

**BOWEN STREET,
CHATSWOOD
PLANNING
PROPOSAL
URBAN DESIGN PEER REVIEW**

PREPARED FOR

PLATINE PROPERTY

09 APR 2019

FINAL REPORT

INTRODUCTION

PURPOSE OF THIS REPORT:

Urbis Pty Ltd was commissioned by Platine Property Development 2 Pty Ltd to prepare this Urban Design Peer Review for the Planning Proposal at Bowen Street Chatswood. The purpose of the report is to consider the proposed built form controls in the context of the site and relevant planning studies and investigations.

Our approach to undertaking this peer review considered the following key matters:

- Approach to identified areas for accommodating housing growth within the Draft Willoughby Housing Strategy to 2036;
- LEP built form controls across the LGA for R4 and B5 zones (maximum building height and FSR);
- Site locational attributes;
- Local context; and
- Development potential of the site.

For ease of reference this report is organised as follows:

CONTENTS

1.0	DRAFT WILLOUGHBY HOUSING STRATEGY REVIEW	4
2.0	SITE ACCESSIBILITY ANALYSIS	6
3.0	LEP R4 AND LOCAL CENTRE BUILT FORM CONTROLS REVIEW	8
4.0	SITE CONTEXT	12
5.0	BUILT FORM REVIEW AND CONSIDERATIONS	16
6.0	RECOMMENDATIONS	20
7.0	CONCLUSION	23

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KEY FINDINGS

This Urban Design Peer Review of the Planning Proposal at Bowen Street, Chatswood has identified that the proposed LEP controls of R4 zone, 2.5:1 FSR and 30m maximum building height are supportable on the site.

This is considered in the context of:

- Excellent locational attributes to transport, local services and amenities and employment locations;
- Character and built form outcomes of the local context and immediately adjoining sites with future opportunity to realise development potential of B5.
- Consistency with draft Willoughby Housing Strategy approach to identified locations for accommodating housing growth.
- Development potential of the site being a large amalgamated site.
- Site specific built form testing on the site to minimise any impacts on adjoining land owners.
- Delivery of communal amenity outcomes that exceed the ADG minimum requirements.

1.0 DRAFT WILLOUGHBY HOUSING STRATEGY REVIEW

The Draft Willoughby Housing Strategy was released in February 2019. The draft Strategy guides the quantity, location and type of future residential development within Willoughby City.

The housing study concludes that the strategic direction for accommodating the additional 6,700 dwellings to 2036 as:

"Focus new housing growth in larger centres and areas of medium and high density within walkable access (400m) to public transport, other local services and amenities to protect lower density neighbourhoods."

Council identified that this housing growth can be accommodated in 3 focus areas as outlined in the table below. This table considers the subject site characteristics against each of these focus areas.

Table 1 Assessment of site against focus area characteristics

FOCUS AREAS	SITE
1. Existing medium and high density zones, (R3 and R4) that have not as yet been developed to the full potential of the zone.	<ul style="list-style-type: none"> ▪ The study is not proposing to create any new locations of R4 to accommodate housing growth. ▪ The Site is currently zoned R2 however is surrounded by R3 and adjacent to a B5 within the same urban block. Council have indicated they are supportive of R4 zone for the site as an appropriate transition from B5 to R3.
2. Proposed B4 Mixed Use zone which surround the B3 Commercial Core of the Central Business District as identified in The Chatswood CBD Planning and Urban Design Strategy to 2036.	<ul style="list-style-type: none"> ▪ N/A. ▪ 75% of growth will occur within the future Chatswood CBD
3. The seven local centres identified in Draft Local Centres Strategy comprising Artarmon, Northbridge, East Chatswood, Penshurst Street, High Street, Castlecrag.	<ul style="list-style-type: none"> ▪ The B5 land we are adjacent to is identified as a centre (refer to map opposite) but was not identified as one of the 7 local centres studied. ▪ This centre, compared with those to the east is located adjacent to both the train line and Pacific Highway public transport corridors. As a result the site has higher levels of accessibility to nearby employment centres. ▪ This site is located within 10 minutes walk of the Chatswood CBD offering a higher level of services and amenity.

KEY FINDINGS:

- Subject site meets the locational criteria for two of the three focus areas.
- Apply the same methodology to this centre as the 7 centres investigated in the study to consider capacity.

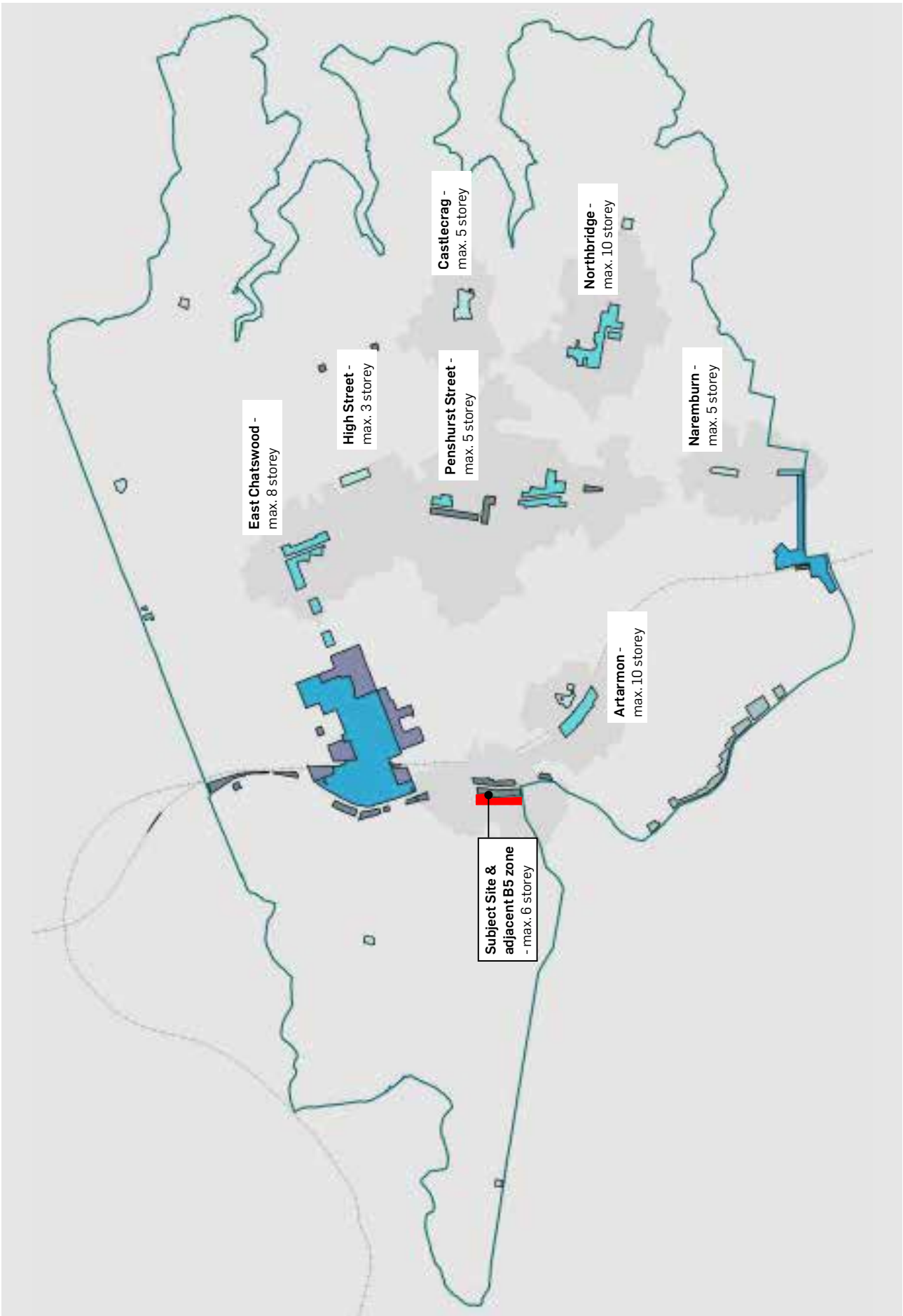


Figure 1 Locations of housing growth area and proposed local centres identified by Council
 (Source: Housing Strategy To 2036)

2.0 SITE ACCESSIBILITY ANALYSIS

LOCATIONAL CRITERIA

These three focus areas were confirmed through consideration of the following principles as key criteria for identifying areas that may have potential to accommodate additional density. And of these, two principles were prioritised by Council as the key requirements (identified in bold below):

- Capacity to offer a variety of housing types
- **Public transport** - Located close to public transport, including train stations and major bus routes.
- Heritage significance is not compromised.
- The scenic qualities and ecological values of environmentally sensitive natural areas, including foreshores and bushland, are maintained.
- An intensification not to occur in areas of bushfire risk.
- **Local services and amenities** - Close proximity to existing educational, transport, health, social, cultural and employment services. New residential development needs to be adequately serviced by infrastructure.
- Adequate existing water supply, stormwater, drainage, open space and community facilities.
- Impacts of development on traffic movements and arterial road networks, and the improvement of public transport services need to be accommodated.
- New pedestrian and cycling linkages planned and provided to increase accessibility both for prospective and existing residents.
- Existing local centres to support local business as recommended in the Willoughby City Strategy.
- Matched by social planning considerations for increased child care, open space, schools, youth services and improved infrastructure.
- Quality of existing housing stock – potential for renewal.

