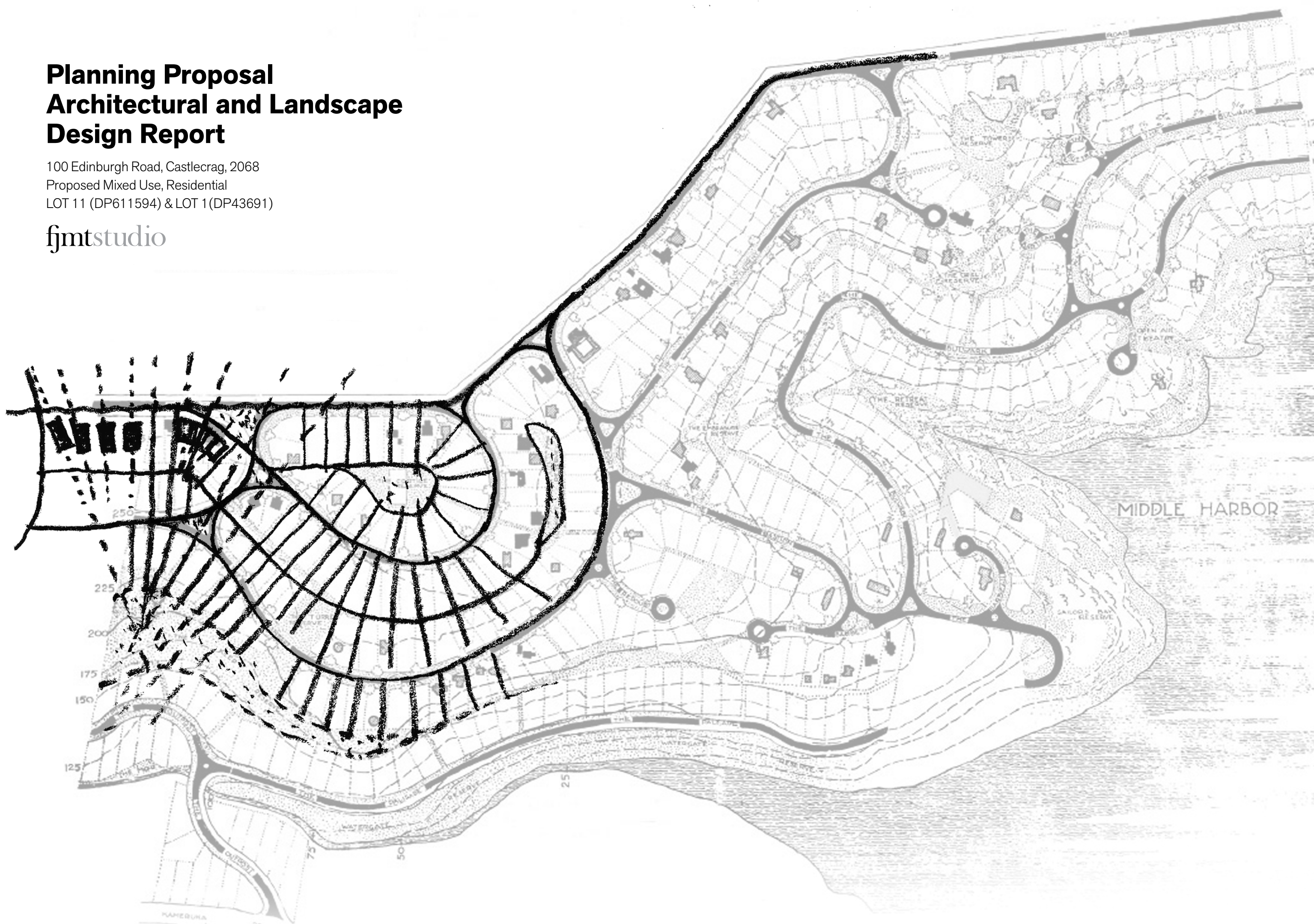


100 Edinburgh Road, Castlecrag, 2068  
Proposed Mixed Use, Residential  
LOT 11 (DP611594) & LOT 1 (DP43691)

fjmtstudio





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Project Name		100 Edinburgh Road, Castlecrag - Residential   Mixed Use	
Project Code		GQC	
Document Name		Planning Proposal : Architectural and Landscape Design Statement	
Document ID		200625_100 Edinburgh Road _ Architectural +Landscape Design Report	
	Date	Comment	Approved
1	21/08/21	For Client Approval	DN
2	26/08/21	Submission	DN
3			
4			







# Executive Summary

This report has been prepared by FJMT on behalf of the proponents; Greencliff Castlecrag Pty Ltd - for No 100 Edinburgh Road, Castlecrag. The aim of this report, and the planning proposal it supports, is to give reason to the proposed increase in density for the site.

The current controls of the Willoughby Local Environmental Plan 2012 (WLEP2012) allows for a development complying with The following:  
Land Zoning: B1 - Neighbourhood Centre  
Floor space ratio of -1.0:1  
Height of building - 9.0m

In late 2019, Willoughby council released a draft strategy for eight (8) local centres across their local government area. *“The draft Willoughby Local Centres Strategy aims to promote a network of thriving, attractive and distinctive neighbourhoods throughout the Council Area.*

*It provides the framework for future planning controls and public domain improvements for 8 local centres, with Willoughby South which was added to the original 7 centres as a result of community feedback, to prepare them for growth and renewal over the next 20 years.”*

The WLCS2036 sought to provide greater density, whilst engaging in community consultation. The resultant draft saw an uplift in density on the subject site. The uplift however has not yet been developed as a Draft Local Environment Plan, or Development Control Plans and can therefore not be drawn upon as an assessment document.

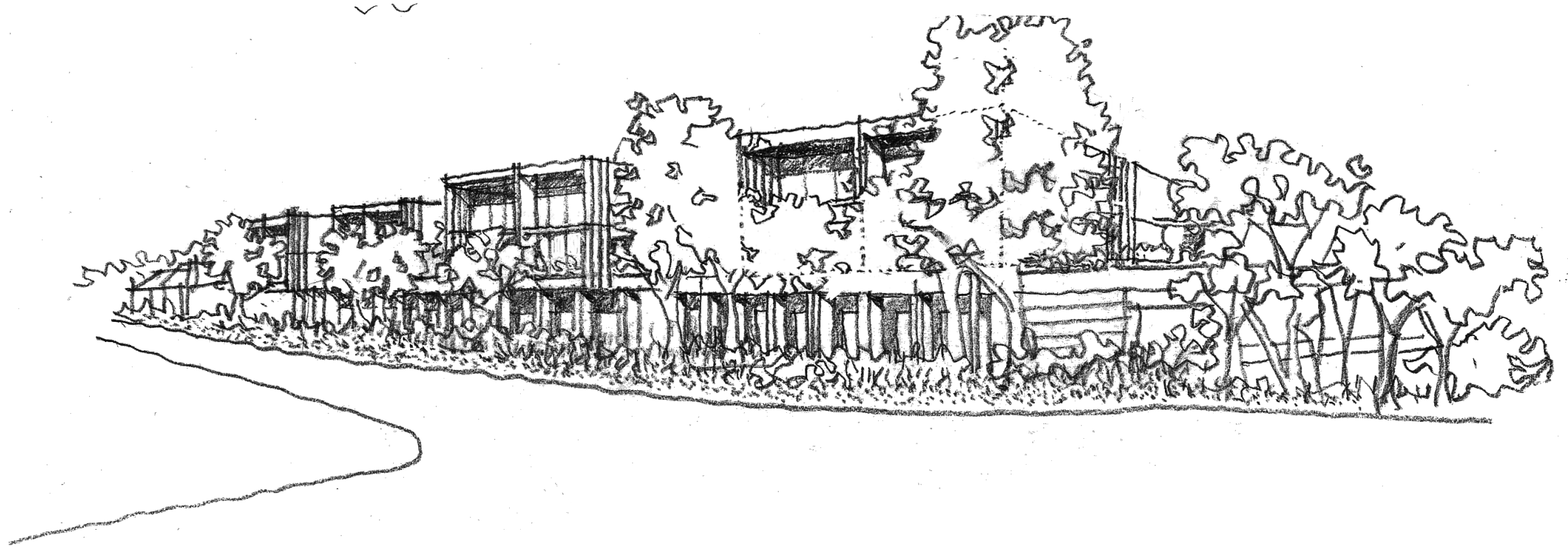
This report aims to present a case for a marginal uplift in density from the current LEP provisions and aligns with the intent of the the Draft WLCS2036 to support an urban renewal project with the community at the core of its response.

The proposed amendments to planning controls will enable the redevelopment of the site. This will in-turn provide a diversity of housing types and sizes with improved efficient urban forms appropriately scaled to the local town centre.

The proposal is deeply imedded in the history of the immediate context and acknowledges the important history of the Walter Burley Griffin and Marion Mahony Griffin.

The proposal presents clear public benefits. The delivery of a north facing public open space is at the core of the proposal. The space is supplement by publicly accessible pedestrian linkages, and will rejuvenate a local shopping village that has come to the end of its commercially viable life.







# Previous Submissions

In June 2020 the proponents, Greycliff Castlecrag Pty Ltd - for No 100 Edinburgh Road, Castlecrag submitted a planning proposal that sought to increase the Willoughby Local Environment Plan (WLEP2012) that would only allow a development complying with The following:  
Land Zoning: B1 - Neighbourhood Centre  
Floor space ratio of -1.0:1  
Height of building - 9.0m

The proposal also sought an increase to the recently exhibited Willoughby Local Centres Strategy 2036 (WLCS2036)

The general provisions of the WLCS2036 outlined below:

- Increase heights up to 4 storeys on Eastern Valley Way and up to 3 storeys above Edinburgh Road
- An FSR up to 1.6:1 on the Quadrangle site. An FSR could be considered to 1.8:1 with an additional storey below
- the Edinburgh Road frontage to utilise the topography of the site without adversely impacting the streetscape and scale of the centre.
- Provide a new publicly accessible open space within the Quadrangle site relating to the Edinburgh Rd frontage and achieving good solar access.

The previous planning proposal sought approval for a part 3/ part 4 storey building comprising and FSR of 2.0:1 - a deviation from the Local Centres Strategy.

The proposal was referred to Sydney North Planning Panel for Gateway determination as the council failed to indicate its support 90 days after the proponent submitted the application

The proposal was subsequently refused as it was deemed to fall outside of the strategic merit test. The determination ultimately determined that the building heights, bulk and scale of the building should be consistent with the local centers strategy.



Previous Proposal Key Figures	
Storeys	3 & 4 Storeys above Edinburgh Road
FSR	2.0:1
Apartments	67
Gross Floor Area	10332m <sup>2</sup>
Public Open Space	1350m <sup>2</sup>



# Current Proposal

The proponents for the site submission, Greycliff Castlecrag Pty Ltd have heavily engaged with both Willoughby Council, aswell as the community to appease some of the concerns raised in regards to the previous submission.

The proponents have conceded their initial vision for the site in order to accommodate and respect the setting in which they wish to deliver a quility, site specific response.

The current proposal draws upon the architectural inspiration which underpins design excellence competition winning scheme, but ultimately ensures that the current proposal is aligned with the Willoughby Local centres strategy 2036 (WLCS2036)

The current proposal is:

- 3 storeys above Edinburgh Road
- A total FSR of 1.8:1
- Mixed use, with residential apartments, retail, and a supermarket that caters for the wider community
- Carparking for the retail offering, private car spaces as well as 8 car-parks dedicated via VPA
- Delivers a north-facing publicly accessible open space of up to 1150m2 fronting Edinburgh Road
- A direct pedestrian through site links from the Quadrangle site to the The Postern
- Retention of the mature trees at the front and rear of the site.



Current Proposal Key Figures	
Storeys	3 Storeys above Edinburgh Road - 11 m as per WLCS2036
FSR	1:8:1 - comprising less than 1.6:1 above Edinburgh Road
Apartments	53
Gross Floor Area	9300m <sup>2</sup>
Public Open Space	1150m <sup>2</sup>



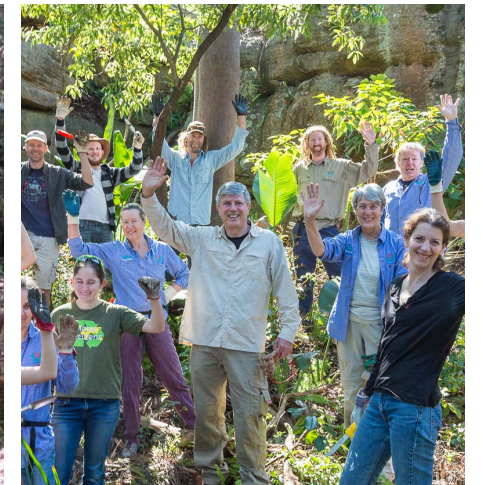
# Character and Place

A Draft Local Centres Strategy 2036 was released by Willoughby council in 2019. The strategy documents characterise Castlecrag as a shopping village with a unique character, having a strong reference to the original subdivision penned by Walter Burley Griffin and Marion Mahony Griffin.

The Draft WLC2036 summarises the character and place of the Castlecrag Study are as follows:

*"The subdivision and layout of Castlecrag was designed by Walter Burley Griffin and the south eastern side-of the center is within the Griffin Conservation Area. The centre sits on a ridge-line with views to the south. Castlecrag has a predominantly one to two storey built form character with a fine grain street frontage. The built form has a strong heritage character, referencing the original vision for Castlecrag and the existing Griffin Conservation area.*

*The centre offers north-facing cafes and associated outdoor dining, complemented by retractable awnings on the southern side of the street and consistent fixed awnings to the north."*





# The Site

The proposed development is located within the Northern Sydney city of Willoughby, approximately 8.5km North of the Sydney CBD. Willoughby falls under the governance of the Willoughby City Council. The majority of the Municipality is Residential with the subject site within close proximity to the busy centres of St Leonards, Chatswood and North Sydney CBD.

One of the council's immediate strategic direction is an increase in housing, to meet the growing population demand in an area close to public transport corridors and facilities and major urban centres.

The draft Willoughby Local Centres Strategy 2036 aims to promote a network of thriving, attractive and distinctive village centres throughout the Council area. When finalised it will provide the framework for future planning controls and public domain improvements

The site falls within the study area for Castlecrag (dashed red) and is in an ideal location for higher density to meet the anticipated urban strategy targets of the state and Willoughby City Council.

The site is not listed as a heritage item or located within a Conservation Area identified by the WLEP 2012. The site, however, adjoins the Griffin Heritage Conservation Area as it is defined by The WLEP 2012 and lies within the vicinity of the Community Centre, No. 10 The Postern, Castlecrag, listed by Schedule 5 Part 1 of this plan. *(refer to Heritage Impact Statement prepared by Weir Phillips Heritage and Planning)*





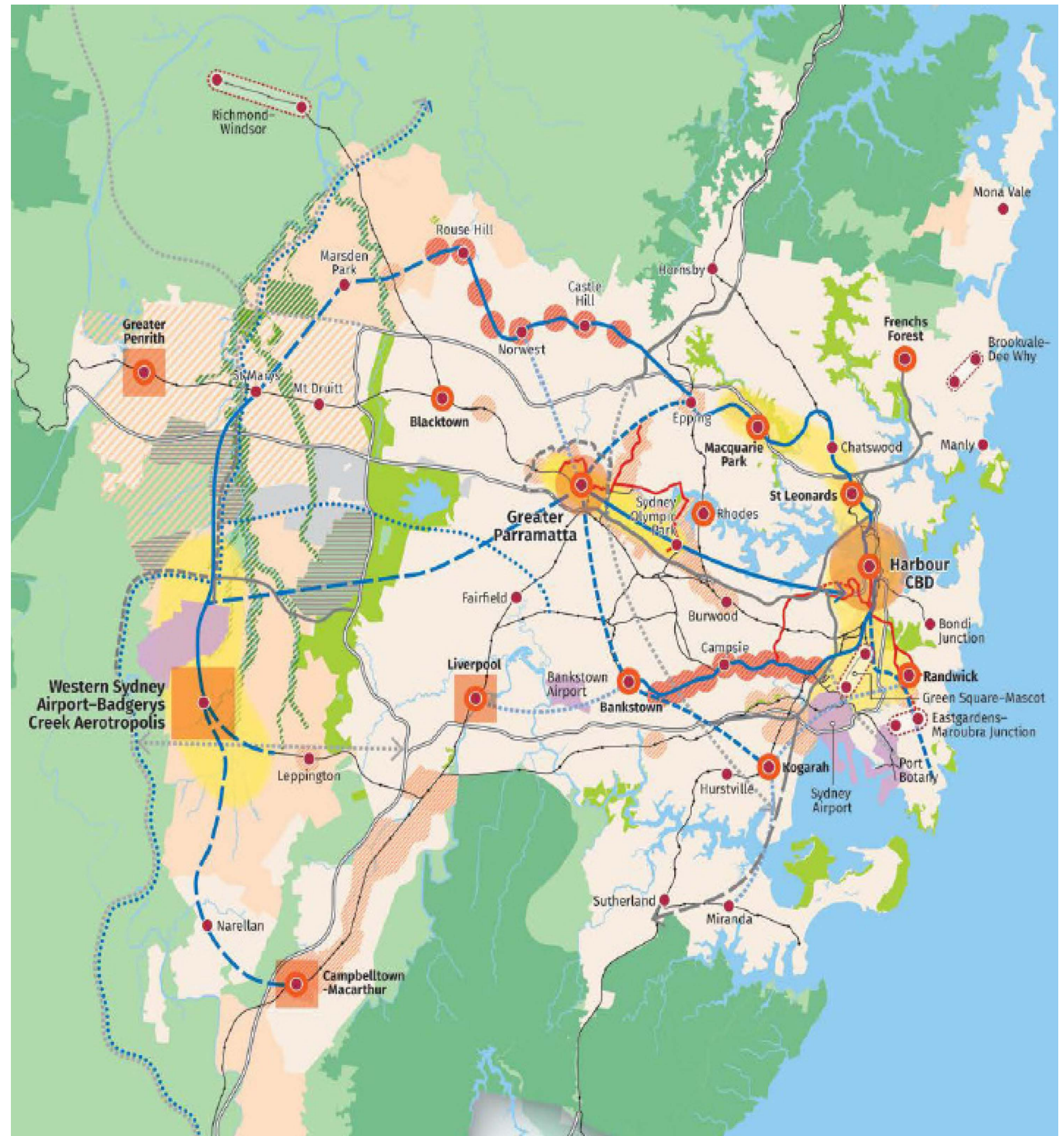
# The Greater Sydney Region Plan

The Greater Sydney Region Plan reveals a vision of three cities where most residents live within 30 minutes of their jobs, education and health facilities, services and great places.

