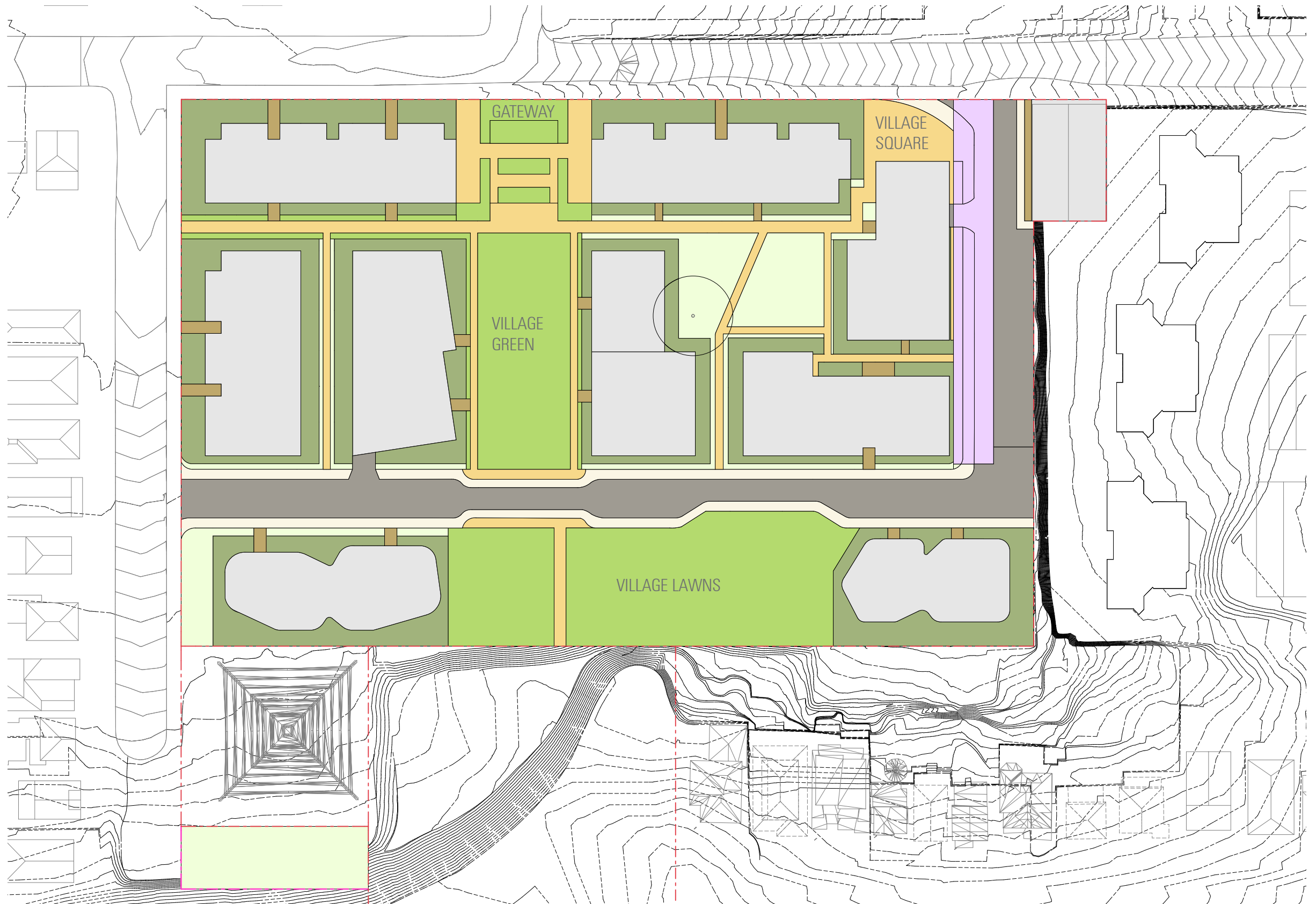


3.1 CAD CALCULATIONS CURRENT MODIFICATION AREAS

Modification 2 has been amended to exclude any Willoughby Council owned land on Scott St. When compared to the **approved** public open space of the "Nine Network Reserve" this RTS scheme provides an increase of 141% in public open space. It is also worth noting that the proposed soft landscaped areas have increased by 3% compared to the approved scheme. The building footprints have only increased by 109m² from the approved scheme.

	Land Owned by Willoughby Council on Scott St (road and road reserve). Not included in the site areas. (919.9m ²)
	PUBLIC OPEN SPACE - SOFT 5129m ²
	PUBLIC OPEN SPACE - HARD 2306m ²
	FOOTPATHS 1126m ²
	ROAD 2681m ²
	BUILDING FOOTPRINT 10430m ²
	COMMUNAL OPEN SPACE - SOFT 2529m ²
	COMMUNAL OPEN SPACE - HARD 417m ²
	PRIVATE GARDENS 5106m ²



3.1 AREA SCHEDULE UPDATED

This schedule clarifies the areas from each of the diagrams in one collated table.

Approved Scheme - correct approved areas of public open space.
Proposed Scheme - new areas for this modification 2 due to the change in communal open space.

AREA	APPROVED SCHEME	PROPOSED SCHEME (CURRENT MODIFICATION)	PROPOSED VERSE APPROVED	Notes
Site Area m2	30644	29724.1		(30644 if Willoughby Council land on Scott St was included. 29724.1 without council Scott St land)
Public Open Space Soft	3040	5129		Significant increase
Public Open Space Hard	138	2306		Increase due to Village Sq and Through site link
Total Public Open Space	3178	7435		Significant increase
% Total Public Open Space over site area	10%	25%	141%	Significant increase, in excess of apartment increase
Footpath	2307	1126		Reduction with simplified Road.
Roadway	4091	2681		Reduction with simplified Road.
Building Footprint	10321	10430		Minimal increase in building footprint
Communal Open Space Soft	6178	2529		Communal open space made into public open space
Communal Open Space Hard	961	417		Communal open space made into public open space
Total Communal Open Space	7139	2947		Communal open space made into public open space
% Total Communal Open Space over site area	23%	10%	-57%	Communal open space made into public open space
Private Open Space	3608	5106		
% Private Open Space over site area	12%	17%	46%	Significant increase in private open space
Soft Landscaping Comparison (public soft + communal soft + private open space)	12826	12764		
% Soft Landscaping over site area	42%	43%	3%	Increase in soft landscaping areas over site area
Total (Site Area)	30644	29724		

3.1 DEEP SOIL

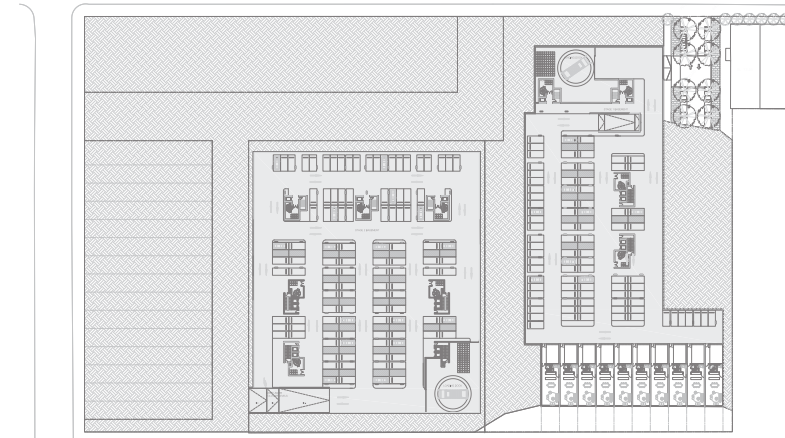
The following diagram demonstrates the intent of maximising deep soil across the site. With basements largely focused under the building footprints, significant large areas of deep soil can be provided with the primary public open spaces.

The ADG specifies that these areas are free of structures, basements, services, pools, tennis courts, driveways and impervious surfaces. The minimum requirement for a site this size is 7% and minimum dimensions of 6m. It recommends for larger sites that 15% may be possible. Based on the areas provided this site is providing 17% deep soil with the areas noted in pink. Additional deep soil is expected in other locations across the site.

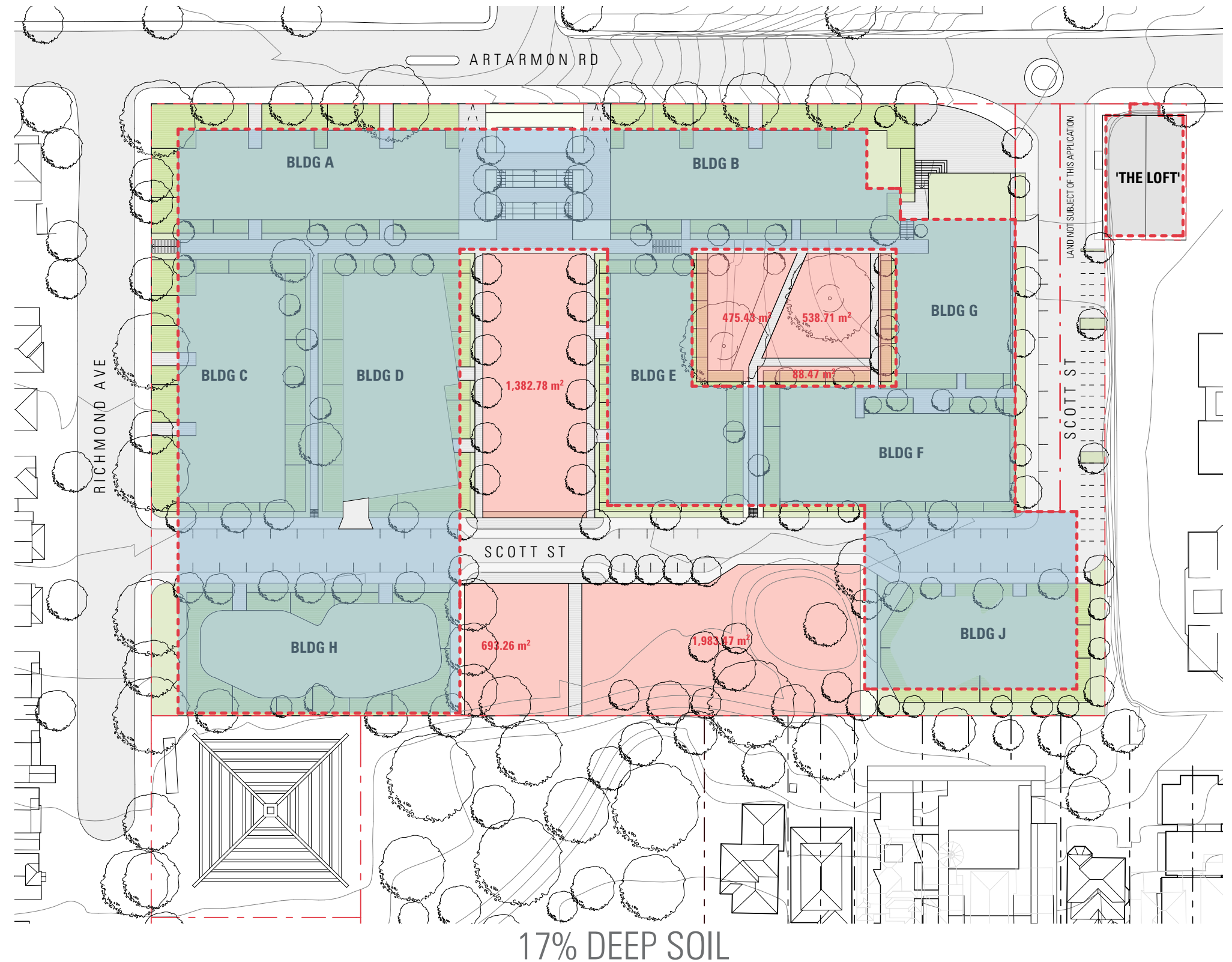
5162.12m² Deep Soil = 17%

Basement locations

an - Basement & Parking



Approved basement



3.2 COMMUNAL AND PUBLIC OPEN SPACE DETAILS

DEPARTMENT ITEM 3.2:

“Further additional information is required to demonstrate how the proposed public and communal open spaces will be delineated, with the provision of equitable access, hard and soft landscaping, clearly visible and safe pedestrian access points, way finding, commercial facilities (non-residential floor space) or other public infrastructure.”

A key concept of the masterplan are clearly legible and easily accessible public and communal open spaces throughout the site. Importantly, whilst the masterplan establishes strong design fundamentals, the detailed execution will be the subject of assessment as part of future detailed applications for development.

