City of Ryde

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Urban Design Guidelines

for High-Density Residential Precinct & Lot 107

Lachlan's Line

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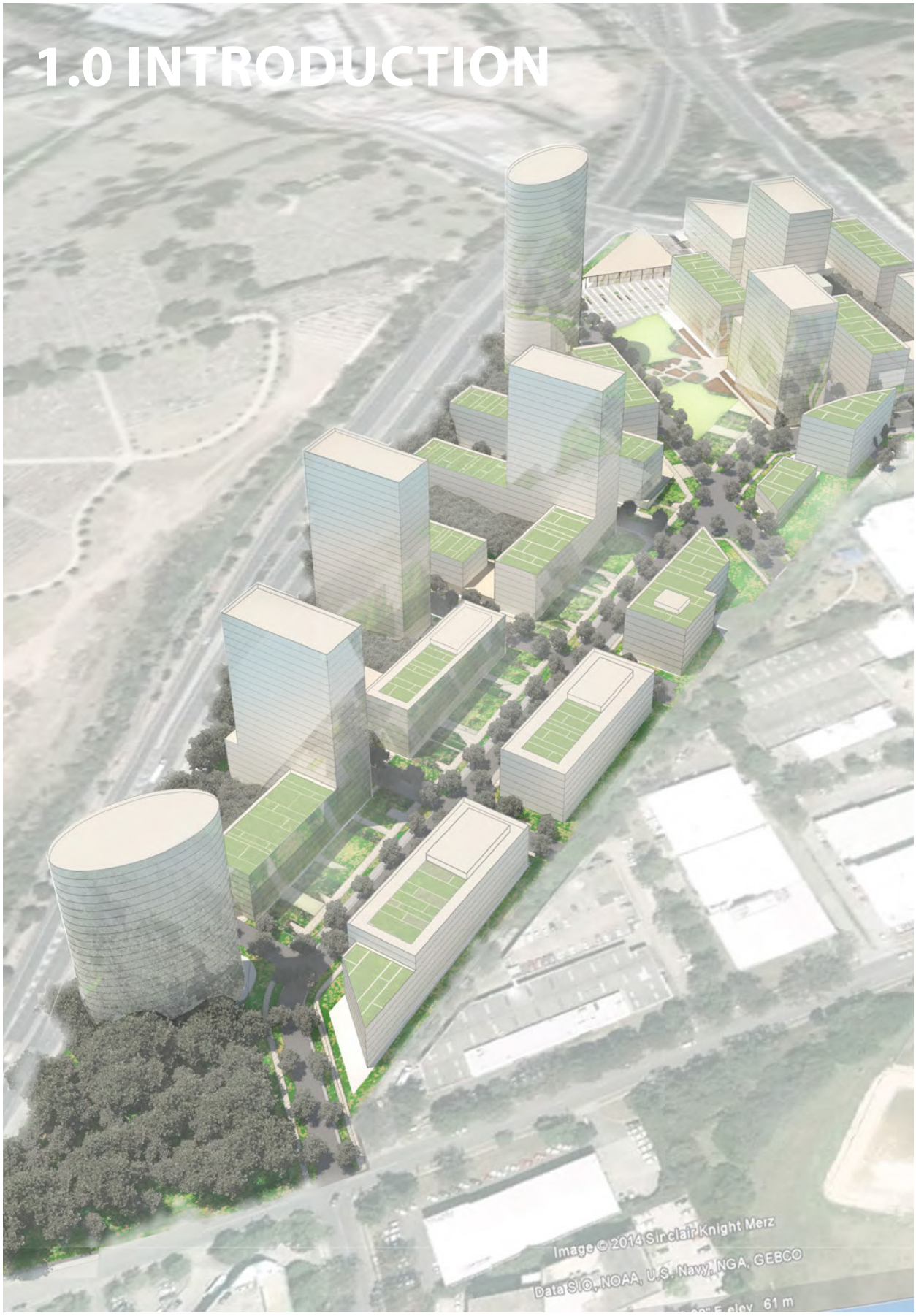
1.0 INTRODUCTION



1.1 Purpose

This document has been prepared to provide an urban design framework to guide future development of Lachlan's Line, Macquarie park. This document outlines the Vision for the High-Density Residential Precinct and Lot 107, describes the Precinct Planning including Urban Structure and Public Domain areas to be delivered as well as the Built Form controls which will ensure the Precinct evolves into a vibrant community to live and visit.

1.2 Land to which these Guidelines Apply

These Guidelines apply to the High-Density Residential Precinct, which includes Lots 102, 108, 109, 110, 114, 115, 116, 117, 118 and 119, as well as Lot 107 in the Mixed-Use Precinct as identified (outlined in red) in Figure 01.

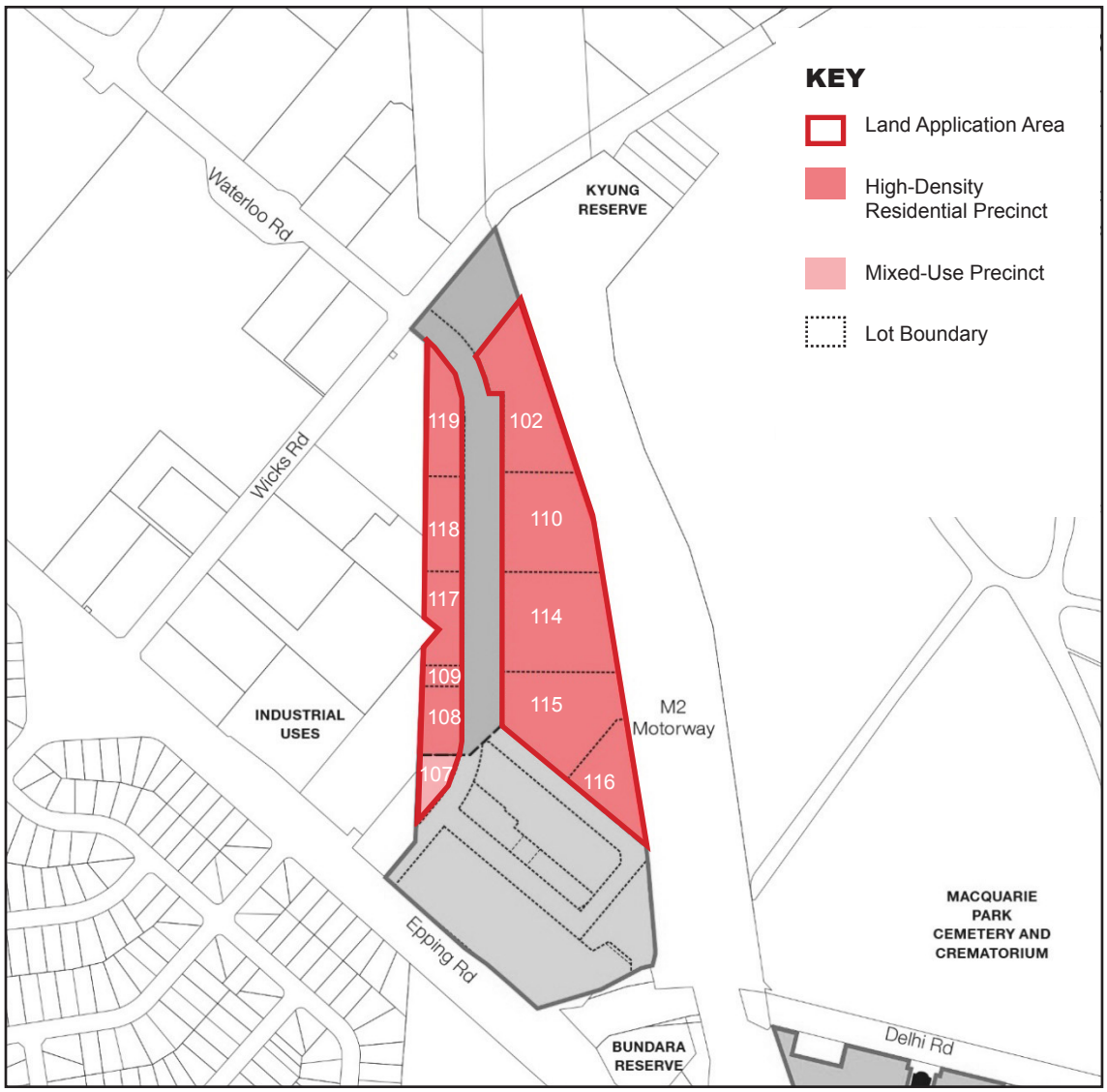


Figure 01. Land application map

1.3 Objectives

These Guidelines aim to achieve the following objectives:

- To articulate the Vision for the precinct and key public domain improvements to be delivered;
- To integrate the Precinct with the urban structure and connections to and within the Macquarie Park Corridor;
- To ensure the orderly, efficient and environmentally sensitive development of the Precinct;
- To provide planning, design and environmental objectives and guidelines against which the consent authority will assess future development applications; and
- To promote high-quality urban design outcomes such as safety, residential and public domain amenity, visual quality and sustainability.

1.4 Structure of the Guidelines and relevance to future development applications

The Guidelines are divided into three parts. The following describes each part of the guidelines including its relevance in preparing future development applications.

Vision

This section describes the vision and design principles that will guide all development or modification applications.

Precinct Planning

This section describes the urban structure and public domain to be delivered within the Precinct together with key connections and linkages within the Precinct, development layout plan, pedestrian and cycle network and links, stormwater management, street tree planting, street furniture and lighting, public art and safety.

This section will guide any application to modify the approved subdivision of each Precinct including roads, open space, public art or other public domain improvements for the High-Density Residential Precinct and Lot 107 in the Mixed-Use Precinct.

Built Form

This section describes the way heights and floor space ratio are determined for each development lot as per Ryde Local Environmental Plan (LEP) 2014. The remaining controls provide clear guidance on all aspects of design for the built form on the land including heights and floor space, building setbacks and street frontage heights, building depth and bulk, building design and materials, landscape design, solar access and overshadowing, access and car and bicycle parking and other design matters. This section will guide any application for the construction of built form (buildings) on any of the development lots.

1.5 Relationship to State Significant Development Approvals and other Plans and Policies

Development approval has been granted by the Minister for Planning as follows:

SSD 5093 relating to the High-Density Residential Precinct and Mixed-Use Precincts being the Concept Proposal for the subdivision into 12 development lots, 5 public open space lots and 2 public road lots, allocation of a maximum gross floor area to each of the development lots (total 238,919m^2 across the site plus an additional 2,500m^2 to Lot 104 for a community facility) and infrastructure, civil works and landscaping as well as the Stage 1 approval to undertake the subdivision works including construction of roads and intersection connections, all open space embellishment and street landscaping, public art and the pedestrian bridge to the Station Precinct.

Copies of the consent (SSD 5093) can be viewed by accessing Planning and Environment website using the following links:

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=5093

Each of the development lots to be created has the gross floor area achievable under Ryde LEP 2014 allocated by the subdivision in accordance with the **Table 1.1**.

Development Lot	Site Area	Ryde LEP FSR	Maximum Gross Floor Area (GFA)
Lot 102	6,275m^2	3.5 : 1	42,949m^2
Lot 107	1,317m^2	3.3 : 1	4,332m^2
Lot 110	6,395m^2	3.0 : 1	25,626m^2
Lot 114	7,764m^2	3.0 : 1	28,468m^2
Lot 115	6,767m^2	4.3 : 1	15,764m^2
Lot 116	3,380m^2	4.3 : 1	29,210m^2
Lot 117	2,507m^2	3.0 : 1	5,413m^2
Lot 118	2,656m^2	3.0 : 1	6,883m^2
Lot 119	3,135m^2	1.39 : 1	6,754m^2

Table 1.1 Maximum Gross Floor Area approved for each Development Lot under SSD 5093

Note: SSD 5093 redistributed the Gross Floor Area of 238,919m^2 permissible under Ryde Local Environmental Plan 2014 across the lots within the Precinct in accordance with the above table.

Application of planning documents

Any Development Application (DA) lodged within the Precinct will need to consider the following documents:

- Relevant State Environmental Planning Policies;
- The Ryde LEP 2014 and requirements of Consent SSD 5093;
- This Urban Design Guidelines;
- The existing Ryde DCP 2014 provisions in **Table 1.2** (and any subsequent relevant DCP);
- The relevant Section 94 Contributions Plan or any Planning Agreement executed between Council and the developer; and
- Technical studies completed as part of the precinct planning work (available on the NSW Department of Planning and Environment website www.planning.nsw.gov.au).

Development within the Precinct will need to comply with these Guidelines as well as relevant provisions in the Ryde DCP 2014, identified in **Table 1.2**. In the event of any inconsistency between this Plan and any other DCP, or policy listed in **Table 1.2**, this Plan will prevail to the extent of the inconsistency.

Provision	Section of Ryde DCP 2014
Lodging a Development Application	1.9
Notification of Development Applications	2.1
Brothels [Sex Services Premises]	3.1
Child Care Centres	3.2
Macquarie Park Corridor	4.5
Energy Smart, Water Wise	7.1
Waste Minimisation and Management	7.2
Construction Activities	8.1
Stormwater Management	8.2
Driveways	8.3
Title Encumbrances	8.4
Signage	9.1
Access for People with Disabilities	9.2
Parking Controls	9.3
Installation of Satellite Dishes and MDS - Microwave Antenna	9.4
Tree Preservation	9.5

Table 1.2 Relevant Provisions of the Ryde DCP 2014

1.6 Notification of Development Applications

Notification of development applications will be undertaken in accordance with Part 2.1 of the Ryde DCP.

1.7 Information to be submitted with Development Applications

Information requirements for development applications are set out in Part 1.9 of the Ryde DCP 2014. Additional information required to be submitted includes:

- Desired Future Character Statement for each lot that responds to the context and specifies the apartment building type and outcomes for the lot.
- Design Excellence Statement that indicates how excellence will be achieved and details:
  - Deep soil as a percentage of the site area;
  - Pedestrian access and entries;
  - Sustainability measures including WSUD, use of low embodied energy materials and robust materials and finishes that reduce long term maintenance .
- Social Impact Assessment which includes:
  - Unit mix (Studio to 4 bedroom apartments);
  - Housing mix (terrace houses to apartments);
  - Demand for community facilities and services and how they will be met; and
  - Affordable housing and consistency with Council's policy of 5% of all new dwellings being affordable.

2.0 VISION

The High-Density Residential Precinct and Lot 107 will be an integral part of the wider North Ryde Station Precinct and a vibrant new residential neighbourhood with a permeable network of streets and courtyards.

The design concept connects the proposed Bushland and Central Parks with a linear Community Park to form a linked network of open space. The linear park provides residential amenity for a large number of buildings and a defined pedestrian and cycle route to the station. Traditional urban typologies are separated by pedestrian friendly Mews Streets to create a legible urban form that will support a high-quality residential lifestyle.

The Vision for the Precinct is underpinned by the following principles including to:

- Maximise public transport patronage through appropriate placement of high-density residential land uses with improvements in accessibility to North Ryde Station.
- Implement 'place making' through activation of spaces and creation of identifiable landmarks to ensure the Precinct becomes a desirable destination.
- Provide high-quality active and passive open space within 200m walking distance of all dwellings in the Precinct.
- Create liveability through innovation, leading edge design and sustainability.
- Facilitate the rehabilitation of the riparian corridor adjacent to Wicks Road and integrate stormwater management solutions to benefit all future development within the Precinct.
- Enable innovative housing and mix of housing types as well as affordable housing for very low, low and moderate-income earners.
- Integrate land uses with open space, community facilities, and public domain improvements.