This is consistent with the 10 Directions in Directions for a Greater Sydney which establish the aspirations for the region over the next 40 years and are a core component of the vision and a measure of the Plan's performance.

Particularly, the plan outlines the expected demands for housing and employment in relation to population growth. And, in turn, identifies overarching development strategies to support the above projections.

According to the plan, by 2056 there will be an additional 1.5 million people across Sydney metropolitan area, with a requirement for "725,00 new homes and 817,00 new jobs."





# Northern District Plan

This North District Plan is a 20-year plan to manage growth in the context of economic, social and environmental matters to achieve the 40-year vision for Greater Sydney. It is a guide for implementing the Greater Sydney Region Plan, A Metropolis of Three Cities, at a district level and is a bridge between regional and local planning.

The District Plan informs local strategic planning statements and local environmental plans, the assessment of planning proposals as well as community strategic plans and policies.

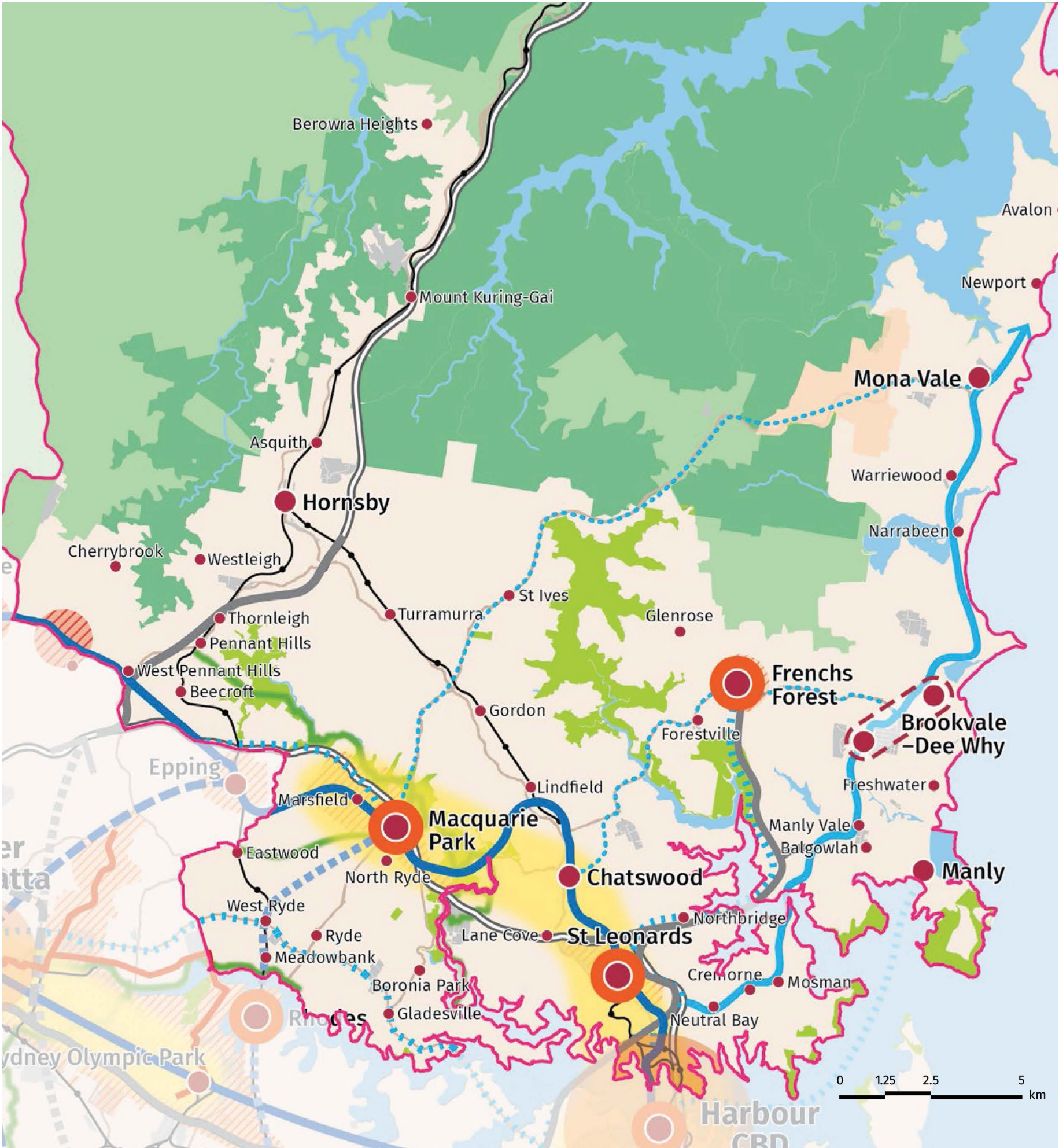
The District Plan also assists councils to plan for and support growth and change, and align their local planning strategies to place-based outcomes. It guides the decisions of State agencies and informs the private sector and the wider community of approaches to manage growth and change.

Community engagement on the District Plan has contributed to a plan for growth that reflects local values and aspirations, in a way that balances regional and local considerations

North District housing targets by LGA  
0–5 year housing supply target: 2016–2021

- Hornsby 4,350
- Hunter’s Hill 150
- Ku-ring-gai 4,000
- Lane Cove 1,900
- Mosman 300
- North Sydney 3,000
- Northern Beaches 3,400
- Ryde 7,600
- Willoughby 1,250**
- North District Total 25,950

The proposal will positively add to both the private and affordable housing stock in line with targets outlines above





# WLCS2036 Vision

A Vision for Castlecrag

*"The Castlecrag local centre is a thriving historic shopping village in an attractive landscaped setting and offers a range of outdoor spaces for dining and gathering along Edinburgh Rd. New development has enhanced the existing scale and pleasant public domain and has reinforced the character of the Conservation Area and strengthened the Walter Burley Griffin legacy."*

- Strengths of Existing Character
- Distinct heritage character
- Range of dining venues
- Undercover protection through street awnings
- Amenity provided by the small supermarket located within the Quadrangle
- Streetscape is attractive with a landscape character
- Retail amenity
- Fine grain built form of existing shop on Edinburgh Rd
- Mature trees within and around the centre contribute to the visual aesthetics of the centre
- Parking both on street and off street supports

Source:  
*Willoughby Council Draft Local Centres Strategy to 2036*

The vision for our proposal is to transform the ageing Quadrangle Shopping Village into a mixed-use neighborhood center that can better serve the community of Castlecrag

The proposal which was won through a competitive design excellence competition, will offer a large village space with amenity that is inclusive of the wider community.

It is a project aimed at rejuvenating an old, tired shopping village that has come to the end of its commercially viable life, and providing the community with a higher level of amenity





# Design Excellence

In November 2019, the proponent of this proposal engaged three of Australia's most prominent architectural firms to compete in a design excellence competition for the rights to develop their scheme further.

In late 2019, FJMT were announced the winners of the competition by an independent Jury. An excerpt of the jury's report below:

*The proposal is underpinned by the belief that the boundaries between landscape and architecture are artificial and that Castlecrag's character is defined by its relationship with the beautiful indigenous bush escarpment landscape.*

*At the gateway to Castlecrag, this natural landscape bush rock escarpment is announced and celebrated. The concept is a composition of two primary architectural and landscape forms: a platform or podium stepping down with the natural contours of the site and a series of pavilions positioned on this platform in a gentle radial pattern as a continuation of the Griffin /Mahoney subdivisional geometry.*

*This strategy offers an approach that can successfully resolve scale relationships, maintain permeable vistas to sky and tree canopy to the south, and minimise shade to the properties to the south boundary. The public realm is planned as an extension of the network of Castlecrag's pathways, passes and shaded lanes... The residential units in the pavilions are well planned whilst those in the podium require further development and more detailed consideration of the private, public and communal use of landscape spaces.*

*The Jury believed that this conceptual approach and the design principles that underpin it offers an approach that can successfully deal with human scale, building mass and density. It has flexibility to respond to detailed recommendations whilst maintaining and improving the strength of the scheme's core conceptual ideas*

The Quadrangle, Castlecrag Design Excellence  
Competition Report 26th November 2019

Independent Jury:  
Richard Johnson (Chair) - Diane Jones  
Angelo Candalepas - Elizabeth Farrelly



Image1: Competition - Artists Impression



Image2: Competition Model



# Site Analysis and Description

The site is located at 100 Edinburgh Road and is comprised of two lots, Lot 11 DP 611594 and Lot 1 DP 43691, totaling 5,166sqm.

Lot 11 defines the major part of the site and Lot 1 comprises of a small strip of land, approx 70sqm on the eastern end of the southern boundary.

Lot 11 is zoned for Neighbourhood Business B1 and Lot 1 is zoned Public Recreation RE1. The proposal utilises Lot 1 where the proposed works are permitted. It is imagined that the adjacent land (not forming part of this submission) zoned RE1 could be remediated with agreement from the appropriate stakeholders.

The Site is located on a prominent ridge line, which Edinburgh road follows. The Site slopes towards the south and has a fall of approx 12-8% from north to south.

The site is afforded good solar access to the north where the current site utilises the forecourt with activated retail frontages. The orientation of the site lends itself for both public and private uses where solar access is readily available.

To the south of the site, an existing public site link is formed, currently in a state of disrepair. The site link currently ends at a driveway where access is unsafe and impeded by the flow of traffic. There is an abundance of opportunity to make this a safe and legible site link.

The existing trees on the site were planted when the previous development was built. They are not of local old growth forests and are not endemic to the context. These trees are candidates for removal / replacement. The existing street trees along Edinburgh Road and Eastern Valley way add a sense of place and are to be retained.

The existing building has no heritage merit and is not listed under state or local registers as a building of heritage significance. Demolition of all built works on the site is considered acceptable with appropriate approvals.





# Site Constraints and Opportunities

## Existing Site:

The existing building is a tired, old shopping village that has come to the end of its commercially viable life. The site is an ideal candidate for redevelopment

## Traffic:

The site current holds 119 car spaces, a proposed the marginal increase in traffic will not place an unreasonable burden on the local streets, or the intersection at Edinburgh Road and Eastern Valley Way. The existing traffic generates noise at close proximity to the site. Residential amenity can be dealt with at later planning and development stages

## Trees

The trees currently found on site were planted as part of the previous development. The majority of the trees are not endemic to the area. These trees are suitable for removal or replacement. Refer to arborist report for further information

## Public Space:

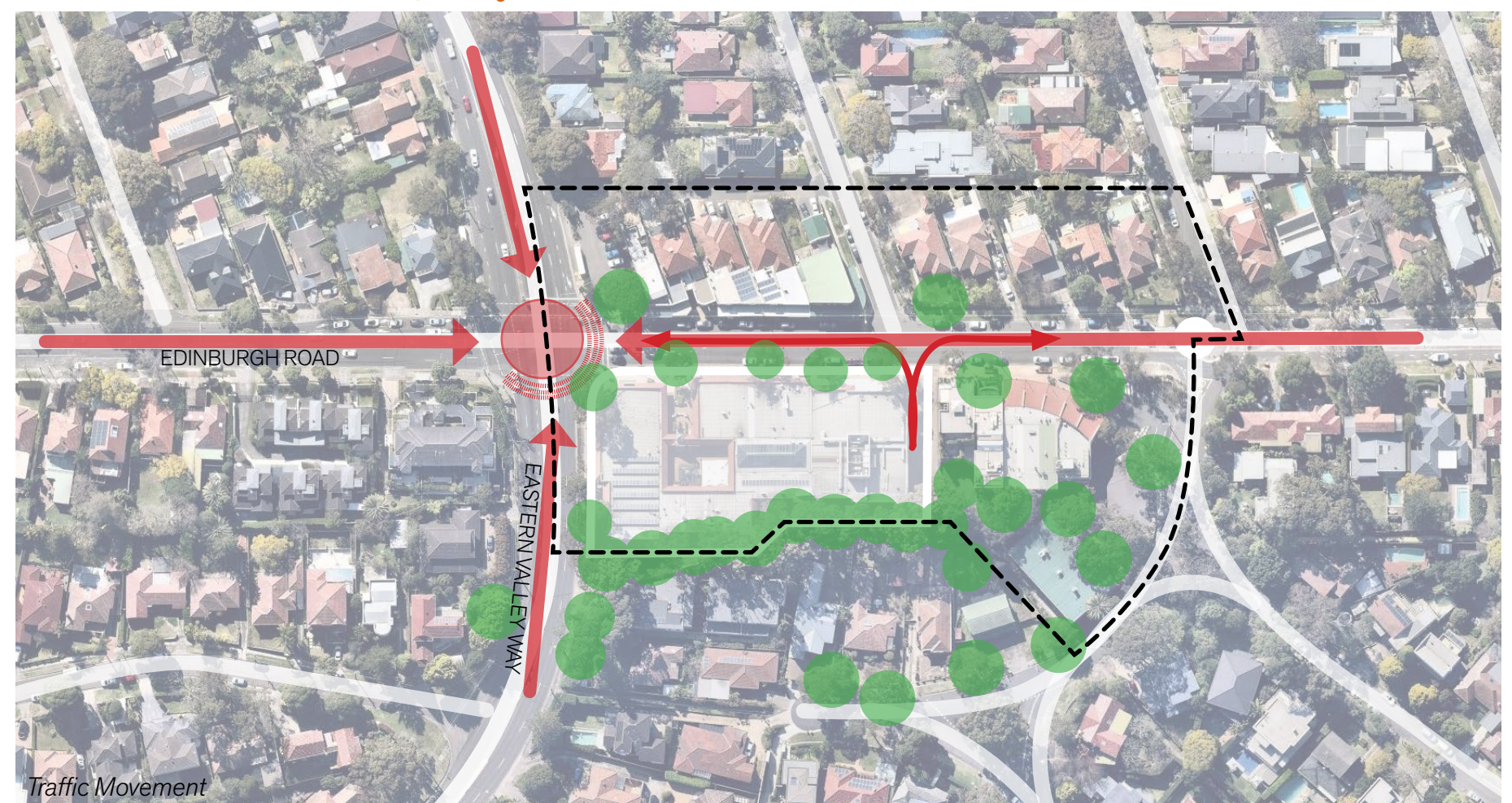
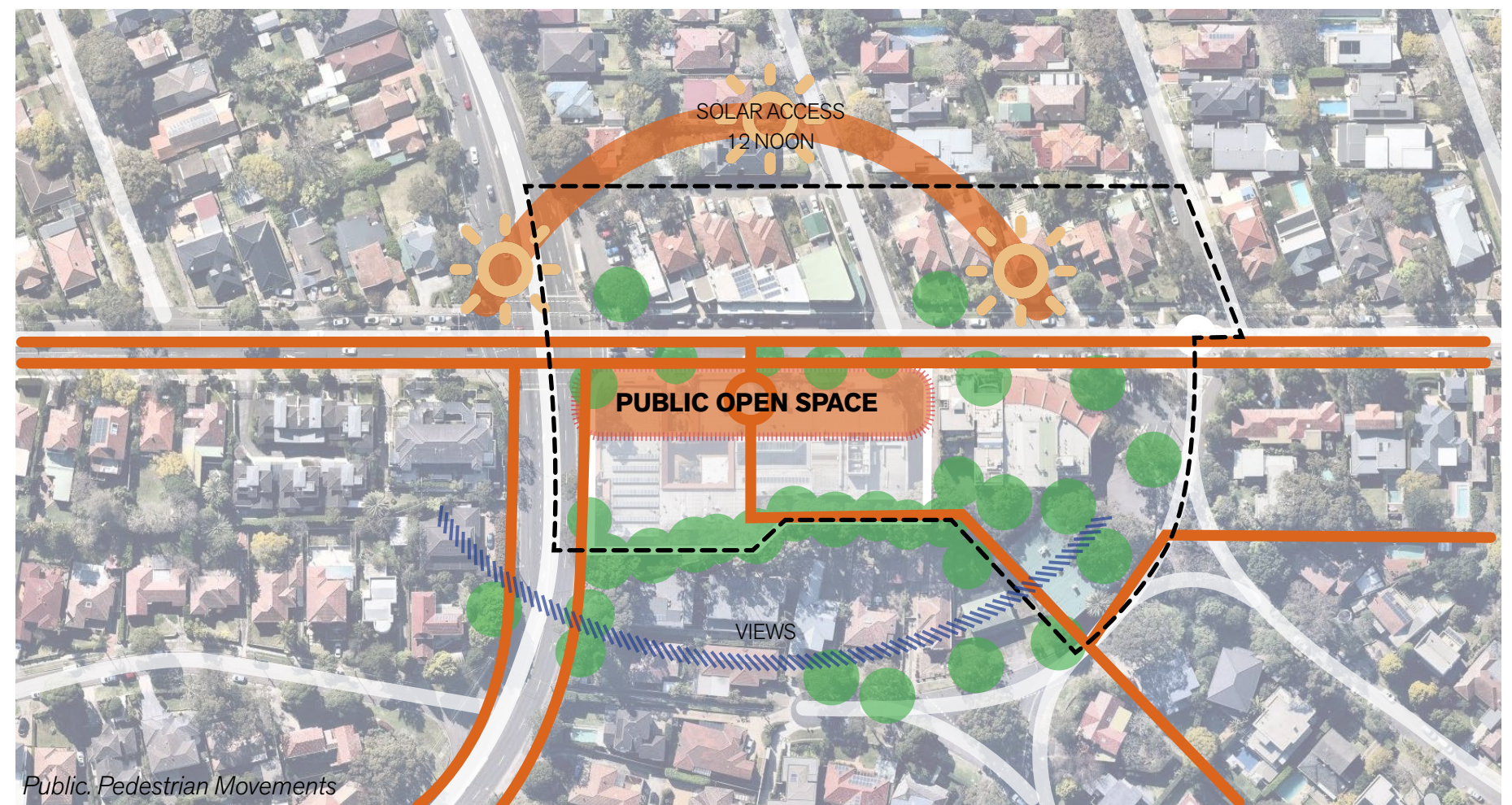
The existing public space is narrow and relies on council land to be activated in an appropriate manner. A substantial increase in size would benefit the immediate site and the community at its wider context.

