

ARCHITECTURAL DESIGN REPORT

7-9, 14-18, 19-21 Chalmers Crescent,
Mascot NSW 2020
February, 2024

CRONEARCHITECTS

Level 18, 680 George Street
Sydney NSW, Australia 2000
E — info@crone.com.au
T — + 61 2 8295 5300



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Crone Architects acknowledges the Traditional Owners of Country, the lands on which we live and work on. Recognising their continuing connection to lands, skies, waters, and communities.

We pay our respect to Aboriginal and Torres Strait Islander cultures, and to Elders past, present and emerging. We also recognise the continued, living practices that have always existed on Country and it is through this shared connection that we can be here today.

Introduction

An Evolving Commercial Precinct

This design report has been prepared to appraise the subject site and propose a potential Floor Space Ratio (FSR) uplift, given commercial development trends across this precinct.

Development Summary

SITE AREA:	12,603m ²
FSR:	3.86 : 1
GFA:	48,645m ²
NLA:	44,548m ²
BUILDING HEIGHT:	46m (RL 51m)
CAR PARKING:	608
BIKE SPACES:	494





1

The Site

The Site

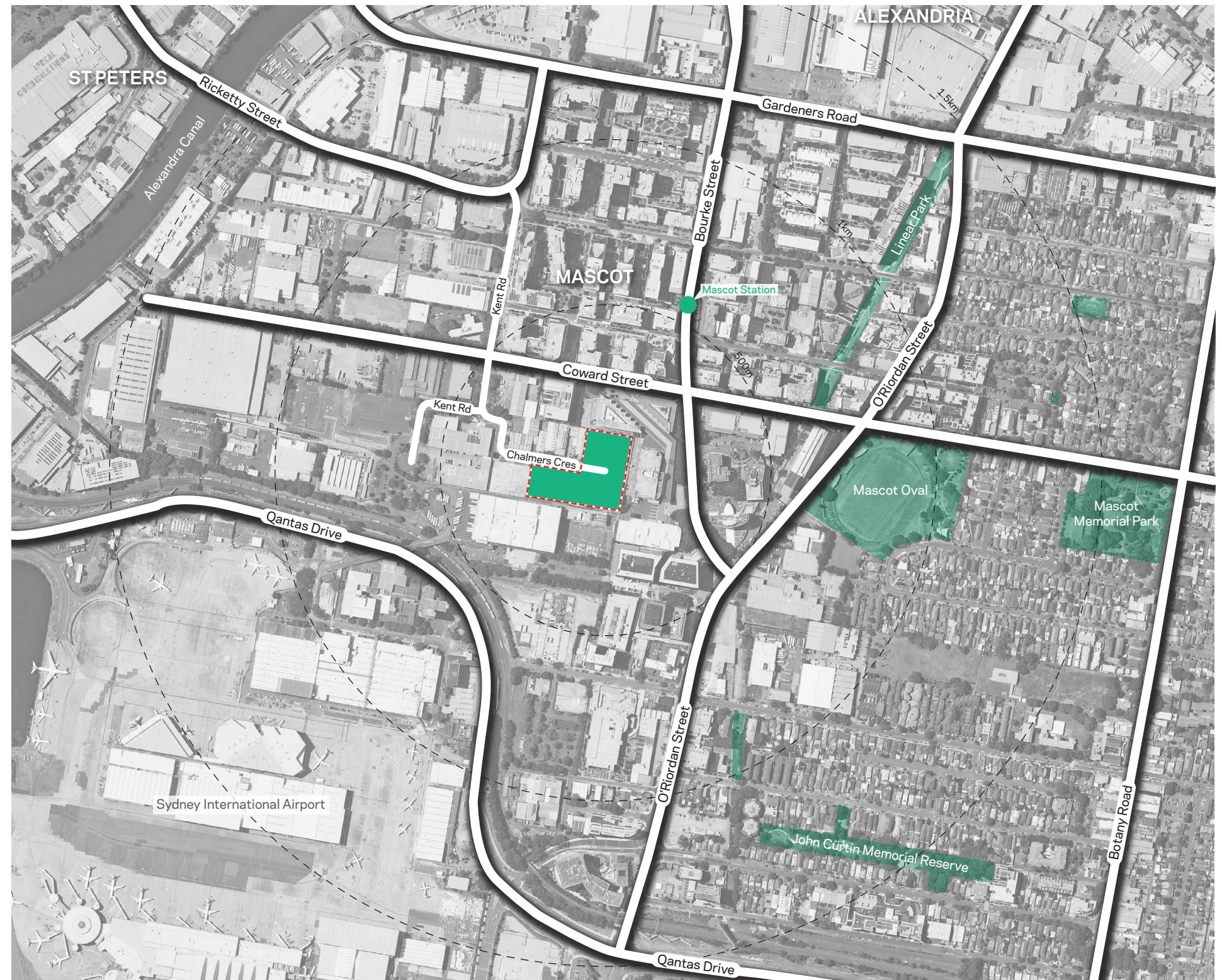
Location & Context

The subject site sits within the Mascot West Employment Lands precinct (DCP 2022), south of Mascot station and north-east of Sydney International Airport. This precinct is comprised of predominantly commercial and industrial developments. Sitting at the end of a quiet cul-de-sac on Chalmers Crescent, the site benefits from easy pedestrian and vehicular access.

Immediately adjacent to the east and south are various buildings servicing the Qantas Sydney base. The main administrative centre for Qantas adjoins the eastern boundary of the site and the Qantas catering centre adjoins to the south and southwest.

Located within walking distance of the Mascot retail precinct with active public transport routes, the site is part of an evolving commercial precinct, which sits immediately adjoining the residential development in the Mascot Town Centre.

The site is described as DP 29697 and comprises of 16 Lots numbered between 11-26, also referred to as 7-9, 14-18, and 19-21 Chalmers Crescent, Mascot. The site boundary encompasses the cul-de-sac, bringing the total development area to 12,603sqm.



The Site

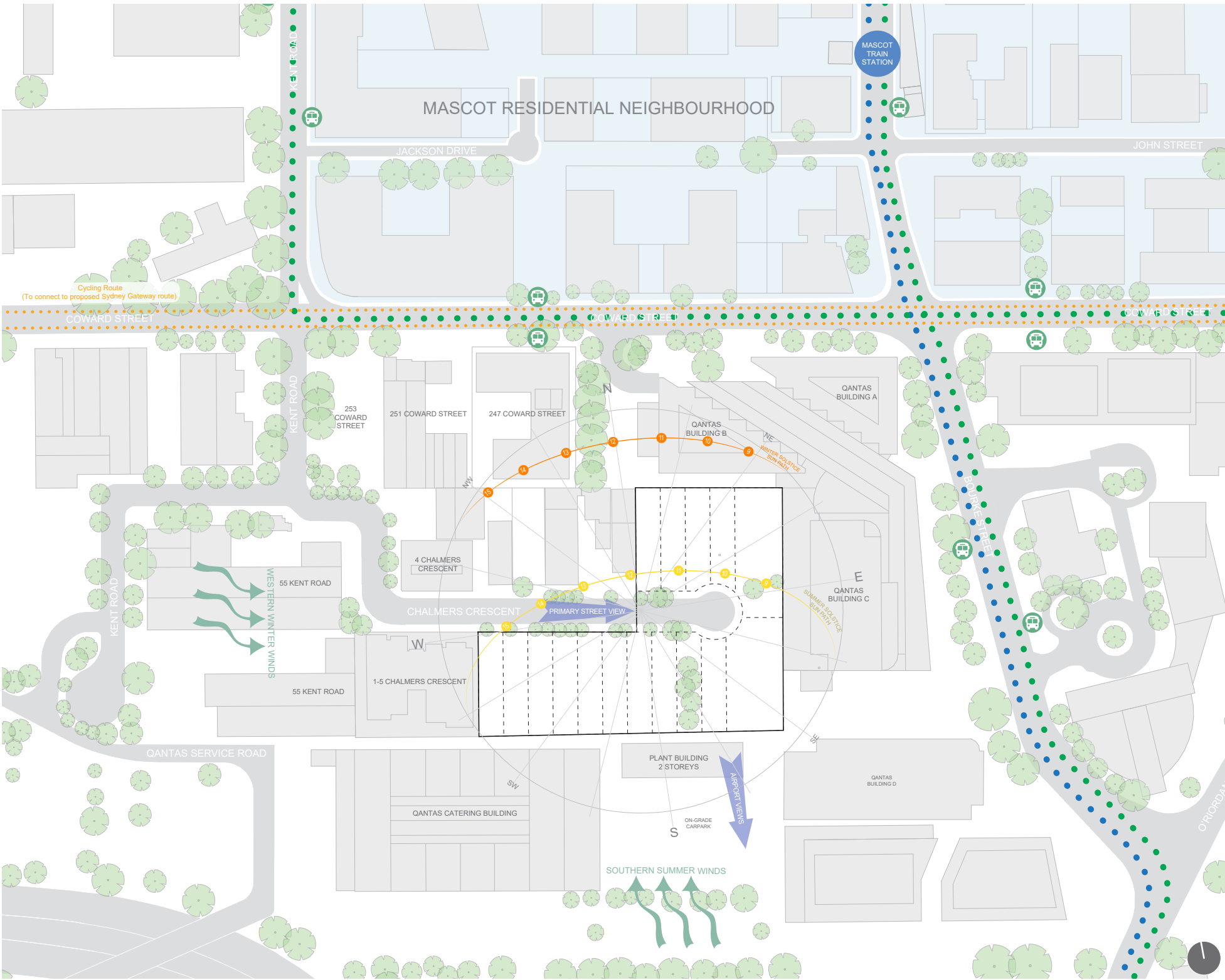
Site Analysis

Situated in an industrial zone undergoing transition to office type uses, the site is occupied by warehouses and an ancillary office building. To the southwest is Qantas's catering centre with its direct airport access. To the east is the eight storey Qantas administration centre. To the north, opposite in Chalmers Crescent, are single storey warehouses of mostly 50+ years age.

Most of site, excluding the northeast corner, is situated within the 25 ANEF contour which is the boundary for residential development of up to 14 storeys.

The site is zoned BE3 Productivity Support under the Bayside LEP 2021. It has a nominal building height control of 44m and an airport operations Obstacle Limitation Surface control of 51AHD, approximately equivalent to a height of 46m. FSR is nominally 3:1 under the LEP.

The site is conveniently located to surrounding public transportation networks, with active bus routes along Coward and Bourke Street. Mascot station is a 10 minute walk away or a 2 minute bike ride. The site also benefits from an expanding cycling network to be introduced as part of the Sydney Gateway development.



The Site

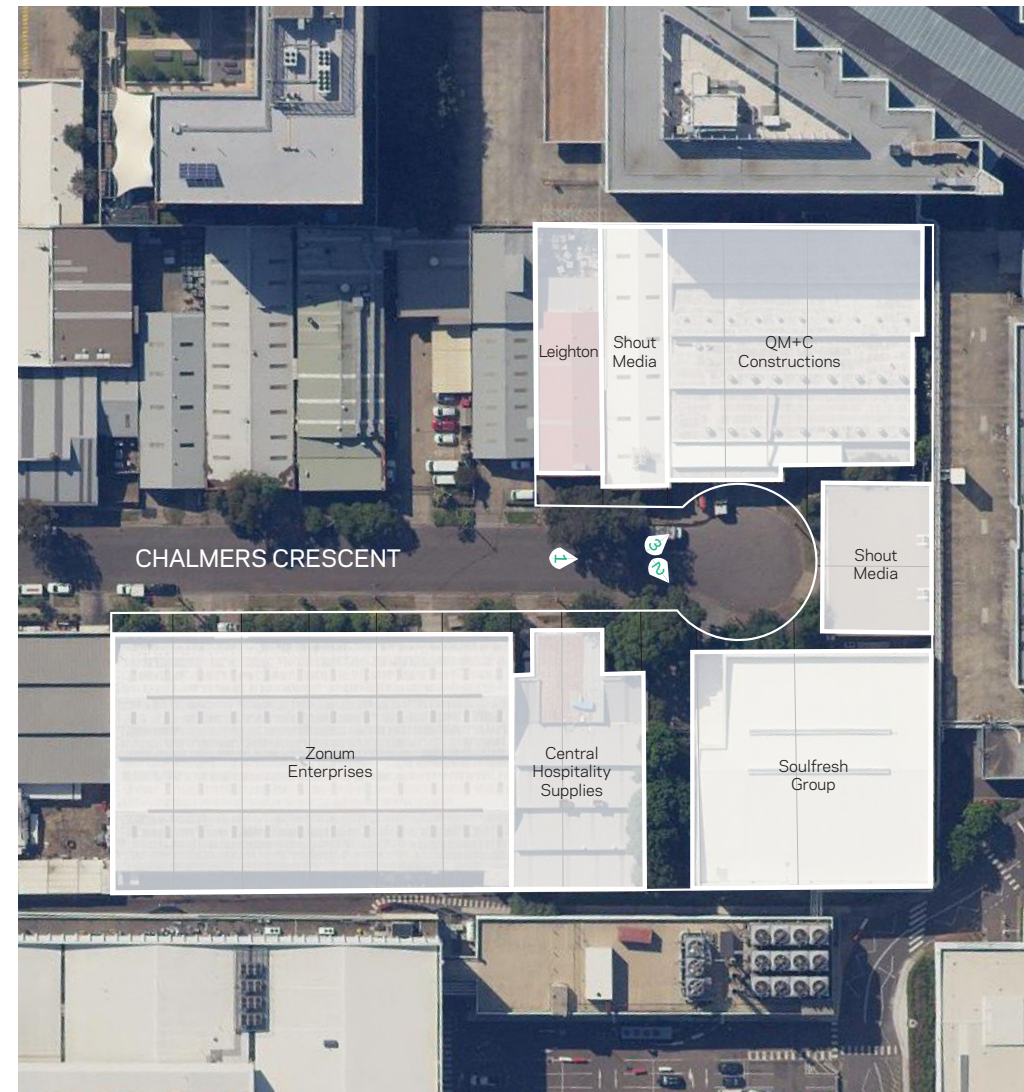
Streetscape Character

Currently the site and those opposite are occupied by predominantly single storey warehouse/ industrial buildings of mostly 50+ years age and in poor to fair condition. The emerging streetscape character of the non-residential parts of the locality, centred around Chalmers Crescent, can be characterised by recent office developments at:

- 1-5 Chalmers Crescent
- 2 Chalmers Crescent
- 50 Kent Road
- 253 Coward Street

And older projects at:

- 203 Coward Street
- 247 Coward Street
- Qantas Centre, corner of Coward Street and Bourke Road.



