



Kellyville Station Precinct

Response to Submissions

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Prepared for
Landcom

Issued
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Level 2, 490 Crown Street
Surry Hills NSW 2010
Australia
T. 61 2 9380 9911
architects@sjb.com.au
sjb.com.au

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Ref: 5947
Version: 05
Prepared by: MG
Checked by: JK

Contact Details:

SJB Architects
Level 2, 490 Crown Street
Surry Hills NSW 2010
Australia

T. 61 2 9380 9911
architects@sjb.com.au
sjb.com.au

SJB Architecture (NSW) Pty Ltd
ABN 20 310 373 425
ACN 081 094 724
Adam Haddow 7188 John Pradel 7004

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Introduction

1

1.1 Background and purpose

In 2018 SJB was appointed by Landcom to prepare a masterplan and State Significant Development Application (SSDA) for government owned land within the Kellyville Station Precinct. The Kellyville Station precinct is located to the east of Kellyville Metro Station and to the south of Samantha Riley Drive. An Urban Design Report (UDR) complete with Design Guidelines (DG) was prepared and the SSDA was placed on exhibition in November 2019 together with a number of supporting studies.

In response to the exhibition a number of submissions were received from local residents, recognised community bodies and government agencies. Since the exhibition of the SSDA additional engagements have also taken place with Landcom's Design Advisory Panel and the State Design Review Panel (SDRP). This report responds directly to those submissions which raised issues relating to Urban Design in Kellyville.

It must be noted that

- Only those submissions and comments that are relative to the urban design of the proposal are dealt with in this report. More detailed responses are dealt with by other specialists in their respective responses to submissions
- A number of changes have been made to the urban design report and design guidelines as part of this process. This report outlines what changes have been made and the reasons for these changes with the revised reports reissued to the approval authority

This report has been laid out according to the submissions provided by the various respondents, with a particular focus on comments from government agencies. The report should be read in its entirety as where a response to a similar issue has been provided this response is not repeated.



Figure 01: Artists impression of the proposed Station Plaza in Kellyville

2.1 State Design Review Panel (SDRP) and the Government Architect NSW (GANSW) Comments dated 4 November 2019

The response from the SDRP and GANSW was made following a short presentation given by the team prior to the submission of the SSDA. A number of the points raised in the submission are dealt with extensively in the Urban Design Report and in other specialist studies. A response to each individual comment is provided below.

1.

Articulate a clear and meaningful approach to Indigenous and European cultural heritage, including an understanding and acknowledgement of Country, for example through local stories which could help inform the character and design of key aspects of the precinct.

Response

The Masterplan Concept chapter of the UDR makes specific reference to the significance of the natural landscape and water courses for indigenous communities and this has been central to the design concept for the precinct.

In response to this comment:

- The sites of Aboriginal significance have been added as design informants in the UDR (Chapter 3.2 and Figure 27) ;
- An additional Indigenous and European Heritage Section has been added to the DG (Section 4.1.1) that outlines the heritage requirements for future development;
- The design guidelines for the riparian break away spaces (Section 4.2.3) require the design of these spaces to reference the indigenous use of the area and also require engagement with Aboriginal stakeholders as part of these design processes; and
- The DG “Section 4.4.7 Building Materials and Detailing” have also been refined to require designers to consider locally significant architectural styles (such as federation styles” in the design and detailing of future proposals.

2.

Look for opportunities to strengthen the response to Elizabeth Macarthur Creek (EMC) as a key natural asset. The Creek should be considered as a central element between two neighbourhoods (east and west) rather than an edge.

Response

The UDR recognises EMC as a key integrating element for the precinct and a number of interventions are proposed to improve its ability to link ecological systems and communities. A more detailed response to the management of the riparian corridor is provided in the Landscape Architects response to submissions (Clouston June 2020).

3.

Provide greater response to the Hills and its character, with a link to the Council's draft Local Strategic Planning Statement (LSPS). Provide greater communication of the type of place we are trying to create.

Response

The following amendments have been made:

- A new section has been added to the UDR that summarises the LSPS and key strategies (Chapter 2.4)
- This section outlines in greater detail the character and identify of the Hills Shire. In short, the LSPS defines the character of the Hills as a cluster of villages set within a scenic landscape that comprises varied natural and topographical features. At the same time, it recognises that the scale and nature of development along the Metro corridor will be denser and more urban than what currently exists within Kellyville. The vision for the precinct builds on these foundations and works to reinforce the natural qualities of the site whilst at the same time achieving the desired urban outcomes communicated in the LSPS and revised LEP controls.

Responses

- Character Statements for each precinct have been drafted and form part of both the UDR (Chapter 6.1) and DG (Section 3.2) to provide clarity of the desired future character of each precinct

4.

Provide greater detail of the urban design response to each of the three character areas and what makes these distinct.

Response

As noted above, Character Statements for each precinct have been developed and are included in the UDR and DG. The Character Statements are supported by vignettes, sketches and illustrations that provide examples of the qualities expected in each character area.

5.

Further investigation of the public space within Lots A and B to rationalise the primary public space (in the form of a square) to respond to the station and retail uses in this part of the commercial core.

Response

The SSDA seeks approval for a range of retail and residential GFA across the different lots and the DG provide a framework for future development and allow for a range of development options and design solutions. The reference scheme and concept plans included in the UDR and DG provide an illustration how the maximum yield could be accommodated on the sites and is based on a specific retail strategy / approach.

The structuring ideas and controls for the Station Precinct have been revised and the following changes have been made:

- The UDR (all chapters) and DG (specifically Sections 4.2 and 4.4) have been amended to require the provision of the Station plaza as a consolidated, publicly accessible private open space of minimum 1,600m² on Lot B
- The design guidelines for the Station Plaza (Section 4.2.3) have been reviewed and strengthened to provide clear direction for the design of the open space
- Sections 4.2.1 and 4.4.2 of the DG has been amended to require a through-site link on Lot B from the Station Plaza to Decora Drive
- A minimum frontage control for retail uses around the Station Plaza and along Guragura Street of 130m has been introduced (Section 4.4.2)
- Section 4.4.6 of the DG “Built Form Articulation” has been reviewed to require larger above-podium building separation to address the visual bulk and massing of development on Lot B
- The reference scheme that forms part the UDR (Chapter 7.2) has been updated to reflect the above changes

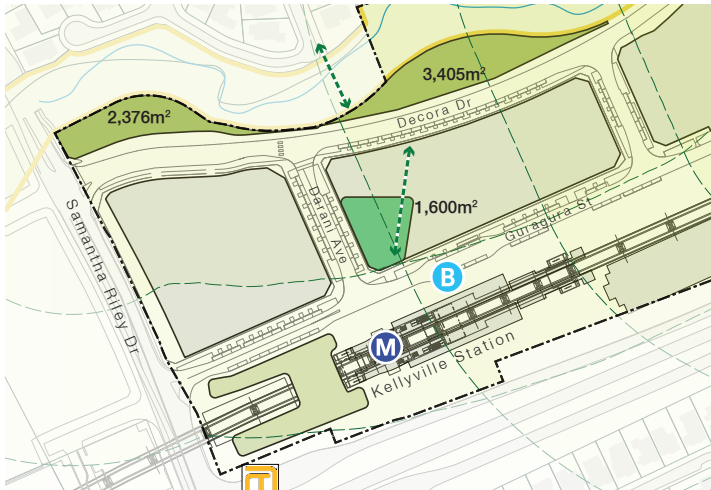


Figure 02: Revised open space strategy (DG Section 4.2.1) - requiring the 1,600 m² Station Plaza on Lot B

- SSDA boundary
- Publicly accessible private open space
- Required through-site link
- Open space
- SP2 zoned land

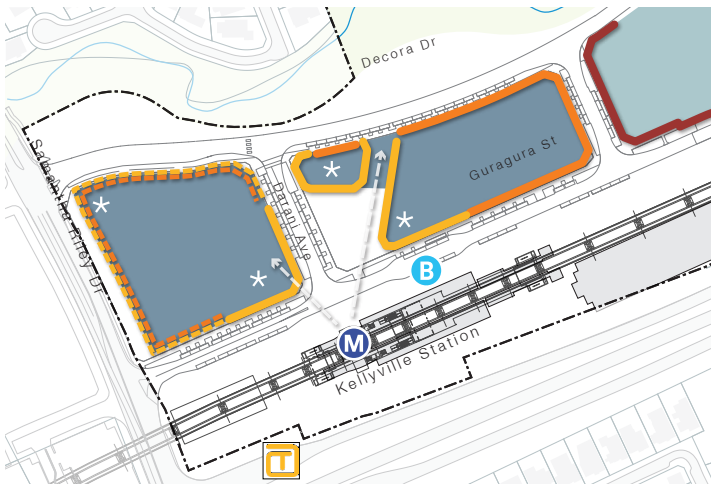


Figure 03: Revised building Frontages Controls (DG Section 4.4.2) illustrating minimum retail frontage requirements

- SSDA boundary
- Metro station
- T-way stop
- Bus stop
- Minimum retail frontage (130m)
- Min 0m retail setback
- Min 0m retail setback
- Min 2m residential setback
- Min 2m residential setback where not commercial
- Min 3m residential setback
- Mixed use development sites
- Residential development sites
- Min 12m buildings separation between taller buildings along the main street and lower scale development
- Potential feature building locations
- Direct line of sight

Responses

The detailed reference scheme concept (Chapter 6.3 of the UDR) illustrated below shows how the maximum yield proposed for the two lots in the Station Precinct could be accommodated based on revised detailed guidelines. This proposal is based on a retail strategy that includes two retail anchors either side of the Station Plaza and basement parking accessed from Decora Drive.

The reference scheme includes:

- A Station Plaza of a minimum 1,600m² on Lot B with a through-site link between the Station Plaza and Decora Drive
- Potential for an anchor supermarket of approximately 2,400m² within Lot A
- Potential for a mini grocer of approximately 1,200m² within Lot B
- High density shop-top housing above the ground floor retail levels and on Decora Drive taking advantage of views over the riparian corridor

Again, it is important to note that the DG allow for many alternative retail strategies and built form arrangements.

	Residential		Soft landscape
	Indicative core location		Hard landscape
	Retail		Bus only north bound lane
	Retail anchor		Allowance for future road widening
	Servicing/toilets/amenities		
	Back-of-house (BOH)		



Figure 04: Station Precinct Reference Scheme - Conceptual ground floor plan



Figure 05: Station Precinct Reference Scheme - Site plan

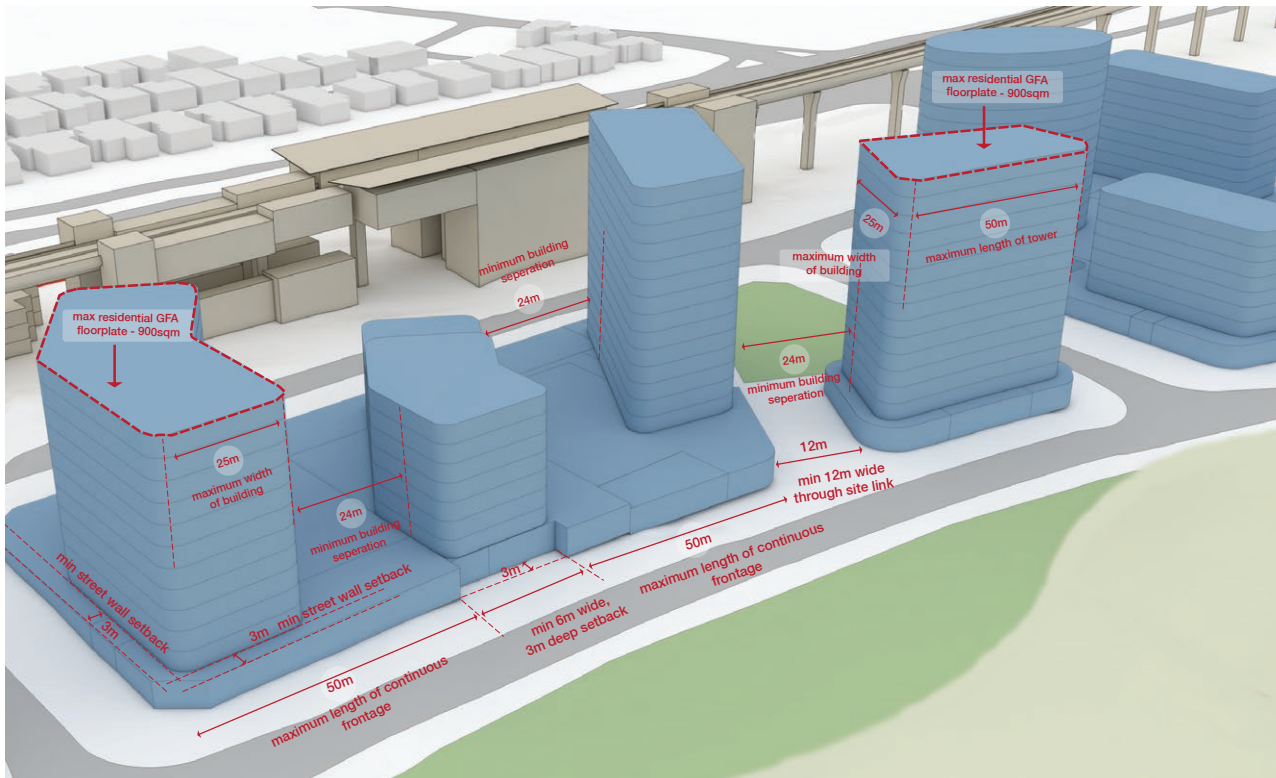


Figure 06: Revised built form controls that form part of Section 4.4.6 of the DG that require more generous building separation above podium level to ensure improved amenity and provide views to the riparian corridor

Responses

6.

Introduction of a laneway within Lot B (Darani Avenue and Wuban Avenue) in order to provide greater accessibility. This will improve and increase the public domain and may facilitate the response to the point above.

Response

As noted above, the UDR and DG have been reviewed to require a through-site connection through Lot B from the Station Plaza to EMC.

7.

Identify the areas of Cumberland Plain Woodland (CPW) and where these can be retained. Provide justification in areas where it is not able to be retained.

Response

The Biodiversity Development Assessment Report completed by Eco Logical Australia (August 2019) found that the remaining portions of CPW was small and fragmented. It recommended that the remnants of the CPW in the riparian corridor be retained and that an offset for the loss of the threatened CPW area be secured through the Biodiversity Offset Scheme (BOS).

A more detailed response to this aspect has been provided elsewhere by others.

In response to this comment:

- The existing areas of CWP have been added to the Constraints Plan (Chapter 3.2 of the UDR)
- The DG have been reviewed and the controls in Section 4.2.5 now require the retention of existing trees of significance in development proposals where this is possible and feasible. It also requires the retention and integration of existing trees in the streetscape where this is possible and feasible.

8.

Rationalise pedestrian and vehicle movements to:

- a. create a clearer circulation hierarchy responding to different character areas of the precinct and the way in which people will move. Identify the different street types – such as collector and other street types, and what characteristics define them and the way in which they respond to their location and function. Provide street sections to describe.**
- b. improve utilisation of the streets. For example, whilst some streets have already been delivered, there are opportunities to the way in which the street trees, parking, footpaths might be designed to respond to associated uses.**

Response

A robust movement strategy is included in the UDR and addresses these concerns. Section 4.2.6 of the DG has since been reviewed to provide more detailed controls and guidance in this regard. Existing street sections and design controls have been reviewed and optimised to improve efficiencies.

9.

Review the location of carpark entries to the eastern side of the site, facing the creek. The current locations do not optimise the opportunities for prioritising pedestrian movement and activation of this area with a direct interface with the creek corridor.

Response

The current design of the street network is to prioritise pedestrian movement, slow vehicular traffic and discourage unnecessary through traffic. The active pedestrian movement plan included in the UDR illustrates desired future connections and pedestrian prioritised streets within the SSDA boundary.

Aligned with active frontages, the key pedestrian movements in the Kellyville Town Centre are anticipated to be along Guragura Street and Darani Avenue facilitating access to the station, along and across Elizabeth Macarthur Creek. The highest pedestrian footfall is anticipated to be along the shared path on

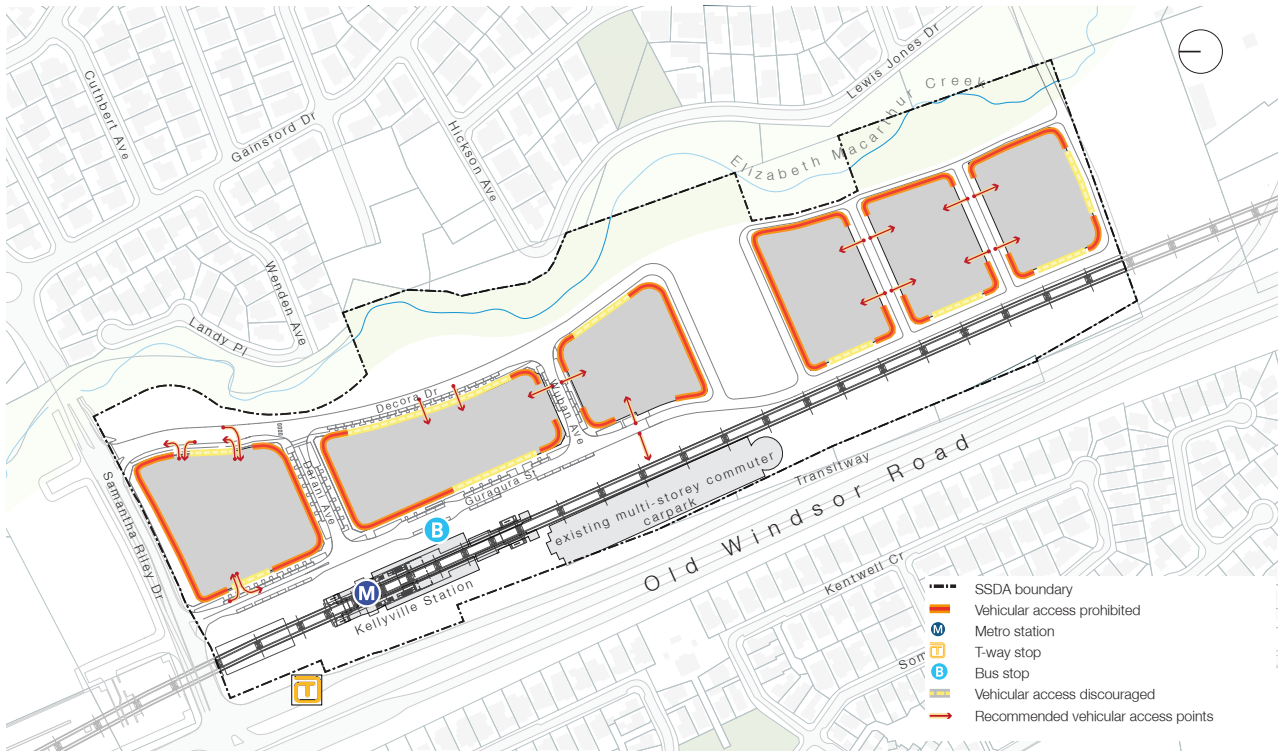


Figure 07: Proposed vehicular access diagrams

creek side of Decora Drive and not along the edge of lot B where the vehicular access points are proposed.

The location of carpark entrances in the SSDA have been identified to avoid creating conflict between pedestrians and vehicles and other vehicular movements (bus routes, commuter car park and key routes to retail destinations). Vehicular access is prohibited primarily around intersections, along the riparian corridor (Lots D, E and F) and along frontages where a high volume of pedestrian movement is expected such as Darani Ave. Vehicular access to development lots is discouraged from block edges fronting onto open spaces and the riparian corridor. Recommended access points are on either lower order neighbourhood streets or where access to retail development from the eastern side is required in the northern blocks.

Vehicular access is prohibited to lots A and B from Darani Ave in order to limit pedestrian conflict on key pedestrian linkages. Access to Lot A is also prohibited by TfNSW from Samantha Riley Drive limiting access alternatives to the eastern side of these lots. Access to these superlots from the east is also preferable from a topographic perspective, as the eastern side of the superlots is lower than the western side.

With respect to Lot B, there is currently a 2-3m level change between Decora Avenue and Guragura Street. It is more efficient that entrance into basement parking is from the lowest part of the site (Decora). Access from this edge of the block is also promoted to avoid additional vehicles accessing the lot from Guragura Street as this would encourage more traffic past the Station Plaza and Station entrance where the intention is to reduce traffic movement.

As such, no changes to the recommended carpark entries are proposed.

Responses

10.

Confirm minimum active frontage to the streets and how this will be delivered.

