

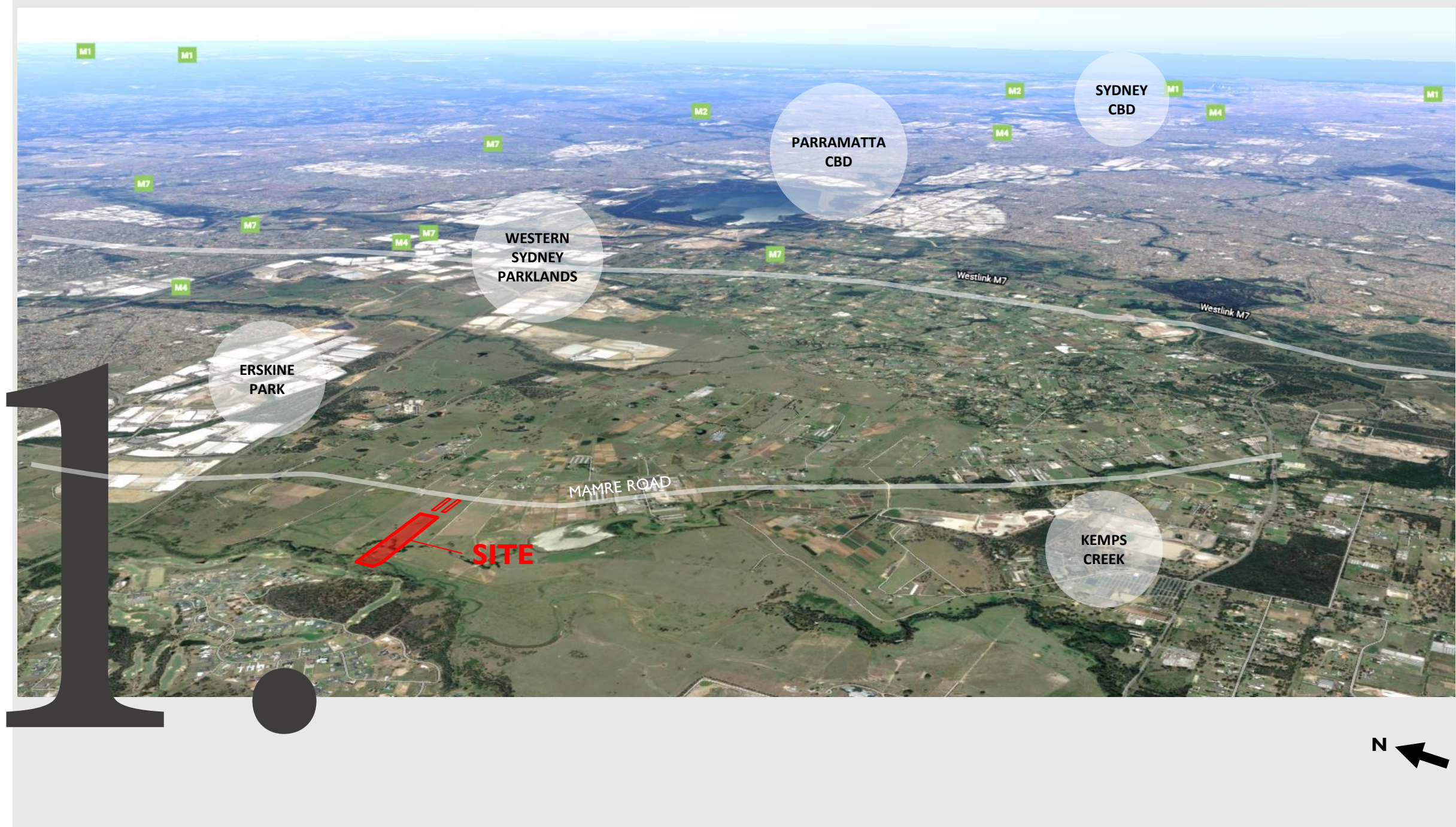
SYD05/06-07
ARCHITECTURAL DESIGN REPORT
FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION (SSDA)

GREENBOX

CONTENTS

	Section Number
Location	1
Site	2
Site Analysis	3
Adjacent Land Parcel Lots	4
Prominent Elevations	5
Architectural Expression	6
Kit of Parts	7
Design Statement	8
Key Design Features – Data Hall Block	9
Key Design Features – Admin Office Block	10
Landscape Design & Strategies	11
Design + Sustainability Summary	12

LOCATION



SITE



SITE ANALYSIS

LEGEND:

SUN PATH (WINTER SOLSTICE)

