response – Charlie Robinson, Director at Land and Form Landscape Architects (RLA 5898)

The driveway entry into Building B1 includes a landscape strip either side and the driveway entry into Building D2 includes a landscape strip to its south and the private open space of the terrace row to its north which incorporates landscaping at its interface with the public domain.

Response – Charlie Robinson, Director at Land and Form Landscape Architects (RLA 5898)

The amended landscape design has been co-ordinated with service planning relating to requirements regarding stormwater and fire egress.

Response – Charlie Robinson, Director at Land and Form Landscape Architects (RLA 5898)

The amended architectural plans and landscape plans have detailed the

Acoustics	The proposed development adjoins Showground Road which is a classified road. The development is to be designed to ensure acceptable internal noise levels, based on Environmental Criteria for Road Traffic Noise and Australian Standard 3671 – Road Traffic Noise Intrusion – Building Siting and Construction. It is expected that the development meets 35dB(A) in any bedroom between 10pm and 7am and 40dB(A) elsewhere (other than garage, kitchen, bathroom and hallway) at anytime. A statement from a qualified acoustic consultant certifying that the design and construction of the building meets the Environmental Protection Authority – Environmental Criteria for Road Traffic Noise and Australian Standard 3671 – Road Traffic Noise Intrusion – Building Siting and Construction is required to be submitted. Air conditioning unit locations are to be a minimum 450mm from the side/rear boundary, and is to comply with the SEPP (Exempt and Complying Development Codes) 2008 requirements. The development shall not give rise to offensive noise as defined under the Protection of the Environment Operations Act 1997. In addition, rock breaking and noise from the construction of the development shall comply with the EPA Draft Construction Noise Guideline. Council’s Engineering, Waterways, Traffic and Resource & Recovery Team are reviewing the submitted information and these comments will be forwarded to you once received.	location of these items and integrated them into the design.
	Response – Peipei Feng, Project Engineer at Acoustic Logic	The design of the proposed development complies with internal noise criteria presented in Australian Standard 3671. Detailed information is found in Section 6.3.1 and 6.4 of the updated Acoustic Report prepared by Acoustic Logic at Appendix 34.
	Noted.	
	Response – Lotti Wilkinson, Head of Planning at Deicorp	Noted. It is expected that a condition of consent regarding offensive noise will be included to ensure rock breaking and noise from the construction of the development complies with the EPA Draft Construction Noise Guideline.
	Noted.	

Letter Dated 3 May 2024

Flooding Comments	1. Lots 4 and 5 are not classified as a flood control lot. Any development proposed in these lots, including public domain and building infrastructure, is not subject to <i>The Hills DCP 2012 Part C</i>	Noted.
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Section 6, Flood Controlled Land. However, runoff generated within the site are to be properly managed and basement carparks are protected from ingress of overland flows.

2. Lot 3 is classified as a flood control lot. Any development proposed in this land is subject to *The Hills DCP 2012 Part C Section 6, Flood Controlled Land.* Noted.

3. The flood impact maps for the 1% AEP flood and Probable Maximum Flood (PMF) events (refer Figures 1 and 2 below) show the proposed development result in flood level increases downstream particularly along Mandala Parade and Doran Drive. These increases which at some locations can be greater than 100 mm are not acceptable to Council. Likewise, during the PMF event, the proposed development causes the expansion of the extents of the H5 and H6 hazard categories (i.e., hazardous to pedestrians and motorists) within Mandala Parade which adjoins the Showground Metro. Council needs the development to incorporate mitigation options within the subject site to minimise flooding impact downstream.

4. At the entry from Andalusian Way, the depth of flooding during the 1% AEP event can be up to 500 mm. Based on detailed survey, this area is the lowest section or sag of Andalusian and can pose a hazard to pedestrians and motorists. The drainage consultant is to consider adding more sag pits at this location especially as two kerb inlet pits will be converted into butterfly grated pits (to facilitate the construction of the entry layback) which have less intake capacity than kerb inlet pits.

Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal Civil Engineer), Mott Macdonald

Flood modelling that was mapped for the December 2023 was overly conservative without incorporation of the detention tanks. The detailed drainage network within the flood model has been supplemented with the detention tanks for the subsequent submission. The report discussion is also updated to this (and BCS) comments on hazard across the precinct.

This 2023 modelling also included an inconsistent mannings roughness value which created the ""worsening"" across much of the Figures 1+2 (of the comments letter dated 3rd May 2024). This inconsistency has been rectified for the subsequent submission.

Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal Civil Engineer), Mott Macdonald

The noted 500mm is the maximum of the flood map depth interval range (colour scheme only) and doesn't reflect the specific pond depth. A detailed review of the flood result reveals maximum depths (kerb invert) are less than 300mm. This is seen as to be a good outcome for flood hazard as:

- some local ponding at sags is anticipated in major events in the major/minor approach and this provides some attenuation to lower peak hazard beyond this location (downstream), and

- depths behind the kerb are less than 150mm which limits hazards to pedestrian areas.

Note that the detailed drainage design model completed in DRAINS indicates a ponding level that is equal to the centreline of Andalusian Way at approx 95.6m AHD. This confirms the road cross section causing the ponding on the east side of the road with ponding relief being the spill across Andalusian Way centreline. It's anticipated to have small variation in TWL from different analysis methods (flood model and detailed drainage design model) though both assessments confirm localised ponding to relatively shallow depths controlled by the road centreline.

5. In finalising the stormwater management strategy for this precinct, the drainage consultant is to consider the following:

- More drainage pits need to be added within landscaped spaces and public domain areas between buildings. This is to avoid water ponding at trapped spaces and low points.
- More grated openings need to be provided for on-site stormwater detention (OSD) tanks to allow better ventilation and facilitate maintenance.
- OSD tanks and rainwater harvesting tanks should be included in the MUSIC model. Both have, to a certain degree, the ability to retain pollutants from the stormwater they collect.
- Where space is available, paved access and vehicle parking need to be provided to facilitate the cleaning, maintenance and repairs of the filtration systems, rainwater tanks and OSD tanks.

Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal Civil Engineer), Mott Macdonald

Coordination of the flood model with the internal hydraulic design to be completed at detailed design stage, including detailed finished surface grading. Integration to the flood model will allow further details on flow capture developed in accordance with local grading of the internal areas.

OSD openings have been updated in the revised submission noting this will continue to evolve as part of the ongoing design development post SSDA.

Rainwater tank has been included in the MUSIC model. OSD tanks acting as peak flow constraints modelled as water treatment is not best practice. However, we took a more conservative approach to design the water treatment train.

ENGINEERING

1. Stormwater

1.1 Areas discharged into Council's stormwater infrastructure not draining into regional basins shall be designed to UPRCT handbook

Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal Civil Engineer), Mott Macdonald

3rd or 4th edition, specifically for OSD C (Buildings E1 & E2 areas). With this regard the following items are to be considered:

- 1.1.1. Bypass areas are to be limited to 15% of the site.
- 1.1.2. Calculations are to be provided in attached spread sheet
- 1.1.3. The OSD system shall be reconfigured to provide HED. This would also entail:
 - 1.1.3.1. All inlets shall be directed to the Stormfilter chamber which will be sized for the 4EY storm event.
 - 1.1.3.2. The underdrain from the SF chamber shall drain past the DCP and the orifice adjusted to account for the flow
 - 1.1.3.3. The SFC shall overflow into the HED which overflows into the main storage

1.2 Incorrect parameters have been applied to the submitted drains models and as a result, the systems are undersized. In particular please ensure that the correct tailwater conditions are used. When connecting into Council's stormwater infrastructure system, the 1% AEP tailwater should be set at the top of kerb or flood level (the higher value). If the applicant is of the opinion the Top of Kerb is too conservative, please demonstrate the HGL of the receiving system by modelling that system.

1.3 The geotechnical report has recommended a permanently drained basin with an expected groundwater take of 2.44 ML/yr. The stormwater management plans need to be revised to demonstrate how the groundwater is being treated and disposed of as per the detailed site investigation report. The model needs to be

Noted. Buildings E1 & E2 OSD has been designed to the UPRCT handbook. The following have been considered:

- Bypass areas: Currently 10% only of the total catchment area which is less than the 15% required.
- The updated civil package includes calculations using the spreadsheet provided by Council.
- The updated civil package has reconfigured the OSD system to include a High Early Discharge (HED) for Buildings E1 & E2 OSD.