1 - East Street View



2 - South-East Street View



3 - North-East Street View

The Site

Planning Controls - LEP & DCP

Bayside Local Environmental Plan 2021

The following controls are relevant to the subject site and are based on the Bayside City Council Local Environmental Plans (LEP) 2021.

Height of Buildings

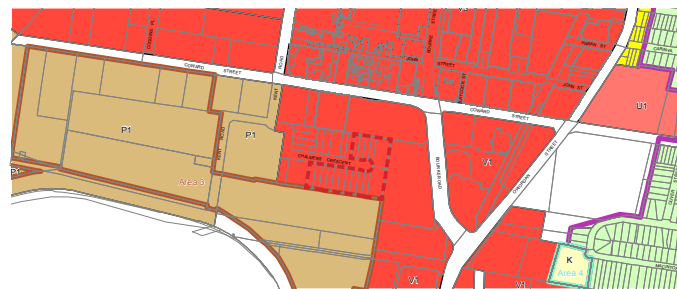
- Area W2 44m

Land Zoning

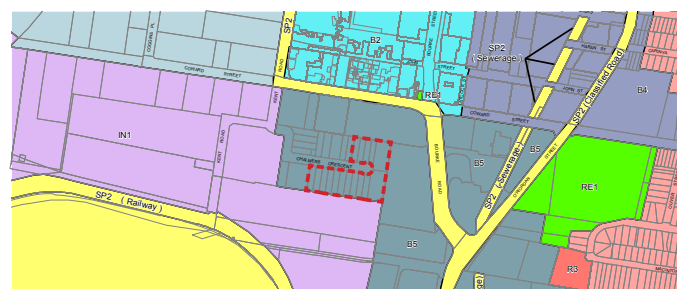
— B5 Business Development

Floor Space Ratio

— Area V1 3:1 FSR



LEP - Floor Space Ratio
0500_COM_FSR_008_010_20210301



LEP - Land Zoning
0500_COM_LZN_008_010_20210301



LEP - Height of Buildings
0500_COM_HOB_008_010_20230524

Bayside Development Control Plan 2022

The subject site is also covered by the Bayside Development Control Plan (DCP) 2022. Specifically under section 6.3 Business and Office Premises. The setback controls are most relevant for any future development on the site and are found in section 6.3.2 Building Setbacks of the DCP.

Setback Diagram
2022 DCP

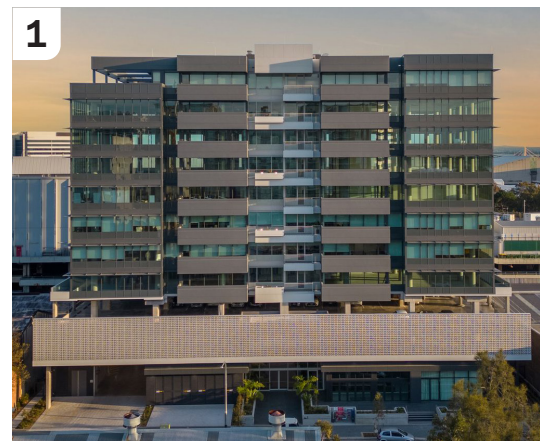
— Podium Setbacks
— Tower Setbacks

The Site

Emerging Commercial Developments

Recent approvals for commercial developments have surpassed the FSR 3:1 permitted by the Bayside LEP for the current masterplan approved in 2017. The range of FSR's approved is up to 3.98:1.

Recent development approvals in place are concentrating a substantial workforce close to the airport and well served by public transport, especially heavy rail. The creation of floor space for a substantial workforce also takes advantage of the rapidly expanding residential precinct around the Mascot Railway Station.



1-5 Chalmers Crescent
Commercial Workplace
GFA 8,639.5m²
FSR 3.98 : 1



2 Chalmers Crescent
Commercial Workplace
GFA 4,901m²
FSR 3.93 : 1



253 Coward Street
Commercial Workplace
GFA 16,090m²
FSR 3.98 : 1



50 Kent Street
Commercial Workplace
GFA 18,833m²
FSR 3.72 : 1

The Site

The Country of Mascot

A Connection to Country workshop session was held in January 2024 to chat about the story of the site beyond archival records. In attendance were Elders, Uncle Ray Davidson and Anthony Freeman from Bush to Bowl.

This place is known as Bidgegal Country, with close relationships with local Aboriginal groups across the Sydney basin, including the D'harawal, Dharug, Eora, Gai-mariagal, Gundagara and Guringai peoples. The site sits within an area which has seen multiple ecological transformations prior to the contemporary developments we see today.

First descriptions of the site by Captain James Cook in 1770 describe the area around Mascot as “A sandy swampy Country”. Yet such landscapes possess value for Aboriginal peoples as places of abundance.

Much of mascot has been documented as being a **swampland/wetland** environment prior to modern day developments. These environments are integral to waterways as they filter water before entering rivers as well as hold the foundation for the creation of life. Remnants of these swamplands still exist at nearby golf clubs.

While this environment has characterised the site, it is also known to have been the place where large **sand dunes** sat, emerging from the eastern coast and coming as far in as Mascot and Moorepark.

There is an opportunity for the development to reflect Country through the re-introduction of native species/environments as well as reflect the layers that form this Country.

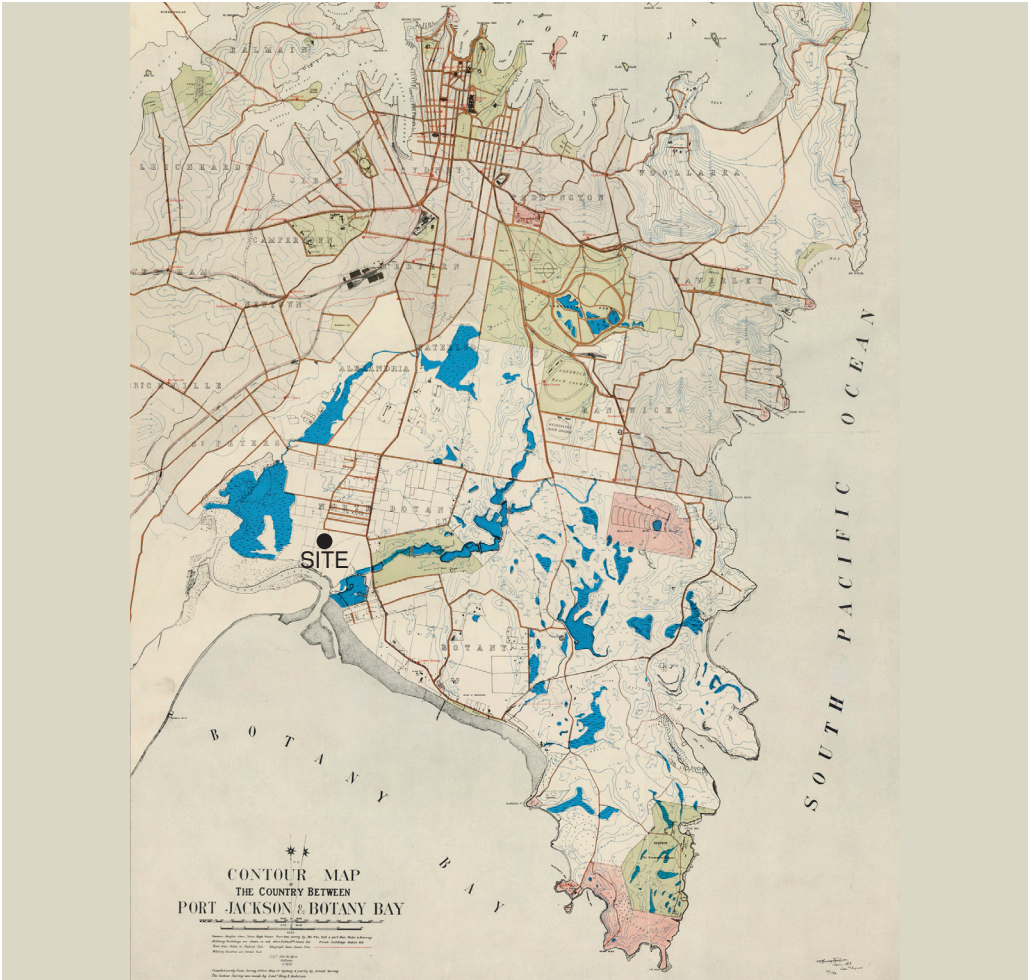
Refer to WSP Connecting to Country: Aboriginal Design Principles report for references, detailed information and design considerations.



An indicative mapping of Country combining Aboriginal place names, tribe names and early descriptions by the First Fleet in 1788 by Michael Hromek



Indicative swampland/wetland environments and sand dune formations which characterised the site.



Contour Map: The Country Between Port Jackson and Botany Bay 1894 (Swamp Areas in Blue)

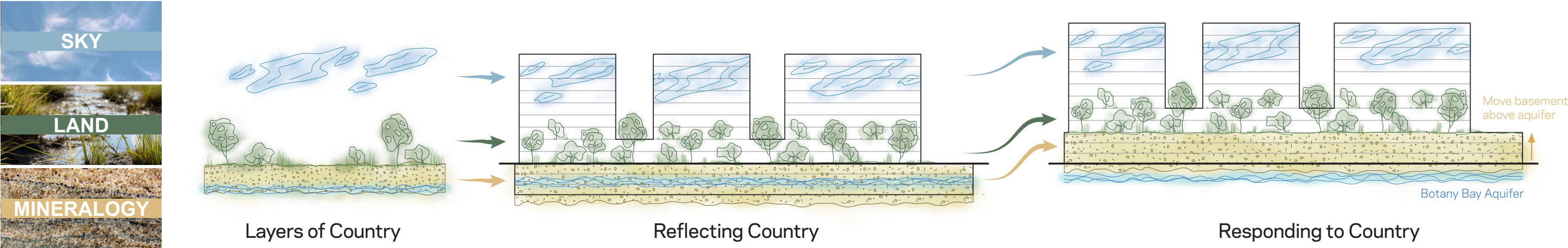




2

Design Response

Design Response
Layers of Country



The proposed development aims to reflect the local context beyond the built environment - reflecting the layers of Country of Mascot and its story.

Understanding the story of Mascot and its ecological transformations has informed the way in which the proposed development can best cater for both Country and its future users. The development distinctively translates 3 layers of Country.

Mineral Layer

The mineral layer reflects all that cannot be seen but is intrinsic to the character of the site. This includes the sandy and mineral matter that forms the foundation of this Country and is reflected at the podium level of the project. The site is also uniquely situated above the Botany Bay aquifer which has sustained freshwater sites across eastern Sydney for thousands of years and which has informed the strategy for the project.