Analysis of the site in terms of public transport access and proximity to local services and amenities reveals the following (Figure 2):

- The nearest bus stops are located on Pacific Hwy and Mowbray Road West. These are within 200m walking distance and connect to major employment centres such as Chatswood, St Leonards, North Sydney, Macquarie Park within 30 minutes travel. The Pacific Highway which is a major bus transit route.
- The site is located within a 10 minute (800m) walk of two train stations at Chatswood and Artarmon.
- The Chatswood CBD commercial core is within less than 15-minutes walking distance.
- The nearest school sites - Chatswood Public and High School - are 550m walk north of the site.
- **Local services** - there are two schools, a preschool and a medical practice which is located within 800m catchment.
- **Amenities** - Chatswood Oval and Ferndale Park is within 800m walking catchment.

KEY FINDINGS:

- The site is well connected by public transport to major employment centres with access to two major transport corridors being the Pacific Highway and the railway line.
- The site is also within 10 minutes walk to local educational, transport, health, social, cultural and employment services.
- The site is less than 15 minutes walk to Chatswood CBD.
- Unlike its context which is surrounded by strata buildings, the site is unimpeded by ownership constraints.

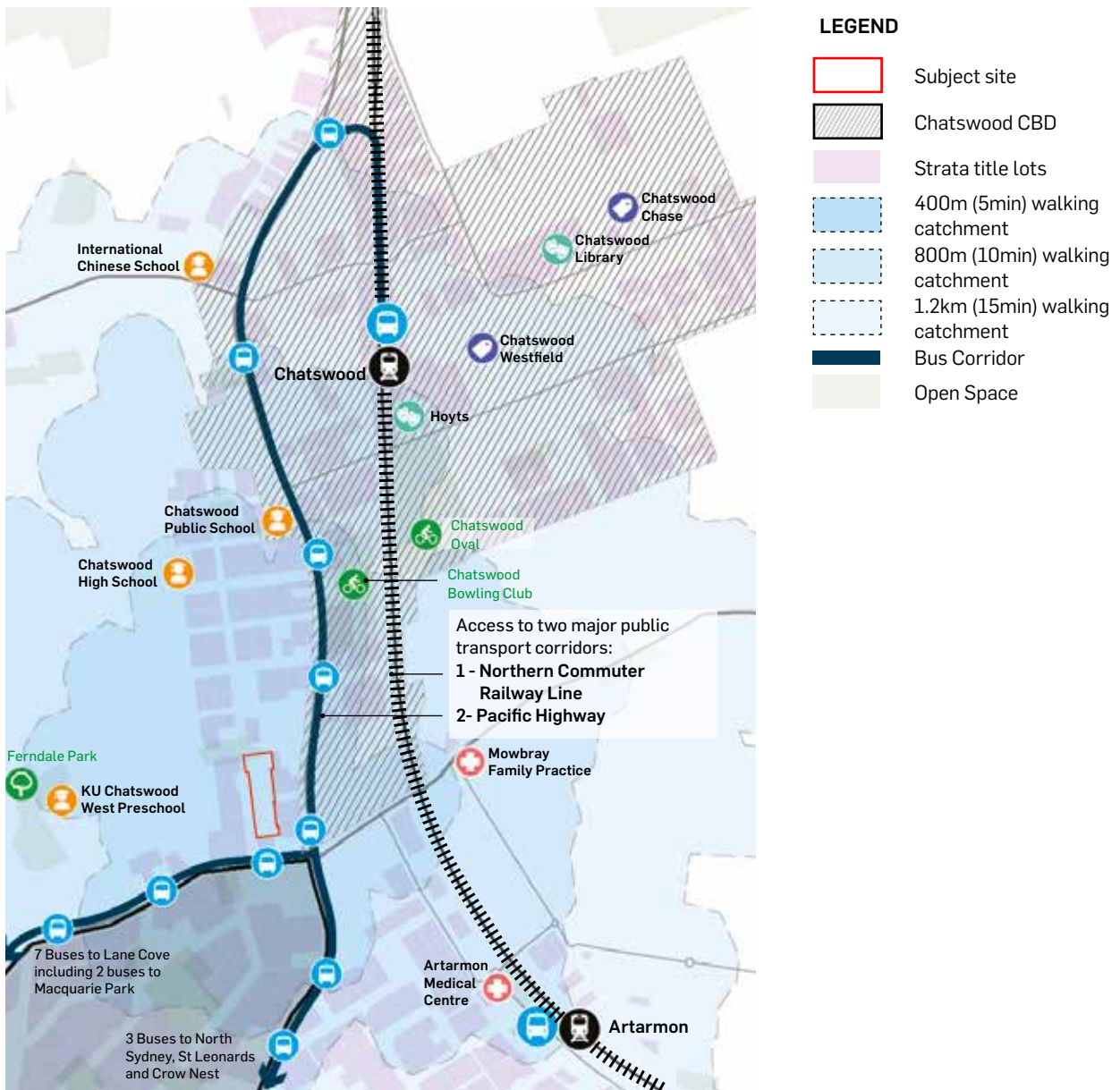


Figure 2 Local Context Analysis (Adapted from: Chatswood CBD Planning and Urban Design Strategy)

3.0 LEP R4 AND LOCAL CENTRE BUILT FORM CONTROLS REVIEW

A review of the LEP maps for the proposed FSR and building heights for all R4, B5 and local centre lands was undertaken to understand the range of controls for development within the LGA for these zones. (Please refer to maps on following pages for zone, FSR and height controls.)

Finding			Site
<ul style="list-style-type: none"> All R4 zoned land is located immediately adjacent to a centre. The FSR and maximum building height for R4, B5 and local centres zones ranges from: 			<ul style="list-style-type: none"> The site is immediately adjacent to a B5 centre zone. The FSR for the B5 zone is 2.5:1 FSR and a maximum building height of 20 metres. The B5 land adjacent to the site is identified as a having capacity for housing growth but was not studied as one of the 7 local centres identified. The subject site is a large amalgamated site which consists of 22 individual lots There are a range of heights and FSR's in the realm of that proposed for the subject site. An appropriate FSR should be determined through site specific built form testing.
	HOB RANGE (M)	FSR (N:1)	
R4*	24-36	1.5-3.3	
B5	11-20	1-2.5	
Local Centres	8.5-18	0.45-2.5	

** Note: Sites where the building heights is specified as an RL control are excluded in this summary table.*

KEY FINDINGS

- Contextual analysis required to understand local context and inform built form strategy.
- Capacity of the site to be tested considering R4 High Density Residential Zone FSR and height ranges set above as well as local context considerations.

R4 SITE	LOCATION DESCRIPTION	MAX. HOB (M)	FSR (N:1)
A	Adjacent to the west edge of Chatswood CBD along Pacific Hwy	24	1.5:1
B	To the west of Artarmon Train Station, adjacent to proposed local centre area	36	2:1
C	To the north of M1, bounded by Artarmon Rd and Willoughby Rd	27	1:1
D	Isolated site bounded by M1 and Pacific Hwy	138	1.7:1
E	Northern extension of Chatswood CBD	24	1.5:1
F	St Leonards Train Station	34-98	1.3-3.3
G	Southern edge of Chatswood CBD	34	1.7:1