The updated civil package integrates the following design elements:

- All inlets shall be directed to the StormFilter Chamber (SFC) which will be sized for the 4EY (3 months) storm event.
- The underdrain from the SFC shall drain past the DCP and the orifice adjusted to account for the flow
- The SFC shall overflow into the HED which overflows into the main storage

Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal Civil Engineer), Mott Macdonald

10% AEP tailwater conditions were based on the adjacent Doran Drive Precinct DRAINS model and the 1% AEP is based on the flood model results prepared by Mott Macdonald.

Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal Civil Engineer), Mott Macdonald

This has been noted in the updated Stormwater Management Report (**Appendix 16**), but it is noted that this will also for part of subsequent detailed

amended to cater for these flows.

1.4 Stormwater system shall be designed with Major minor principles. This means that minor flows are piped while major flows are managed via surface gradings (min 1%). The current proposal has areas of the site graded towards the buildings that does not allow for stormwater to be disposed of (trapped low points).

1.5 Areas bypassing the OSD shall still be drained to legal discharge points.

1.6 Adequate grates for access and ventilation for the OSD storages have not been provided. Grates are to be provided at the extremities of the tanks for cross flow ventilation and an access point every 3m.

1.7 Applicant shall demonstrate that the proposed stormwater systems are able to convey the 1%AEP storm event to the OSD storages.

1.8 Access and maintenance may be difficult due to the size and depth of the OSD storages. Critical hydraulic features should be located in common areas and away from highly trafficked areas.

design of the basement structure, it is not expected to affect the stormwater design or peak flows within the stormwater network.

Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal Civil Engineer), Mott Macdonald

The stormwater system has been coordinated with the landscaping to reduce or eliminate potential trapped low points at detailed design stage post SSDA approval. Stormwater management package drawing C-0050 (**Appendix 16**) shows more indicative surface inlet pits for open areas.

Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal Civil Engineer), Mott Macdonald

Noted. Bypassing areas are already drain to legal discharge point.

Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal Civil Engineer), Mott Macdonald

Grates are provided for cross ventilation and Mott Macdonald provided additional access points (covers) where appropriate.

Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal Civil Engineer), Mott Macdonald

During consultation with Council, Mott Macdonald provided the methodology and results from DRAINS model which demonstrates the 1% AEP stormwater conveyance within the OSD system. Please refer to Section 5 - Stormwater Management, particularly clause 5.1.4 of our Stormwater Management Plan (**Appendix 16**).

Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal Civil Engineer), Mott Macdonald

Based on the current site layout and both architectural and landscaping design constraints, Mott Macdonald has maintained the OSD for the following

reasons:

- Keeping the OSD storage system in its current location allows for seamless integration with the overall design, minimising the need for significant modifications.
- The current location has likely been carefully evaluated and determined to be the most suitable option given the site-specific factors.
- Maintaining the current positioning of the OSD storage system is the recommended approach to serve the development efficiently.

1.9 Any proposed work on council's land/road due to the proposed development shall be prepared and provided in accordance with Council's Design Guidelines Subdivisions/ Developments and Works Specifications Subdivisions/Developments.

Noted.

1.10 The OSD and Rainwater tanks shall be shown on the architectural plans and relevant sections plans. OSD and rainwater tanks are permitted on common areas only. Rainwater tanks and OSDs underneath the tenancy/habitable areas will not be supported.

Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal Civil Engineer), Mott Macdonald

The architectural plans (**Appendix 1** and **3**) detail the locations of OSDs and RWTs in their respective plans. The majority of OSD's are currently located underneath open space common areas / balconies however it is noted due to the size and orientation of the precinct it will not be possible to solely locate OSD in common areas or basements.

1.11 Any proposed work on council's land/road due to the proposed development shall be subject/ requires separate approval from Council beforehand via Section 138 of the Roads Act 1993.

Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal Civil Engineer), Mott Macdonald

Notes have been added to the stormwater management package drawing C-0050 (**Appendix 16**).

1.12 When OSD, Water sensitive urban design elements and Rainwater tanks are provided for the development, Positive Covenant & Restrictions under the 88E provisions of the

Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal Civil Engineer), Mott Macdonald

Notes have been added to the stormwater management package drawing C-

	Conveyancing Act 1919 are required to provide legal protection for the systems requiring owners to repair and maintain the OSD systems. 1.13 Please see clipping below for run error below and attached spread sheet for inconsistencies.	0050 (Appendix 16). Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal Civil Engineer), Mott Macdonald The DRAINS model has been updated (Appendix 19).
2. Flooding	2.1 Applicant needs to provide flood controls consistent with Council's DCP, Part C Section 6, Flood Controlled Land for lot 3 (Building C) and protect basement accesses from overland flow. A flood emergency response plan should be prepared prior to the issue of CC.	Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal Civil Engineer), Mott Macdonald Noted. Design approach protects from overland flow across all buildings (incl. building C) as summarised in the Flooding Assessment Report Section 4.3 provided at Appendix 21. A Flood Emergency Response Plan is to be developed for submission with CC application documentation.
3. Internal Traffic and circulation	3.1 The design of the Driveways, parking modules, circulation roadways and ramps (including obstruction, and curved roadways and ramps), and sight distance shall be designed in accordance with relevant AS/ NZS 2890.1, AS 2890.2 and AS/ NZS 2890.6. 3.2 It has not demonstrated clearly if the proposed 90-deg bend in the road can accommodate a HRV and B99 passing. It is observed however that there are variations to the approved subdivision plans that indicate this assessment may have been done. 3.3 The provided swept paths do not demonstrate that the driveways cater for two-way traffic consisting of a heavy rigid vehicle and light vehicle. Turn paths on the architectural are not clear.	Response – Josh Milston, Director at JMT Consulting The proposal, including parking modules, driveways and ramps, has been designed in accordance with the relevant Australian Standards AS2890.1, AS2890.2 and AS2890.6. This can be reinforced through a suitably worded condition of consent. Response – Josh Milston, Director at JMT Consulting The road design is consistent with the approved Landcom public domain plan which allows for suitable circulation and passing of vehicles. The subject proposal does not alter this approved roadway design. Response – Josh Milston, Director at JMT Consulting The site access driveways have been designed to accommodate the simultaneous passing of a 12.5m truck and a passenger vehicle. Refer to the updated Transport Assessment (Appendix 11) which includes swept paths

		analysis.
4. Geotechnical	4.1. Given the impacts of the proposed basements to the groundwater table, the applicant's Geotechnical Engineer shall investigate the impact of the seepage/groundwater/watertable on the proposed basements design, prior to excavation, during construction of the Basements, post construction phase, and shall provide a recommendation/conclude whether the basement shall be designed as a "tanked basement".	Response – Lotti Wilkinson, Head of Planning at Deicorp A Dewatering Management Plan has been prepared (Appendix 41) and shows the impact of the seepage/groundwater/water table on the proposed basements design. Based on the recommendation, the basement has been designed as a "Drained Basement".
5. Basement	5.1 The basement drainage system has not been provided as part of the stormwater management plans. The geotechnical report recommends permanently drained basements however no details about how the groundwater is treated and disposed of has been provided. 5.2 Prior to the issue of a Construction Certificate, the applicant is to submit detailed design drawings and other supporting documents, including geotechnical reports to Council for assessment which covers all tunnel works plus site excavation works. The Applicant will be required to meet the full cost of the assessment by Council. The geotechnical report will need to provide details on how the proposed road will be appropriately monitored for settlement during the tunnel construction period / excavation period and to clearly demonstrate to Council's satisfaction how settlement risks will be minimised. Permanent ground anchors are not permitted within the road reserve. 5.3 The Applicant is to be responsible for the operation and maintenance of the proposed tunnel. Appropriate agreements are to be in place to cover the tunnel including maintenance and operation. The agreement is to include lighting, ventilation, fire safety, traffic barriers, traffic management, drainage and other	Response – Lotti Wilkinson, Head of Planning at Deicorp A memo has been prepared by EI in support of the proposed drained basement which identifies how groundwater will be treated and disposed of (Appendix 39). Noted. Noted.

systems associated with the tunnel. The agreement is to include inspection, monitoring and reporting to Council's requirements.