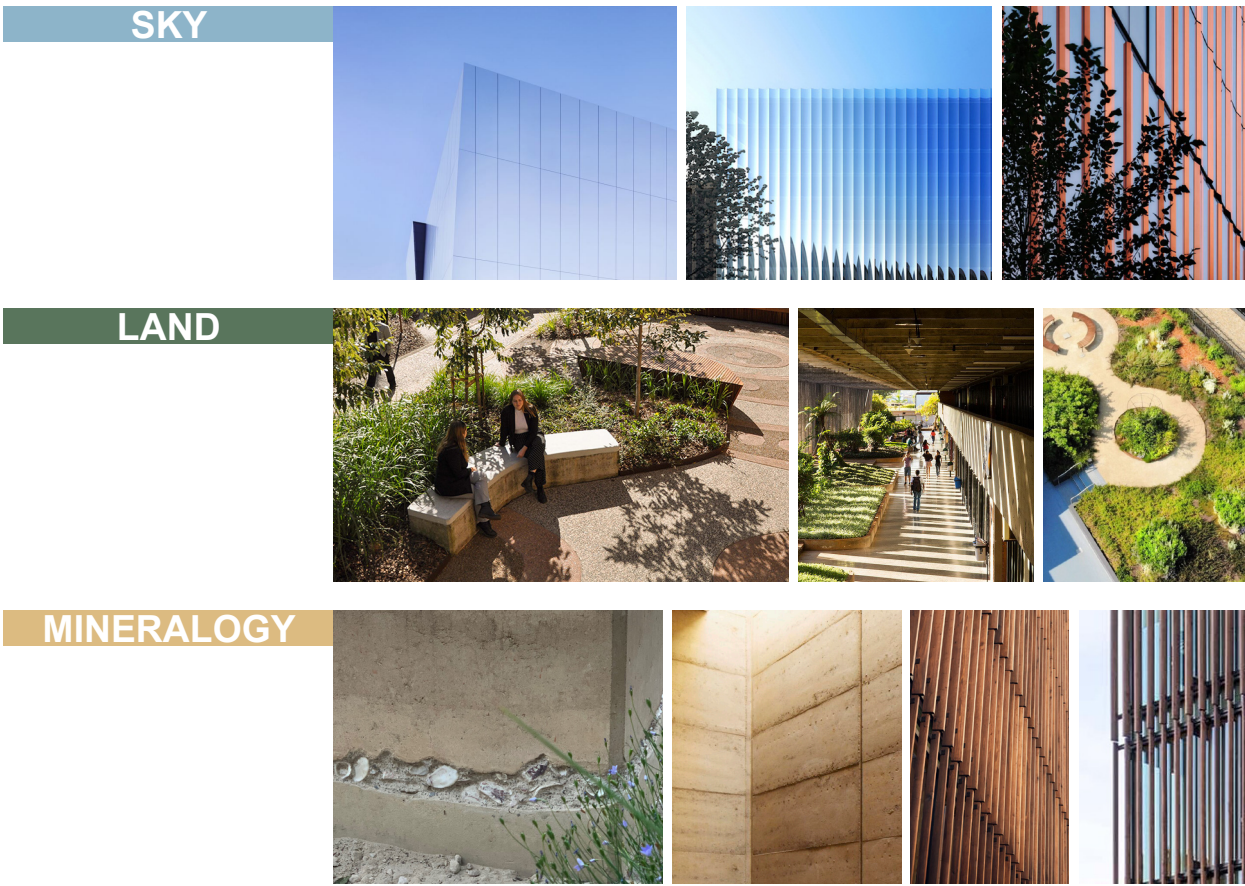
Land Layer

Land is understood as the place where plant, animal, and human life gather. The development reflects the 'swampy Country' through the re-introduction of native grasses, shrubs, and trees which have been lost. Providing opportunities for Country to be experienced and celebrated.

Sky Layer

Sky Country is where stories are held and told. The project offers an extension to Sky Country through the towers and their façade articulation. Vertical façade elements and double height glazed components create continued expressions to the sky.

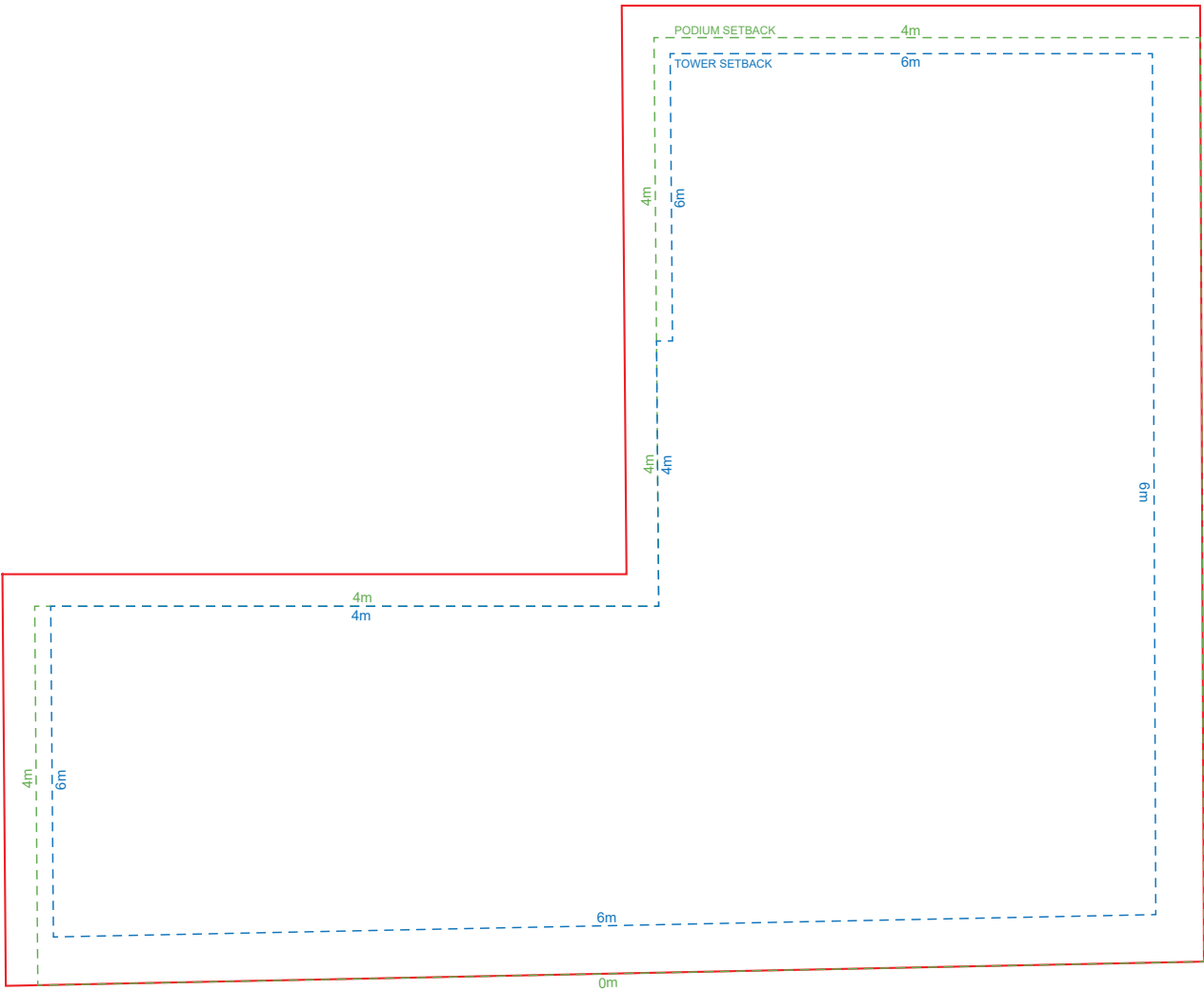
Please be advised that this is a preliminary exploration of Connecting with Country principles and their potential expression in the proposed development. Further elaboration and refinement will be undertaken during the required future Stage 2 DA.



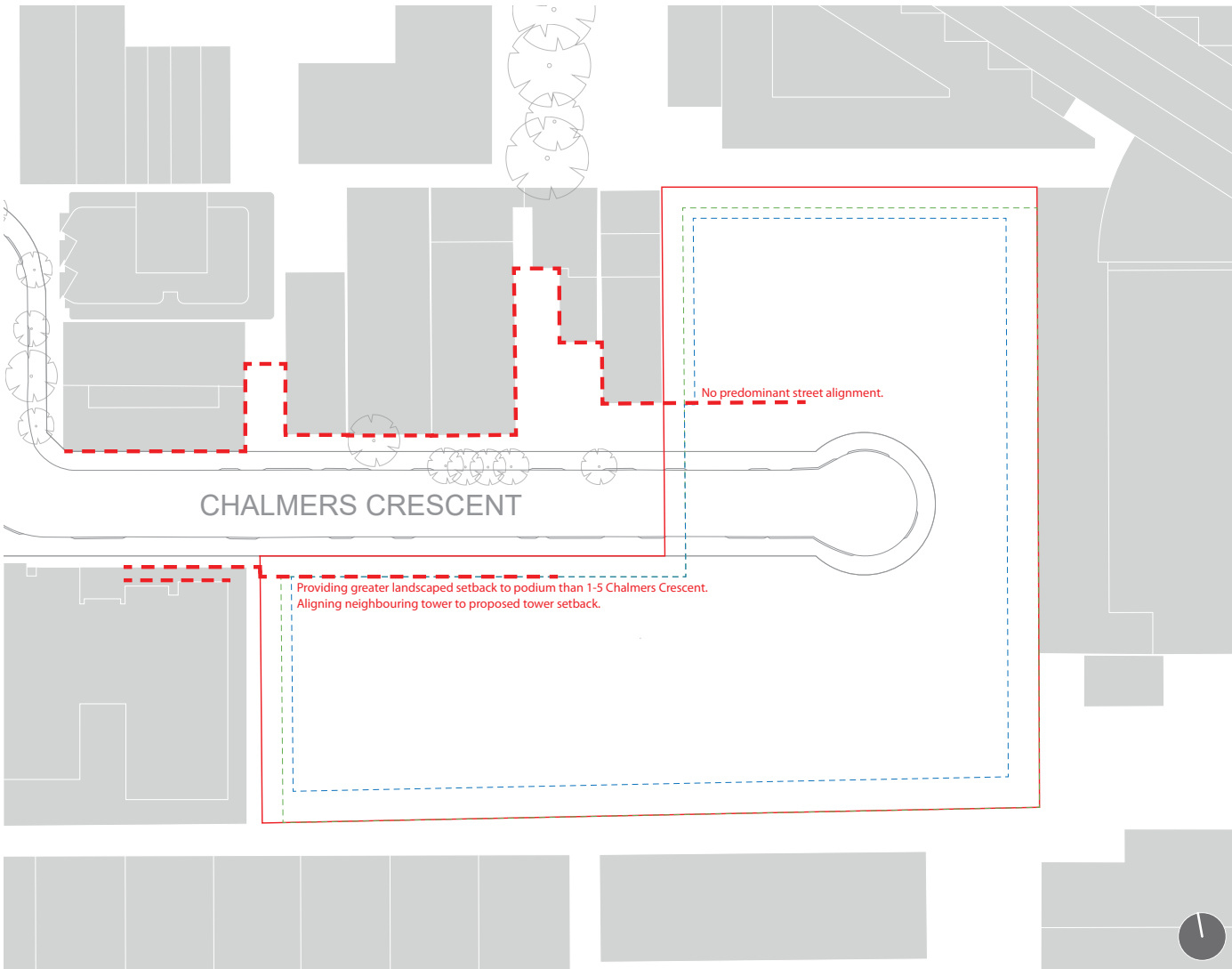
Design Response

Setback Response

The proposed setbacks respond to both the DCP requirements as well as the existing and recently evolved surrounding context. The northern street frontages of Chalmers Crescent are mostly setback between zero and 9m. On the southern side of Chalmers Crescent, the street alignment of the recently completed No.1-5 commercial development is 2.5m.



Proposed Development Setbacks



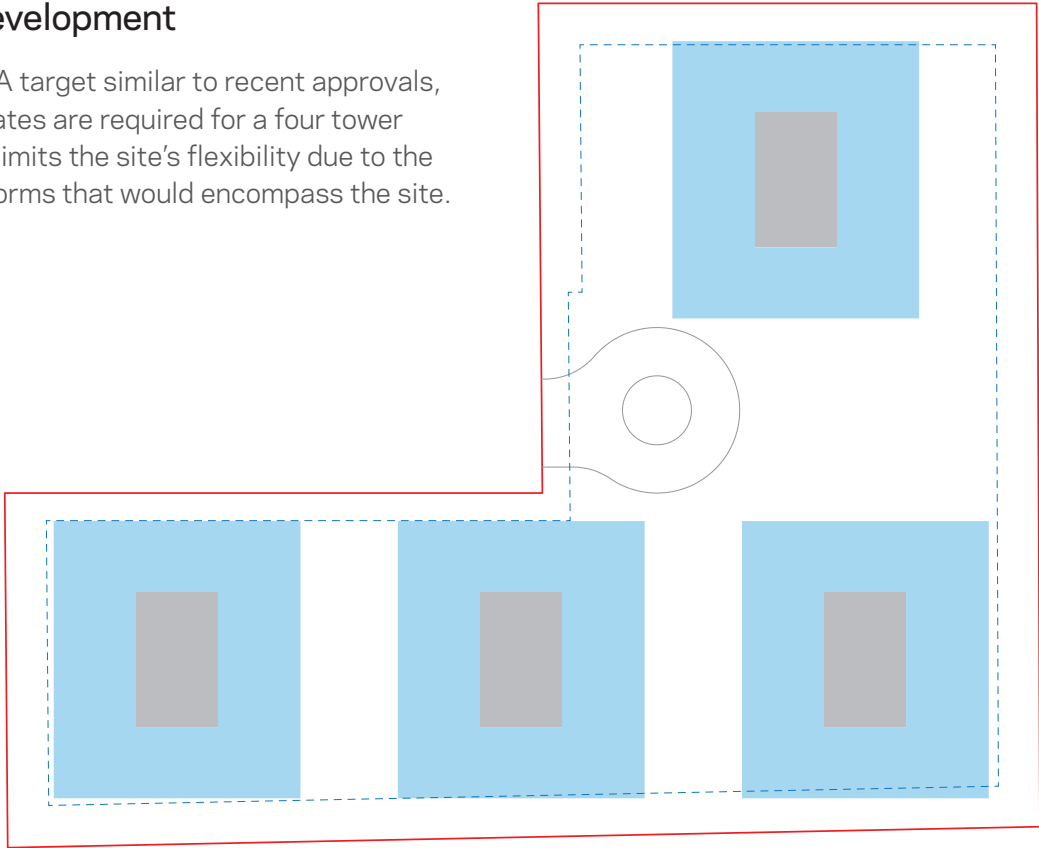
Setbacks and Context Alignment

Design Response

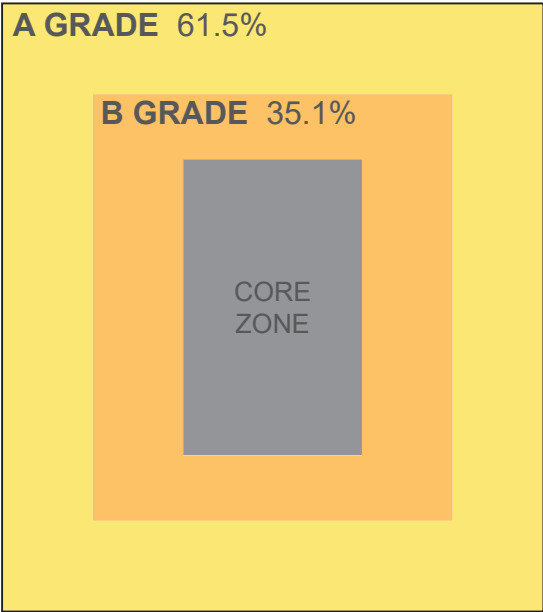
Floor Plate Analysis

4 Tower Development

To reach a GFA target similar to recent approvals, larger floor plates are required for a four tower scheme. This limits the site's flexibility due to the larger tower forms that would encompass the site.