LEGEND	
	Subject site
	S1 - 24m
	T3 - 27m
	U - 34m
	V1 - 36m
	W - 40m

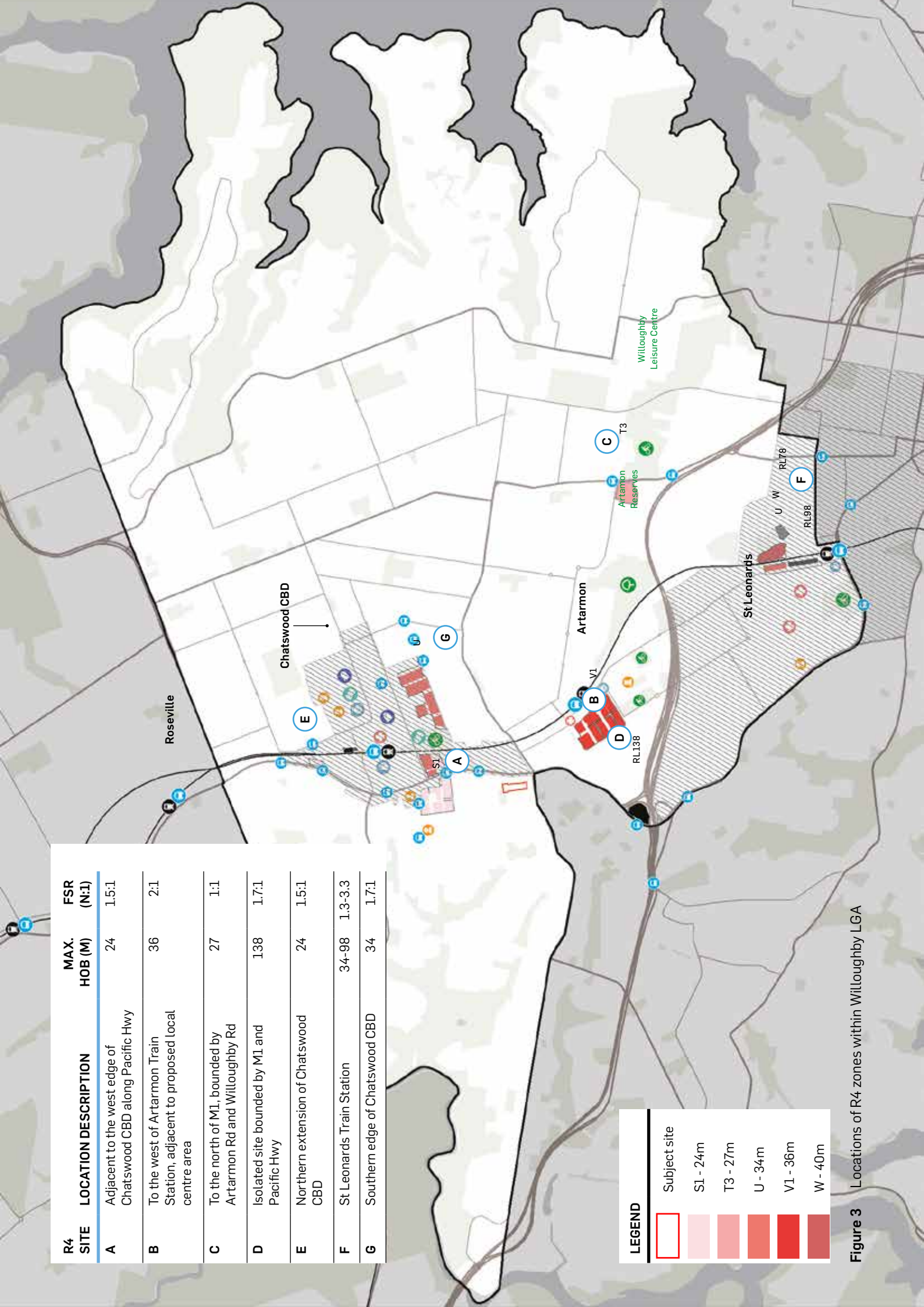


Figure 3 Locations of R4 zones within Willoughby LGA

B5 SITE	LOCATION DESCRIPTION	MAX. HOB (M)	FSR (N:1)
A	Northern extension of Chatswood CBD	11-21	1-2.5
B	Western Chatswood CBD along Pacific Hwy	12	2:1
C	Southern extension of Chatswood CBD adjacent to the site	20	2.5:1
D	Penshurst Street local centre	11-18	1.5-1.7
E	Willoughby South opposite to regional recreation centre	14	2:1
F	Two isolated B5 zone along Eastern Valley Way	11	1.3:1

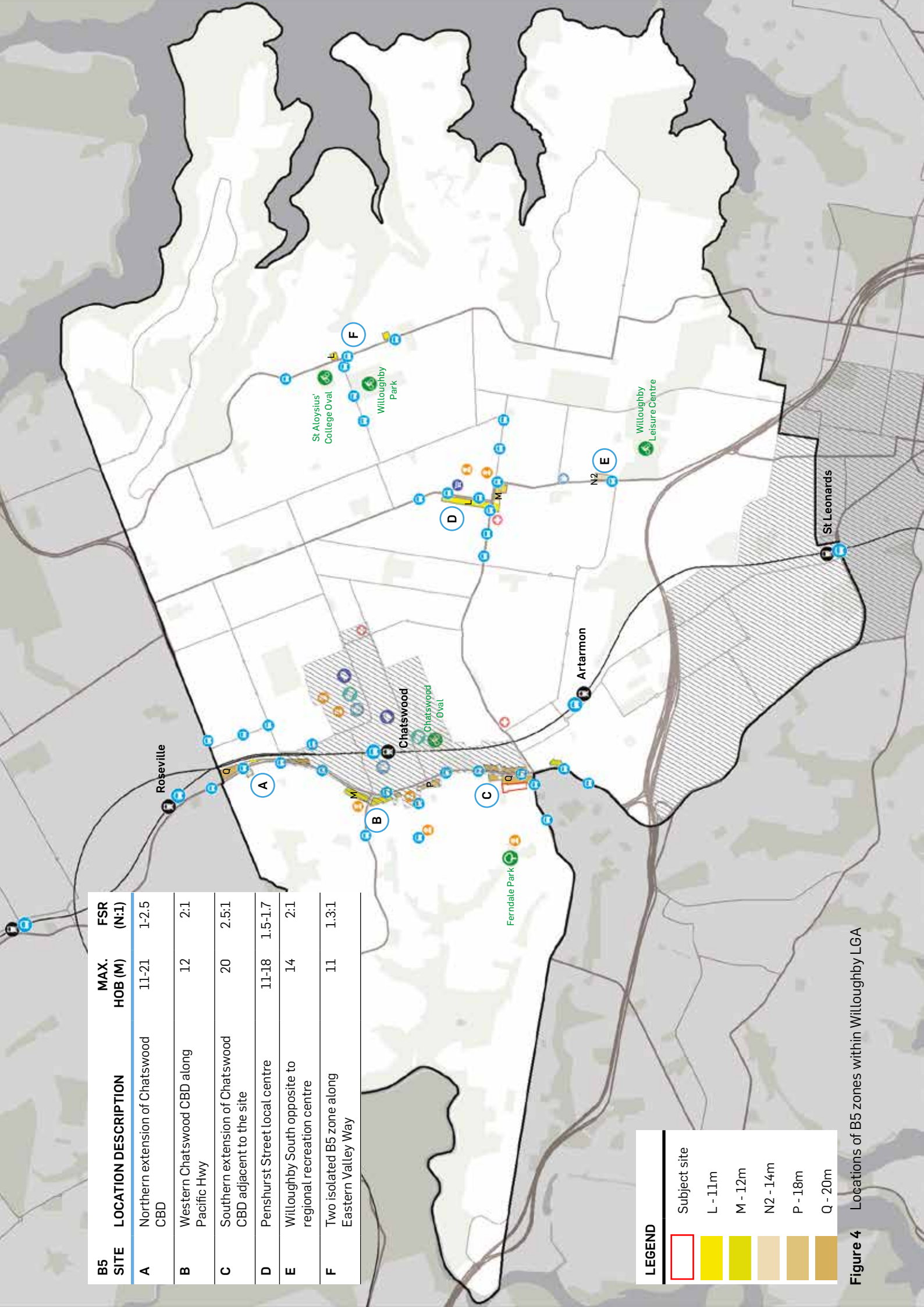
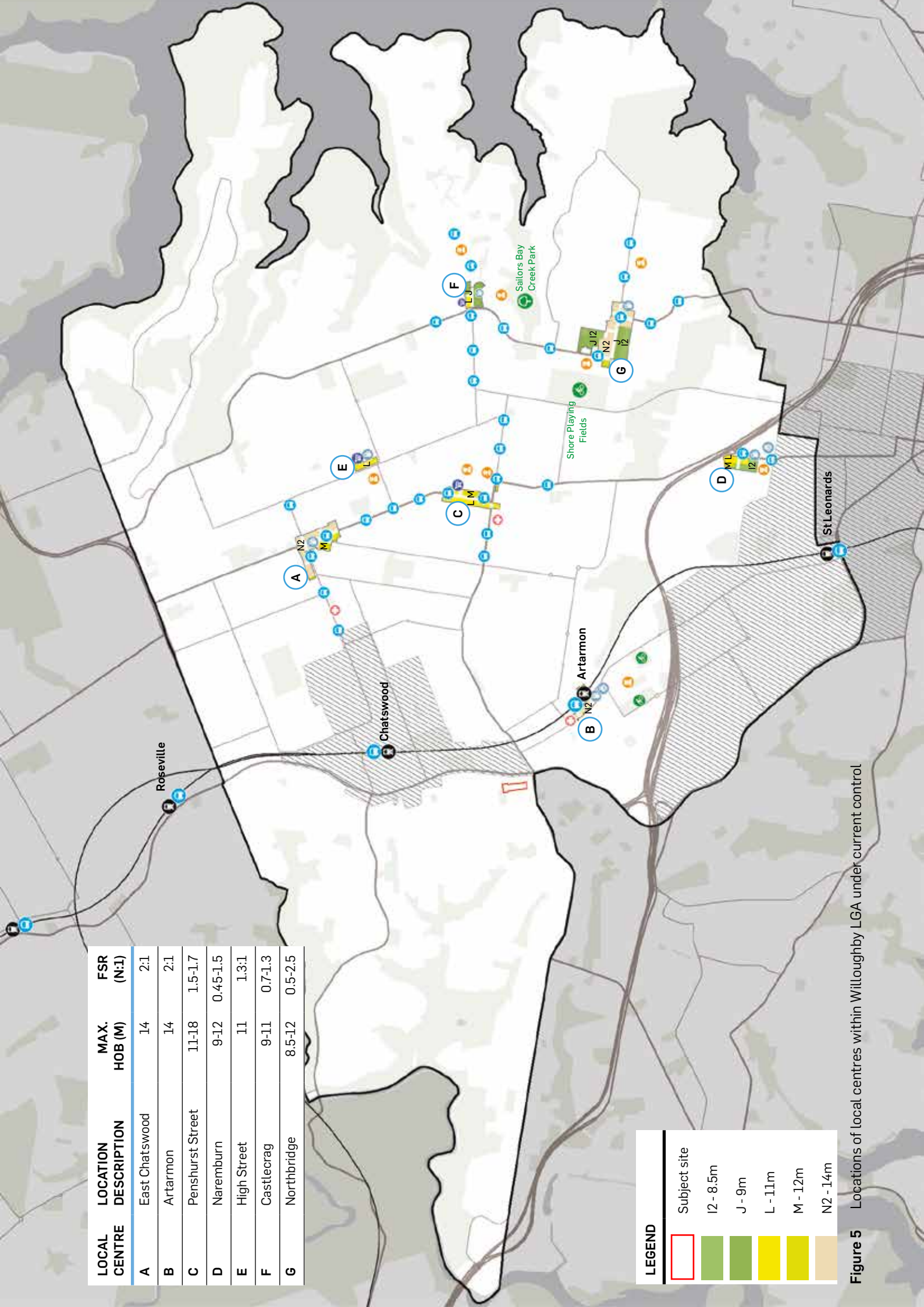