3.0 PRECINCT PLANNING

3.1 PRECINCT PLANNING

Layout Plan

The development layout for the Precinct is shown in **Figure 02**. The layout has been developed to achieve the target yields necessary to support the development of the Precinct as a high-density development while maximising resident and user amenity.

3.1.1 Objectives

a. Ensure that development in the Precinct occurs in a coordinated manner consistent with the vision for the site.

b. Ensure that the site is developed in accordance with the following principles:
   i. A north-south spine road linking the precincts to Wicks Road and Waterloo Road.
   ii. Open space and public domain network through the site that provides for high-quality amenity for future residents and accommodates a range of active and passive recreational uses.
   iii. Delineate distinct neighbourhoods through the use of open space and public domain expansion and improvements.
   iv. Distribution of open space off the major circulation spine.
   v. Streets generally ending in open space or green views.
   vi. Safe and convenient pedestrian and cycle connections are maximised through and around the Precinct, connecting to public transport and other major facilities.
   vii. Future connections are accommodated to ensure the site is integrated with surrounding street network.

3.1.2 Controls

1. Ensure the Layout Plan for any development must be consistent with the underlying principles of the relevant State Significant Development Consent for the High-Density Residential Precinct and Lot 107.
2. Any modification and/or variation to the relevant State Significant Development Consent must demonstrate that the underlying principles and desirable planning outcomes are still being achieved.

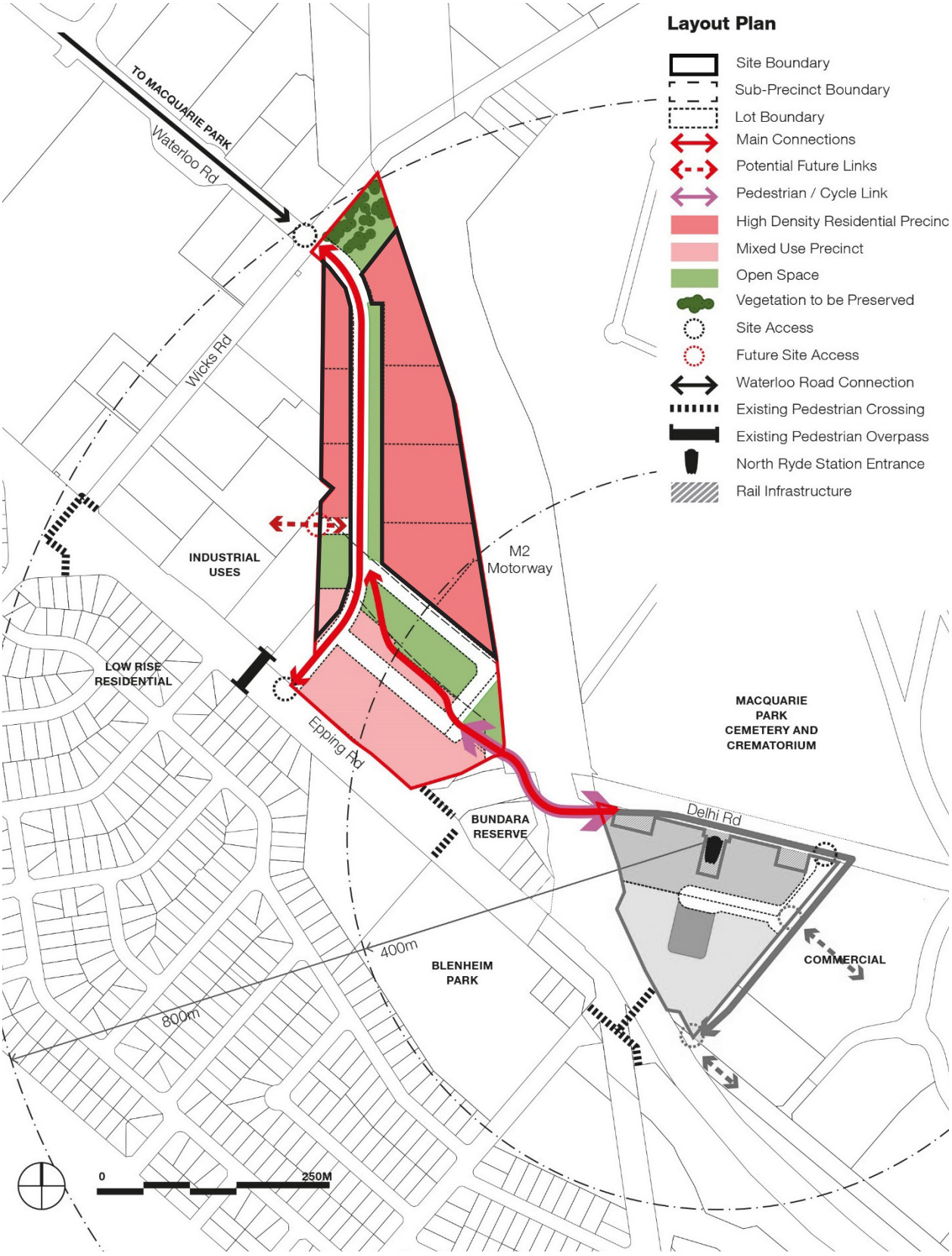


Figure 02. Development Layout Plan

3.2 CIRCULATION NETWORKS

3.2.1 *Objectives*

a. To provide for safe, clear and legible pedestrian, cycle and vehicular movements within the site for convenient access to rail infrastructure and surrounding areas.

b. To consider and accommodate future connection options to ensure the Precinct is integrated with surrounding areas.

c. To provide for a clear street hierarchy incorporating new connector and mews roads.

d. To provide continuous physical and/or visual connections within the Precinct to ensure clear legibility.

e. To facilitate the development of active street edges.

f. To use streets to define the edges between development and open spaces and to provide passive surveillance opportunities of the open space.

3.2.2 *Controls*

1. Mews roads are to be included in the applications for the final built form on each development lot.

2. Mews roads must be constructed in accordance with the Vehicular Movement Plan as shown in **Figure 03**, which are consistent with the relevant State Significant Development Consent.

3. Any proposed modifications to the Vehicular Movement Plan in **Figure 03**, **Table 3.1** or the Street Sections in **Figure 08** to **Figure 11** must demonstrate that:
   i. The proposed changes meet the **Objectives** for this section;
   ii. Adequate vehicular and pedestrian connections can be provided in Lot 109 to the adjoining site (Lot 1, DP1151499) ;
   iii. Emergency access and servicing access are provided.

The **Mews Roads** shown on the Indicative Vehicle Movement Plan at **Figure 03** are intended to be private roads at the entry point to each individual development lot. These allow for the construction of vehicular access into the site and pedestrian footpaths, parking and entry into basement structures. They are also important in providing building separation between each development lot.

<table>
<tr><th>Mews Road</th><th>Reserve</th><th>Footpaths</th><th>Carriageway</th><th>Parking</th><th>Planting</th></tr>
<tr><td>1A</td><td rowspan="3">16.5m</td><td rowspan="3">1 x 3m
1 x 2m</td><td rowspan="4">2 x 3m</td><td rowspan="4">1 x 5.5m</td><td rowspan="4">In verge</td></tr>
<tr><td>1B</td></tr>
<tr><td>1C</td></tr>
<tr><td>1D</td><td>16m</td><td>1 x 2.5m
1 x 2m</td></tr>
</table>

Table 3.1 Mews Road Dimensions

The Mews Roads in **Figure 03** are aligned to indicate the access point into each development lot. As such, the Mews Roads are an extension of the public roads that break the lineal park, aligned both east and west of the Spine Road. The width of the Mews Road ranges from 16m to 16.5m. It will contain a carriageway of 6m in width and can incorporate a pedestrian footpath and right angle parking for visitors and car share spaces. Mews roads are described further in **Section 4.2**.

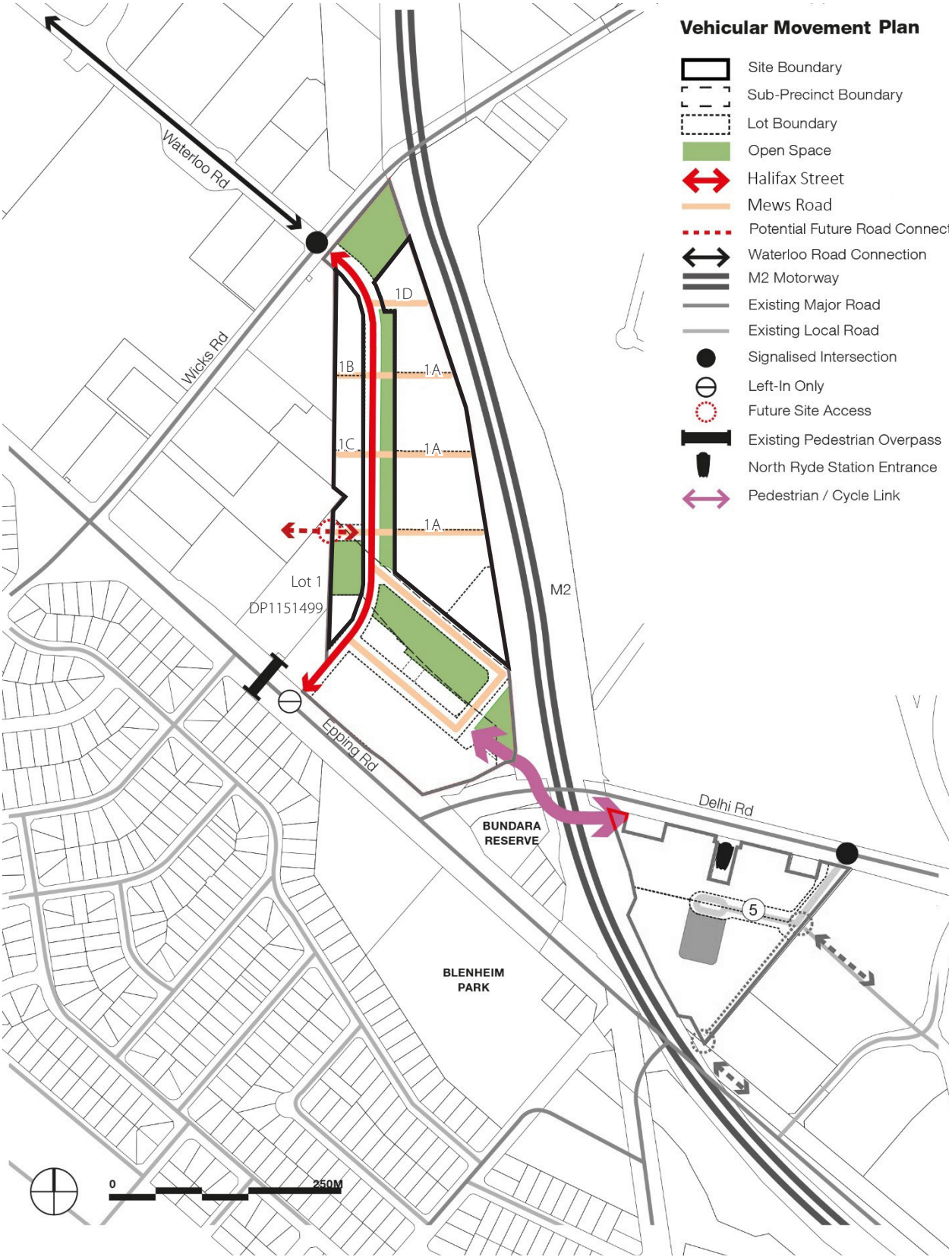


Figure 03. Vehicular Movement Plan

3.3 OPEN SPACE

3.3.1 *Objectives*

a. To contribute positively to the public domain.

b. To maximise access to public open space, and contribute to the pedestrian and cycle network.

c. To protect and enhance areas of significant native vegetation and riparian corridors.

d. To accommodate overland flow requirements and improve stormwater quality.

3.3.2 *Controls*

1. Open space is to be provided in Lot 108 in accordance with the Open Space Plan at **Figure 04** and embellished as set out in **Table 3.2**.

Park	Minimum Area	Requirements
Local Park (Lot 108)	2,075m^2	▪ Provide a local level park ▪ An active frontage is to be provided to Halifax Street; ▪ Bike parking and seating on urban edge; and ▪ Utilities to be designed to reduce visual intrusion.

Table 3.2 Requirements for a new local park

2. The local park should be designed to maximise solar access.
3. Trees will be predominantly indigenous with some specimen exotic trees. Tree selection and planting should be undertaken in accordance with the City of Ryde Street Tree Master Plan.
4. The park is to be designed in accordance with public open space described in the Public Open Space Plan **Figure 04**.
5. Provide communal open space on each lot exceeding 25% of the site area.
6. Any proposed amendment to the Open Space Plan at **Figure 04** must demonstrate that:
   i. The proposed changes meet the **Objectives** for this section;
   ii. At least 50% of existing and future public space is to receive 3 hours of sunlight on June 21 between 9am and 3pm.