5.4 The Applicant is to submit a Contingency Traffic Management Plan (CTMP) for the management of traffic flows in the local area should there be a major problem / emergency occur to the tunnel works within the proposed road. This CTMP must be submitted to the Council's Local Traffic Committee for approval prior to the commencement of any roadworks. Noted.

5.5 Any damage to Council's assets during construction or operation of the access tunnels are to be rectified to Council's satisfaction at full cost to the Applicant. Noted.

RESOURCE RECOVERY

Buildings A, B & C.

1. Plans do not show a bulky waste storage room on the lower ground floor plan where the loading bay is located.

A bulky waste storage area must be provided for building management to manage and store any bulky waste material from residents. Without the bulky waste storage area residents will most likely dump their bulky items in other places of the building including the bin collection room. This will then lead to bins not being collected as they won't be accessible by collection staff.

The bulky waste storage area must be sized to incorporate 4m² per 50 units. The room/area must open directly onto the loading bay.

2. Plans do not show the provision of a bin cupboard next to chute openings on residential floors.

A separate bin cupboard must be provided next to chute openings on every residential floor to allow for the disposal of larger items not suitable for chute disposal. Without the provision of the bin

Response – Hannah Wilkes, Senior Waste Consultant at Elephants Foot

A bulky waste room is located on Basement level B1, located centrally within Building B to enable ease of access for residents within Building A and C. The bulky waste room is adequately sized at 95sqm and is located next to the waste lift with direct access to the Loading bay above.

Response – Hannah Wilkes, Senior Waste Consultant at Elephants Foot

The architectural plans have been amended to incorporate a bin cupboard on all residential levels near the waste chute openings on residential floors.

cupboard, chutes will experience blockages and damages caused by residents trying to dispose of larger items via the chute openings.

The bin cupboard on every residential floor must be sized to store at least 1 x 240L bin.

3. It is noted that the chute termination rooms are located on Basement 1, the level underneath the Lower Ground Floor where the bin collection and loading bay are located. It is also noted that a 'waste lift' has been provided. This waste lift seems to be undersized to Council's standard requirements.

The waste lift shown on plans seems to be approximately 1.7m x 2.0m. Council's minimum requirements for goods lift are as follows:

A dedicated in-shaft goods personnel hoist must comply with AS1418.8 with:

- a minimum platform of 3m x 2.4m (approximately 3m x 3m shaft)
- a capacity of at least 2000kg
- electrically operated roller doors with full width door opening interlocked to the safe operation of the hoist
- programmed automatically to lift or lower on a single button control
- design registered to carry personnel with SafeWork NSW
- an operating speed of at least 9m per minute.

As the site will be moving bins to and from bin chute rooms and the bin collection room multiple times throughout the week as a twice weekly collection schedule will be implemented for both garbage and recycling, these requirements must be met to allow multiple bins to be transported between different levels with enough room

Response – Hannah Wilkes, Senior Waste Consultant at Elephants Foot

The plans have been amended to increase the waste lift size.

for caretaker staff in the lift.

**Buildings A, B
and C & Buildings
D and E**

4. It seems that the bin collection rooms for both basements can be reduced in size.

Buildings A, B and C plans show a bin collection room sized to store 24 x 1100L garbage, 24 x 1100L recycling and 23 x 240L FOGO bins.

Based on 425 units on a twice weekly collection of garbage (garbage compacted at a 2:1 ratio) and twice weekly collection of recycling (no compaction), the site will need a minimum of (see bold text below):

GARBAGE

425 x 120L per week (standard allocation) = 51000L waste generated per week.

51000L / 2 (compaction 2:1 ratio) = 25500L bin space needed per week.

25500L / 2 (collections per week) = 12750L bin space needed on a twice weekly collection schedule.

12750L / 1100L (bin size) = 11.5 bins, rounded up for best operational outcome: 12 x 1100L garbage bins

RECYCLING

425 x 120L per fortnight (standard allocation) = 51000L recycling generated per fortnight.

51000L / 2 (weekly collection) = 25500L bin space needed per week.

25500L / 2 (twice weekly collection) = 12750L bin space needed on a twice weekly collection schedule.

12750L / 1100L (bin size) = 11.5 bins, rounded up for best operational outcome: 12 x 1100L recycling bins

Response – Hannah Wilkes, Senior Waste Consultant at Elephants Foot

An updated Operational Waste Management Plan has been prepared by Elephants Foot (**Appendix 40**) which provides sufficient waste rooms based on the revised building envelopes.

FOGO – Remains the same.

Buildings D and E plans show a bin collection room sized to store 25 x 1100L garbage, 25 x 1100L recycling and 24 x 240L FOGO bins.

Based on 448 units on a twice weekly collection of garbage (garbage compacted at a 2:1 ratio) and twice weekly collection of recycling (no compaction), the site will need a minimum of (see bold text below):

GARBAGE

448 x 120L per week (standard allocation) = 53760L waste generated per week.

53760L / 2 (compaction 2:1 ratio) = 26880L bin space needed per week.

26880L / 2 (collections per week) = 13440L bin space needed on a twice weekly collection schedule.

13440L / 1100L (bin size) = 12.2 bins, rounded up for best operational outcome: 13 x 1100L garbage bins

RECYCLING

448 x 120L per fortnight (standard allocation) = 53760L recycling generated per fortnight.

53760L / 2 (weekly collection) = 26880L bin space needed per week.

26880L / 2 (twice weekly collection) = 13440L bin space needed on a twice weekly collection schedule.

13440L / 1100L (bin size) = 12.2 bins, rounded up for best operational outcome: 13 x 1100L recycling bins

FOGO – Remains the same.

Response – Hannah Wilkes, Senior Waste Consultant at Elephants Foot

An updated Operational Waste Management Plan has been prepared by Elephants Foot (**Appendix 40**) which provides sufficient waste rooms based on the revised building envelopes.

General Resource Recovery comment:	A 'before the issue of an occupation certificate' condition is recommended to be applied requiring the developer to contact Council's Resource Recovery team to conduct a Final Waste Inspection before an OC is provided. Noted. This inspection will give Council's Resource Recovery team an opportunity to plan the ongoing servicing of the site and recommend any minor changes that may be needed such as; installing signage, line marking to guide vehicle manoeuvring. For reference, see below standard Council condition. 6PP_BIC B46704 Final Inspection of Waste Storage Area(s) 134. Final Inspection of Waste Storage Area(s) Before the issue of an Occupation Certificate, a final inspection of the waste storage area(s) and associated management facilities must be undertaken by Council's Resource Recovery Project Officer to assess compliance with the design specifications and ensure that the necessary arrangements are in place for domestic waste collection. The time for the inspection must be arranged with Council for a mutually convenient time. Condition reason: To ensure the waste storage area is compliant with the approved design specifications.
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3.3 Public Agency Submissions

Table 8 sets out a response to each issue raised within submissions received by public agencies.

Table 8: Public Agency Submissions & Responses

Issue	Comment	Response
Transport for NSW		
Showground Road Integrated Transport Action Plan Requirements	<u>Comment:</u> TfNSW advise the Department that subject the property is within an area under investigation for a possible future road widening project along Showground Road, which supports enhancements to the active and public transport (buses) for the precinct. Investigations completed to date indicate that part of the subject property could be required if the preferred option is adopted as shown by pink colour:  <u>Recommendation:</u> To support active and public transport enhancement in the precinct, TfNSW recommends that the area in pink should be identified on	Response – Lotti Wilkinson, Head of Planning at Deicorp The architectural plans prepared by Turner (Appendix 1) include the area shown pink in the corresponding plan. There is no built form located within this area.