Figure 4 Locations of B5 zones within Willoughby LGA

LOCAL CENTRE	LOCATION DESCRIPTION	MAX. HOB (M)	FSR (N:1)
A	East Chatswood	14	2:1
B	Artarmon	14	2:1
C	Penshurst Street	11-18	1.5-1.7
D	Naremburn	9-12	0.45-1.5
E	High Street	11	1.3:1
F	Castlecrag	9-11	0.7-1.3
G	Northbridge	8.5-12	0.5-2.5



LEGEND

	Subject site
	I2 - 8.5m
	J - 9m
	L - 11m
	M - 12m
	N2 - 14m

Figure 5 Locations of local centres within Willoughby LGA under current control

4.0 SITE CONTEXT

Analysis of the built form within the local context of the site identifies the following buildings forms which provide some context to respond to. There are two sites immediately to the north and one site far to the south which have built form outcomes which are above the 2:1 FSR and 20m height in the local context being:

1. 5-7 Sutherland Road, Chatswood
2. 8-12 Sutherland Road, Chatswood
3. 421-473 Pacific Highway, Artarmon

*** Assumptions:**

- An estimated FSR is calculated by actual total residential units based on ADG assumption.
- An average of 85m² unit size is assumed for GFA calculation.
- The total GFA only includes residential and assumed no ground floor retail or commercial occur at the development sites.

Table 2 Built-up and existing planning control comparison

SITES	SITE AREA (M ²)	TOTAL UNIT #	PLANNING HOB (M)	BUILT-UP HOB STOREYS (APPROX M)	PLANNING FSR (N:1)	BUILT-UP FSR* (N:1)
1	2,205	40	12	8 (25m)	0.9	1.5
2	3,206	60	12	8 (25m)	0.9	1.6
3	11,200	173	RL138	16 (50m)	1.7	1.3

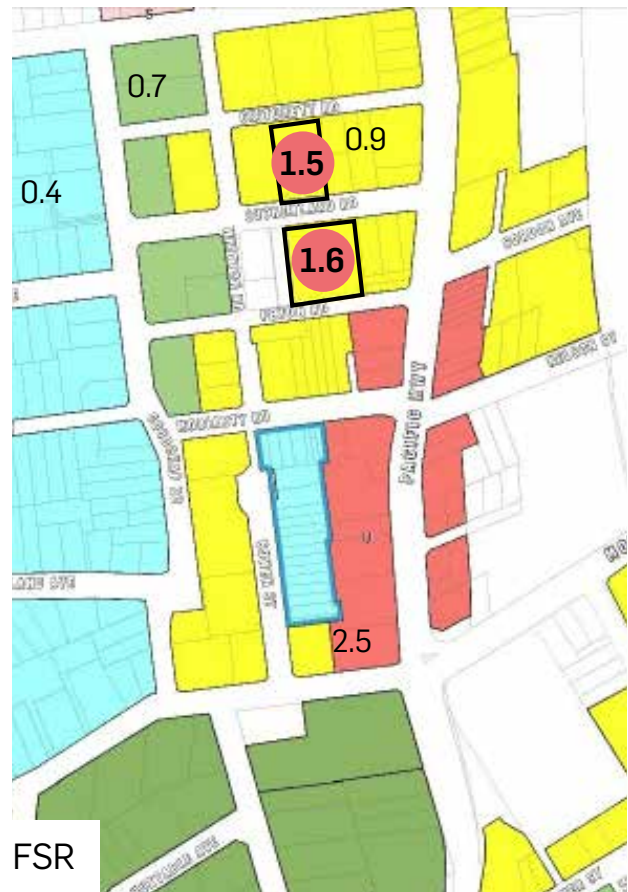


Figure 6 FSR Planning control for site 1 and 2



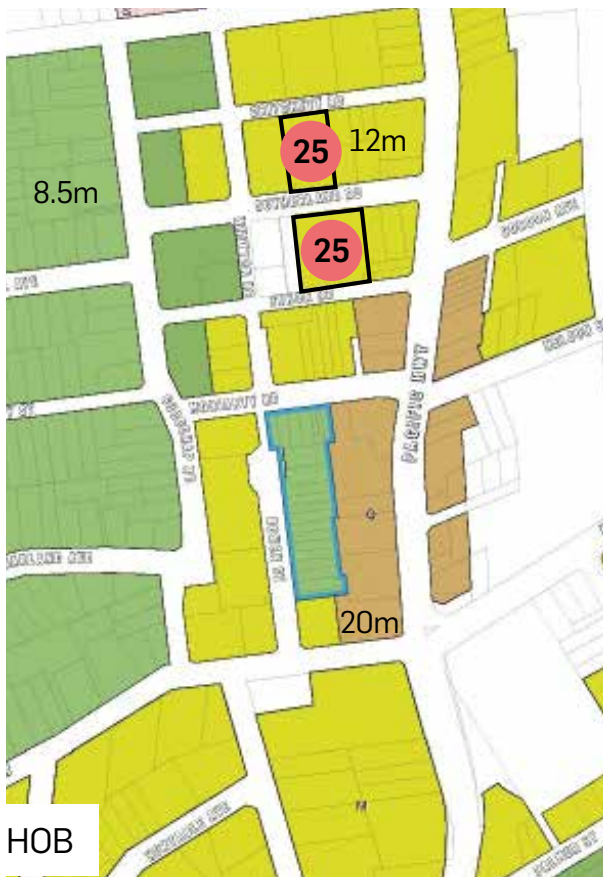


Figure 8 Building height planning control for site 1 and 2

8-12 Sutherland Rd

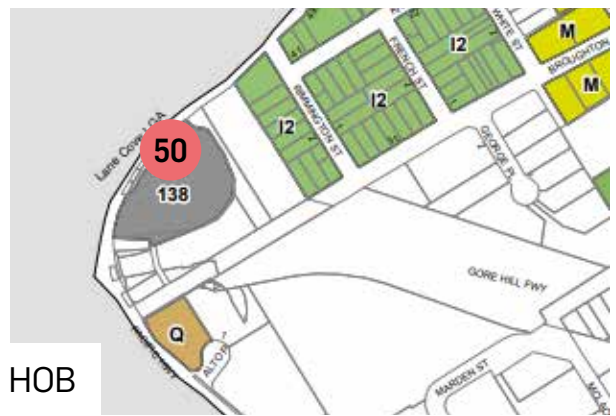
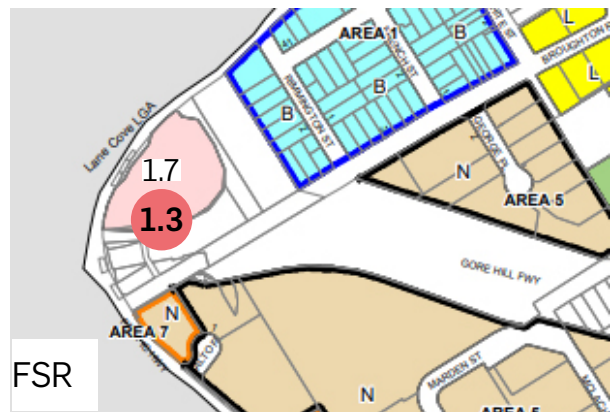


Figure 7 Planning control for site 3

421-473 Pacific Hwy



This plan describes each of the key constraints to increasing housing supply within an 800 metre catchment of Chatswood and Artarmon Stations, in terms of:

- Existing zoning
- Strata titled properties: Existing strata titled properties present a significant constraint to consolidated and coordinated delivery of new housing in the short to medium term - the site is not constrained by strata title.
- The site is one of the larger amalgamated sites in the area close to Chatswood CBD.
- Heritage Conservation: Heritage conservation areas make up large areas to the north, north east and south east of the 800m radius around Chatswood Trains Station and to the east, north east and south east of the Artarmon Train Station.
- Slope: Much of the land to the west of the Pacific Highway has slopes in excess of 10%, and a significant portion of this land has slopes that exceed 20%.