## Public Benefit.

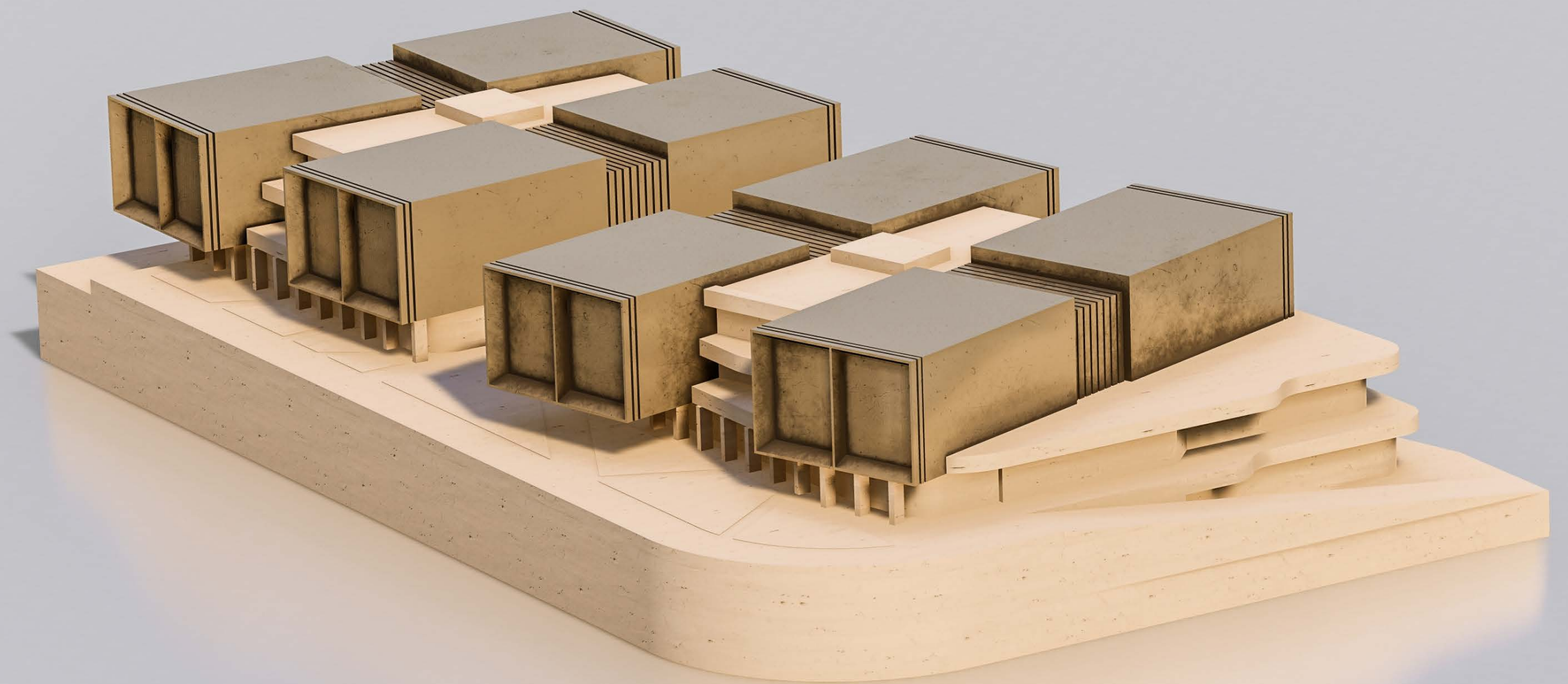
The site is ideally located to become a new, vibrant and inclusive mixed use offering. A primary opportunity of the site is to provide public benefit in the form of an public open space. This space will be supplemented with an accessible site link that promotes pedestrian movement from the wider local path networks that wind through Castlecrag. There is ample opportunity for artworks and heritage interpretation to be considered at later stages.

## Views.

As the site is located on a ridge, there are both near and distant views toward the south. The views will be benefited by both the public and its residents.









# Architectural Response

## *A Vision for Castlecrag*

- 1 Landscape and Architecture
- 2 Nature and Landscape
- 3 Topography and Alignment
- 4 Cove to Ridge Layers
- 5 Rock Escarpment Cove and Bushland
- 6 Pavilion and Platform
- 7 Public Space Community and Pathways
- 8 Stone and Depth
- 9 Nature and Sustainability
- 10 A Communal Landscape

“Beauty is where nature is allowed to work itself out”

Walter Burley Griffin, 1913/45



# 1 Landscape and Architecture

“The power of a conscientious consideration of all the elements of a problem was brought home to me when I saw the revolution in methods and results that took place when landscape was made a part of architecture”

Marion Mahony Griffin (The Magic of America, Section III, 175)

The Quadrangle is an integrated work of landscape and architecture, where the design is inspired by a vision of how to live our lives closer to nature in a bushland setting.

Underpinning our work and concept for this site is a belief that the boundaries between landscape and architecture is artificial.

Our approach and design methodology begins with a understanding and interpretation of the landscape of the Castlecrag.

Souhami, Manfred, Walter Burley Griffin Society Inc. 1922, Panorama looking west of Lookout Reserve and 3 of the 4 Griffin houses in The Parapet, Castlecrag, Castlecrag, Sydney, New South Wales

Griffin, Marion Mahony & Griffin, Walter Burley, National Library of Australia, 1925, Presentation drawing Lot 218, The Pallsade, Castlecrag, Castlecrag, Sydney, New South Wales

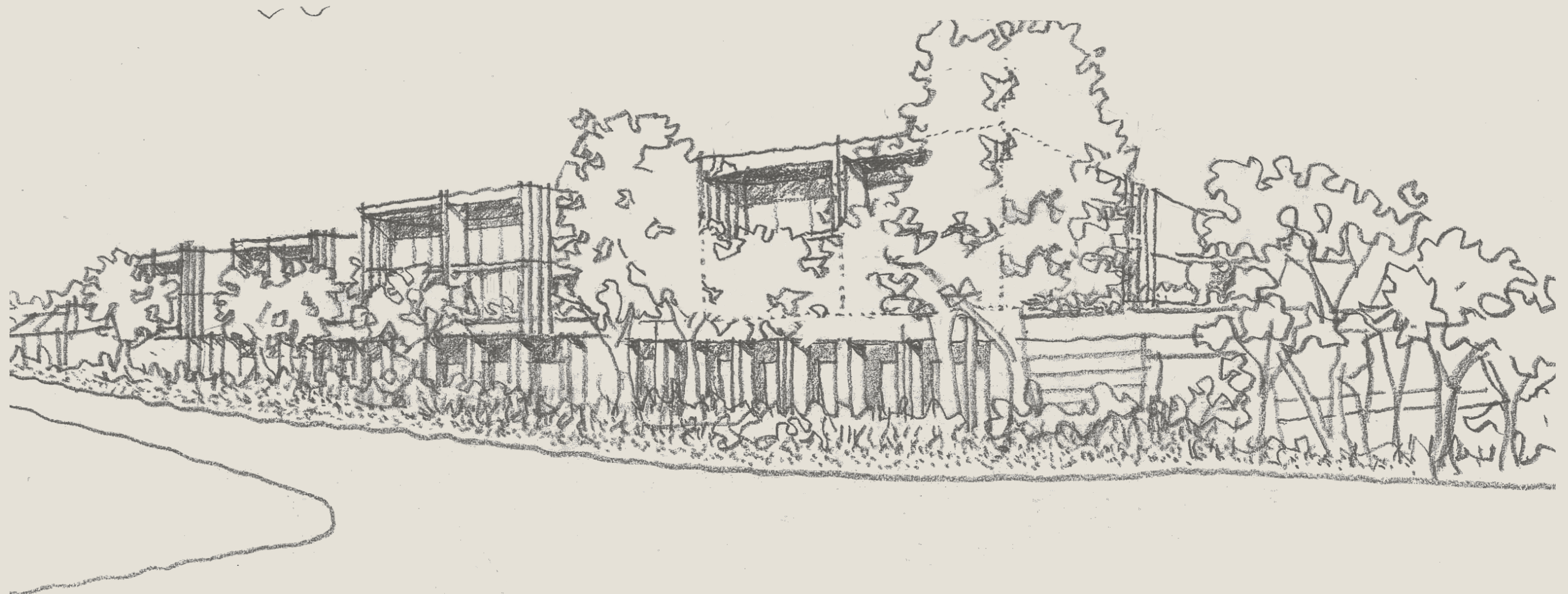


## 2 Nature and Landscape

“Land planning or site arrangement is therefore concerned in understanding the features and processes of the Earth itself, The relationships of the configuration, the vegetation, the rocks, the soils, the waters, the very winds; and conservation to the maximum of their effectiveness and their irreplaceable perfection and beauty”

Marion Mahony Griffin (The Magic of America, Section III, 26)

The unique life of Castlecrag is a life close to nature, an appreciation and sensitivity to the beautiful Indigenous bush escarpment landscape. At the gateway to Castlecrag this natural bushland and rock escarpment should be announced and experienced.





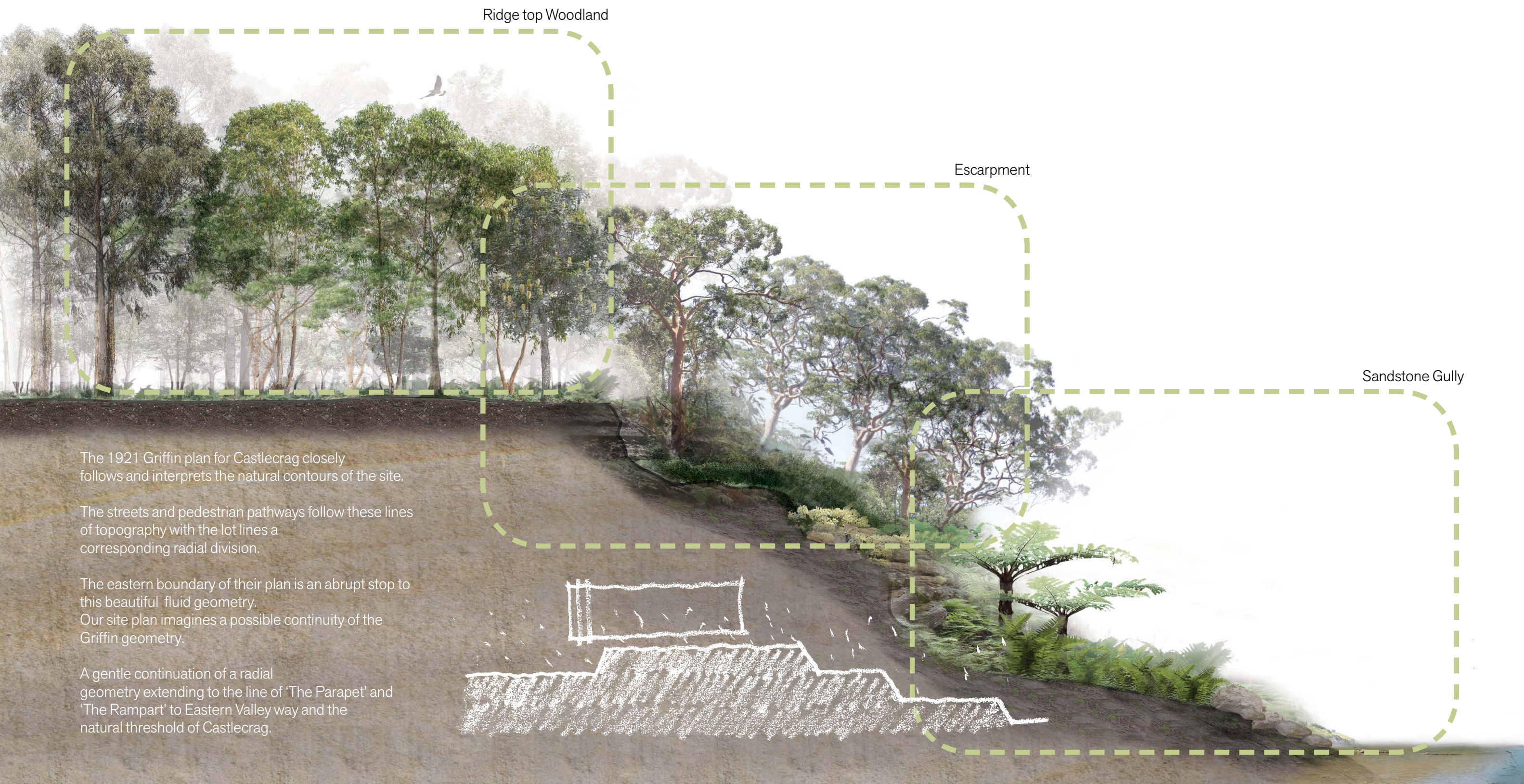
### 3

## Cove to Ridge Layers of Landscape Typologies

“Castlecrag is an effort toward Land Planning in the fundamental sense of arranging for that use to which the terrain is most suitable.

Land in this sense is accorded the respect...not to be exterminated nor treated as dead material, nor as a mere section of the map”

The Magic of America, Section III, 156





## 4 Topography and Alignment

“But if you love nature she yields herself to you,  
and these terraces in the end, after the roads have been built,  
seem to have been created for the very purpose of ideal human habitation”

The Magic of America, Section III, 275

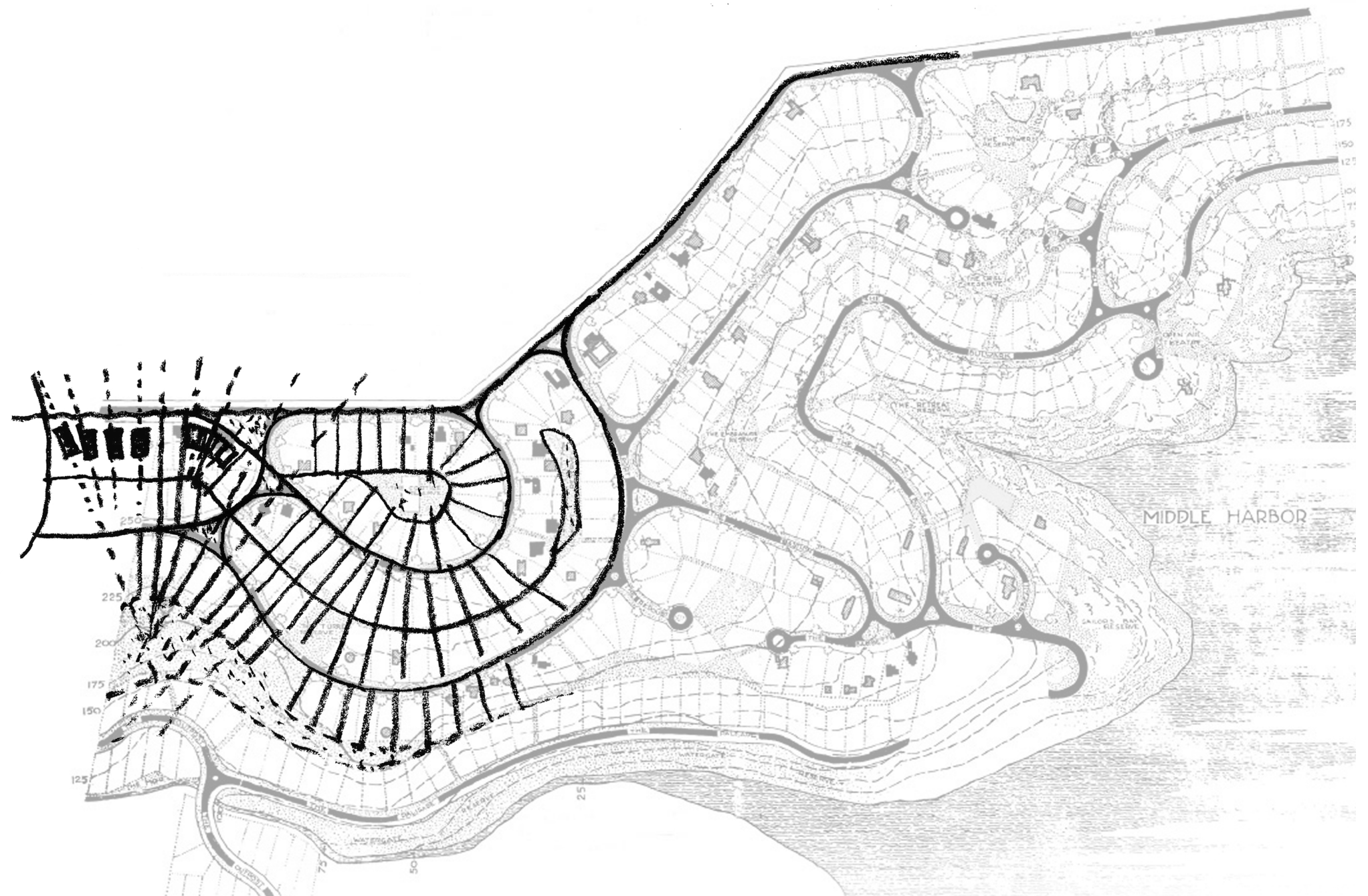
The 1921 Griffin plan for Castlecrag closely follows and interprets the natural contours of the site. The masterplan for Castlecrag works with the natural landscape, not against it.