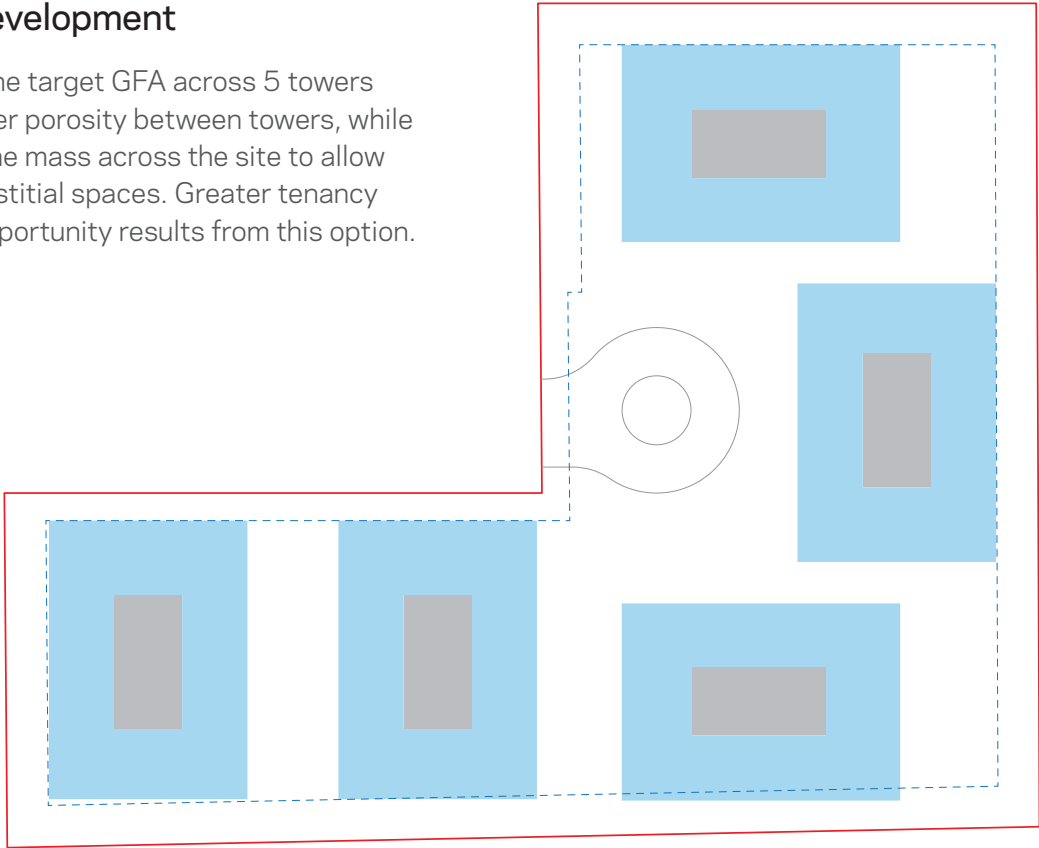


The larger floor plates required for this option result in **61.5% of A Grade** commercial space. The residual **B Grade totals 35.1%** of the total floor space area.

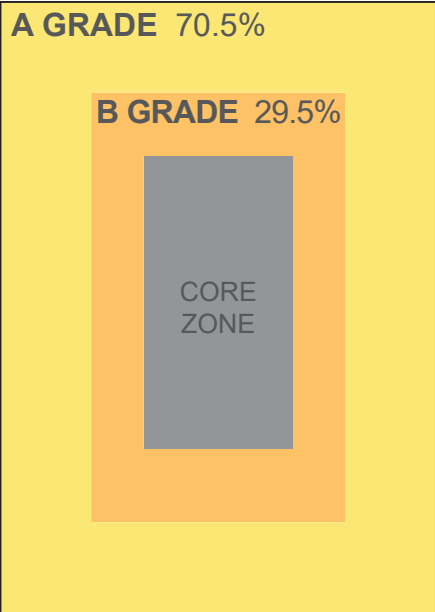


5 Tower Development

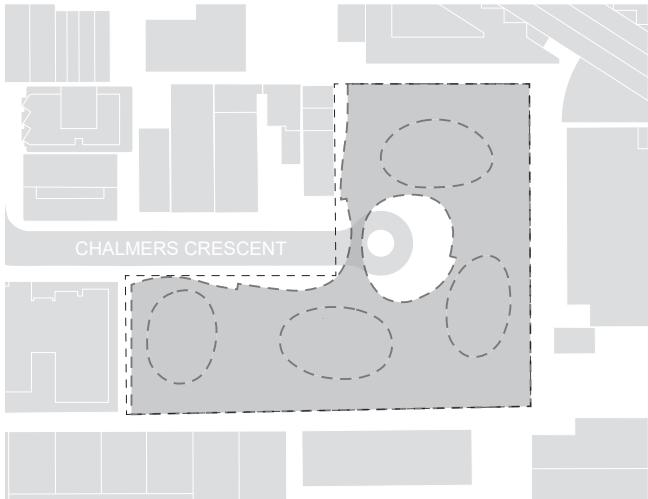
Breaking up the target GFA across 5 towers creates greater porosity between towers, while breaking up the mass across the site to allow for more interstitial spaces. Greater tenancy availability/opportunity results from this option.



The floor plates in this option generate **70.5% of A Grade** and **29.5% of B Grade** commercial space. A 5 tower development provides **greater natural light** at 6m from the buildings perimeter than a 4 tower development.

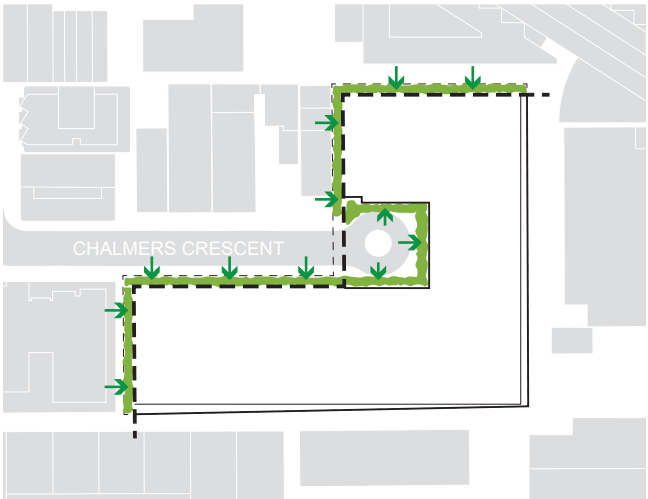


Design Response
Design Evolution



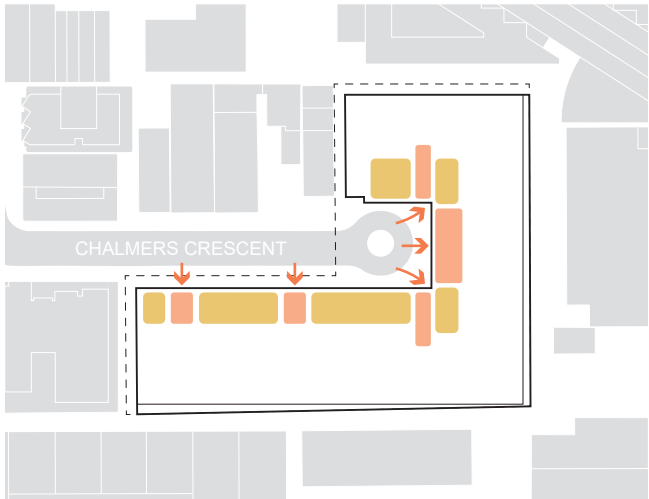
1. Current DA

This proposed concept DA responds to the previously approved masterplan. The locality, Council and the planning controls and approvals have evolved since the 2017 approval. An updated approach is required.



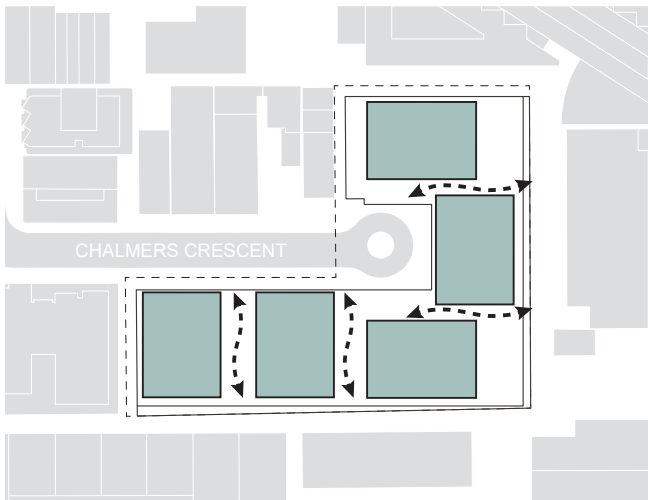
2. Green Streetscape

A more welcome, green and activated streetscape has been designed for Chalmers Crescent.



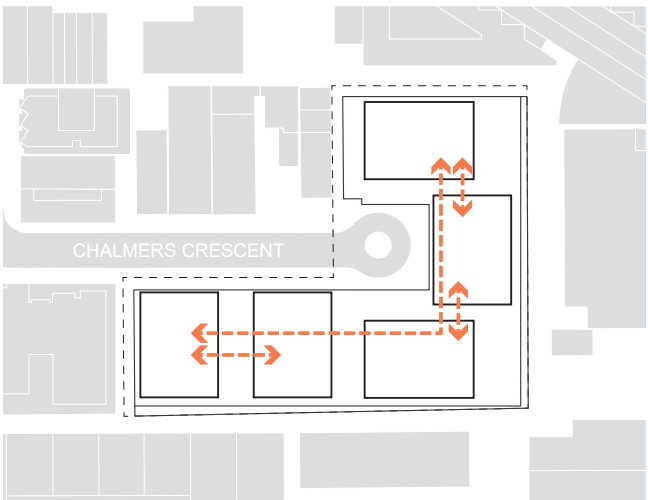
3. Street Activation

Street activation through multiple, generous building lobbies, end of trip facilities and a concentration on the design of the street level will achieve activation of Chalmers Crescent.



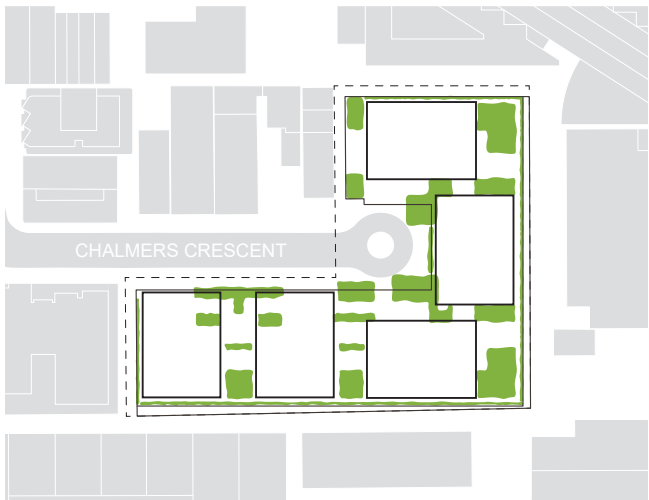
4. Five Towers

Five towers provide greater porosity to the site's built form while offering high quality/ flexible floor plates for future tenants.



5. Podium + Tower Connections

Providing continued connections between lobbies and towers at upper levels.