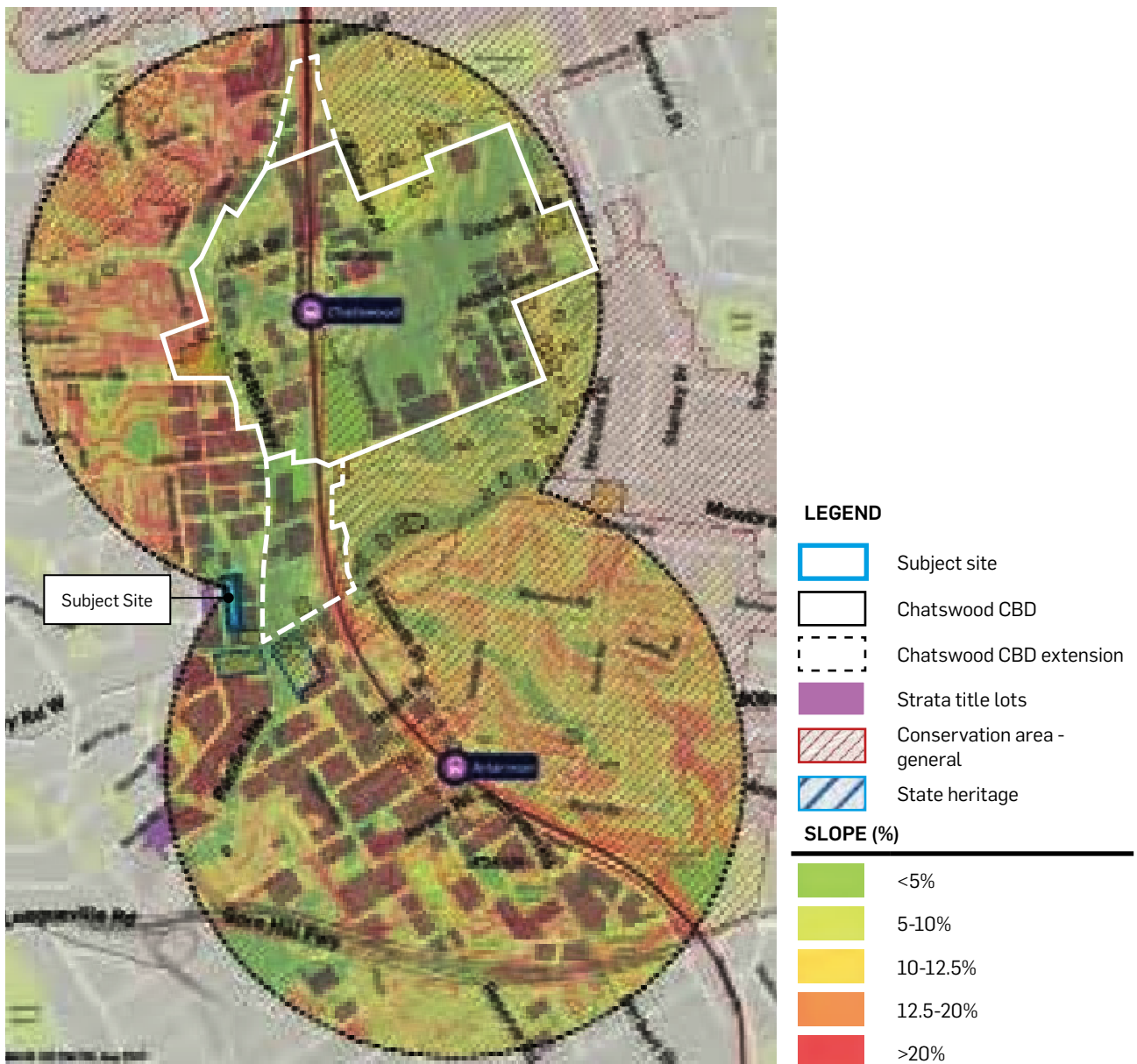


Figure 9 Consolidated Constraints (Adapted from: Chatswood CBD Planning and Urban Design Strategy)

- Topographically, the Pacific Highway is located on a ridgeline and is the highest point in Chatswood CBD. East of the Pacific Highway there is a gradual decline in topography within Chatswood CBD. West of the Pacific Highway there is a steep decline in topography.
- Bowen Street and Mowbray Road is also recognized as part of a ridgeline to the south.
- The subject site is along this ridge line on Bowen Street, providing opportunity for taller built form that falls along with the topography.

KEY FINDINGS:

- The subject site does not contain any strata titled properties and is a large amalgamated site.
- The subject site is not located within a Heritage Conservation Area. The site contains a local heritage item at 8-10 Moriarty Street.
- The subject site is located on land with slopes that are generally less than 4%.
- The site contains 22 individual lots that have been consolidated at a substantial cost. The amalgamation of these properties has the advantage of providing additional housing in a coordinated, rather than an incremental process.
- The large site allows for a master planned approach and the opportunity to provide greater housing choice for the local area in the short term (within 5 years).
- The future development of the site will help realise the site's potential and the streetscape of Bowen Street and Moriarty Road.

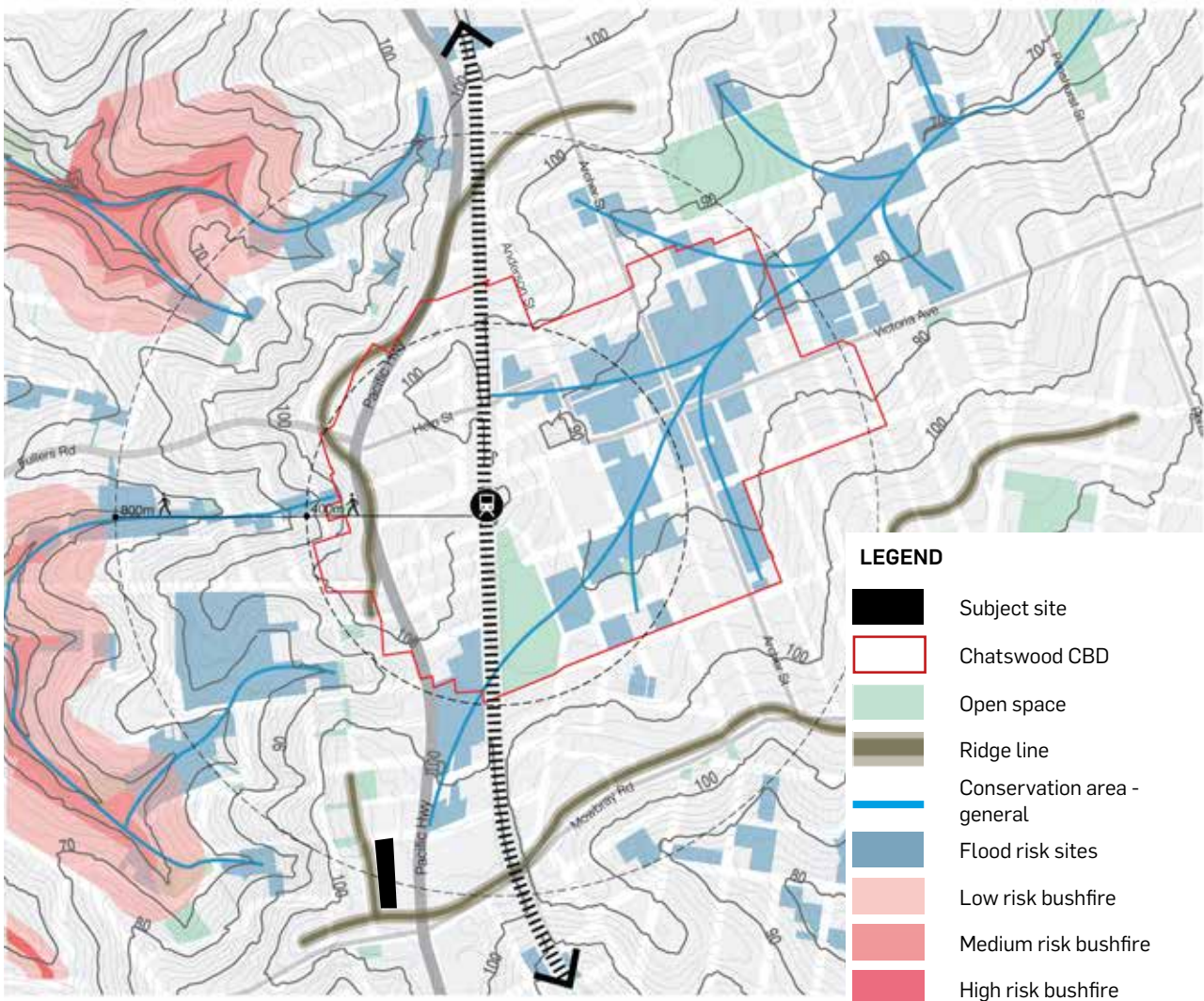


Figure 10 Environmental Analysis (Adapted from: Chatswood CBD Planning and Urban Design Strategy)

5.0 BUILT FORM REVIEW AND CONSIDERATIONS

A review was undertaken of the architectural scheme to identify potential additional urban design responses within the built form to local context based on Council feedback. This review was undertaken on the scheme provided to Council in January 2019.

CURRENT PROPOSAL OVERVIEW

The current proposal for Bowen Street is a residential development with two north-south oriented towers with following development summary:

Table 3 Current Proposal Development Yield

Total Site Area	6,716 m ²
TOTAL GFA	19,140 m ²
Proposed FSR	2.85:1
Max Height	9 storeys (30m)