The arrangement of the public spaces are designed to address Artarmon Road and provide wide open frontages to the surrounding neighbourhood. The Village Green is conceptualised as an extension of Edward St which help to clearly identify these spaces as for public use. The communal open space is framed by 4 buildings with connections to each of the public open spaces. The more sheltered character of this area is further enhanced by keeping the established Tree 32 within this courtyard.

All areas are visible through clear sight lines from multiple areas on the ground as well as from the apartments, achieving high levels of security through passive surveillance. Wide spaces with multiple access points, no hidden corners or cul de sacs further add to the inherent security designed into the masterplan.

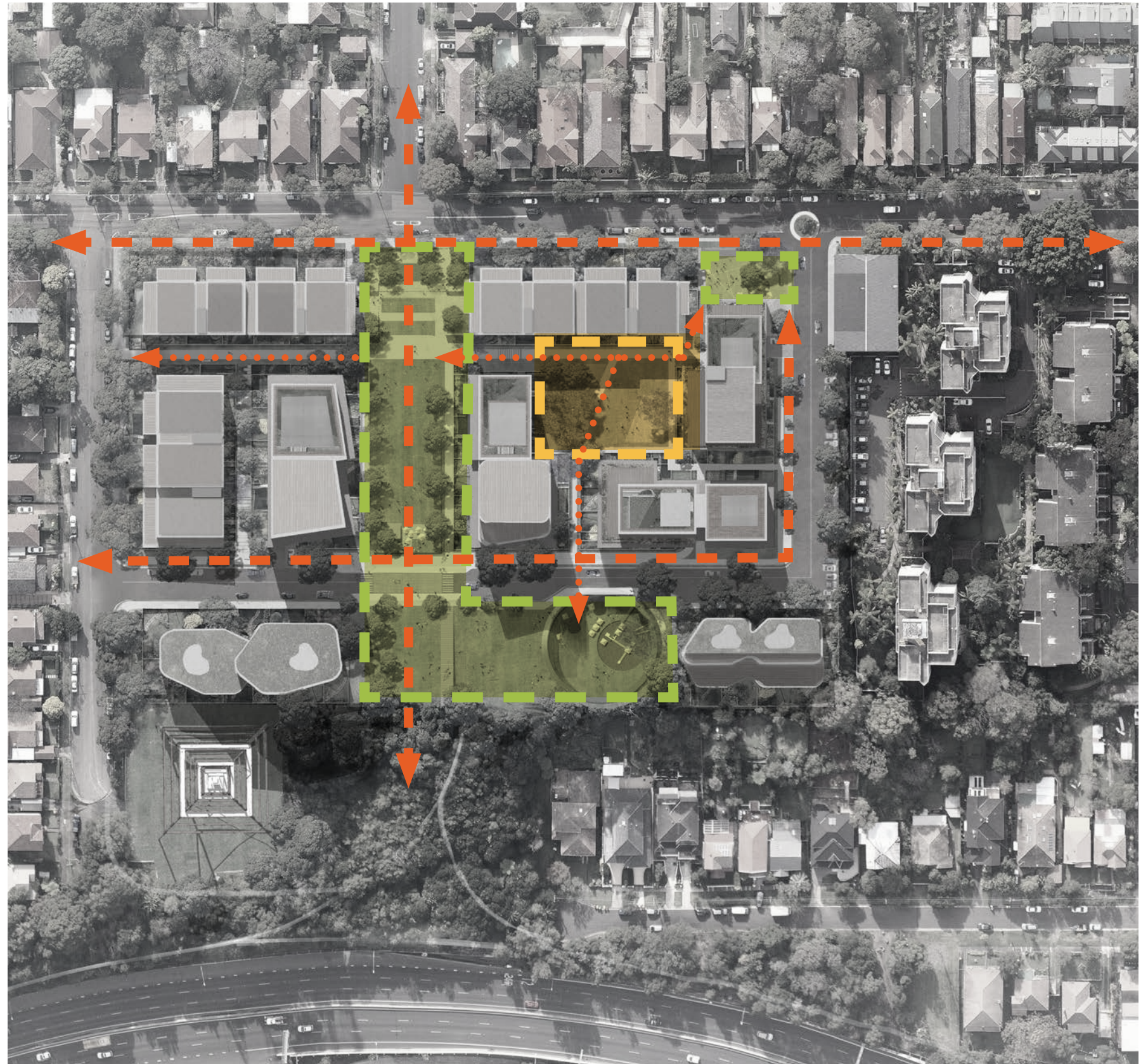
The masterplan is designed to provide strong permeability in all directions with a series of hierarchical connections.

The Village Green as a continuation of Edward Street and the extended Scott Street form the primary spines through which the site is accessed. Both of these linkages are designed to be equally accessible and offer barrier free access to secondary spaces.

The landscape is conceptualised with a focus on clear pathways and supports the logical delineation of the open spaces. A more detailed landscape design in the following stages will emphasise substantially sized deep soil, as well as implement clear way finding strategies through overall design and signage.

A large playground at the southern part of the site will enhance the livability not only for the residents of this site but are also offered to the wider neighbourhood.

Commercial facilities have been grouped together at the intersection of Artarmon Rd and Scott St to form the Village Square. This space is accessed off Scott St but retains a strong visual connections to the entire corner, thus providing an inviting break along Artarmon Rd and forming a key entry point to the site. The following page provides further detail on the Village Square and Scott Street.



3.2 LEGIBILITY OF PUBLIC OPEN SPACE AND SITE LINKAGES

SCOTT STREET

Scott St has been designed to create a suburban block in keeping with the size of the surrounding neighbourhood. The street, as in the rest of the community, is a clearly legible public space that cuts through the site.

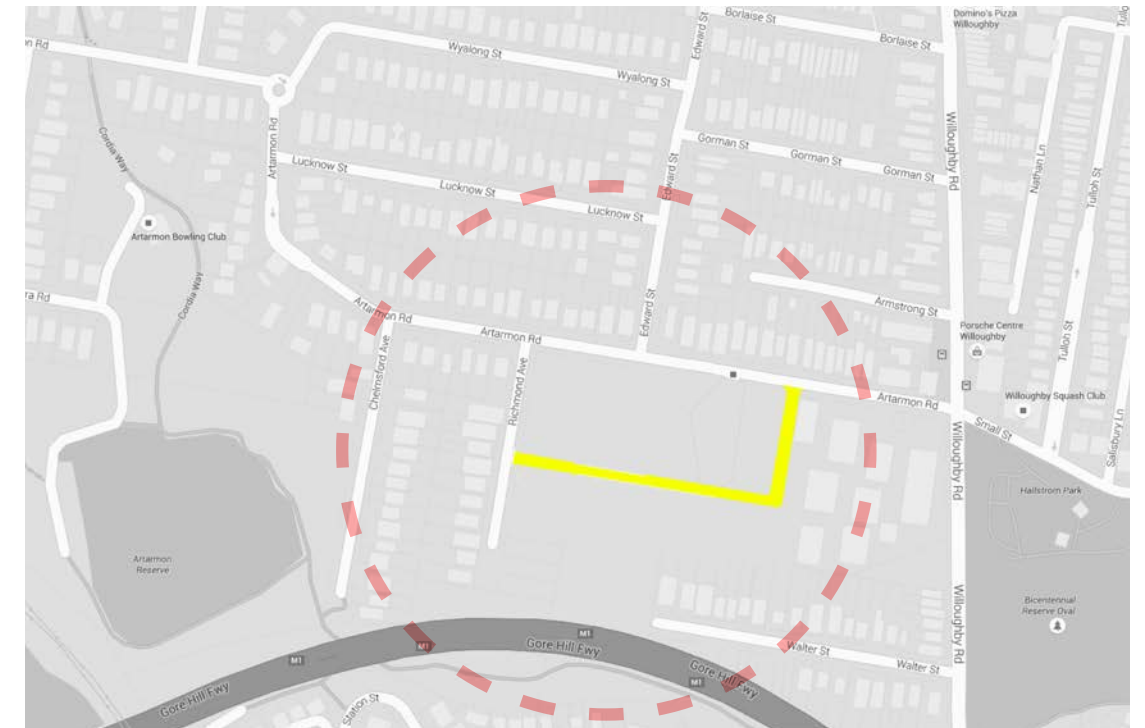
This masterplan has avoided dead ends or cul-de-sac which can be uninviting to the wider public. The proposed loop road creates clear sight lines across the site, (which align to desire lines) and create safe, legible connections.

The typology of a street is easily recognisable for the public. The language of footpath, road, trees and curb will be the focus of a strong public connection for pedestrians and cars through the site. Future design consideration will be given to ensure the street is a similar character and materiality to the surrounding area.

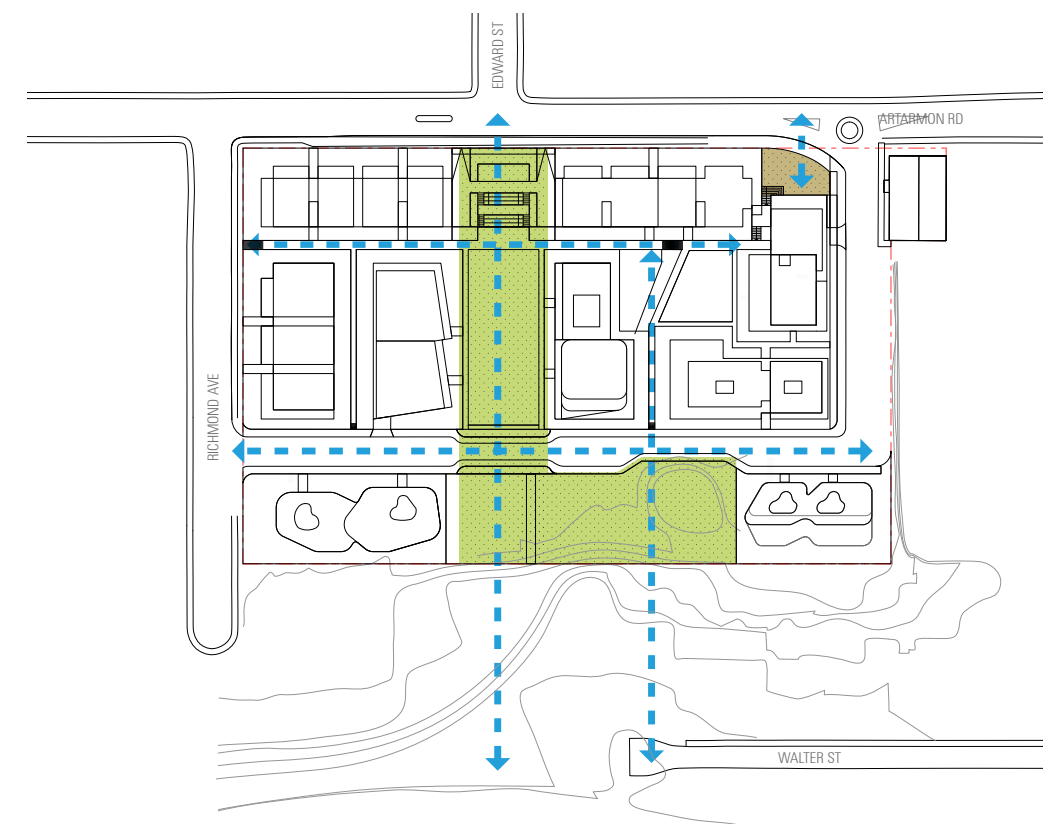
Scott Street, Artarmon Rd and Richmond Ave provide a public frontage to all buildings in the development, whilst additional through site links have also been considered for pedestrians.

In the proposed scheme attention has been paid to creating visual links between public spaces and providing attractors such as the parks or playground to act as inviting incentives to enter the whole site.

The significant level changes across the site offer both opportunities for good views, yet also are a challenge for pedestrians crossing the site. Due to the existing natural ground level changes, it is anticipated that Scott Street and Artarmon Rd will be the main pedestrian routes as these roads slope with the land form. The proposed Scott St in particular is more level than Artarmon Rd or the new public through site link.



A consistent street grid for the area.