Response

The DG exhibited did not originally include a minimum active frontage requirement as this is already a requirement of the LEP. Section 4.4.2 of the DG has since been reviewed and now includes a minimum of 130m of active frontage around the Station Plaza and along Guragura Street. (Also see Figure 3 above)

11.

Confirm the street ownership and confirm measures to ensure basements are not incorporated under streets

Response

All streets identified in the masterplan will be public streets, constructed to Councils requirements and dedicated to Council after construction. Any reference to basement connections between Lots A and B have been removed and the DG (Section 4.5.1) prohibits basement car parks under public streets.

12.

Ensure building envelopes are configured to enable innovative design (i.e. envelope surplus well in excess of max GFA), and a high-quality public domain by confirming the maximum building envelope to GFA ratios.

Response

The DG are not prescriptive and the building envelope aligns with the existing LEP controls for the site (see image below). The generous development envelopes and maximum and minimum yield ranges allow for a wide variety of building types and layout solutions. The building envelopes shown in the reference scheme illustrate a volume that is 25% larger than the maximum GFA to make provision for internal circulation, building articulation and services, not included in the GFA.

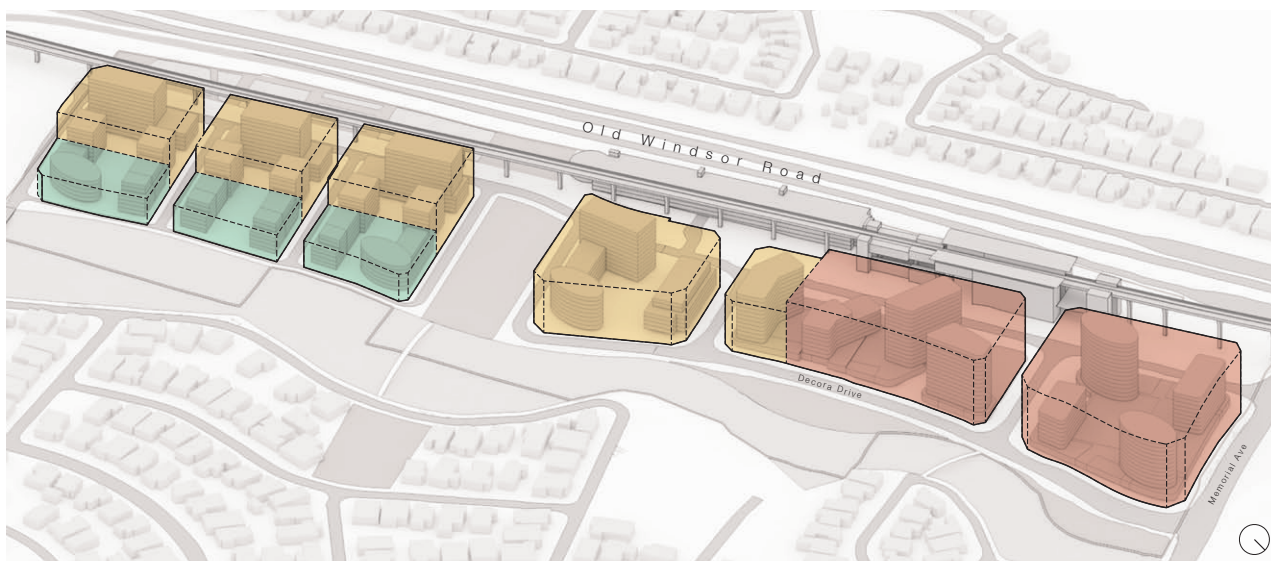


Figure 08: Diagram illustrating that the reference scheme fits within the built form envelopes of the urban design framework

13.

Review the form and orientation of the building envelopes above the podiums – tower forms do not need to follow the street geometry and could be more varied in form.

Response

The DG require buildings at ground level to generally align with the streets to ensure buildings address the street, provide high levels of enclosure and provide continuity of the street wall. Section 4.4.6 of the DG has been reviewed to provide greater clarity and ensure flexibility in the orientation of buildings above podium level.

14.

Ensure that they are sufficiently detailed to inform future DCPs for the two precincts. Ensure that the Guidelines allow for and support difference where appropriate and do not support development that is homogeneous and non-place specific.

Response

The DG have been reviewed extensively and strengthened following engagements with The Hills Shire Council and Landcom's Design Advisory Panel. A consistent structure has also been agreed for the DG for both Kellyville and Bella Vista.

The guidelines now include the following additional section:

- A section on the land to which the DG apply;
- A Vision;
- Development Principles;
- A Masterplan Framework section;
- A broader General Conditions section with guidelines relating to heritage, design excellence, and sustainability;
- Character Statements for each precinct;
- Requirements for structured soil system;
- Guidelines for communal open space provision
- Wind testing;
- Cycle parking; and
- Generally more detail .

15.

A further presentation to the SDRP is recommended during the submission period. The following material should be provided at the next meeting:

1. Updated precinct model
2. Vignettes at street level of the key area of the public domain.
3. Site sections through the precinct and riparian corridor.
4. Design Guidelines.

Response

The UDR, DG and reference scheme have undergone substantial review with vignettes and sections forming part of the revised reports.

Responses

2.2 The Hills Shire Council (THSC)

Following the receipt of formal comment from THSC the broader consultant design team met with officials on 14.02.2020 to discuss and formulate responses that addressed THSC's main concerns. The following response is made, both to the points raised in the formal comment as well as those issues discussed at the meeting.

1.

References to KV2 'Neighbourhood Park' should be amended to 'Local Urban Park (High Density Areas)' to reflect Council's hierarchy within the recently adopted Recreation Strategy.

Response

Noted, the UDR and DG have been updated accordingly.

2.

As the concept approval will effectively constitute a site specific DCP (in satisfaction of Clause 8.5 of The Hills LEP 2012), the Urban Design Guidelines should include sufficient detail to guide the final built form outcome. The guidelines need to have a level of detail equivalent to a DCP and should be expanded to provide guidance on additional matters such as:

- **Unit mix and apartment size - future apartment development should comply with Council's housing mix and diversity criteria, as specified within Clause 7.12 of LEP 2012;**
- **Common and private open space; and**
- **Character objectives and controls.**

Response

As noted above, the DG have been workshopped with THSC and reviewed extensively. The structure and content of the guidelines have also been reviewed to ensure a high degree of consistency between the Bella Vista and Kellyville Precinct. As outlined above, additional sections have been added to the guidelines, existing controls reviewed and additional controls are now provided, with regards to wind, noise, communal open spaces and character.

3.

Landcom is seeking to vary the minimum setback controls for residential flat buildings under The Hills LEP 2012 from 5 metres.

The SSDA material justifies these variations on the basis of the intended urban character of the precincts, the presence of landscaped verges along streets, desire for increased passive surveillance for streets and greater opportunity for varied street walls leading to more interesting streetscapes.

Landcom's justification is not considered reasonable. The minimum setbacks within The Hills LEP 2012 were set as a result of detailed precinct planning completed by the NSW Government and already vary substantially from Council's typical front setback requirements for apartment buildings of 10 metres. The reduced setback within the LEP already acknowledges the urban character of these areas, whilst continuing to allow reasonable space for deep soil planting and larger tree species, providing a green and leafy character, increased urban tree canopy and increased privacy for future residents. Greater setbacks would also enhance solar access to streets and reduce wind impacts which are highly desirable from an amenity perspective in high density areas.

Response

Landcom is seeking to vary the minimum setbacks from existing LEP requirement as it is believed a generic 5m street boundary setback is not a practical blanket control for development within the precinct. Further reasoning for reduced setbacks was set out in the UDR (Chapter 6.14) and, for brevity, these points are not repeated in this submission.

At the above mentioned meeting with officials the proposed setbacks were extensively discussed. The key concerns identified by Council included:

- That 0m setbacks in the station precinct do not allow for outdoor dining
- Inadequate width of sidewalk in the Station Precinct
- Concerns around privacy in the residential core precinct
- Concerns that the 2m set back was inadequate to



Existing conditions around the Metro Station with generous and soft verges between the footway and lot boundary

- accommodate trees in the private domain that could contribute to tree canopy
- The relatively narrow width of the streets space given the scale of development envisaged
- Concerns around solar access

A response to these concerns is as follows:

Station Precinct

- The lots in the northern part of the precinct have already been defined and subdivided. Lot B is particularly constrained, being only 64m in width. Introducing deep setbacks at ground floor level, particularly on the eastern and western edges, will have impacts on buildings / towers above the street wall and ADG separation distances are not easily met.
- The sidewalks and public domain around the station has already been delivered. This includes a generous 2.5-3m wide footway with a 1.2-1.5m soft verge between the back of the footway and the edge of the lot that will be landscaped by the developer. This is adequate for outdoor dining given the anticipated level pedestrian foot traffic. A further setback for street front retail / commercial uses is not considered necessary.
- The retail strategy encourages outdoor dining around the Station Plaza and not on the side streets.



An example of an urban interface related to residential uses at ground floor with narrow setbacks (Harold Park)

- A further setback from the footway would limit the extent to which the required awning will provide shelter to pedestrians using the sidewalk.
- Street front retail requires direct visual and physical connection between the pedestrian and shopfront. The existing width of the sidewalk including the soft verge is 4.2-4.5m which is already very generous.
- The proposed solar access controls for the Station Plaza should ensure solar access requirements are met.

Responses

Conclusion:

- *The proposed minimum 0m setback for retail and non-residential uses within the Station Precinct is consistent with DCP controls for the B2 Zone considered appropriate given the desired future character of the precinct and the infrastructure that has already been developed. Developers and designers may set back their buildings further than this if desired to accommodate outdoor dining and other uses.*
- *Given the constrained lot depth of Lot B, the generous landscaping of the public domain already in existence and the desire to create a more urban character in this precinct the minimum setback for residential uses at ground level will be increased from 0-2 to 2m. Again developers and designers may elect to set back buildings further than this and various options for ensuring privacy through recessed balconies at ground level and level changes have been encouraged.*

The Residential Core Precinct

The urban design approach has sought to optimise land use intensity around public transport infrastructure and create an urban neighbourhood with a distinctively green character and identity. A number of contextual factors have been taken into account, including:

- The desire to create cool, attractive, interesting and walkable streets that are safe, and enjoy high levels of passive surveillance
- The development lots are edged on both sides with open space corridors that run north to south (the Elizabeth Macarthur Creek to the east and the viaduct park to the west). These provide both visual and recreational amenity to residents.
- The desire to create intimate and well defined streets connecting the two open space corridors.
- The relatively short length on local streets connecting these (no longer than 120m long).
- The width of the street (22m building face to building face) and the heights controls of 21-40m result in a ratio of between 1:1 (towards the creek) and 2:1 (towards the viaduct) will deliver well contained streets.
- The intentional design of the street cross section to create a green and open character. This includes locating trees in the parking zone, a soft verge between the footway and the property boundaries / front garden walls and a small front garden.



Figure 09: Examples from around Sydney illustrating how it is possible to create a green character to the street with reduced setbacks

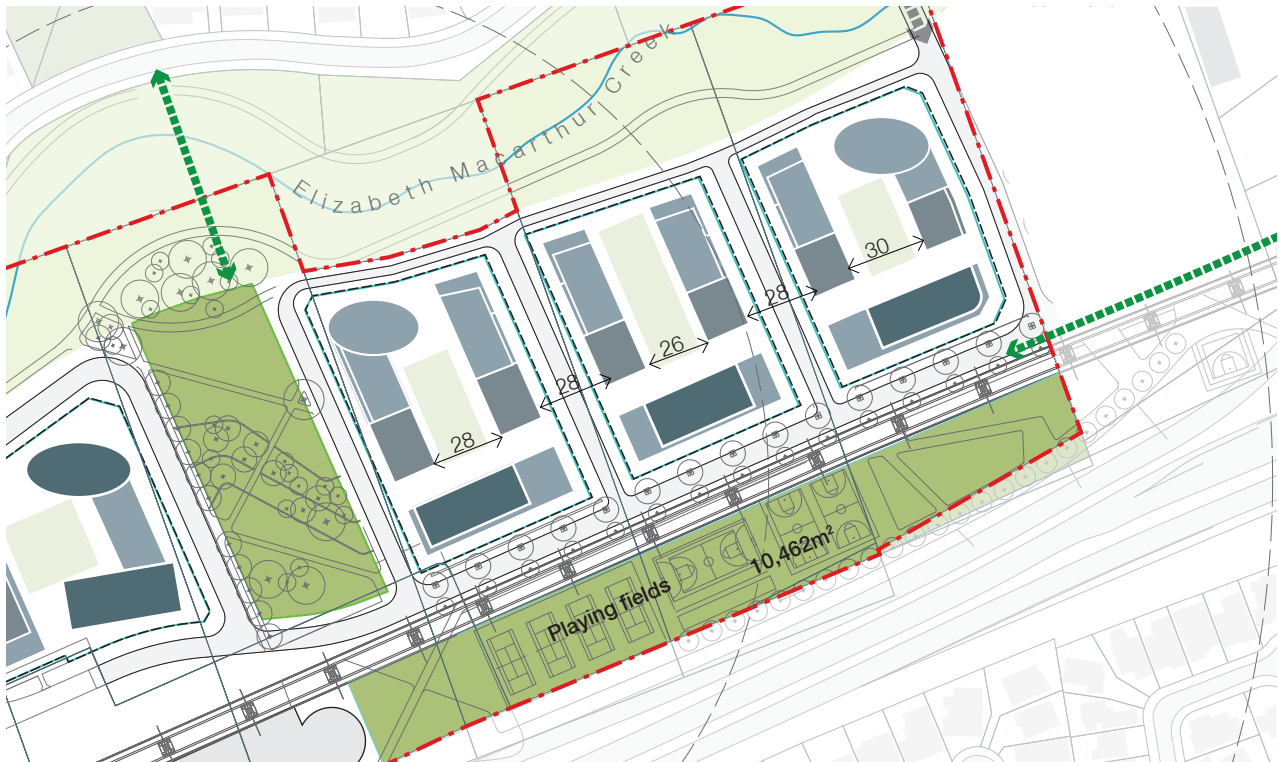


Figure 10: Study indicating the reduced width of communal courtyards with larger setbacks

THSC has suggested that a larger, 5m setback would allow for on site tree planting to help meet tree canopy cover. Experience has shown that it is very difficult to accommodate trees of a substantial size in the front setback and that the provision trees in this spaces creates maintenance and management challenges. Trees in the private setback would further compete for light and could potentially limit overall canopy cover. The design approach has focussed on selecting appropriate tree species and spacing street trees in the public domain and in communal spaces to achieve the required canopy cover targets. The 2m setback originally proposed allowed for a 17m wide tree canopy on the public side of the building with tree pits located in the parking zone and 8.5m away from the building facade (See Section 4.4.3 of the DG).

A study was undertaken to better understand the implications of complying with the 5m setbacks (see inset above). The following implications are noteworthy:

- The streets become much wider, with no qualitative contribution to the streetscape or improvement in amenity for residents
- The width of the communal open space in the centre of the block becomes narrow and equivalent to the width of the street.
- The communal courtyards are more overshadowed and will offer less amenity to residents
- There is a 7.5% loss of total GFA across the masterplan area

Responses

low garden walls with regular access to ground floor units



Figure 11: Illustration of a local street showing how the guidelines will achieve a green and open character with a 3m street boundary setback

Further, there are numerous examples in Sydney where it has been possible to achieve a green outcome with reduced setbacks (less than 5m) through the careful design of the public/private interface. Some of these examples are provided on the adjacent page and include recessed façades and covered balconies at ground floor level to ensure that the usability of the private outdoor space. Increasing the proposed setback from 2m to 3m would be more generous and assist in making the outdoor space more adaptable.

Finally, the design guidelines do not require variation in the setback, a varied setback is encouraged and this will need to be informed by future design proposals.

Conclusion:

- The proposed minimum setback for residential flat buildings in the residential core has been increased from 2m to 3m. Sections 4.4.2 and 4.4.5 of the DG have been updated accordingly
- Section 4.4.3 of the DG (Setbacks) now also includes a table (included on the next page of this report) that stipulates different minimum setbacks for buildings of different heights to create more human scaled streets where the perceived height of buildings is diminished and to support a rich and varied streetscape
- Section 4.4.5 of the DG (Street Walls) has been reviewed to require a 4 storey street wall within the Residential Core, with increased setbacks along Elizabeth Macarthur creek (See Figure 11 below)

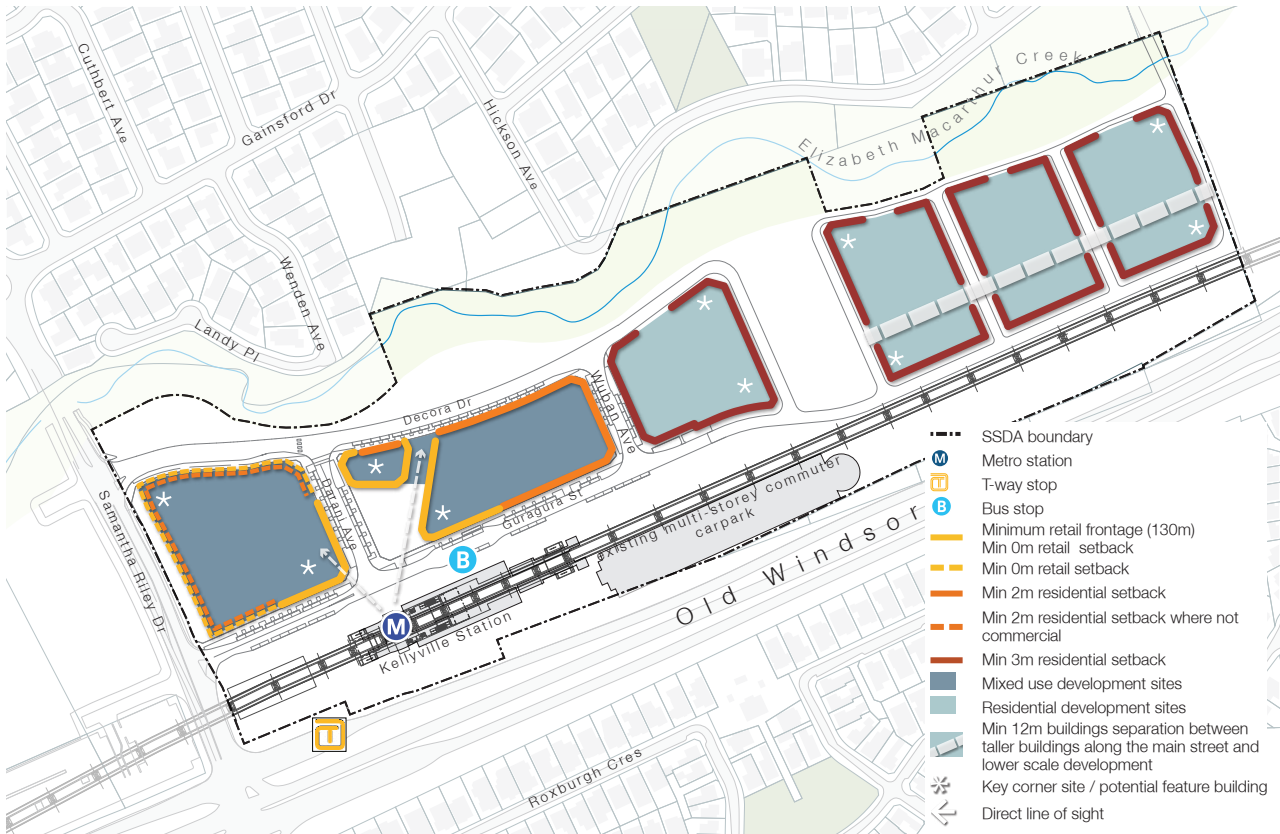


Figure 12: Street setback plan

	Building height	Minimum Street Setback	Street Wall Height	Street Wall Setback	Street Wall setback along EMC
Station Precinct					
Retail ground floor		0m			
Residential ground floor		2m			
Min Street Wall			1 storey / 5m	3m	3m
Max Street wall			15m / 4 storeys	3m	3m
Residential Core					
	4-6 storeys	3m	4 storeys	3m	6m
	7-8 storeys	5m	None	-	-
	> 8 storeys	3m	4 storeys	3m	6m