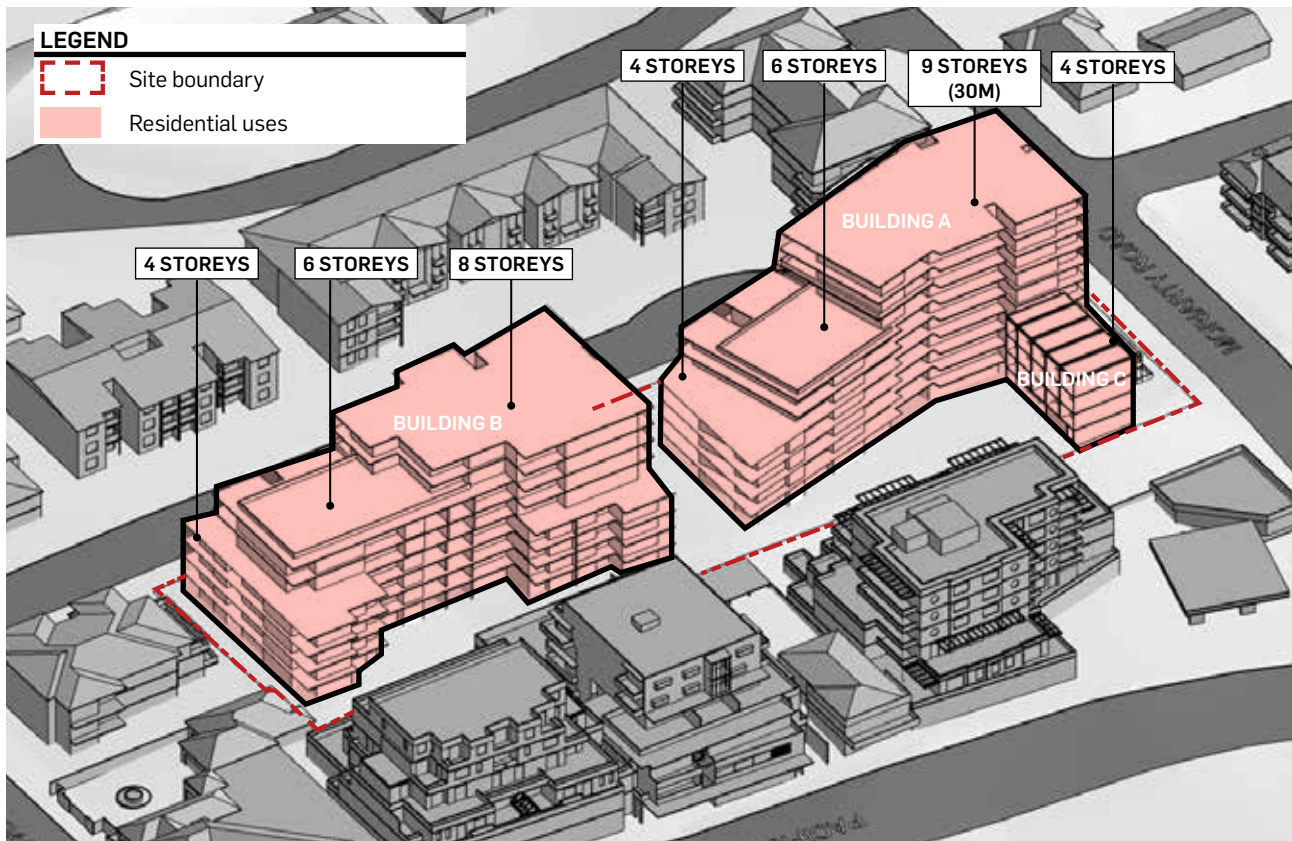
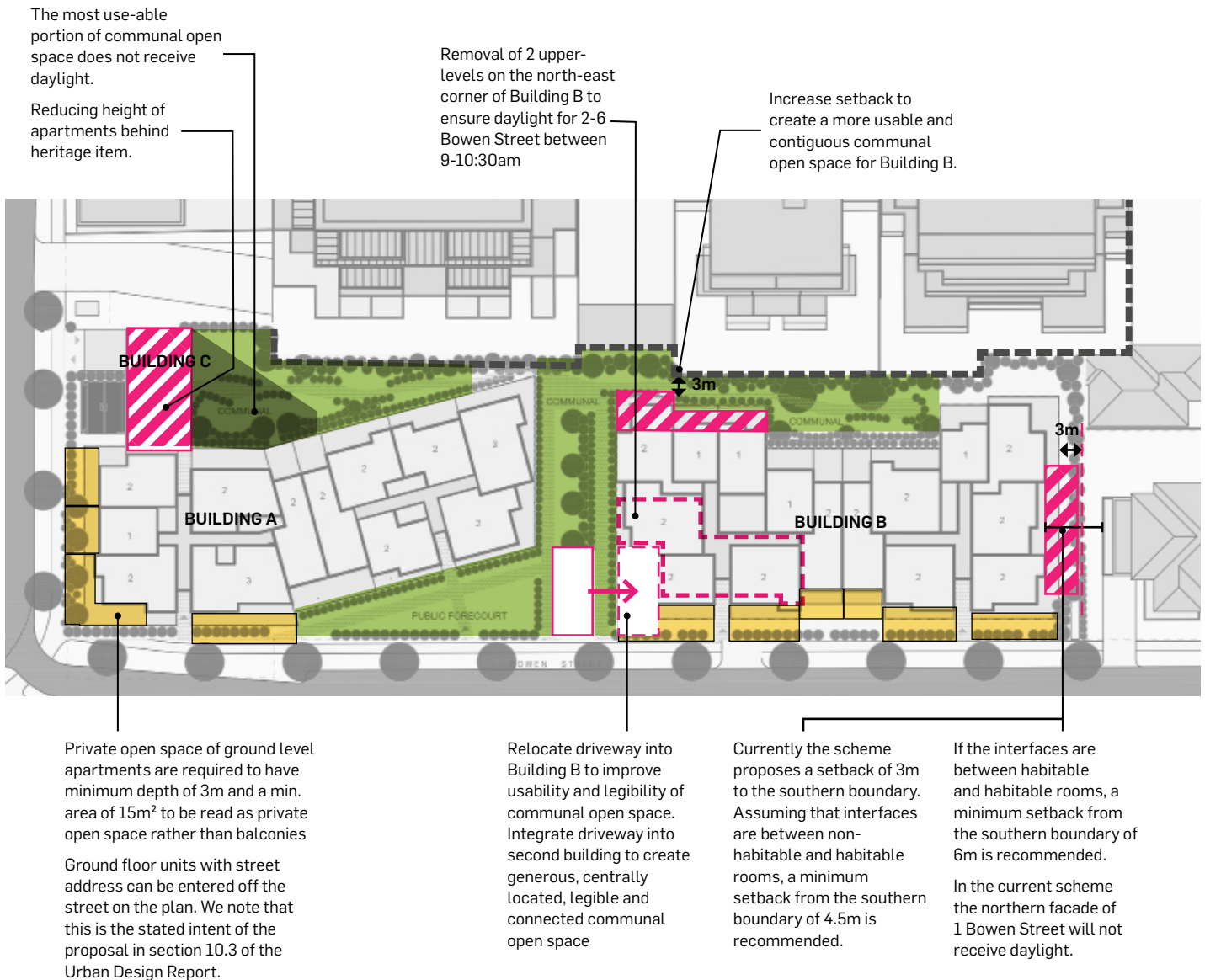


Figure 11 Current Scheme Built Form Composition

ARCHITECTURAL SCHEME REVIEW

Key opportunities to demonstrate to Council 'improved design outcomes' as considered by council comments includes:

- Create a generous, central, contiguous and connected communal open space by relocating the Bowen Street driveway into Building B;
- Improve the legibility and usability of ground floor communal open space for Building B at the rear boundary;
- Adjustments to massing to deliver better solar access to communal open space (both at ground and on roof) to Building A;
- Improve ground level private open space for ground floor apartments – ensure minimum depth, size, access and address for units fronting the street;
- Increase the setback for Building B to rear boundary at northern end to allow for usable communal open space;
- Increase the setback for Building B to southern boundary to ensure daylight access for 1 Bowen Street; and
- Removal of two levels on the north-east corner of Building B to ensure daylight for 2-6 Bowen Street.








CURRENT PROPOSAL COMMUNAL OPEN SPACE (COS) AND DEEP SOIL ZONE (DSZ) PROVISION

The following table and figure summarise the communal open space and deep soil zone provision of current proposal.

Table 4 Current Proposal COS and DSZ Provision

Total Site Area	6,716 m²
Ground Floor COS	1,722 m ²
Rooftop COS	722 m ²
Total COS	2,444 m²
Usable Ground Floor COS GF	1,543 m ²
Usable Rooftop COS	722 m ²
Total Usable COS	2,265 m² (34%)
Deep Soil Zone (6m min. width)	1,030 m ² (15%)

LEGEND

-  Site boundary
-  Ground level communal open space
-  Ground level usable communal open space
-  Deep soil zone
-  Rooftop communal open space

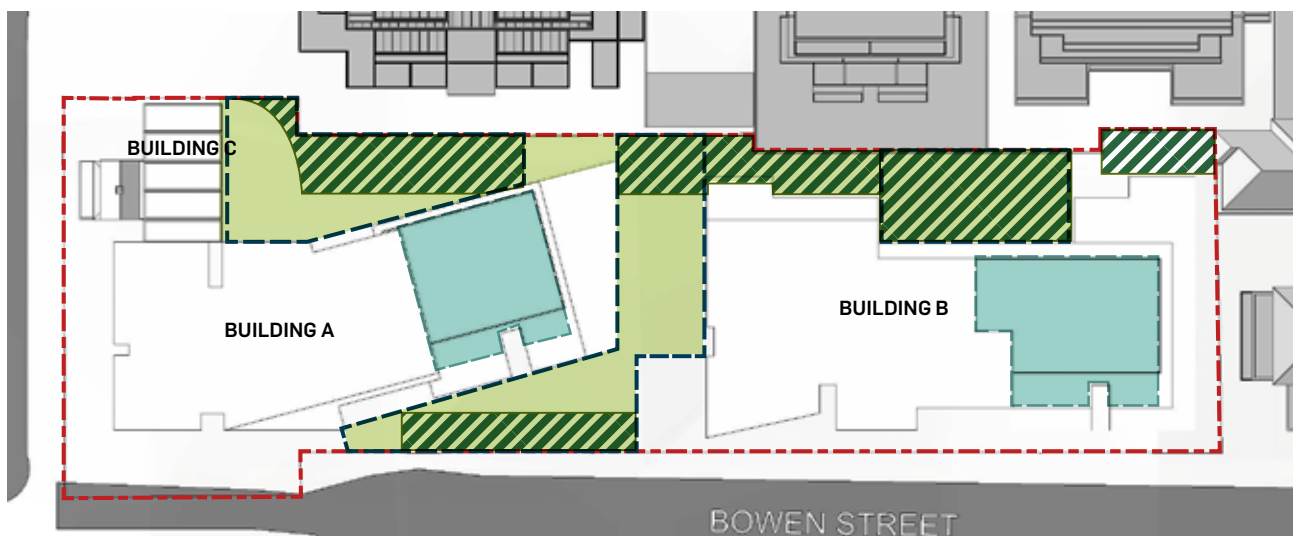


Figure 12 Current proposal communal open space and deep soil zone provision









CURRENT PROPOSAL SHADOW IMPACT ANALYSIS

The following study summarise the solar access analysis on usable communal open space of the current proposal built form.