6. Green Communal Spaces

A diverse planting arrangement distributed across the podium and upper levels allows for connections to Country and between people.



Design Response

Ground Floor Level

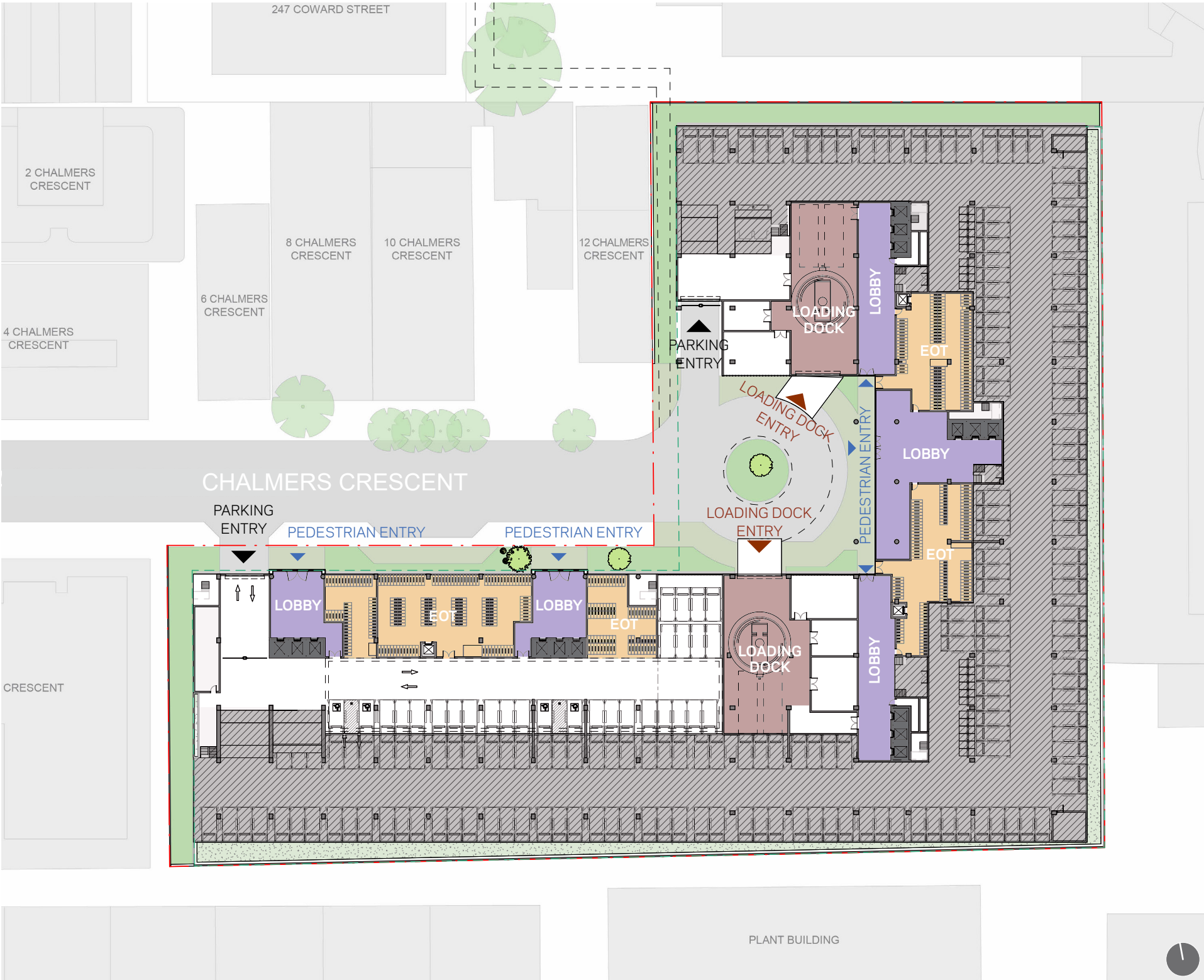
The proposed development has **five primary pedestrian entries** on Chalmers Crescent, two off the south of the street, and three off the cul-de-sac. Double height glazed lobbies serve pedestrians, bicyclists and visitors and allow access to the podium facilities and the office floors.

Vehicular access is provided via two entries. Two **loading dock accesses** are provided off the cul-de-sac. Truck access is forward in and forward out utilising turntables.

EOT bicycle parking for tenants and visitors is provided along the south and east of the ground floor. Access is via designated EOT entries. Separate lifts are provided to access the EOT facilities such as showers and change areas.

A **landscaped buffer zone** extends from the podium to the street with provision for deep soil planting.

The integrated landscaping coupled with the programmatic organisation, offers a **streetscape presentation** which creates a welcoming street entry to the development.

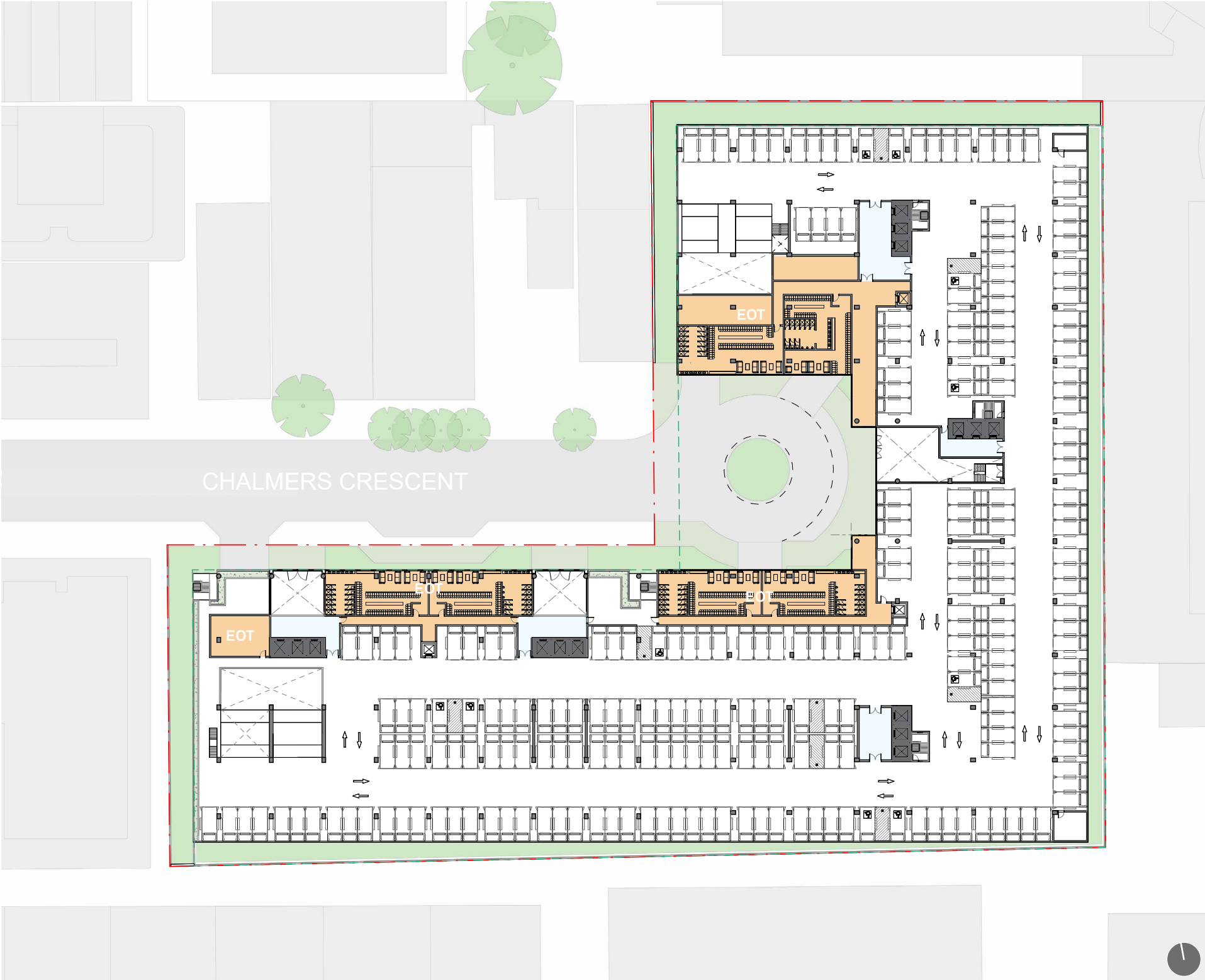


Design Response

Podium - Level 1

Level 1 offers **EOT facilities** to all tenants and visitors, positioned along the street front and **promoting street activation**. Lifts to ground and Level 2 are provided.

Car parking is set to the outer perimeter of the site. An overview of the car parking strategy can be seen on page 25.





Design Response

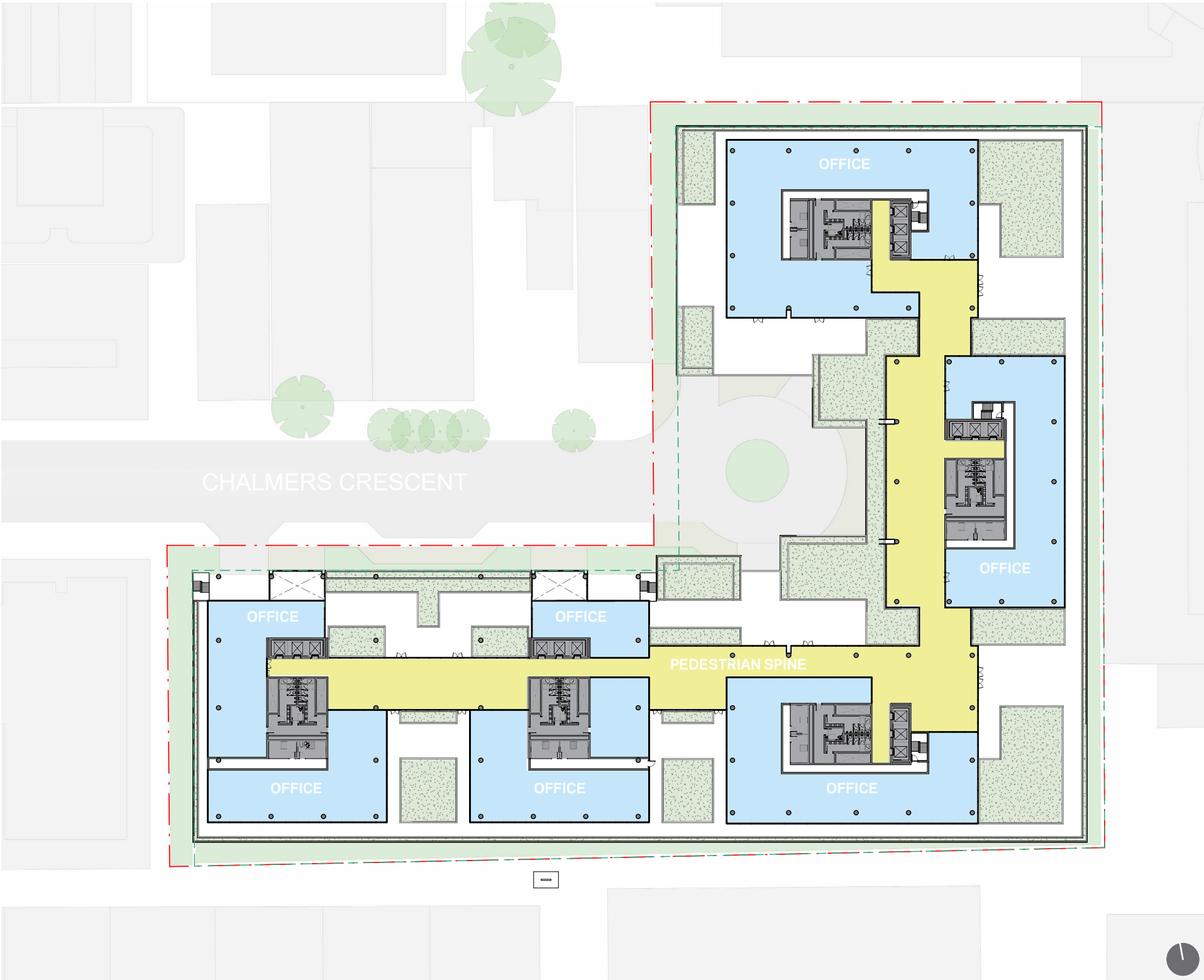
Podium - Level 2

This level reflects an integral layer of Country, called up by the Indigenous design principles and the landscape design itself, fostering relationships between people and Country.