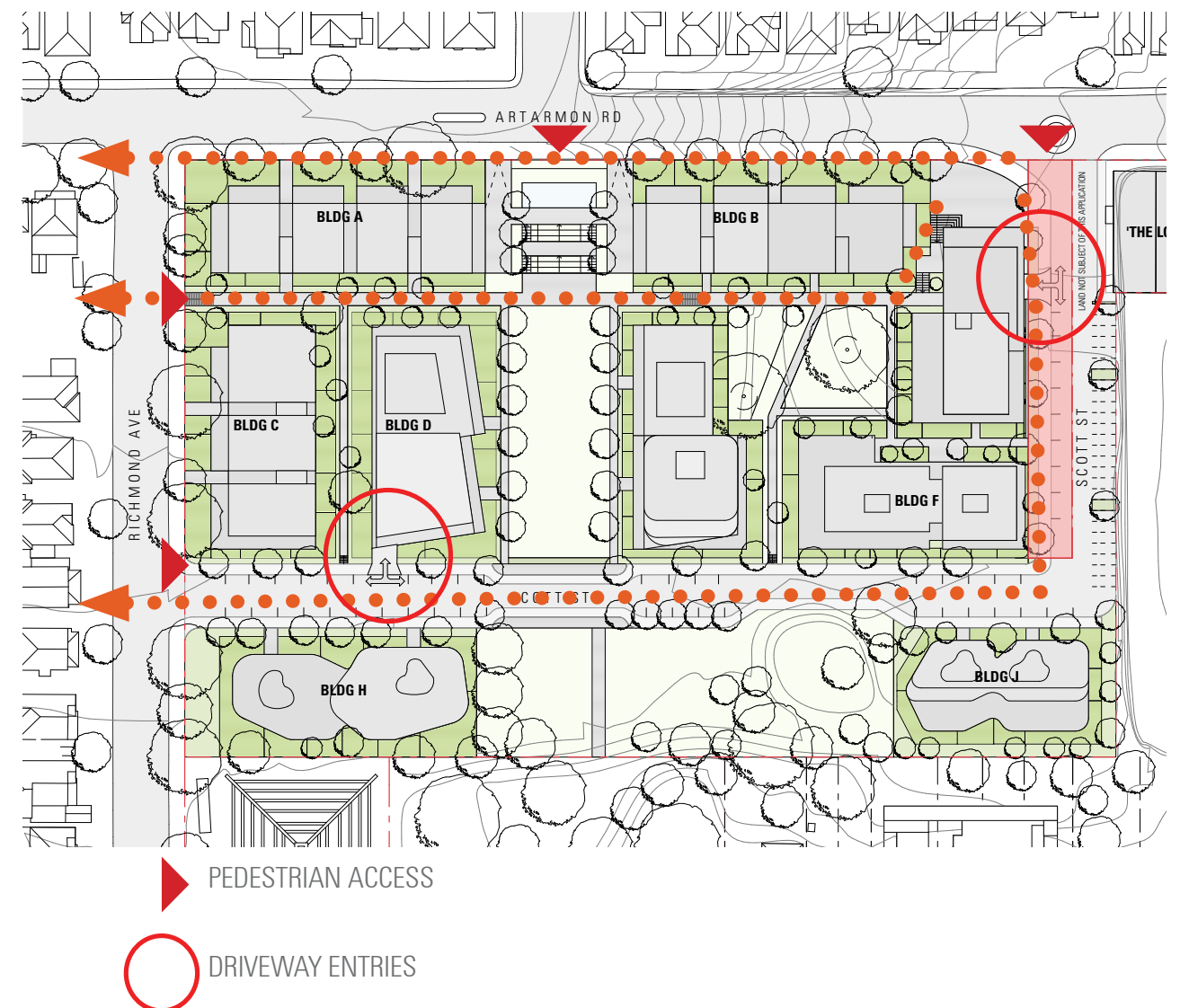


3.2 CLEAR AND SAFE PEDESTRIAN LINKS AND ACCESS POINTS

The following clearly visible and safe pedestrian access points and site linkages have been created across the site:

- Access points to the site are celebrated with generous scale and are aligned to strong site lines. On Artarmon Road site access is through 'The Gateway' and Scott Street. On Richmond Rd the main access is along Scott St with secondary pedestrian access between building A and C.
- Village Square has a new generous public stair which creates an inviting pedestrian link with clear site lines up to tree 32 and the Village Green beyond.
- The driveways are located within building footprints to allow for pedestrian connections between buildings
- The through site link behind building A and B is proposed to include a 3m wide footpath, with 1.5m of public open space for planting on either side of the path. This is a total of 6m for the public through link.

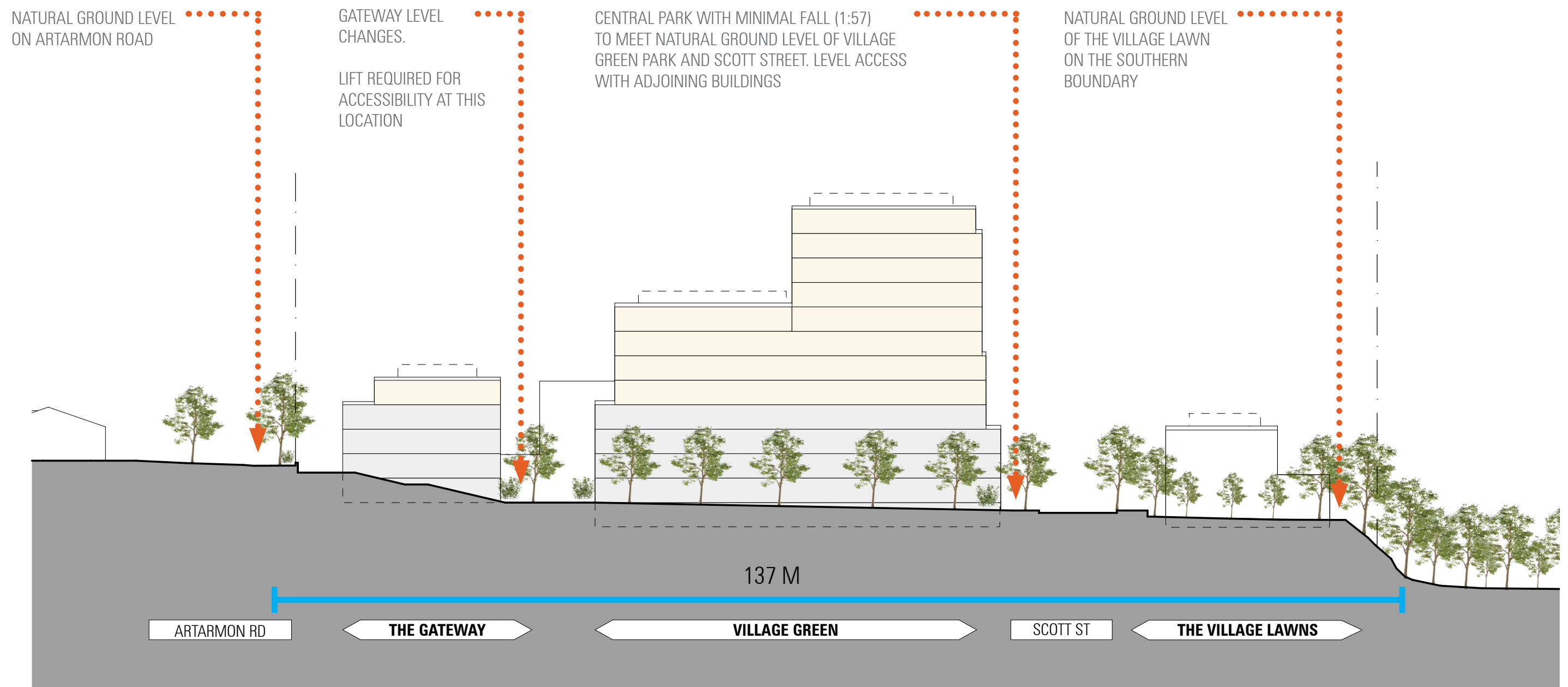
CURRENT MODIFICATION 2
- DRIVEWAYS LOCATED ON
SCOTT ST, PUBLIC THROUGH
SITE LINKS STRENGTHENED



3.2 PUBLIC OPEN SPACE, WAY-FINDING AND EQUITABLE ACCESS

THE CENTRAL VILLAGE GREEN AND LAWNS

Public access through the site needs to also address the steep level changes in the existing topography. The following section explains the level changes and access through the central village green and lawns from Artarmon Road to the southern boundary.



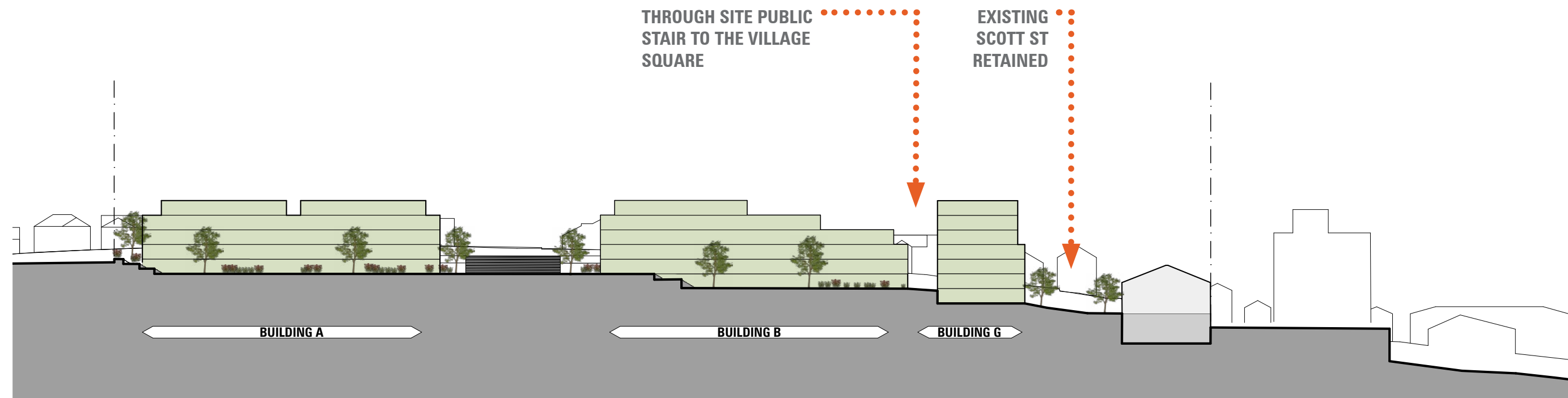
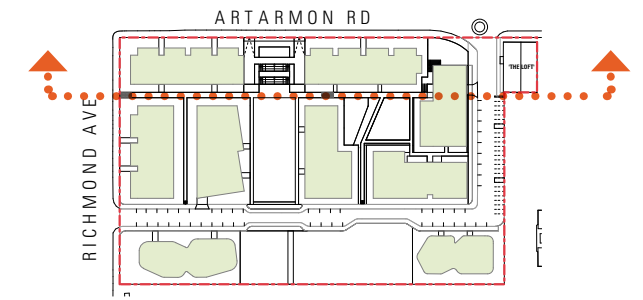
3.2 LEGIBILITY OF PUBLIC OPEN SPACE AND SITE LINKAGES

THROUGH SITE LINKS

The following section is cut through the 12m wide public through site link. The central pathway is 3m wide, with an additional 1.5m planting zone on either side. The remainder is provided for private gardens.

The long section illustrates the steep cross fall of 7.4m along the through site link between Richmond Rd and Scott St.

The alternative public site access is provided along Scott Street.



3.4 THE VILLAGE SQUARE

DEPARTMENT ITEM 3.4:

“Provide further details on the future use of the village square, including any future ground floor uses in Building B or G to activate this space.”

The site offers a Village Square located to the west of Scott St. framed by Scott St, Artarmon Road, ‘The Loft’ and small commercial frontage under Building B and G. Its position on Artarmon Rd ensures it gains northern solar access and is clearly visible to passing pedestrians and cars.

The Village Square will be enlivened by two active commercial frontages under building B and G. The space under building B is approx. 250m² whilst the space under building G is approx. 170m². Both spaces will support small scale commercial tenancies and have good connections to the basement for servicing, deliveries, waste and access.