Table 5 Current Proposal shadow impact analysis

Total Usable COS	2,265 m²
GF COS < 2hrs sunlight	568 m ²
Rooftop COS <2hrs sunlight	301m ²
Total Usable COS >2hrs sunlight	1,396m² (62%)

LEGEND

-  Site boundary
-  Ground level communal open space
-  Ground level usable communal open space
-  Deep soil zone
-  Rooftop communal open space
-  Current proposal area receives <2hrs sunlight

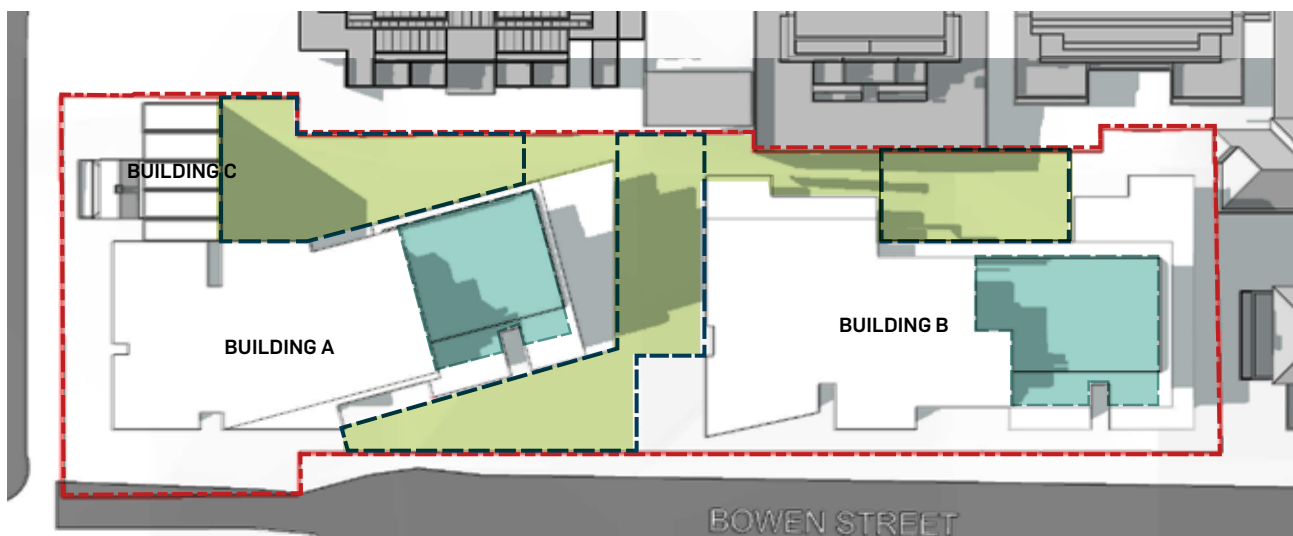


Figure 13 Current proposal communal open space solar access analysis

6.0 RECOMMENDATIONS

The recommended scheme incorporates the opportunities for improvement and design principles identified in the architectural scheme review. This includes:

- a. A reduced Building C height by one storey to improve communal open space solar access to the south of the building;
- b. Reduced corner part of Building B height by two storeys to maintain daylight access for 2-6 Bowen Street;
- c. Reduce the built form of Building B to provide more usable communal open space at the ground level;
- d. Reduced part of Building B height by one storey to reduce shadow impact to 1 Bowen Street. The upper level on 1 Bowen Street now has daylight access.
- e. Increased building setback by 3m (totalling 6m from the boundary) to the adjoining southern site to increase building separation to 1 Bowen Street; and
- f. Relocated current driveway within Building B to maximise usable communal open space and solar access to this area.

The following table and diagram summarise the development yield and built form configuration of recommended scheme.

Table 6 Recommended Scheme Development Summary

Total Site Area	6,716 m ²
Total GFA	16,714 m ²
Proposed FSR	2.5:1
Max Height	9 storeys (30m)
Building A	4-9 storeys
Building B	3-8 storeys
Building C	3 storeys

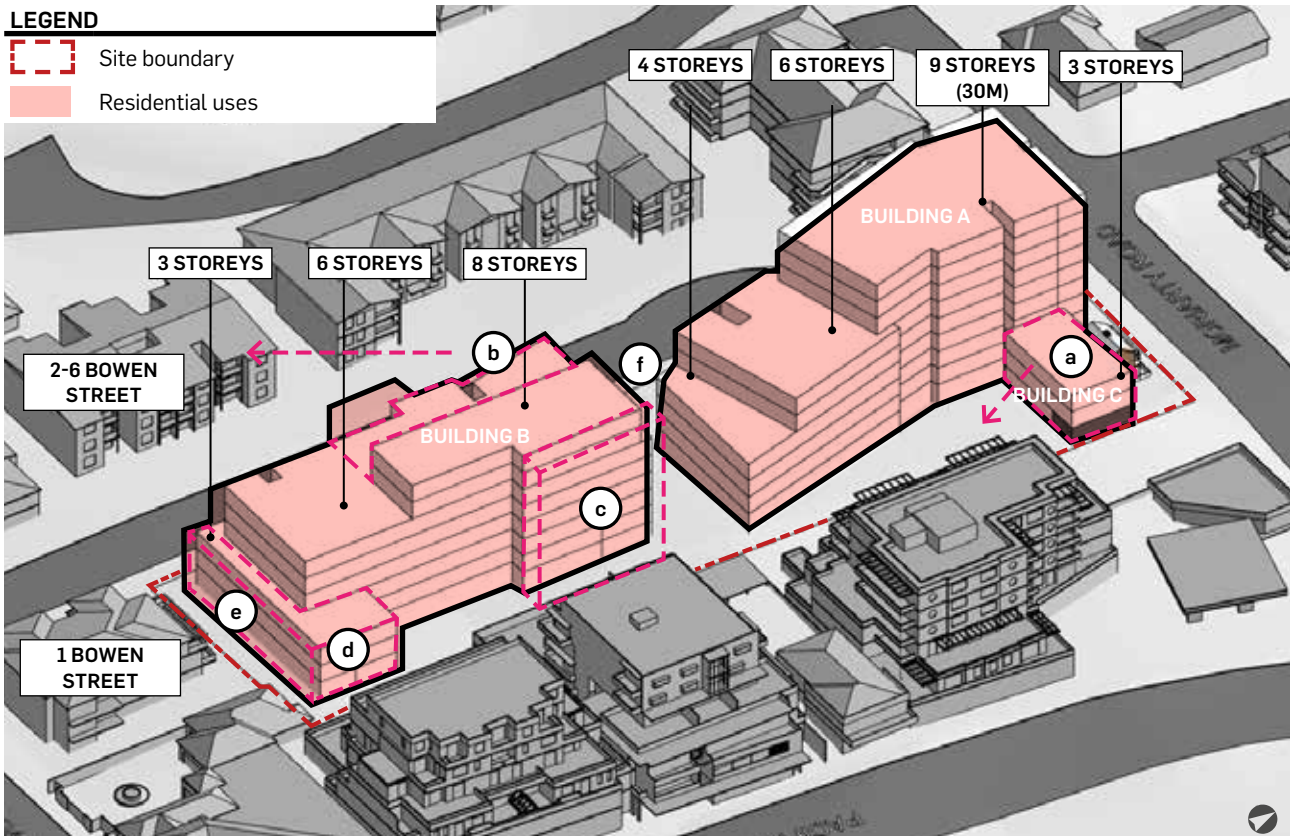


Figure 14 Recommended Built Form Composition

COMMUNAL OPEN SPACE (COS) AND DEEP SOIL ZONE (DSZ) PROVISION

The following table and figure summarise the communal open space and deep soil zone provision of the recommended scheme.