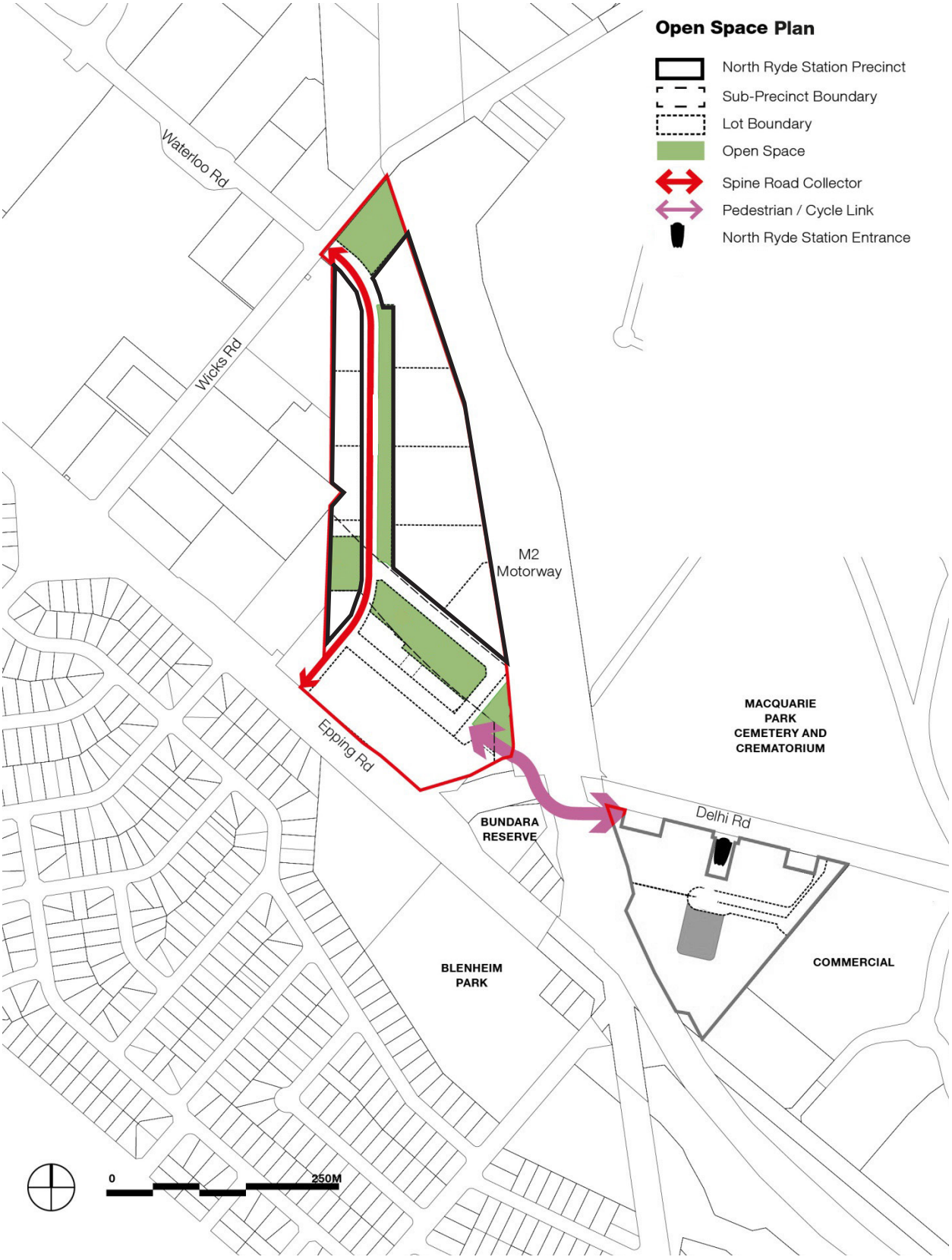


Figure 04. Public Open Space Plan

3.4 LANDSCAPE AND DEEP SOIL

3.4.1 Objectives

a. To reinforce the street character established by existing street tree planting.

b. To utilise tree species that are of an appropriate scale and form and respond to their local context.

c. To allow for and support healthy plant and tree growth.

d. To assist in habitat creation and providing bio-links and connections.

e. To create signature planting to enhance terminating vista of key streets.

f. To moderate micro-climate of the public domain and private residential properties.

g. To soften the appearance of utility services such as substations and hydrant boosters, if relevant.

h. To enhance privacy of residential dwellings and mitigate any privacy impact from neighbouring dwellings and public spaces.

3.4.2 Controls

1. Deep soil zones are to meet the following minimum requirements:
   - 10% of the site as deep soil on sites with an area of 650m^2 - 1,500m^2;
   - The minimum dimension of the deep soil zone is to be 3m in any direction on sites with an area of 650m^2 - 1,500m^2;
   - 15% of the site as deep soil on sites greater than 1,500m^2;
   - The minimum dimension of the deep soil zone is to be 6m in any direction on sites greater than 1,500m^2.
2. Private mews roads to be constructed as part of future applications will include street tree planting showing the location, species, planting methodology and maintenance of street trees to satisfy the **Objectives** and **Controls** of this section, and ensure an appropriate degree of consistency is achieved between the different Sub-Precincts.
3. All street trees must be provided in accordance with the approved Street Tree Plan as per the development consents for each Sub-Precinct.
4. Street tree planting in mews roads is to be designed in accordance with the following principles:
   i. Street trees should be used to distinguish between public and private space;
   ii. Street tree planting should be durable and include a mix of indigenous and exotic species;
   iii. Street trees are to contribute to place making and way finding; and
   iv. Street trees should generally be of uniform species within the one street.
5. Street tree planting is to be coordinated with subdivision layout, traffic plan and services layouts to ensure appropriate configuration with vehicle crossovers, sight lines, drainage swales, lighting and other services.
6. Any modification and/or variation to tree planting must satisfy the **Objectives** above and Part 3.3 of this guide.

3.5 STORMWATER MANAGEMENT

3.5.1 Objectives

a. To provide for a Precinct-wide approach to stormwater management.

b. To reduce stormwater discharge from the site.

c. To improve stormwater quality and minimise water consumption through implementation of water sensitive urban design measures.

3.5.2 Controls

1. An Integrated Water Management Plan was approved as part of SSD 5093. Any modifications which would change the performance of the approved Plan must comply with the principles above.

3.6 HOUSING DIVERSITY

3.6.1 Objectives

a. To provide a broad range of housing choice in the Precinct, including a range of dwelling sizes.

b. To enrich the local character and accommodate a diverse population by requiring that development include a variety of housing types and sizes.

c. To provide and retain housing with good access at reasonable rental cost for tenants with very low, low to moderate incomes.

d. To cater for different household types now and into the future.

e. To achieve a varied social and economic mix of residents in the Precinct.

3.6.2 Controls

1. Provide a diversity of housing types in the Precinct, e.g. townhouses, double-storey apartments and penthouses.

2. Provide a variety of apartment types, including studios, one-bedroom, two-bedroom, three-bedroom and three-bedroomm+ units.

3. Development is to provide a diverse mix of dwelling sizes generally within the following ranges:

Apartment Types	Percentage
1 bedroom + studio	10 – 35%
2 bedroom	40 – 80%
3 bedroom	5 – 35%
3 bedroom+	1 – 5%

4. All apartments should meet the 'Silver Level' requirements of the Livable Housing Design Guidelines by Livable Housing Australia (LHA).

4.0 BUILT FORM

4.1 HEIGHTS AND FSR UNDER RYDE LEP 2014

SSD 5093 is a Staged Development Consent for the High-Density Residential Precinct and Mixed-Use Precincts which allocates the gross floor area (GFA) achievable under Ryde LEP 2014 to each of the development lots to be created by the subdivision in accordance with the **Table 1**.

As a Staged Development Consent, any future development must be consistent with the Concept Proposal approved under SSD 5093 and, in this case, the allocation of GFA to each development site under Ryde LEP 2014.

Only the maximum GFA outlined for Lot 117 in the table above can be exceeded, but only where the development is proposed under an environmental planning instruments (EPIs) that provides for a floor space ratio (FSR) bonus for the provision of affordable rental housing and that component is incorporated in the proposed development. Any FSR bonus is to be calculated as per the relevant EPI and added to the gross floor area for Lot 117.

It is important to note that the development potential expressed for the Development Lot in **Table 1.1** may result in a development that does not reach the maximum 'height of building' control under Ryde LEP 2014. The following sections on Overshadowing and Building Setback and Street Frontage will also guide final heights in the High Density Residential and Mixed Use Precincts. The number of storeys for buildings on each development lot is also shown in **Figure 05** and **Figure 06**.

Where it is proposed to depart from the following height and FSR controls, a design excellence process in accordance with the NSW Government Architect's Design Excellence Competition Guidelines must be followed prior to seeking modification to the SSD 5093 consent.

Note: SSD 5093 redistributed the Gross Floor Area of 238,919m^2 permissible under the RLEP 2014 across the Lots within the Precinct.

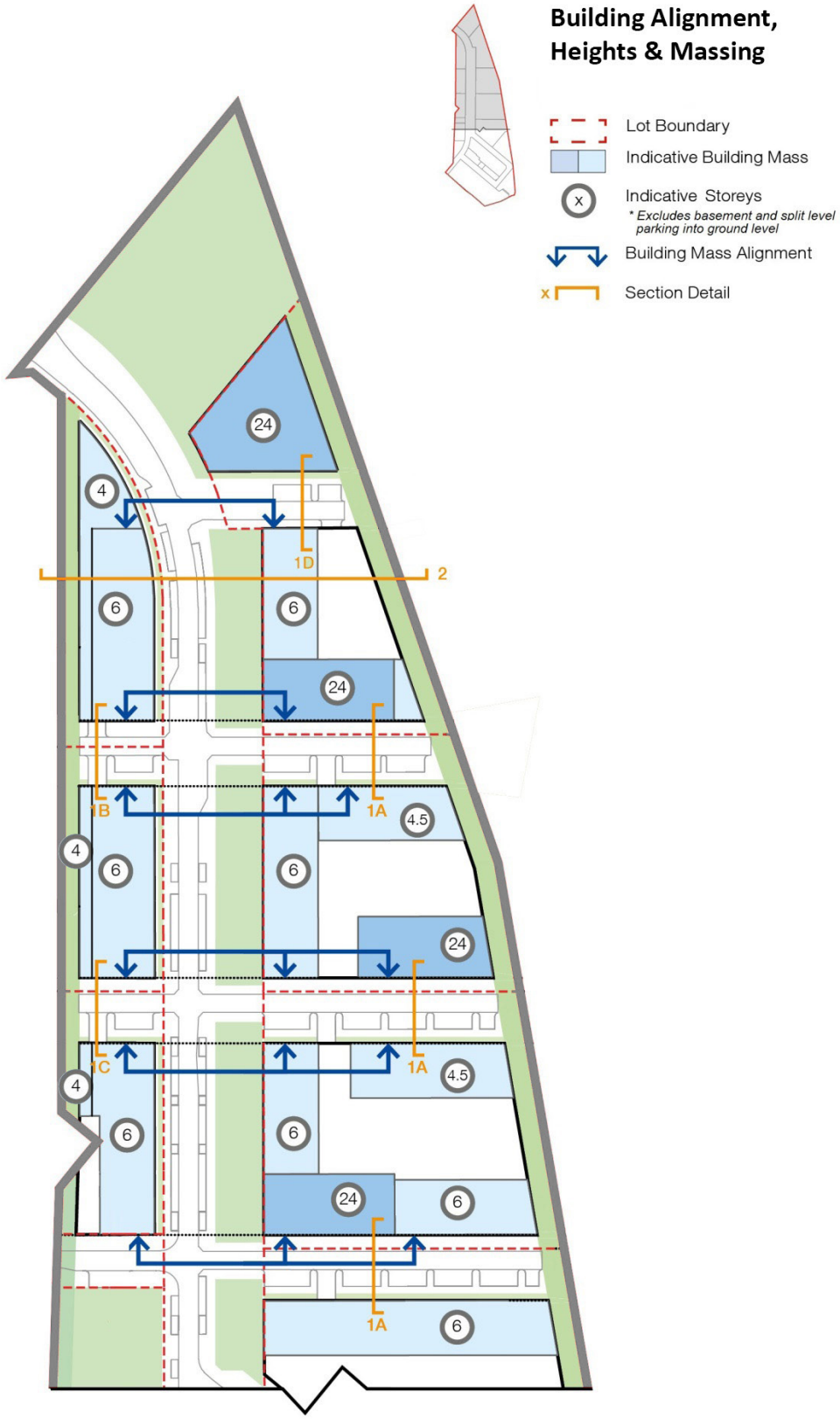


Figure 05. Building Alignments, and Number of Storeys

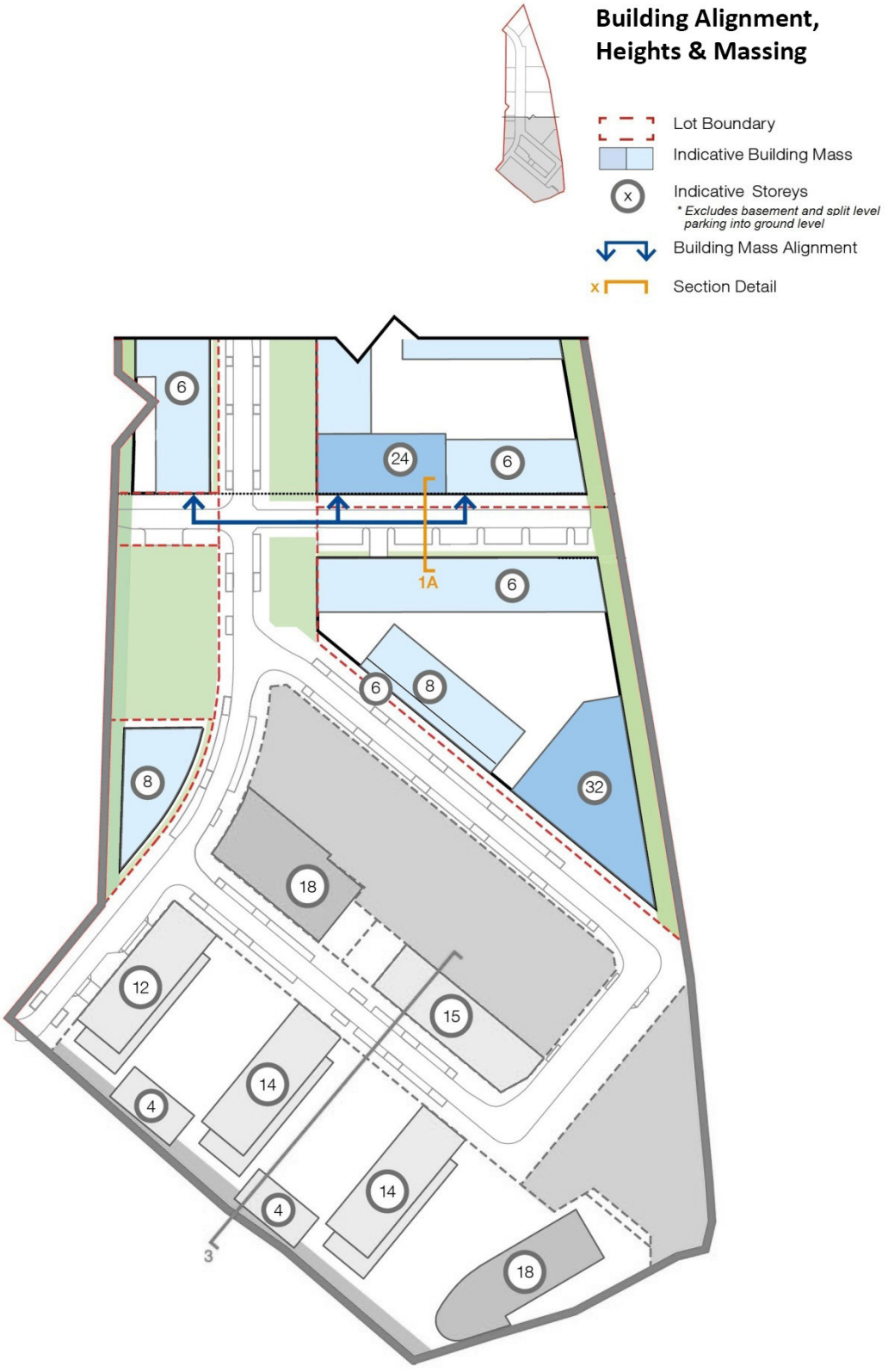


Figure 06. Building Alignments, and Number of Storeys

4.2 CONSTRUCTION OF MEWS ROADS AND VEHICULAR ACCESS

4.2.1 Objectives

a. To integrate adequate car parking, access and servicing without compromising street character, landscape or pedestrian amenity and safety.

b. To activate Mews with lobbies, and individual unit entries.

c. To ensure that vehicle crossings over footpaths minimise disruption to pedestrian movement and do not threaten safety.

d. To ensure suitable building separation and setbacks of development opposite mews roads.

e. To make vehicle access to buildings compatible with the public domain.

f. To ensure vehicle entry points are integrated into building design and not visible from the Halifax Street.