Table 02: Setback and street wall controls

Responses

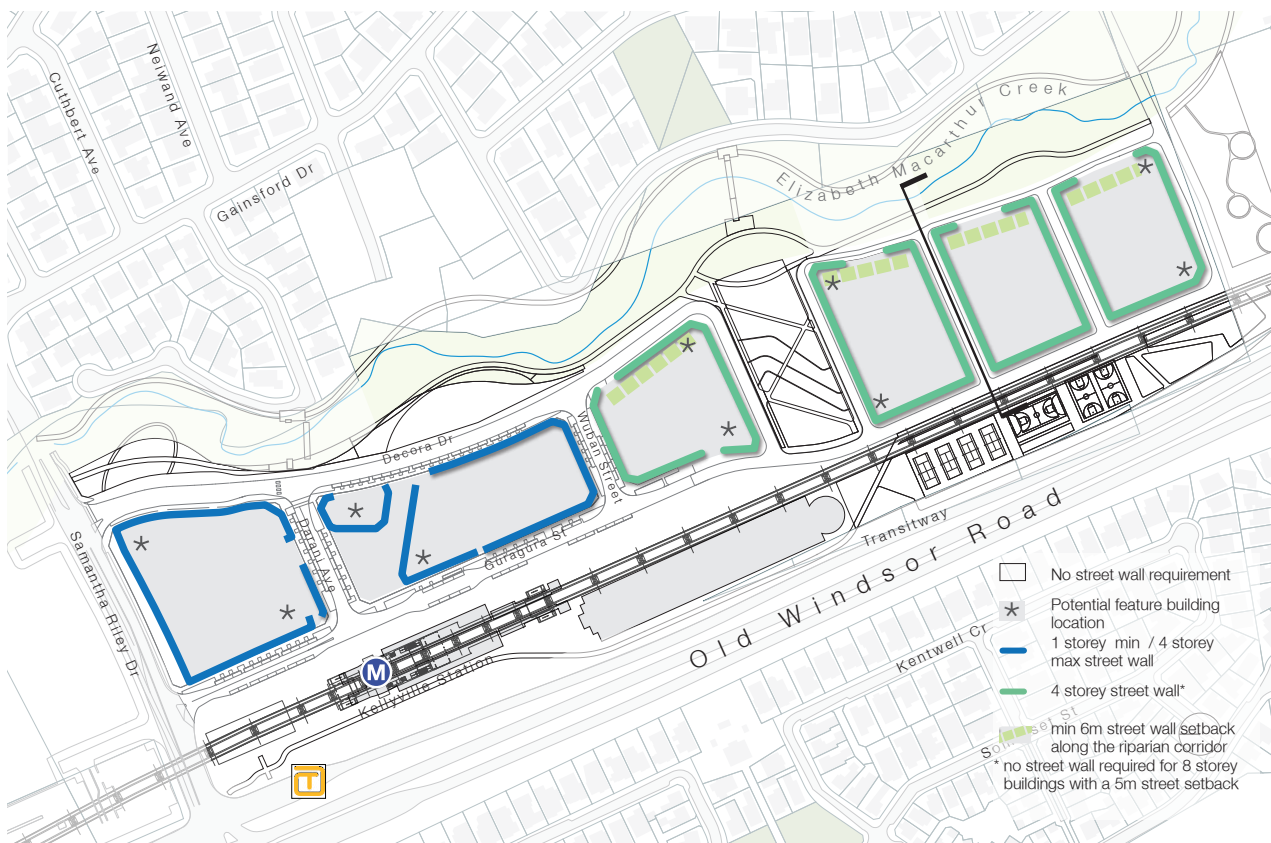


Figure 13: Proposed street wall controls

4.

Building Lengths

Concern is raised with respect to the visual bulk of buildings which in some cases exceed 65 metres in length. It is recommended that a control be applied within both Precincts which is consistent with the adopted DCP controls for other station precincts (Showground and Castle Hill North) and imposes a maximum building length of 65 metres.

Response

As noted above, the blocks in the Station Precinct have already been defined and are anticipated to accommodate larger format retail units at ground level. In order to ensure a positive public domain interface and ensure that these units and their service yards are adequately screened the guidelines require

the accommodation of these uses within a podium structure, with active uses providing a positive frontage onto the public domain.

The DG (Section 4.2.1) has been reviewed to require a through site connection through Lot B and Section 4.4.6 has been amended to require a 3m deep setback, at least 6m wide every 50m to address the visual impact of any potential the podium (See Figures 2 and 6 above). It now also prescribes a maximum building length of 70m in the Residential Core Precinct that allows for two co-joined residential flat buildings with independent cores to accommodate with buildings oriented in an east-west direction to allow through-apartments that ensure that cross ventilation requirements of the ADG can be achieved.

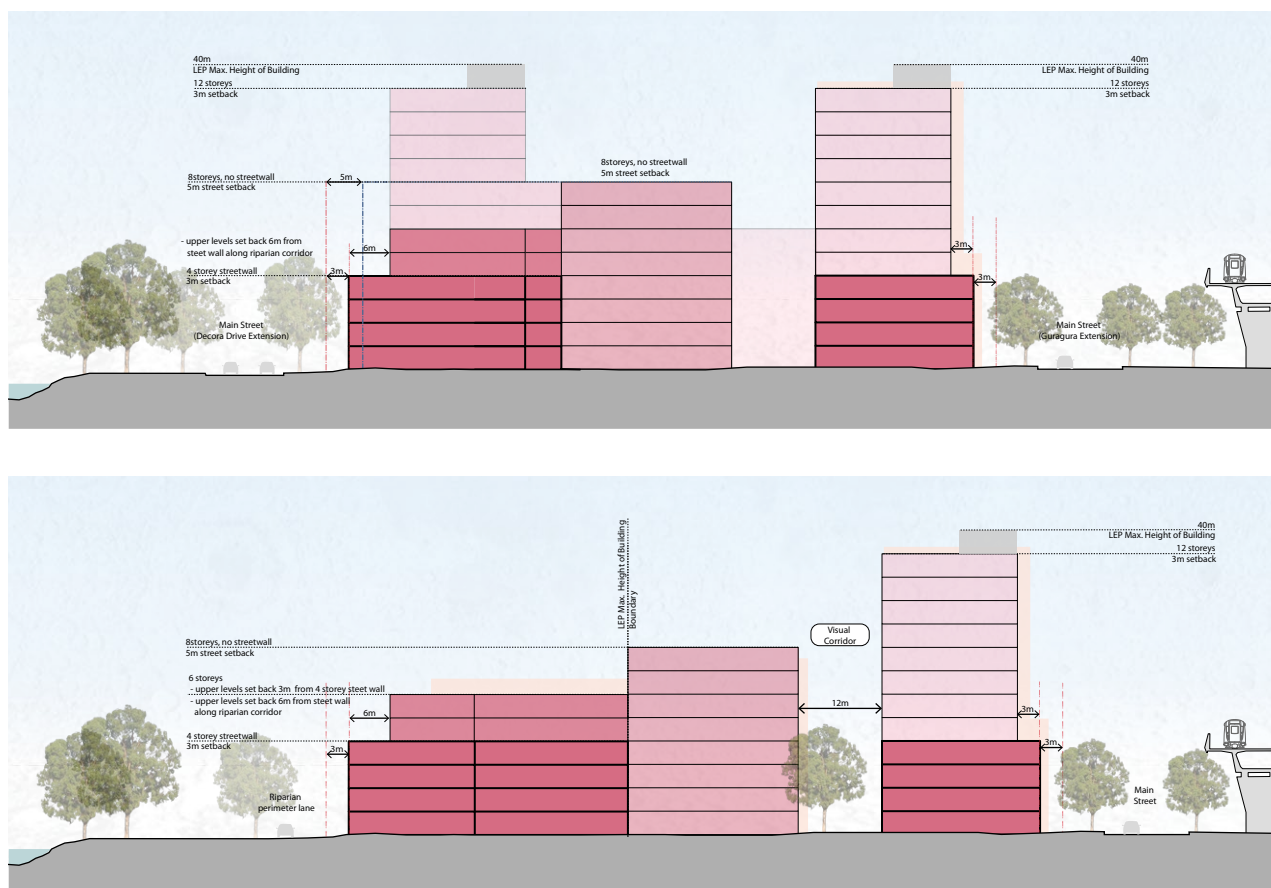


Figure 14: Proposed Street Wall and setback controls for the Residential Core. Top - Lot C. Bottom Lots D,E and F)

5.

Mix of Housing Typologies

The proposed mix of medium and higher density housing is considered a positive outcome. Whilst the proposed GFA ranges will go some way to securing the provision of medium density forms such as terraces, it is considered this could be further secured by specifying a minimum percentage of terrace style housing for certain sites.

oriented development where medium to high density development is supported around public transport infrastructure. The character and identify of the Kellyville Precinct is seen as being more urban and the minimum yield and minimum street wall heights promote apartment style accommodation and terraced style units integrated into developments at the lower level.

Response

The Design Excellence Section 4.1 as well and the Landuse and Subdivision Section 4.4.1 controls of the DG and clearly promote housing diversity. However, all blocks within the Kellyville Station Precinct are within 800m of the Metro Station and Tway Stop. A range of State and local policies promote transit

Responses

6.

Clarification required regarding proposed building envelopes and if these are inclusive of plant and lift overruns. These features should not protrude about the maximum permissible building height unless fully integrated into the architectural roof feature design in accordance with Clause 5.6 of The Hills LEP 2012.

Response

As illustrated in the Figures 8 and 14 and above, the proposed height of buildings accommodates the total height of building, including lift over runs. Proposals at the next stage of planning will need to comply with the provisions of the LEP. The SSDA is not seeking additional height.

7.

Building of 8 or more storeys should be subject to wind tunnel testing (consistent with adopted DCP controls for other station precincts such as Showground and Castle Hill North) and demonstrate the following:

- Annual maximum gust speed should not exceed 23 metres per second in open areas with pedestrian access;
- In walkways, pedestrian transit areas, streets where pedestrians do not general stop, sit, stand, window shop and the like, annual maximum gust speed should not exceed 16 metres per second;
- In areas where pedestrians are involved in stationary short-exposure activities such as window shopping, standing or sitting (including areas such as bus stops, public open space and private open space), the annual maximum gust speed should not exceed 13 metres per second;
- In areas for stationary long-exposure activity, such as outdoor dining, the annual maximum gust speed should not exceed 10 metres per second; and
- The report is to be prepared by a suitably qualified engineer.

Response

A new control (4.4.10) has been added to the DG requiring wind modelling by a suitably qualified professional for proposals over 8 storeys. The DG does not set out technical performance requirements as these are subject to change. The DG requires applicants and designers to implement the recommendations of the wind specialist once the wind study has been completed.

8.

The proposed developments in Bella Vista and Kellyville Precincts will impact on 1.57ha and 2.05ha respectively of Cumberland Plain Woodland (CPW), of which 0.42ha and 1.85ha respectively meets the criteria for listing under the Environment Protection Biodiversity Conservation Act 1999 (EPBC Act). Clearing of this woodland may result in serious and irreversible impact. Within the Kellyville Precinct, it is not clear that the proposal has been designed to attempt to avoid impacts to Cumberland Plain Woodland or minimise its impact, with 98% of the Cumberland Plain Woodland present within the study area to be impacted.

Before approval, consideration should be given to exploring options to retain additional Cumberland Plain Woodland or if the proposal does not change, mitigating the loss of Cumberland Plain Woodland via offsets in the Blacktown or Hills Shire LGA. Additional offsets may be required to address indirect impacts such as increases in sedimentation or change in surface flow of water and evidence of this should be demonstrated in the BDAR.

Response

As noted the proposed development in the Kellyville Station Precinct directly impacts on 1.57ha of CPW. Landcom's objective is to protect as much CPW as possible, regenerate in the creek and retain trees within open space and private lots where possible. Attempts to minimise and avoid the impact to CPW has been investigated at length.

Kellyville Station Precinct was rezoned by NSW Department of Planning, Industry and Environment on the basis that the site carries significant strategic merit

as a housing and employment location and would contribute to the meeting of state government targets and objectives. The retention of further remnant CPW patches outside of the zoned riparian corridors (zoned SP2) and existing RE1 zoned land would compromise the NSW Government's priorities and actions for the Central City District from being realised.

Retention areas of CPW and other areas of native vegetation is concentrated within the riparian corridor including large areas of River Flat Eucalypt Forest and 0.17 ha of CPW. Further impacts to CPW could not be further reduced while still meeting government's objectives targets for housing and employment.

Future applications for the detailed design and construction of civil infrastructure and built form will further investigate the potential for the retention of native vegetation within allotments and open space parkland areas. Residual impacts unable to be avoided will be adequately offset via the Biodiversity Offsets Scheme.

The retention of significant mature trees in future layouts and their retention in the public domain streetscape is strongly supported. The UDR (Chapter 3.2) has been updated to reflect the existing areas of CWP that should be considered for retention and the DG (Section 4.2.5) now require the retention of trees of significance in the next stage of design where this is possible.

9.

All future roads must be able to accommodate Council's standard 12.5m long Heavy Rigid Vehicle (AS2890.2) to circulate the road network. Waste collection is unlikely to be supported in narrow laneways (less than 10 metres total reservation width). This requirement should be included as a control within the Urban Design Guidelines.

A control should also be included within the Urban Design Guidelines that where roads terminate, a cul-de-sac turning head with a minimum diameter of 19 metres must be provided to enable efficient waste collection with no reversing. A further control should be included that all developments should provide for on-site waste collection either at grade or via a basement and waste collection vehicles must be able to enter and exit the site in a forward direction.

Response

The proposed road network has intentionally been arranged to facilitate the smooth circulation of service and Heavy Rigid Vehicles. Section 4.5.1 of the DG has been revised to require on site refuse solutions that allow for the entrance and exit of refuse vehicles in the forward direction.

Responses

2.3 Neighbourhood Group Kellyville

- The proposal is an overdevelopment for the area.
- Infrastructure and open space items need to be addressed.
- Concern that additional population will generate demand for a new high school.
- Concern regarding proposed setback variations for residential flat buildings.
- Proposal of a mechanism for secure delivery of medium density housing forms.
- Concern regarding insufficient car parking proposed.
- Request that the future development achieve the Hills Shire Council's housing mix and diversity outcomes.
- Concern regarding excessive street wall lengths.
- Concern regarding undersized parks in Kellyville town centre.
- Concern regarding the design excellence strategy and consistency of outcomes if different consent authorities and Design review Panels are utilised within the Precincts.
- Concern regarding inconsistencies in the information presented.
- Ensure new streets form a logical profile and provide at least a 2.5m share path.

Response

The SSDA is consistent with the development parameters set out in the LEP and is consistent and/or exceeds planning guidelines set out by government agencies for the provision of public open space, parking etc. Engagement with the relevant departments (Education) did take place as part of the design process and their inputs have informed the proposal.

The DG seek to create precincts with distinct characters and identity. Additional guidance has been provided in the DG to further define these characters. In the Station Precinct the intent was to create a more urban precinct that accommodates retail at ground floor. One of the characteristics of this project is that it may not be permeable to the public at ground level. The larger building footprints are better able to accommodate larger floorplate retail units and ensure flexibility in their location. It is also the only precinct where podium car parking can be provided. Communal amenity decks and courtyards are provided in the centre of the urban blocks. This reduced permeability helps to direct pedestrian through the station plaza activating it and supporting retail activity.

To reduce the visual impact and perceptions of the scale and massing of the development the DG employ a number of built form controls to mitigate the perceived bulk of large residential flat buildings and mixed use developments, including requirements for building articulation and setbacks in the podium at regular intervals. The DG have been further reviewed to require a visual break and through-site link in Lot B to break up the perceived bulk of development in this lot.

Outside of the Station Precinct and within the Residential Core, smaller building footprints with larger setbacks and wider building separation distances are required.

All streets that are likely to experience high levels of pedestrian foot traffic have sidewalks larger than 2.5m. The side walks of local streets are 2m wide and shared paths are generally 3-3.5m.

2.4 Transport for New South Wales

1.

The provision of bicycle parking is to be based on DCP rates, including consideration of the availability of public transport, and determined during downstream development applications. However, it would be beneficial to identify where bicycle parking is to be located, especially for residential and commercial land uses within the subject Station Precincts and how these locations would interact with the surrounding cycle path facilities.

Response

Promoting active mobility is already covered in extensively Chapter 6.10 of the UDR and Section 4.3.1 of the DG, which has been further revised and updated. A new section Section 4.5.2 "Cycle Facilities and Parking" has been added to the DG that provides more guidance on the number and location of cycle parking facilities in the Precinct. Further detail is provided in the Traffic and Transport Study.

2.

It is assumed that the existing and proposed, future pedestrian bridge connections across Old Windsor Road to the west and across the Elizabeth Macarthur Creek Corridor to the east (at various locations) will be suitable for bicycle travel / connection to link with cycle paths outside the two station precincts.

Response

This is correct. This has been made more explicit in the revised DG (Section 4.3.1).

3.

Page 69, Section 9.5.1.1 - Figure 9.7 has identified Wuban Avenue as a "local street" as per the categorisations in Section 9.5.1.1. Wuban Avenue will continue to be used for bus circulation and accordingly should not be categorised as a local street.

Response

Wuban Avenue plays a very minor role in broader connectivity and precinct wide movement and it is not considered necessary to change the hierarchy of this street. However in order to satisfy the requirements of TfNSW and to accommodate buses in the future Wuban Avenue has been reclassified in both the UDR and DG as a main street.

4.

Page 6 Section 4.3 - Design Principles 2 and 3 of the development focus on encouraging access by public and active transport and ensuring an integrated land use and transport outcome. The TTAR should further demonstrate the integration of the proposed active transport with the current network and proposed land use.

Response

Chapter 6.10 of the UDR and Section 4.3.1 of the DG are dedicated to active mobility. All proposals align with and exceed national, standards and good practice guidelines. The TTAR will be updated by others.

Responses

2.5 State Design Review Panel (SDRP) and the Government Architect NSW (GANSW) Comments dated 5 May 2020

Following the exhibition of the SSDA a number of changes were made to the UDR and DG. These were presented to the SDRP and GANSW to demonstrate how the issues raised in during the exhibition process had been addressed. The response from the SDRP was supportive of the changes that had been made and noted that the following matters needed to be attended to in future stages of planning and design.

1.

Place and context

- improved response to indigenous heritage and engagement with LALCs
- additional guidelines at precinct level to ensure design excellence and architectural diversity

Response

As noted above, additional guidance has been provided in the Section 4.1.1 of the DG. The design controls for the Riparian Breakaway spaces encourage engagement with the LALC during the design process.

Section 4.1 of the DG includes a number of measures to support architectural diversity.

2.

Public Domain

- Concerns raised around the resolution of the through-site link in Lot B
- How is solar access controls for public open spaces been dealt with?
- Have GANSW guidelines around open space been met?

Response

As noted, the DGs (Section 4.2.1) require a through-site link through Lot B and additional requirements have been added to prioritise permeability through this lot. The nature of this link is best determined at later stages of design development and will be addressed through the Design Excellence Process development by Landcom together with GANSW and DPIE. Section 4.2.4 sets out solar access requirements for public open space and Section 7.2 of the UDR illustrated how these requirements can be met through

the arrangement of built form. The Landscape Strategy Chapter 6.5 of the UDR clearly illustrates that State Government targets are met and exceeded.

3.

Landscape and Green Infrastructure

- A number of diverse and detailed matters raised relating to the landscape guidelines

Response

The presentation to the SDRP did not allow sufficient time to explore this level of detail. All matters have been addressed in Section 4.2 of the DG and in the Landscape Masterplan Document developed by Clouston Associates (June 2020).

4.

Streets, interfaces, access and connections

- More detail requested around street cross sections, active frontages, car parking access

Response

As noted above, the presentation to the SDRP did not allow sufficient time to present this level of detail. This has been dealt with extensively in the UDR and DG (Section 4.5) and were developed in consultation with landscape architects Clouston. No changes are proposed.

5.

Land Use

- Provide a clearly articulated land use strategy including temporary activation.

Response

Chapter 6.2 UDR presents a clear land use strategy and allows for a range of potential scenarios. The flexible approach to land uses proposed allows for design solutions to be developed once there is greater certainty around market conditions and retail mix. Section 4.4 of the DGs provide sound urban design principles and detailed matters can be resolved through the Design Excellence process. No changes are proposed.

6.

Building envelopes and massing

- Increase permeability through Lot B.
- Concerns around one storey podium
- Present alternative options for Lot B
- Be less prescriptive in terms of tower envelopes

Response

Section 4.2.1 of DG requires one through site link through Lot B and encourages additional through-site linkages along key pedestrian desire lines (4.3.1.11). The final layout of Lot B is best resolved at the next stage of design when there is greater certainty around the shape and proportions of the Station Plaza, the retail mix and strategy, building core locations and servicing and car parking access. Requiring additional through-site links at this stage will limit the manner in which the site can be developed. This is best resolved through the Design Excellence process. No changes are proposed.