Potential future uses of these commercial spaces include:

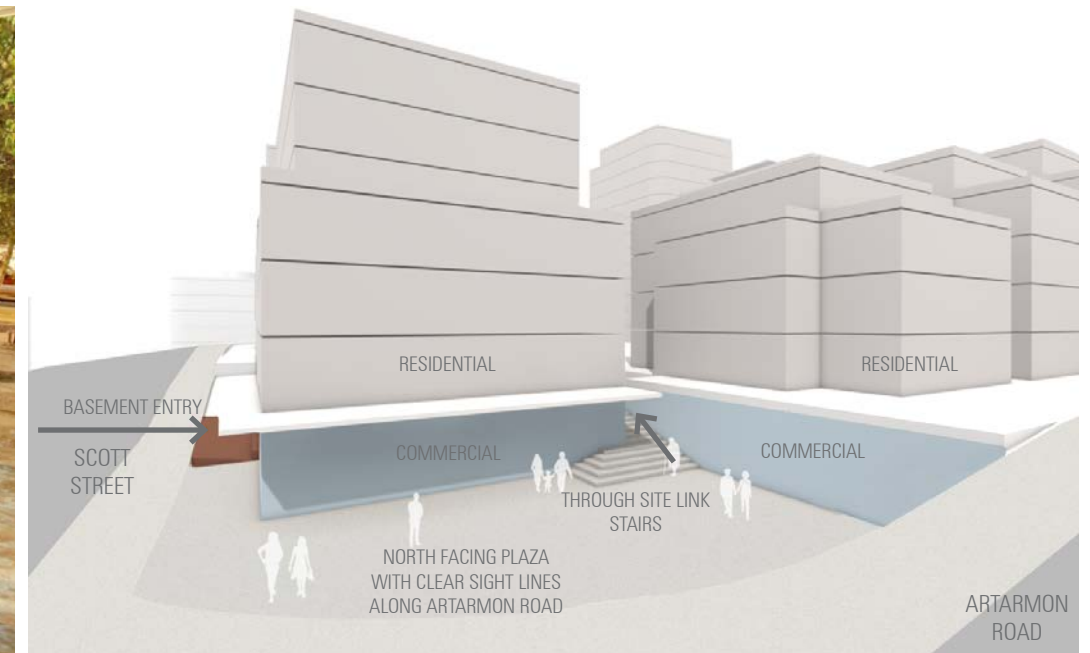
- small scale shops
- small grocery shop or corner store supplies
- small cafe or dining tenancy

Any commercial tenancy will ideally activate the two edges of the square during the day, creating an inviting public space, with open facades and possibly chairs and tables in the public space.

The level of the Village Square sits flush with the existing level of Scott Street to ensure good accessibility. The square is sunken below the steep sloping Artarmon Road as it rises to the west.

The square also includes a clear site line to the now retained tree 32, and a generous public stair that invites the public up to the next level and the new courtyard. In addition, way-finding signage will add another level of legibility to the public domain.

Both commercial frontages are located below the residential levels, therefore offering better acoustic and visual privacy to the apartments above. Similarly, the basement entry ramp is located off Scott Street on the level below the residential apartments minimising any noise impact from moving traffic.



4.1 BUILDING SEPARATIONS AND APARTMENT AMENITY

DEPARTMENT ITEM 4.1:

“Review the internal building separation having regard to the recommendation of the Apartment Design Guide and provide options to refine the envelopes to improve amenity for future dwellings, particularly between lower levels of Building B and G and all levels of G and F. ”

In reviewing the building separations, further small massing changes have been made to improve separations and residential amenity. Detailed plans have been prepared as a reference scheme to demonstrate high amenity for each apartment can be achieved.

Particular attention has been paid to the apartments in each building facing each other.

Building separations have been updated in the architectural drawing set.

The massing does not result in any change in areas or apartment numbers.

The following pages explain each key level of the building B,F and G starting at the Village Square.

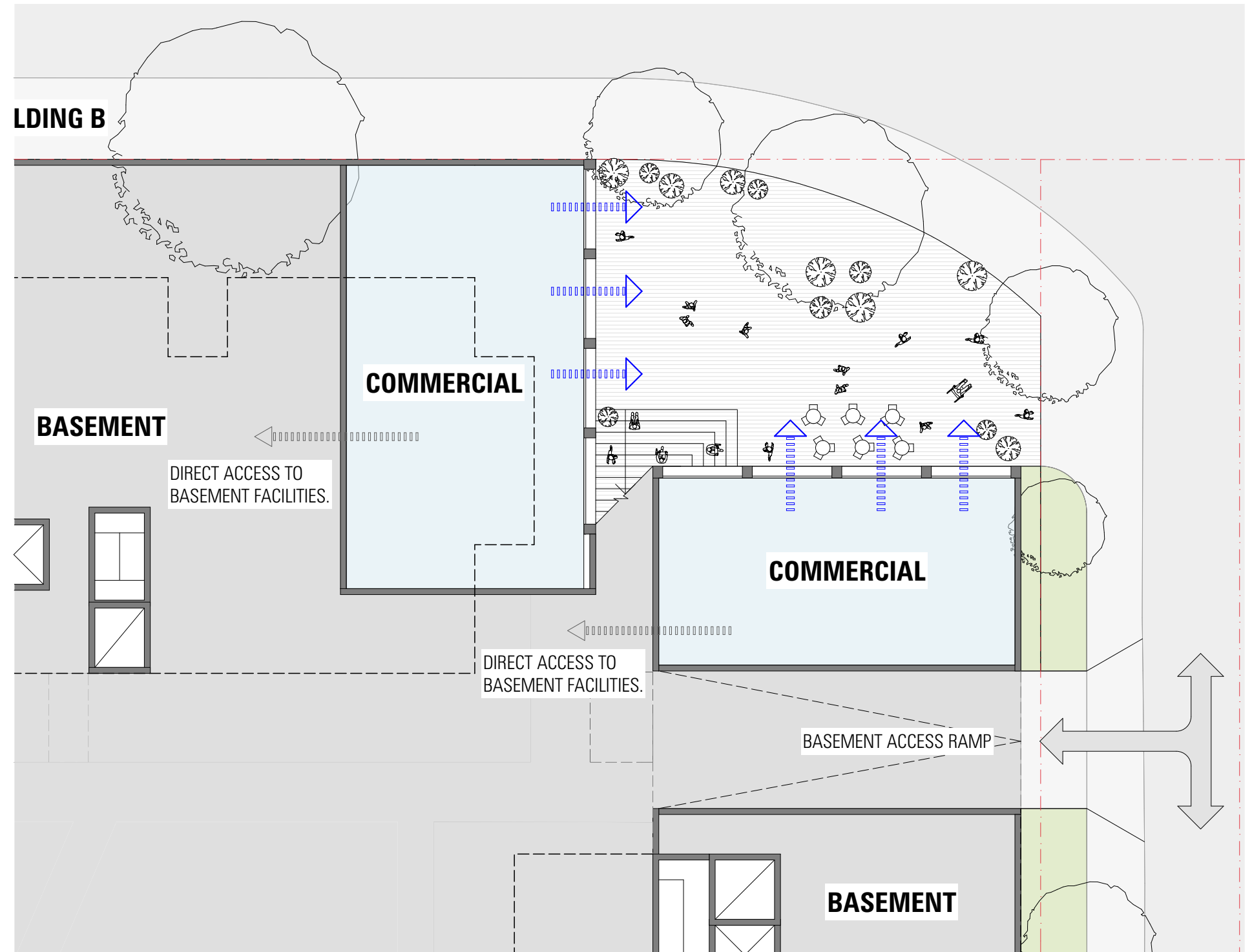


4.1 BUILDING SEPARATIONS AND APARTMENT AMENITY

THE VILLAGE SQUARE LEVEL

The Village Square will be enlivened by two active commercial frontages under building B and G. Both spaces will support small scale commercial tenancies and have good connections to the basement for servicing, deliveries, waste and access. There are no apartments on this level. This level change between commercial tenancies and residential levels helps to retain privacy and residential amenity.

The following pages outline the residential apartment levels above this plaza.



4.1 BUILDING SEPARATIONS AND APARTMENT AMENITY

COMMUNAL COURTYARD LEVEL

The following pages present a possible design for apartments, demonstrating that these building separations achieve a high quality apartment amenity with good apartment outlook and limited privacy concerns.

The ADG establishes minimum building separation controls to - “assist in providing residential amenity including visual and acoustic privacy, natural ventilation, sunlight and daylight access and outlook.”

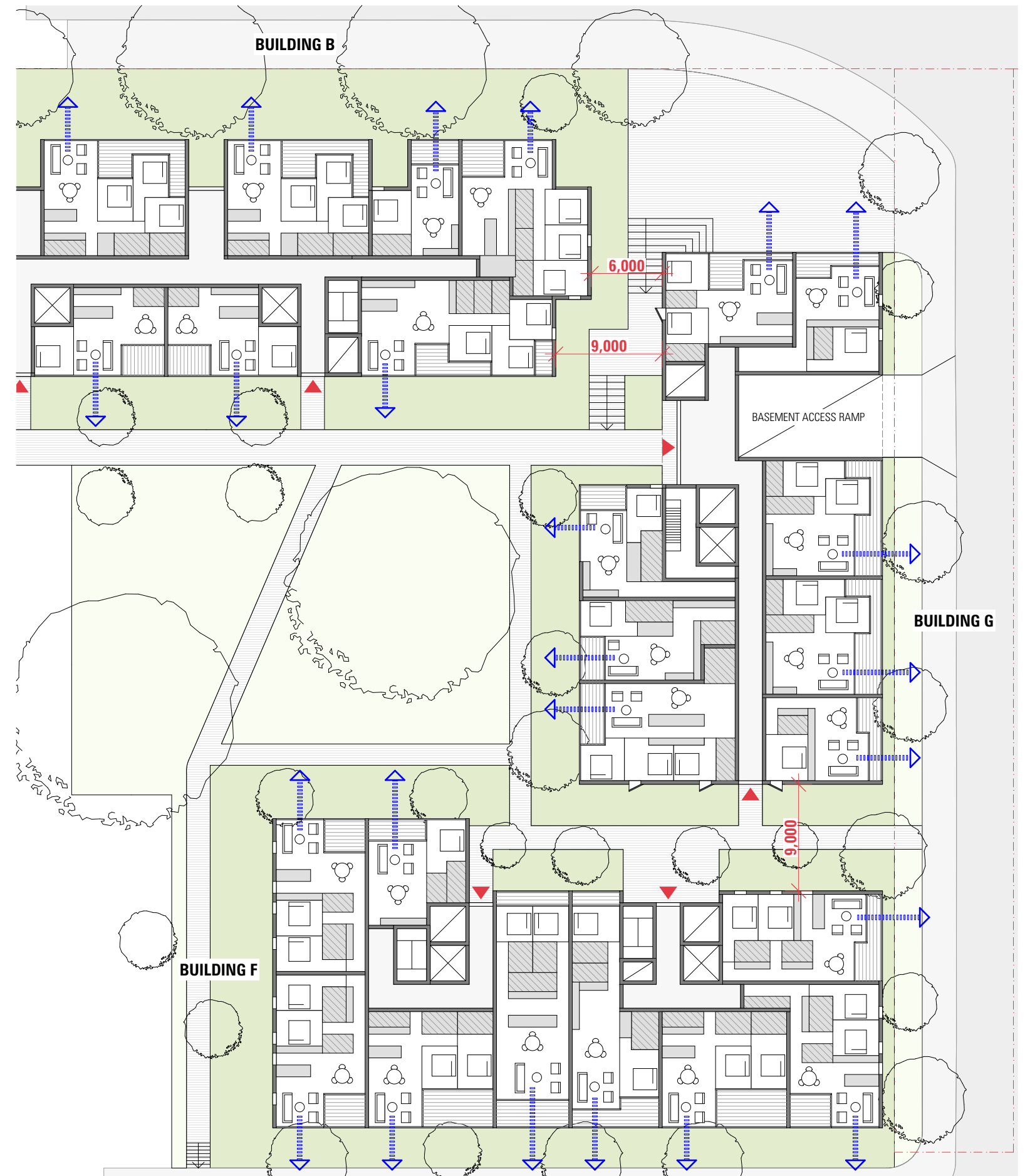
The proposed layout of clear streets, parks, courtyard and buildings create a clear urban design structure that complies with the ADG. As seen in the reference layouts, apartments can enjoy outlook to a quality public space (street or park), enjoy the local and distant views, address privacy concerns, receive sunlight and natural ventilation. Attention has been paid to reduce the number of apartments overlooking neighbouring buildings.

The indicative apartment planning demonstrates a clear concept of planning living spaces facing the street, central courtyard and main park. Living spaces can be offset to avoid direct overlooking. Blue arrows indicate the outlook and views from the living spaces, which activate the public spaces and provide passive surveillance.

The new and retained Scott Street with street planting offers good building separations, solar and visual amenity. Often apartments are also able to look diagonally towards major southern views, the Village Square or to Richmond Ave or Artarmon Rd.