	plans of the development and any buildings and structures is kept clear of this area.	
Civil works on the classified road network	<u>Comment:</u> TfNSW notes that some minor civil works is proposed on Showground Road, which is a classified road. TfNSW concurrence under section 138 of the Roads Act, 1993 will be required for any works or structures proposed on Showground Road. <u>Recommendation:</u> As part of any Planning Approval issued, the Applicant should be conditioned to obtain TfNSW concurrence under section 138 of the Roads Act, 1993 for any civil works on Showground Road.	Noted.
Green Travel Plan	<u>Recommended Condition:</u> As part of the ongoing operation of the development, a detailed Green Travel Plan (GTP), which includes target mode shares to reduce the reliance on private vehicles, shall be prepared. The GTP must be implemented accordingly and updated annually. <u>Reason:</u> To encourage and support sustainable transport outcomes for future users of the development, particularly with high levels of current and future public and active transport accessibility.	Noted.
Construction Pedestrian Traffic Management Plan	<u>Recommended Condition:</u> Prior to the issue of any construction certificate or any preparatory, demolition or excavation works, whichever is the earlier, the applicant should prepare a Construction Pedestrian and Traffic Management Plan (CPTMP) in consultation with TfNSW. The CPTMP needs to specify matters including, but not limited to, the	Noted.



following:

- A description of the development.
- Location of any proposed work zone(s).
- Details of any alteration/s to the traffic arrangements on Showground Road, including any lane closures.
- Details of crane arrangements including location of any crane(s) and crane movement plan.
- Haulage routes.
- Proposed construction hours.
- Predicted number of construction vehicle movements, detail of vehicle types and demonstrate that proposed construction vehicle movements can work within the context of road changes in the surrounding area, noting that construction vehicle movements are to be minimised during peak periods.
- Construction vehicle access arrangements.
- Construction program and construction methodology, including any construction staging.
- A detailed plan of any proposed hoarding and/or scaffolding.
- Measures to avoid construction worker vehicle movements within the precinct.
- Consultation strategy for liaison with surrounding stakeholders, including other developments under construction. Identify any potential impacts to general traffic, cyclists, pedestrians, and bus services within the vicinity of the site from construction vehicles during the construction of the proposed works. Proposed mitigation measures should be clearly identified and included in the CPTMP; and

- Identify the cumulative construction activities of the development and other projects within or around the development site. Proposed measures to minimise the cumulative impacts on the surrounding road network should be clearly identified and included in the CPTMP.

Submit a copy of the final plan to TfNSW for endorsement via development.ctmp.cjp@transport.nsw.gov.au.

Reason:

Ameliorate impacts to the surrounding transport and classified road network throughout the development's construction activities.

Sydney Metro

Deicorp will continue to work directly with Sydney Metro in finalising the requested information to enable concurrence to be issued.

BCS

Key Assessment Issues

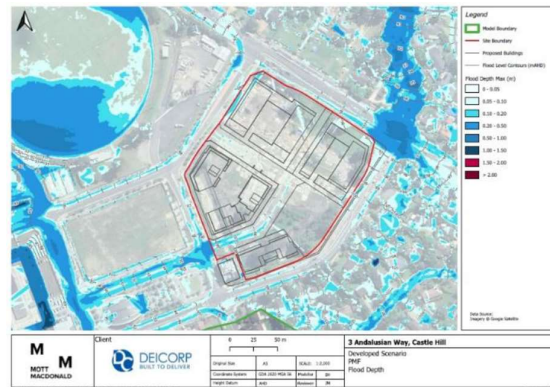
The flood depth modelling results provided in the Flood Impact Assessment is inconsistent.

The proponent has provided flood depth and hazard information for the 1% AEP and PMF pre and post development scenarios. The afflux maps provided in Appendix D appear to show an increase in flooding of 300mm to 500mm throughout the site (Figure 1 below), however this does not appear to be present in the developed scenario results provided (Figure 2 below).

Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal Civil Engineer), Mott Macdonald

Modelling tolerance/cutoff depth has been made consistent across the depth and other results in the updated mapping (noting the rainfall on grid approach the 10mm cutoff is required for clarity) i.e. Flood depths now shown below 50mm down to the 10mm cutoff.

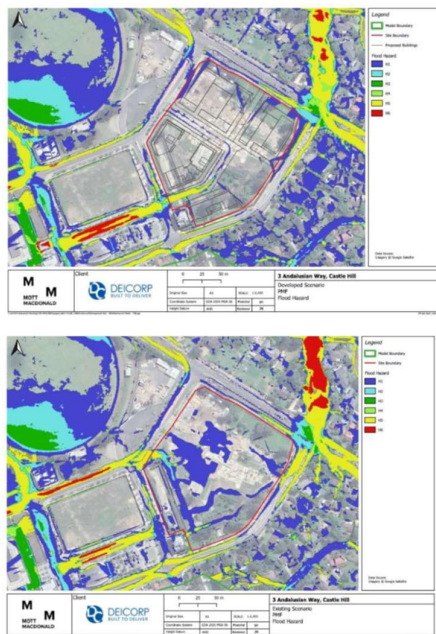
Refer to the updated Flood Report prepared by Mott Macdonald (**Appendix 21**).



The figures need to be corrected and resubmitted to BCS for review. It is important to note that that flood damage occurs from very low depths of floodwater. The impacts are shown as 30mm – 50mm. The precise increases at any affected entry point should be stated and mitigation measures should be considered where appropriate to address excessive increases to flood depths.

The flood depth and hazard increases to Mandala Parade east of the site is unacceptable.

Based on the figures provided, the post development scenario significantly increases the flood depths and hazard on Mandala Parade (Figure 3 vs Figure 4). Ministerial direction 4.1(3) requires that the proponent must not increase flood risk to other properties or significantly increase the requirement for government spending on emergency management services, emergency response measures.



Recommended action:

The proponent needs to demonstrate that the increases in depth and hazard on public and other private properties can be mitigated.

Extent & Timing – Pre-determination

Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal Civil Engineer), Mott Macdonald

Initial modelling omitted the influence of the detention storage tanks in mitigating peak flows in major to extreme events. Modelling has been revised to include the attenuation provided by these detention facilities within the SSDA. Revised mapping is provided which demonstrates that flood hazard in the PMF is similar in nature to the pre-SSDA conditions. Notable changes include reduction in high hazard areas in Andalusian Way, De Clambe Dr and Carrington Road compared with pre-SSDA conditions. No noticeable change of high hazard areas on Mandala Parade, and some increased depth/hazard at new sag/intersection points at Andalusian Way and De Clambe Dr.

Note that this SSDA is a (later) stage of the approved Showground Precinct plan, refer to SSD-9653. The design for this SSDA has been carried out in accordance with the concept that was approved under the Showground Precinct EIS and associated reports including the Hills Showground Station Precinct Integrated Water Cycle Management Strategy (HSSPIWCMS). This SSDA aims to be consistent with the approval that was given to the precinct inclusive of the Showground East concept. Further clarification in the Showground Precinct submissions report notes the design of the southwest basin accounted for the precinct, which explains the direction of grading that is seen in the wider precinct streets that accommodate the flows in excess of the piped capacity. With this regional basin management some interim changes to flood hazard are expected as subsequent stages of the precinct are developed.

The occupiers of

Please note that access to the site is subject to crossing H5

Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal

the site are isolated in rare event by H5 floodwaters.	floodwaters. H5 refers to a level of hazard which is “unsafe for vehicles and people. All buildings vulnerable to structural damage, some less robust building types vulnerable to failure”. Recommended action: The proponent needs to demonstrate that the increases in depth and hazard on public and other private properties can be mitigated. Extent & Timing – Pre-determination	Civil Engineer), Mott Macdonald Section 4.9.2 of the HSSPIWCMS notes the evacuation is prevented via Carrington Road at Cattai Creek. The direction provided by the approved rezoning precinct strategy is for shelter in place, or evacuation via Showground Road. Shelter in place is feasible as the site is on a ridgeline so evacuation is not required to achieve safety. Access to the site by emergency vehicles or egress from the site by vehicle is by Showground Road. Showground Road experiences temporary ponding at low points during intense flood events. This will cause disruption to movements along the corridor temporarily, but the road will provide access to emergency vehicles after the most intense of short duration storm events pass. It's noted Showground Road cannot be modified within the scope of this project. Mandala Parade is not safe in major to extreme events. This SSDA is not suggesting the use of Mandala Parade in any way during flood events. This elevated hazard in the road reserve is the case prior to the SSDA and the SSDA cannot resolve this issue, though through attenuation and civil design there are improvements to flood hazard in Carrington Rd, Andalusian Way and De Clambe Dr. These alternative routes (to Mandala) receiving a flood hazard reduction from the SSDA is favourable to the Hills Showground Station site and the De Clambe development sites.
Shelter in Place is recommended as the flood risk management strategy.	The 2023 Flood Risk Management Manual suggests that shelter in place should only be considered as a flood risk management measure for existing communities or through redevelopment in existing zoned areas. It is not endorsed for the creation of new communities through rezoning. Any proposed emergency response strategy for a development needs to consider any existing Local Floodplain Management Plan or emergency management response strategy for the community, the evacuation capability of any existing community. The NSW SES should be consulted in this regard.	Response - Daniel Fettell (Technical Director) & Aladdin Tarshan (Principal Civil Engineer), Mott Macdonald The rezoning was completed for the Hills Showground Station Precinct in 2021, refer to SSD-9653. The HSSPIWCMS of that approved rezoning has informed the design development for this SSDA. This SSDA is not seeking approval for rezoning but does provide the future occupants of the SSDA development site with the guidance on flood risk across the precinct to enable safe actions in the event

Recommended action:

Emergency Management for the site should be in accordance with the Flood Risk Management Manual. Specifically, the 2023 Flood risk management guideline EM01 Support for emergency management planning provides principles for emergency management.