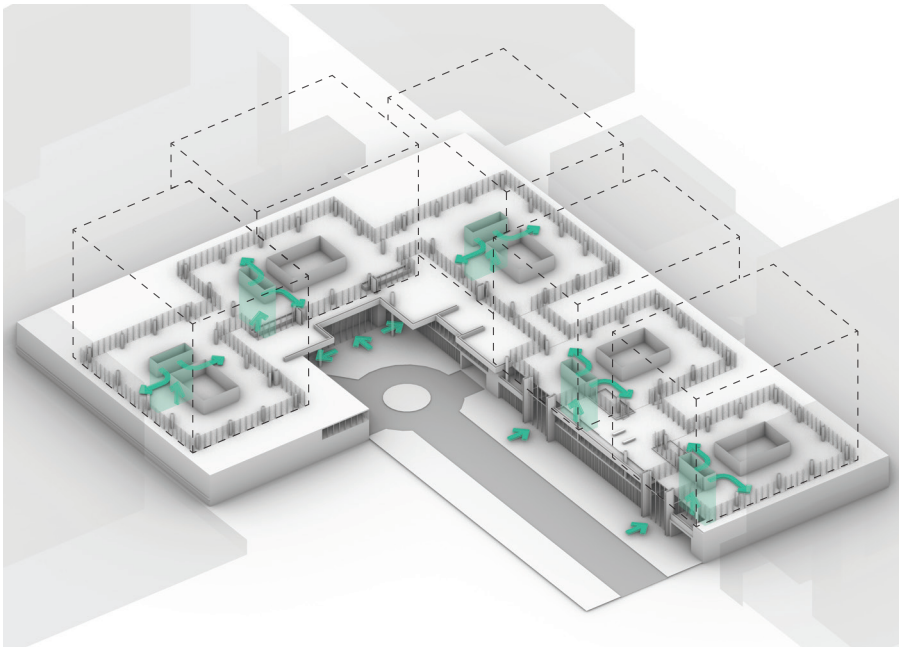
Primary connections between buildings are located on this level, accessed via the ground floor lobbies. A mixture of single and double height spaces link this level, allowing access to all towers.

Landscaping and break out spaces are dispersed across the street edge and between towers. Native planting, reflective of original species found in the locality, acknowledges pre-European settlement plant communities and Indigenous ways of life.

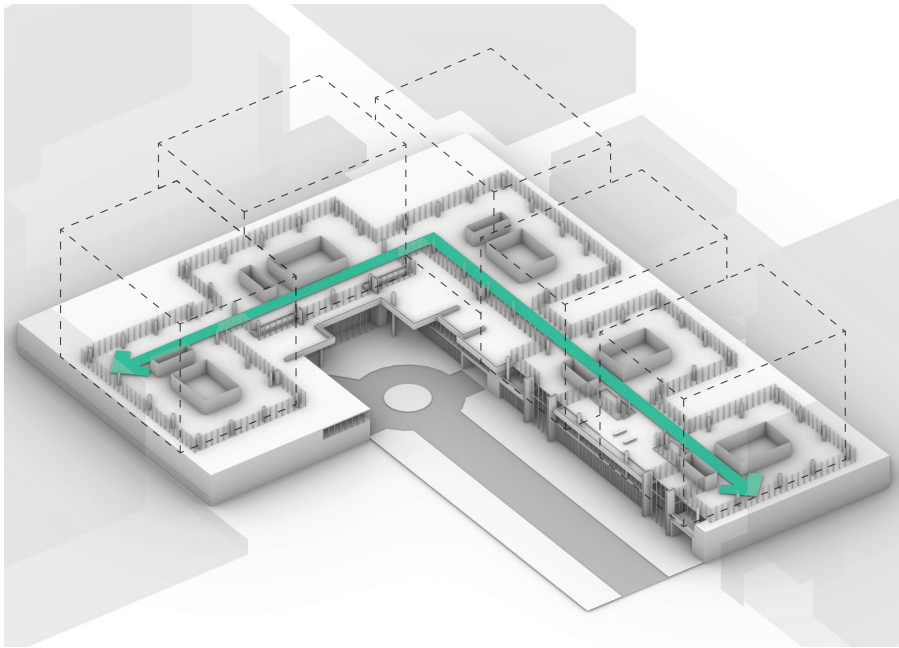
Refer to the Landscape Design Report for further information.



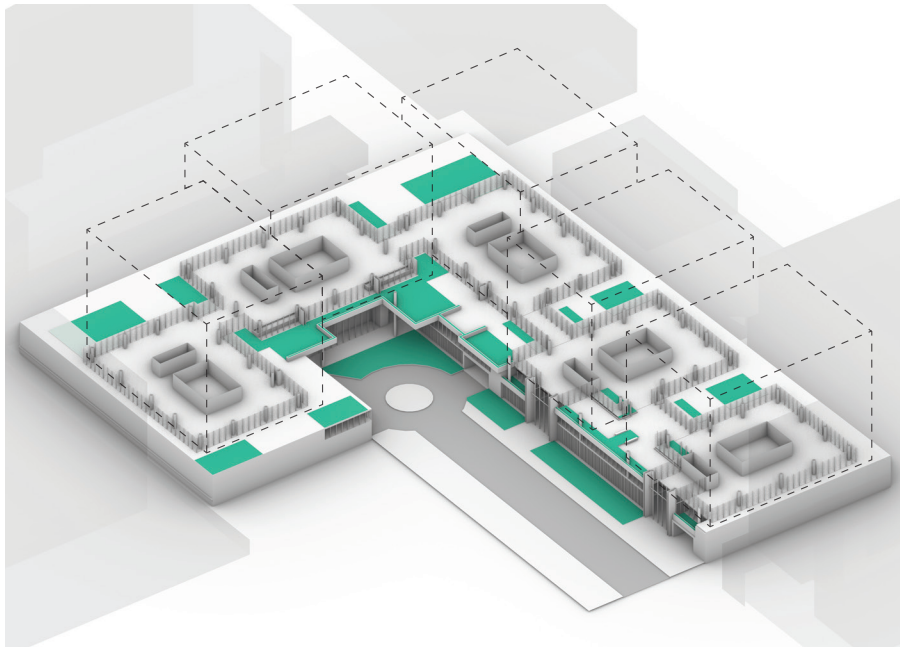
Design Response
Podium - Level 2



Lobby Arrival Space



Connected Towers



Communal Green Spaces

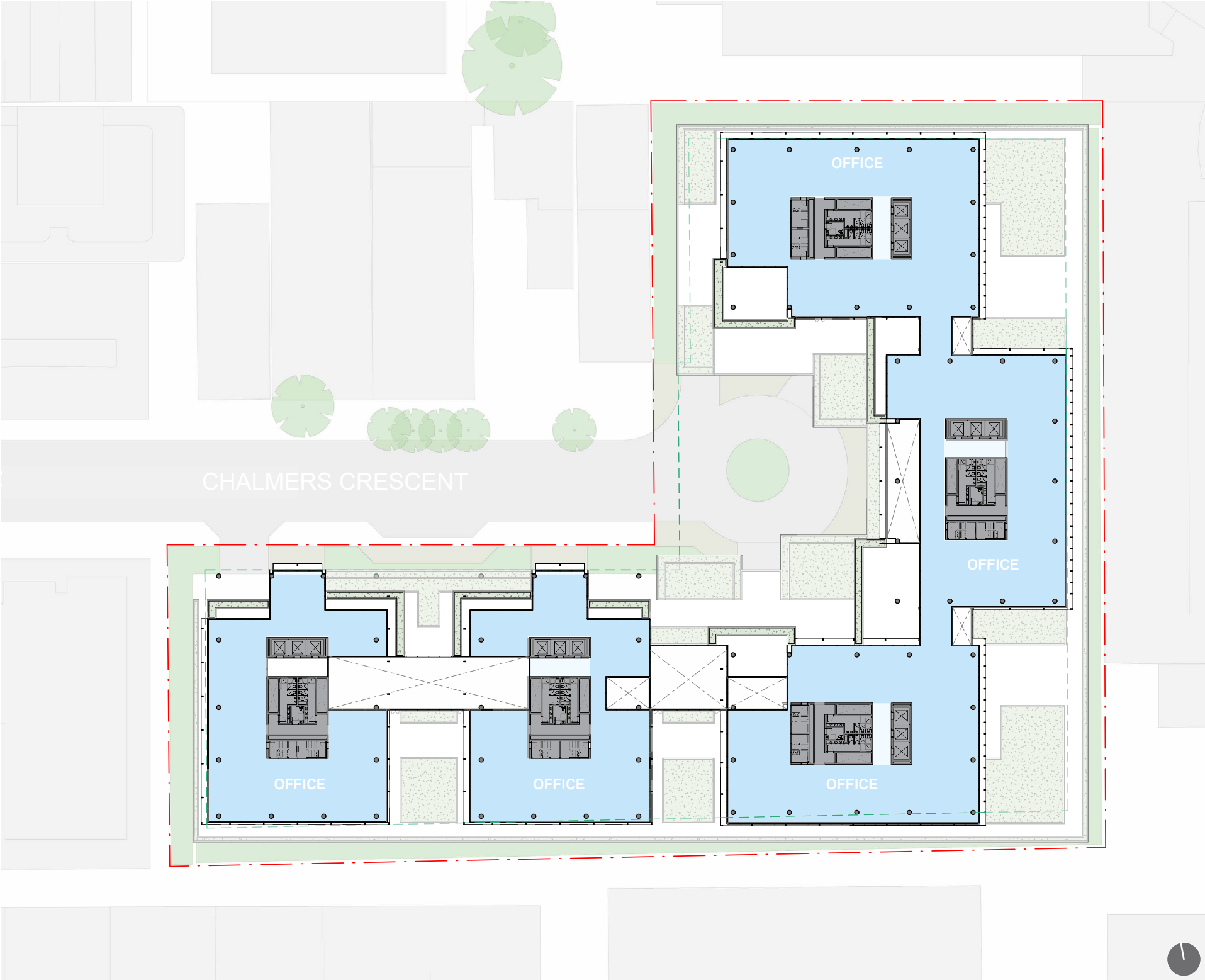




Design Response

Office - Level 3

A partly green transition from the podium to the tower forms creates a **softened architectural expression** for the offices above. High performing office space is created for the towers by their proportions which maximise access to natural light.

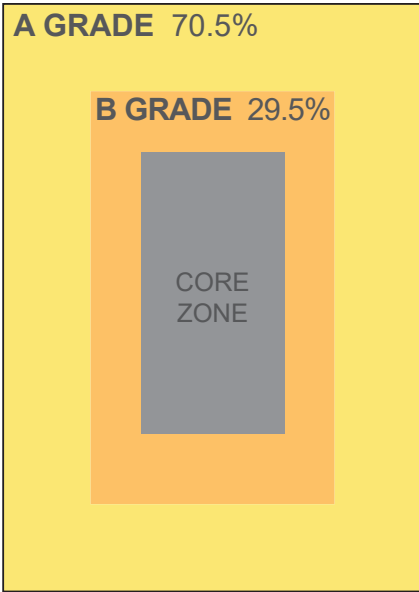


Design Response

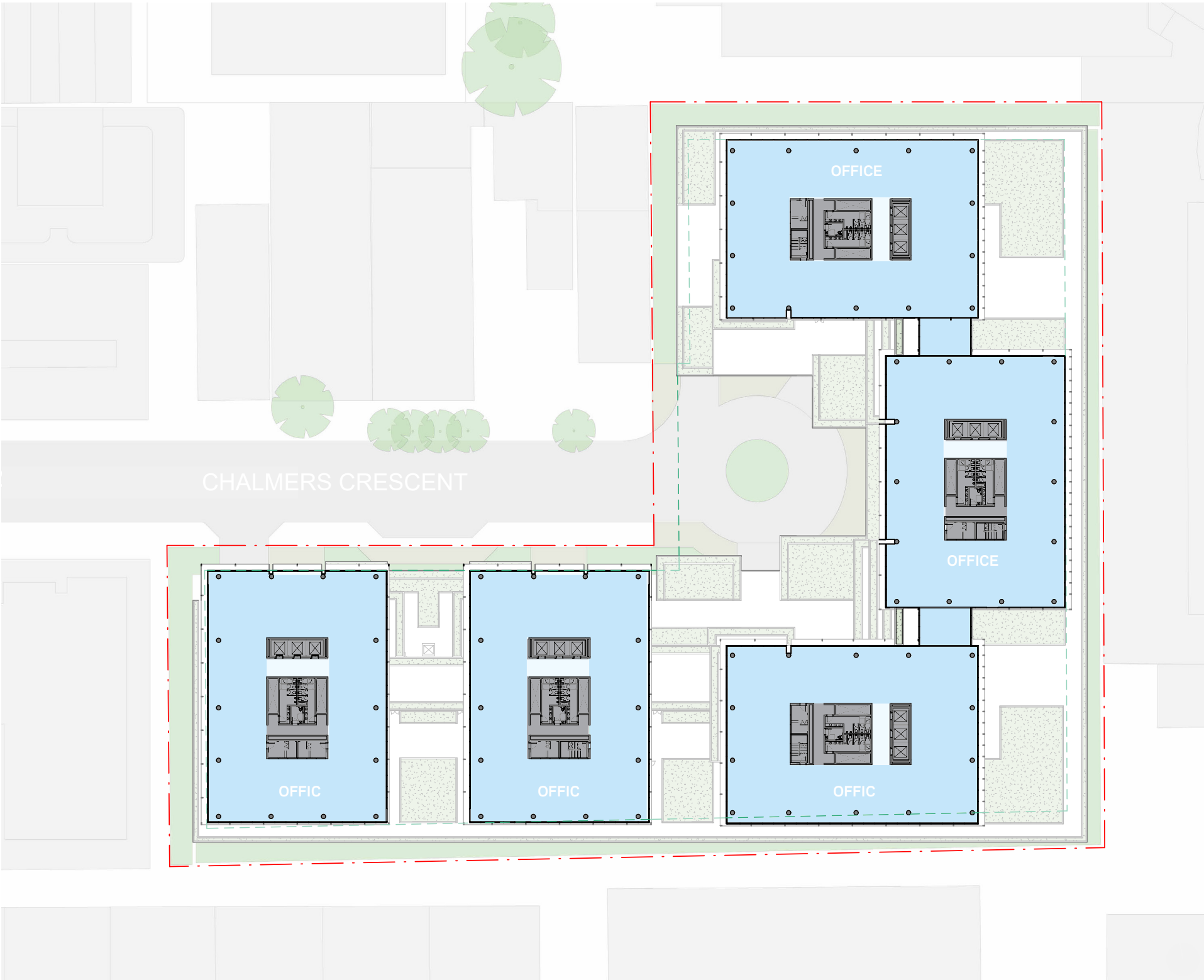
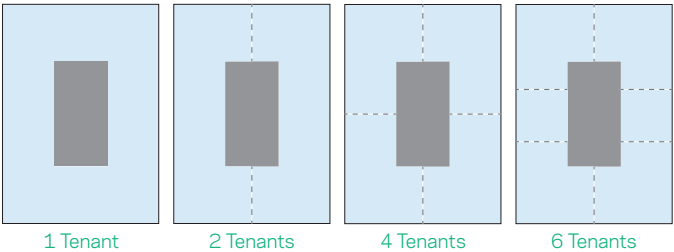
Office - Level 6 (Typical)

The proposed tower floor plates provide **over 70% of A Grade commercial space**. While maintaining a consistent footprint, with variations at lower levels, each floor presents potential **subdivision opportunities**, enabling multiple tenants to occupy the same level. This, coupled with the clear subdivision of the overall development, allows for **flexible arrangements** as needed.