4.2.2 Controls

1. Mews roads are private access ways nominated in **Figure 03** to provide access to each development lot. The location of the mews road presupposes the developer will be required to construct the mews road located primarily on that development lot, even where a part those works may benefit adjoining lots. (See mew road cross-sections on **Figure 07** to **Figure 11** and possible vehicular access locations on **Figure 12**).
2. Mews roads can incorporate visitor parking for the development and car share spaces as well as access into basements on elevations other than the Halifax Street frontage.
3. The mews road location and notional width through the site is important in providing building separation. Entry lobbies and individual entries to residential units will help activate these roads on the eastern side of Halifax Street.
4. Flexibility on the location or inclusion of the entre length of the mews road could be considered where a better outcome can be achieved, which would be considered on a merit basis.
5. Driveway widths/grades, vehicular ramp width/grades and passing bays off mews roads are to be in accordance with the relevant Australian Standard. Design of driveway crossings is to be in accordance with Part 8.3 of Ryde DCP 2014 with the paving material to be Bipave 80 coloured 'Fossil - River Gravel" shot blast finish, with aggregate inlay.
6. The location and design of access ways to underground parking is to be located away from the Halifax Street elevation; design must also consider residential amenity particularly the location of doors and windows of habitable rooms.
7. Potential pedestrian/vehicle conflict is to be minimised by:
    i. Providing vehicle access from minor or secondary streets rather than primary streets or streets with major pedestrian activity, where practicable;
    ii. Limiting the width to no more than 6m;
    iii. Limiting the number of vehicle access points - generally one crossing per lot will be permitted and where practicable, adjoining buildings may share or amalgamate vehicle access points;
    iv. Ensuring clear sight-lines and clearly distinguishing pedestrian and vehicle crossings;
    v. Utilising traffic calming devices;
    vi. All vehicles must be able to enter and leave the site in a forward direction.
8. The appearance of car parking and service entries is to be improved by:

i. Minimising the size, quantity and visual intrusion of vehicle access points;
ii. Locating or screening garbage collection, loading and servicing areas visually away from the street;
iii. Setting back or recessing car park entries from the main façade line;
iv. Avoiding black holes in the façade by providing security doors to car park entries;
v. Where doors are not provided, it is to be ensured that the visible interior of the car park is incorporated into the façade design and material selection and that building services pipes and ducts are concealed;
vi. Returning the façade material into the car park entry recess for the extent visible from the street as a minimum; and
vii. Avoiding ramping vehicular access along boundary alignments edging the public domain and streets.