Extent & Timing – Pre-determination

of major and extreme flood events.

The flood emergency management (EM) strategy for Showground East has been assessed following advice provided in Flood risk management guideline EM01 - Support for emergency management planning (DPE 2023) and relevant plans from the NSW SES.

The EM01 guideline provides advice on how the flood risk management (FRM) framework and process described in the *Flood risk management manual: the policy and manual for the management of flood liable land* (DPE 2023) can consider and support flood EM.

Given the following constraints and the already approved zoning, there are limited opportunities for an effective evacuation to be enacted in this flash flooding catchment:

- The site is at risk from flash flooding; flooding that has a relatively high discharge over a short duration – the interval between the observable causative event and the flood is less than six hours. Consequently, there is insufficient warning time to adequately evacuate the population of the precinct. Additionally:
- the opportunities for evacuation during a storm are limited as surrounding streets are subject to high flood hazards that present an unacceptable risk to people. NSW SES advice is not to venture out during a storm or cross any area of flood inundation.
- the rate of rise and extent of flooding in the most extreme events means that emergency evacuation centres may not get set up and evacuees would generally have to take shelter in other private premises.
- the time of isolation is short, based on the duration of flooding around the precinct. A development which is isolated for a few minutes by low hazard flood water in PMF does not pose a significant risk to life.

- redevelopment affords a means of creating a safe, on-site shelter above the PMF.
- redevelopment which caters for sheltering in place can be used to reduce existing risk to life for individuals who currently occupy the floodplain but it is likely to increase the number of individuals at risk.

Biodiversity

BCS issued a Biodiversity Development Assessment Report (BDAR) waiver for this SSD on 18 October 2023 and the Department of Planning, Housing and Industry (DPHI) granted the BDAR waiver on 24 October 2024. The EIS is consistent with the description listed in Schedule 1 of the determination of works in the BDAR waiver and therefore BCS has no further comment to make.

BCS reiterates that if the proposed development is changed so that it is no longer as described in Schedule 1 of the determination, the applicant will need to lodge a new waiver request or prepare a BDAR.

Response – Lotti Wilkinson, Head of Planning at Deicorp

The amended proposal remains consistent with the description listed in Schedule 1 of the determination of works in the BDAR waiver.

DCCEE Water Group

1.0 Water take and licensing

1.1 Recommendation – pre-determination

That the proponent confirms the maximum annual volume of water take due to aquifer interference activities and demonstrates the ability to acquire sufficient water entitlement unless an exemption applies.

Explanation

The provided assessments identified basements A & B as intercepting groundwater and notes Basement C will not, however it is unclear if groundwater will be intercepted for basements D and E. If dewatering is required for these basements, the volume needs to be quantified.

Response – Ben Aggar, Project Manager at EI Australia

The EI Australia report (Titled: Groundwater Seepage Analysis, Ref. E26143.G12, Dated 6 December 2023 included in **Appendix 41**) modelled the expected volume of groundwater to be extracted over a 365 day period to be 2.44 mega litres (ML). This was modelled for the 4 level basement of Building A and B only, as the design groundwater level for the other basements were below the respective proposed BEL.

There is currently an exemption available through DCCEE and WaterNSW for dewatering groundwater volumes of less than 3ML and therefore no entitlements are expected to be required for this project. However during the

It is unclear if the stated estimate of 2.44ML/year provided is an average or maximum potential take, or if it applies to all or part of the project. Should this maximum take exceed 3ML/year, assessment of the ability to obtain entitlement should also be included.

course of basement excavation and construction should the volume exceed 3ML/year, then a Water Access Licence (WAL) and water share entitlements will be applied for and sought.

1.2 Recommendation – post approval

The proponent must ensure a water access licence (WAL) is obtained to account for the maximum predicted water take for construction and operation activities, unless an exemption applies under the Water Management (General) Regulation 2018.

Explanation

Under the Water Management Act 2000, if groundwater is intercepted a WAL must be obtained prior to any water take occurring unless an exemption under Clause 7 of Schedule 4 of the Water Management (General) Regulation 2018 applies. An exemption may be available if water take is less than or equal to 3 ML per water year, subject to the development meeting other exemption requirements, such as:

- the water is not taken for consumption or supply;
- the person claiming the exemption keeps a record of the water taken under the exemption and provides this to the Minister within 28 days of the end of the water year; and
- the records are kept for 5 years

Response – Ben Aggar, Project Manager at EI Australia

Refer comments above.

FRNSW

It is deemed that the proposal has limited scope and application in regard to special hazards or special problems of firefighting. FRNSW submit no comments or recommendations for consideration, nor any requirements beyond that specified by applicable legislation.

Noted.

While there is currently no requirement for a Fire Safety Study, FRNSW may recommend one be undertaken at a later stage should information be provided such that the development is deemed to pose special problems of firefighting or special hazards exist that require additional fire safety and management measures.

DoE

Service Planning Advice

Given the proposed SSDA scope is going to generate 873 high density residential dwellings – it is important to note the impacts the new dwellings will have on the existing and proposed network of schools in the area. The proposed SSDA will contribute to heavy demand in this area.

Demand pressure in the locality is high associated with ongoing precinct planning.

Further, recent policy changes such as the Affordable Housing Bonus, Build to Rent Program and the Transport Orientated Development Program have potential to impact a range of site-specific and strategic matters for NSW government schools. This, combined with incremental creep from planning proposals and development applications seeking population projections above these assumptions is aiding in educational establishments being at or above capacity upon build completion. The need to then source new land for additional educational establishments is problematic and costly when this situation arises.

Response – Lotti Wilkinson, Head of Planning at Deicorp

Noted. The proposed SSDA is consistent with the Concept Approval (SSD-9653) in terms of the density of development and predicted residential dwelling population.

Traffic and Transport

It is noted that the project involves construction of 873 dwellings and associated basement parking, landscaping, civil and stormwater works. five existing government schools have been identified in proximity (within 1.6km) to the project are outlined in the table below.

Response – Josh Milston, Director at JMT Consulting

The footpaths in the precinct were subject to a separate design exercise undertaken by Landcom and approved under a separate project application (SSD-9653-Mod-2). These footpath widths were reviewed by relevant agencies including Council and TfNSW at the time of the project application and considered acceptable. The approved footpath widths are generally over

School
Castle Hill Public School
Castle Hill High School
Excelsior Public School
Crestwood High School
Samuel Gilbert Public School

It is anticipated that the residents of the proposed development would include children who would attend the above schools or any new school that may be required. Although the project is conveniently located adjacent to the Hills Showground Metro Station, the project should consider filling the gaps in the active transport links between these schools and the project to encourage students and staff to walk safely from the schools to the light rail stations.

Pedestrian safety should be considered for developments within walking distance to school sites noting that students are considered vulnerable road users for transport purposes. Students are considered within walking or riding distance of their primary or secondary school if they live within a straight-line distance of 1.6km from the primary school or 2.0km from the secondary school. This is referred to as the 'active travel zone' (ATZ).

It is therefore requested that the recommendations outlined below be considered when assessing and determining the application. This is to ensure schools and student learning outcomes are enhanced and not adversely impacted.