The built form illustrated in the reference scheme is illustrative only and the Section 4.4.6 of the DG allow for multiple design responses.

7.

Staging Divestment and Implementation

- Provide a broad Staging Strategy that includes detail on early activation

Response

Chapter 6.16 of the UDR provides a broad indication of both infrastructure and development staging. Landcom, together with Sydney Metro have developed an activation strategy which includes public art and place making strategies.

8. Design Guidelines

- Clarify the relationship between the Design Guidelines, Design Controls and the LEP at front of the document
- Ensure co-ordination of design guidelines between Kellyville and Bellavista
- Ensure guidelines promote diversity

Response

A clarifying statement has been added in the introduction of the DG and is outlined in greater detail in the Planning Report that accompanies the SSDA.

The table of contents and structure of the DG for Kellyville and Bellavista have been aligned to ensure consistency.

Additional guidelines have been introduced in Section 4.1 of the DG (Design Excellence) to promote architectural diversity. Specifically the design guidelines encourage multiple design teams to be employed on larger project. Future development is also required to follow a prescribed Design Excellence Process that has been developed and agreed by Landcom, DPIE and GANSW.

SJB Architects

sjb.com.au

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Level 2, 490 Crown Street
Surry Hills NSW 2010
Australia
T. 61 2 9380 9911
architects@sjb.com.au
sjb.com.au



Kellyville Station Precinct

Urban Design Report

Kellyville
The Hills Shire
Sydney

Prepared for
Landcom

Issued
23 June 2020

Level 2, 490 Crown Street
Surry Hills NSW 2010
Australia
T. 61 2 9380 9911
architects@sjb.com.au
sjb.com.au

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At SJB we believe that the future of the city is in generating a rich urban experience through the delivery of density and activity, facilitated by land uses, at various scales, designed for everyone.

Version: 12
Prepared by: LW, MG
Checked by: JK / DK

Contact Details:

SJB Urban
Level 2, 490 Crown Street
Surry Hills NSW 2010
Australia

T. 61 2 9380 9911
architects@sjb.com.au
sjb.com.au

SJB Architecture (NSW) Pty Ltd
ABN 20 310 373 425
ACN 081 094 724
Adam Haddow 7188 John Pradel 7004

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Executive Summary

1

Background

Sydney Metro Northwest (SMNW) commenced passenger services in May 2019 between Tallawong/Rouse Hill and Chatswood. The Metro will extend under Sydney Harbour, through new underground stations in the CBD and beyond to the south west by 2024.

Under the Sydney Metro Northwest Places program, Landcom and Sydney Metro are working collaboratively with the Department of Planning Industry and Environment, local councils, other government agencies and other key stakeholders to develop the long-term vision and delivery program to guide the redevelopment and urban renewal of government owned or controlled land around the new SMNW station precincts.

SMNW Places will deliver vibrant and integrated precincts surrounding the new metro stations that will facilitate the renewal and delivery of a greater supply and diversity of housing, new employment opportunities and new public and community facilities.

In 2018, SJB were appointed by Landcom as part of a multi-disciplinary team to prepare an urban design report that would support a State Significant Development Application (SSDA). The SSDA and accompanying documents will secure development rights and help guarantee quality outcomes for the project.

This SSDA urban design report considers various options and approaches to land uses, open space and densities across the site, and includes a set of design guidelines that will ensure quality urban outcomes across the precinct.

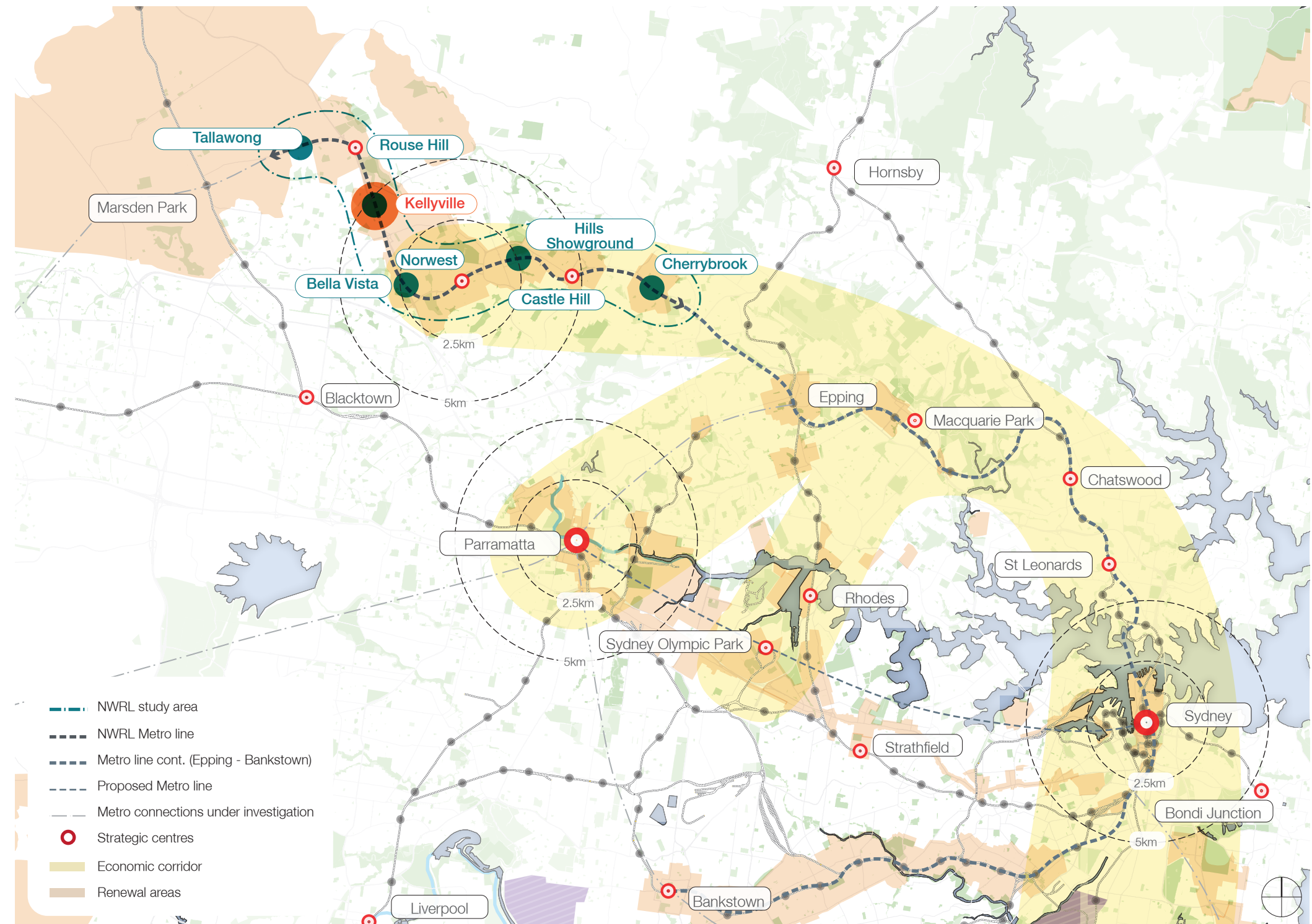


Figure 01: Metropolitan context

Executive Summary

The State Significant Development Application

The Concept SSD Application will set out the concept proposal for the future development of the Kellyville Station Precinct. The application is only required to demonstrate and consider the likely impacts associated with the concept proposal, not the likely impacts of any future development. This would be subject to a separate development application.

Development consent will be sought for a concept development application pursuant to section 4.22(1) of the Environmental Planning and Assessment Act 1979 (EP&A Act), which sets out the concept proposal for each station precinct and comprises the following components:

- Land use strategy that identifies the overall allocation, quantum and location of land uses across the site including:
 - Residential dwellings types comprising residential flat buildings, apartments and terraces
 - Non-residential land uses, including retail
 - Public open space, including public domain and parks, and community facilities
- Urban Design Guidelines that includes built form and public domain design principles, guidelines and controls
- Allocation of maximum GFA across the site for each development block and for specific land uses, including allowable GFA transferred from roads and open space to identified development lots pursuant to clause 8.3 of The Hills Local Environmental Plan 2012
- Street hierarchy and layout, including the identification of pedestrian and vehicular movement and access arrangements, and the indicative location and configuration of new streets and intersection connections to the existing road network
- Identification of criteria for subsequent development stages to be assessed as State Significant Development pursuant to section 4.37 of the EP&A Act

The concept SSDA does not seek development consent for any physical works. All development set out in each concept proposal will be subject to a separate approval pathway.

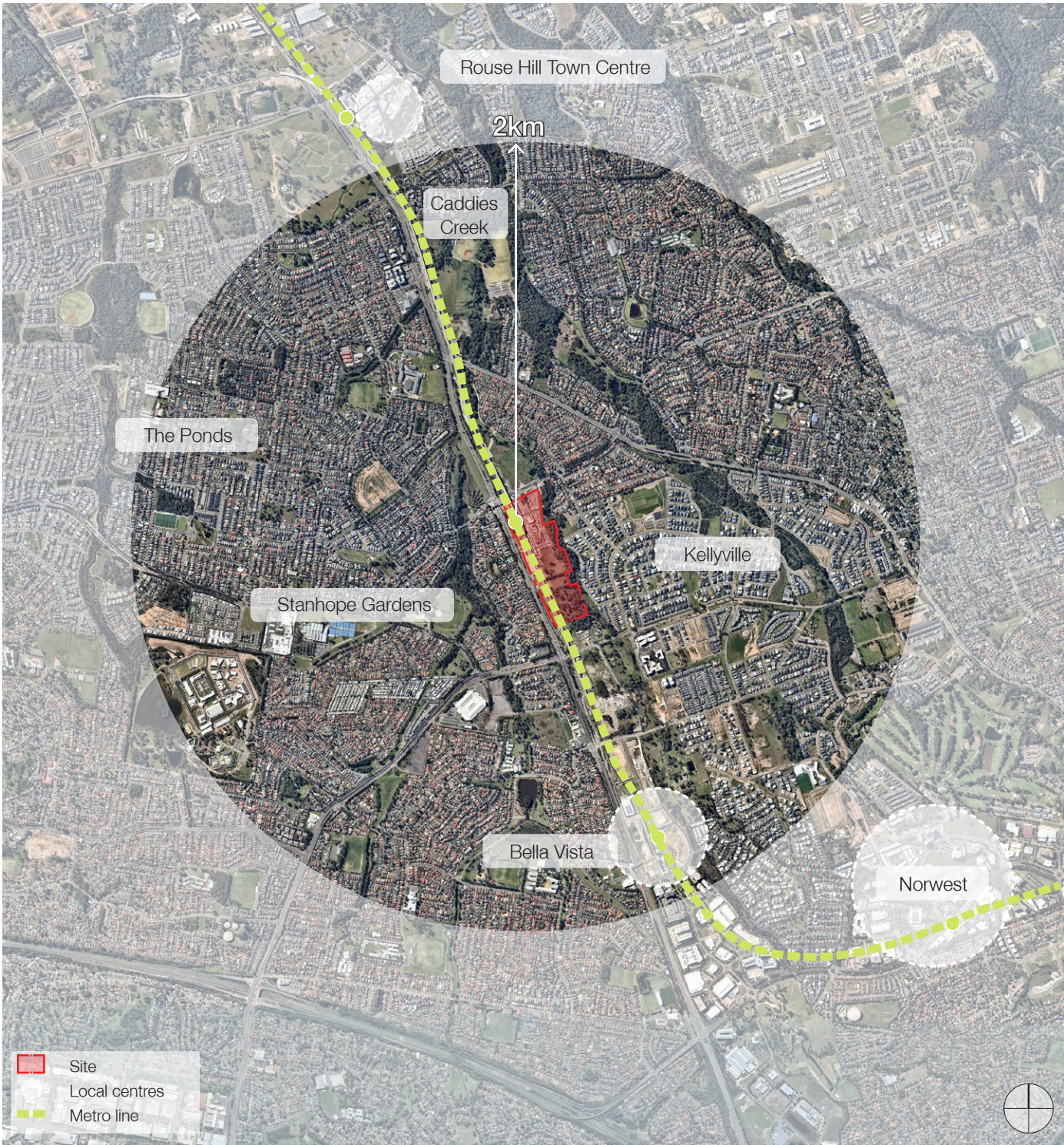


Figure 02: Location plan

Executive Summary

The Site

The Kellyville Station Precinct concept SSDA site is defined as land owned by, or under the control of, Sydney Metro within the boundary of the Kellyville Station Precinct as defined by the Schedule 2 State Significant Development Sites Map of the SRD SEPP.

The site is made up of 16 allotments and has a total area of approximately 18.8 hectares. The legal description of the site is outlined below:

No.	Lot No.	Plan No.	DGL/LMA	Owner	Ownership
1	169	DP1252052	DGL	Sydney Metro	Government
2	170	DP1252052	DGL	Sydney Metro	Government
3	171	DP1252052	DGL	Sydney Metro	Government
4	12	DP1184376	DGL	Sydney Metro	Government
5	1406	DP1249937	DGL	Sydney Metro	Government
6	1407	DP1249937	DGL	Sydney Metro	Government
7	1408	DP1249937	DGL	Sydney Metro	Government
8	1402	DP1249937	LMA	Sydney Metro	Government
9	1401	DP1249937	LMA	Sydney Metro	Government
10	1400	DP1249937	LMA	Sydney Metro	Government
11	172	DP1252052	LMA	Sydney Metro	Government
12	168	DP1252052	LMA	Sydney Metro	Government
13	167	DP1252052	LMA	Sydney Metro	Government
14	162	DP1252052	LMA	Sydney Metro	Government
15	163	DP1252052	LMA	Sydney Metro	Government
16	161	DP1252052	LMA	Sydney Metro	Government

Table 01: Allotments that are the subject of the SSDA



Figure 03: View of Kellyville station from the north west



Figure 04: View of Kellyville station from the north east



Figure 05: View of Kellyville station from the north

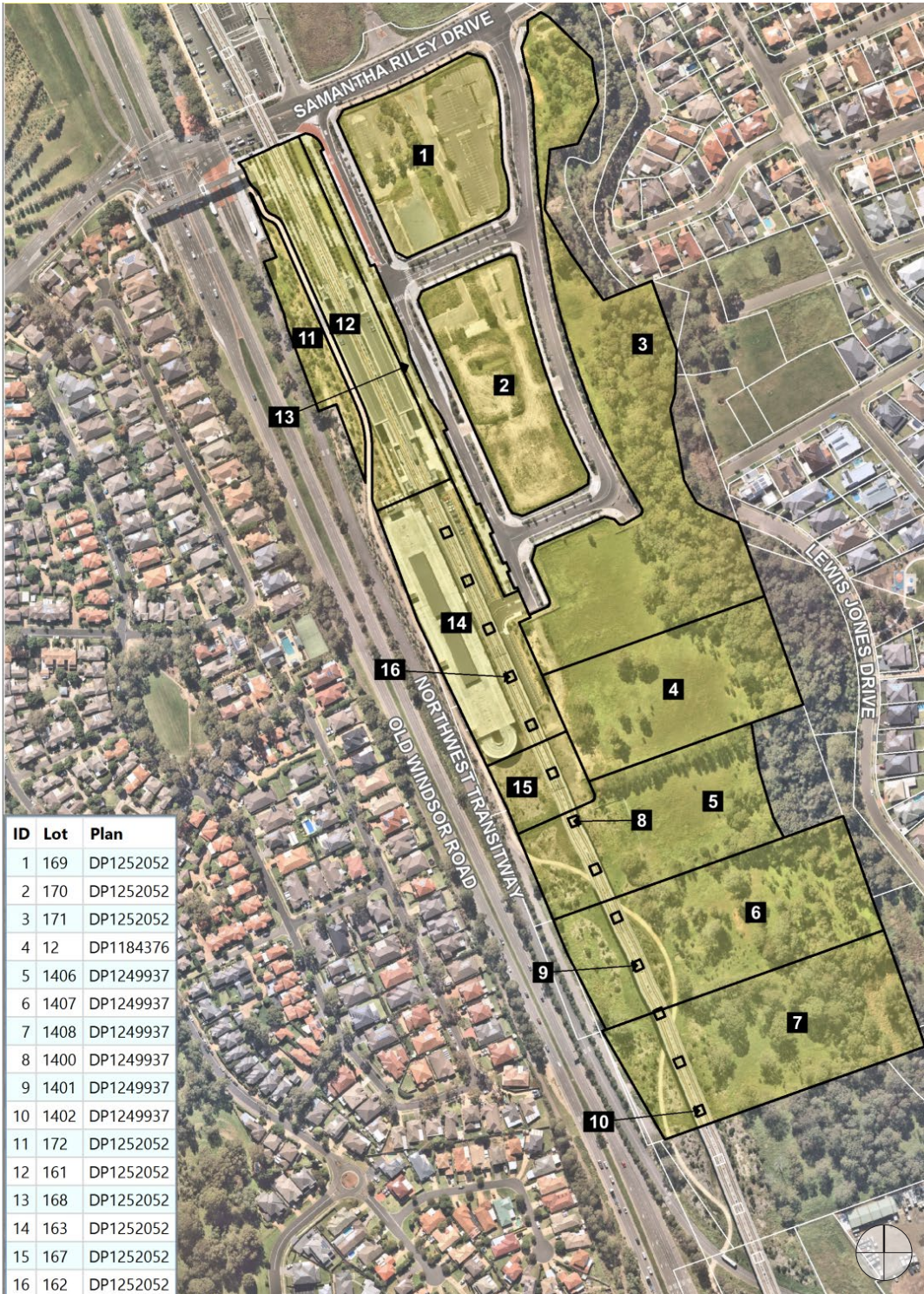


Figure 06: SSD application site

Executive Summary

The Development Concept

Whilst the SSDA only considers the land that is controlled by Landcom, the development concept considers the entire strip of land bounded by Old Windsor Road, Elizabeth Macarthur Creek, Samantha Riley Drive and Memorial Avenue. This ensures that the proposals for development within the SSDA effectively integrate with the wider surroundings and facilitates the development of other portions of land that may be developed by others. The vision for the Kellyville precinct is as follows:

Kellyville will be a vibrant community, whose outdoor living room is Elizabeth Macarthur Creek. It will be connected and dynamic - offering the convenience and amenities of inner city living amongst the riparian bushland setting of north-west Sydney with spectacular views of the Blue Mountains and Hills Shire.

The proposal for the Landcom controlled portion of the site leverages on the unique qualities of the site, specifically Elizabeth Macarthur Creek and proposes:

- A high density mixed use precinct around the metro station accommodating up to 10,736m² of retail related land uses, including a Station Plaza, located on Lot B
- A central urban neighbourhood park of approximately 6,600m²
- Two smaller open spaces forming an extension of Elizabeth Macarthur Creek
- A new pedestrian footbridge over the Elizabeth Macarthur Creek improving connectivity within the wider community. The approval and delivery of this pedestrian bridge is subject to a separate process, outside of the SSDA.
- A main street road running through the site which varies in width and function
- A new vehicular bridge over Elizabeth Macarthur Creek
- New local streets further improving connectivity
- Between 1,492 and 1,910 new residential dwelling opportunities with a variety of typologies including shop-top housing in the station precinct, residential flat buildings (up to 15 storeys) and low rise terraces

The total GFA for the site has been apportioned across the future development lots and has been capped at 163,507m². A minimum GFA of 124,786m² has also been determined to ensure that strategically located land around the Metro Station is effectively utilised.



Figure 07: Visualisation the precinct from above Elizabeth Macarthur Creek looking towards the station with the Local Urban Park in the foreground

Introduction

2

2.1 Background

The completion of the Sydney Metro Northwest link in May 2019 provides a firm foundation for the future intensification of the northwest growth corridor. Much of the land around the new stations remains in public ownership and Landcom’s mandate has been to secure development rights for this strategically located land and release it to the market.

In 2018 Landcom embarked on a design led process for Kellyville Station that resulted in a conceptual masterplan and urban design report. This report sets a vision for the future of the precinct and puts in place a spatial framework that will inform future Development Applications and future development.

2.2 Design Excellence

Given the strategic nature of the project, our approach to design excellence has been process oriented. This has ensured that the approval and framework established through the SSDA is robust and allows for design excellence to be pursued in the future stages of design development.

It also ensures that statutory design excellence requirements in Clause 8.6 of Hills LEP is complied with. This will also apply to future DAs within the precinct.