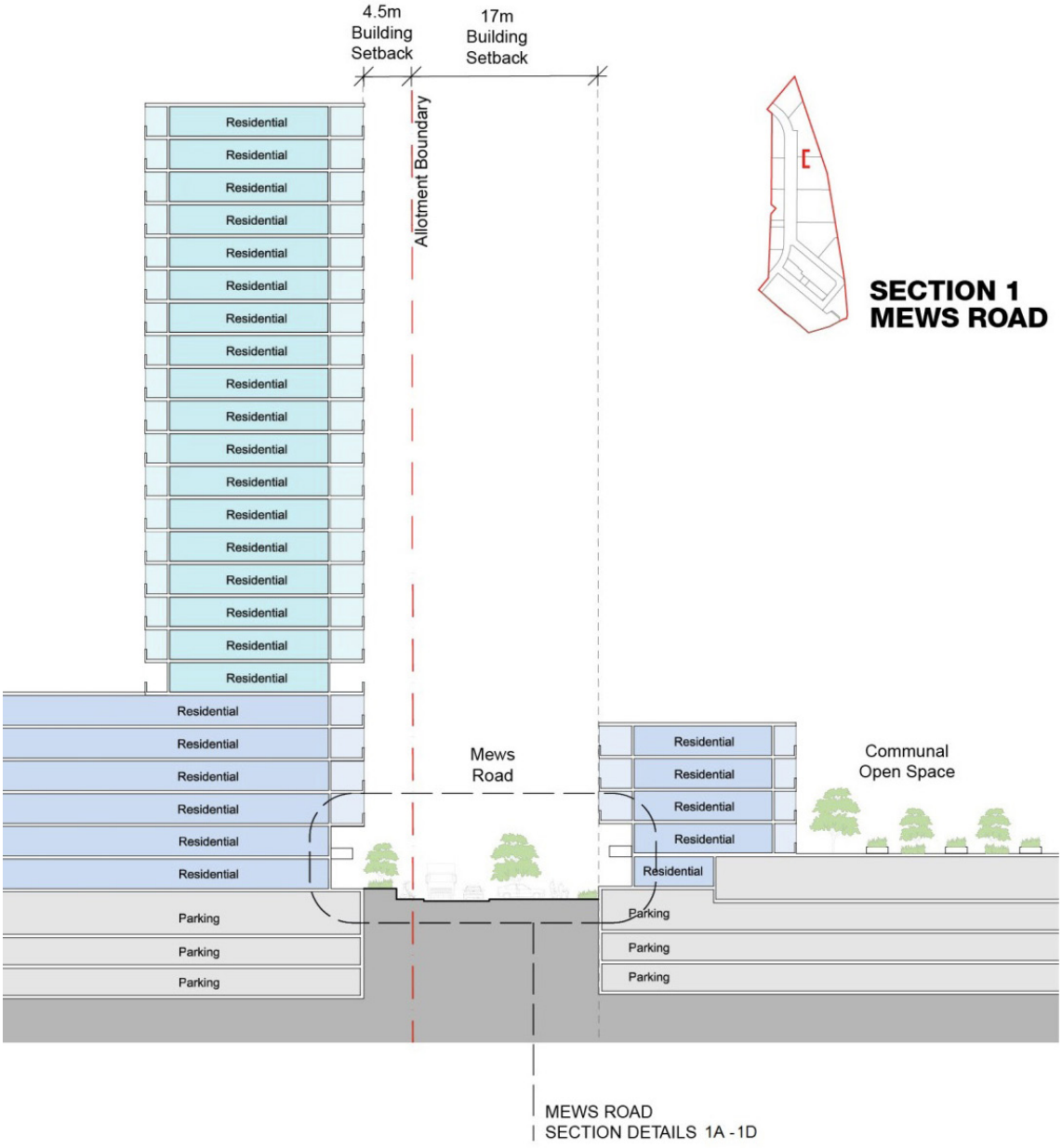


Figure 07. Section 1 Mews Road

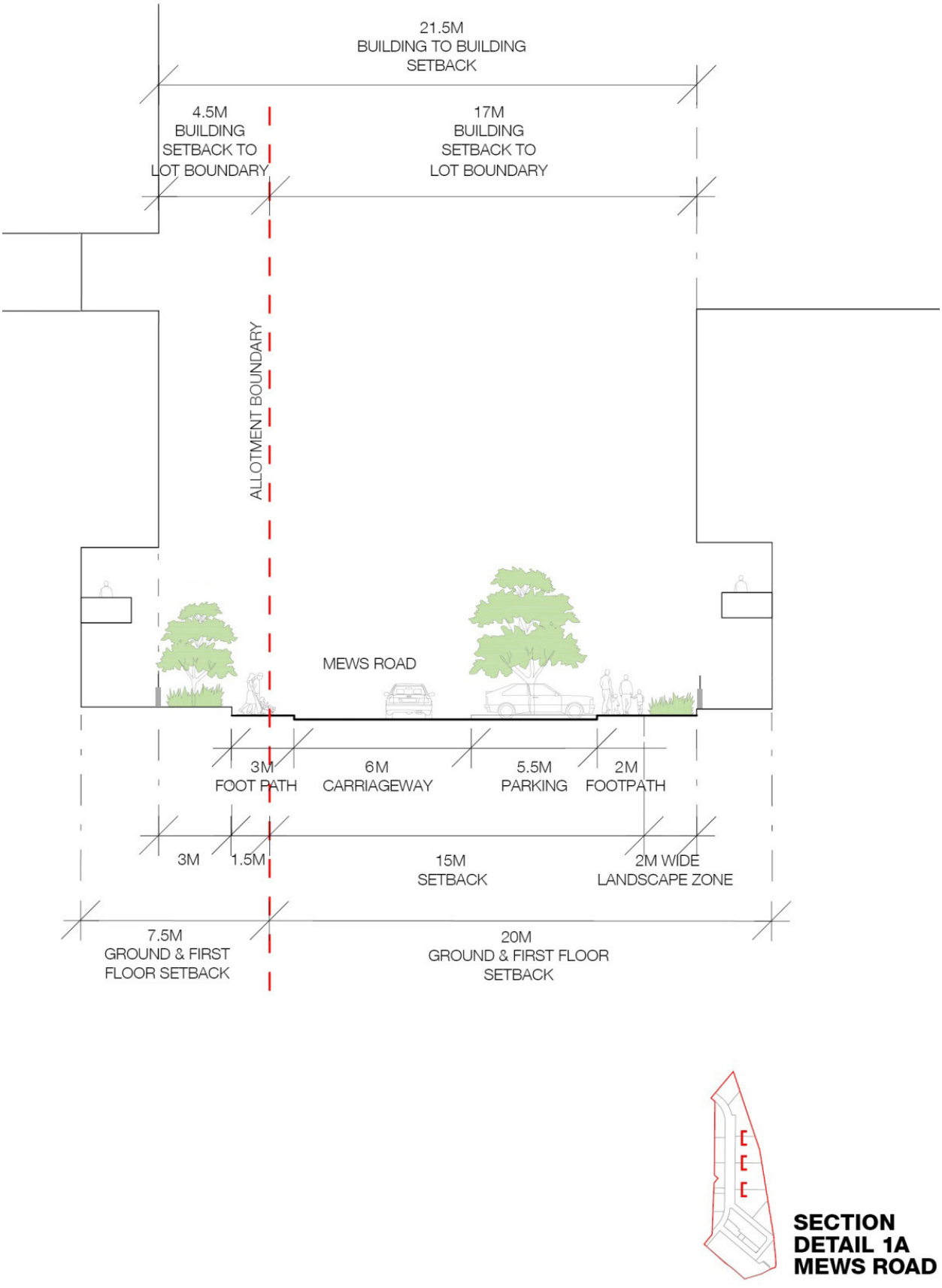


Figure 08. Section Details 1A Mews Road

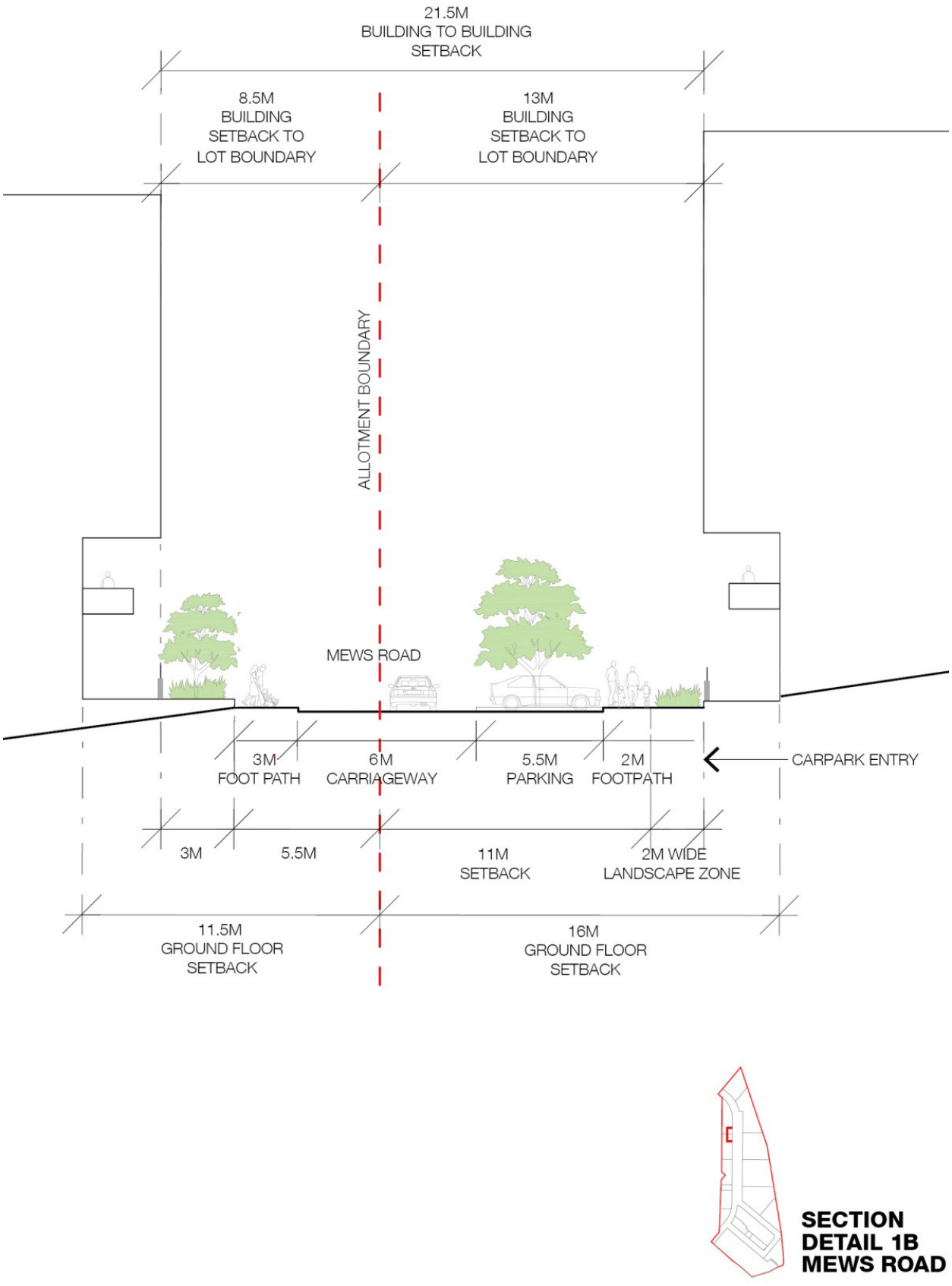


Figure 09. Section Details 1B Mews Road

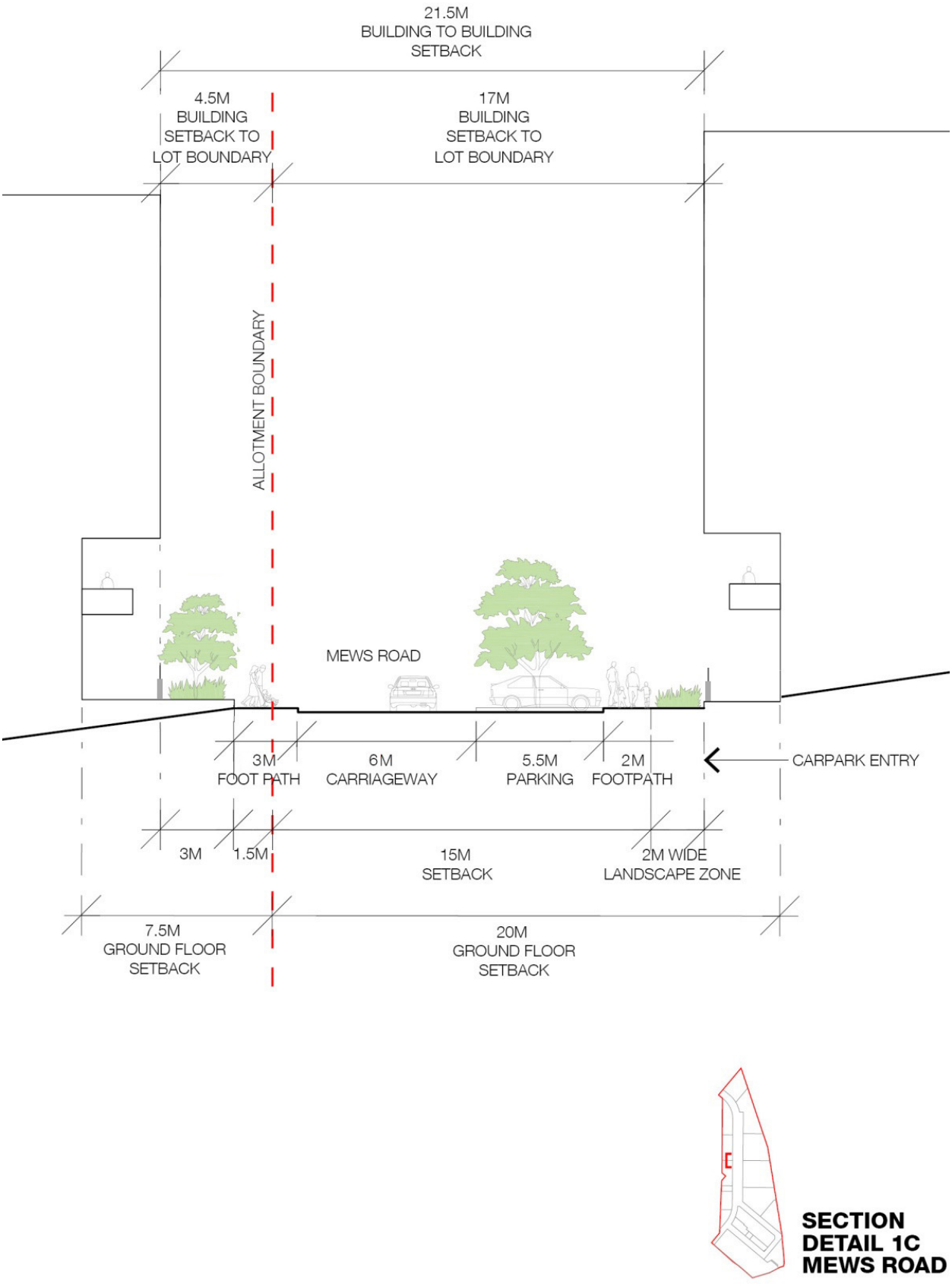


Figure 10. Section Details 1C Mews Road

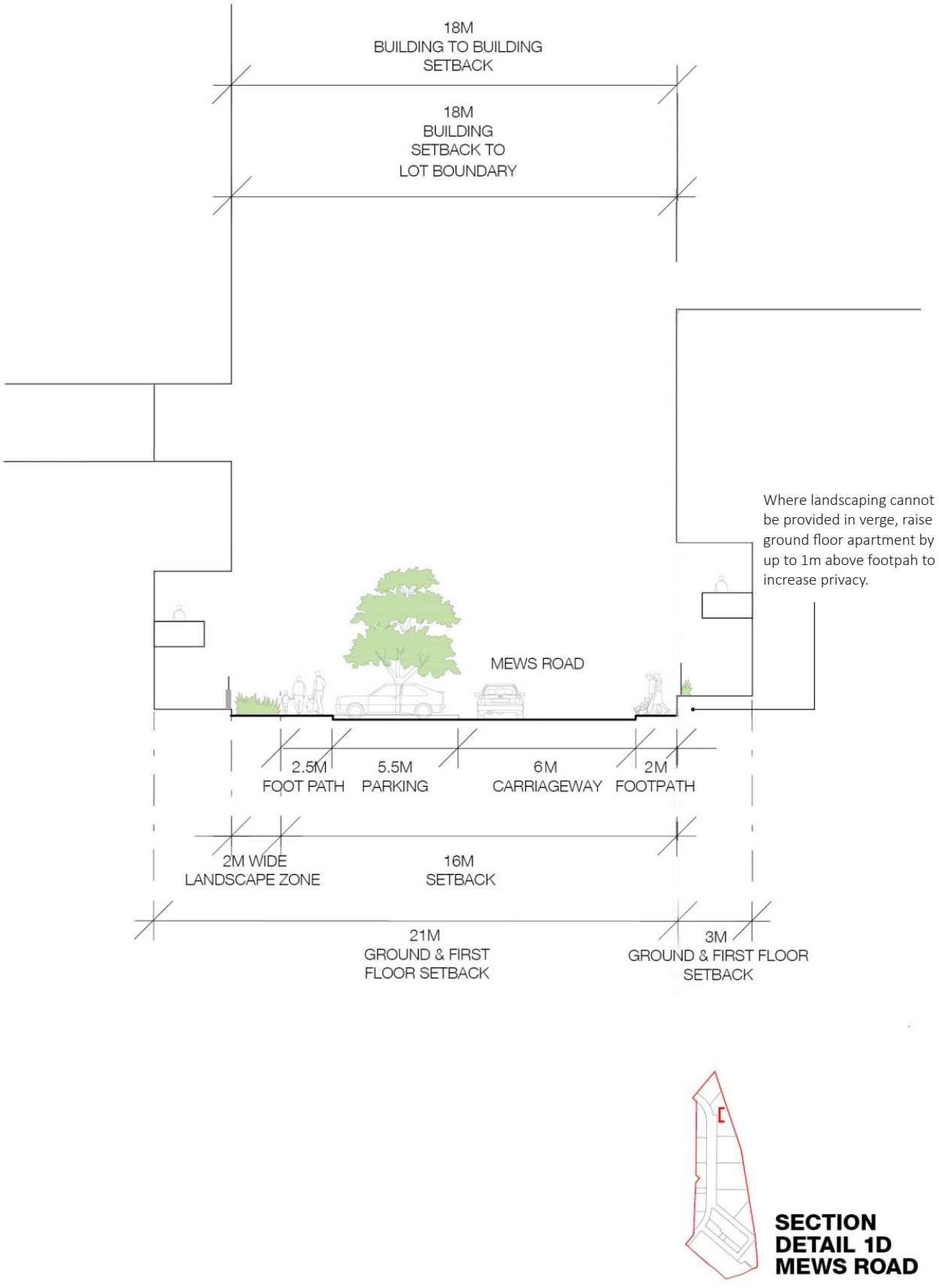


Figure 11. Section Details 1D Mews Road

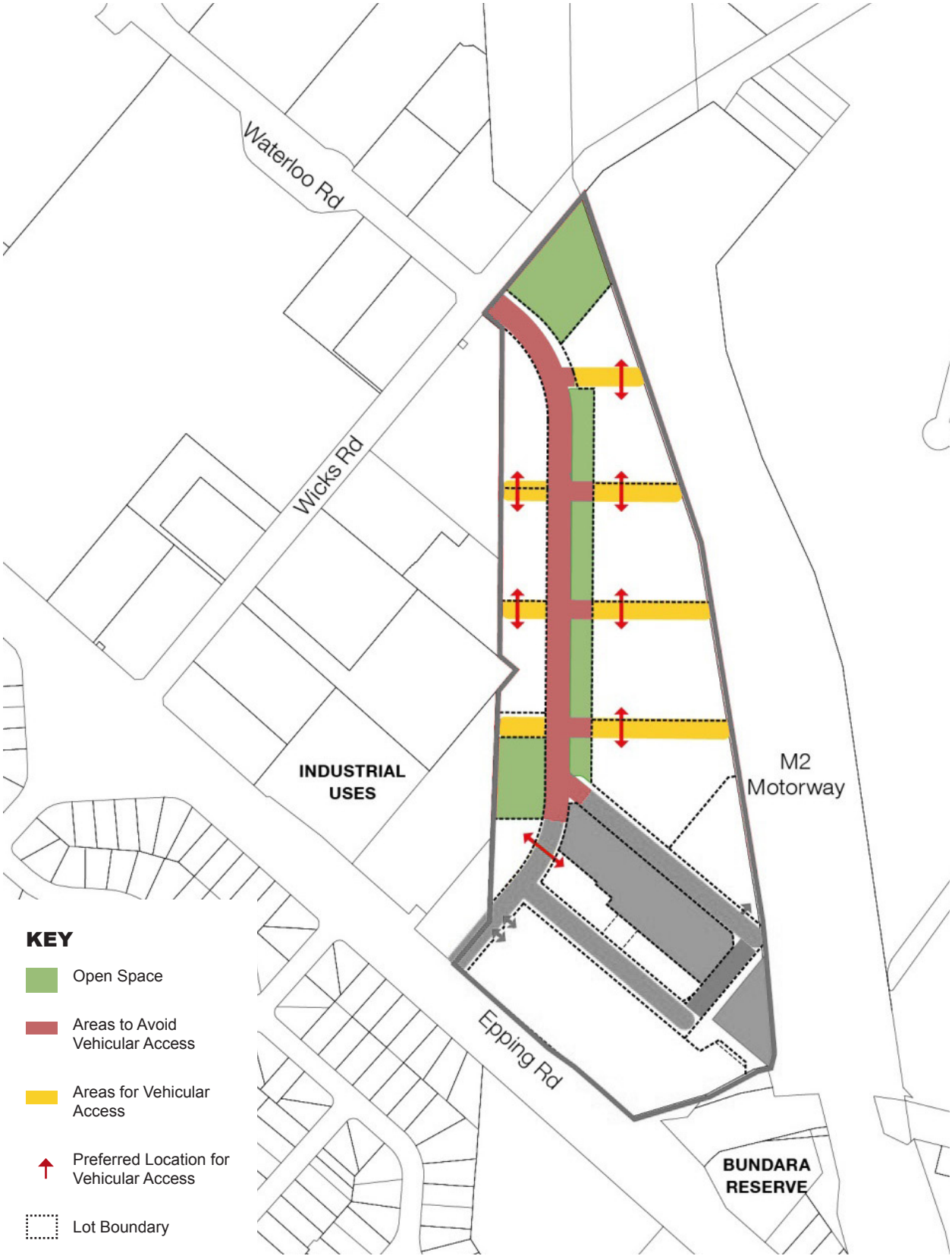


Figure 12. Vehicle access locations

4.3 APPLICATION OF STATE ENVIRONMENTAL PLANNING POLICY NO 65

All developments for residential flat buildings must meet the requirements of *State Environmental Planning Policy No 65 – Design Quality of Residential Apartment Development (SEPP 65)*. SEPP No 65 requires that applications for residential flat buildings, including residential accommodation above shops, can be determined after Council has considered:

a. The advice obtained from the design review panel,

b. The design quality of the development when evaluated in accordance with the design quality principles, and

c. The *Apartment Design Guide*.

The following objectives and controls as they relate to residential flat buildings are intended to complement the provisions in *SEPP 65* and the *Apartment Design Guide* (ADG).

4.4 LIMITING OVERSHADOWING AND ACCESSING SUNLIGHT

4.4.1 Objectives

To ensure that the heights of residential flat buildings across the Precinct:

a. Minimise overshadowing of existing residential properties within and outside of the Precinct.

b. Minimise overshadowing of public open spaces and reserves within and outside of the Precinct.

c. Provide good solar access for new and existing public open spaces and publicly accessible open spaces.

d. Meet the requirements of *SEPP 65* and the *Apartment Design Guide*.

4.4.2 Controls

1. Detailed overshadowing studies are to be lodged with development applications for buildings.
2. At least 50% of new and existing public open space is to receive 3 hours direct sunlight between 9am and 3pm on June 21.
3. No overshadowing of residential lots outside of the Precinct is to occur after 11 am on June 21.
4. No overshadowing of Blenheim Park is to occur after 9am on June 21.
5. 100% of Bundara Reserve must receive a minimum of 3 hours direct sunlight between 9am and 3pm on June 21.
6. Residential flat buildings are to comply with Daylight Access provisions in the *Apartment Design Guide*.
7. At least 50% of communal courtyards must receive a minimum of 2 hours direct sunlight between 9am and 3pm on June 21.

4.5 BUILDING SETBACKS

4.5.1 Objectives

a. To create streets which contribute to the character and identity of the Precinct by creating a strong, consistent and appropriate definition of the public domain.

b. To provide variety and activation of street frontages.

c. To provide building separation for visual and acoustic privacy as well as solar access.

d. To contribute to the landscape character of the Precinct.

e. To ensure a comfortable street environment for pedestrians in relation to daylight, scale, sense of enclosure and wind mitigation, as well as healthy environments for street trees.

4.5.2 Controls

1. Building setbacks are to be provided generally in accordance with **Table 6.** All setbacks are measured from the development lot boundaries and hence exclude the linear park or any mews roads to be constructed through the development lot.
2. All building cantilevers/overhangs must be at least 2 storeys up (ground and first floor setback).
3. The Primary Building Setbacks are shown on **Figure 13** and is measured from the lot boundary of each development lot to that part of the building above the ground and first floors. The Primary Building Setbacks are 'built to lot boundaries' to define and frame the street edge / built form and to achieve the desired streetscape appearance within the Precinct.
4. The Secondary Building Setbacks are shown on **Figure 14** and is measured from the property boundary of each development lot relate to the ground and first floor components of a building. The Secondary Building Setbacks create a sheltered pedestrian walkway. Where no Secondary Building Setback is specified, the setback should be consistent with the Primary Building Setback.
5. The Landscape Setbacks are shown on **Figure 15** and are measured from the lot boundary of each development lot to any part of the basement podium protruding above ground level.
6. On Lots 102 and 116, the setbacks nominated are to be minimum setbacks to allow tower built form.
7. Where no building setback is specified, the setback will be considered on merits which can include a nil building setback.
8. Roof plant must be setback at least 3m from the top of the building.
9. Where a development lot adjoins the linear park (Lots 102, 110, 114 and 115):
    i. The ground level setback and 'entry points' (such as gates or front doors) are to activate the open space, and make it feel inhabited to maximise visibility along the public domain.
    ii. The ground floor level is to step with the topography of the site and be no more than 1m above the street.
10. Setbacks between buildings are to comply with *SEPP 65* and the *ADG*.
11. Buildings are to provide clear delineation between the public and private domain.
12. Where a site is constrained, basement parking may protrude above natural ground level by up to 1m. This will only be considered where the encroachment is appropriately designed to incorporate functional features such as ramps, courtyards and landscaping beds to minimise this impact.

13. Where landscaping cannot provided in the verge, the ground floor apartments are to be raised by up to 1m above the footpath to increase privacy for the occupants.
14. Minor encroachments up to 450mm into the setback may be considered, where it does not involve any GFA, provides articulation to the building and does not reduce any required landscaped setbacks.