- The footpaths within the precinct and in the surrounding roads should comply with the minimum requirements of TfNSW Walking Space Guide to ensure that sufficient space is provided to achieve comfortable environments which encourage people to walk.
- Vehicular movements into the basement car parks would result in conflict between vehicles and pedestrians,

2m width (at a minimum) and therefore comply with the minimum requirements noted in the TfNSW Walking Space Guide. The subject proposal does not alter the agreed footpath widths and in this context is considered appropriate.

To emphasise pedestrian priority the driveway entrances are to be fully integrated with the adjoining footpath, at one continuous level. This is consistent with the recommendation provided by DoE.

In response to the item raised in the Road Safety Audit, the design has been amended to provide a sight triangle in accordance with Figure 3.3 of AS2890.1

especially school children walking on the footpath.
Installation of continuous footpath treatments across these driveways would minimise conflict with pedestrians.

- Item 1 of the Road Safety Audit findings identifies lack of sight lines from the basement carpark of Lot 4, such that exiting drivers cannot see pedestrians walking to and from the Metro Station. Provision of sight triangles as specified by AS 2890.1 would minimise vehicle/pedestrian conflict. This would maximise pedestrian safety compared to a safety mirror that could distort image in a high pedestrian activity area.

Sydney Water		
Water Servicing	• The proposed development site is in the Rogans Hill Water Supply Zone. • High level assessment suggests the system may have capacity to service the development at this stage. • This will be reassessed during the S73 application.	Noted.
Wastewater Servicing	• The proposed development site is in the Castle Hill SCAMP. • High level assessment indicates that trunk and reticulation system will have limited capacity to service this development. • The Applicant must engage a hydraulic consultant to demonstrate that the performance of the system will not deteriorate in both dry and wet weather due to the addition of the development. • The Applicant should undertake an Options Assessment to understand the implication to Sydney Water's system and potentially identify augmentations.	Response – Lotti Wilkinson, Head of Planning at Deicorp Noted. This requirement can be included as a condition of consent and can be undertaken during the detailed design stage.

	The Applicant will need to submit an EP catchment plan and flow schedule to Sydney Water for review. Lead-in mains will be required to be sized to service the natural catchment as per the WSAA code.	
Growth Information	Sydney Water supports government-backed growth initiatives within our area of operations, striving to provide timely and cost-effective water and wastewater infrastructure without undue impacts. To offer robust servicing advice and investigate staged servicing possibilities, we require anticipated ultimate and annual growth data for this development as outlined in the enclosed Growth Data Form.	Response – Lotti Wilkinson, Head of Planning at Deicorp Noted. Completion of this form will be made as part of a Sydney Water application submission.
Next steps	- Should the Department decide to progress with the subject development application, Sydney Water would require the following conditions be included in the development consent. Further details of the conditions can be found in Attachment 1 - o S73 Compliance Certificate - o Building Plan Approval - An Options Assessment will be required to understand the implications of the proposed development on Sydney Water's wastewater system. - An Options Assessment can take considerable time and as such, the Applicant is advised to lodge a feasibility to progress this now or their Section 73 application as soon as possible. Failure to do so, may significantly impact the development timescales. - The proponent should complete and return the enclosed Growth Data Form as part of their Sydney Water application submission. We request the Growth Data Form	Noted.

to be updated promptly in case of changes or every six months through the process outlined above.

- The Department is advised to forward the enclosed Sydney Water Development Application Information Sheet (for proponent) to assist the proponent in progressing their development. This Info Sheet contains details on how to make further applications to Sydney Water and provides more information on Infrastructure Contributions.

Endeavour Energy

Please refer to Endeavour Energy's submission made to the Department on 10 December 2019 for the public exhibition of State Significant Development SSD-9653 Hills Showground Station Precinct (Lots 53, 55 and 56 DP 1253217 and Part Lot 50 DP 1253217) being for the 'Concept proposal for a mixed-use precinct adjacent to the Hills Showground Station, including maximum gross floor area for residential and non-residential land uses, building envelopes, parking rates, principal subdivision and public open space'.

Noted.

The EIS includes the following advice addressing whether the available electricity services are adequate for the proposed development.

5.1 Authority Consultation

5.1.3 Endeavour Energy

JHA Consulting Engineers submitted an Application for Connection to Endeavour Energy for the site. Endeavour Energy has since provided a Design Brief indicating that Level 3 design for the substation infrastructure will be required to facilitate the required electrical load for the proposed development. This Design Brief will be used in the preparation of the design package that will be submitted for certification. A copy of the correspondence between JHA Consulting Engineers and Endeavour Energy is at **Appendix 41**.

Accordingly the applicant will need to complete the application for connection of load process with Endeavour Energy's Customer Network Solution Branch who are responsible for managing the

Response – Kosma Tzannes, Director at JHA Engineers

JHA has completed a subdivision application for the development site to be made into three new lots and have received an EE Supply Offer (URS29725) which was returned on 08/07/2024 for EE processing.

JHA is currently awaiting the EE Design Brief.

Formal Connection applications for each lot connection to substation infrastructure will follow once the substations are designed under the EE Subdivision Project URS29725.

conditions of supply with the applicant and their Accredited Service Provider (ASP).

The Utility Services / A17 Infrastructure Management Report includes the following advice regarding the Proposed Substation Infrastructure required to facilitate the proposed development.

4.2 ELECTRICAL INFRASTRUCTURE

4.2.1 PROPOSED SUBSTATION INFRASTRUCTURE

From a high-level desktop assessment, it is expected that the following Endeavour Energy infrastructure will be required on the site:

- Lot 3: 1 x new Endeavour Padmount Substation located along the Andalusian Way Boundary
- Lot 4: 1 x new Endeavour Padmount Substation located along the New Council Road Boundary
- Lot 5: 2 x new Endeavour Energy Padmount Substations, one located in the northeast corner of the site; the other located in the middle of the site close to the Showground Road boundary.



Figure 8: Proposed Endeavour Energy substation Infrastructure

The required padmount substations will need to be located within the property (in a suitable and accessible location) and be protected (including any associated cabling not located within a public road / reserve) with an appropriate form of property tenure as detailed in the attached copy of Endeavour Energy's 'Land Interest Guidelines For Network Connection'.

Generally it is the Level 3 Accredited Service Provider's (ASP) responsibility (engaged by the developer) to make sure substation location and design complies with Endeavour Energy's standards the suitability of access, safety clearances, fire ratings, flooding etc. If the substation does not comply with Endeavour Energy's standards, the

Response – Kosma Tzannes, Director at JHA Engineers

The proposed pad mount substations will be located within the lot boundary they are servicing and will include easements in favour of Endeavour Energy as required. The proposed substation designs will be in accordance with EE network standards.

applicant must request a dispensation.

The foregoing is in keeping with the recommendations and comments made in Endeavour Energy's submission to SSD-9653 which essentially remain valid. Subject thereto and based on the foregoing Endeavour Energy has no objection to the Development Application.

Please find attached for the applicant's reference a copy of Endeavour Energy's Standard Conditions for Development Applications and Planning Proposals, Version 9, August 2023 which provides some additional and updated information. Noted.

Transgrid

We can advise this proposal is not impacted by either a Transgrid Easement and/or asset. However, upon further review Endeavour Energy appear to operate within these areas. Noted.

3.4 Public Submissions

Table 9 sets out a response to the issues raised in public submissions.