KEY VIEWS

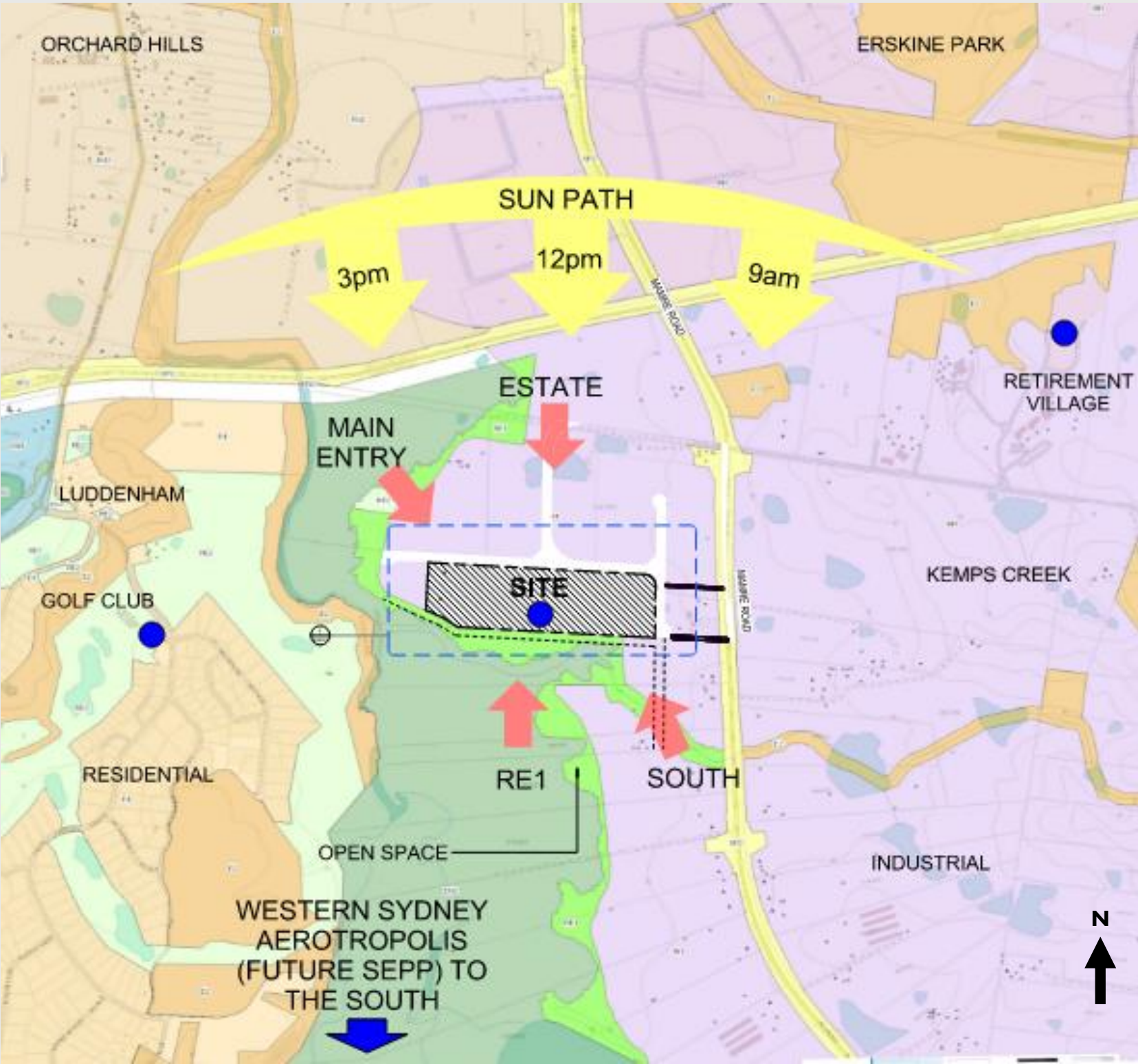
INDUSTRIAL ZONE

RESIDENTIAL ZONE

OPEN SPACE AND ENVIRONMENTAL CONSERVATION

NOTE: LAND ZONE MAP IN ACCORDENCE WITH;

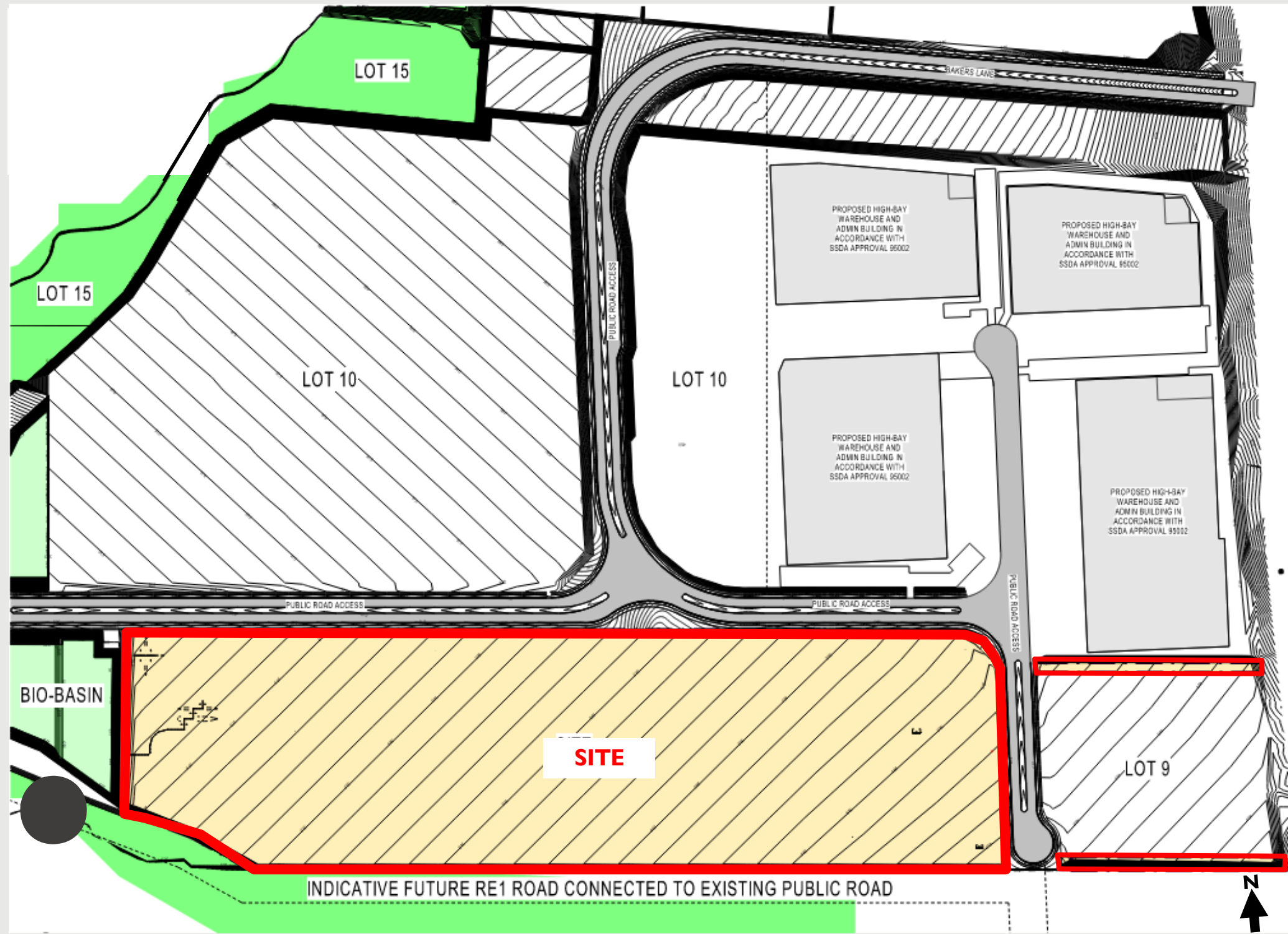
ENZ - Environment and Recreation: (pub. 11-9-2020)
IN1 - General Industrial: (pub. 11-9-2020)
RE1 - Public Recreation: (pub. 11-9-2020)
SP2 - Infrastructure: (pub. 11-9-2020)



ADJACENT LAND PARCEL LOTS

LEGEND:

-  PROPOSED SITE
-  APPROVED DEVELOPMENT
-  EXISTING BIO-BASIN
-  OPEN SPACE AND ENVIRONMENTAL CONSERVATION

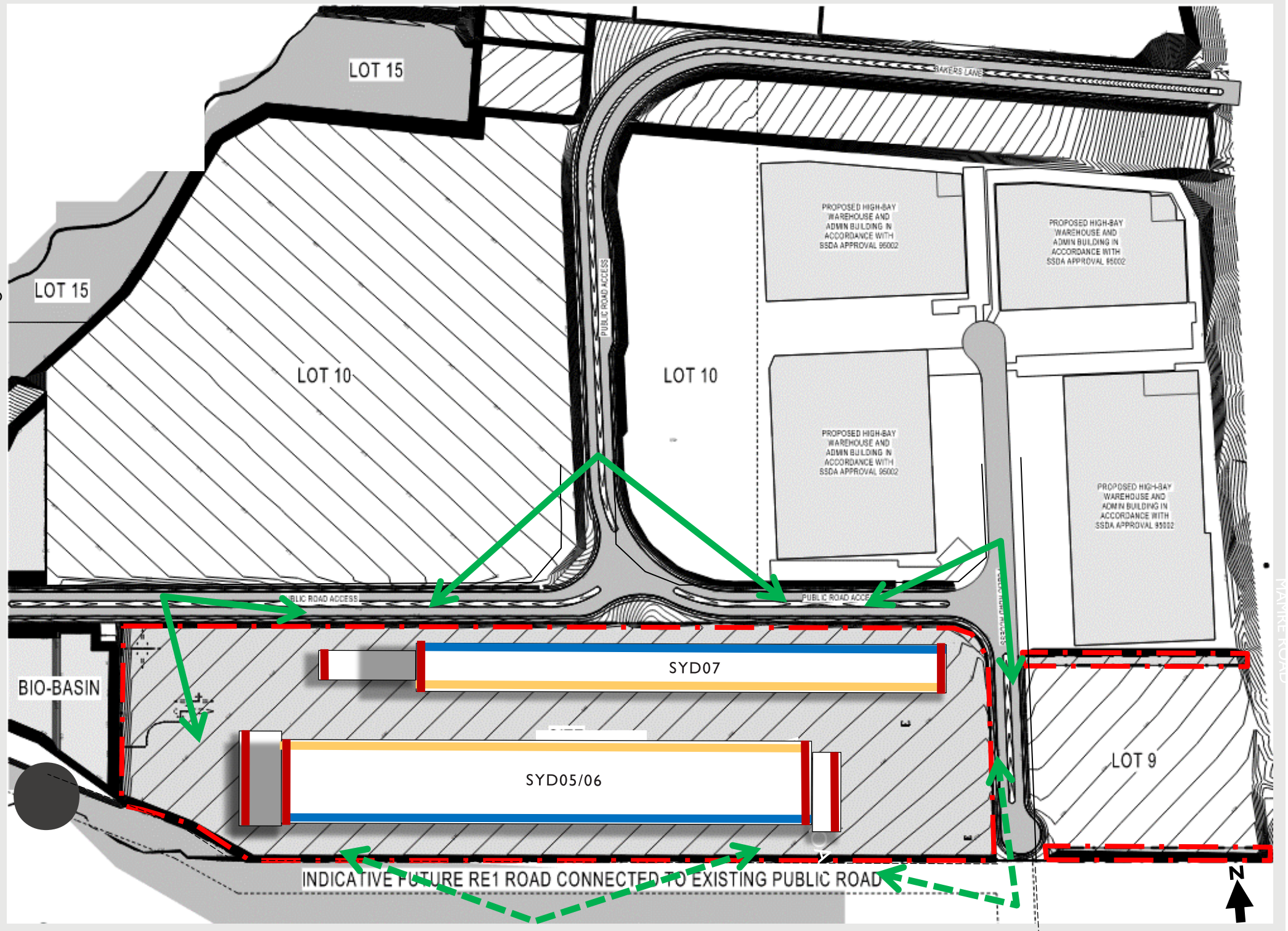


4

PROMINENT ELEVATIONS

LEGEND:

- LONG END FEATURE ELEVATION
- INNER LONG ELEVATION
- SHORT END FEATURE ELEVATION
- PROMINENT INWARD VIEW
- - - → FUTURE PROMINENT INWARD VIEW

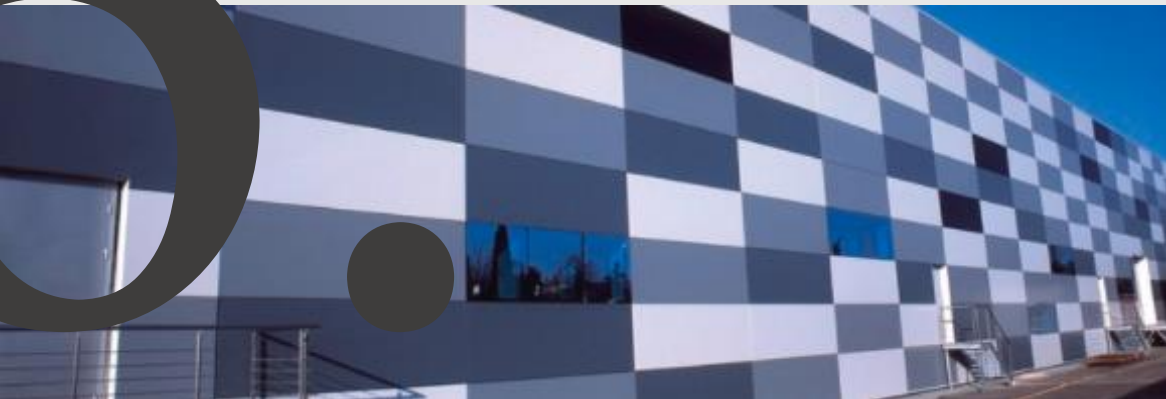
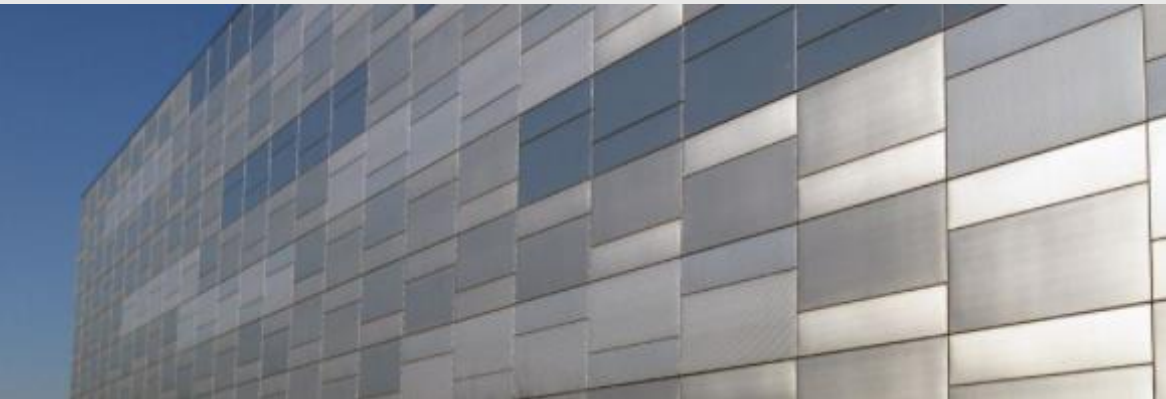