The streets and pedestrian pathways follow these lines of topography with the lot lines a corresponding radial division.

The eastern boundary of their plan is an abrupt stop to this beautiful fluid geometry.

Our site plan imagines a possible continuity of the Griffin master plan. And suggest what may have been an unrealised continuation of their plan

A gentle continuation of the radial geometry extending to the line of 'The Parapet' and 'The Rampart' to Eastern Valley way and the natural threshold of Castlecrag.



Griffin's 1932 Castlecrag Plan, Walter Burley Griffin Society Inc



# 5 Rock Escarpment Cove and Bushland

“... Under great overhanging rocks beautifully carved by water and wind,  
and such...tracery of branch and foliage, rich and varied in its colors, and  
still, Oh so still!”

Marion Mahony Griffin (The Magic of America, Section III, 112)

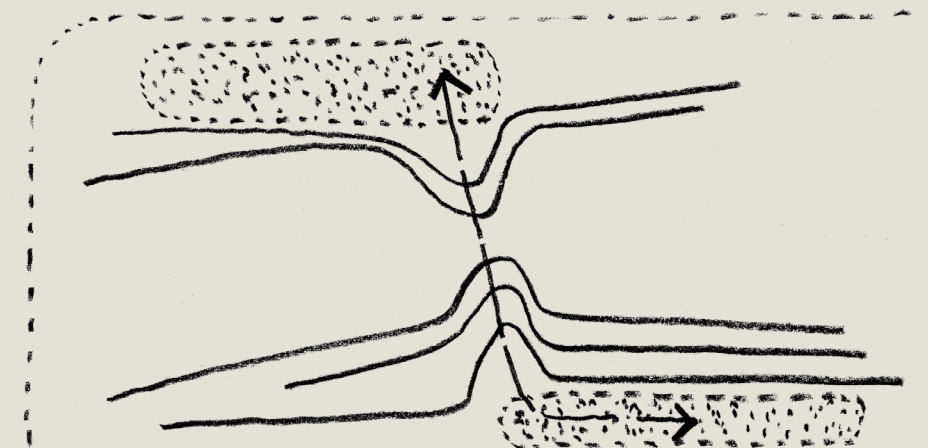
The inspiration for our architectural form has come from the landscape forms of Castlecrag. The emblematic landscape elements of Castlecrag have been re-interpreted in the architecture:

Gully Ravine: The central profiling of the podium stepping down to the gully  
Terracing Topography: The profiled landscape podium terraces

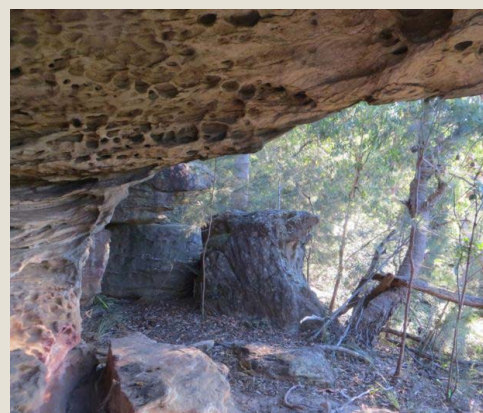
Sandstone Outcrop and Promontory: The cantilevered sandstone block-like forms on the ridge



Gully Ravine



Terracing Topography



Sandstone Outcrop and Promontory





## 6 Pavilion and Platform

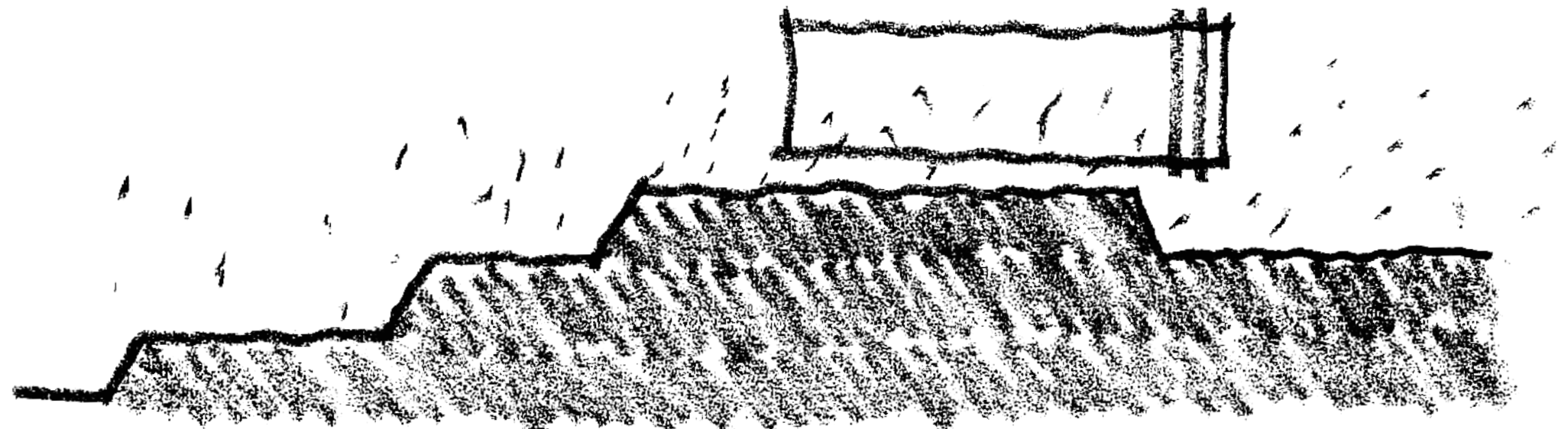
“Twice as high as the Sydney observatory and the heights of the South shore of our Harbor, these narrow headlands rise above the mists and possess the bright easterly seaward aspect sheltered from the bleak winds. Their conformation in ledges is the ideal for successive tiers of stately homes, and the sandstone substructure of these ledges affords the most elegant of all building materials”

The Magic of America, Section III, 184

The concept is a composition of two primary and essential architectural and landscape forms:

A platform of landscaped terraces stepping down in relation to the natural contours of the site

A series of sandstone pavilions carefully positioned on this platform in a gentle radial pattern





# 7

## Public Space, Community and Pathways

“All the recreation reserves form a single system and are connected throughout by a network of pathways, passes and shaded lanes. They are designed to perpetuate the delightful rambles which were a feature of Castlecrag before its development”.

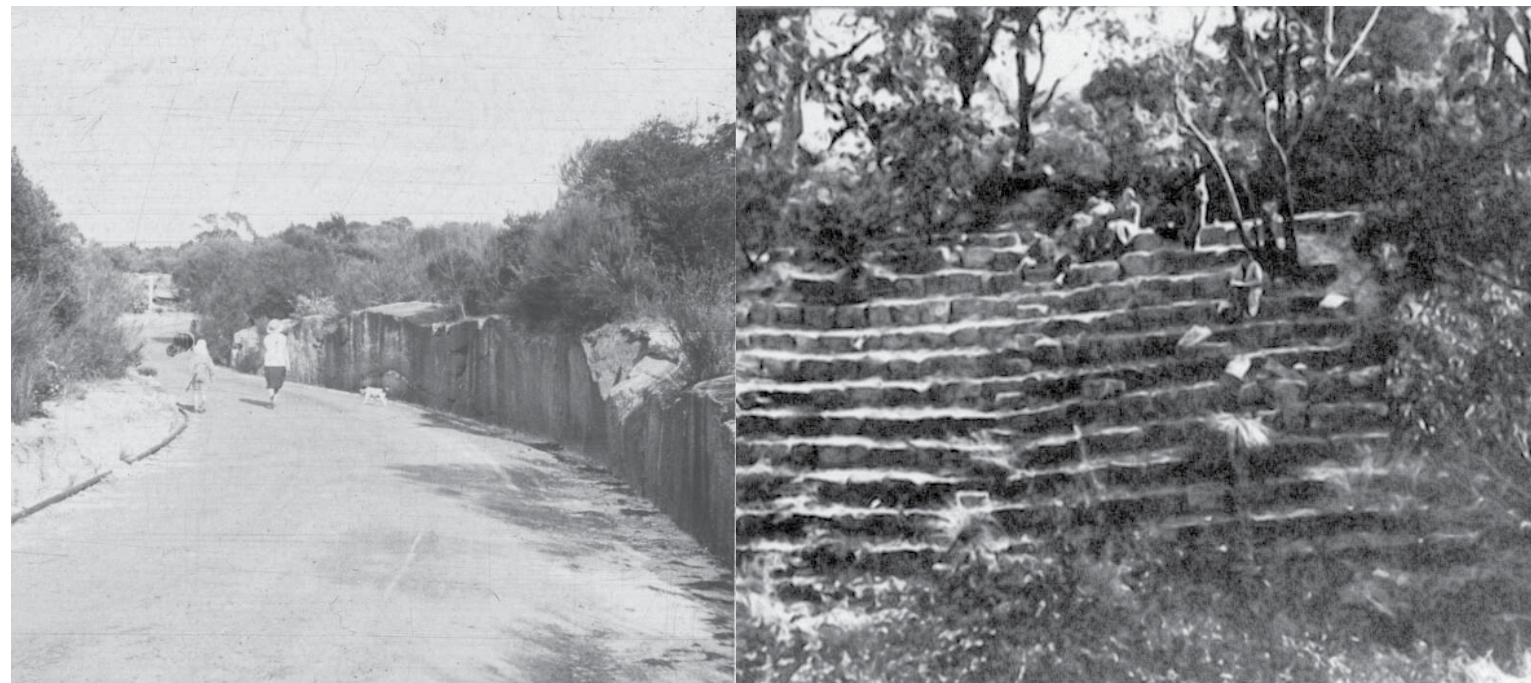
Marion Mahony Griffin (The Magic of America, Section III, 192)

The creation of a north facing public/communal space is at the centre of the concept.

This is to be a bushland-ridge gathering space, sheltered from the street through dense landscape planting, edged with deep sandstone colonnades and connecting with the bushland pathways and contoured geometry of Castlecrag.

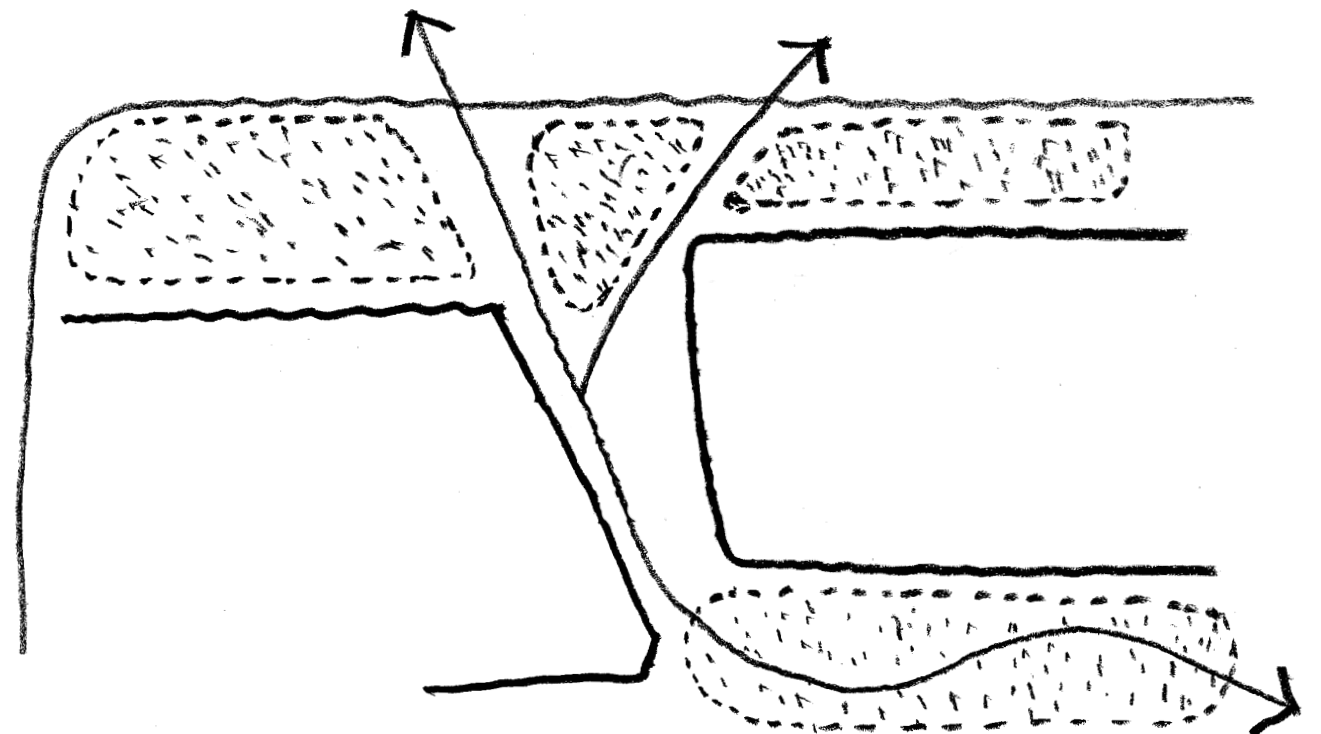
It is to be a meeting and gathering place for the community and visitors to Castlecrag, with a subtle sense of theatre for performance, recalling Marion Mahony's passion for theatre.

The public open space is an ongoing acknowledgment and the Griffins and the unique heritage of Castlecrag.



Milton Nicholls, Eric, National Library of Australia. 1922, Cutting through rocks, Castlecrag, Sydney, New South Wales

Hilder, Bill, Walter Burley Griffin Society Inc. 1936, Seats of the Haven Amphitheatre at Castlecrag, Castlecrag, Sydney, New South Wales





# 8

## Stone and Depth

“The buildings throughout Castlecrag are of the native stone, rough hewn generally, and random set in massive walls, with windows in batteries protected with overhanging trellises and climbing plants. Most of the houses have flat concrete roofs which best suit the tiers of cliffs and provide flower terraces of creepers for the prospects from the successive levels above them”

The Magic of America, Section III, 166

Natural materials and the bush landscape will characterise the material experience of the new buildings.

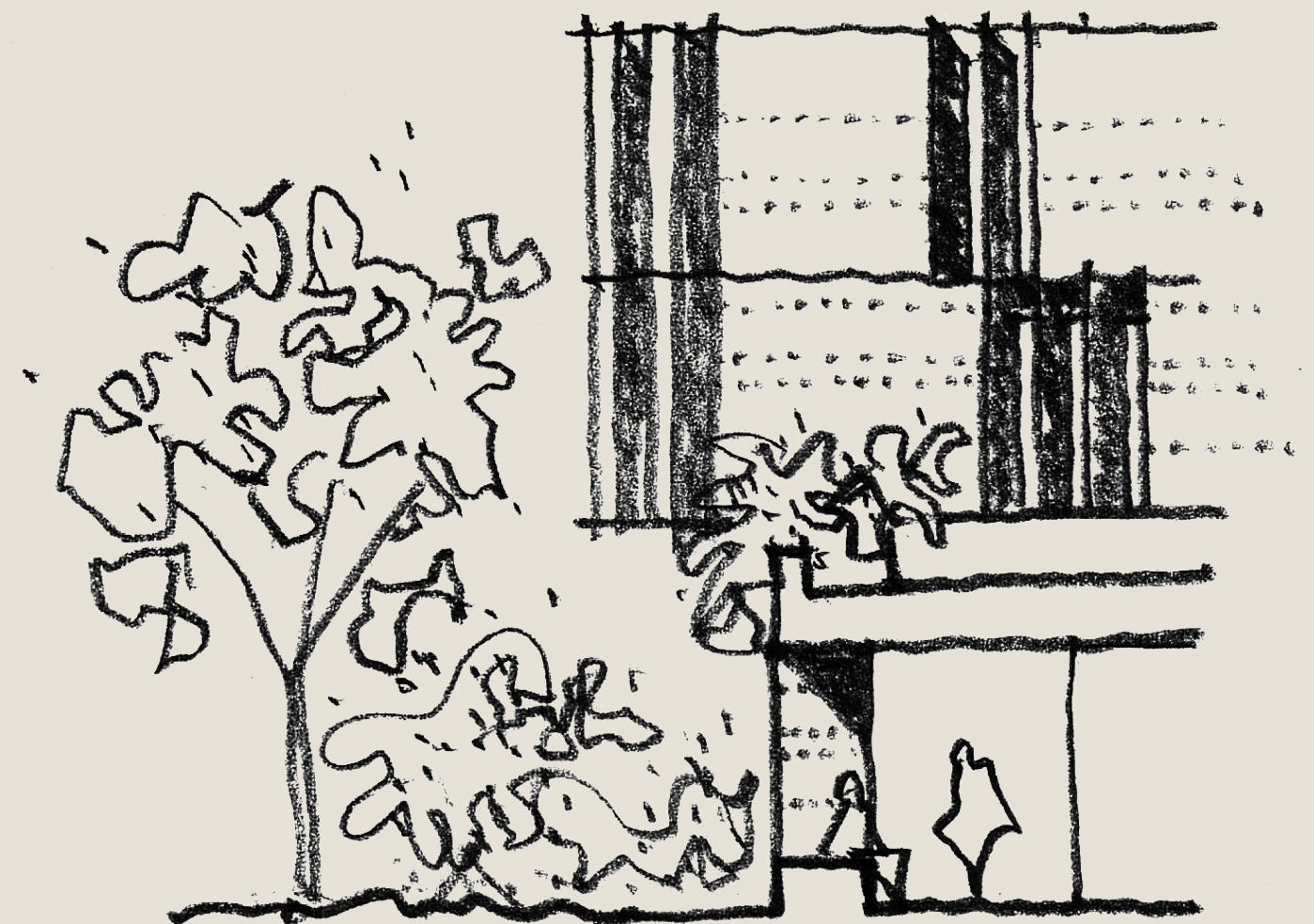
True to the Griffin's vision for Castlecrag, Sandstone and concrete are used to give depth, weight and connection to the ground of the site.