Table 7 Recommended Scheme COS and DSZ Provision

Total Site Area	6,716 m²
Ground Floor COS	2,001 m ²
Rooftop COS	722 m ²
Total COS	2,722 m²
Usable Ground Floor COS GF	1,543 m ²
Usable Rooftop COS	722 m ²
Total Usable COS	2,543 m² (38%)
Deep Soil Zone (6m min. width)	1,030 m ² (15%)

+4%

INCREASE IN USABLE COMMUNAL OPEN SPACE FROM CURRENT PROPOSAL

LEGEND

-  Site boundary
-  Ground level communal open space
-  Ground level usable communal open space
-  Deep soil zone
-  Rooftop communal open space
-  Recommended amendment

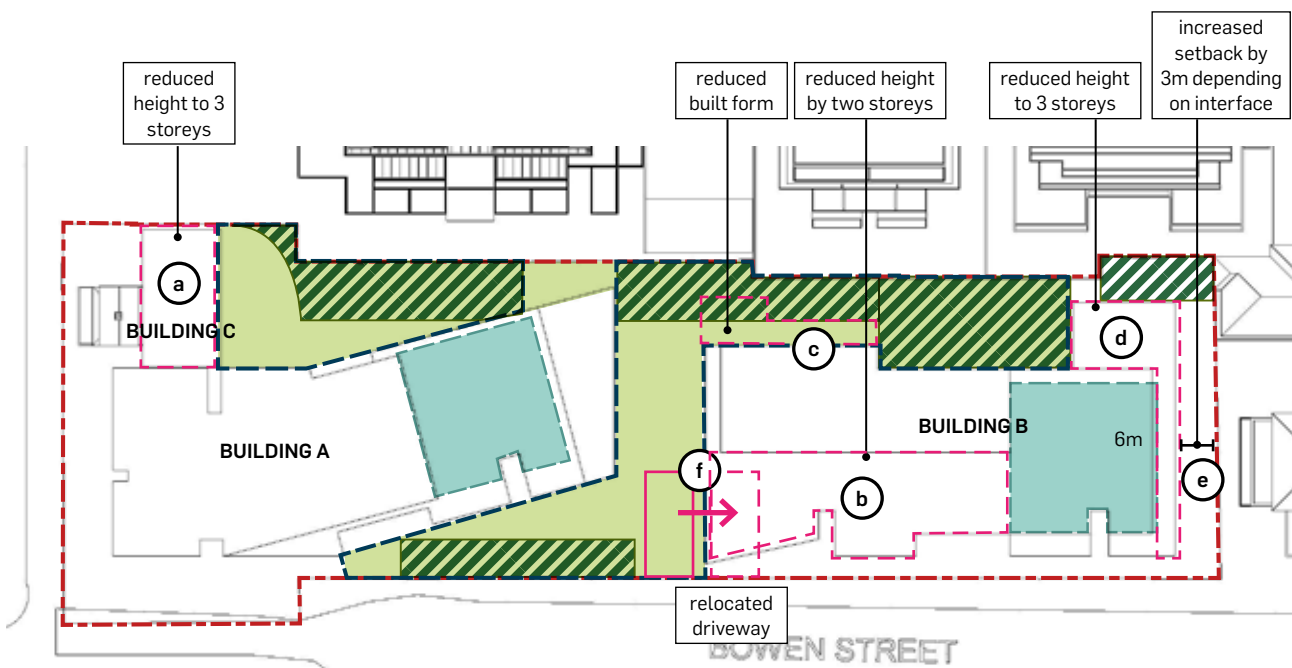


Figure 15 Recommended scheme communal open space and deep soil zone provision

1:1,000 @ A4

0 10 20 30 40 50

SHADOW IMPACT ANALYSIS

The following study summarise the solar access analysis on usable communal open space comparing the current proposal to the recommended scheme.

Table 8 Recommended Scheme shadow impact analysis

Total Usable COS	2,543 m²
GF COS < 2hrs sunlight	496 m ²
Rooftop COS <2hrs sunlight	276m ²
Total COS >2hrs sunlight	1,771m² (70%)

+8%

INCREASE IN USABLE COMMUNAL OPEN SPACE RECEIVES MIN. 2 HOURS SOLAR ACCESS FROM 9AM-3PM FROM CURRENT PROPOSAL

LEGEND

-  Site boundary
-  Ground level communal open space
-  Ground level usable communal open space
-  Rooftop communal open space
-  Additional opportunity for rooftop communal open space (not included in count)
-  Recommended scheme area receives <1hrs sunlight
-  Recommended scheme area receives <2hrs sunlight
-  Additional area receiving greater than 2hrs solar access as a result of recommended scheme.

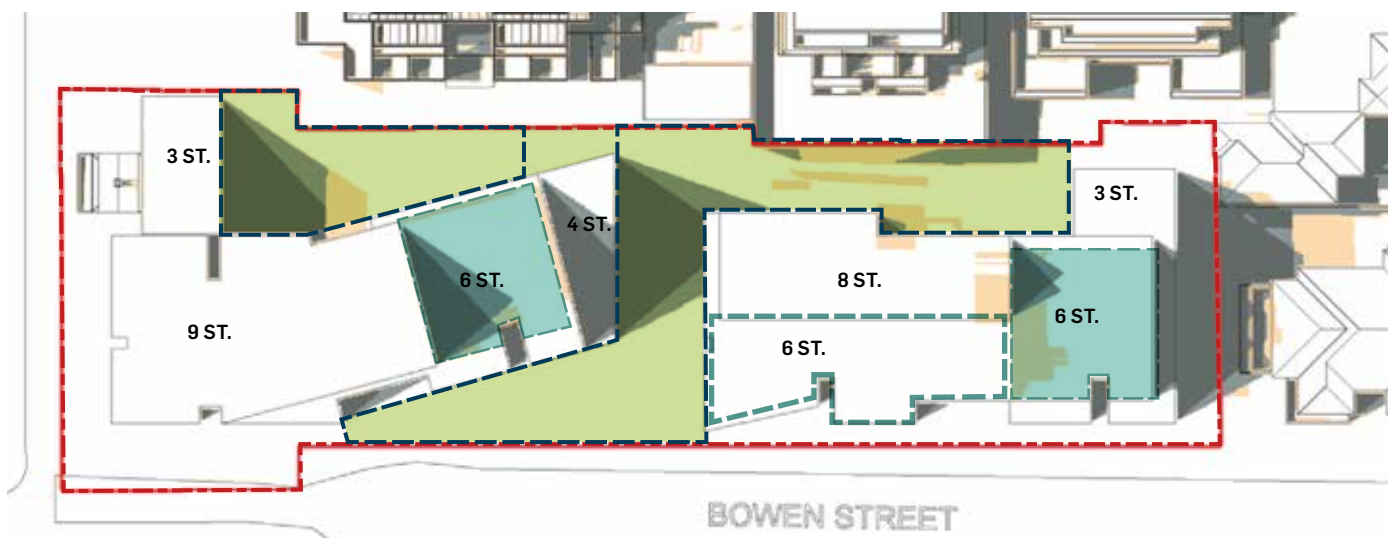


Figure 16 Recommended scheme communal open space solar access analysis

1:1,000 @ A4



7.0 CONCLUSION

This Urban Design Peer Review of the Planning Proposal at Bowen Street, Chatswood has identified that the proposed LEP controls of R4 zone, 2.5:1 FSR and 30m maximum building height are supportable on the site. This position has been informed by the following analysis and key findings:

1. The site meets the criteria for two of the three focus areas identified for accommodating housing growth as outlined in the draft Willoughby Council Housing Strategy being:
 - The site is zoned R2 but is surrounded by R3 and immediately adjacent to B5 zoned land. Council have indicated that they are supportive of an R4 zoning.
 - The B5 land adjacent to the site is identified as a having capacity for housing growth but was not investigated in detail as one of the 7 local centres identified.
2. The locational attributes of the site means it has better accessibility than some of the other 7 local centres. This includes:
 - It is located 10 minutes walk from Chatswood CBD.
 - It's location immediately adjacent to the major bus transport arterial of the Pacific Highway and within 10 minutes walk to two railway stations - Chatswood and Artarmon - means it is better connected as a 'centre' to major employment and educational hubs such as Macquarie Park, North Sydney and Sydney CBD.
 - It has good access to local services and amenities within a 10 minute walk to existing educational, transport, health, social, cultural and employment services. Whilst not within a 5-minute walk (400m), a walking distance of 10 minutes is acceptable.
3. The proposed built form controls for the site sit within the existing range of built form controls for R4 land in the LEP.
4. The resulting built form outcomes are in keeping with the local context including:
 - The site is a large amalgamated site- unimpeded by ownership constraints, unlike the surrounding context of strata buildings.
 - The site consists of 22 individual lots that have been consolidated at a substantial cost. The amalgamation of these properties has the advantage of providing additional housing in a coordinated, rather than an incremental process.
 - The large site allows for a master planned approach and the opportunity to provide greater housing

choice for the local area in the short term (within 5 years).

- The site adjoins B4 land within the same urban block which allows for 100% site cover for the podium. The existing conditions of some of the common boundaries already are built to boundary for the podium. Thus a R4 zone with a 2.5:1 FSR for the site provides an appropriate transition within the urban block.
 - There are two existing buildings to the north of the site which provide variation in built form heights up to 25m.
5. The existing proposal already incorporates a number of design outcomes on the site which demonstrate a contextual and place based outcome including:
 - The subject site is not located within a Heritage Conservation Area. The site contains a local heritage item at 8-10 Moriarty Street, is retaining this and incorporating it into the proposal.
 - A recessed built form along the street length to break up the building facade along the street and provide a generous communal green space on the street frontage.
 - Modulated building heights and massing to provide visual interest and respond to potential shadow impacts.
 - Good solar access to communal open space on the ground-floor and roof levels.
 6. A Peer Review of the previous scheme has identified a number of opportunities to deliver improved design outcomes whilst achieving an FSR of 2.5:1 including:
 - Built form which complies with the ADG setbacks and privacy requirements.
 - Relocation of the driveway to increased usable communal open space and its solar access.
 - Providing private open space and direct access from the street for ground-floor units that have street address.
 - Ensure existing daylight access for 2-6 Bowen Street.