ARCHITECTURAL EXPRESSION

LIGHT AND SHADOW

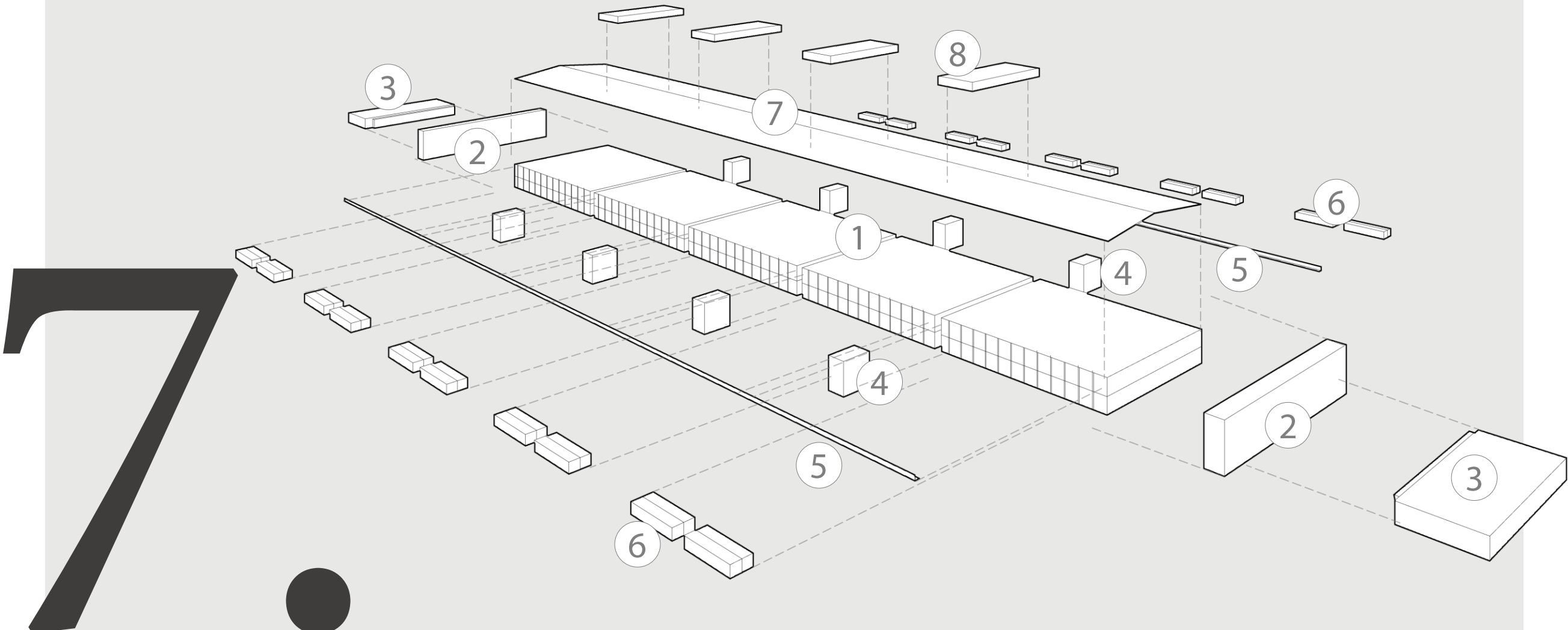


ROOF FORMS & EXPRESSED EAVES



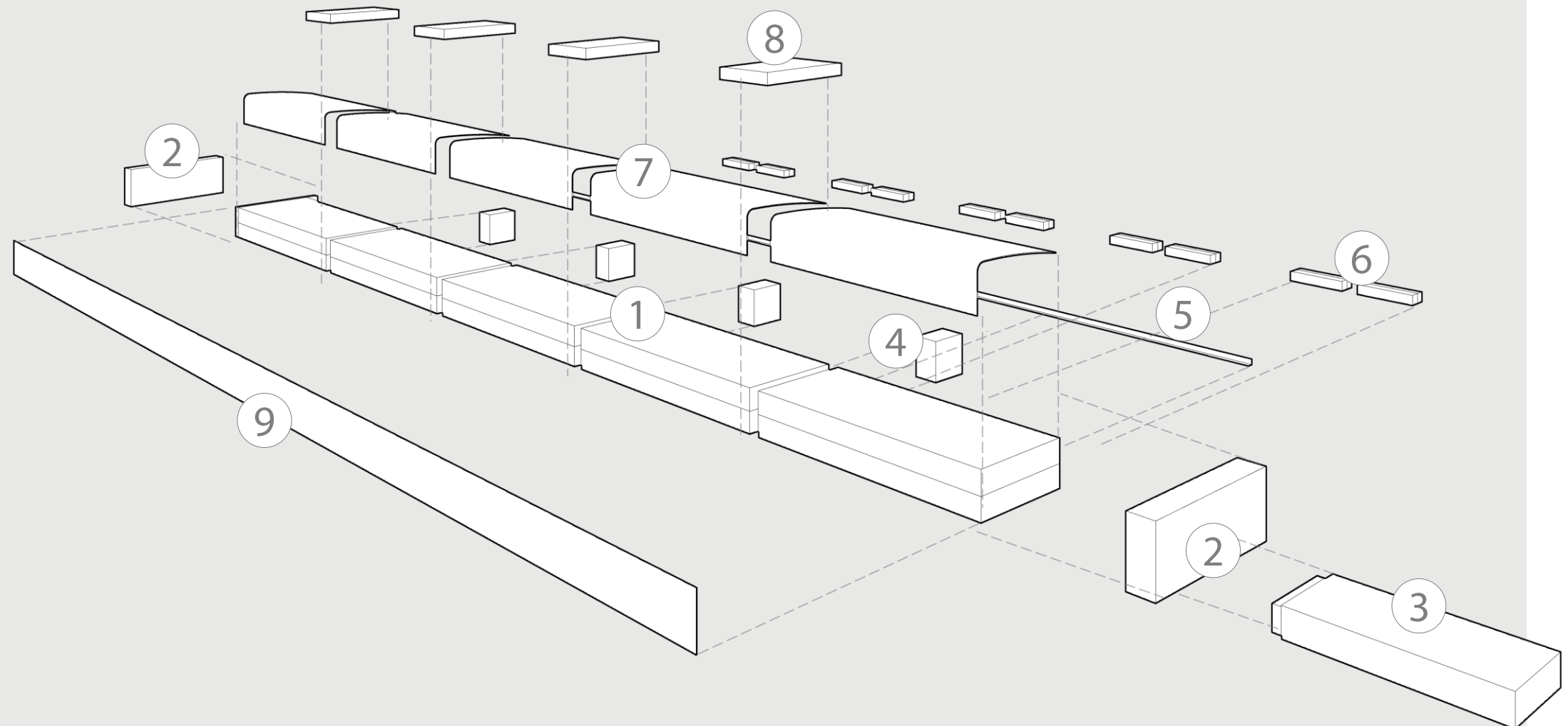
KIT OF PARTS (SYD05-06)

- LEGEND:
- 1 – DATA HALLS
 - 2 – VERTICAL CIRCULATION CORE
 - 3 – ADMIN BLOCK
 - 4 – STAIRCASE
 - 5 – DEFLECTORS
 - 6 – GENERATORS
 - 7 – PITCH ROOF (2-WAY)
 - 8 – ROOF RELIEF AIR SHAFT



KIT OF PARTS (SYD07)