Table 9: Public Submissions & Responses

Comment		Response
Public Submission #1	- Why are over 800 car spaces required given the development's location so close to infrastructure including the metro and bus connections. - The site's proximity to Castle Towers using bus/metro and walking distance to the local high school does not justify the need for so many car spaces.	Response – Lotti Wilkinson, Head of Planning at Deicorp The car parking rates for the Precinct are set out in the Urban Design Guidelines for the Hills Showground Station Precinct. The proposed development makes provision for a total of 917 off-street parking spaces for residents and visitors which is compliant with the Urban Design Guidelines for the Hills Showground Station Precinct.
Public Submission #2	- Height restriction should be kept to a maximum of 10 storeys. - Proposed height of 16 storeys is too high. - Impacts from additional motor traffic and additional residents within the areas which cause issues on existing roads, retail, medical and education facilities.	Response – Lotti Wilkinson, Head of Planning at Deicorp The site is subject to a Concept Approval (SSD 9653) which approved a new road which creates three distinct development parcels, as well as Precinct East Park. Each development parcel contains building envelopes ranging from 3 to 16 storeys in height and with a maximum GFA allocation of 86,275 square metres and maximum apartment yield of 873 apartments. During the assessment of this SSDA, it was identified that compliance with the heights set out in the Concept Approval would result in non-compliances with the solar access controls contained in the UDG at Section 2.16(1). Specifically, adverse overshadowing would occur to the Station Plaza and Precinct East Park which are required to achieve 65% and 70% solar access at midwinter, respectively. As a result, the heights have been redistributed within the precinct whilst maintaining compliance with the desired density envisaged for the Precinct. The Concept Approval has established that the site is suitable for accommodating residential development, specifically 873 apartments, in a

site located close by to amenities and public transport. The traffic impacts have been assessed in a Transport Assessment provided at **Appendix 11**.

It is noted the proposal will be subject to developer contributions, in accordance with Council's Contributions Plan No. 19 – Showground Precinct. Developer contributions will be made towards the cost of providing local public infrastructure and facilities required as a consequence of the development.

4. Updated Project Justification

The Submissions Report has responded to each of the issues raised in the government agencies and public submissions received regarding the proposed residential development at the site.

4.1 Strategic Context

The revised proposal remains consistent with the objectives and visions of the relevant strategic policies, including:

- NSW State Premier's Policies
- Greater Sydney Region Plan
- Western Sydney District Plan
- Better Placed – An Integrated Design Policy for the Built Environment of NSW
- The Hills Local Strategic Planning Statement
- Sydney Metro North West Corridor Strategy
- Future Transport Strategy
- NSW Planning Guidelines for Walking and Cycling
- Connecting with Country Framework
- Healthy Urban Development Checklist
- Sydney Metro Underground Sections Corridor Protection Guidelines

The revised proposal provides a high density residential development immediately adjacent to the Showground Station. The proposal has been designed to contribute to a walkable and active local centre development with good access to a range of parklands, open space, commercial and retail facilities and the metro station. The proposal will deliver housing choice in a highly accessible location, with a diversity of housing typologies proposed to meet the needs of the local community now and into the future. The design of the buildings has been subject to a design excellence assessment process, where it has been demonstrated that a visually dynamic architectural outcome, with good street activation, high quality landscape, and appropriate architectural detailing and materials and finishes combine to achieve an aesthetically pleasing outcome.

4.2 Statutory Context

The proposed amendments have been required to address the various items raised during consultation. These amendments do not affect the consistency of the proposal with the various statutory and regulatory context, which has been demonstrated in detail in the EIS.

The site is already the subject of a Concept approval (SSD 9653) which guides the future redevelopment of the land, with a GFA allocation of 86,275sqm and an apartment yield of 873 apartments. The amended proposal maintains compliance with the GFA allocation and the desired apartment yield.

In response to comments from the DPE and SDRP to maintain solar access compliance to the Precinct East Park and Station Plaza and to improve height variation within the Precinct, the building heights have been redistributed. The revised proposal exceeds the height of building standard, however this is suitably justified

in the Clause 4.6 request prepared by Sutherland and Associates (**Appendix 31**).

4.3 Summary of Assessment of Potential Impacts

4.3.1 Environmental Impacts

The environmental impacts of the project have been assessed in detail in the project EIS with key matters summarised in the table below.

Table 10: Summary Assessment of Impacts

Environmental Impact	Summary Assessment
Built Form	The redistributed height improves solar access to the adjoining public open spaces and introduces height variation not only within the buildings, but across the Precinct. It is noted that greater height variation within the Precinct was requested by the SDRP at the initial meeting held on 1st November 2023. The additional height has been purposefully located to the south of the Precinct to improve amenity and improve solar access to public and private open spaces. The redistributed height responds to the planning controls and likely future form of development in the broader Hills Showground precinct on the southern side of Carrington Road. This includes promoting a consistent height and form along Carrington Road and ensuring future development is capable of meeting ADG requirements. The layout of the amended proposal is otherwise consistent with the Concept Approval and UDG with each proposed building contained within the approved building envelopes. As discussed in Section 2.2.2, there are very minor elements of the buildings which protrude beyond these envelopes relating to sun shading devices and awnings only. The bulk and scale of the amended proposal is consistent with the Concept Approval and UDG incorporating a clearly defined ground floor street zone, podium and upper-level elements.
Facades	Amendments have been made to the façade of Building C to help break the form and massing of the building into two distinct towers, a light white mix of brick to the western tower and sand mix to the eastern tower. The use of brick offers a common dialogue between each tower although treated in various ways.
Overshadowing	The amended built form has redistributed building heights across the Precinct to ensure a compliant quantum of solar access is achieved to the Station Plaza and Precinct East. Specifically, in midwinter, the Station Plaza receives most of its solar access between 9am to 12pm and receives no direct sunlight from 2pm to 3pm. Precinct East Park receives direct solar access throughout the day but most of its solar access is received between 10am and 3pm. The provision of solar access to these important public spaces is a significantly improved outcome. The location of additional building height has been purposefully located in the southern part of the site to improve solar access to the numerous ground floor and rooftop communal open spaces. For Buildings A, B and C over 66.9% of the communal open space areas receive more than two hours of direct sunlight at midwinter and for Buildings D and E over 50% of the communal open space areas receive more than two hours of direct sunlight at midwinter. The proposal is therefore compliant with Objective 3D-1 of the ADG. Detailed solar testing has been carried out to understand the solar impacts to future

development located on the immediate southern side of Carrington Road. This testing has been conducted on the approved development site located on the corner of Carrington Road and Showground Road (DA 1037/2020/JP) and a possible future built form scenario on the remainder of Carrington Road which is compliant with the height and FSR controls in the Hills Shire LEP 2019. The overshadowing analysis is provided below in **Figure 18**.

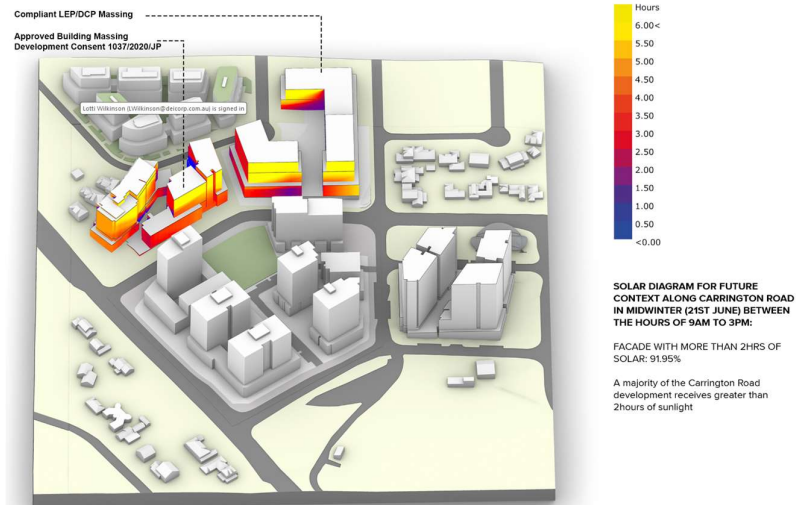


Figure 18: Overshadowing analysis to properties to the south of Carrington Road provided at midwinter (Source: Turner Studio)

The overshadowing analysis demonstrates that the majority of future development to the south will achieve greater than two hours of solar access at midwinter. Specifically, based on the development scenarios modelled, 91.95% of the facades receive more than two hours of solar access which is considered an acceptable outcome.

Residential Amenity

Apartment layouts have been reconfigured to create open and logical typologies with the intent of improving amenity which includes orientation to district views, increased cross ventilation where possible and solar access to living rooms, particularly in Buildings E1 and D2.

There has been a reduction the number of apartments using plenums from 29 (lodged scheme) to 9 (amended scheme) which is an improved outcome.

The amended proposal complies with the ADG in relation to solar access and natural cross ventilation.

Common Open Space

The amended proposal maintains a variety of common open space areas for the residents in addition to the park within the site, comprised of both ground level spaces and also roof and podium top common open space. The amended proposal provides 29% (5,974sqm from total site area of 20,357sqm) of the total site area as communal open space, thereby exceeding the ADG requirement.