The process-oriented approach has considered:

- Adhering to design best practice - as reflected in the NSW Government Architect’s Better Placed suite of documents
- Detailed contextual analysis to obtain a sound understanding of the existing qualities of the site, the sensitivities of the receiving context and an appreciation of how future proposals will contribute to the existing ‘sense of place’
- Peer reviews by the team and others external to the project
- Options testing with objective multi-criteria assessment frameworks
- Physical model building and interrogation
- Internal design reviews (e.g. Landcom’s Design Advisory Panel)
- Regular design reviews and meetings with the client team
- Collaborative workshops with the consultant team
- Engagement with key stakeholders, including The Hills Shire Council, Sydney Water, Transport for New South Wales, the Government Architect and Sydney Metro at key decision making points and design milestones
- Independent review and specialist advise on retail configuration and viability (by Esquisse Architects)
- Rigorous technical testing
- The preparation of a Design Excellence design guideline for future DAs, which addresses architectural diversity and minimum qualifications for design teams

All future development will need to comply with the relevant Hills LEP provisions and follow the prescribed design excellence process developed by Landcom together with DPIE and GANSW.

2.3 Design Process

The design process adopted for this study has been both linear and iterative, allowing for future refinements of the masterplan in due course - incorporating inputs from the broader team as and when required.

The five stages of the design process illustrated overleaf comprised of eight key tasks:

1.

Site analysis - this included a policy review and initial analysis of the study area to better understand the constraints and opportunities for the project
2.

Peer review of previous planning studies and masterplans specifically the Roberts Day Masterplan for the site undertaken in 2015 and the DPE led masterplan that supported the rezoning of the site
3.

Vision - the vision for the site emerged through understanding of the previous policy frameworks as well as through engagements with the client team and multi disciplinary professional team
4.

Studies - in order to understand the potential development yield and mix for the site a number of high level studies were undertaken to test what was possible within the constraints of the site and what was required to achieve the development vision
5.

Masterplan options - a number of options were then explored to test alternative arrangement of built form and open space within the development
6.

Masterplan framework adoption and refinement - through more detailed engagement with other disciplines and experts, a preferred option was selected and refined over a number of workshops with the relevant stakeholders
7.

Town centre studies - in order to arrive at the best potential outcome for the site, a number of options for the town centre were explored to test the more complex and interrelated aspects including the location of key elements (open space, anchor retail, servicing, structure, car parking, access, core locations etc.) and built form proposals to test overshadowing and ADG compliance. A multi criteria assessment framework was developed and this was supplemented by specialist input into the retail layout
8.

Masterplan finalisation and guideline development - during this phase, detailed consideration was give to the technical aspects of the proposal including the development of design guidelines

This design process is reflected in the structure of this report.

Introduction

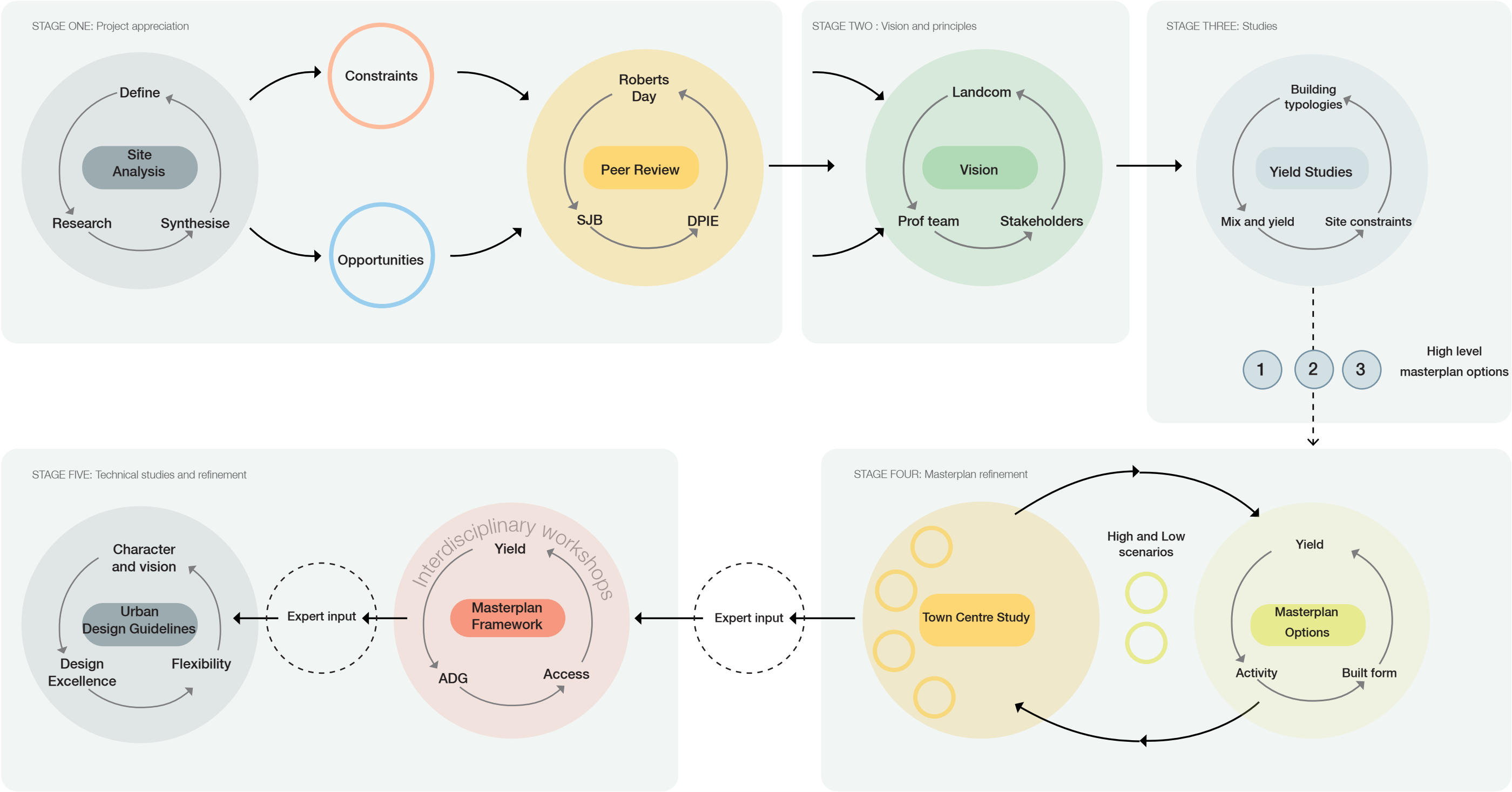


Figure 08: Design process diagram

Introduction

2.4 Planning Policy Context

The following section reviews current strategic policy documents to create a frame of reference for the Kellyville Station Precinct. These are approached from the metropolitan level down to the local level.

Greater Sydney Regional Plan

In March 2018, the Greater Sydney Commission (GSC) released the Greater Sydney Region Plan, A Metropolis of Three Cities ('the Plan'). The Plan is built on a vision of three cities where most residents live within 30 minutes of their place of work, education, health facilities and services. This vision seeks to bring together land use and transport patterns to boost Greater Sydney's liveability, productivity and sustainability by spreading the benefits of growth.

In the Plan, Kellyville is identified as a Transit Oriented Centre that together with other centres, such as Bella Vista and Norwest, will support the Central City of Parramatta. Future links directly to Parramatta are indicated on the plans, these links currently take the form of the T-Way service that runs along Old Windsor Road.

The Central City District Plan

The Central City District Plan was approved in March 2018 and guides the transition of the District within the context of greater Sydney's Three Cities. Its objective is to improve the District's social, economic and environmental assets.

The District Plan identifies that growth in the Central City will be fuelled by previously unparalleled levels of city-scale infrastructure investment including transport, public realm and sporting and cultural institutions, which will attract new and exciting businesses to Greater Parramatta and the Olympic Peninsula (GPOP) and beyond.

The Plan also states that the Central City has achieved a substantially high number of dwelling development approvals, with 11,095 dwelling completions in the 2016-17 period. It states additional capacity for housing is being investigated in the North West Priority Growth Area, which includes Kellyville.

The plan places particular emphasis on increasing land use intensification in areas that enjoy high levels of accessibility. As such, future growth in the short to medium term is seen as being concentrated in a number of Transit Orientated centres related to the Metro Northwest line that links Rouse Hill to Sydney CBD via Chatswood.

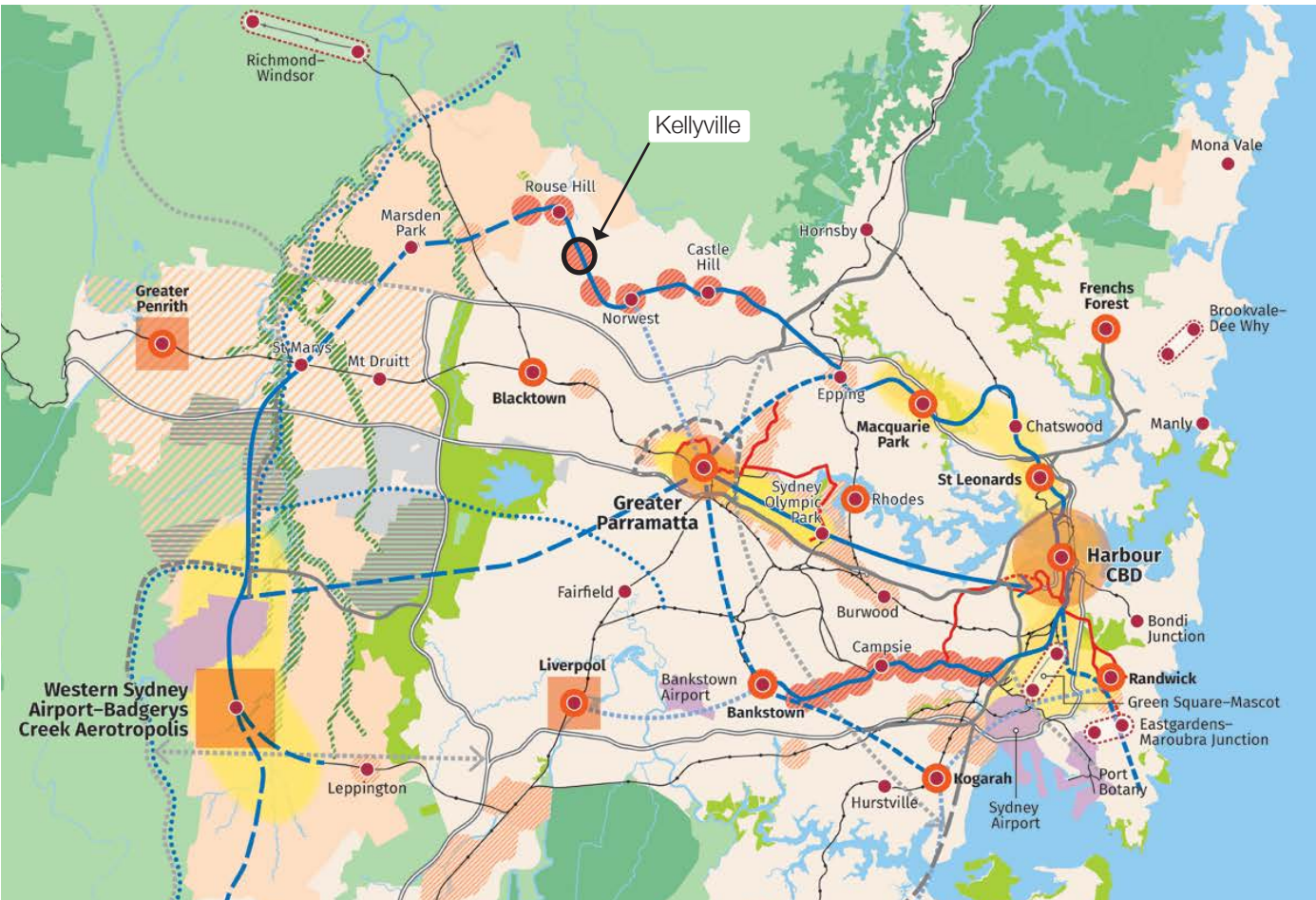


Figure 09: A Metropolis of Three Cities Plan (Source: Greater Sydney Commission, 2018)



Figure 10: Central Cities District Plan (Source: Greater Sydney Commission, 2018)

Introduction

The Draft Hills Local Strategic Planning Statement June 2019

The final Hills Local Strategic Planning Statement (LSPS) will be the basis upon which The Hills Shire Council will make planning decisions and drive future land use planning and the management of growth based on the LGA's economic, social and environmental needs over the next 20 years.

The Draft LSPS, exhibited in late 2019, describes the LGA as ‘the Garden Shire’ within which the natural environment and rural areas form the scenic green backdrop to urban neighbourhoods. It argues that the Hills Shire is set apart by its range of lifestyle options made possible through a combination of urban and rural areas.

The 2036 vision for the Hills Shire is to:

“To shape exceptional living, working and leisure places where expected growth brings vibrancy, diversity, liveability and prosperity for the Hills.”

The LSPS sets out broad planning priorities and corresponding actions to be delivered over the next 5 years to support additional housing, jobs, parks and services for a growing population.

The plan includes 23 Planning Priorities across the themes of:

- A Vibrant Community & Prosperous Economy
- Shaping Growth
- Delivering & Maintaining Infrastructure
- Valuing Surroundings
- Proactive Leadership

A key economic strategy within the LSPS is to support the strategic centres of Castle Hill, Norwest and Rouse Hill. Kellyville is identified as a Transit Centre which, together with Bella Vista, is anticipated as delivering 2,000 housing opportunities. The LSPS acknowledges that station precincts will be the sites of greatest urban change and that masterplanning should provide a clear vision for place making including identifying opportunities for improved connectivity and creating inviting places for planned and incidental interaction with others. The Kellyville Station Precinct is seen as important in delivering these priorities and in reinforcing the Green Grid, with one of three, north south links running through the site. Particular emphasis is given to increasing tree canopy coverage with targets for both Kellyville and Box Hill.

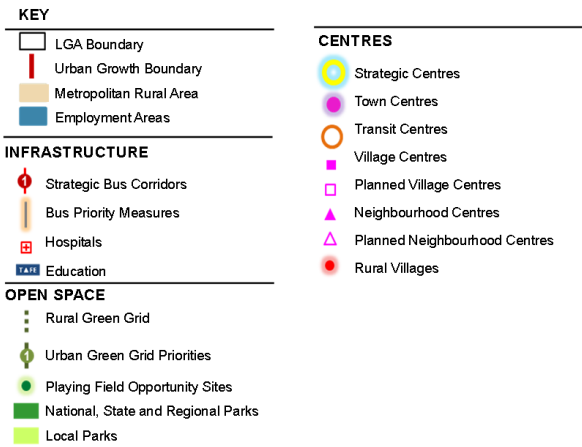
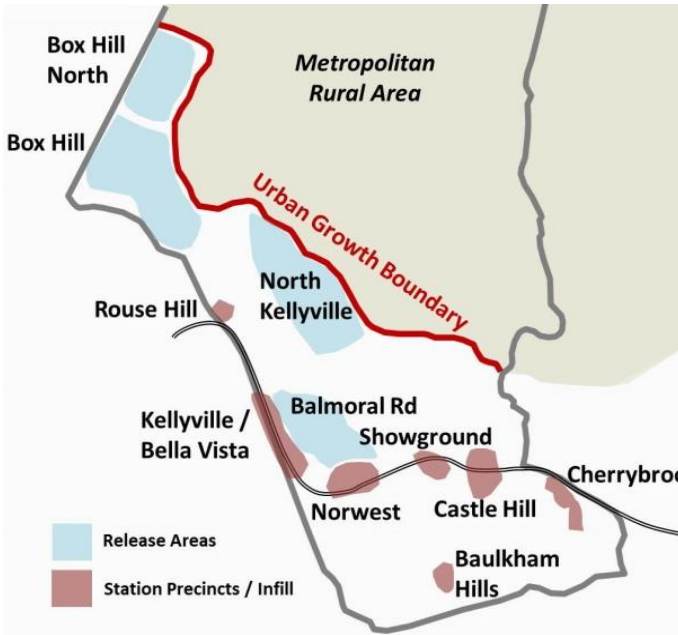
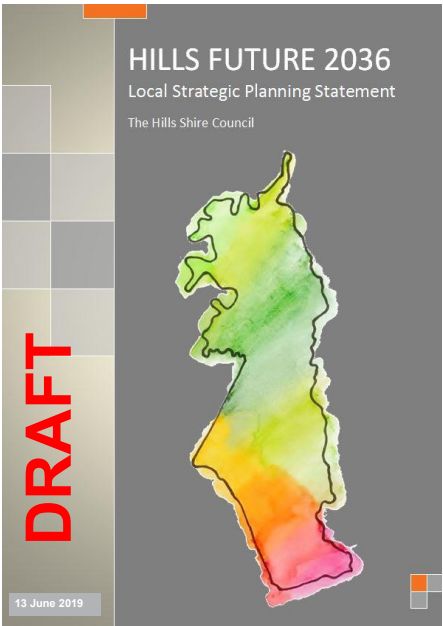


Figure 11: The Hills Proposed Structure Plan (Source: Hills Shire Council, June 2019)

Introduction

The North West Rail Link Corridor Strategy 2012

In 2012, the Department of Planning Industry and Environment (DPIE) and TfNSW, in consultation with local councils, State government agencies and the community, prepared the North West Rail Link Corridor Strategy. The North West Rail Link Corridor Strategy, which included Structure Plans for each station precinct, was finalised in 2013 to guide and coordinate future planning within the corridor.

The Corridor Strategy identified the potential for around 28,000 new homes and 40,000 new jobs within the Sydney Metro Northwest corridor, and:

- Identified future visions for the precincts surrounding the new stations;
- Projected housing and jobs growth for each precinct and the corridor as a whole; and
- Established a framework for managing future land use change.

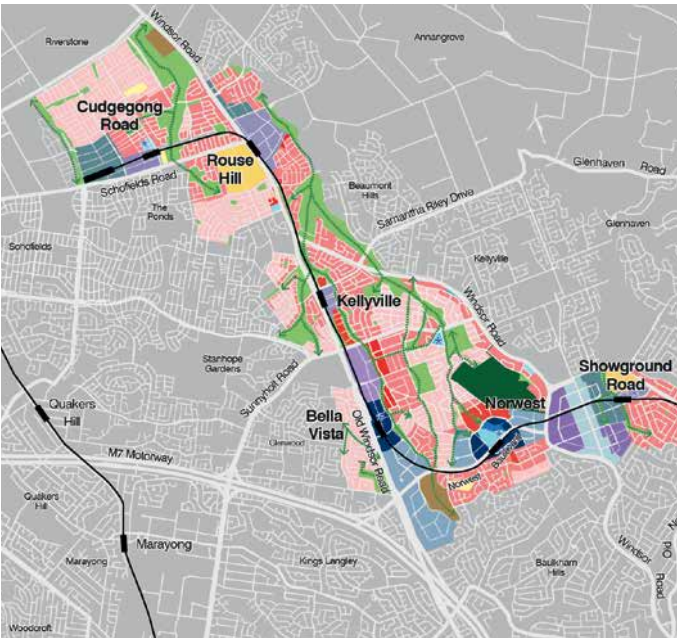


Figure 12: The North Rail Link Corridor Strategy Plan

The Corridor Strategy (including Structure Plans for the eight new station precincts) was prepared to integrate land use and transport planning to meet current and emerging challenges associated with the future growth in the North West region. The Corridor Strategy identified that the Kellyville Station Precinct would evolve to become a transit oriented, predominantly residential area. A new local centre with neighbourhood shops would adjoin the station to provide a new focal point for the community, including neighbourhood shops. A variety of housing types would be provided, with the tallest buildings closest to the station and local centre, reducing in height as one moves away from the station. New links through the precinct and improved public domain were also identified as being key to the success of the precinct.

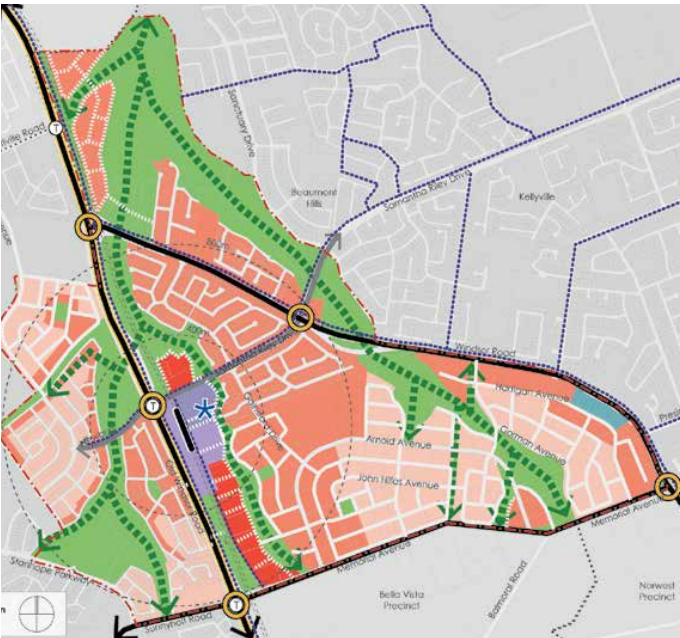


Figure 13: Proposed Kellyville Structure Plan

The Hills Corridor Strategy 2013

The Hills Corridor Strategy (prepared by The Hills Council) articulated their expectations around land use development over the next 20 years for each of the seven new Sydney Metro Northwest stations within or adjacent to the Hills Local Government Area. The Strategy sought to translate the vision of the State Government Strategy to reflect the values and lifestyle of Hills Shire residents.