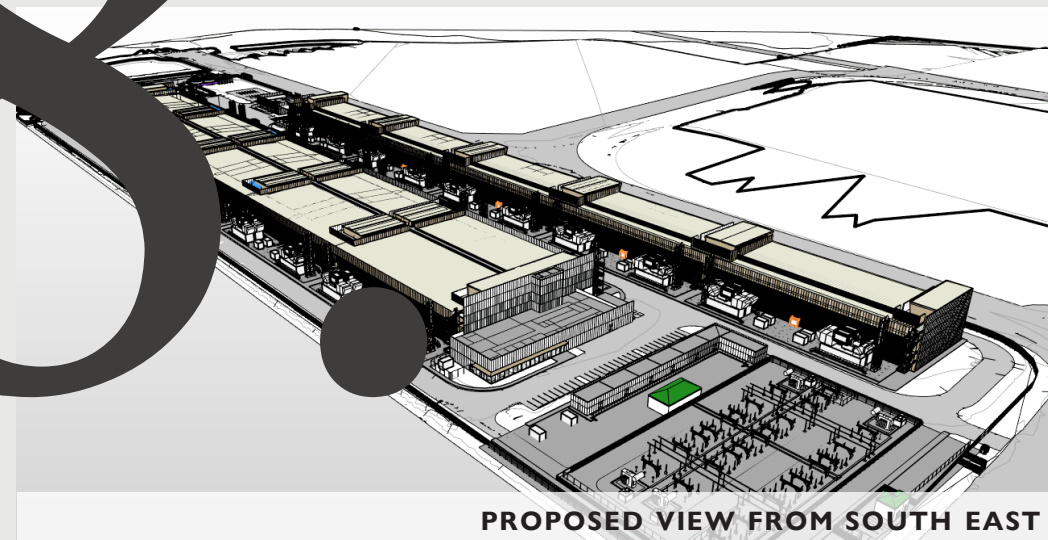
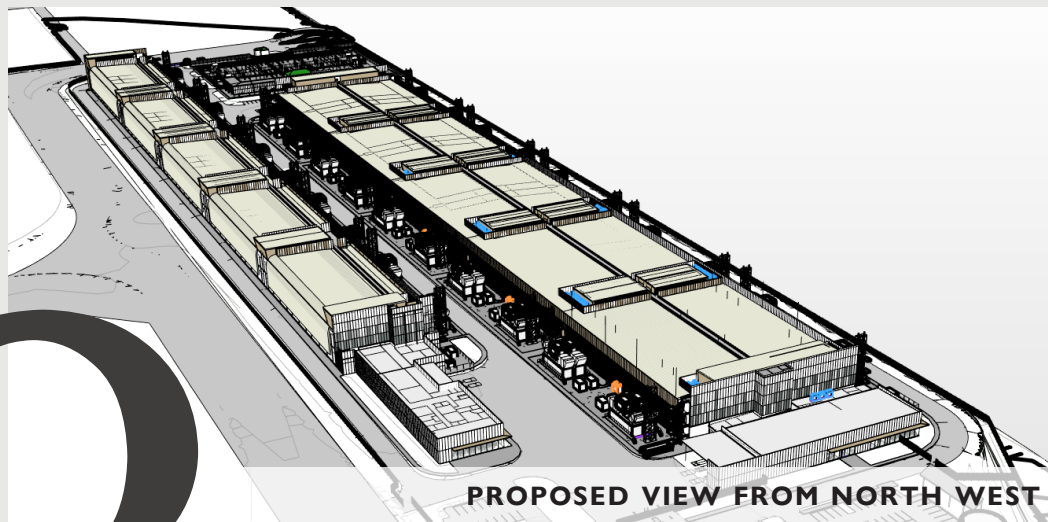
- LEGEND:
- 1 – DATA HALLS
 - 2 – VERTICAL CIRCULATION CORE
 - 3 – ADMIN BLOCK
 - 4 – STAIRCASE
 - 5 – DEFLECTORS
 - 6 – GENERATORS
 - 7 – PITCH ROOF (SINGLE PITCH)
 - 8 – ROOF RELIEF AIR SHAFT
 - 9 – PRECAST WALL



DESIGN STATEMENT

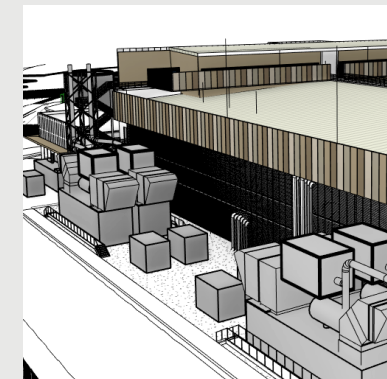
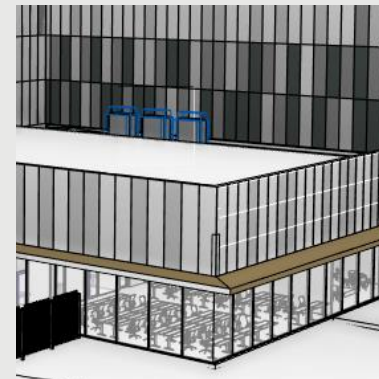
The proposed design of the development aims to fulfil the objectives of the local code and contribute to the character envisaged for the estate, the context of the locality, and in keeping with the core principles of green initiatives. The proposed development adopts a modular and sustainable design approach, a key focus to the construction, operation, and life cycle processes.

The resultant architectural design intends to achieve a harmonious synergy of various elements amalgamated to re-invent and re-energise the design of data centres to become the 'new factory' of the future.



PROPOSED VIEW FROM SOUTH EAST

WALLS



A simple yet effective mix of colour tones and pixelated wall patterns features a unique character to the building aimed to fit into surrounding context.

ADMIN OFFICES



The admin office block is consistent with the same patterning treatment, but a contrasting colour tone to create a separate and welcoming experience to the front of house approach.