Street Type	Setback & Separation
Halifax Street (Western boundary)	▪ 5m ground floor & first floor setback ▪ 1.8m landscape setback ▪ 3m secondary setback
Halifax Street (Eastern boundary)	▪ 3m ground floor & first floor setback ▪ 0m secondary setback
Mews Road (Refer to Figure 07 to Figure 11)	1A ▪ 4.5m & 17m building setback to lot boundary ▪ 7.5m & 20m ground & first floor setback ▪ 3m & 2m landscape setback 1B ▪ 8.5m & 13m building setback to lot boundary ▪ 11.5m & 16m ground floor & first floor setback ▪ 3m & 2m landscape setback 1C ▪ 4.5m & 17m building setback to lot boundary ▪ 7.5m & 20m ground floor & first floor setback ▪ 3m & 2m landscape setback 1D ▪ 18m building to building separation ▪ 3m ground floor & first floor setback to building line ▪ 2m landscape setback to footpath where possible
Lot 109 - future through link (Refer to Section1D)	▪ 0m building setback
Jarvis Circuit	▪ 3m building setback comprised of landscaping ▪ 5m ground floor & first floor setback
Western boundary High-Density Residential Precinct to Macquarie Park Corridor	▪ 6m building setback comprised of landscaping[1] ▪ 9m building setback above the 4th storey
Lot 107 (Mixed-Use)	▪ 5m ground floor & first floor setback ▪ 3m building setback

Table 6 Summary of setbacks

[1] Lot 206 includes a small triangular incision. Where this occurs, the setback will be considered on a merit basis due to the irregularity of this boundary.

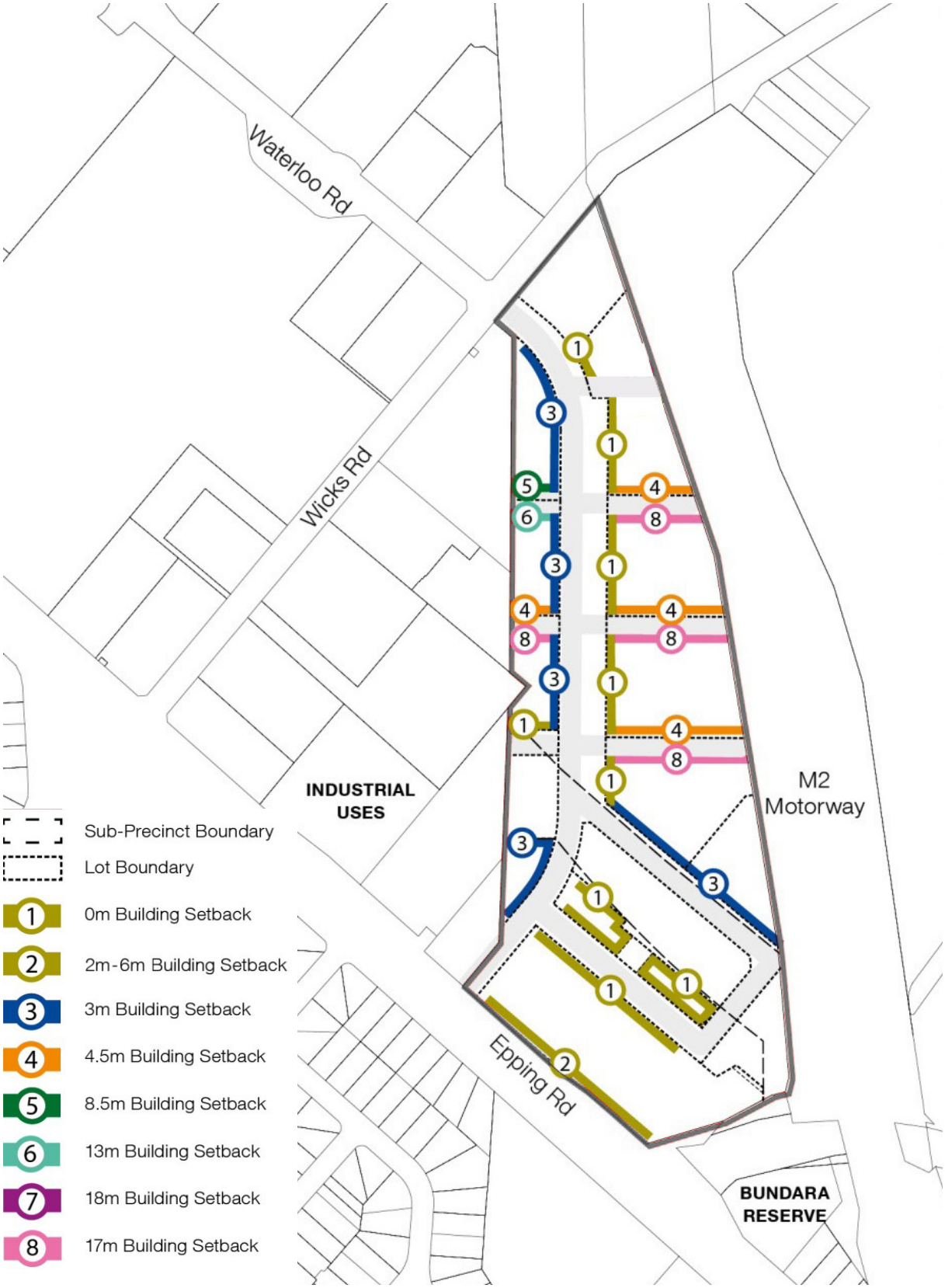


Figure 13. Built Form Setbacks to Lot Boundaries

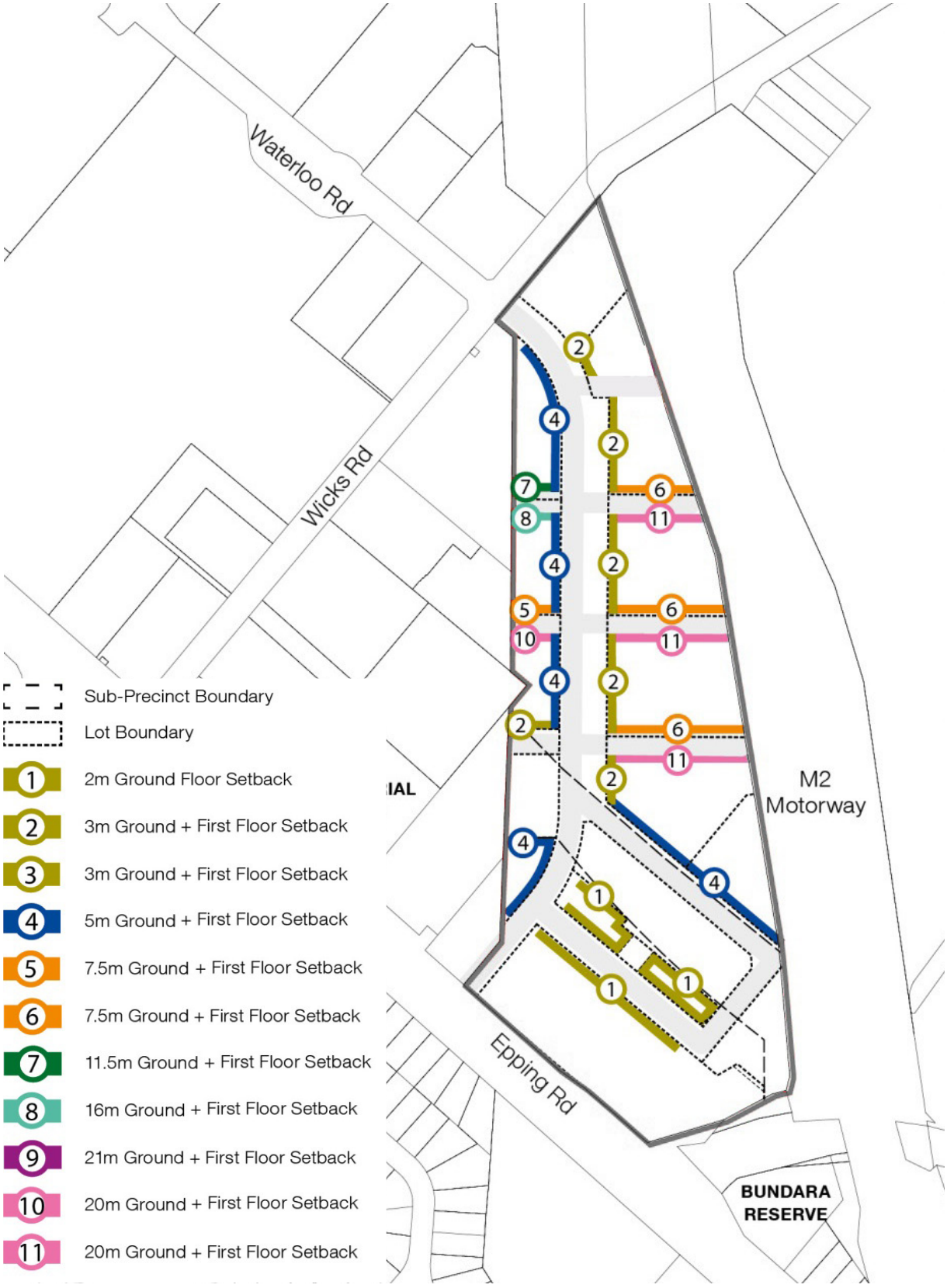


Figure 14. Built Form Setbacks to Lot Boundaries for Ground & First Floors

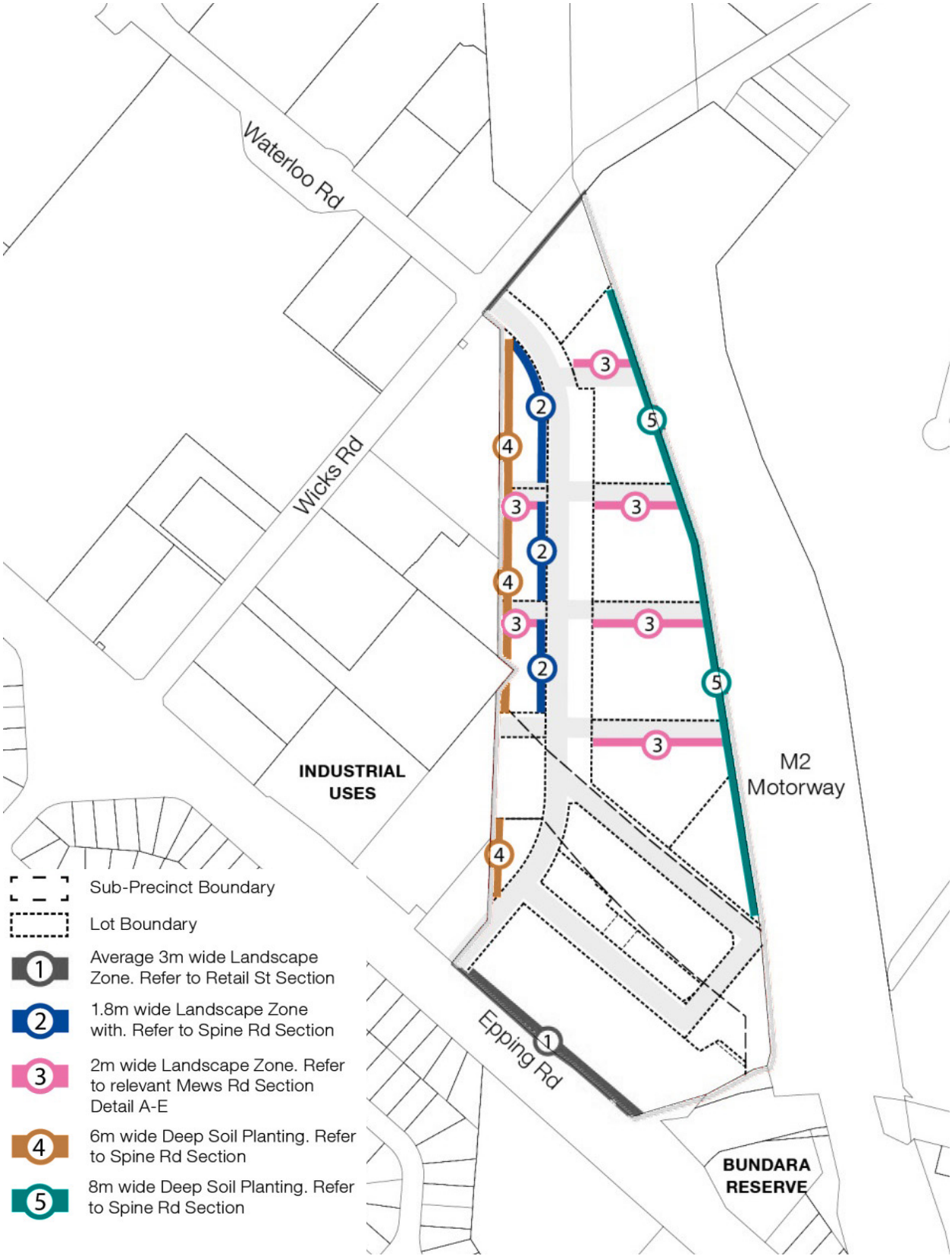


Figure 15. Landscape Setbacks

Figure 16. Building Setbacks - Halifax Street

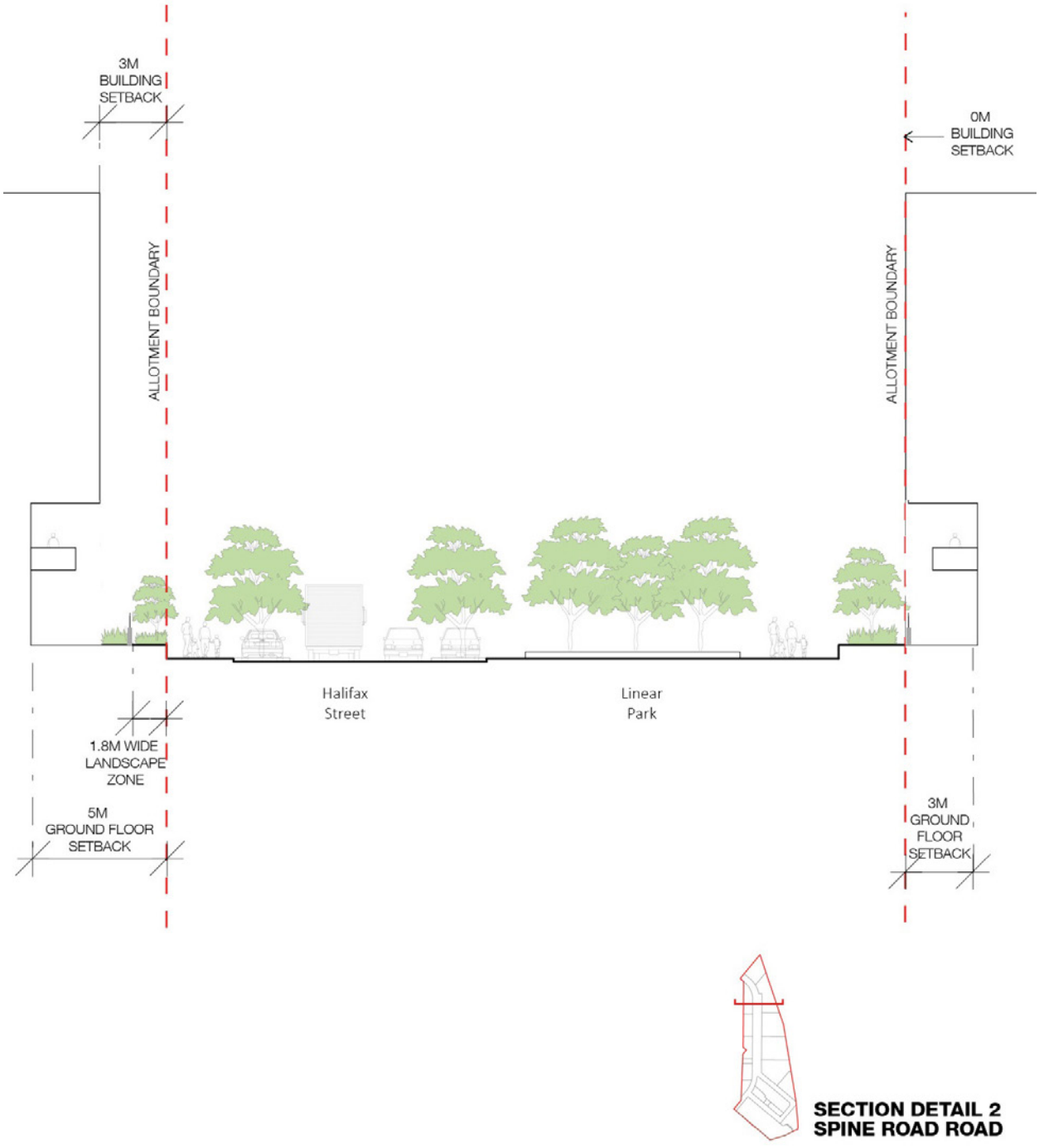


Figure 17. Halifax Street Section Detail 2

4.6 BUILDING DEPTH AND BULK

4.6.1 Objectives

a. To reduce the apparent bulk and scale of buildings by breaking up expanses of building walls with modulation of form and articulation of façades.

b. To reduce the apparent bulk and scale of tall towers by creating a 'waist line' on the building facade to create a 'base + tower' form.

c. To create sculptural and slender tower forms which contribute positively to the identify of the precinct and local character.

d. To ensure that the built form helps to define street edges and maintain a consistent streetscape character.