Deep colonnades, openings and reveals will give depth and shade. Timber and concrete pergolas and awning shades integrate with landscape to give further shade and depth.



Milton Nicholls, Eric, National Library of Australia. 1929, T.H.R. Wilson House, 2 The Barbettes, Lot 197, Castlecrag, Sydney, New South Wales

Pohjanpalo, Jorma, National Library of Australia. 1930, Marion Mahony Griffin at Castlecrag, Castlecrag, Sydney, New South Wales





## 9 Nature and Sustainability

“Griffin was the greatest conservationist of his time for he did not merely set aside these beautiful districts but showed how they could be occupied without destroying their natural beauty”

Marion Mahony Griffin (The Magic of America, Section III, 192)

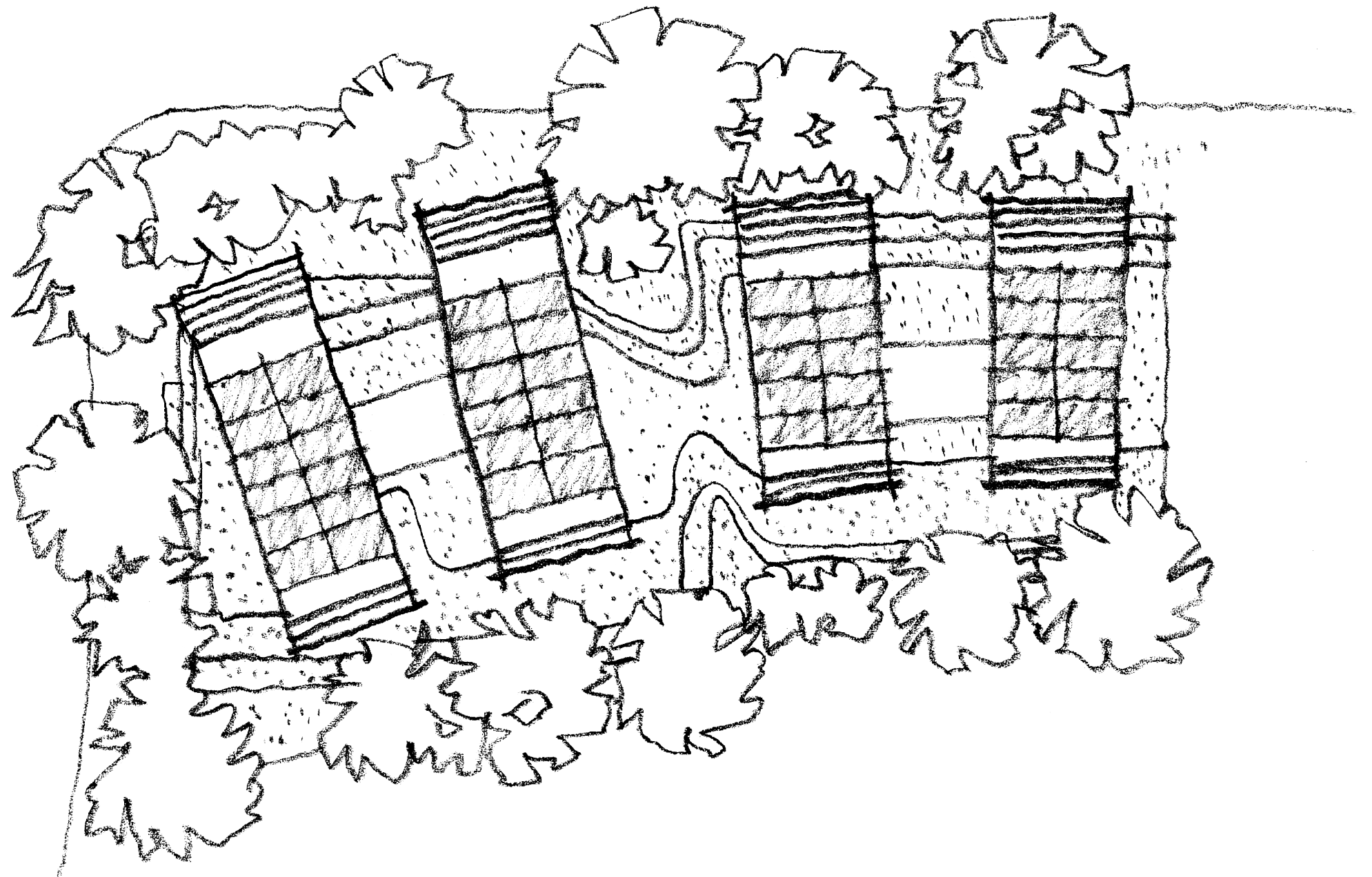
Walter Burley Griffin and Marion Mahony Griffin were environmentalists at heart. Their vision for Castlecrag was to live and love amongst the natural setting of the untamed bushland.

In keeping with their ethos of reducing the human input, the proposed redevelopment will reduce embodied energy, and promote the use of renewable and sustainable energy consumption.

The project proponent is deeply passionate about delivering a sustainable offering, and will continue to develop these ideas as the project moves forward.



Climate Strike 2019 - Collage





# 10

## A Communal Landscape

“The dwellings staggered so that you look into the neighboring gardens and feel them as part of your own, unconscious of the buildings or boundaries”.

The Magic of America, Section III, 166

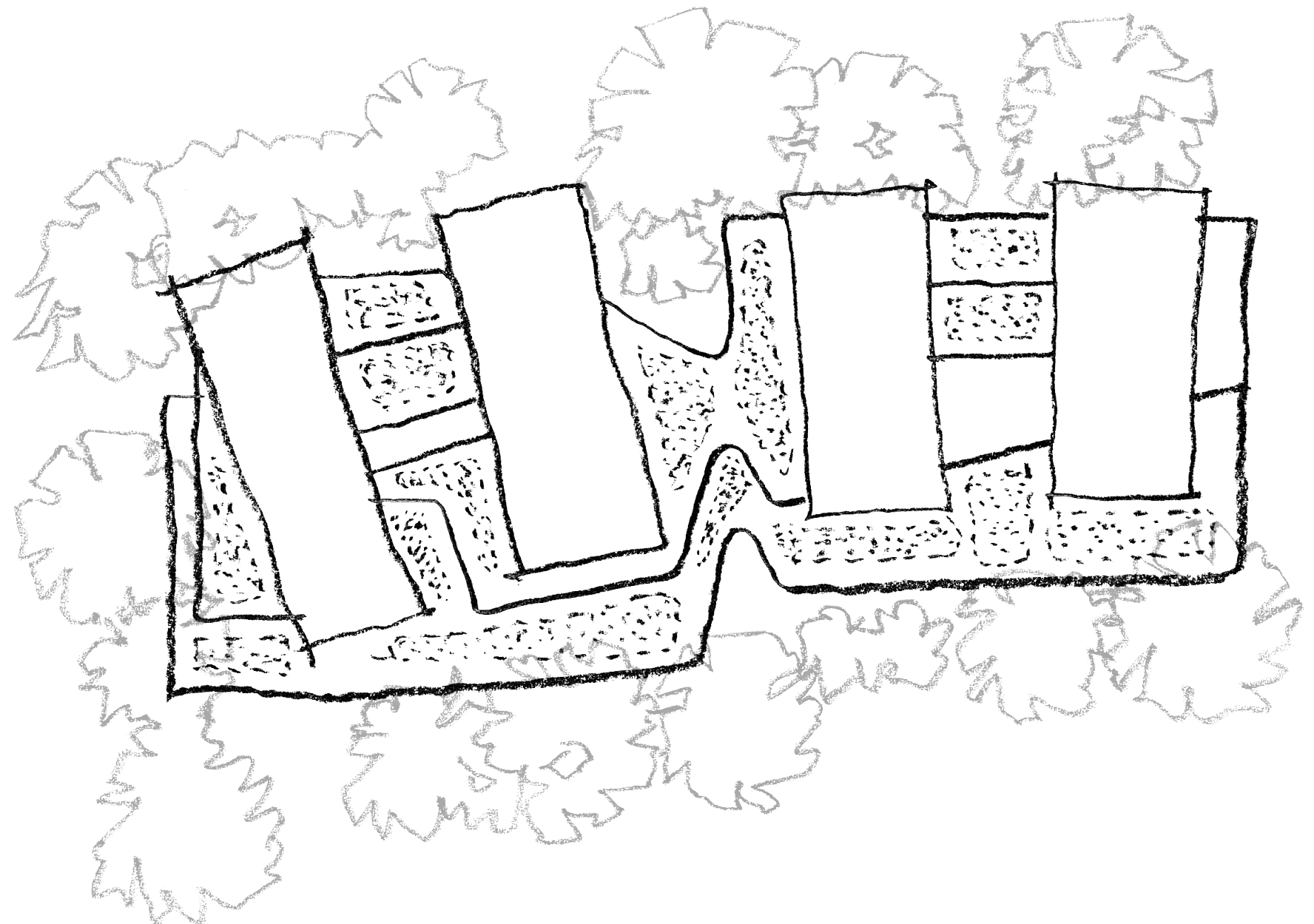
In keeping with the Griffin vision of the residence of Castlecrag being a true community, sharing access to the landscape and communal space, 'no boundaries, no fences', we are proposing a series of generous landscaped terraces with gentle privacy transitions and a shared communal landscape.

These landscaped garden areas are zoned into those managed by the residence to 'common' zones maintained by the body corporate.

In this way a unified bushland-inspired landscape characterises the project and is maintained. We would like to promote this living close to nature as a character and value of this project, in line with the vision of the Griffins.



Milton Nicholls, Eric, National Library of Australia. 1922, Walter Burley Griffin with a group of people in backyard, Castlecrag, Sydney, New South Wales







**View from Edinburgh Road Looking South East - Indicative Facade Articulation**





**View from Edinburgh Road Looking South East - Indicative Facade Articulation**





**View from Edinburgh Road Looking West - Indicative Facade Articulation**





**View from Edinburgh Road Looking South West - Indicative Facade Articulation**



# Landscape Response

## *An Urban Bush Setting*

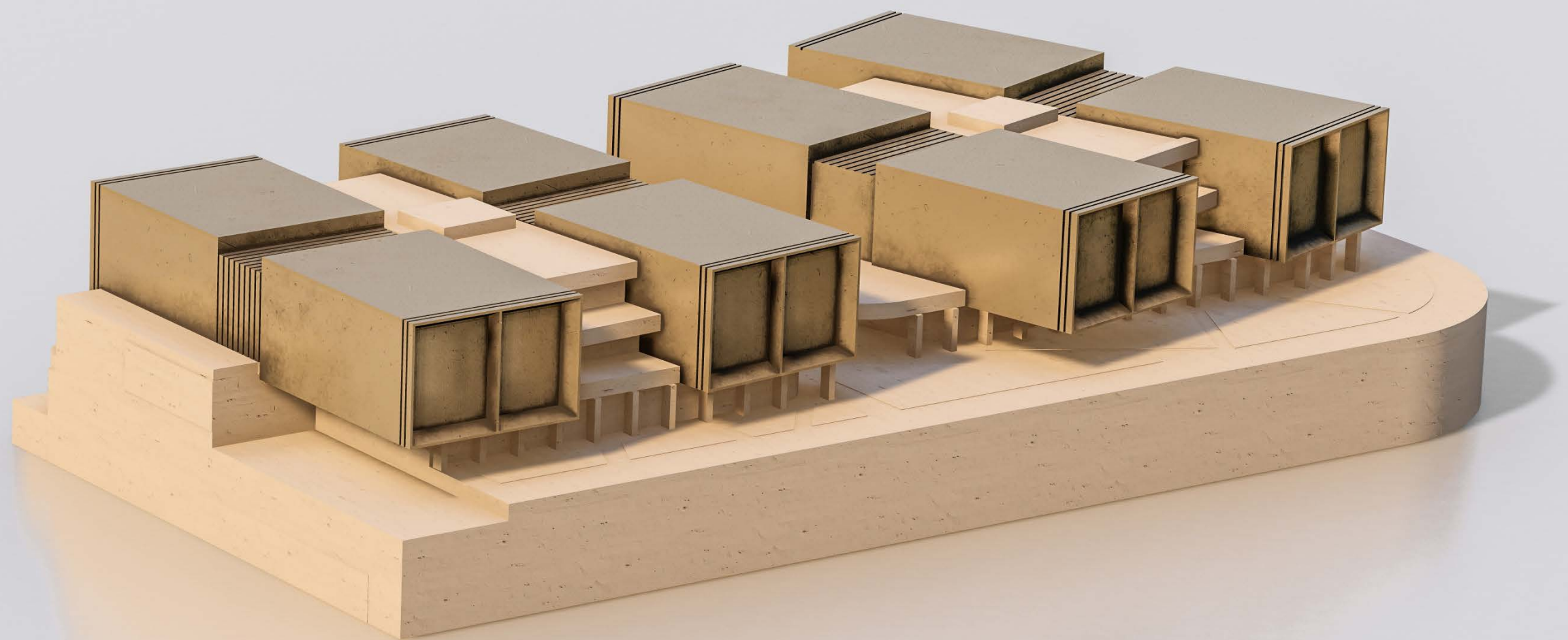
- Introduction
- Landscape Concept
- A contextual landscape response
- Ridge top community space
- Through site link - “Gully Walk”
- Landscape terraces & communal garden
- Environmentally sustainable design
- Materials
- Landscape planting

“I want Castlecrag to be built so that each individual can feel  
that the whole of the landscape is (theirs).

No fences, no boundaries, no red roofs to spoil the Australian  
landscape; these are some of the features that will distinguish  
Castlecrag”.

Walter Burley Griffin's vision for Castlecrag, 1921/35







# Introduction

## Background

This landscape report have been prepared to supplement they Planning proposal submitted to the Willoughby Council

The work builds upon the FJMT, winning competition scheme.

This Landscape report has been prepared having regard to Willoughby council's requirements for the project. The following documents are referenced:

Willoughby Local Environmental Plan 2012

NSW Apartment Design Guidelines

Willoughby DCP 2006

## Landscape Zones

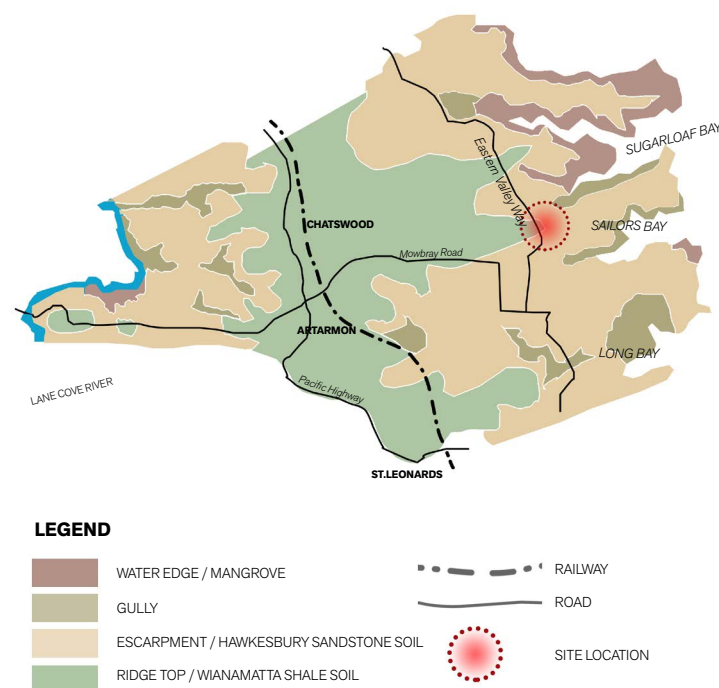
This landscape section of the planning proposal supports the building envelope is broadly defined by the following areas:

- Integrated Landscape through site link that connects the existing pedestrian path to The Postern
- Public Domain and community space with Intergrated retail areas to Edinburgh Road
- Landscaped private communal Garden including; seating, garden areas, outdoor dinning.





# Landscape Concept



## Objectives

The Landscape design approach can be defined as incorporating the following key objectives:

- Create a unique development through the integration of architecture and landscape
- Pay homage to the vision of Marion and Walter Burley Griffin who perceived the Castlecrag's bushland flora as " the cleanest most delicate and varied native indigenous perpetually blooming flora extent".
- Create a landscape that is an integral part of the built form
- Reconnect with the surrounding natural landscape qualities.
- Extend natural heritage landscape of Castlecrag into the precinct.
- Strengthen the distinctive Castlecrag community identity
- Provide a strong sense of place and community pride.
- Develop a contemporary landscape, with references and respect to the historical sentiments and character of the historical Castlecrag landscape
- Provide a sophisticated bushland environment through considered simplicity of design, while responding to the integrity of the architecture.
- Provide spatial opportunity for a variety of recreational activities that cater to both residents and visitors of different age groups.
- Replace removed trees with endemic species in similar numbers.

The landscape design draws upon the geology that was formed by distant rivers eroding inland mountains that began to deliver huge amounts of sand, silt, and clay that filled the Sydney Basin. The sediments were fused together and cemented into sandstone and the finer silts to shale these unique layers are the Narabeen group, Hawkesbury (Sydney) Sandstone and uppermost Wianamatta shale the correlation between the geology and the vegetation that is celebrated and abstracted within the design.