CAMPUS ARTIST IMPRESSSION

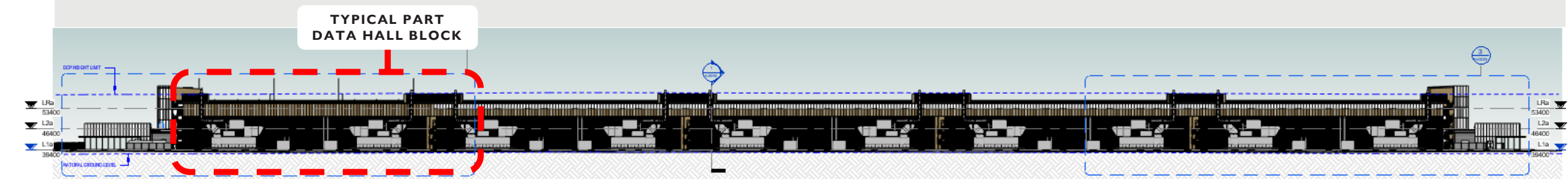


PROPOSED VIEW FROM MAIN ENTRY

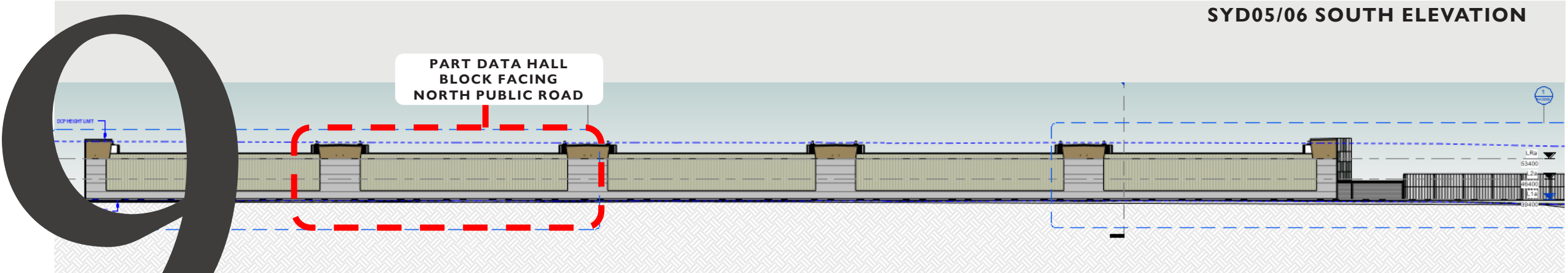
KEY DESIGN FEATURES - DATA HALL BLOCK



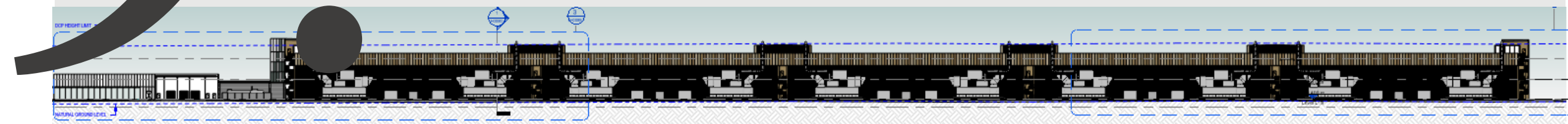
SYD05/06 NORTH ELEVATION



SYD05/06 SOUTH ELEVATION

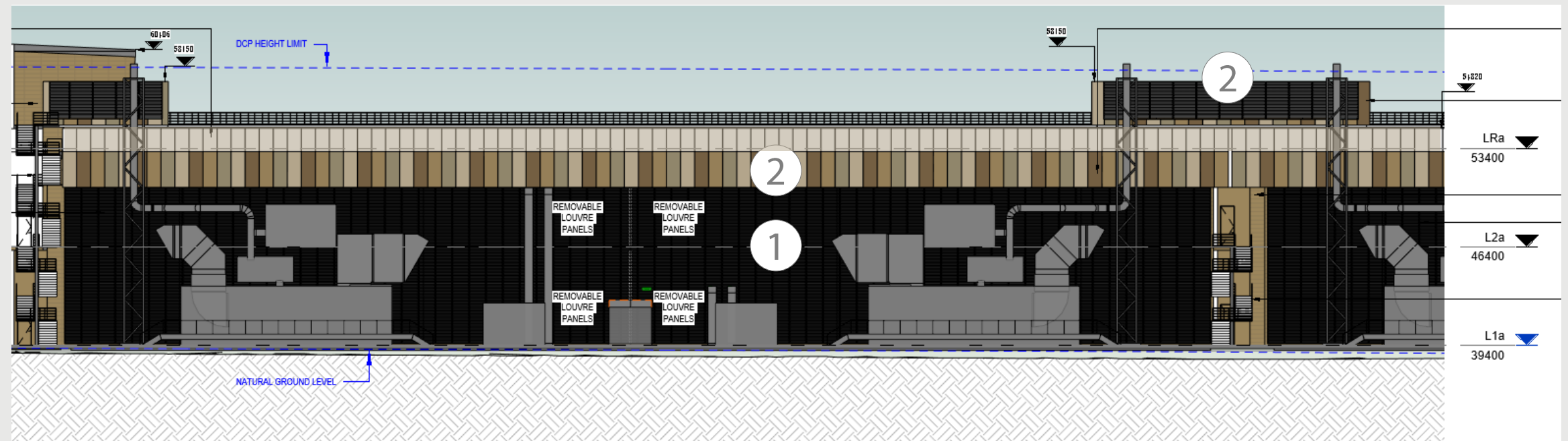


SYD07 NORTH ELEVATION



SYD07 SOUTH ELEVATION

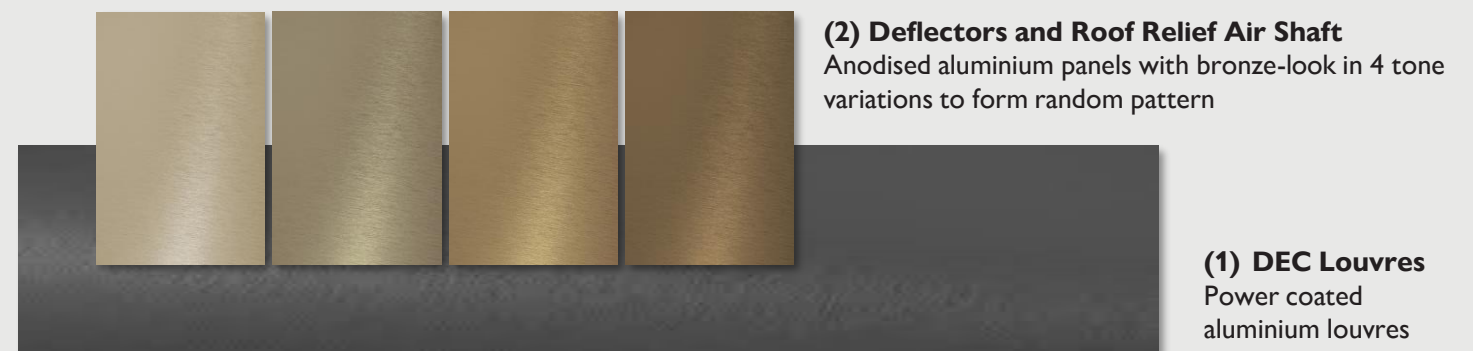
KEY DESIGN FEATURES - DATA HALL BLOCK



TYPICAL PART ELEVATION - SYD05/06 (NORTH/SOUTH) SYD07 (SOUTH)

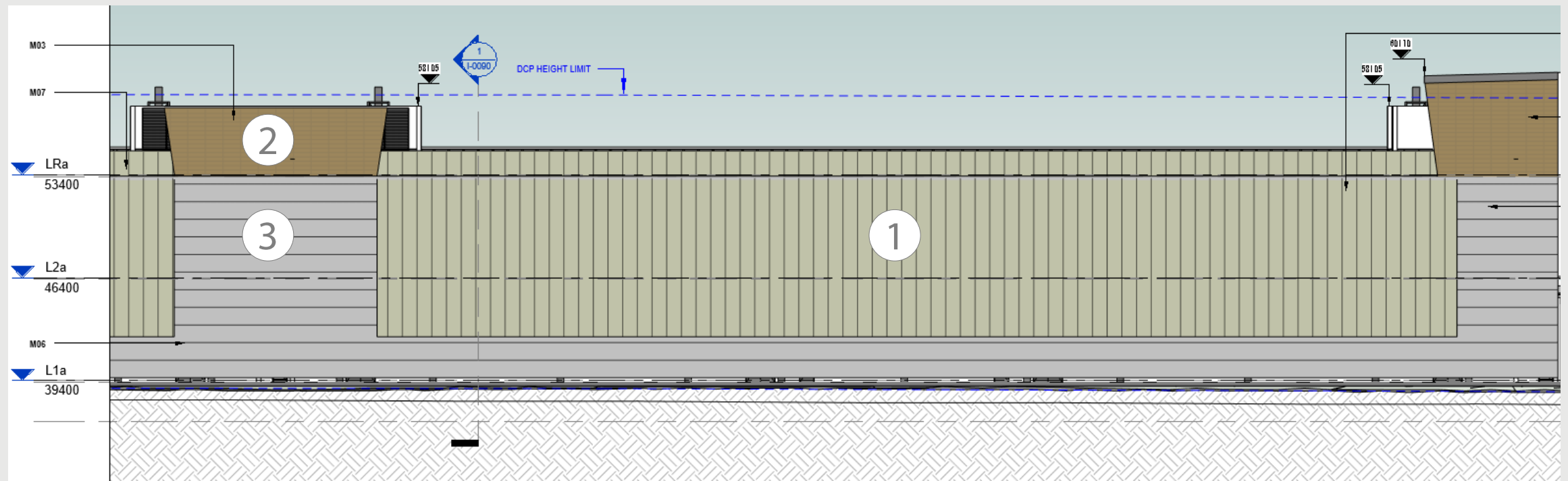
The data hall blocks typically comprise a long stretch of plant louvres as part of the facade, and fronted by generator yards with various equipment necessary to support the operation of the data centre. In order to design a façade treatment that is appropriate to the site and respond to prominent views, a ribbon of bronze-look random striped pattern has been introduced along the long façade as a striking visual interest in contrast to a darker background. This ribbon also performs functionally as an air deflector for exhaust air relief.