4.6.2 Controls

1. No building above 22 metres in height is to have a building length that aligns to a street in excess of 40 metres without a recess.
2. Each recess is to be open to the sky and have a minimum dimension of 3m in width and 3m in depth.
3. For residential tower buildings over 8 storeys, each building footprint is to be a maximum of 1,090m^2 (Gross Building Area).
4. A one storey 'waist line' is to be created to residential tower buildings to articulate the base and tower forms in accordance with **Figure 18** and **Figure 19**; this is achieved by providing a 3 metre setback to the storey above the street wall.
5. Use atria, light wells and courtyards to improve internal building amenity and achieve cross ventilation and/or stack ventilation.
6. Atria and light wells are not to be used as the primary air and/or light source for any apartment units.
7. Building façades are not to be dominated by continuous balconies.

4.7 MIXED USE BUILDINGS

4.7.1 Objectives

a. To encourage a variety of mixed-use developments in the mixed use zones of the Precinct..

b. To create lively streets and public spaces in the Precinct..

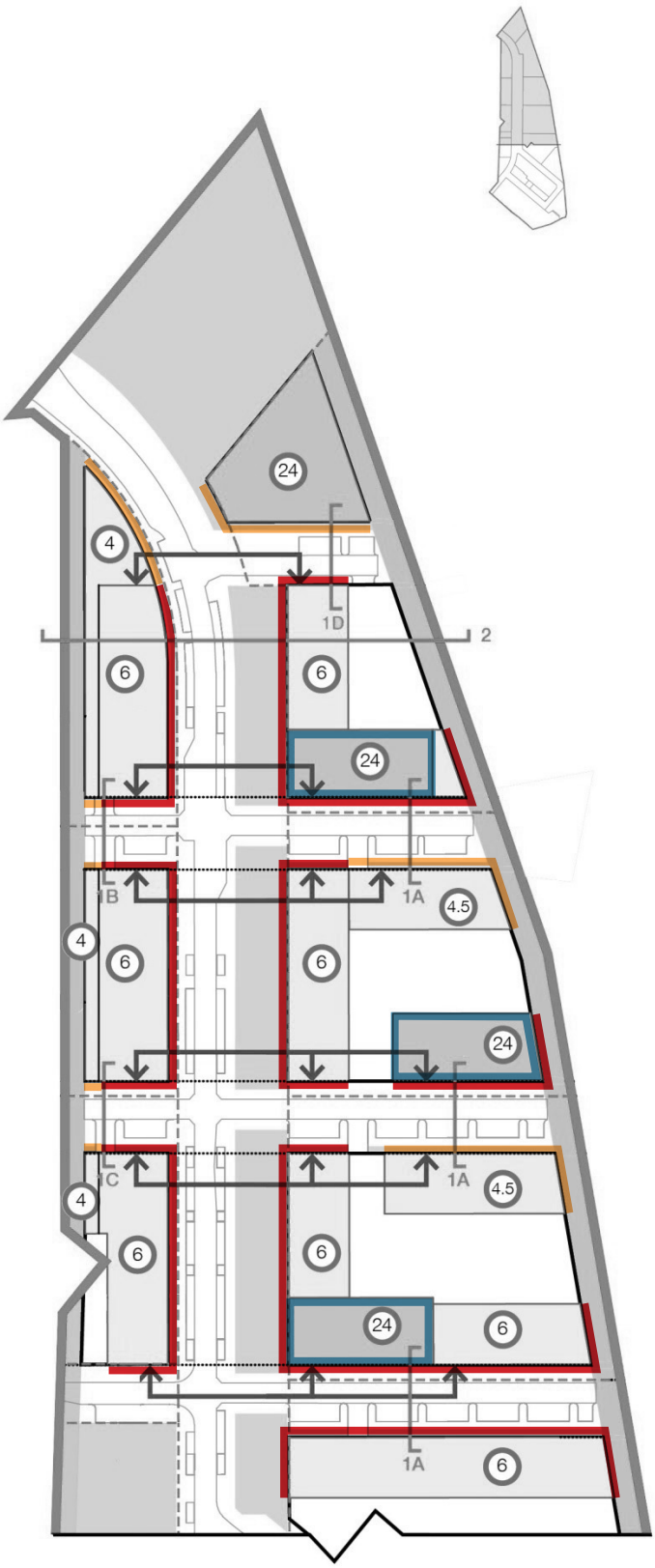
c. To promote non-residential uses at the lower levels of buildings, fronting Halifax Street.

d. To increase the diversity and range of shopping and recreational activities for workers and residents.

e. To enhance public safety by increasing activity in the public domain on weeknights and on weekends.

f. To minimise potential conflicts and achieve compatibility between different uses.

g. To encourage building designs that meet the broadest range of occupants' needs possible, and which can accommodate whole or partial changes of use.



Example of creating a 'waist line' to separate the base and the tower forms of a high-rise residential tower building.

Figure 18. Street wall height diagram

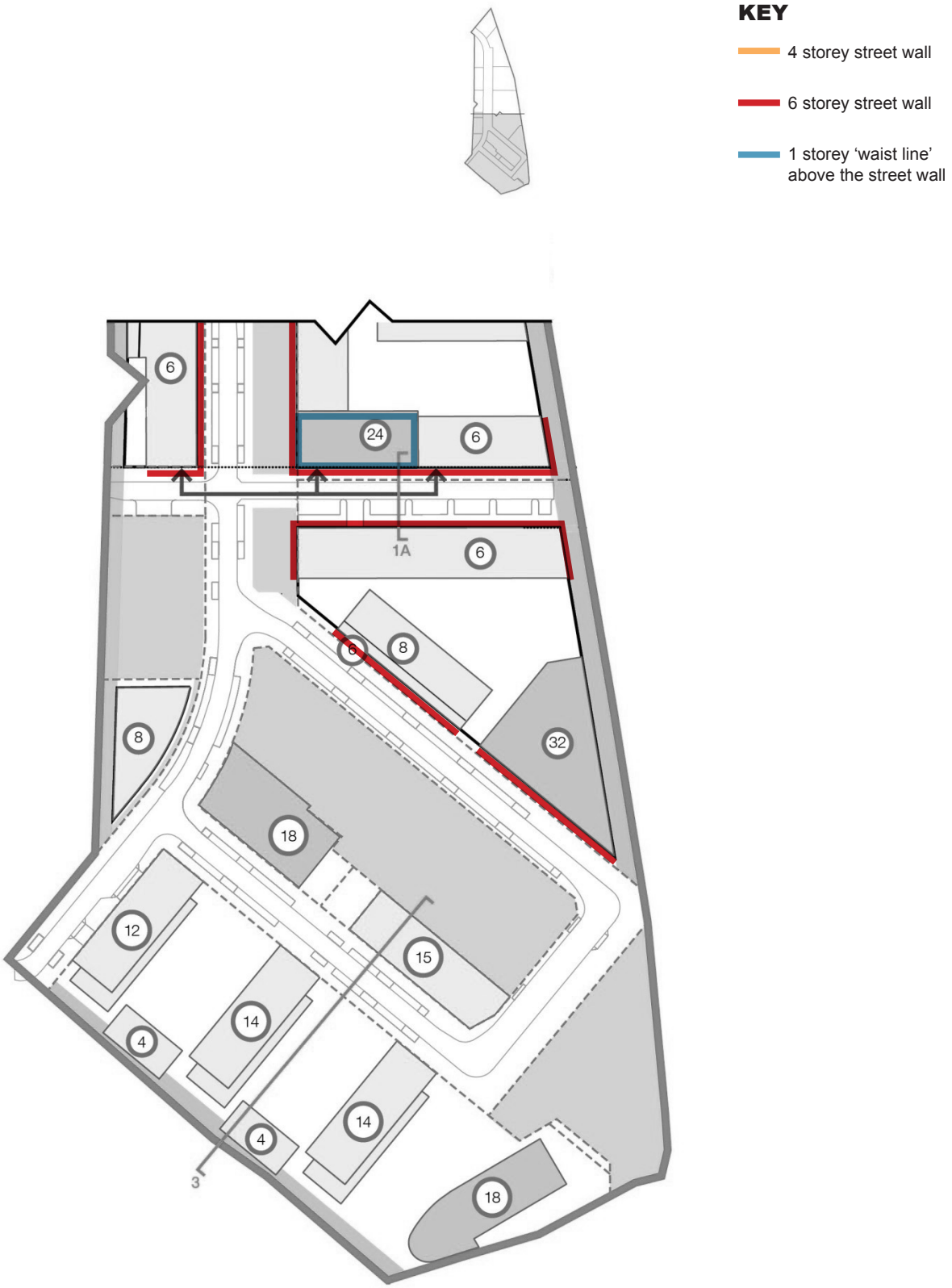


Figure 19. Street wall height diagram (continued)

h. To ensure that the design of mixed use buildings addresses residential amenity.

i. To create separate, legible and safe access and circulation in mixed use buildings.

j. To ensure that mixed use buildings address the public domain and the street

4.7.2 Controls

1. Provide flexible building layouts which allow variable tenancies or uses on the ground floor.
2. Minimum floor to ceiling heights for residential developments are to comply with the requirements of the *Apartment Design Guide*.
3. Separate commercial service requirements, such as loading docks, so as not to interfere with residential access, servicing needs and primary outlooks.
4. Locate clearly identified residential entries directly from the public street.
5. Clearly separate commercial and residential entries and vertical circulation.
6. All development must be consistent with the Safety by Design principles incorporated in Part 4 of the *Apartment Design Guide*.
7. Provide security access controls to all entrances into private areas, including car parks and internal courtyards.
8. Provide safe pedestrian routes through the site, where required.
9. All buildings must be orientated to address major streets with active uses.
10. All development must not have any unarticulated blank walls and car parking vents at ground level.
11. Blank walls, if any, must not be located facing Halifax Street.
12. Noise and vibration insulation is required between residential and other uses in order to minimise amenity impacts.

4.8 AWNINGS

4.8.1 Objectives

a. To provide weather protection, safety and security for pedestrians.

b. To provide protection from wind and down drafts resulting from the built form.

c. To unify the streetscape.

d. To demarcate building entries and contribute to the image and identity of development.

4.8.2 Controls

1. Awnings are to be provided at key pedestrian and active frontage locations in Lot 107.
2. Awning width is to be appropriate to the building design and streetscape and have regard to the location of street trees and open space.
3. Awnings are to have a minimum soffit height of 3m above the finished ground floor level. On sloping sites, awning soffit height may vary from 3.6m to 4.2m.
4. Where the topography slopes along the street, awnings are to step to provide a regular height over the footpath.

5. Awnings are to provide adequate weather protection.
6. Under awning lighting is to be provided to achieve appropriate luminance levels for pedestrians (refer to relevant Australian Standards). This should be recessed into the soffit of the awning.
7. Entry canopies and discontinuous awnings may be provided to building entries not located along active frontages.
8. Entry canopies may be glazed or solid, and are to be coordinated with the overall facade design.

4.9 ACTIVE STREET FRONTAGES

4.9.1 Objectives

a. To create active street frontages around areas of high pedestrian traffic such as open spaces.
b. To encourage activity within the Precinct outside commercial business hours.
c. To enhance pedestrian safety, security and amenity within the Precinct.
d. To ensure that buildings are designed to help activate open spaces and street edges.
e. To encourage active retail uses (primarily food and beverage retail).

4.9.2 Controls

1. Active frontages are required to be provided in accordance with **Figure 20**.
2. Buildings adjacent to or opposite open space are to have 'entry points', such as gates or front doors, to activate the space and make it feel inhabited to maximise visibility along the public domain (Refer to No 1 in **Figure 20**).
3. Entries to residential lobbies and tenancies are to be accessible and at the same level as the adjacent footpath. (Refer to No 2 in **Figure 20**)
4. Retail development is to be provided within Lot 107.
5. Buildings within Lot 107 are to be designed to provide high activity zones. Active ground level uses are required on all street frontages.
6. Glazing of windows and doors of building frontages in Lot 107 should be maximised.
7. Commercial and residential lobbies are not to occupy more than 25% of the total length of the building's street frontage
8. Retail uses in Lot 107 are to have a tenancy depth that encourages different uses and design flexibility.
9. Apartments are not to be subterranean. Ground floor apartments must step with the topography and relate to the grade and ground level of the site (see **Figure 21**), with the ground floor level no more than 1m above the public footpath.
10. Where ground floor apartments have to be raised by more than 1m above the natural ground level due to site constraints, terraced garden beds are to be provided along the frontage to enhance privacy and amenity (see **Figure 22**).
11. Private gardens with individual street access are to be provided to address the public domain.
12. Residential buildings adjacent to the public domain are to have a front door, living room and/or kitchen window facing the street. Buildings which have only bedrooms facing the street are to be avoided.