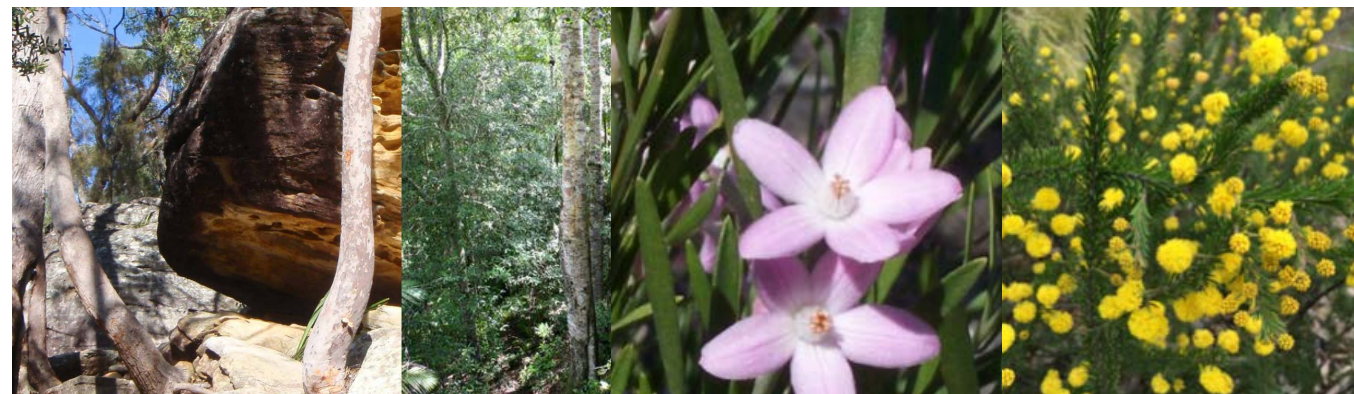
This unique bushland of Castlecrag displays a vibrant, invigorating, diverse and yet calming natural bushland. It is that essence of the natural bushland that is integrated into the project, respecting and reflecting the unique quality of the natural landscape.



# A contextual landscape response



One of the predominant communities associated with the unique Castlecrag natural setting is the **Ridge top Woodland** which is set on the top of the Sydney Sandstone found along plateaus, ridges and exposed slopes. with species such as the narrow-leaved Apple, Scribbly Gum, Sydney Peppermint, Stringybark and banksias.



The upper **escarpments** are reminiscent of the exposed sandstone ridges, with eroded rock outcrops and with gnarled vegetation reaching out for the sun with close ground hugging plants & sparser planting. The pockets of richer soil and diversity means that a large variety of stunning native plants, with vibrant colours and textures. There are fragrant boronias, soft furry petalled flannel flowers abundant in spring, sculptural ancient macrozamia, grass trees.



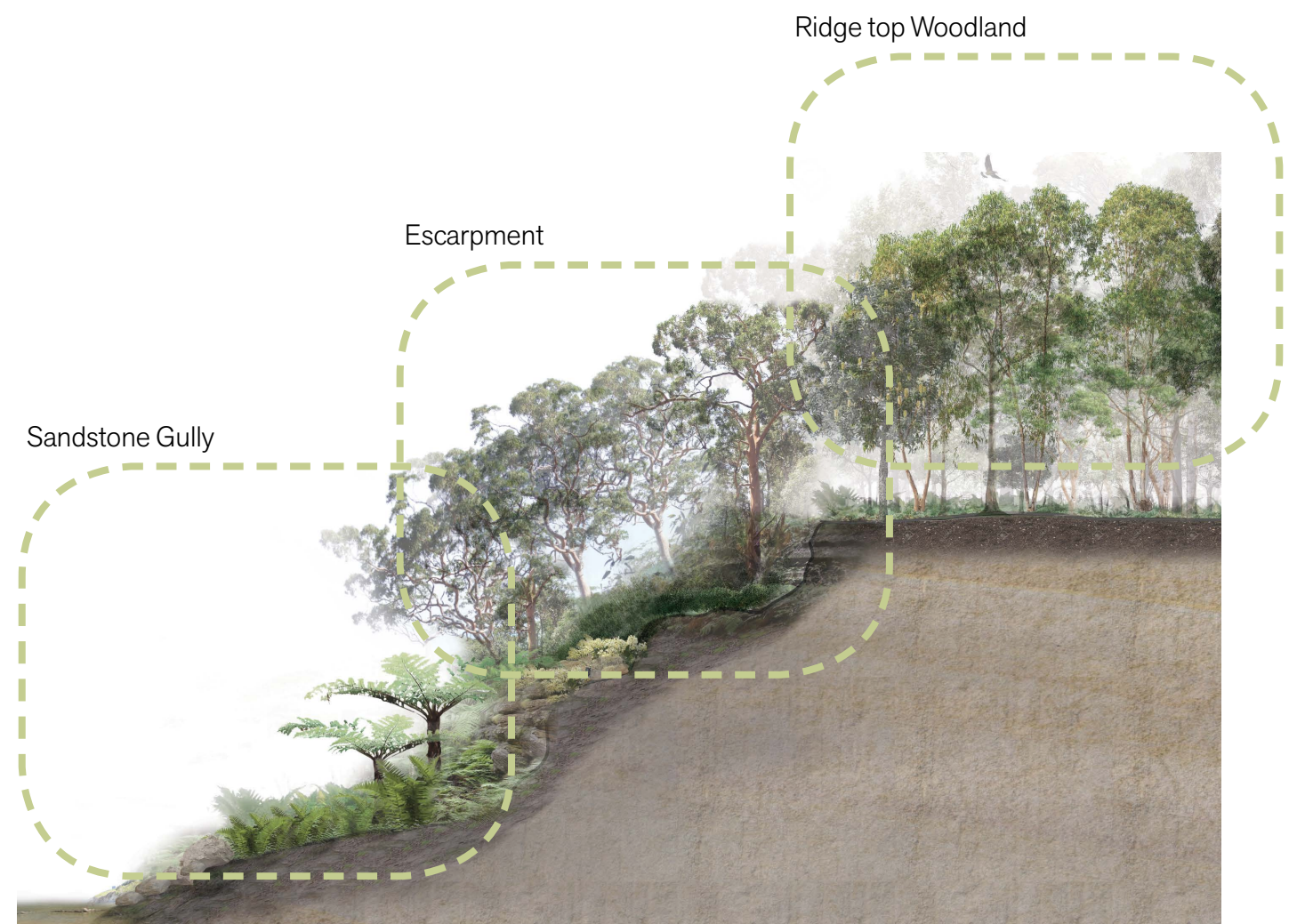
Sydney **Sandstone gully** thrives on the geology of Hawkesbury Sandstone. With many secret glades and gullies, with deep clear pools, and mossy caverns, and soft overhanging ferns are part of this typology. The bedrock with spectacular sandstone monoliths pitted and wind eroded form honeycomb sculptures that detached from the Escarpment.

## Existing Trees

### Response to Arborist Report

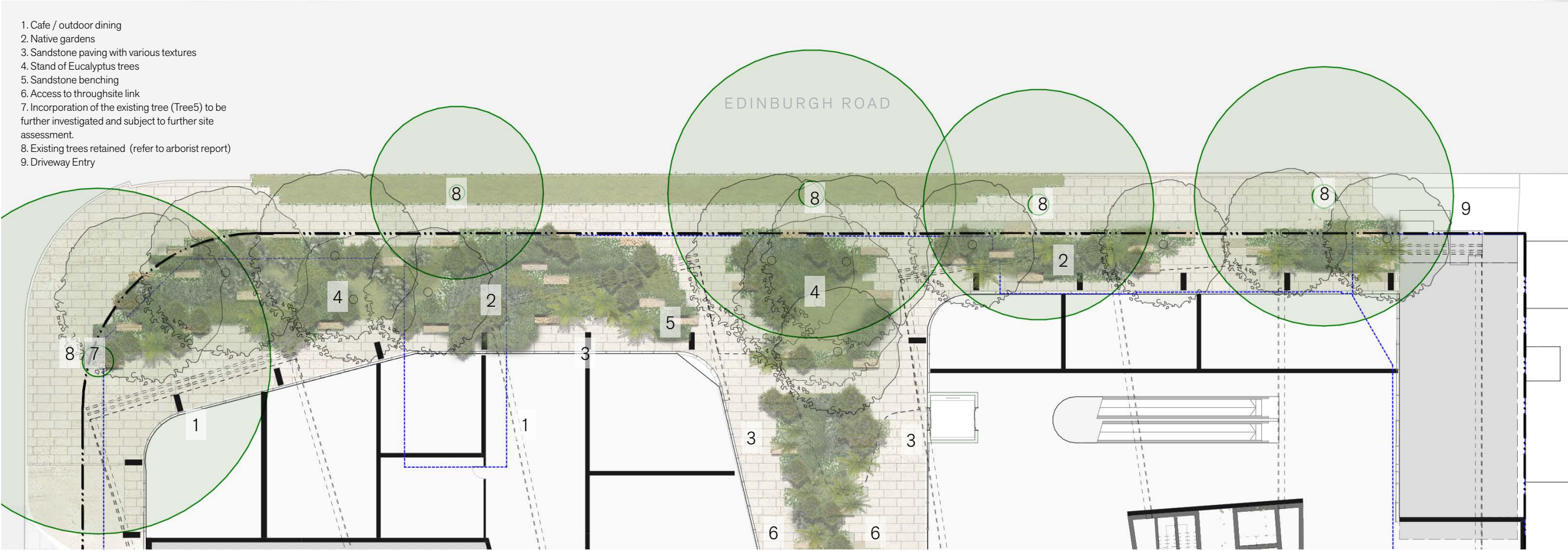
As outlined the arborist report, the existing trees on the site are not part of old growth forests and are generally not endemic to the area. As such, they are prime candidates for removal and / or replacement where new plantings will be of a more considered nature.

The arborist draws attention to "**Tree 5**"- All through the root ball remains intact, there is a potential need for canopy trimming. As architectural and landscape designs progress, the impacts on this tree will be monitored to ensure its ongoing survival. There is no current desire to remove this tree and retention of all street trees will be given the highest priority (refer to plan next page)





# Ridge top public open space



The communal space showcases the geometry of the built form within the extended building setback, with lush planting accentuating the natural bushland qualities.

A variety of mixed mode gatherings from contemplative spaces for outdoor dinning / seating to open areas for small performances and events are provided. The design has an emphasis on the landscape integration between the street and surrounding neighbours. Mass planting with minimal paving to bring the natural landscape into development.



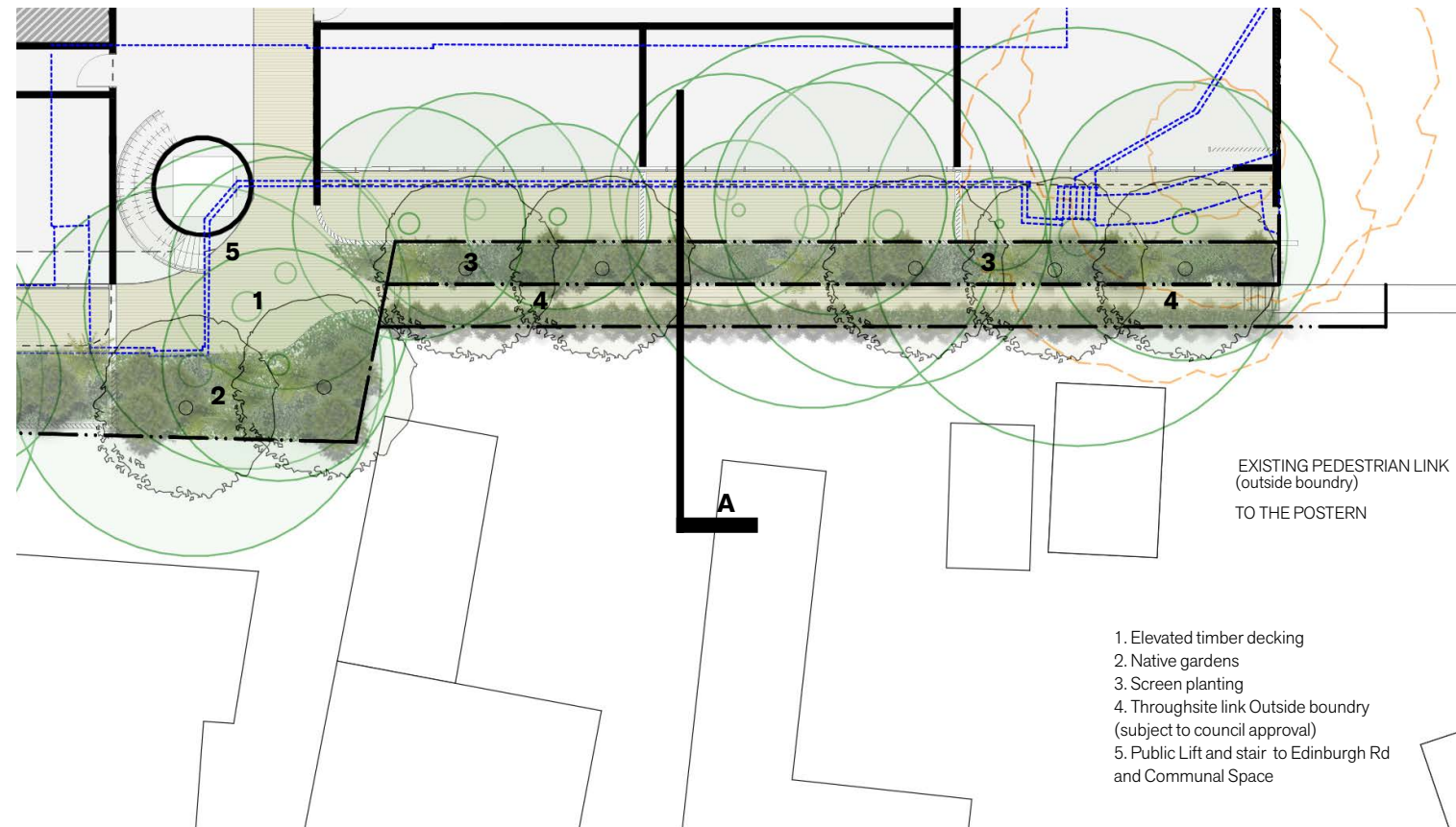
Native garden integrated with sandstone groundplane and seating

Minimise hard paving use of sandstone as the ground-plane

Stands of Eucalyptus trees scattered throughout the forecourt

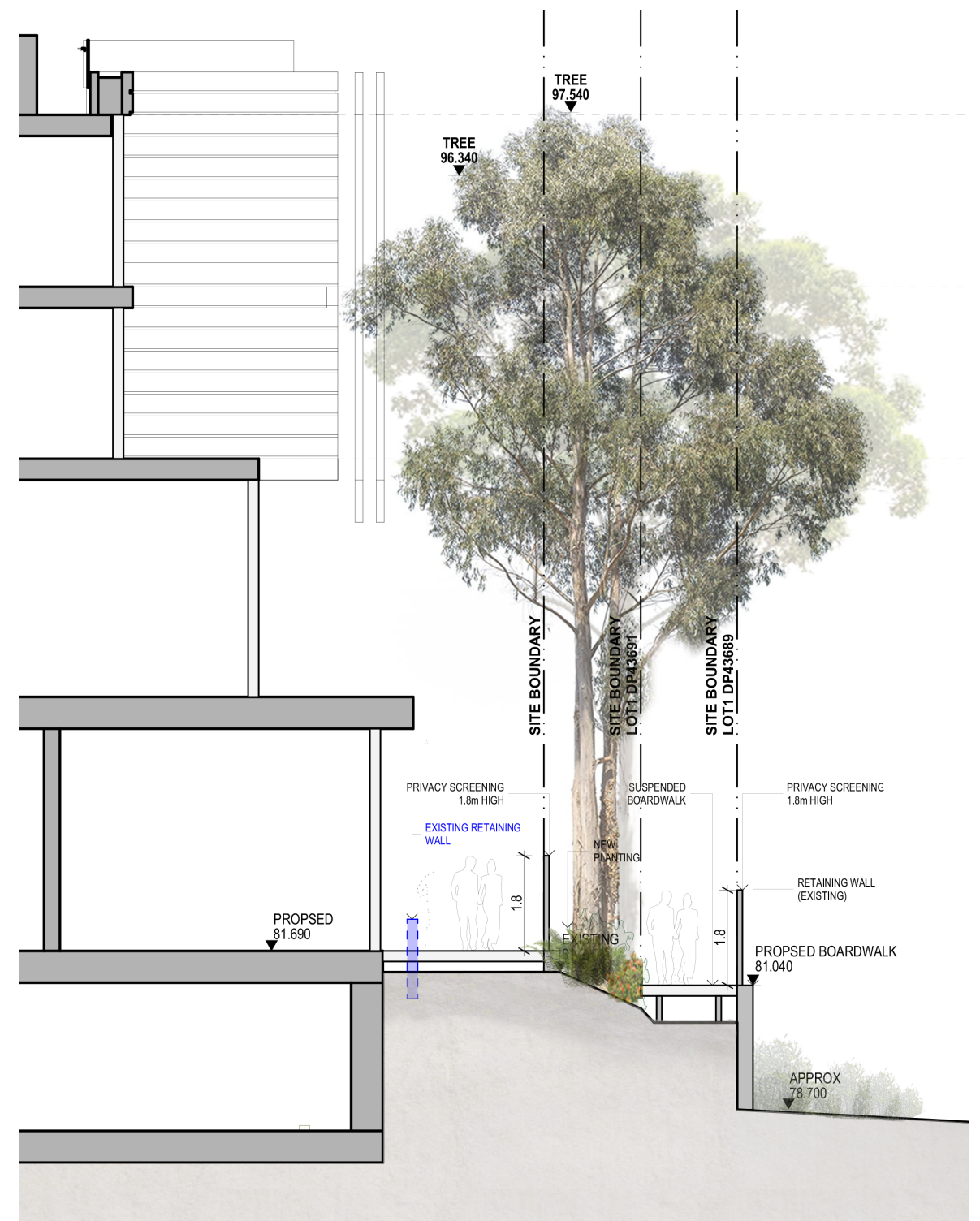


# Through site link - “gully walk”



A quiet glade sunken garden & gully walk provides a landscape setting and connections to the pedestrian network to The Postern and the Castlecrag pathway network beyond.