The colour selection of the façade is selected to form a unique palette of earthy tones to suit the surrounding greenery and enhance the character of the precinct.



COLOURS AND MATERIALS PALATTE

KEY DESIGN FEATURES - DATA HALL BLOCK



TYPICAL PART ELEVATION - SYD07 (NORTH)

In response to the public road at the north, the north façade of SYD07 data hall block adopts a different design approach with a unique cocktail of materials and natural colour tones, with a 'veil' flowing continuously as part of the roof form.

The colour and material of the relief air shaft at the roof, precast wall, and the roof veil are juxtaposed at intervals to articulate and 'break down' the length of the building. This together with strategically lined greenery form an interesting façade canvas from the prominent view at the north.

(2) Roof doghouse facade
Aluminium anodised extruded horizontal battens

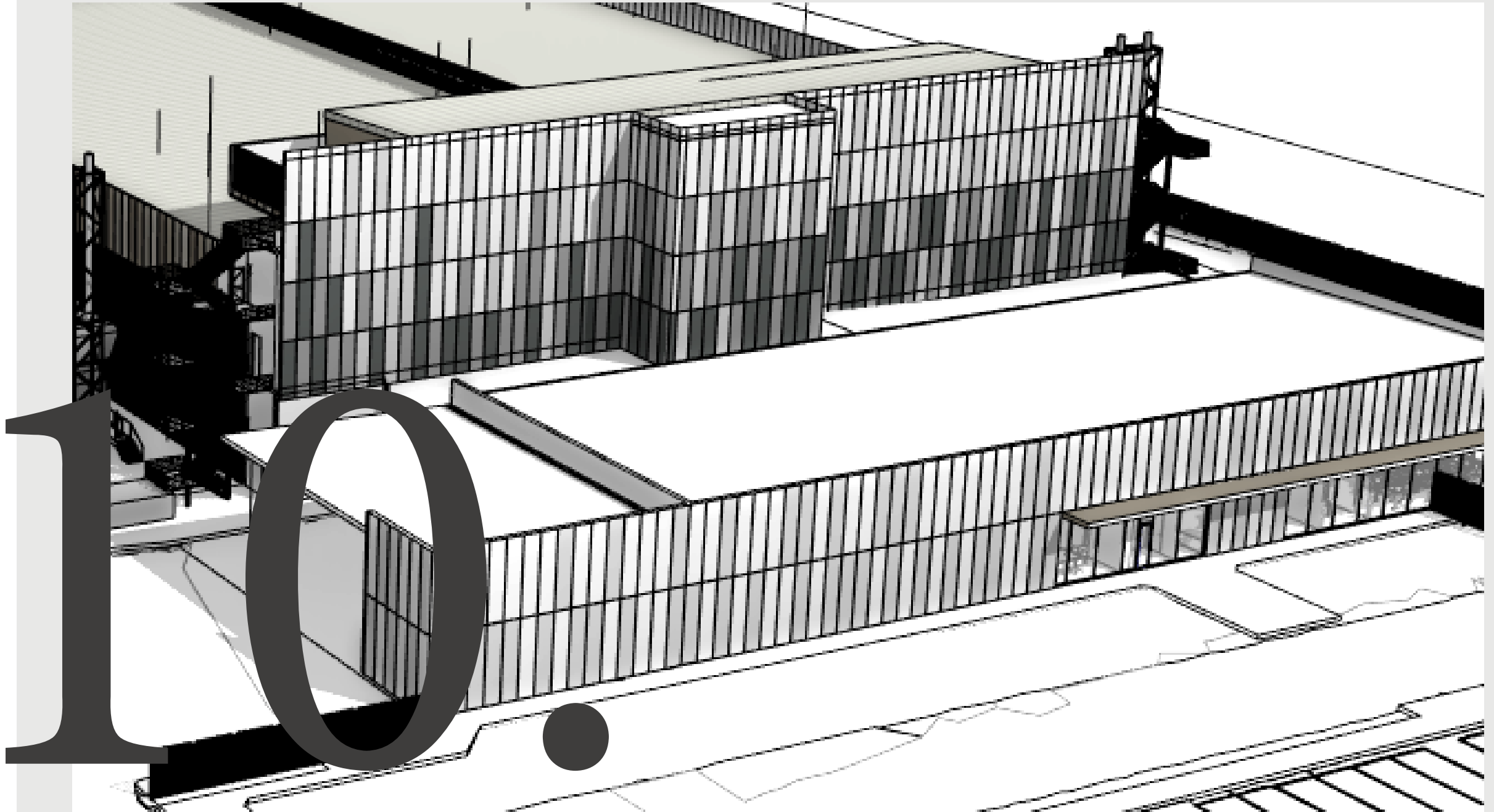


(1) Roof – 'The Veil'
Insulated roof panel wrap down continuously from the roof

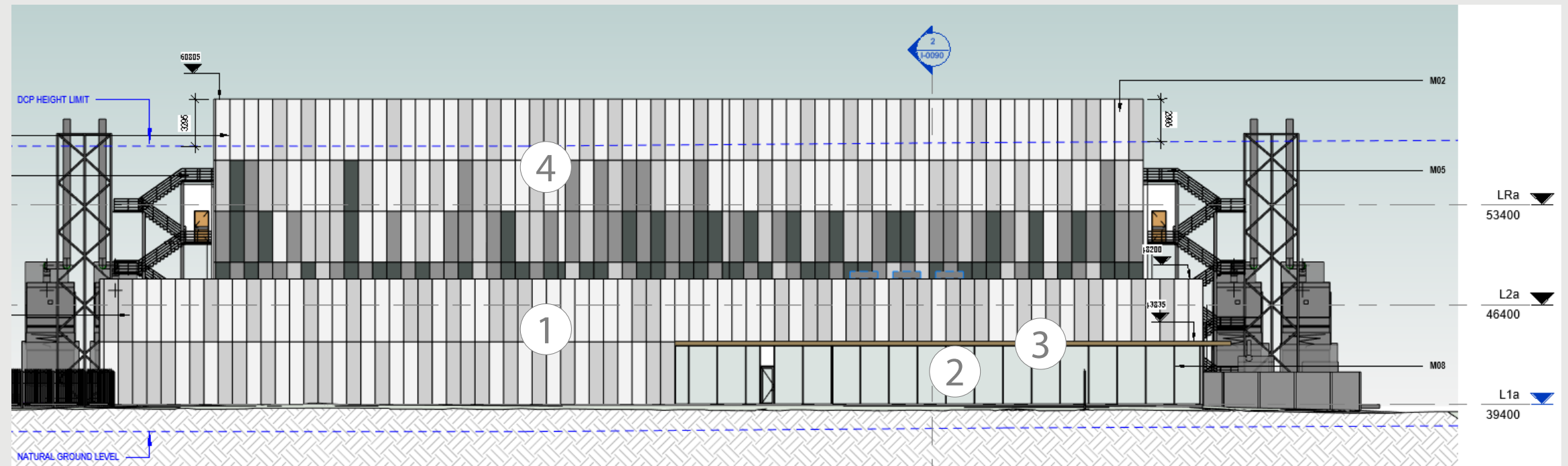
(3) Precast wall
Patterned precast concrete