Figure 20. Active Street Frontages

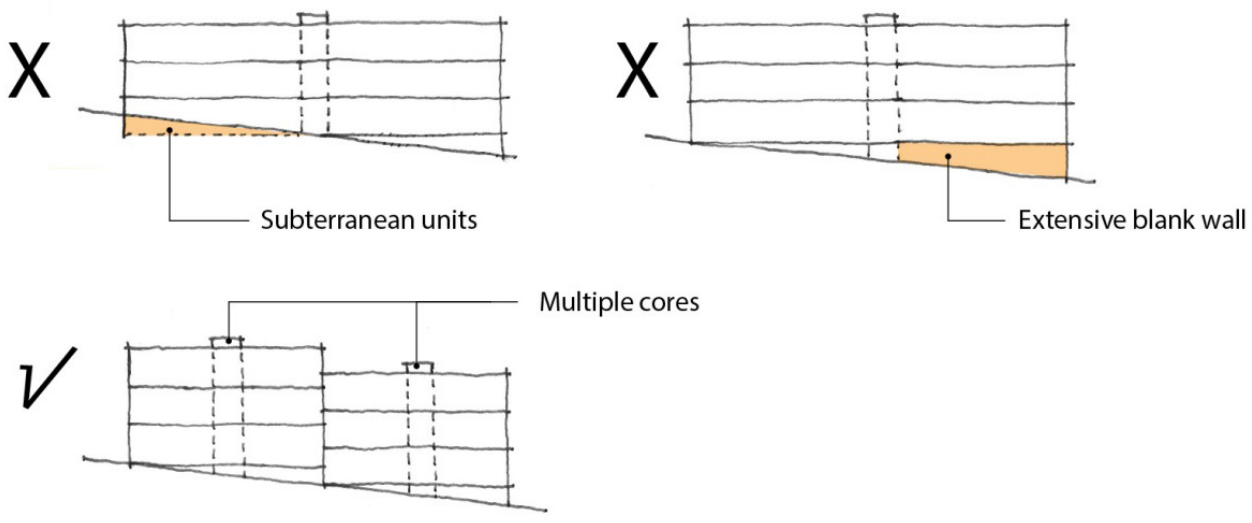


Figure 21. Siting of Buildings

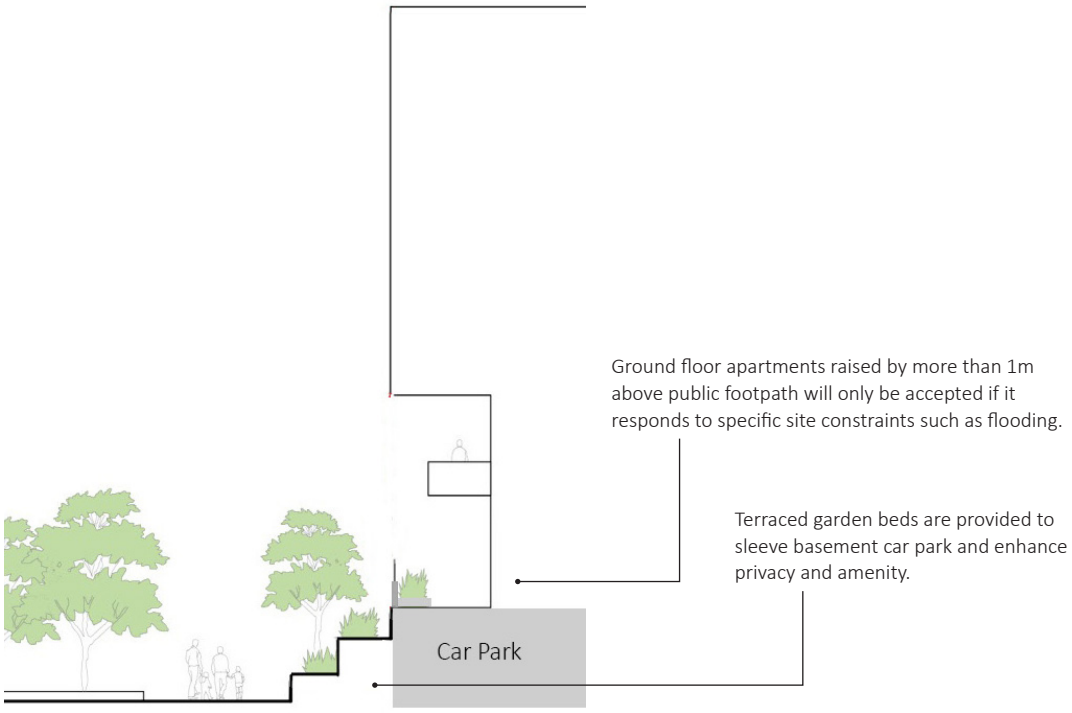


Figure 22. Public domain interface treatment to above-ground car park

4.10 BUILDING DESIGN AND MATERIALS

4.10.1 Objectives

a. To contribute positively to the streetscape and public domain by means of high quality architecture and robust selection of materials and finishes.

b. To provide richness of detail and architectural interest especially at visually prominent parts of buildings such as lower levels and roof tops.

c. To ensure that building elements such as awnings, sun screens, shading devices, roof structures and services elements are integrated into the overall building form and façade design.

d. To present appropriate design responses to nearby development that complement the streetscape.

e. To clearly define the adjoining streets, street corners and public spaces and avoid ambiguous external spaces with poor pedestrian amenity and security.

4.10.2 Controls

1. Balconies and terraces that assist in providing passive surveillance are to be provided.
2. Balconies are to have a minimum dimension of 1m in any direction and to allow for usable private open space.
3. Air conditioning units, hot water gas heaters and other mechanical services must be screened (if visible from the public domain) and integrated with the building design.
4. Provide landscaped communal open space at podium-level setbacks. Refer to NSW Government's *Technical Guidelines for Urban Green Cover in NSW* and Part 4P Planting on Structures of the *Apartment Design Guide*.
5. Articulate façades so that they address the street and add visual interest. Avoid extensive expanses of any single material.
6. Building design is to include articulation of the ground floor elevation to enable it to read differently from the upper floors.
7. External walls are to be constructed of high-quality and durable materials and finishes with 'self-cleaning' attributes, such as face brickwork, rendered brickwork, stone, concrete and glass.
8. Finishes with high maintenance costs, those susceptible to degradation or corrosion, such as painted render finishes, that result in unacceptable amenity impacts, such as reflective glass, are to be avoided.
9. Maximise glazing for retail uses and break glazing into sections to avoid large expanses of glass.
10. Driveways and car park entries should not be located along the primary street frontage and should not constitute more than 20 per cent (maximum 8 metres) of the secondary street frontage.
11. Highly reflective finishes and curtain wall glazing are not permitted above ground floor level.
12. A materials sample board and schedule is required to be submitted with applications for development with a capital investment value of $1 million or more for that part of any development built to the street edge.
13. Minor projections up to 450mm from building walls in accordance with those permitted by the Building Code of Australia may extend into the public space, providing they do not fall within the definition of gross floor area and there is a public benefit, such as expressed cornice lines that assist in enhancing the streetscape.

14. The design of roof plant rooms and lift overruns is to be integrated into the overall architecture of the building. Setbacks and screening are to be utilised where appropriate.
15. Facade design is to reflect and respond to the orientation of the site using elements such as sun shading and environmental controls where appropriate.
16. Important corners are to be expressed by giving visual prominence to parts of the façade (e.g. a change in building articulation, material or colour).
17. Ventilation louvres and car park entry doors are to be coordinated with the overall façade design.
18. Balcony balustrades on the first floor are to be opaque to maintain privacy of the occupants.

4.11 ACTIVE TRANSPORT AND PARKING

4.11.1 Objectives

a. To ensure development in the Precinct meets the objectives of Transit Oriented Development and assist in City of Ryde and State Government's aim to increase public transport use to 40% for the journey to work by 2031.
b. To ensure that parking provision rates acknowledge capacity constraints on the surrounding road network and access restrictions.
c. To minimise car dependency for commuting and recreational transport use and promote alternative means of transport.
d. To provide adequate car parking for building users and visitors, depending on building use and proximity to public transport.
e. To minimise the visual impact of car parking on streets, public spaces and adjoining sites.
f. To ensure that bicycle parking is considered in all development, provided in appropriately scaled developments with end of trip facilities such as change rooms, showers, and secure bike parking.

4.11.2 Controls

1. DAs for residential and commercial development must be accompanied by a traffic and transport impact assessment. The traffic and transport impact assessment is to:
    i. Provide an assessment of the impact of the proposal on the traffic network;
    ii. Demonstrate how the development maximises access by sustainable modes of transport and reduces car dependency consistent with Transit-Oriented Development principles; and
    iii. Accommodate car share schemes.
2. A Framework Travel Plan (FTP) is to be submitted to Council for all DAs in accordance with Section 4.4C of Part 4.5 Macquarie Park Corridor of the Ryde DCP 2014.
3. Car parking is to be provided in accordance with the car parking controls for Macquarie Park, as set out in Section 9.3 of the Ryde DCP 2014.
4. Bicycle parking is to be provided in accordance with Part 9.3 of the Ryde DCP 2014.
5. Car share spaces are to be provided throughout the development, with 29 spaces to be provided in the high-density residential precinct. It is intended that the car share spaces in the high-density residential precinct be provided as perpendicular parking in mews roads. The

mews roads west of Halifax Street will incorporate 3 car share spaces each, and the mews roads on the east of Halifax Street will each incorporate 8 spaces, 7 spaces, 5 spaces and 3 spaces within each mews road from south to north, respectively.

4.12 SITE FACILITIES AND SERVICES

Site facilities and services are to comply with the Macquarie Park controls set out in Section 8.5 of Part 4.5 of the Ryde DCP 2014

4.13 ACCESSIBLE DESIGN

4.13.1 Objectives

a. To ensure that the design of new development and the public domain provides equitable, safe and legible access for people with disabilities

4.11.2 Controls

1. Development is to be designed to comply with the controls set out in Part 9.2 of the Ryde DCP 2014 – Access for People with Disabilities.
2. In designing new developments and the public domain, consideration is to be given to the recommendations of the National Disability Strategy NSW Implementation Plan 2012 (particularly the section titled Inclusive and Accessible Communities) and the NSW Disability Action Plan 2012-2017.

4.14 ENVIRONMENTAL PERFORMANCE

4.13.1 Objectives

a. Reduce the necessity for mechanical heating and cooling.
b. Reduce reliance on fossil fuels.
c. Minimise greenhouse gas emissions.
d. Reduce environmental impact over the life cycle of a building.

4.11.2 Controls

1. Development is to comply with *State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004*.
2. All multi-unit residential buildings are to be assessed and certified against Green Star (Design Rating) and achieve a minimum 4 star rating.
3. All commercial buildings are to be assessed and certified against Green Star (Design Rating) and achieve:
    i. A minimum 5 star rating (if the associated Development Application is lodged before 1 January 2017);

ii. A minimum 6 star rating (if the associated Development Application is lodged on or after 1 January 2017).

4. Potable water demand in residential buildings is to be reduced by at least 50% from BASIX baseline for an average household.
5. Potable water demand in commercial buildings is to be reduced to achieve a 4.5 stars NABERS water rating.
6. Potable water demand in retail buildings is to be reduced to achieve a 4.5 stars NABERS water rating.
7. All buildings are to be connected to smart water metering.
8. All buildings with basement parking should make provision for electro-voltaic charging infrastructure to allow for the transition to electric car technology.
9. The following targets for the reduction in energy use are to be met.
   i. BASIX 25 – achieve a 25% reduction in kgCO2 – e/person/year in residential buildings 6 storeys or higher;
   ii. BASIX 35 – achieve a 35% reduction in kgCO2 – e/person/year in residential buildings 4-5 storeys;
   iii. BASIX 45 – achieve a 40% reduction in kgCO2 – e/person/year in residential buildings 1-3 storeys.
10. All residential buildings are to achieve:
    i. A 7 star NatHERS for heating and cooling where development applications are lodged prior to 1 January 2017;
    ii. An 8 star NatHERS for heating and cooling where development are lodged on or after 1 January 2017.
11. Commercial buildings are to achieve NABERS 5.5 star (equating to an 11% kgCO2 e/sqm/year reduction compared to 5 star).

4.15 WIND MITIGATION

Development is to comply with the Macquarie Park Wind Impact controls set out in Section 9.1 of Part 4.5 of the Ryde DCP 2014.

4.16 AIR, NOISE AND VIBRATION

4.16.1 Objectives

a. To ensure that the siting and design of buildings address noise and vibration impacts from busy roads, rail corridors and other noise-generating land uses.
b. To ensure that commercial development does not unreasonably diminish the amenity of nearby residential uses and public spaces from noise intrusion.
c. To minimise the impacts of air pollutants from nearby busy roads and surrounding land uses.

4.16.2 Controls

1. The provisions of *State Environmental Planning Policy (Infrastructure) 2007 and Development near*

Rail Corridors and Busy Roads Interim Guideline must be taken into consideration to minimise impacts of busy roads and railway corridors on residential and other sensitive development such as child care centres and health services facilities.

2. An Acoustic Impact Assessment report prepared by a suitably qualified acoustic consultant is to be submitted with all development applications for commercial, retail and residential buildings, with the exception of applications for minor building alterations or where Council considers an assessment is not required.
3. Non-residential development is not to adversely affect the amenity of adjacent and nearby residential development and public spaces as a result of noise, hours of operation and/or service deliveries. Acoustic and vibration attenuation must be implemented to ensure the amenity of adjacent residential use.
4. Noise from plant and equipment (including roof plant, air conditioning ducts and plant and servicing associated with green infrastructure) is to be attenuated to an appropriate level to ensure the amenity of adjacent and nearby uses is achieved and maintained.
5. Mechanical ventilation systems are to be designed to meet the requirements of the Building Code of Australia and relevant Australian Standards, and air intakes are to be sited as far as practicable from major sources of air pollution.
6. A vegetation buffer is to be established between the M2 Motorway and any residential buildings prior to occupation. The vegetation buffer is to be of sufficient width to assist in intercepting wind-blown dust by physical entrapment of airborne particles.

4.17 WASTE MANAGEMENT

Development is to comply with the Macquarie Park Waste Management controls set out in Part 7 of the Ryde DCP 2014.

4.18 SOIL MANAGEMENT

Development is to comply with the Macquarie Park Soil Management controls set out in Section 9.4 of Part 4.5 of the Ryde DCP 2014.

4.19 FLOODING

4.19.1 Objectives

a. To ensure essential services and land uses are planned in recognition of flooding risks.

b. To manage the risk to human life and damage to property caused by flooding through controlling development on land affected by potential floods.

c. To apply a merit based approach to proposals that relate to flood affected land – taking into account flooding, social, economic, ecological and design considerations.

4.19.2 Controls

1. To ensure emergency vehicles can access the site during a major storm event, alternative site access is to be provided to the high density residential precinct for emergency vehicles. The alternative access is to be identified in consultation with the NSW State Emergency Service and other relevant agencies.

2. Development applications for proposed residential buildings within lots identified as having a Medium Flood Risk, as identified in the Macquarie Park Floodplain Risk Management Study and Plan (Final Report, Bewsher Consulting, February 2011) are to:

   i. Be accompanied by a site specific flood assessment;

   ii. Ensure that floor levels are designed at 0.5m above the 1 in 100 year ARI flood event;

   iii. Be designed for safe egress and evacuation;

   iv. Demonstrate that either:

   - A setback or drainage easement will divert stormwater runoff away from adjacent lots and into the Porters Creek corridor; or
   - Compensatory storage can be provided to offset any loss in floodplain storage resulting from the development of this area.

   v. Dedicated use of buildings for the infirm or elderly, or for essential emergency services, is prohibited on Lot 102 within the north-eastern development area of the high-density residential precinct.

   vi. Development is to comply with the floodplain management controls set out in Part 8.2 of the Ryde DCP 2014.

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