The lush gully planting typology is showcased in this unique space, providing a deep setback from adjoining residents with dense screen planting and appropriate density of tree planting to replace the trees to be removed. The new offering of trees will be more considered and appropriate for the sites' micro-climate (refer to arborist report)





# Landscape terraces & communal garden



Where possible the extensive areas of planting are designed to promote a variety of vegetation and long term sustainability of the building, including green roofs and native visual gardens.

The green roofs will be provided with access for maintenance of the building facade and the roof top planting water sourced from on site.

The swathes of planting characterise the rooftop garden and provide a patterned visual interest when viewed from above and from surrounding residents. The planting design seeks to create a visual link between the layered landscape and provide bio-diversity.

The communal terrace to level 3 provides a rooftop experience set within the tree tops maximising views with open deck areas perimeter planting with shade structures.



PRIVATE TERRACES



ROOFTOP COMMUNAL TERRACES



# Environmentally Sustainable Design & Materials

## Ethos

The material selected provide a balance between hard paved surfaces and soft landscape areas suitable for intended users. Whilst hard paved surfaces are necessary and appropriate for an urban space maximise green open space and planting zones is

## Public Domain

The public domain paving consisting of predominately lighter sandstone tonal coloured granite  
Longer bands of sandstone of darker granite to link the planter boxes orientation and the established grid The block seats solid / clad sandstone. This combination combined with the strong paving bands that unify and stitch the ground plane together.

## Communal Terrace

The Communal terrace materials consist of predominantly planted areas with stepping stones and some areas of hardwood decking to create gathering areas.

## Maintenance

Whilst regular maintenance of the hard and soft landscape is expected, the design considers ways to lessen the burden of maintenance. Areas of mass planting are proposed to provide visual impact without requiring high-frequency attention. Materials selection will also contribute to reduced maintenance and resistance from vandalism. Surfaces that age gracefully, wear well and require minimal upkeep are being considered, such as natural stone.

## Sustainability

The intention is that sustainable ecological principles are integrated into the landscape design with the primary focus on water. Principles such as sustainable Drainage Systems, a thorough plant selection process and site microclimatic analysis inform the layout, materials selection and environmental response. Initiatives such as rainwater harvesting and reuse, consideration of the extent of embodied energy within landscape materials, durability of material selection and resource requirements of new planting are all considerations and is summarised below. The primary landscape sustainability initiatives include:

- The capture of rainwater and reuse for irrigation via a water storage tank
- Design falls in paving levels to facilitate surface water recharge to mass planting beds and thereby reduce potable water usage.
- Appropriate provision of planting to improve air quality and reduce the urban heat island effect
- Selection of hardy, low water use, indigenous plant species suited to the urban environment
- The selection of a range of plant species to support biodiversity

## Water Sensitive Urban design

Where possible, stormwater runoff will be collected and treated in local bio-retention systems incorporated into the podium planting zones . Appropriate species and best practise will be utilised in order to locate and design the stormwater treatment areas. Capture stormwater runoff and convey treated runoff from the rain gardens. Seating elements and raised platforms are options that can be used to mitigate the set downs required to pond and treat the stormwater and to maintain public safety.

## Conclusions

Resolution of the various aspects of the proposed landscape design will continue. This refinement of the proposed works will be based on the descriptions, options and performance objectives detailed above and guided by the development application and council objectives. An acknowledgment of sustainable principles, the provision of aesthetic and functional spaces via exciting design solutions will continue to guide the resolution of the landscape design.





# Planting

The planting strategy is to create a cohesive design through the use of carefully selected species that demonstrate a connection to the concept of place making and link to the three landscape community types, Risge, Escarpment Gully.

The preference is for endemic plants to the Sydney area however the selection will also address the following:

Suitable for the existing micro climatic conditions (wind, access to sunlight); Low water use plant species; Maintenance requirements (such as watering regime, fertilising and pruning replacement); Wind breaks to mitigate microclimate conditions; Crime prevention through design; Privacy and screening

Selected plants provide visual interest through form, texture and variations in seasonal colour. A diverse planting scheme comprising mass planting of native plant species and a selection of drought tolerant species is proposed for the podium terrace.

The plant palette takes into account the potential impact of wind that may affect the plants at upper levels. The use of diverse shrubs and understory layer in various forms helps creates spaces, achieve accents to the various gardens that are experienced by the tenants and guests.

## Ridge Top Community space



## Escarpment stair and amphitheater



## Gully Walk





# Technical

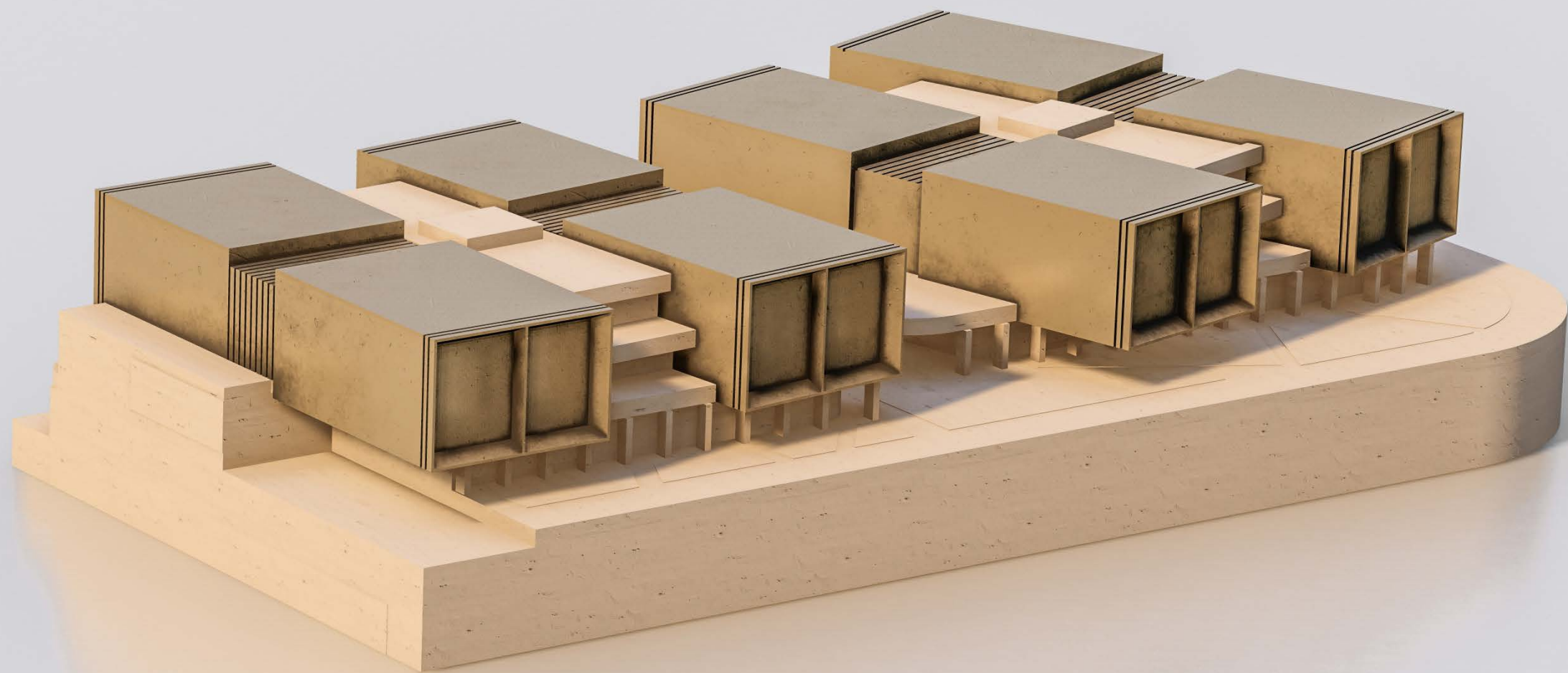
- Indicative Material Palette
- Indicative Facade Materiality
- Sustainability Benchmarking

“Castlecrag ... are the picked portions of that mighty amphitheatre which stretches down to the rocky shores, wooded coves and charming inlets of Sydney's finest reach of water.

Designed to preserve all the remarkable natural features - outlooks, cliffs, waterfalls, fern valleys, foreshores, birds and animals ...”

The Magic of America, Section III, 192

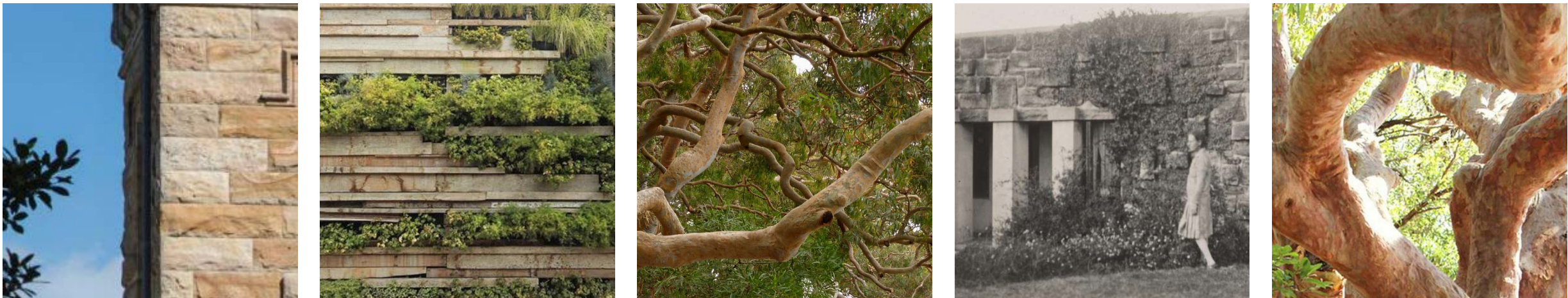




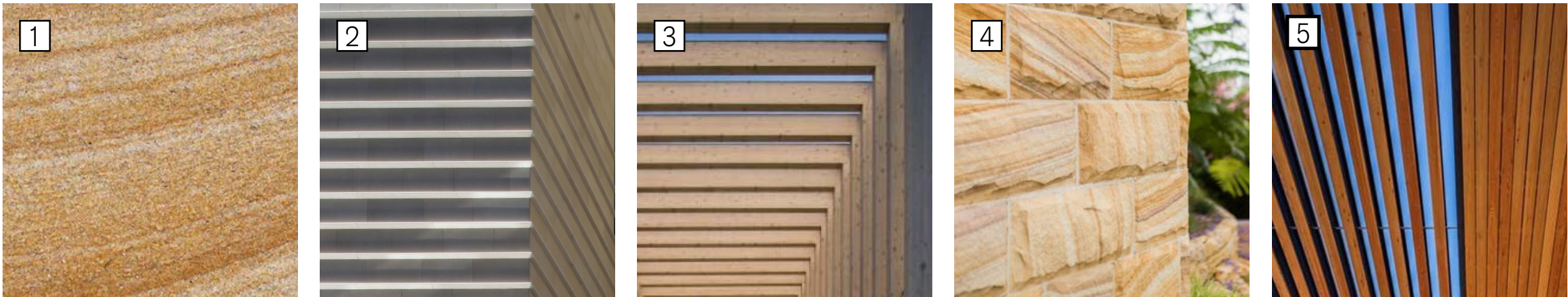


# Indicative Material Palette

Contextual  
Inspiration



Proposed  
Material



Sydney Sandstone  
Smooth Faced or GRC

Textural Facade Paneling  
in warm Hues

Class One/ Two  
Australian Timbers

Split Face Sydney  
Sandstone

Class One/ Two  
Australian Hardwood

Location

Public Domain & Facade

Facade

Soffits and Shading  
Devices

Split Face Sydney  
Sandstone  
Public Domain & Facade

Soffits and Shading  
Devices

*All Materials Indicative and  
Subject to Future Approvals*

**Indicative Materials Pallete - Borrowed from the landscape, of the local setting**



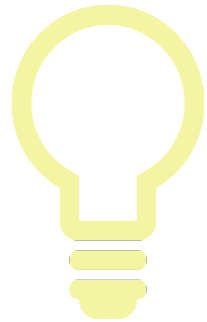
# Indicative Facade Materiality



Indicative Facade Articulation

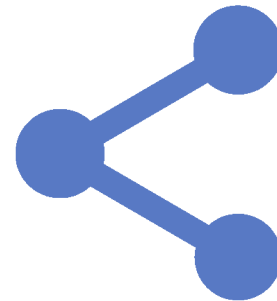


# Sustainability Benchmarking



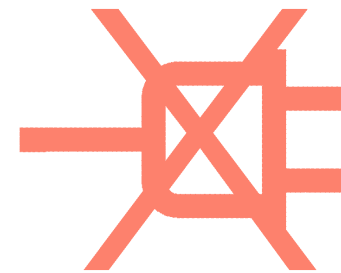
## Photovoltaic Arrays

A Solar PV array will be installed on the rooftop and oriented north to generate electricity for community spaces and public lighting. Low-energy lighting will be specified throughout the building. Solar hot water and a packaged heat pump boost will also be installed on the rooftop of the development. With further development, the project aims to be a benchmark of the locality, and is deeply embedded in its environmental ethos.



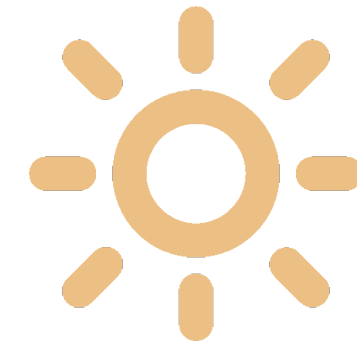
## Integrated Building Systems

Integrated building systems such as heating, cooling, and hot water will be designed to respond to the environmental conditions of the site. Internet and communications infrastructure will also be realised through centralised networks. The consolidation of these building-wide systems will minimise environmental impacts, installation costs, and significantly reduce ongoing running costs for residents.



## Minimise Fossil Fuel Reliance

The proposal is for a zero fossil fuel design, using solar hot water, electric appliances, and passive design strategies to achieve practical and comfortable living conditions. When electricity is required as a back-up, power providers will be chosen based on their ability to deliver renewable power generation certificates.



## Passive Solar Design

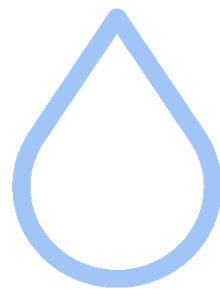
North-facing apartments are recessed behind balconies to minimize summer solar heat gain and shield apartments from harsh summer sun. Winter daylight will penetrate deep into the interior of the floor plates by way of balconies and internal light courts. Openings to the East and West draw in cooling breezes.





### **Green Transport Initiatives**

The site is ideally located to make use of existing public transport infrastructure. Residents will be encouraged to utilise this public transport network which is highly accessible from the site. The site is located immediately adjacent to several bus routes that further link close by train stations. Existing public transport routes will allow accessible travel to and from the Northern Sydney and Chatswood CBDs.



### **Rainwater Collection**

Rainwater will be captured and stored in water tanks located below ground. These water tanks will be plumbed to garden taps and landscape irrigation to support public and private gardens throughout the development. It is imagined that no additional town water will be required to facilitate the vast planting areas.



### **Native Plant Selection**

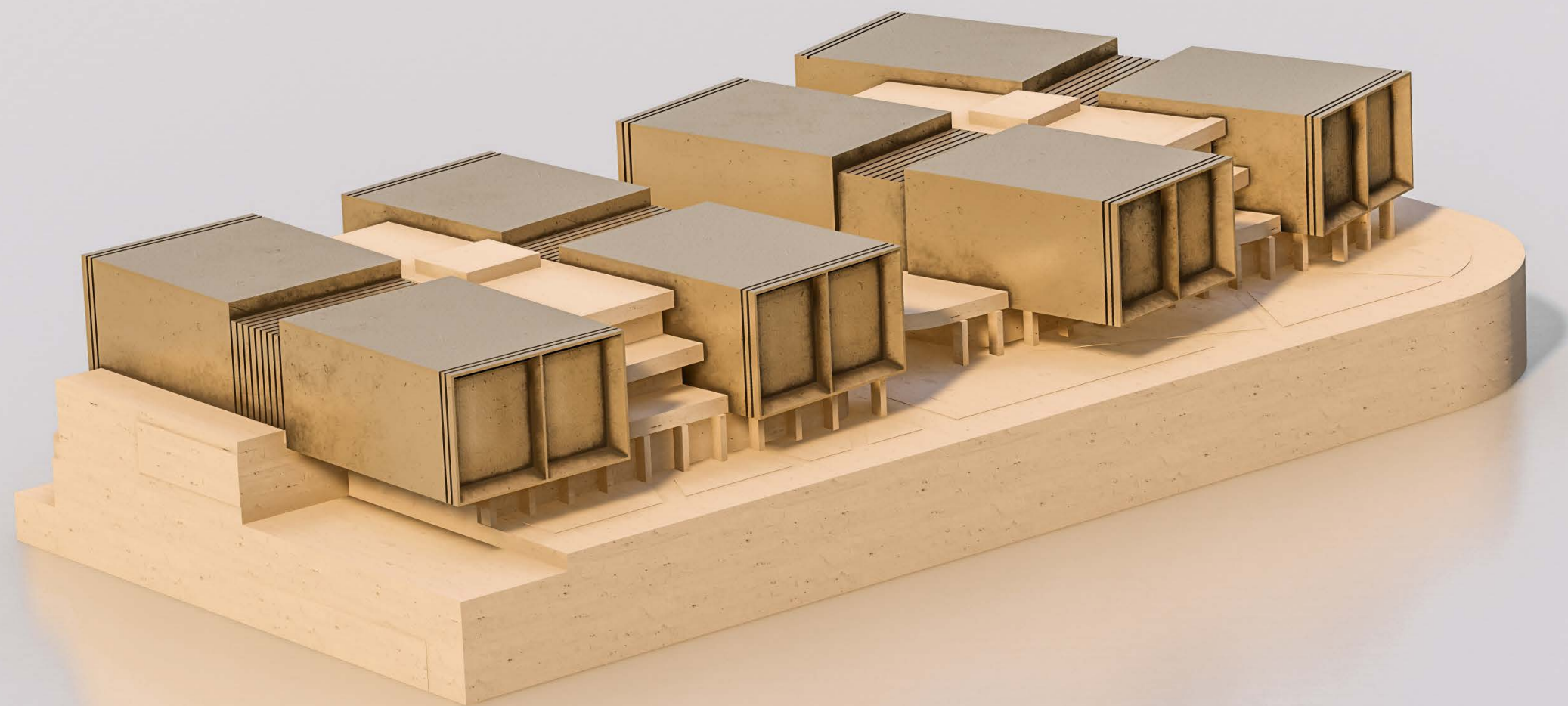
Plant selection will draw inspiration from the immediate context. The Griffins sought a means to live harmoniously amongst the bush. Our proposal is an embodiment of their beliefs. Landscaping includes low-maintenance and local indigenous plants will minimize water use and create a robust native landscape. Only native species endemic to the area will be considered for inclusion to the project.