The Strategy recognised that the Kellyville Station Precinct is an addition to an existing neighbourhood and included land that is not within Landcom's control. It envisaged that the Kellyville Station Precinct would will become a transit oriented Precinct with a variety of housing typologies and local retail services with strong connectivity to other smaller centres within the vicinity. Heavy emphasis was placed on connections to open space and recreational facilities. It also had a high expectation for an additional 4,473 dwellings and over 2,000 new jobs.

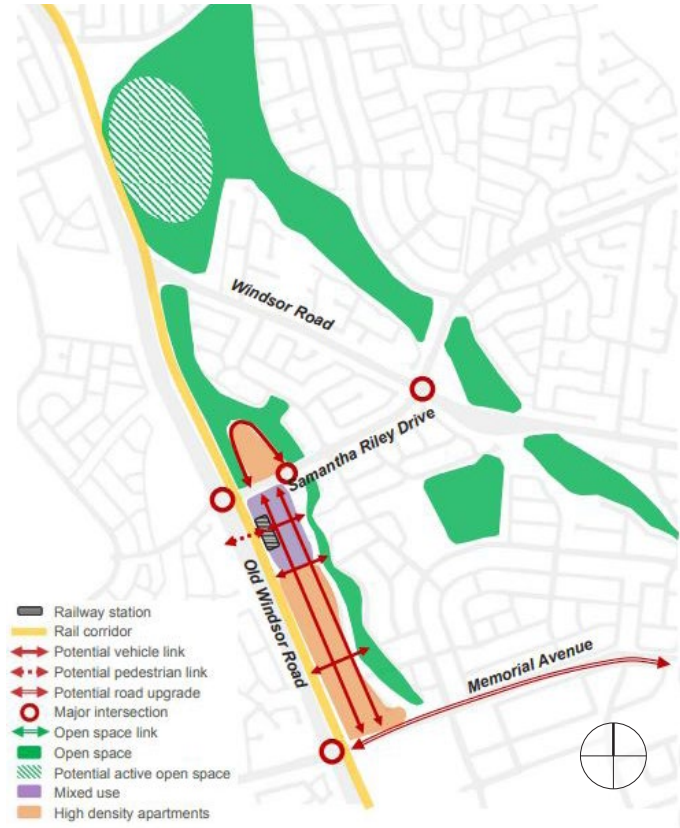


Figure 14: Proposed Kellyville Structure Plan - Hills Corridor Strategy

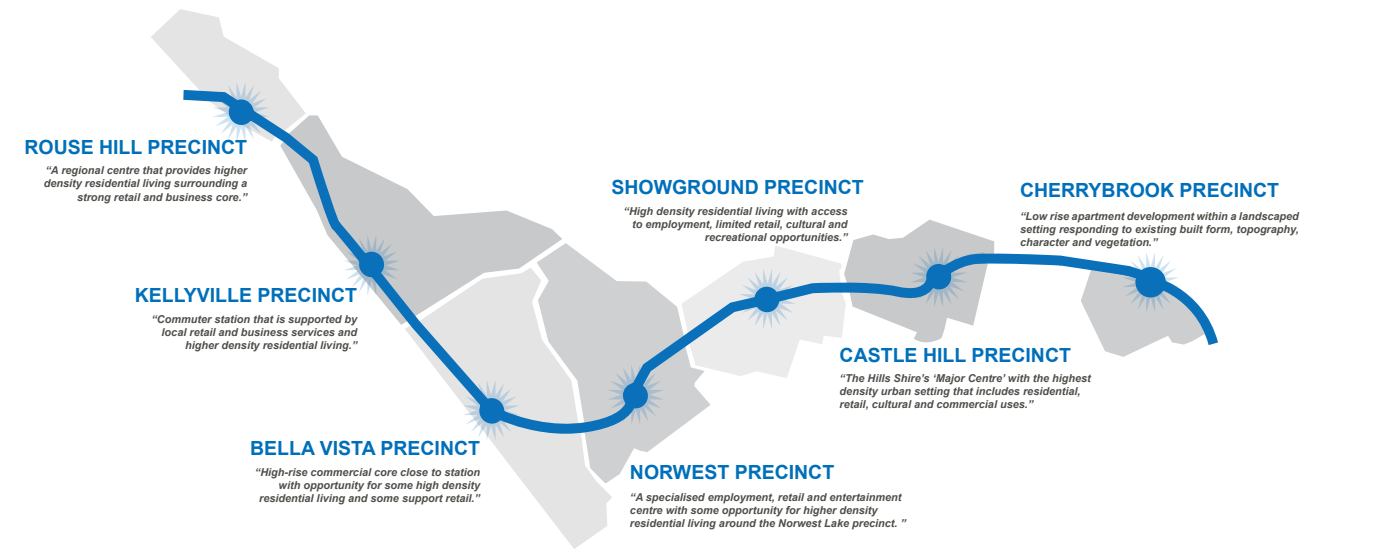


Figure 15: The Hills Corridor Strategy

Introduction

Bella Vista + Kellyville Urban Design Report Roberts Day 2015

In 2015, consultants Roberts Day were appointed by Urban Growth NSW to produce a concept plan for the Bella Vista and Kellyville Precincts.

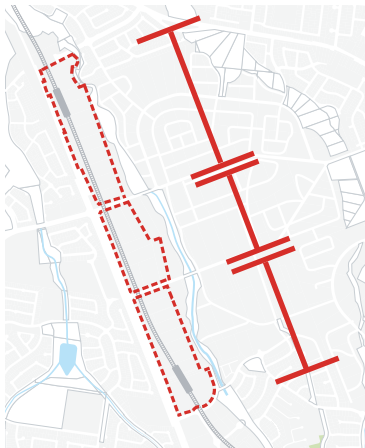
As part of this appointment, a Place Design Framework (PDF) was developed to guide the transformation of the Corridor through a series of place led principles to create a series of lively mixed use centres with a high quality public domain and support intergenerational change transforming the corridor from car reliant suburbs to people orientated neighbourhoods.

The vision for the corridor was for three inter-related villages between Kellyville and Bella Vista, each with their own character and identity. The ten core principles of framework included: A Networked Corridor, Places for People, Density Well Done, A Productive Place, Retrofitting Suburbia, the 20 Minute Neighbourhood, Complete Streets, Catalyst and Hybrid Projects, Capturing Hearts and Minds, Modal Shift and Agency Coordination

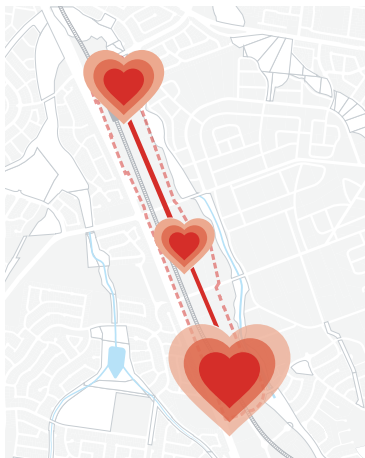
The masterplan considered all the land between Samantha Riley and Memorial Avenue, including land in private ownership, and envisaged a variety of buildings and land uses. A central boulevard was proposed as a unifying element to run for the length of the corridor and the concepts such as “Over and Under” sought to improve integration with the surrounding neighbourhoods.

The aspirational brief for Kellyville included 4,128 sqm of community uses including a high school and primary school, a full line super market, 26,802 sqm of commercial office spaces, 2,654 new dwellings and 2.3 Ha of open space and recreational spaces.

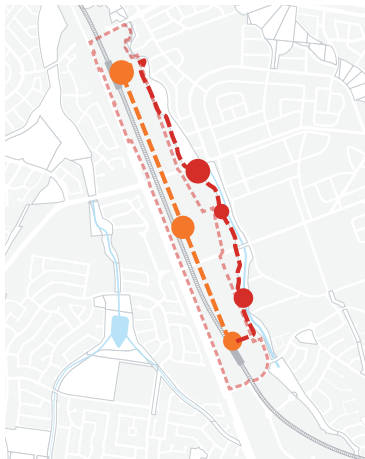
This framework was submitted to the DP&E for consideration in the Kellyville Station Precinct Study and became the basis for this study.



A corridor with three precincts



Three villages - three hearts



Linear connections



4,128m²
Shared Community and Education Facilities



1x
Full Line Supermarket



26,802m²
Commercial Floor Space



2,654
New Dwellings



2.3ha
Active Recreation Courts



2x
1 High School, 1 Primary School

Proposed land use mix for Kellyville - Roberts Day 2015



Kellyville concept plan - Roberts Day 2015

Introduction

Kellyville Station Precinct Proposal 2015

The Kellyville Station Precinct, along with the Bella Vista and Hills Showground Station Precincts, were announced as Priority Precincts by the NSW Government in August 2014. The Kellyville Station Precinct proposal resulted in the review of the LEP and established new planning controls for the precinct. It was proposed that 33.85 hectares of land, be rezoned for increased urban development. This included 32 hectares of NSW Government owned land adjacent to the new Kellyville Station.

The planning proposal was subject to public consultation which resulted in substantial amendments. The finalisation report ultimately rezoned a much smaller portion of land, reduced densities and included extensive development conditions. The LEP controls approved through this Planning Proposal process form the basis of this SSDA and are illustrated in the pages that follow.



Figure 17: Kellyville Station Precinct Plan - Finalisation Report



Figure 18: Kellyville Station Precinct - Visualisation of the Station Plaza



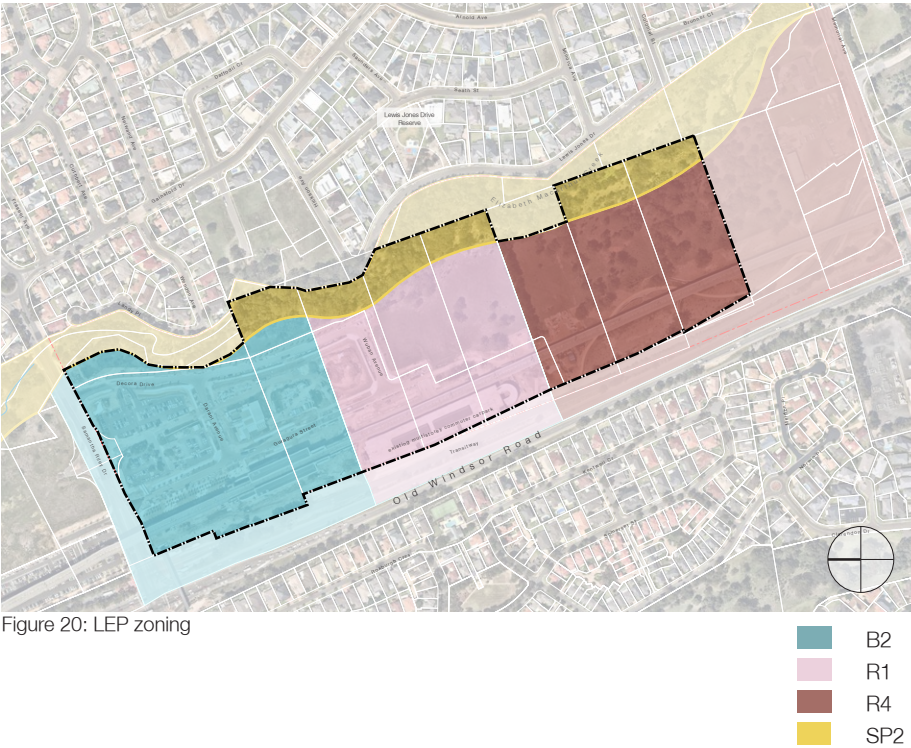
Figure 19: Kellyville Station Precinct - View northwards up Elizabeth Macarthur Creek

Introduction

2.5 The Hills Local Environmental Plan (LEP 2019)

As outlined above as part of the Kellyville Station Precinct work, the land adjacent to the station was rezoned and the LEP controls were amended. The maps below illustrate the land around the station was rezoned to B2 Local Centre, with the remainder of the site zoned for R1 and R4 zones for residential purposes. The land within Elizabeth Macarthur Creek was zoned SP2 - for drainage and flood mitigation purposes. The FSR controls were also amended to be 4.0:1 around the station and then dropping down to 1.2:1 along Memorial Avenue. The Height of Building controls vary from 50m (c.14-15 storeys) around the station, then drop down to 40m (c.12 storeys) along the viaduct and then scaling down to 21m (c.6 storeys) in the southern part of the site.

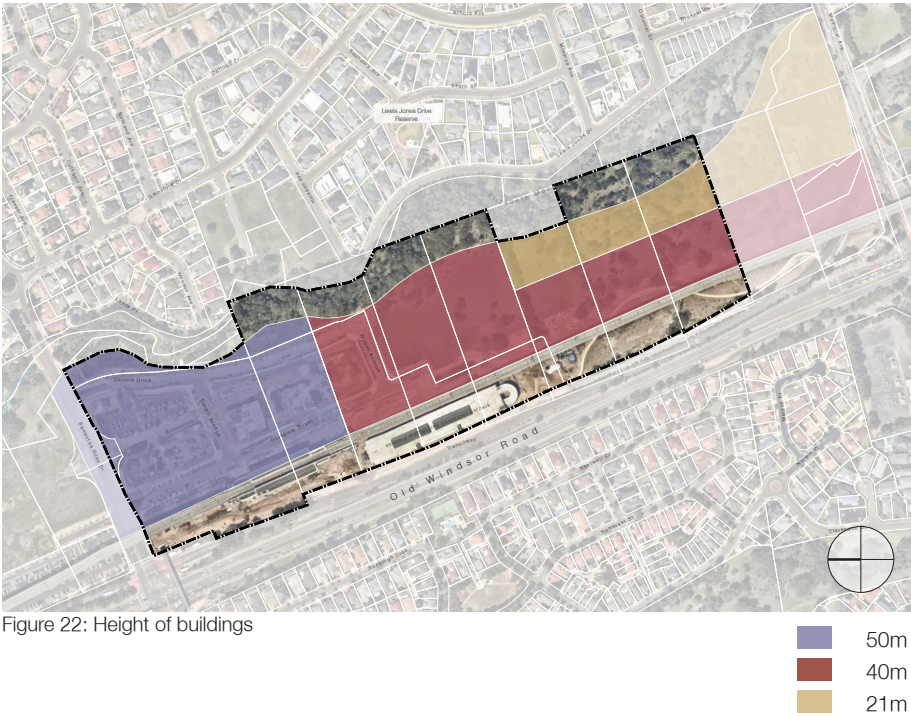
Zoning



Floor Space Ratio



Height of Buildings



Analysis

3

3.1 Site and Surrounds

The Kellyville Station Precinct is located on the Cumberland Plain, a large low lying and gently undulating physiographic region of the Sydney Basin. The distribution of native vegetation within the study area has been affected by historic and contemporary development. Prior to 1788, a mixture of native vegetation communities would have extended across the entirety of the Cumberland Plain with distribution determined by a combination of factors including soils, topography and climate. Aboriginal occupation of the ridgeline (along Old Windsor Road) was focussed upon select locations with creeks being important places for food gathering and meeting. These broad patterns suggest that Aboriginal people were choosing to return to particular sites and locations for specific activities. Three Aboriginal archaeological sites have been identified within the precinct, along Elizabeth Macarthur Creek and within the remnant areas of Cumberland Woodland Plain and present artefact scatters of significance.

The Kellyville Station Precinct is located on the boundary of two Local Government Areas of the Hills Shire and Blacktown. It is strategically located on an important transport infrastructure corridor that includes Old Windsor Road, T-Way and the Metro. This corridor connects important employment destinations including Parramatta, Chatswood, Norwest, Castle Hill, Bella Vista and Rouse Hill, all of which are higher order centres than Kellyville.

The areas to the east and west (Kellyville and Stanhope Gardens) are relatively new suburbs and consist of predominately low rise, low density suburban housing of various styles. The commuter parking provided at Kellyville ensures that residents from these neighbourhoods have access to high quality public transport, and the centres served by the Metro and T-Way services.

The site is well served by open space, including a combination of natural, recreational and community spaces and associated facilities. A new primary school is proposed for the Bella Vista Precinct located appropriately 200m south of the site. Caddies Creek Sports complex is located to the north of the site and is planned to be upgraded.

The Kellyville station precinct is located on a ridge and the undulating landscape results in a number of creeks and drainage lines that flow northwards to the Hawkesbury River.



Figure 25: Kellyville Station under construction



Figure 23: Elizabeth Macarthur Creek located on the eastern boundary of the site is not maintained and presents a unique opportunity for the site



Figure 24: Low rise suburban development to the east of the site does not take advantage of the strategic location of the site adjacent to the new metro station

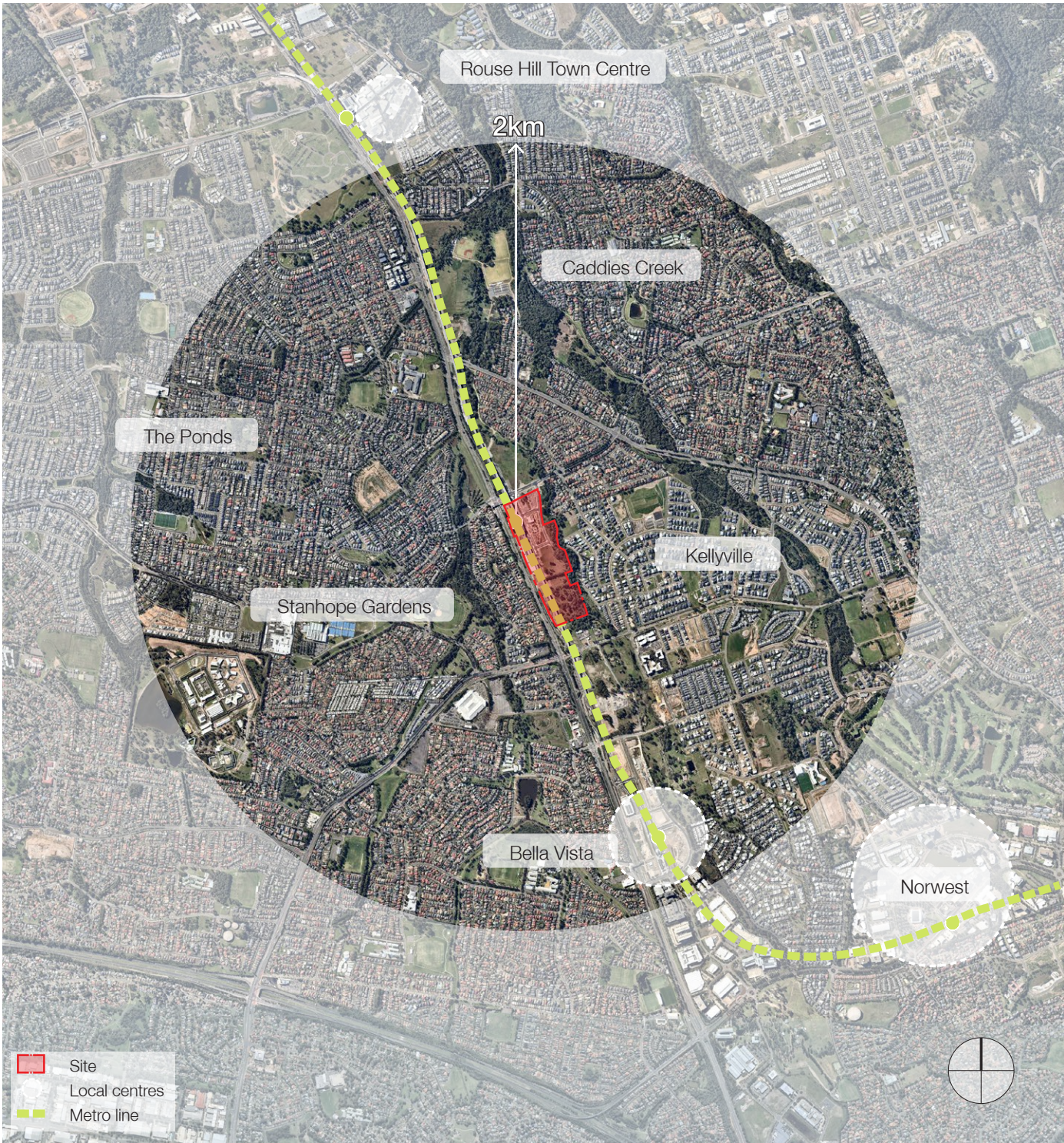


Figure 26: Location plan

Analysis

3.2 Constraints

The plan opposite identifies the existing constraints of the site. They include:

Environmental

- Elizabeth Macarthur Creek Top of Bank (by Sydney Water) 10m ecological riparian corridor, and riparian offset of 20m
- Mature trees, including large areas of Cumberland Plain Woodland categorised as being of moderate significance
- Areas of aboriginal significance along the creek and in the Cumberland Woodland area
- 12m Asset Protection Zone (APZ)
- Noise impacts from the railway line and Old Windsor Road
- Flooding constraints associated with the SP2 zoned land

Property & Infrastructure

- Ownership - privately owned land to the south of the site
- Existing infrastructure (roads, landscaping and station related infrastructure that has been built by TNSW as well as proposed widening schemes for Samantha Riley and Memorial Avenue)
- Proposed widening of Memorial Avenue
- 25m reserve associated to the viaduct limits development:
 - No construction is permitted in the first reserve; 12m from the centre line of the viaduct
 - Above and below ground limitation in the next 13m that limits buildings heights adjacent to the viaduct to 1m below the soft of the viaduct and prohibits basement within the zone of influence of the viaduct cap
 - Buildings higher than the viaduct can be built beyond the 25m reserve

Movement and access

- Old Windsor Road is a significant barrier to the West
- Access limitations to the precinct from Samantha Riley Drive resulting in a signalised intersection at Decora Drive and a left in access into Guragura Street with bus only exit north bound from Guragura Street to Samantha Riley Drive
- Limited access off Memorial Avenue
- Proposed road widening of both Memorial Avenue and Samantha Riley Drive
- Existing access to the multi-storey commuter car park located to the west of the viaduct which is accessed from Guragura Street
- The existing T-Way route and stop

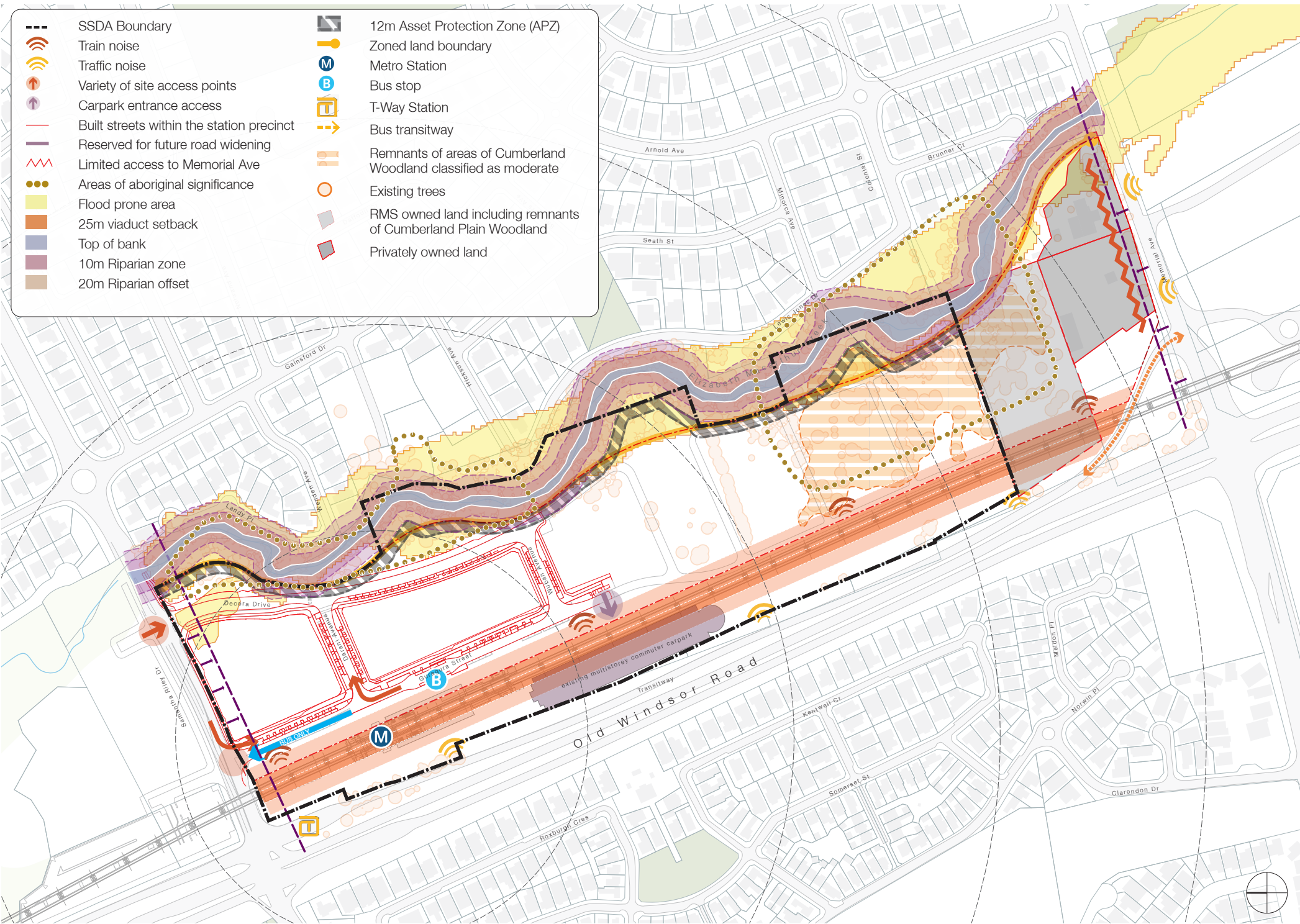


Figure 27: Constraints plan

Analysis

3.3 Opportunities

The opportunities presented by the site include:

Environmental

- A strong sense of place informed by existing environmental assets with Elizabeth Macarthur Creek (EMC) being the most important natural asset that needs to be enhanced and celebrated
- Remnant areas of Cumberland Plain Woodland and existing mature trees of significance can be retained and integrated into the masterplan to enhance the green character of the precinct

Land Use

- Deliver a vibrant, mixed use precinct with footfall generated by the metro station and T-Way supporting retail around the station precinct
- Transition in density towards the station, where access to public transport are greatest

Open space and public domain

- Improve connections along through open space, specifically along Elizabeth Macarthur Creek and Lewis Jones Drive Reserve
- Create new open spaces for the community to enjoy
- Creatively programme underutilised land under and to the west of the viaduct as passive and active recreational destinations
- Retain and integrate existing trees and increase canopy cover

Movement and access

- Improve connections to the Metro and T-Way stations and connect existing cycle and pedestrian pathways to adjacent precincts and suburbs to encourage active transport
- Ensure a well connected, active and walkable precinct
- Provide a new vehicular bridge over Elizabeth Macarthur Creek and into Colonial Street / Arnold Avenue to help integrate the precinct into the surrounding area and improve access to the station precinct
- Help integrate the precinct with its surrounding neighbourhoods with potential new pedestrian bridges across Elizabeth Macarthur Creek
- New cycle and shared paths can provide alternative connections along the corridor, northwards towards Caddies Creek and Rouse Hill and southwards towards Bella Vista / Norwest and support sustainable transport choices

Built form

- Improve legibility using built form at key gateways around Metro Station and strategic corners (Samantha Riley and Memorial Avenue)
- Taller buildings could be located along the viaduct allowing for a transition in height towards the riparian corridor
- Long views out to the Blue Mountains to the west and the Hills to the east, and local views of the riparian corridor create amenity for residents living within the precinct

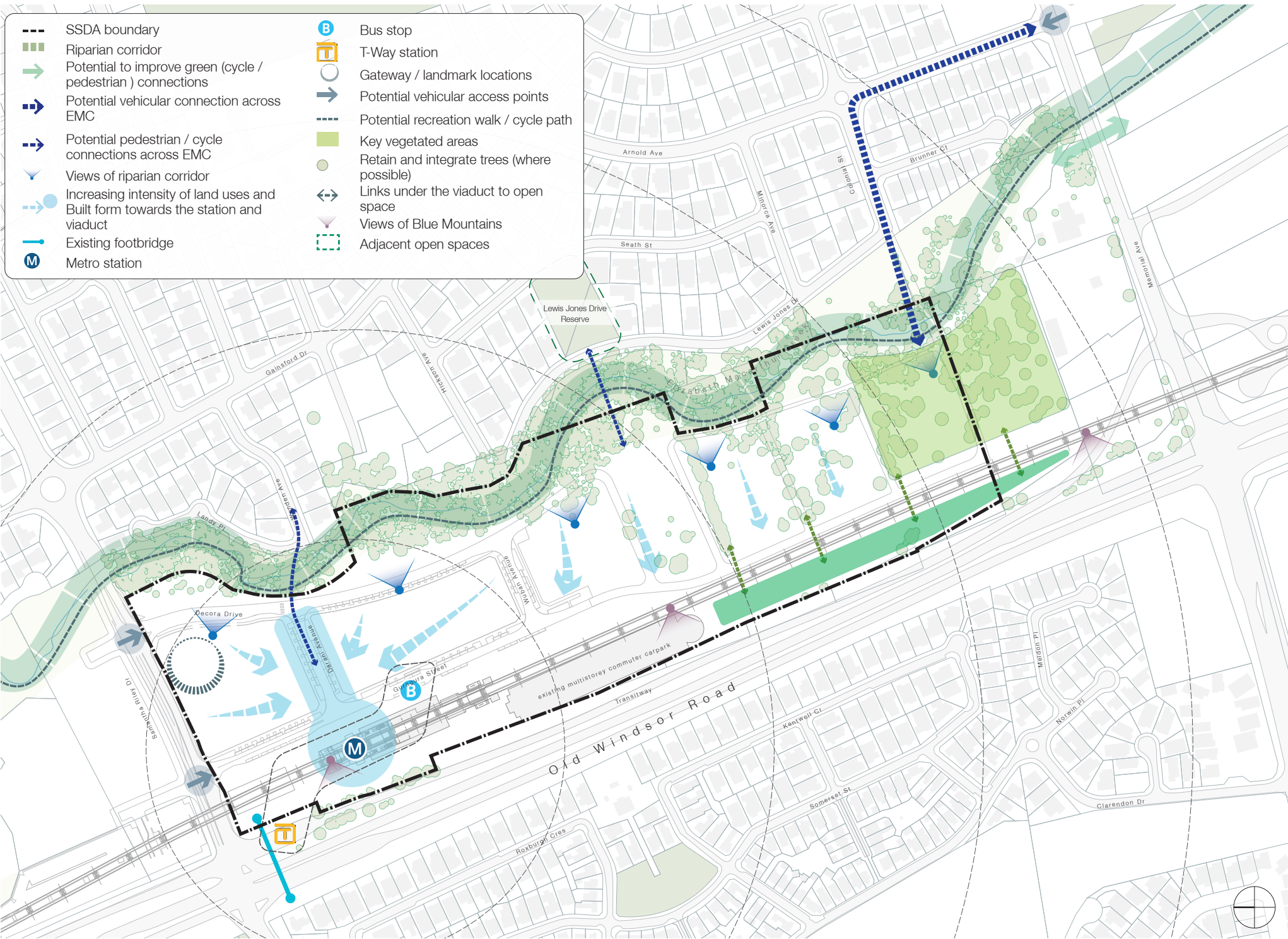



Figure 28: Opportunities plan

Vision and Principles

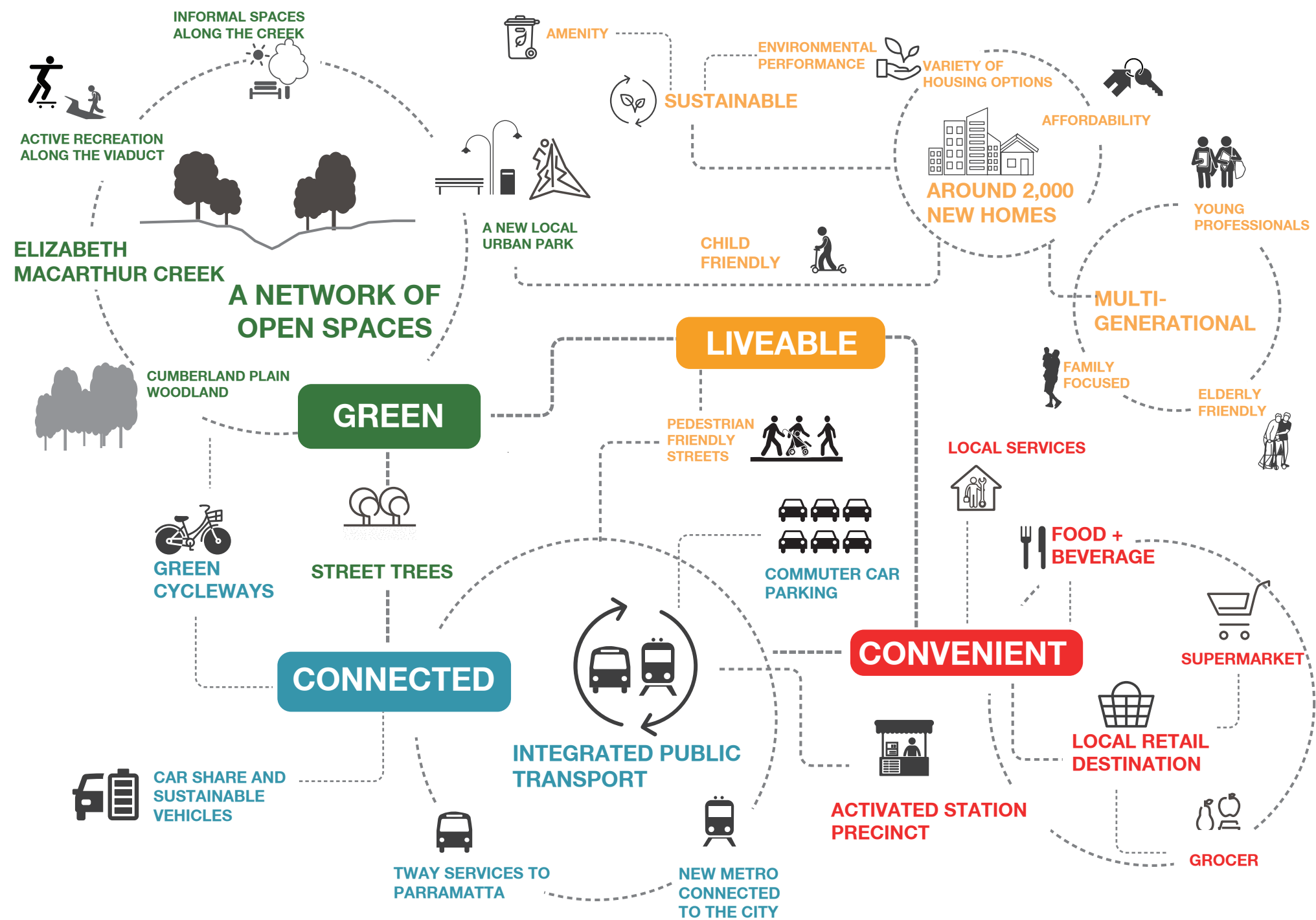
4.1 Vision from previous studies

The vision for the Kellyville Precinct seeks to reflect and synthesise the previous work on the corridor and precinct, our understanding of the site and its context, as well as Landcom’s aspirations for the future development around the Metro. The adjacent table outlines the vision and principles outlined in these documents, their principles and objectives. This work is distilled into a project specific vision for the Kellyville Station Precinct.

	The Hills Corridor Strategy	DPE Planned Precinct	Roberts Day
PLAN			
VISION	<i>“Commuter station that is supported by local retail and business services and higher density residential living.”</i>	<i>“ Vibrant, green and connected community”</i>	<i>“ A transit orientated community where urbanity and nature coexist in harmony creating a high amenity environment supporting higher density living.”</i>
PRINCIPLES	<div>High level principles<ul style="list-style-type: none">• Accountable and sustainable approach• Balance high and low density housing• Housing to match Shire needs• Facilities to match Shire lifestyle• Jobs to match Shire needs• Grow the strategic centresPrecinct level principles<ul style="list-style-type: none">• Focus future high density development west of Elizabeth Macarthur Creek• Mixed use outcome incorporating retail uses on the ground and first floor• Increase residential densities within walking distance of the station• Heights transition downward in a southerly direction from the station to Memorial Avenue• Mix of apartment sizes• 2,050 additional jobs</div>	<div>Principles<ul style="list-style-type: none">• Provision for a range of housing, employment and retail services close to public transport, the regional road network and high quality open space;• Creation of an attractive and convenient local centre around the station which provides shops, cafes, restaurants, and a central town square;• Provision of a high quality, pleasant network of public open space areas, including new sports fields; local parks and enhanced riparian corridors.• Delivery of more homes close to Kellyville Station to meet growing demand and increase housing choice to reflect changing household sizes and lifestyles;• Improving access and connections to the station and through the precinct by providing new local streets, improved bus services, new and improved pedestrian and bicycle paths, and new vehicle and pedestrian crossings over the creek corridor; and• Managing impacts on the natural environment including protection of remnant ecological communities in the creek corridors running through the precinct.</div>	<div>Principles<ul style="list-style-type: none">• A networked corridor• Creating people places• Density done well• Productive places• Retrofitting suburbia• The 20 minute neighbourhood• Complete streets• Catalyst and Hybrid projects• Capturing hearts and minds• Modal shift• Agency Coordination</div>

4.2 Vision

Kellyville will be a vibrant community, whose outdoor living room is Elizabeth Macarthur Creek. It will be connected and dynamic - offering the convenience and amenities of inner city living amongst the riparian bushland setting of north-west Sydney with spectacular views of the Blue Mountains and Hills Shire.



Vision and Principles

4.3 Principles

In order to achieve the vision, the following principles have informed the development of the masterplan and will continue to direct future development within the Kellyville Station Precinct.





Character and Identity


- Celebrate and enhance Elizabeth Macarthur Creek usability for recreation whilst protecting its ecological value to the area
- Extend the green qualities of the riparian corridor to Old Windsor Road
- Retain and integrate existing mature trees of significance and create a green character for the precinct through integrated spaces and landscaping
- Celebrate the entrances and gateways into the precinct, and the views of the precinct from the passing metro (i.e. viaduct level)
- Harness views from the site to the Blue Mountains and surrounding hills






Land Use

- Increase the intensity of land uses, activities, built form and residential density around an active station precinct and new public Station Plaza
- Provide a variety of housing options to cater for a range of family types and household profiles, specifically affordable housing
- Ensure flexibility in the subdivision and built form to accommodate changes in land use and market conditions





Movement and Access

- Connect meaningfully into the surrounding neighbourhoods, particularly eastwards into Kellyville and southwards into Bella Vista
- Encourage passive movement along Elizabeth Macarthur Creek
- Prioritise pedestrians and active modes of transportation to local destinations
- Support public transport use and provide alternatives to private car use
- Provide convenient access to the station and commuter parking without impacting the pedestrian environment
- Discourage undesirable through traffic through street design & connections





Public Domain

- Convenient access to a network of integrated, high quality public open spaces and amenities (playgrounds, walking paths, BBQ areas, etc.)
- Define open spaces in response to the area's unique characteristics:
 - A vibrant urban Station Plaza
 - Open spaces under the viaduct are activated by recreational spaces
 - Integrated spaces along the riparian corridor
 - Public spaces within the residential blocks
- Ensure the open spaces are safe and multi-functional
- Retain and integrate existing mature trees into the landscape design





Built Form

- Focus density and building heights towards the station, and stepping down towards the riparian corridor
- Siting, form and orientation of built form to carefully consider sunlight access into public spaces, communal areas, streets and residential buildings
- Active frontages with weather protection along primary pedestrian routes





Sustainability

- Embed adaptation measures in precinct design to address climate change risks and improve precinct resilience
- Passive design principles to be considered in built form to maximise energy efficiency
- Create a low carbon precinct through integrated use of renewables and energy saving technologies
- Use an integrated approach to water management to conserve resources and manage stormwater quality and flows
- Improve thermal comfort through use of sustainable materials, tree canopy and soft landscaping throughout the precinct
- Create an affordable precinct that provides accessibility, connectivity, health and wellbeing benefits for all

Conceptual Framework

This report deals specifically with the land that is the subject of the SSDA, specifically the Government owned land that is currently under Landcom’s control and which is indicated in the adjacent plan opposite. However, in order to ensure the integration of future development within the broader Kellyville Station precinct, a conceptual framework has been prepared that contextualises the SSDA site between Memorial Avenue and Samantha Riley Drive.