As demonstrated in this reference scheme, further design development of the buildings that work within these proposed building envelopes should consider:

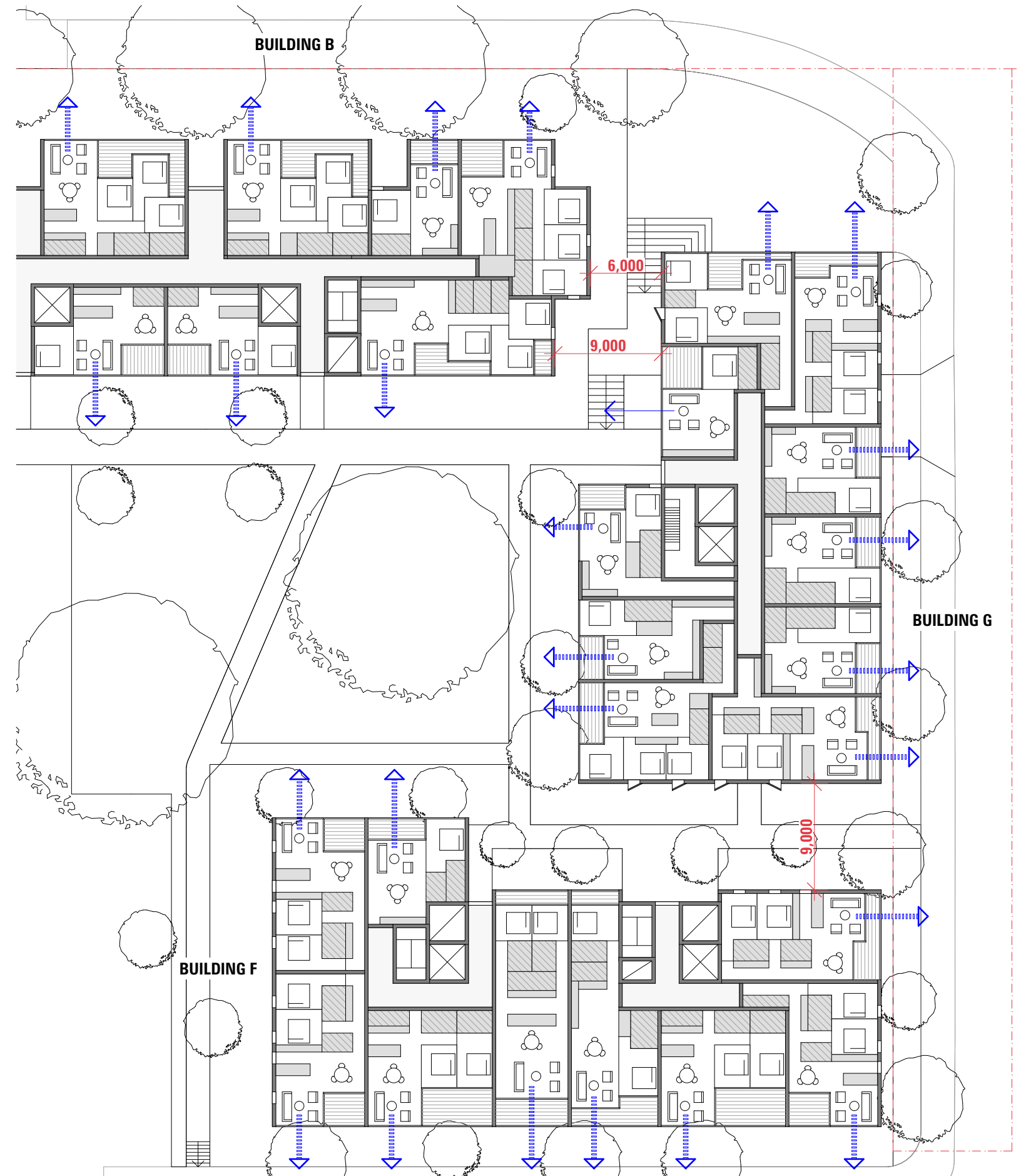
- apartment planning that creates good outlook and amenity to every apartment.
- through apartments which can enjoy a street and communal garden frontage
- corner apartments which can enjoy diagonal views to the village square or southern distant views.
- angled facades or offset windows that avoid directly overlooking other buildings.



4.1 BUILDING SEPARATIONS AND APARTMENT AMENITY

TYPICAL LEVEL

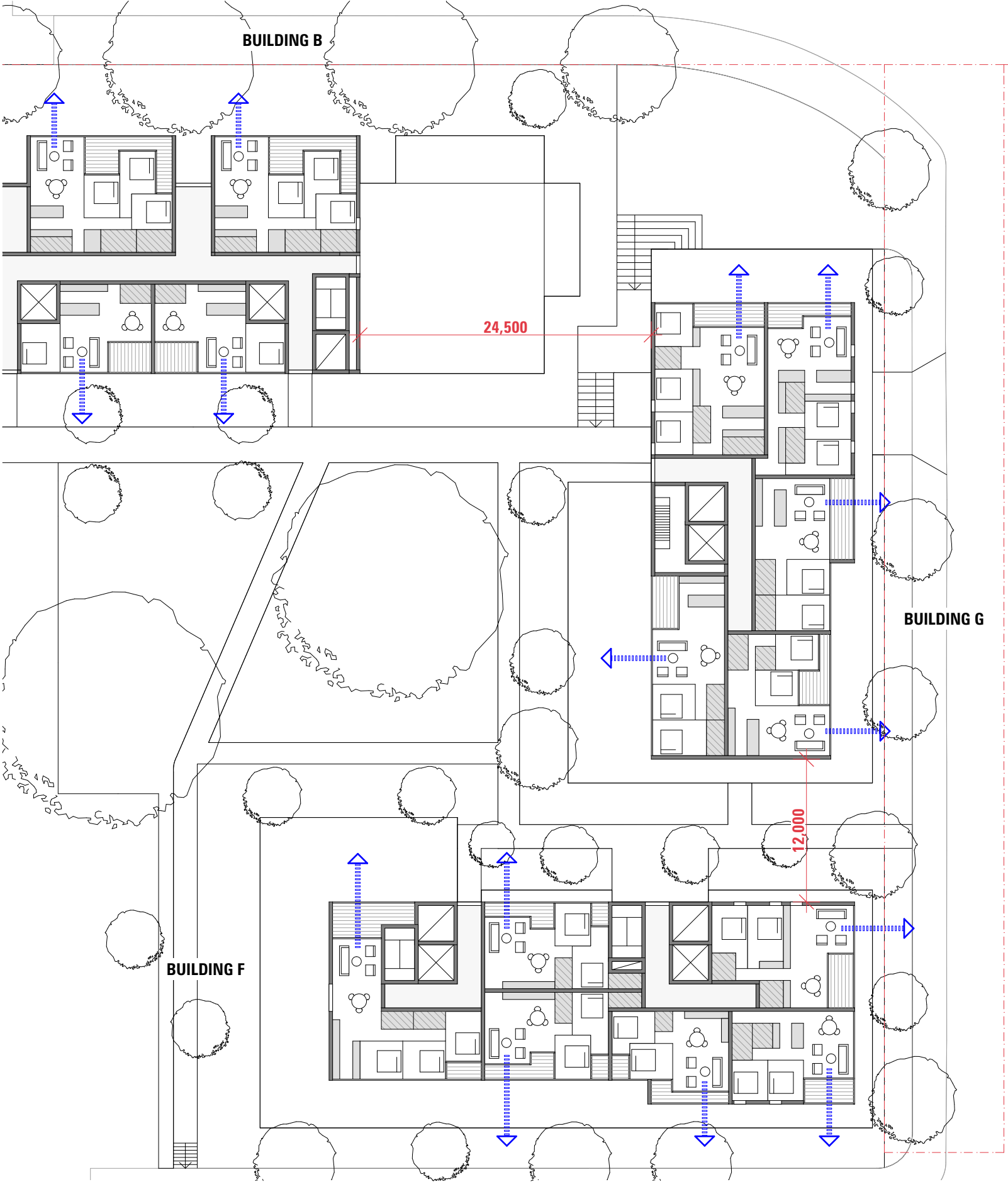
The following plan presents the typical condition above the courtyard entry level. With the exclusion of apartment entries and driveways, apartment amenity is maintained through building separation and orientation of unit layouts to avoid direct overlooking.



4.1 BUILDING SEPARATIONS AND APARTMENT AMENITY

UPPER SETBACK LEVEL

On the upper level, setbacks increase and apartments enjoy similar high quality amenity, outlook, privacy and access to key views.



4.2 PRIVACY FOR UNITS TO GROUND FLOOR OF BUILDING B

DEPARTMENT ITEM 4.2

“Detail measures to achieve appropriate visual privacy and residential amenity for those dwellings adjacent to future public open space and the public domain.”

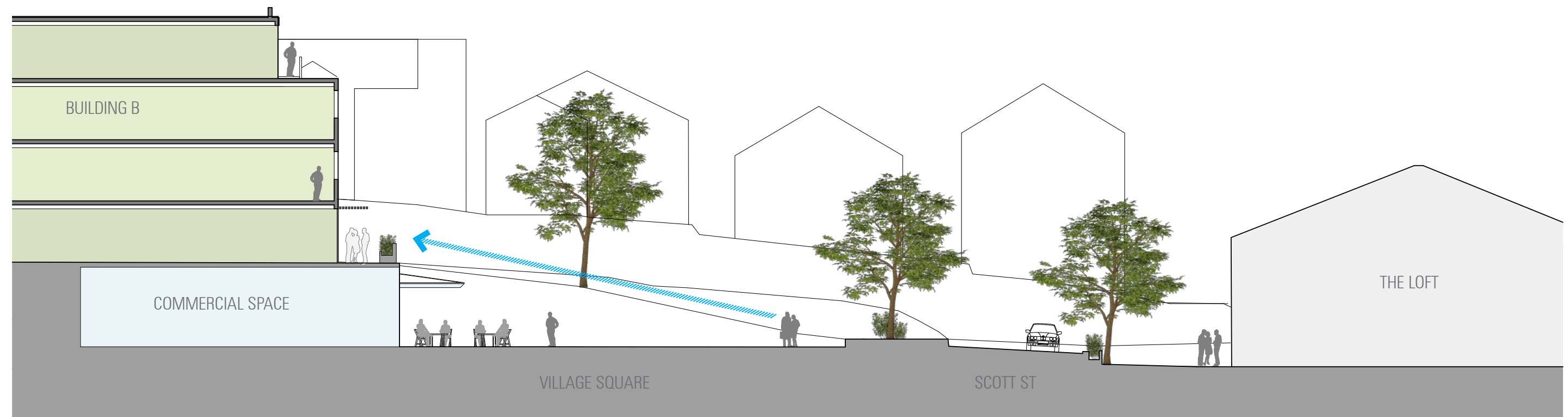
The following section demonstrates the relationship between the Village Square and Building B.

The apartment level, raised a full level above Village Square, will help to mitigate overlooking issues from the Village Square and will help separate the public realm from the private apartments.

The level separation between commercial and residential uses can be supported by future detailed design including the use of a commercial awning and planted balustrades. As seen in the reference layouts, the apartments have been designed in Building B to locate the primary living space towards Artarmon Road.



Visualisation of public plaza on Artarmon Rd, looking south-west towards the upper communal courtyard



4.2 PRIVACY FOR UNITS TO GROUND FLOOR ON THE VILLAGE GREEN

DEPARTMENT ITEM 4.2

“Detail measures to achieve appropriate visual privacy and residential amenity for those dwellings adjacent to future public open space and the public domain.”

The other main public open space is the Village Green. The following sections demonstrate appropriate visual privacy and residential amenity can be achieved in future detailed design.



CENTRAL PARK - FLUSH CONDITION

This is the primary condition for the Village Green, the courtyard between building C and D and the new courtyard for tree 32.



CENTRAL PARK - MAXIMUM RAISED CONDITION

This section shows the maximum 1m raised level of apartments due to slight fall on the Village Green located at the southern end of building E and D.

4.3 SEPP SOLAR ACCESS AND CROSS VENTILATION

DEPARTMENT ITEM 4.3

“Provide indicative floor plans which demonstrate how the proposed building envelopes achieve solar access and cross ventilation.”

This typical floor plan highlights the SEPP65 - ADG compliances for direct solar access and cross ventilation.