COLOURS AND MATERIALS PALATTE

KEY DESIGN FEATURES – ADMIN OFFICE BLOCK



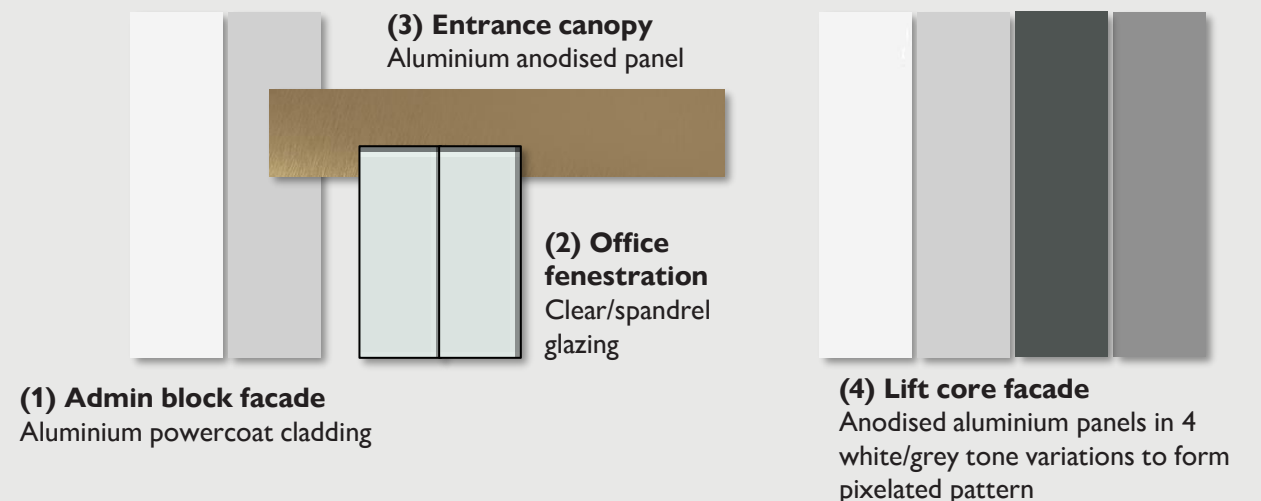
KEY DESIGN FEATURES – ADMIN OFFICE BLOCK



SYD05 TYPICAL FRONT ELEVATION

One of the important prominent views include the view corridors towards the Admin blocks. Positioned and functioning as the front of house part of the data centre, it is crucial to create an impressive and welcoming approach experience for staff and visitors, that is not only appropriate to the corporate identity, but also integrates with the surroundings.

The façade of the typical Admin block, and lift core at the background, comprises a mix of 4 similar colour tones to conjure a façade canvas of pixelated patterns, mimicking the endless advancement of digital technology befitting to our modern-day environment.

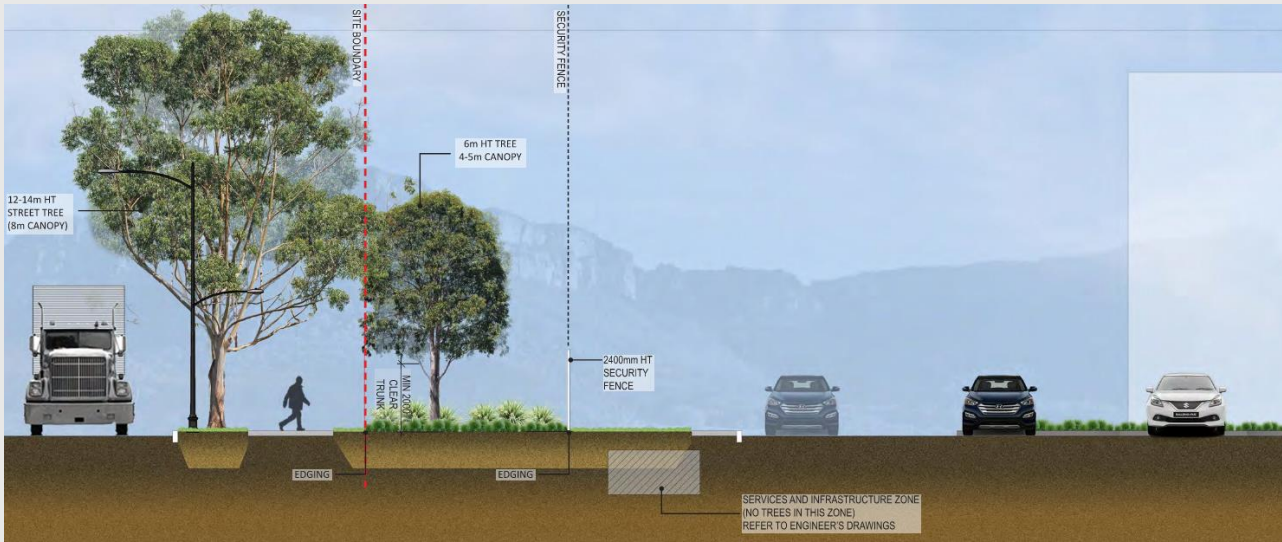


COLOURS AND MATERIALS PALATTE

LANDSCAPE DESIGN & STRATEGIES



OVERALL LANDSCAPE PLAN
(REFER TO LANDSCAPE PACK FOR DETAILS)



TYPICAL BOUNDARY SECTION

12.

DESIGN + SUSTAINABILITY SUMMARY

Sustainable architecture is a result of creating a minimal impact on the environment through the application of appropriate design concepts, materials and technologies while also ensuring ongoing benefits for future occupants in the form of energy efficiency, comfort and well-being throughout the lifecycle of the data centre development.

A green architectural design approach has to factor in every aspect of its lifecycle right from siting, design and construction, through operation, maintenance and renovation, to end-of-life when the materials can be retrieved and recycled. Sustainable design takes into consideration factors such as building orientation to catch the natural sunlight into office working spaces, placement of rooms, and sizing and positioning of windows for ventilation and optimizing views. The materials palette is tuned to energy efficiency and low-energy use with effective application of insulation, seals, solar shading elements, low-emissivity glass, double-glazed windows, and high thermal mass building products.

The data centre should also be a healthy environment created for occupants through the use of non-toxic paints and finishes. Material selection combines high performance with low maintenance and long-term durability, ensuring a sustainable solution. Other trends influencing the future of a green data centre also include recycling of spaces through renovation, adaptive re-use of future products choices, use of organic materials, pedestrian-friendly campus, water-conserving building design, smart energy-saving technologies, and building designed to completely blend with the natural landscape within the campus, as well aligned with the planning policies of open spaces and green corridor guidelines.

As the next generation of data centres continue to employ many new technologies to meet the increasing needs of a constantly evolving society, it is inevitable that our environment may be impacted. Therefore, it is paramount that data centres should adopt a well-suited design which not only contributes to the larger society in the digital technology aspect, but also represents a 'new factory' of our better environment.