Floor Plate Performance



Floor Plate Subdivision



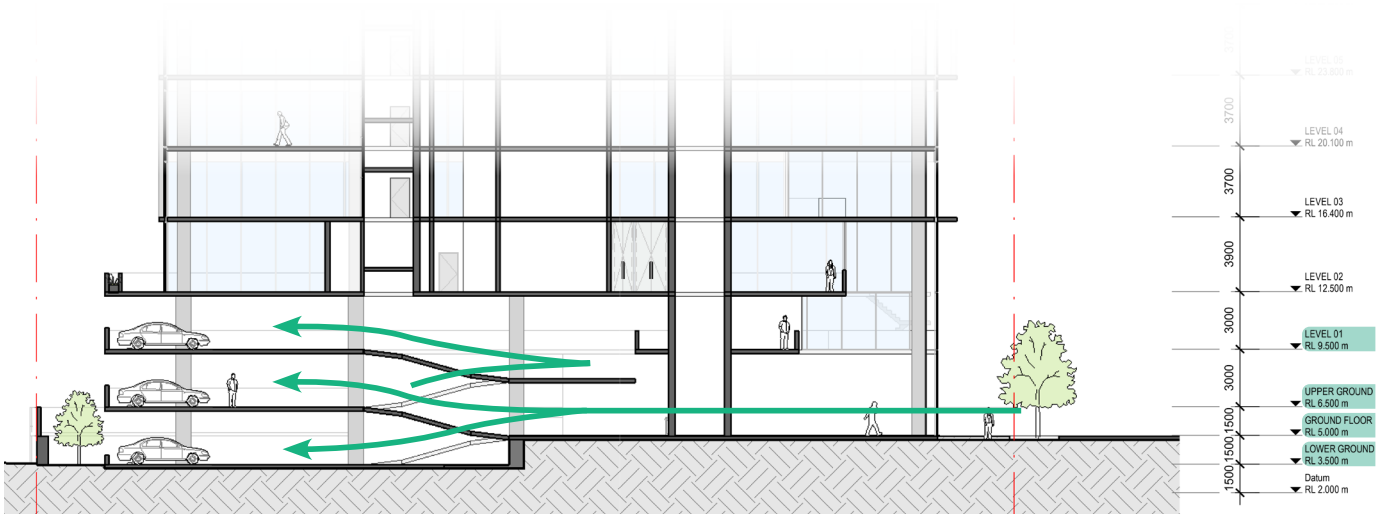
Design Response

Car Parking

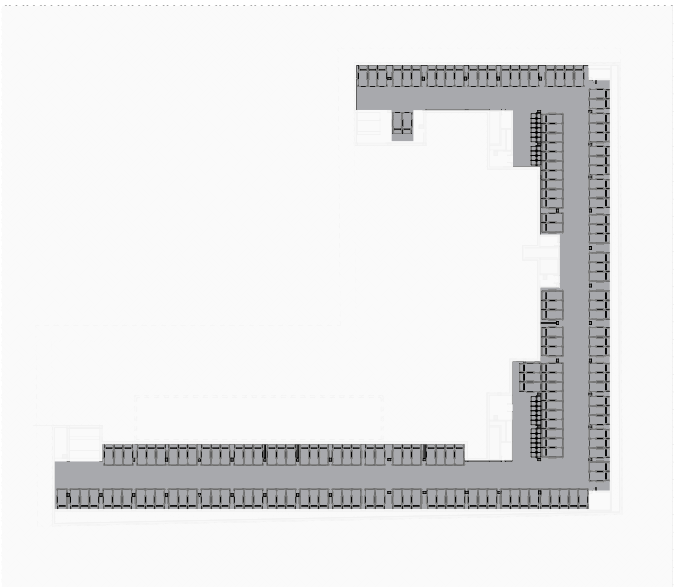
The car parking strategy has been planned to minimise the need for excess excavation on the site, as to not encroach the water table situated below (Botany Bay Aquifer). A portion of the car parking levels are elevated above ground level. Employing a split car parking strategy ensures that the required number of parking spaces is achieved.

CAR PARKING:
(Including accessible cars)

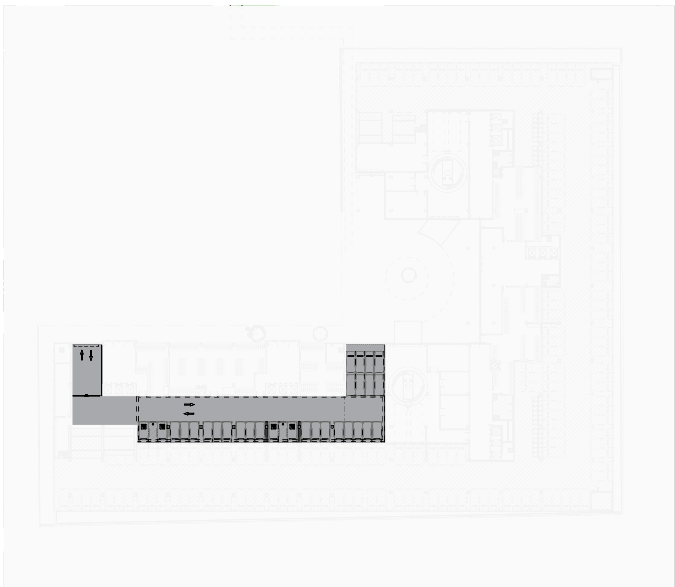
608



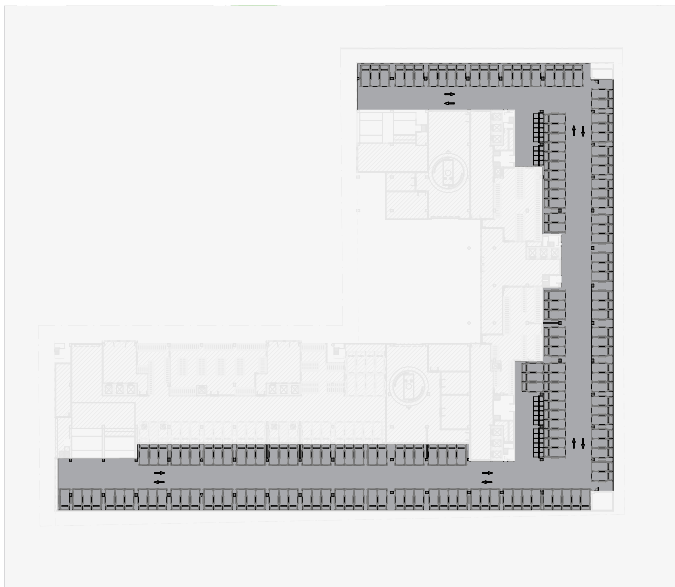
Split Car Parking



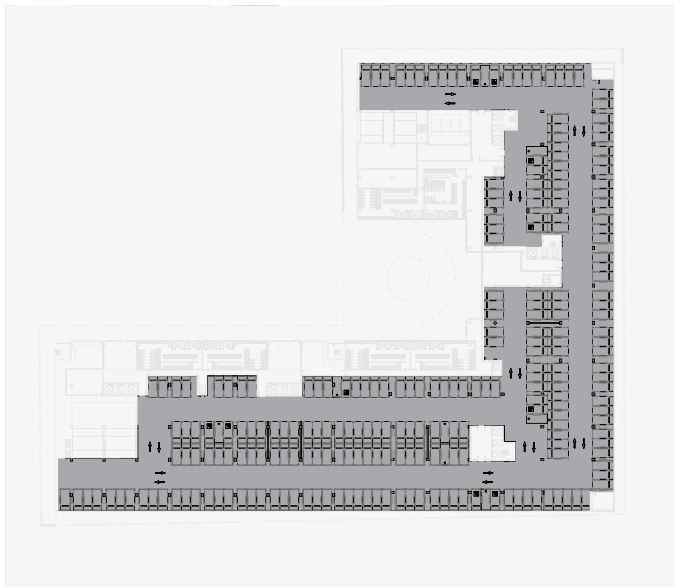
Lower Ground
170 Car Spaces (Standard)



Ground
25 Car Spaces (Standard)
4 Car Spaces (Accessible)



Upper Ground
165 Car Spaces (Standard)



Level 1
234 Car Spaces (Standard)
10 Car Spaces (Accessible)

Design Response

Facade Concept & Materials

Street Activation

The programmatic arrangement of occupant spaces in the development is designed to face the street front, fostering an engaging environment that enhances movement and vitality at the ground level interface. Finely textured materials are utilised to enable permeable visibility.

Clear Distinction of Entrances

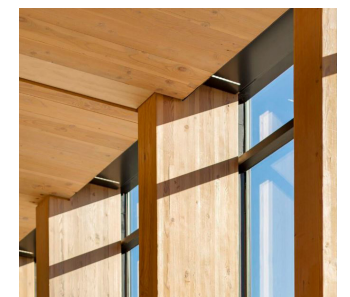
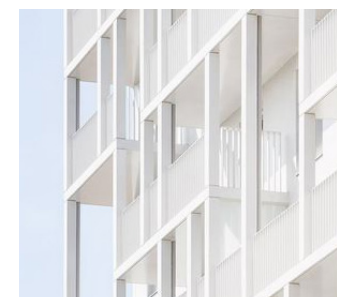
The lobbies are designed with prominent double to triple height spaces facing the street, accentuating their presence. Well-defined demarcations emphasise these entry points, providing clear points of entry to the building.

Landscape as Material

A diverse selection of native plants is incorporated throughout the building, serving as an overlay that enhances its aesthetic appeal. By combining low and medium shrubs with trees, particularly where deep soil planting is feasible, a harmonious integration of landscaping with the architectural design is achieved.

Shading Devices

The tower façade incorporates building elements that respond to the sun's orientation throughout the day. This is achieved through carefully adjusted slab edges, strategically positioned to shade the curtain wall glazing below at various levels. Page 27 presents a radiation analysis illustrating the better performance of the proposed facade compared to a DTS Base Case.



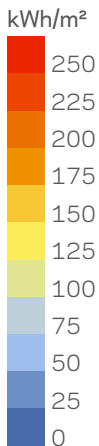
Design Response

Facade Studies

The proposed development considers a DTS Base Case that meets the **minimum requirements for acceptable radiation levels**. This DTS Base case was set out by WSP and tested against in the proposed development scheme.

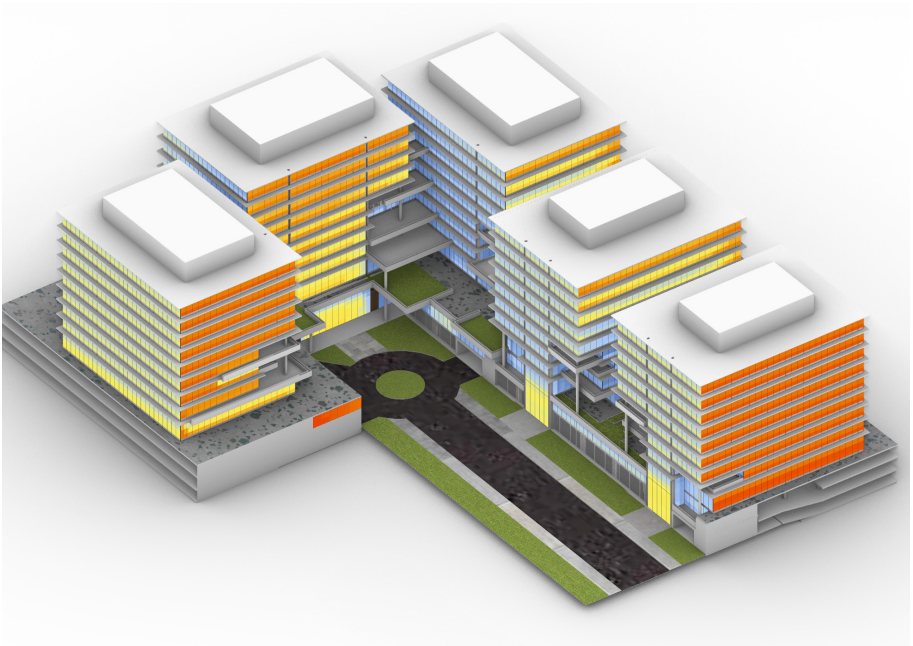
The proposed development aims to reduce the horizontal projection of slabs while achieving improved solar radiation outcomes. This was fulfilled by alternating slab extrusions every two levels at varying distances from the glazing. Detailed facade studies confirmed that this approach resulted in better solar radiation levels compared to the DTS Base Case. The study is taken during **Summer, from 7 November to 5 February, between 9am and 5pm**.