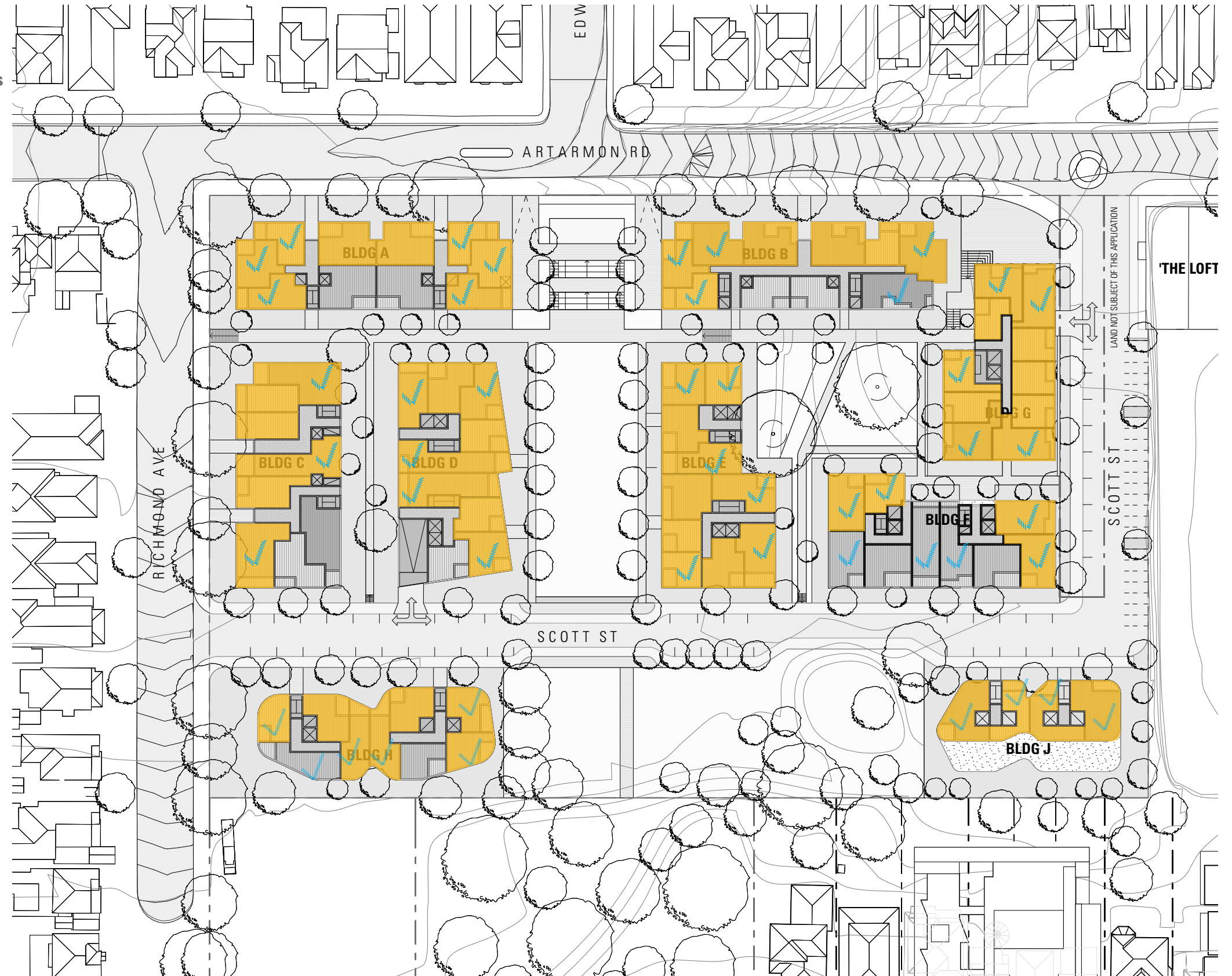
Overall the masterplan achieves a minimum of 70% compliant units with direct solar access and a minimum of 60% of cross ventilated units as required by SEPP65 - ADG.



CROSS VENTILATED UNIT



2+ HOURS SOLAR ACCESS



6.1 BUILDING J IMPACT ON WALTER ST APARTMENTS

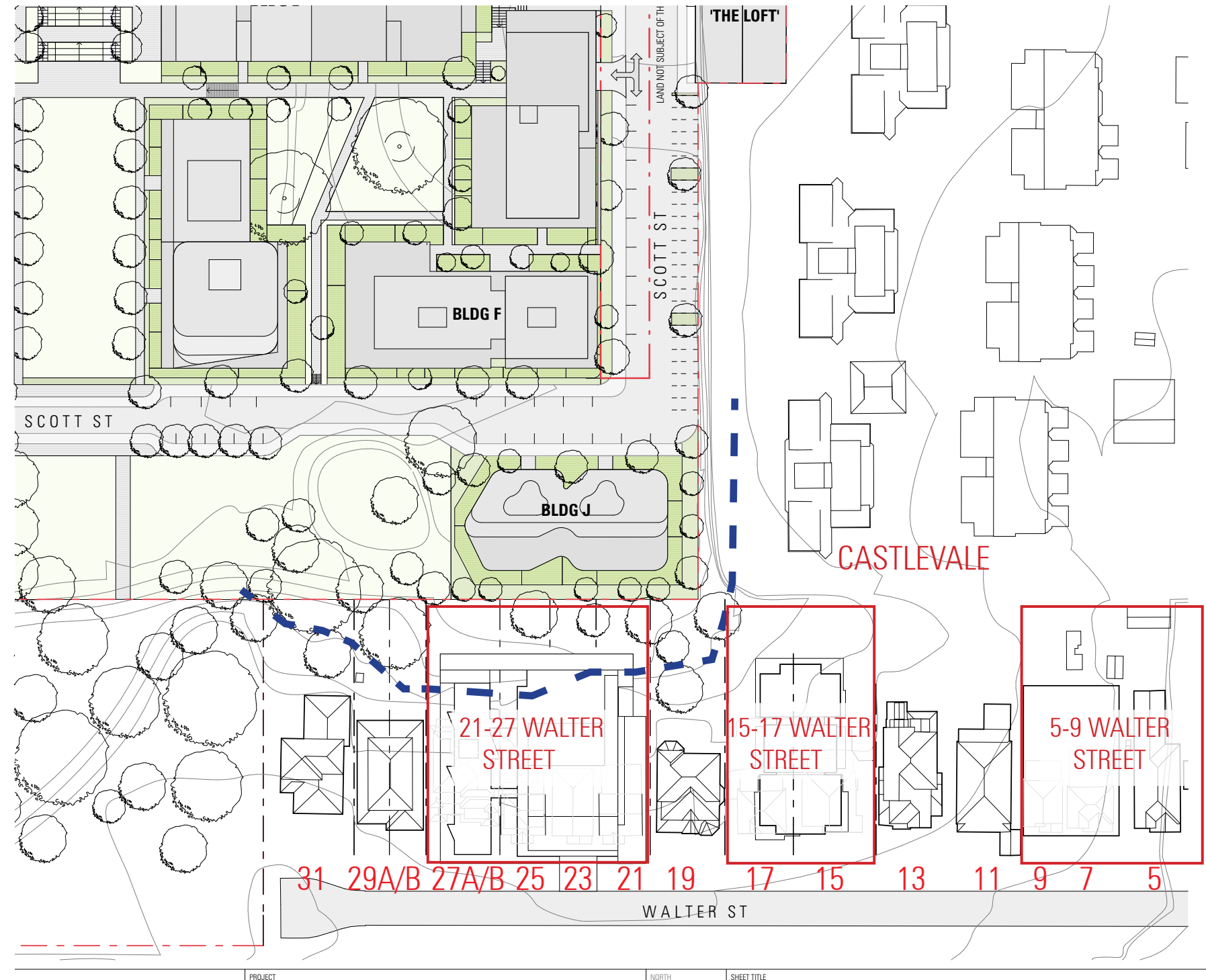
DEPARTMENT ITEM 6.1

“Demonstrate how the proposed ensures the recently approved medium density development along Walter Street maintain adequate solar access having regard to the design criteria of the Apartment Design Guide. Where impacts to these properties are greater than the approved development consideration should be given to refinements to building envelopes to ensure there is no additional adverse impacts on the amenity of these properties.”

Walter street, which currently consists of single or two level detached houses or semis, is zoned to allow for multi residential development with a height control of 12m and FSR control of 0.9:1. Properties on Walter St directly below the site are separated by a steep escarpment (indicatively shown in blue). Properties further to the east of the site below Castlevale are on relatively flatter land as seen in the contours.

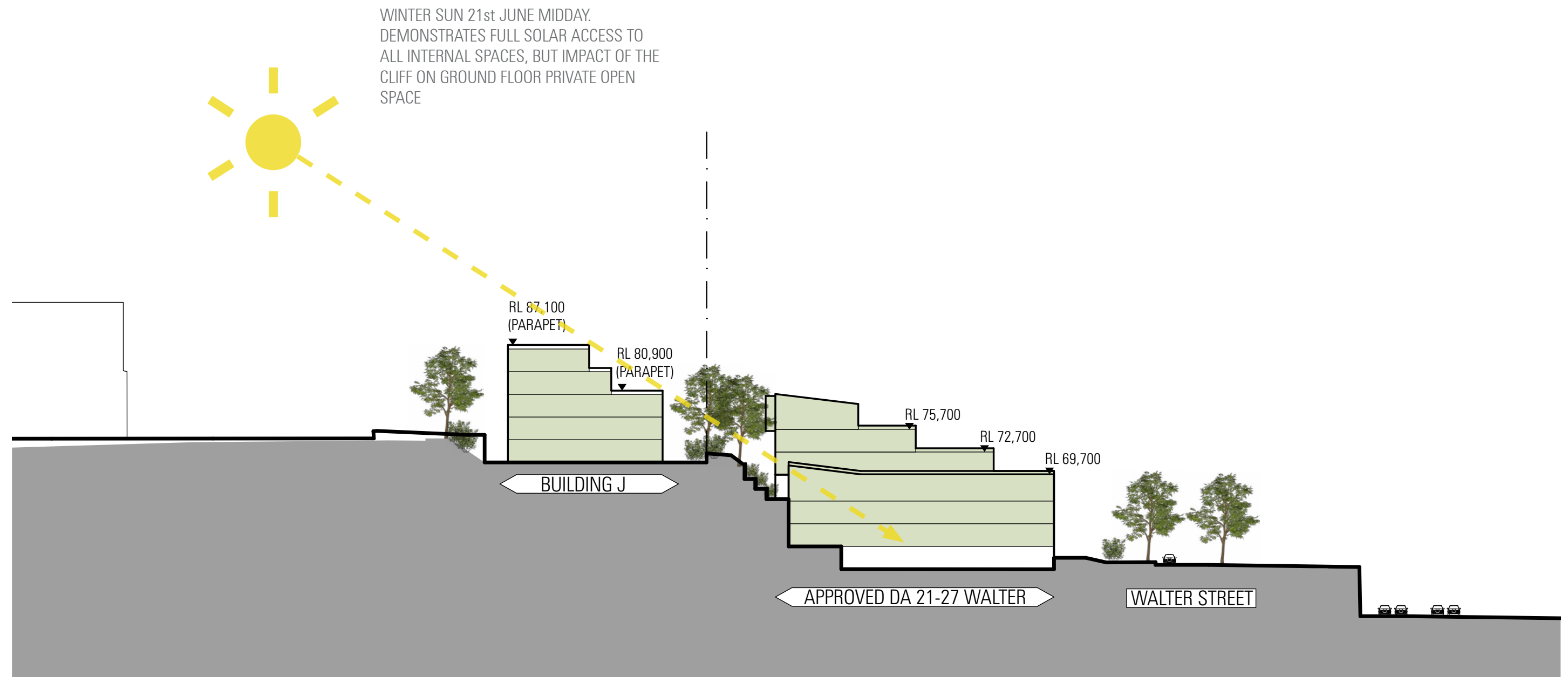
Walter Street currently has an approved development application for multi residential apartments at 5-9, 11-13, 15-17 and 21-27 Walter St. The approved DA for 21-27 Walter St, in closest proximity to building J (directly below the proposed site) states solar compliance with building J is achievable.

Where possible, the proposed DA locations along Walter Street have been shown in the following plan.



6.1 BUILDING J IMPACT ON WALTER ST APARTMENTS

The following section demonstrates how the levels of Building J have been designed to setback to the south to allow solar access to apartments on Walter Street. The following DA shown sits directly below the site and demonstrates solar compliance with Building J included in their solar studies.