Landscaping

The amended proposal achieves the 40% canopy target in accordance with the UDG. The site achieves the 33% total landscape areas which exceeds the 15% required in the UDG.

Within the publicly accessible pedestrian link, the basement at lower ground level has been removed to incorporate a minimum 2m set down of the basement slab. This allows for significant soil depth sufficient for large tree types and quality soft landscaping. This set down also allows for a flush condition within the public domain, free of mounding and low retaining

walls, for a more open and permeable streetscape.

Solar Shading	Sun shading has been integrated into the design of the amended building, particularly along the northern and western facades of the buildings to reduce summer heat gain and improve energy performance.
Accessibility	An updated Access Report (Appendix 14) has been prepared by Morris-Goding Accessibility Consulting which demonstrates the amended design achieves the required accessible outcomes in relation to ingress and egress, paths of travel and facilities and amenities, subject to the recommendations of this report being implemented into the design at a later stage. The amended proposal includes 88 adaptable apartments (equating to 10.08% of the total) which requires with Council's DCP.
Acoustic Privacy	An amended Acoustic Report has been prepared (Appendix 34) to address comments relating to vibration from Sydney Metro. The Acoustic Report Addendum (Appendix 34) confirms the proposed construction hours are Monday to Friday: 7am – 6pm, Saturday: 7am – 5pm and no work on Sundays and public holidays.
Waste Management	To respond to Council comments, the plans incorporate a bulky waste room in the basement of Building A and B, include a bin cupboard on all residential levels and an increased waste lift in Building B. Accompanying this report is an updated Operational Waste Management Plan (Appendix 40) which reflects the amended dwelling mix and layout.
Pedestrian Wind Environment	Wind impacts have been mitigated through design interventions such as building placement and orientation, screens/high balustrades, landscaping, and the like.
Ecologically Sustainable Development	The amended design will be capable to achieve a Star Green Star Standard, equivalent to Green Star Buildings v1, 2023. Please note, no certified rating is being proposed. In place of a rating, a self-certified pathway is proposed, whereby the proponent's Green Star Consultant is responsible for overseeing the works, advising through design, construction and post-construction and self-certifying the works are in line with a 5 Star Green Star Buildings Standard.
Parking	The proposal includes an adequate parking (car, bicycle, loading, waste) for the development. In terms of car parking, 917 off-street parking spaces for residents and visitors are proposed in compliance with the parking rates set out in the UDG. In relation to bicycle parking, 291 residential bicycle parking spaces and 72 visitor bicycle parking spaces are proposed which is compliant with the bicycle parking rates set out in the UDG.
Water Management	Amendments have been made to the Civil Package (Appendix 15), Stormwater Management Plan (Appendix 16) and Stormwater Management Report (Appendix 16) prepared by Mott Macdonald to respond to the technical comments provided by Council and various government agencies. The overall stormwater management system remains consistent with the previously lodged scheme as detailed in Section 6.13 of the EIS.
Flood Risk	An updated Flood Report prepared by Mott Macdonald (Appendix 21) accompanies this application and responds to the technical comments provided by Council and various

government agencies.

The updated Flood Report includes an assessment of the flood levels using the flood model adopting Council approved input data and demonstrates that the site is at low risk to flooding in both the 1% AEP and PMF.

Overall, due to the steep local topography which governs the existing flooding regime, there is not a significant impact on flood inundation in and around the site.

4.3.2 Social Impacts

The project is very unlikely to generate any long term negative social impacts. Temporary negative impacts are likely to be associated with construction. These will be managed through implementation of construction management plans and ongoing engagement with the surrounding community.

The project is likely to generate a number of positive social impacts as outlined in the original EIS, including the provision of more diverse housing types in the area, on a site that has easy access to bus and train transport which is being developed with retail and services nearby and the provision of affordable housing for those on very low, low to moderate incomes in a location that is close to public transport, shops and services.

4.3.3 Economic Impacts

The project will have positive economic impacts as it will cater for population growth, provides an economic development of land, and will provide employment opportunities during construction.

4.3.4 Cumulative Impacts

The overall cumulative impact assessment of the development will not change from the assessment undertaken in Section 6.0 of the original EIS.

4.3.5 Mitigation of Impacts

The project impacts can be mitigated, minimised or managed. Updated mitigation measures are provided at **Appendix B** of this report.

4.3.6 Suitability of the Site

The site is highly suitable for the proposed development as it provides high quality residential development which will contribute to the supply of housing stock in the locality. The proposed use is permissible and is consistent with the objectives of the General Residential zone. The proposal is also consistent with the relevant strategic policies applicable to the site.

4.3.7 Public Interest

The proposal will fulfil the vision established for the Showground Station Precinct East by Landcom and Sydney Metro and represents the culmination of a significant investment in the locality by Sydney Metro. The proposal fulfils the established aspirations for the site, demonstrates design excellence and is in the public interest.



5. Conclusion

This 'Response to Submissions' report identifies the issues raised in public, government and agency submissions and provides a thorough response to these issues.

A range of consultant reports have been amended to provide additional clarification or detail to enable the impacts of the proposal to be fully understood, considered and mitigated.

The mitigation measures have been updated to reflect the additional and amended information provided.

The assessment of the SSDA can now be undertaken based on the information provided in the original EIS and the supporting material provided in this Response to Submissions Report.

6. Appendices

Appendix A – Submissions Register

Table 11: Submissions Register

Group	Name	Section Where Issues Addressed
Public authorities	DPE	Section 3.1 - Table 6
	Council	Section 3.2 - Table 7
	TfNSW	Section 3.3 - Table 8
	Sydney Metro	Section 3.3 - Table 8
	The BCS from DCCEEW	Section 3.3 - Table 8
	DCCEEW Water Group	Section 3.3 - Table 8
	FRNSW	Section 3.3 - Table 8
	DoE	Section 3.3 - Table 8
	Sydney Water	Section 3.3 - Table 8
	Endeavour Energy	Section 3.3 - Table 8
	Transgrid	Section 3.3 - Table 8
General Public	Anonymous	Section 3.4 - Table 9
	Anonymous	Section 3.4 - Table 9

Appendix B – Updated Mitigation Measures

The proposal amended mitigation measures are outlined in **Table 12** and are highlighted in red.

Table 12: Updated Mitigation Measures

Issue	Updated Mitigation Measures
Wind	The development will implement the recommendations of the Pedestrian Wind Environment Study prepared by Windtech dated 23 February 2024 and the Wind Environment Addendum Memo prepared by Windtech dated 9 August 2024 (both provided at Appendix 25 of this Response to Submissions Report).
Reflectivity	The development will implement the recommendations of the Solar Reflectivity Report dated 21 August 2024 prepared by Windtech (provided at Appendix 26 of this Response to Submissions Report).
ESD	The sustainability targets and commitments set out in the ESD memorandum dated 16 August 2024 prepared by E-Lab (provided at Appendix 38 of this Response to Submissions Report) will be implemented. The amended design will be capable to achieve a Star Green Star Standard, equivalent to Green Star Buildings v1, 2023. Please note, no certified rating is being proposed. In place of a rating, a self-certified pathway is proposed, whereby the proponent's Green Star Consultant is responsible for overseeing the works, advising through design, construction and post-construction and self-certifying the works are in line with a 5 Star Green Star Buildings Standard.
Acoustic Design	The acoustic recommendations of the Acoustic Report dated 3 May 2024 prepared by Acoustic Logic and the Acoustic Addendum letter dated 30 July 2024 prepared by Acoustic Logic (both provided at Appendix 34 of this Response to Submissions Report) will be implemented during construction and the ongoing operation of the development.
Transport	All recommendations of the Transport Impact Assessment prepared by JMT dated 12 August 2024 (provided at Appendix 11 of this Response to Submissions Report) are to be implemented.
Servicing and Waste	Construction waste will be managed in accordance with the Construction Management Plan prepared by Barker Ryan Stewart (Appendix 34 of the originally submitted SSDA). Operational waste will be managed in accordance with the Waste Management Plan dated 19 August 2024 prepared by Elephants Foot (Appendix 40 of this Response to Submissions Report).