### **BASIX / Section J Targets**

The proposal aims to achieve a target of (a) A BASIX energy score of at least 5 points above the minimum compliance requirement; and (b) A BASIX water score of at least 5 points above the minimum compliance requirement. Additionally, the proposal will use water saving fixtures and fittings as well as energy efficient lighting, air conditioning, lifts, and appliances to minimize water and energy loads. Carefully considered passive design solutions contribute to thermal comfort, minimizing the need for mechanical heating and cooling. Native, existing, mature trees provide shading to the north and harsh western sun. The refuse of the existing building will be collected, sorted and recycled appropriately. The project will endeavour to reuse and recycle the demolition, excavation and construction materials where possible. Appropriate BASIX and Section J compliance will be resolved at later development phases







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# Compliance Tables

Table 1\_ **Proposed Modifications to Local Environment Plans**

Zoning	Draft Willoughby Local Centres Strategy 2018 (client preferred scenario)	Note:
<b>Clause 2.2</b>  B1 Neighbourhood Centre & RE1 Public Recreation	B1 Zoning (LOT 11 (DP6111594) RE1 Public Recreation (LOT 1 (DP43691)	No Change
<b>Clause 4.3</b> Height of building– maximum permissible height on site: 9m	A maximum of 3 Storeys is proposed above Edinburgh Road Refer to Planning Report prepared by CPW	Proposed Modification
<b>Clause 7.7</b> Floor space ratio – maximum permissible floor space ratio: 1:1	FSR 1.8:1	Proposed Modification

Table 2\_ **Key Provisions of WDCP 2006 - Part C**

	Summary of Provision	Comment
C.4.2 Car Parking Requirements Table	Shop Top Housing  Studio - 0.5 space 1 space / dwelling (other than studios) Visitor spaces - 1 per 4 dwellings Retail Shop* 1 space / 25m2	Complies: <i>The indicative scheme illustrates compliance will be achievable at later phases</i>  Refer to Traffic report for further information
C.4.3 Other Parking Issues	Bicycle Parking  Bicycle lockers Residential: 1 per 10 units Retail/Restaurant: 1 per 450m2  Bicycle rail/ racks Residential: PLUS 1 per 12 units Retail/Restaurant: PLUS 1 per 150m2	Complies: <i>The indicative scheme illustrates compliance will be achievable at later phases</i>
C.6.2.2 Accessible Car Parking	1 accessible visitors' space in parking area with more than 50 spaces.  All adaptable housing dwellings must be allocated a car space. A proportion of the adaptable housing dwellings are to have adaptable car parking spaces provided as follows:  Number of adaptable housing dwellings Number of adaptable car space  1-4        1 5-9        2 10-14     3 15-19     4 20-24     5 25-29     6 30-34     7 35-39     8  The adaptable car spaces should comply with the following design requirements: be located as close as practicable to and be linked to an accessible entrance to the building or to a wheelchair accessible lift by a continuous accessible path of travel; have a firm surface, with a fall not exceeding 1 in 40 in any direction; and have a minimum length of 5.5m, a minimum width of 3.2m and a minimum height of 2.5m	Complies: <i>The indicative scheme illustrates compliance will be achievable at later phases</i>
C.6.3 Adaptable Housing	Shop top housing: If lift access is to be provided, 50% of all dwellings to be adaptable.	Complies Our proposal has the ability to meet the requirements of the DCP and further, the liveable housing guide to a silver level standard.



	Summary of Provision	Comment
E.1.2 Density, Use and Height	<p>1) Ground floor minimum – 3.5m floor to floor height Level 1 and above (residential) minimum 3m floor to floor height</p> <p>2) To maintain the commercial character and retain activity at street level, the ground floor or any level addressing the primary street is to predominantly comprise retail and shops, food and drink premises or business premises.</p> <p>3) No more than 30% of the street frontage is to be used for vehicular and pedestrian access to lower and upper levels. A minimum of 60% gross floor space at street level is to be used for retail or business premises.</p>	<p>Complies:</p> <p>Complies</p> <p>Complies</p> <p><i>The indicative scheme illustrates compliance can be achievable at later phases</i></p>
E.1.4 Setbacks Front / street setback	<p>1) Where the existing streetscape is characterised by ribbon development immediately on the boundary to the street frontage, the ground floor (and where existing two storey building façades prevail, the first floor) of the new development should maintain the existing streetscape character by incorporating a zero front setback.</p> <p>2) First and second floor levels should be setback a minimum of an additional two metres from the street frontage (from that of the ground floor level below). Balconies, other than use of the podium level, shall not encroach into this setback.</p> <p>3) Third Floor and above: 5m for the third floor of the building with an increase of 1.2m for each storey of the building above the third floor (setback = 5m + 1.2m/storey above the third floor). The total required setback is to apply to all floors from the 3rd floor up (see diagram 3). Balconies are not to encroach into the required setback of the level below (see Diagram 1).</p> <p>4) Splay corners are to be provided to all street corners at street level.</p>	<p>Complies</p> <p>The proposal provides significant front setbacks when taken as a weighted average. The proposal provides shelter and addresses the street in a manner that is sympathetic to the surrounding context.</p>
E.1.4 Setbacks Side Setbacks	<p>Minimum setback from side boundaries: Ground Floor: Zero setback;</p> <p>First and Second Floor: Zero setback for maximum of 50% of the length of the side boundary and located within the front half of the site; Side boundary setbacks for first and second floors for the remainder of the building are to comply with the building envelope determined by a line projected horizontally at 300 from the side boundary from half way along the boundary towards the rear of the site (where side boundaries step the projected envelope shall also step accordingly)- see Diagram below; and</p> <p>Third Floor and Above: 3m for the third floor of the building with an increase of 1.2m for each storey of the building above the third floor (i.e. setback = 3m + 1.2m/storey above the third floor). The total required setback is to be applied to all floors from the third floor up.</p> <p>The DRAFT Willoughby Local Centres Strategy 2018 (preferred scenario) proposes minimum 3m upper level setback (2nd storey) for shop top housing.</p>	<p>Complies</p> <p>Setbacks to the side boundaries are consistent with current planning controls and are delivered in a manner that protects and conserves the existing mature trees.</p>

Reference	Summary of Provision	Comment
E.1.4 Setbacks Rear Setbacks	<i>Minimum setback from rear boundaries: Ground floor adjoining a residential boundary: minimum 3m For land adjoining R2 or R3 (height limit of 9m) zoned Land at the rear whether or not the land is separated by a lane way. Upper Floors (all floors above ground floor): a minimum of 6 metres from the line of the ground floor rear wall below for the first floor, with an increase of 1.2m for the second level, 3m for the third level, 1.2m for the fourth level and 3m for the fifth level. The site adjoins R2 and RE1.</i>	Setbacks to the rear have been provided to ensure that amenity to neighbours is considered.
E.1.4 Setbacks General	Balconies and Verandahs Balconies and verandahs other than rear balconies may encroach upon the prescribed side and rear setbacks providing that the encroachment: produces no adverse effect on the amenity (privacy, solar access etc.) of the adjoining properties; The encroaching balcony or verandah must not be enclosed, except by balustrades or any dividing wall; and does not encroach upon the required side setback so as to be closer than two metres to the side boundary. Rear balconies or planter boxes may not project beyond the line of the required setback of the level below.	Complies
E.1.6 Landscaping Requirements	<p>1. A three metre wide landscaped setback area is to be provided along a rear boundary adjoining residentially zoned land</p> <p>2. A minimum one metre wide planter box planted with dense screen planting is to be provided along the edge of any balcony or terrace at first floor level facing a low density residential area. (Residential R2 or R3 (land with a 9m height limit).</p> <p>3. All other balconies (other than to the street frontage) facing a low density residential area should incorporate planter boxes facing these boundaries with a minimum internal width of 400mm.</p> <p>4. A minimum of 20% of podium and a minimum of 20% of rooftop open space is to be provided as vegetated area (turf, gardens and planters)</p> <p>5. Landscaping should be provided on site in the following locations: within rear boundary setback areas and any side boundary setbacks at upper level; - where a driveway is provided along a side boundary, provide a continuous planting strip of minimum 1m along that side boundary;</p>	<p>Complies</p> <p>Complies</p> <p>Complies</p> <p>Complies</p> <p>Complies</p>
E.1.7 Open Space Requirements for Shop Top Housing Developments	Communal Open Space: 1. Communal open space for shop top housing for development in excess of 15 dwellings must be provided as follows: 16 dwellings + : 30m2 for the first 15 dwellings plus 10m2 per additional dwelling Minimum area: 30m2 Minimum dimension: 5m Maximum proportion of the communal open space that can be used as an adjoining internal room: 20%	Our proposal invests significantly in the public domain and delivers a highly usable space for the residents and wider community to enjoy. The areas dedicated as communal spaces significantly exceed the minimum ADG and DCP requirements



# Compliance Tables

Table 3\_ **Provisions of the ADG**

Objective	Design Guidance/Criteria	Comment on Proposed Scheme	Complies?
<b>PART 3: Siting the Development</b>			
<b>3B Orientation</b>			
<b>Objective 3B-2</b> Overshadowing of neighbouring properties is minimised during mid winter	Living areas, private open space and communal open space should receive solar access. Solar access to living rooms, balconies and private open spaces of neighbours should be considered. Where an adjoining property does not currently receive the required hours of solar access, the proposed building ensures solar access to neighbouring properties is not reduced by more than 20%. Overshadowing should be minimised to the south or down hill by increased upper level setbacks.	Our proposal is deeply embedded in site analysis of the surrounding context. By orienting the buildings north, shadows to neighbouring buildings are minimised. Neighbouring properties are afforded solar amenity to that of the existing state.  <i>The indicative scheme illustrates compliance will be achievable at later phases</i>	Complies
<b>3D Communal and Public Open Space</b>			
<b>Objective 3D-1</b> An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping	<b>Design Criteria</b> Communal open space has a minimum area equal to 25% of the site. Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid winter). <b>Design Criteria</b> Communal open space should be consolidated into a well designed, easily identified and usable area. Communal open space should have a minimum dimension of 3m.	Our proposal invests significantly in the public domain and delivers a highly usable space for the residents to enjoy. The areas dedicated as communal spaces significantly exceed the minimum ADG and DCP requirements  <i>The indicative scheme illustrates compliance will be achievable at later phases</i>	Complies
<b>3F Visual Privacy</b>			
<b>Objective 3F-1</b> Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy  Note: Separation distances between buildings on the same site should combine required building separations depending on the type of room	<b>Design Criteria</b> Separation between windows and balconies is provided to ensure visual privacy is achieved. Minimum required separation distances from habitable rooms and balconies to the side and rear boundaries are as follows: Up to 12m/4 storeys: 6m Up to 25m/5-8 storeys: 9m Over 25m (9+storeys): 12m Separation distances between buildings on the same site should combine required building separations depending on the type of room (see Figure 3F.2 in the ADG).	Apartments are afforded visual separation exceeding the minimum requirements. Visual privacy is highly considered and habitable rooms are highly private.  <i>The indicative scheme illustrates compliance will be achievable at later phases</i>	Complies
<b>Part 4 – Designing the Building</b>			

Objective	Design Guidance/Criteria	Comment on Proposed Scheme	Complies?
<b>4A Solar and Daylight Access</b>			
<b>Objective 4A-1</b> To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space	<b>Design Criteria</b> Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid winter.	Solar amenity to the future residents was considered from the outset. The development delivers apartments with a high level of solar amenity. Where direct solar access cannot be obtained. Residents will be able to utilise the communal open space which is afforded a northerly solar aspect	Complies
	A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter.	Whilst every effort has been made to reduce the number of apartments receiving no solar access, the longest side of the site is north facing. This has resulted in a number of apartments receiving no solar access. Where apartments receive no solar access, they are generally afforded larger private open spaces, larger ceiling heights, and are provided with views of the local context and the CBD beyond. Whilst they receive little to no solar access, they are still provided a high level of amenity.	Non Compliant
<b>Objective 4A-3</b> Design incorporates shading and glare control, particularly for warmer months.		<i>The indicative scheme illustrates compliance will be achievable at later phases</i>	Complies
<b>4B Natural Ventilation</b>			
<b>Objective 4B-1</b> All habitable rooms are naturally ventilated		<i>The indicative scheme illustrates compliance will be achievable at later phases</i>	
<b>Objective 4B-3</b> The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents	<b>Design Criteria</b> At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building.	<i>The indicative scheme illustrates compliance will be achievable at later phases</i>	Complies
	Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line	<i>The indicative scheme illustrates compliance will be achievable at later phases</i>	Complies
<b>4C Ceiling Heights</b>			
<b>Objective 4C-1</b> Ceiling height achieves sufficient natural ventilation and daylight access	<b>Design Criteria</b> Measured from finished floor level to finished ceiling level, minimum ceiling heights are:  Habitable: 2.7m Non habitable: 2.4m Ground/First Floors: 3.3m <b>Note:</b> As per Figure 4C.5 a floor to ceiling height of 2.7m requires a minimum floor to floor height of 3.1 m.	<i>The indicative scheme illustrates compliance will be achievable at later phases</i>	Complies



Objective	Design Guidance/Criteria	Comment on Proposed Scheme	Complies?
4D Apartment Size and Layout			
<b>Objective 4D-1</b> The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity	<b>Design Criteria</b> Apartments are required to have the following minimum internal areas:  Studio: 35sqm 1 bed: 50sqm 2 bed: 70sqm 3 bed: 90sqm The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5sqm each. A fourth bedroom and further additional bedrooms increase the minimum internal area by 12sqm each.	Complies and exceeds the minimum requirements in order to deliver a high quality development that is appropriate for the demographic of the area.  Providing large apartments also ensures that at-least 50% of the apartments will be able to meet adaptable and accessible requirements	Complies
	Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room. Daylight and air may not be borrowed from other rooms	<i>The indicative scheme illustrates compliance will be achievable at later phases</i>	Complies
<b>Objective 4D-2</b> Environmental performance of the apartment is maximised	<b>Design Criteria</b> Habitable room depths are limited to a maximum of 2.5 x the ceiling height	<i>The indicative scheme illustrates compliance will be achievable at later phases</i>	Complies
	In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window	<i>The indicative scheme illustrates compliance will be achievable at later phases</i>	Complies
<b>Objective 4D-3</b> Apartment layouts are designed to accommodate a variety of household activities and needs	<b>Design Criteria</b> Master bedrooms have a minimum area of 10sqm and other bedrooms 9sqm (excluding wardrobe space)	<i>The indicative scheme illustrates compliance will be achievable at later phases</i>	Complies
	Bedrooms have a minimum dimension of 3m (excluding wardrobe space)	<i>The indicative scheme illustrates compliance will be achievable at later phases</i>	Complies
	Living rooms or combined living/ dining rooms have a minimum width of: 3.6m for studio and 1 bedroom apartments 4m for 2 and 3 bedroom apartments	<i>The indicative scheme illustrates compliance will be achievable at later phases</i>	Complies
	The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts	<i>The indicative scheme illustrates compliance will be achievable at later phases</i>	Complies

Objective	Design Guidance/Criteria	Comment on Proposed Scheme	Complies?
4E Private Open Space and Balconies			
<b>Objective 4E-1</b> Apartments provide appropriately sized private open space and balconies to enhance residential amenity	<b>Design Criteria</b> All apartments are required to have primary balconies as follows: Minimum area: Studio: 4sqm 1 bed: 8sqm 2 bed: 10sqm 3 bed: 12sqm Minimum depth: Studio: - 1 bed: 2m 2 bed: 2m 3 bed: 2.4m The minimum balcony depth to be counted as contributing to the balcony area is 1m	All private open spaces will meet the minimum requirements	Complies
	For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a balcony. It must have a minimum area of 15sqm and a minimum depth of 3m.	<i>The indicative scheme illustrates compliance will be achievable at later phases</i>	Complies
4F Common Circulation and Spaces			
<b>Objective 4F-1</b> Common circulation spaces achieve good amenity and properly service the number of apartments	<b>Design Criteria</b> The maximum number of apartments off a circulation core on a single level is eight.	Podium level circulation areas are afforded a high level of communal amenity through delivering natural ventilation, and contains areas for the residents to encounter chance meetings. sit and intermingle.	Complies
	For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40.	<i>The indicative scheme illustrates compliance will be achievable at later phases</i>	N/A
4G Storage			
<b>Objective 4G-1</b> Adequate, well designed storage is provided in each apartment	<b>Design Criteria</b> In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided:  Studio: 4m3 1 bed: 6m3 2 bed: 8m3 3 bed: 10m3 At least 50% of the required storage is to be located within the apartment.	<i>The indicative scheme illustrates compliance will be achievable at later phases</i>	Complies