6.1 SOLAR IMPACTS ON WALTER STREET

The following pages demonstrate the impact of building J on each of the approved DA's and summarise the potential impacts at the winter solstice. The impact of neighbouring 'Castlevale' is isolated in a green outline.

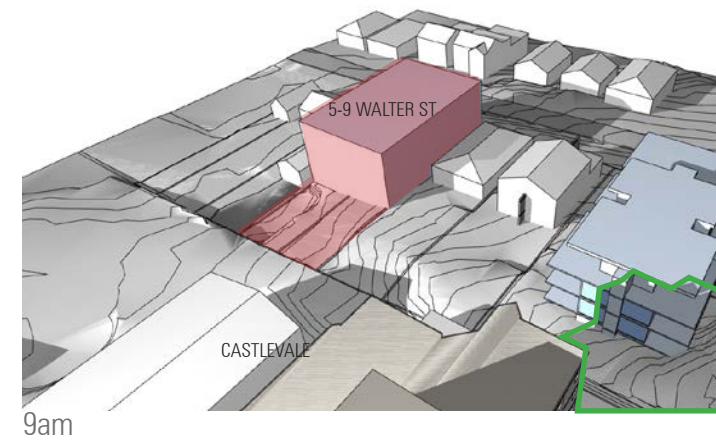
APPROVED DA 5-9 WALTER STREET

- 4 Storey indicative massing representative of proposed development

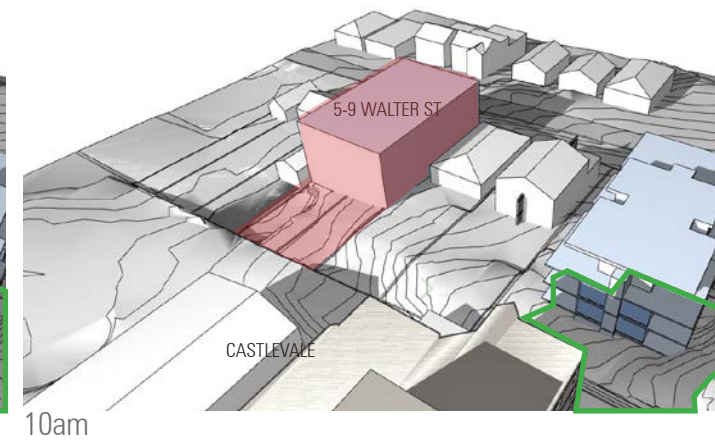
-Castlevale Shadows (highlighted in green) causes the majority of the overshadowing. Building J may start to overshadow after 2pm, causing minimal additional impact to the shadows caused by Castlevale.

-No additional solar impacts on 5-9 Walter street until 2-3pm.

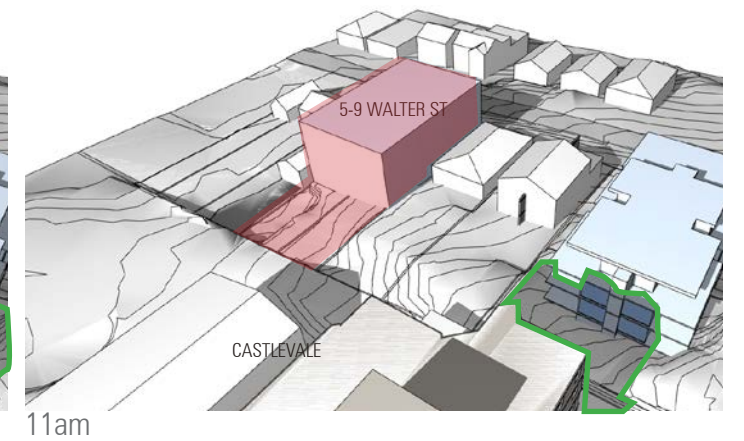
-Regardless, solar requirements of 2 hours would be achieved from 9am-1pm making it ADG compliant.



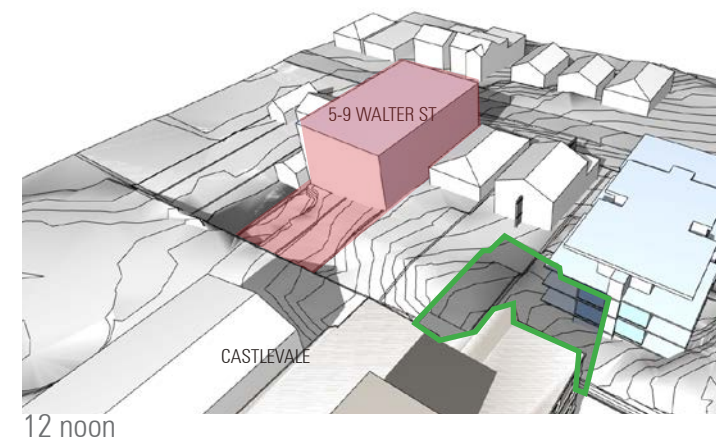
9am



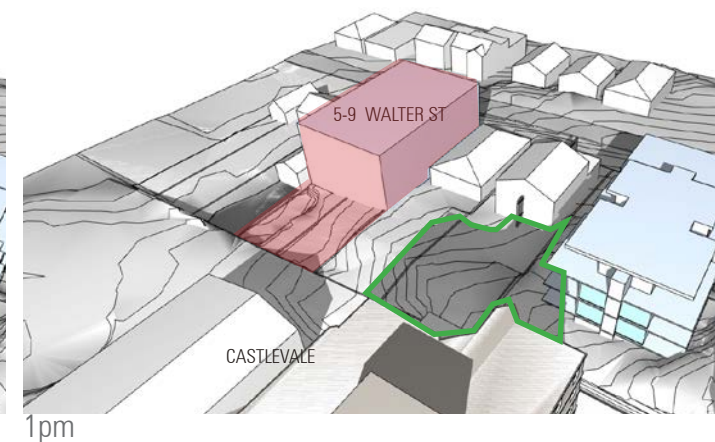
10am



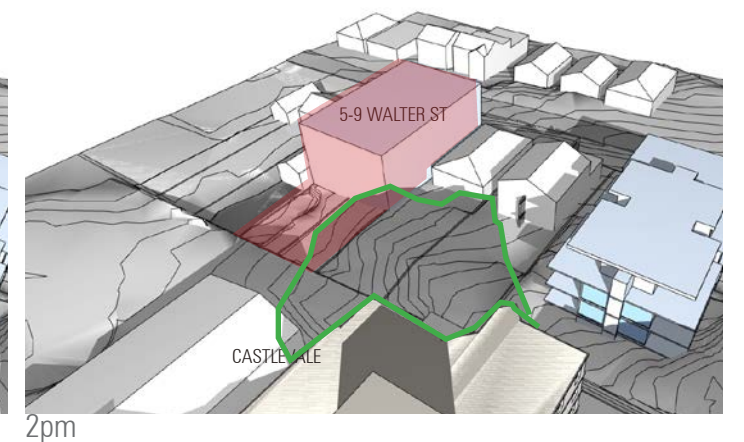
11am



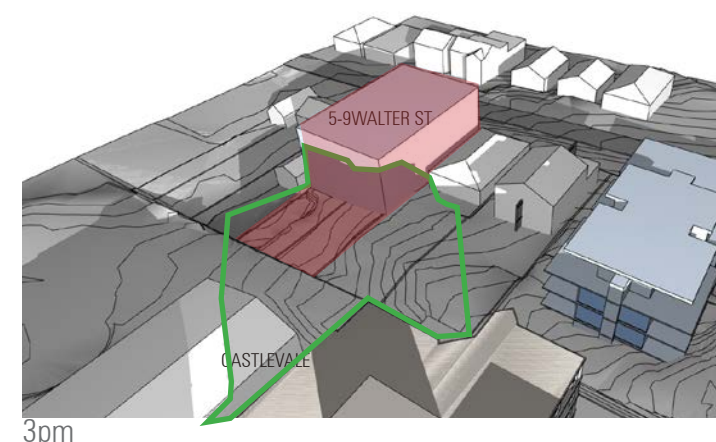
12 noon



1pm



2pm

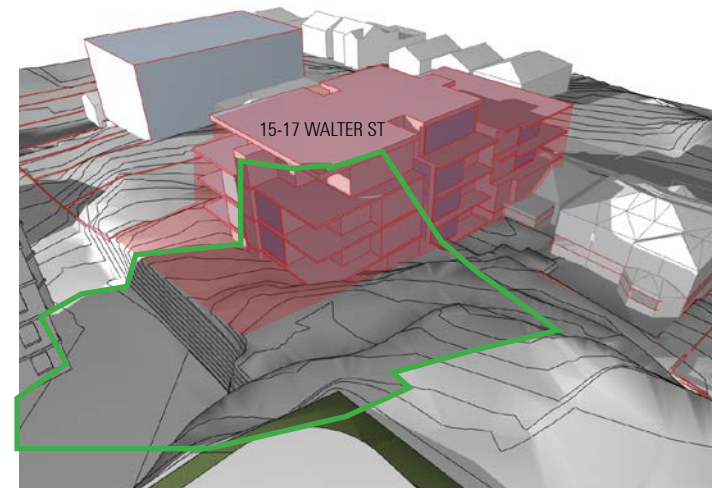


3pm

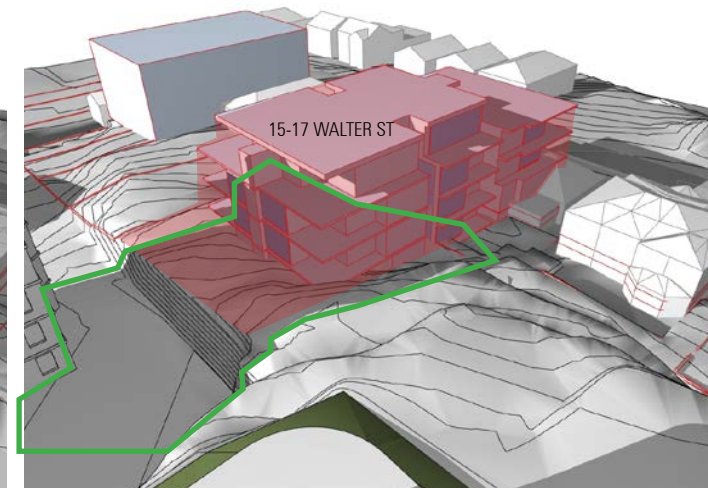
6.1 SOLAR IMPACTS ON WALTER STREET

APPROVED DA 15-17 WALTER STREET:

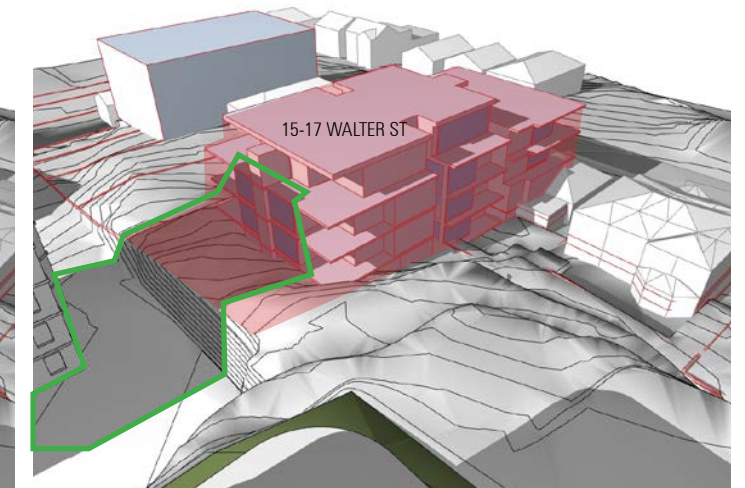
- No reduction in the number of SEPP 65 solar compliant apartments
- Approved plans demonstrated solar diagrams that took Building J into account.
- Castlevale Shadows (highlighted in green) clearly show that Building J does not add significant additional overshadowing and only has impact after 2pm.
- The following page includes an extract from the approved DA for this site.