- The proposed facade strategy **reduces solar radiation by 0.2092 kWh** over the analysed period against the DTS Base Case.
- The proposed facade strategy **reduces solar radiation by 2,298.9 kWh** per day against the DTS Base Case.
- The proposed facade strategy **reduces solar radiation by 0.13 kWh** per day, per square metre against the DTS Base Case.

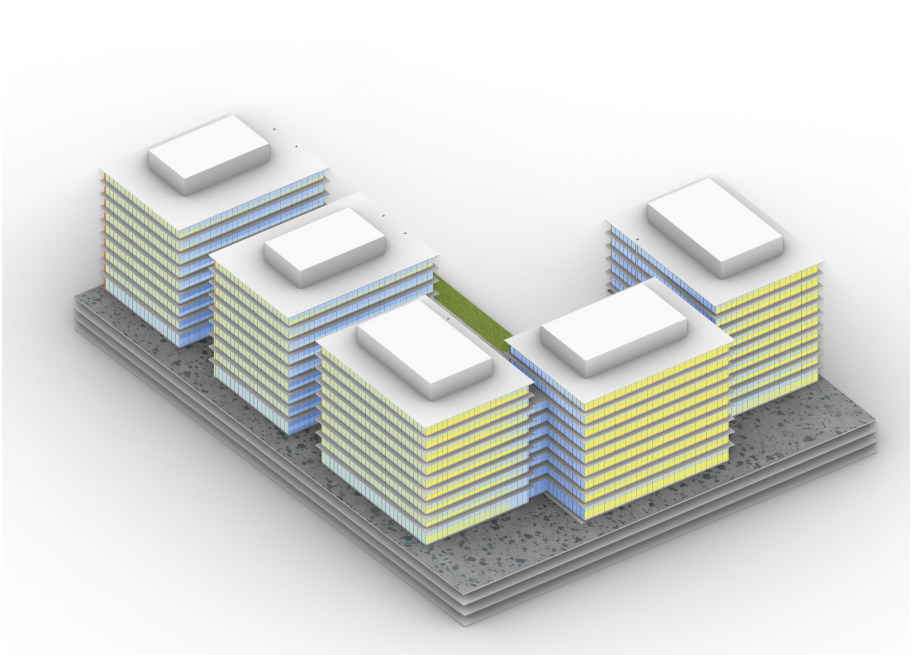


DTS BASE CASE

1.4424e+6 kWh total
15,850.55 kWh per day
0.90 kWh per day, per sqm



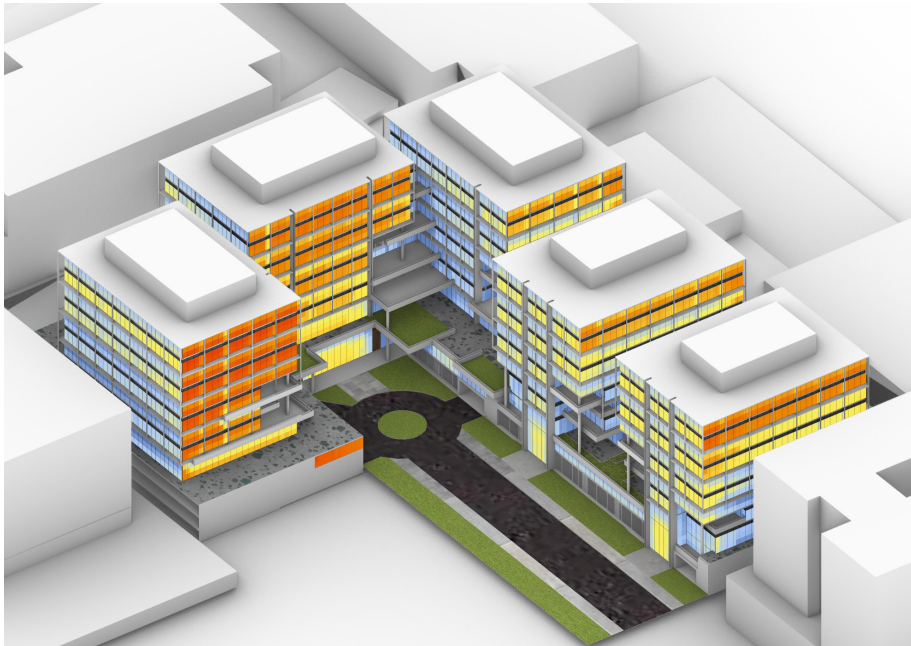
DTS Base Case Facade - North West View (tested against no context)



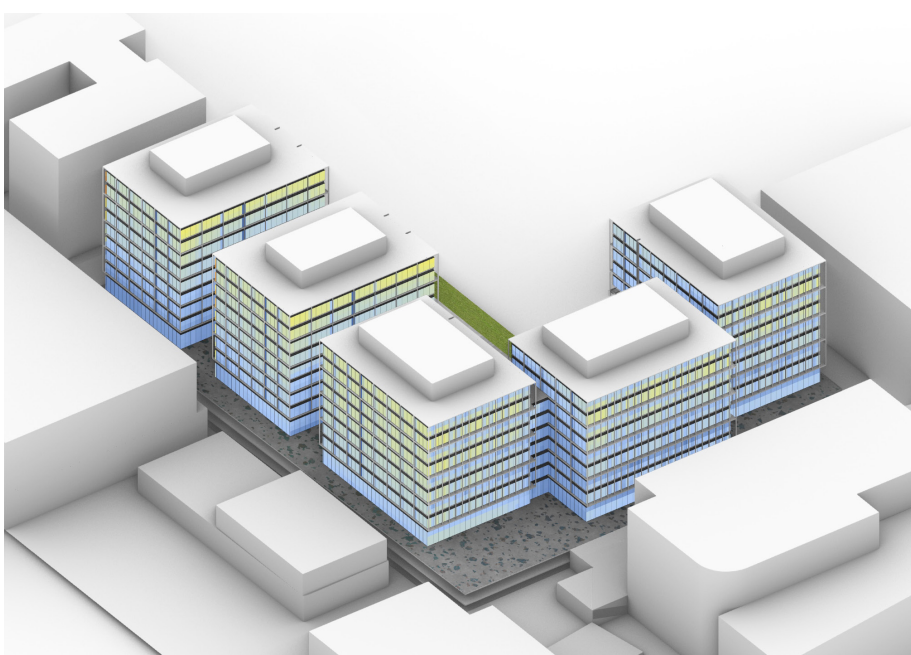
DTS Base Case Facade - South East View (tested against no context)

PROPOSED

1.2332e+6 kWh total
13,551.65 kWh per day
0.77 kWh per day, per sqm



Proposed Facade - North West View



Proposed Facade - South East View



Design Response

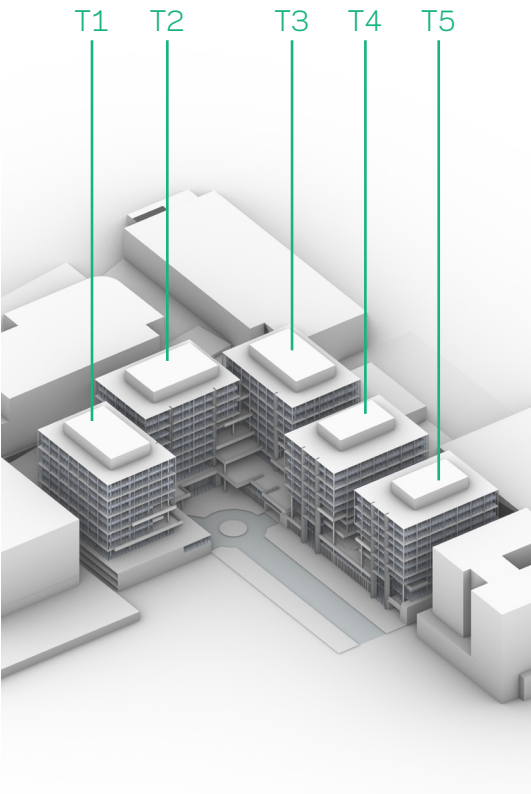
Area Schedule

Site Information & Overview

Building Class:	Class 5
Site Area:	12,603m²
Allowable FSR:	3 : 1
Allowable GFA:	37,809m²
Proposed FSR:	3.86 : 1
Proposed GFA:	48,645m²
Proposed NLA:	44,548m²
Population:	4,455 people

PARKING SUMMARY		
ELEMENTS	DCP REQUIREMENT	PROPOSED PROVISION
CARS (INCLUDING ACCESSIBLE CARS)	608	608
ACCESSIBLE CARS	13	14
MORTORBIKES	41	44
BICYCLES - WORKER	324	370
BICYCLES - VISITOR	122	124
LOCKERS	324	382
SHOWERS	33	37
TOILETS	33	37

	LEVEL	FF HEIGHT	TOTAL HEIGHT	RELATIVE LEVEL	GBA	GFA	OFFICE (L2 - L10)		OFFICE + LOBBY + EOT (LWG - L10)	
							NLA	EFFICIENCY	NLA	EFFICIENCY
ROOF	ROOF		46	51	2759	0	0	-	0	-
PLANT	PLANT	5	41	46	5695	0	0	-	0	-
COMMERCIAL	LEVEL 10	3.7	37.3	42.3	5695	5302	4828	91%	4828	91%
COMMERCIAL	LEVEL 9	3.7	33.6	38.6	5798	5302	4828	91%	4828	91%
COMMERCIAL	LEVEL 8	3.7	29.9	34.9	5842	5402	4930	91%	4930	91%
COMMERCIAL	LEVEL 7	3.7	26.2	31.2	5759	5387	4921	91%	4921	91%
COMMERCIAL	LEVEL 6	3.7	22.5	27.5	5868	5248	4875	93%	4875	93%
COMMERCIAL	LEVEL 5	3.7	18.8	23.8	5781	5053	4582	91%	4582	91%
COMMERCIAL	LEVEL 4	3.7	15.1	20.1	5981	5092	4601	90%	4601	90%
COMMERCIAL	LEVEL 3	3.7	11.4	16.4	5594	4555	4159	91%	4159	91%
PODIUM	LEVEL 2	3.9	7.5	12.5	9919	4909	3117	63%	4429	90%
PARKING	LEVEL 1	3	4.5	9.5	9596	1466	0	-	1466	-
PARKING	UPPER GROUND	3	1.5	6.5	5171	61	0	-	61	-
ENTRY/ PARKING	GROUND	1.5	0	5	4551	801	0	-	801	-
PARKING	LOWER GROUND	1.5	-1.5	3.5	5573	67	0	-	67	-
						0				
TOTAL					89582	48645	40841	84%	44548	92%



Tower Breakdown

	LEVEL	LOBBY + EOT		T1		T2		T3		T4		T5	
		GFA	NLA	GFA	NLA	GFA	NLA	GFA	NLA	GFA	NLA	GFA	NLA
ROOF	ROOF												
PLANT	PLANT												
COMMERCIAL	LEVEL 10			1056	961	1062	968	1056	961	1064	969	1064	969
COMMERCIAL	LEVEL 9			1056	961	1062	968	1056	961	1064	969	1064	969
COMMERCIAL	LEVEL 8			1106	1012	1062	968	1106	1012	1064	969	1064	969
COMMERCIAL	LEVEL 7			1087	993	1085	997	1087	993	1064	969	1064	969
COMMERCIAL	LEVEL 6			1106	1012	1008	913	1006	1012	1064	969	1064	969
COMMERCIAL	LEVEL 5			1087	993	1007	913	1011	916	974	880	974	880
COMMERCIAL	LEVEL 4			1106	1007	1008	899	1030	935	974	880	974	880
COMMERCIAL	LEVEL 3			1010	916	905	811	989	916	805	743	846	773
PODIUM	LEVEL 2	1312	1312	853	762	618	516	717	637	690	580	719	622
PARKING	LEVEL 1	1466	1466										
PARKING	UPPER GROUND	61	61										
ENTRY/ PARKING	GROUND	801	801										
PARKING	LOWER GROUND	67	67										
TOTAL		3707	3707	9467	8617	8817	7953	9058	8343	8763	7928	8833	8000

CRONE OFFICES

Sydney (HQ) ——— +61 2 8295 5300
Melbourne ——— +61 3 8621 8000

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