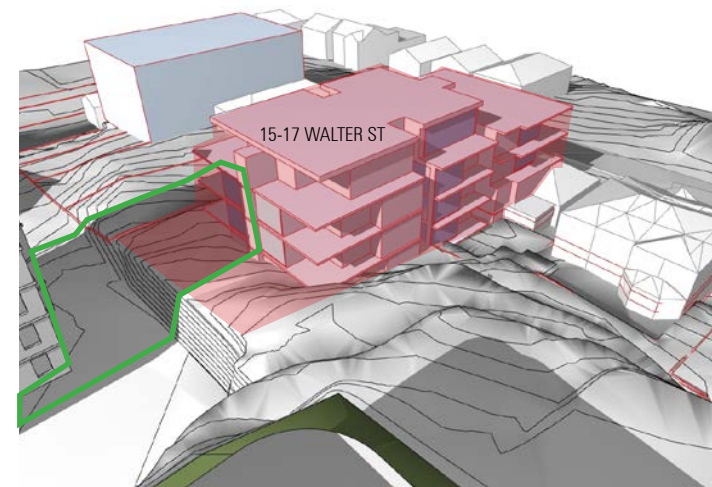
9am



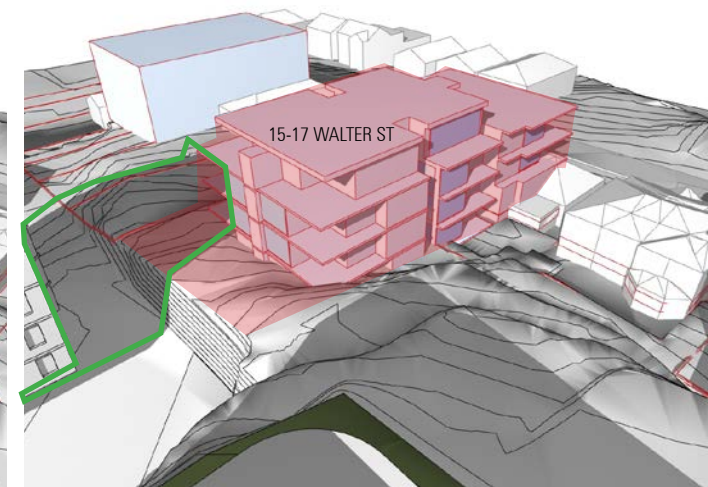
10am



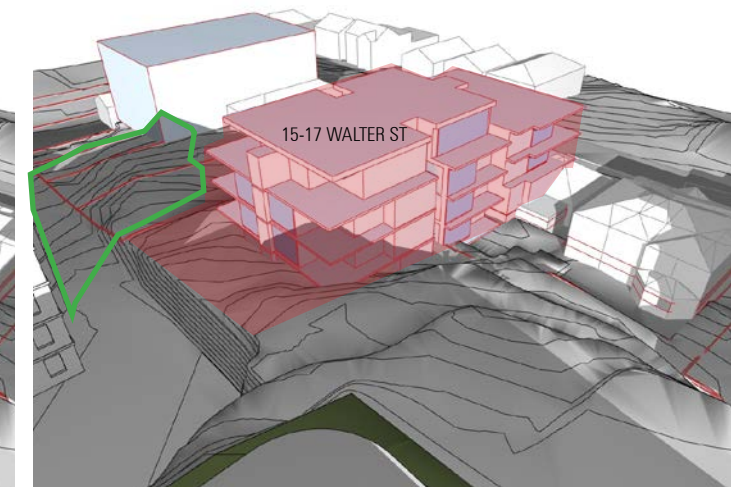
11am



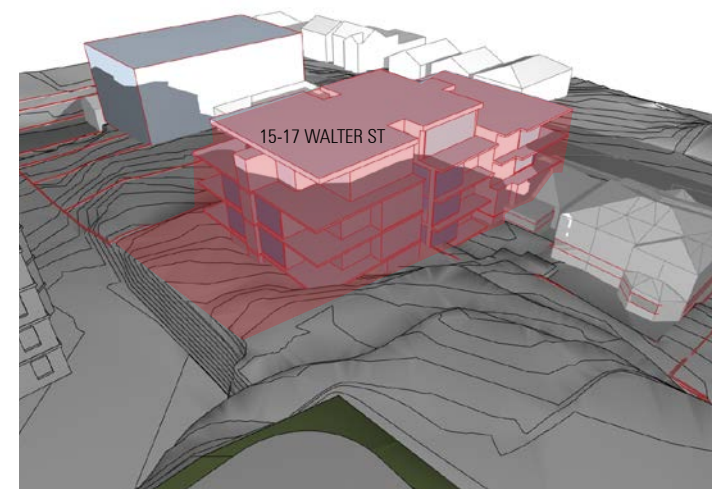
12 noon



1pm



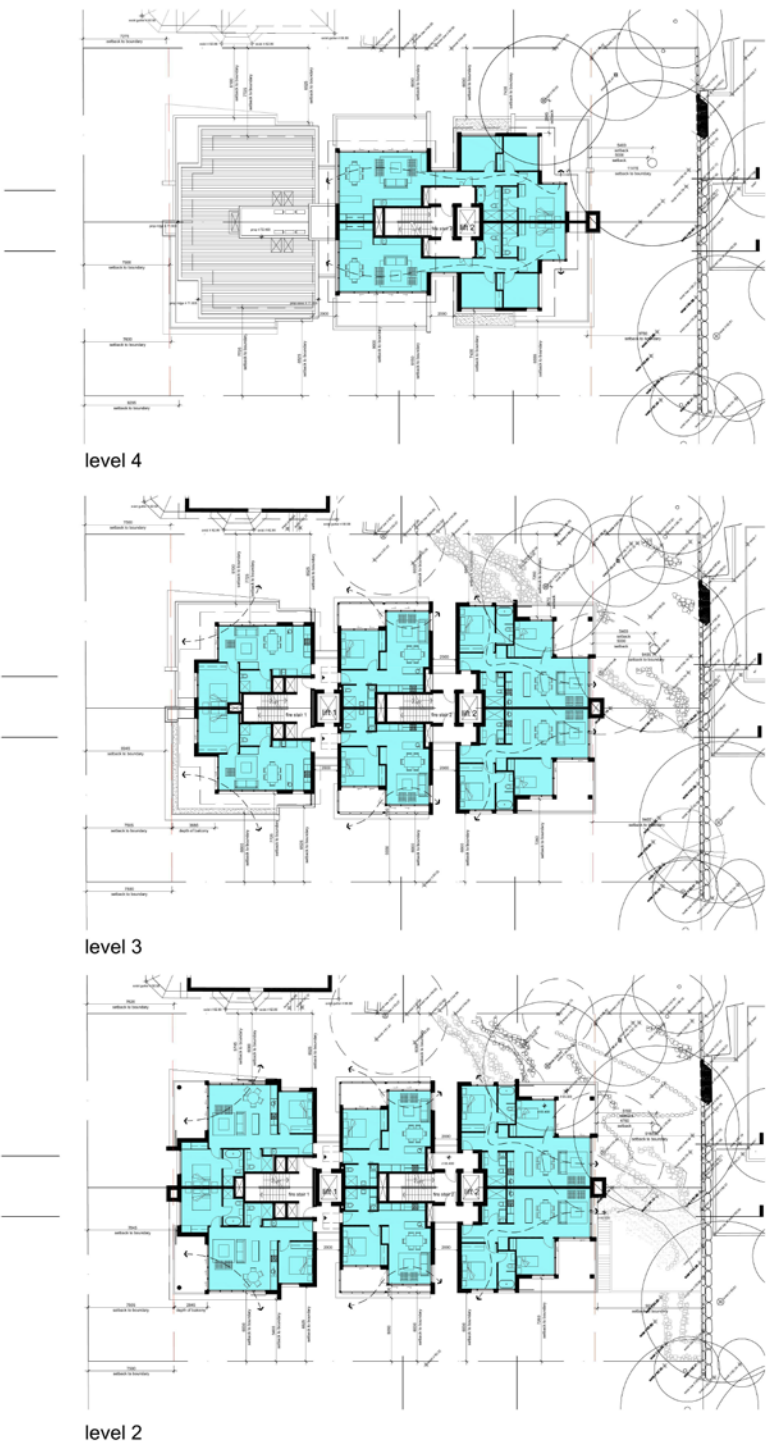
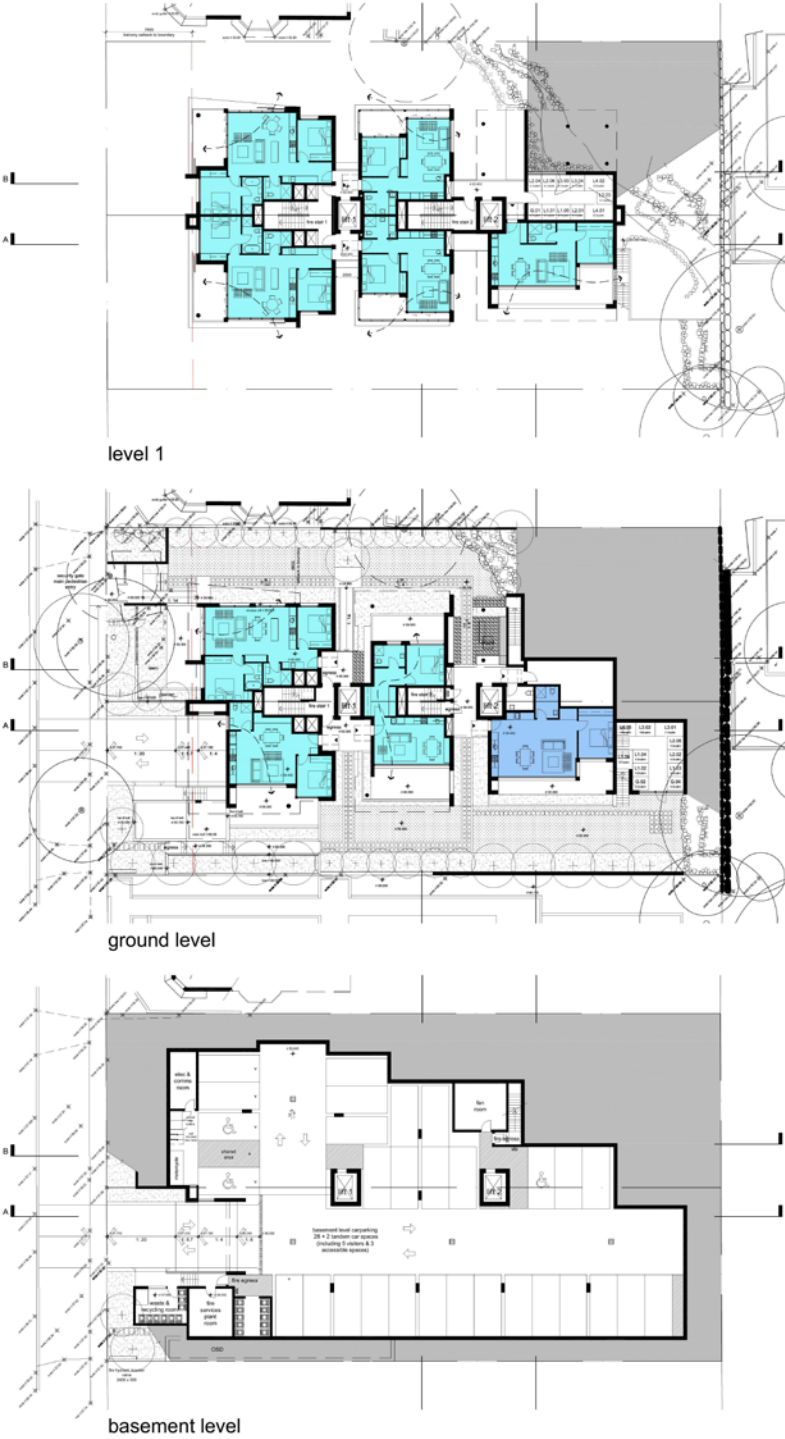
2pm



3pm

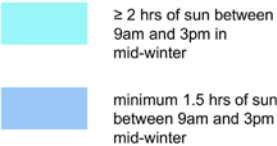
6.1 SOLAR IMPACTS ON
WALTER STREET

APPROVED DA 15-17 WALTER STREET



Solar/Daylight Access

living rooms and private open spaces for at least 70% of apartments in a development should receive a minimum of two hours direct sunlight between 9am and 3pm in mid-winter.



22 out of 23 apartments receives a min of 2hrs (96%);
1 out of 23 apartments receives a min of 1.5hrs (4%).

Cross Ventilated Apartments

22 out of 23 apartments proposed are cross ventilated.
(96% of the proposed development)

15 & 17 walter street
willoughby

lot 34 & 35, dp 1037751
proposed new residential multi-unit development
for
Pittmore Pty Ltd

apartment design guide
solar access & cross ventilation

Date: dec 2016
Dwg.No: 0749_DA_303
Scale: 1:250@A1, 1:500@A3



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