The conceptual framework includes land that forms part of the SSDA as well as land that is within private ownership in the south of the precinct. Proposals for those sites that fall outside of the SSDA boundary will be subject to separate development applications, and should build upon the foundation of vision and design principles set out in this report.

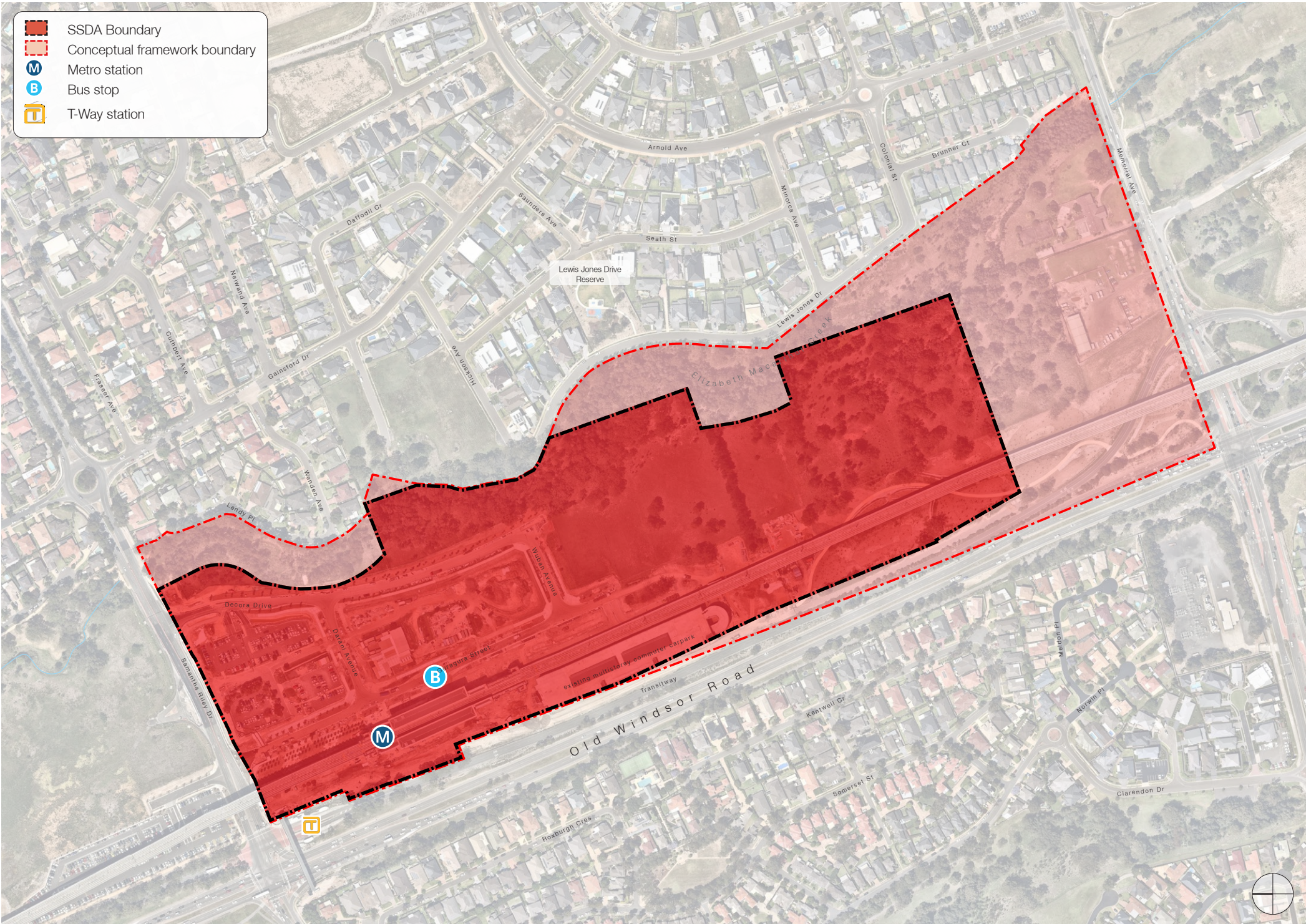


Figure 29: SSDA boundary and Conceptual Framework boundary

Conceptual Framework

5.1 Corridor Integration and Green Links

The conceptual framework begins with an understanding of the role of the site within the corridor and how it links into and integrates with the surrounding neighbourhoods. Given the linear nature of the site, together with the barrier of Old Windsor Road to the west, it is important to ensure that the Kellyville Precinct integrates effectively with the suburban neighbourhoods of Kellyville to the east and to Caddies Creek and Bella Vista to the north and south respectively.

The adjacent plan indicates the high-level green connections that seek to knit the precinct's streets and spaces to the surrounding areas. The distribution of open spaces within the corridor ensures that residents have access to a formal open space within 200m of where they live. A key objective of the framework is for the open spaces to link or form a contiguous connection with Elizabeth Macarthur Creek, which serves as the green spine between Bella Vista and north to Caddies Creek and beyond.

The green linkages take the form of potential pedestrian bridges over Elizabeth Macarthur Creek and Memorial Avenue and new signalised pedestrian crossings. These will support more sustainable movement behaviour connecting people to public transport, green open spaces and amenities.

Linkages southwards towards Bella Vista are particularly important as the primary school, district open space and T-Way Station will be important destinations for residents. Inherent in this movement network is a “fast” route aligned with the viaduct and a “slow” route along the riparian corridor.

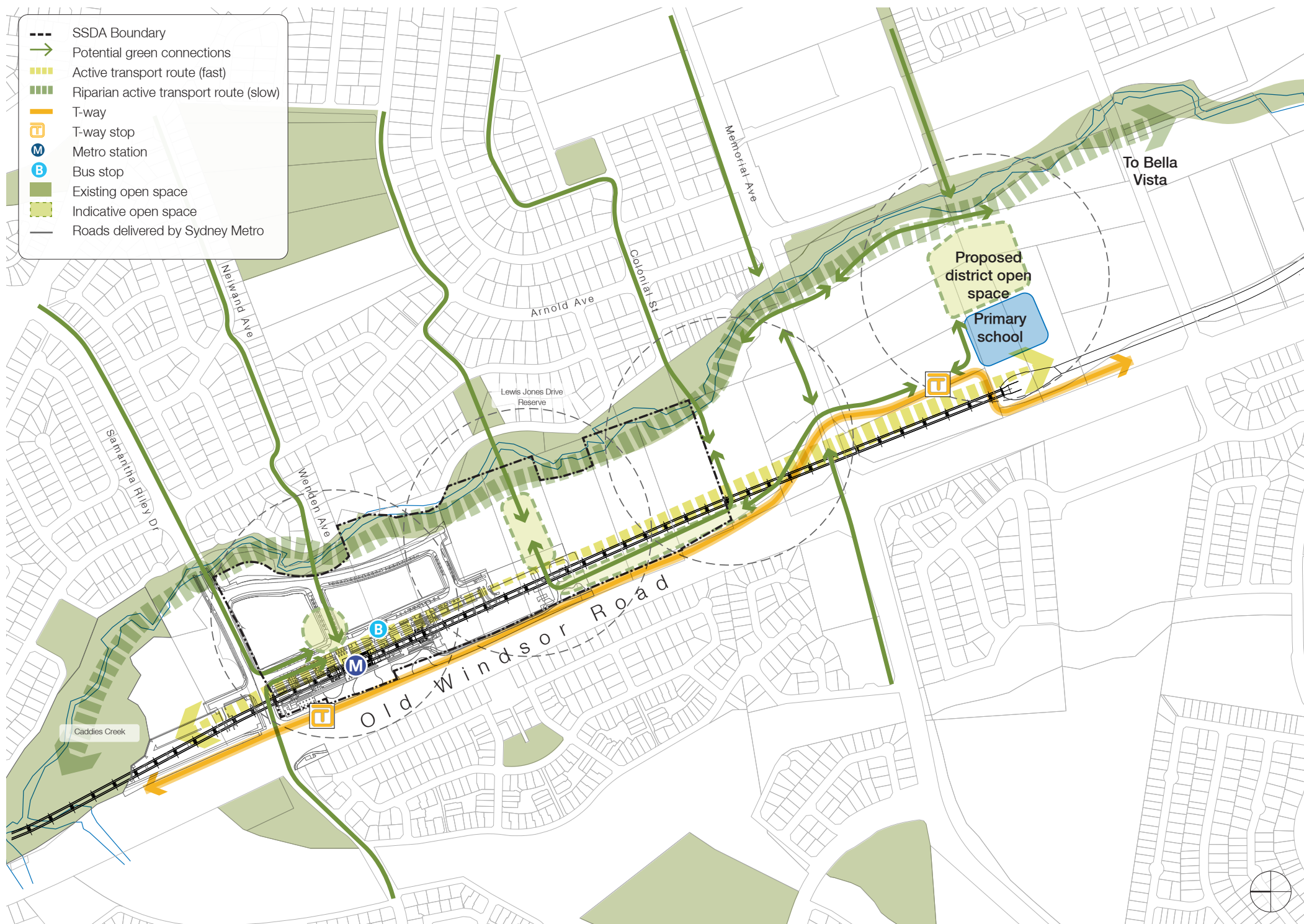


Figure 30: Conceptual framework plan

Conceptual Framework

5.2 Masterplan Concept

The masterplan concept has been shaped by a combination of two different approaches to the site.

The first is an ecological approach that is linked to indigenous understandings and experiences of Country and of rivers and creeks as meeting places. It recognises Elizabeth Macarthur Creek as the defining natural element for the site and the broader context, including Bella Vista. The aspiration is to extend this “green room” westwards towards Old Windsor Road through an integrated network of green public spaces, what may allow the Cumberland Plain Woodland to be enhanced and stretched across the site. In this approach the streets and open spaces become outdoor living rooms and the urban blocks are conceptually “carved out” of the woodland.

The second approach is an urban / structuralist approach. It relates to the form, impact, appearance, role and delivery of built elements and how people will move through the precinct. For this approach, the riparian and viaduct corridors are seen as the core structuring routes that run north/south through the precinct. The route along the viaduct is a faster, more urban and active route providing direct access to key destinations while the green corridor along Elizabeth Macarthur Creek is slower, informal, meandering and passive. The streets and open spaces are arranged as bridges between the two movement routes and the internal circulation routes are deliberately organised to weave through and activate the precinct.

Combining these concepts establishes a clear masterplan concept that draws together the unique characteristics and potential of the site. The masterplan framework is described in more detail on the next page.

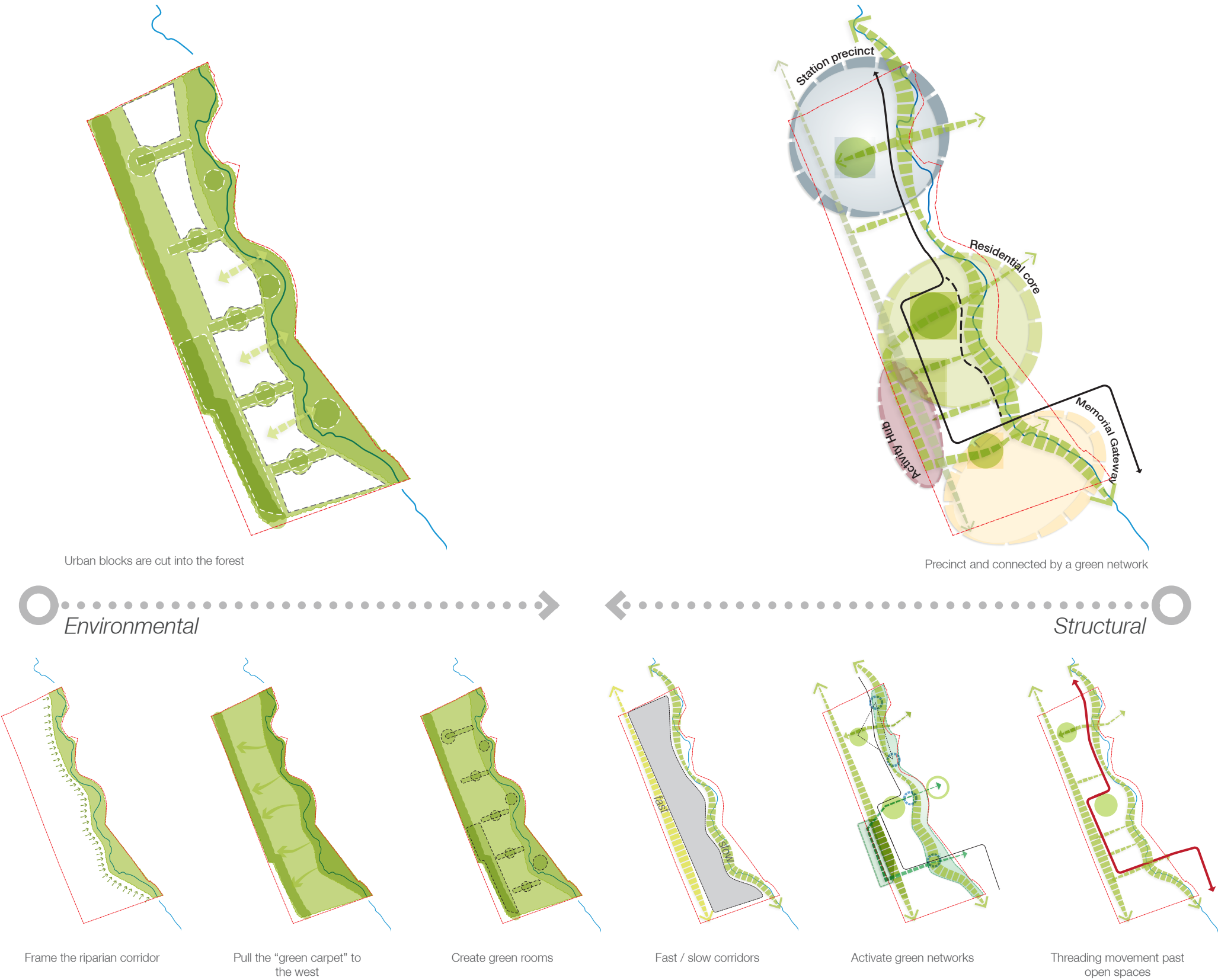


Figure 31: Conceptual diagrams

Conceptual Framework

5.3 Masterplan Framework

The masterplan framework consists of the following elements:

- 1. Elizabeth Macarthur Creek is celebrated as the unifying open space within the precinct. A shared pedestrian and cycle path is provided along the length of the corridor with a potential foot / cycle bridge over Memorial Avenue at its southern end into Bella Vista, and linking northwards to Caddies Creek
- 2. Mixed use station precinct and Station Plaza on Darani Avenue opposite the Metro station
- 3. Local Urban Park in the order of 6,000sqm in the centre of the site with a potential footbridge over the creek linking to Lewis Jones Drive Reserve
- 4. Linear activity strip to the west of the viaduct activated by formal and informal recreational facilities
- 5. A “fast” active mobility route for residents travelling longer distances is provided on the western edge of the site along the viaduct providing easy access to the Metro and T-Way stations; and the school and district facilities in Bella Vista
- 6. Two smaller passive open spaces associated with the western edge of Elizabeth Macarthur Creek connected by a linear pedestrian path which meanders along the creek and connects the two precincts
- 7. The main street weaves through the development lots to provide access to the precinct and to discourage unnecessary through traffic. It enters the site at the intersection of Samantha Riley Drive and Decora Drive and then proceeds southwards to the local urban park, then westwards along the northern edge of the park before turning southwards again along the viaduct.
- 8. At the southern end of the site, the main street takes a final turn eastward where a new bridge is proposed over Elizabeth Macarthur Creek connecting into Colonial Street and Arnold Avenue which intersects with Memorial Avenue.

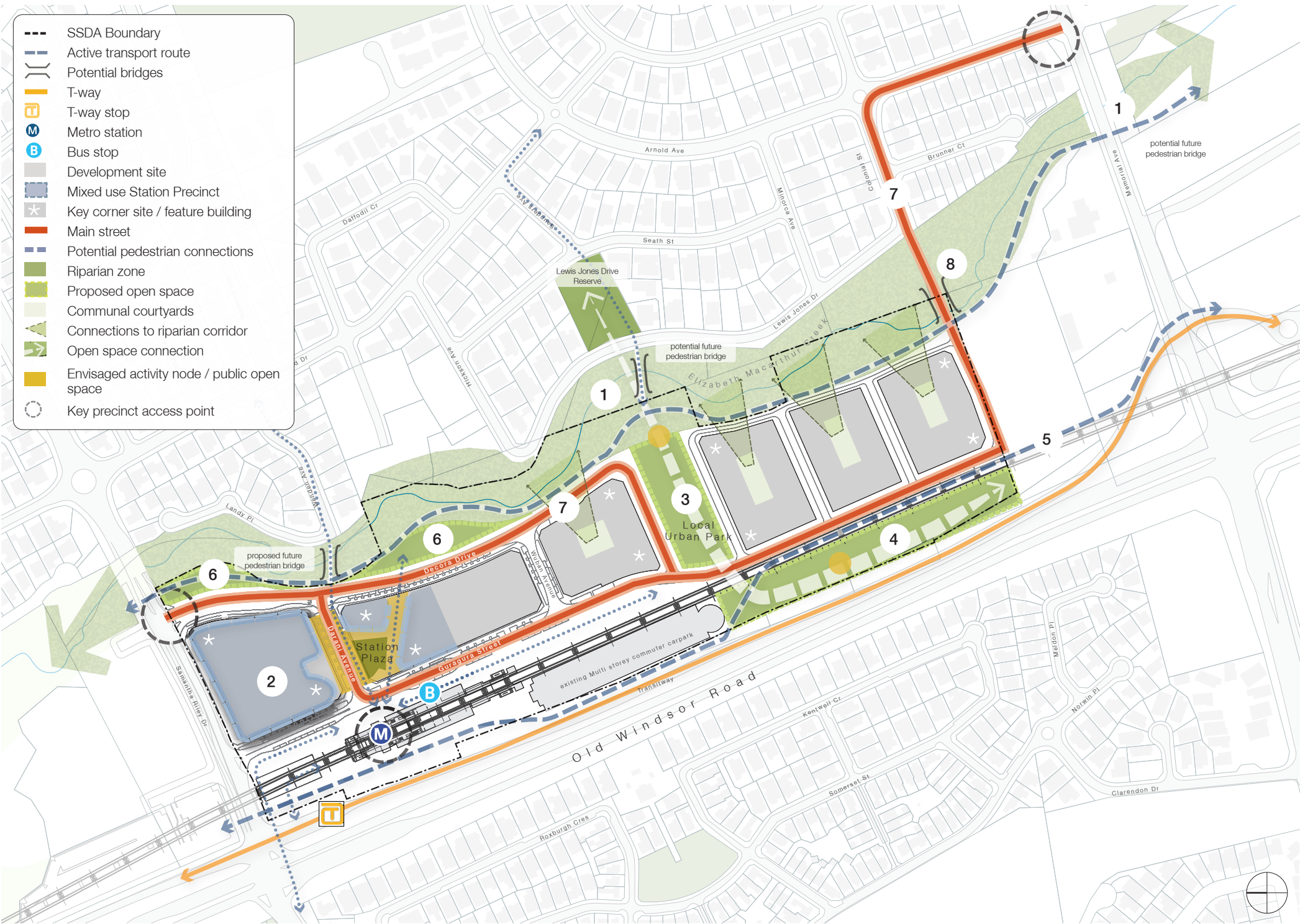


Figure 32: Proposed masterplan framework

The urban design framework for the Kellyville Precinct establishes the future structure of the precinct and provides direction for the next stage of design and development. The framework is sequentially explained starting with the envisaged character areas and concluding with an assessment of the reference scheme for the site. It explores various topics including open space, land use, movement and built form.

6.1 Character Areas

The existing qualities of the site, together with the proposed street network and distribution of open spaces, land uses and densities across the site create three distinct character areas - each with their own unique relationship to the surrounding residential areas.

Old Windsor Road, together with the Metro viaduct and T-Way, form a hard barrier to west of the site and prevent effective integration with the suburb of Stanhope Gardens. Elizabeth Macarthur Creek to the east forms a soft green buffer between the site and the character of the low rise, low density suburb of Kellyville to the west.

The qualities and characteristics and built form typologies for the three precincts are outlined on the following page.

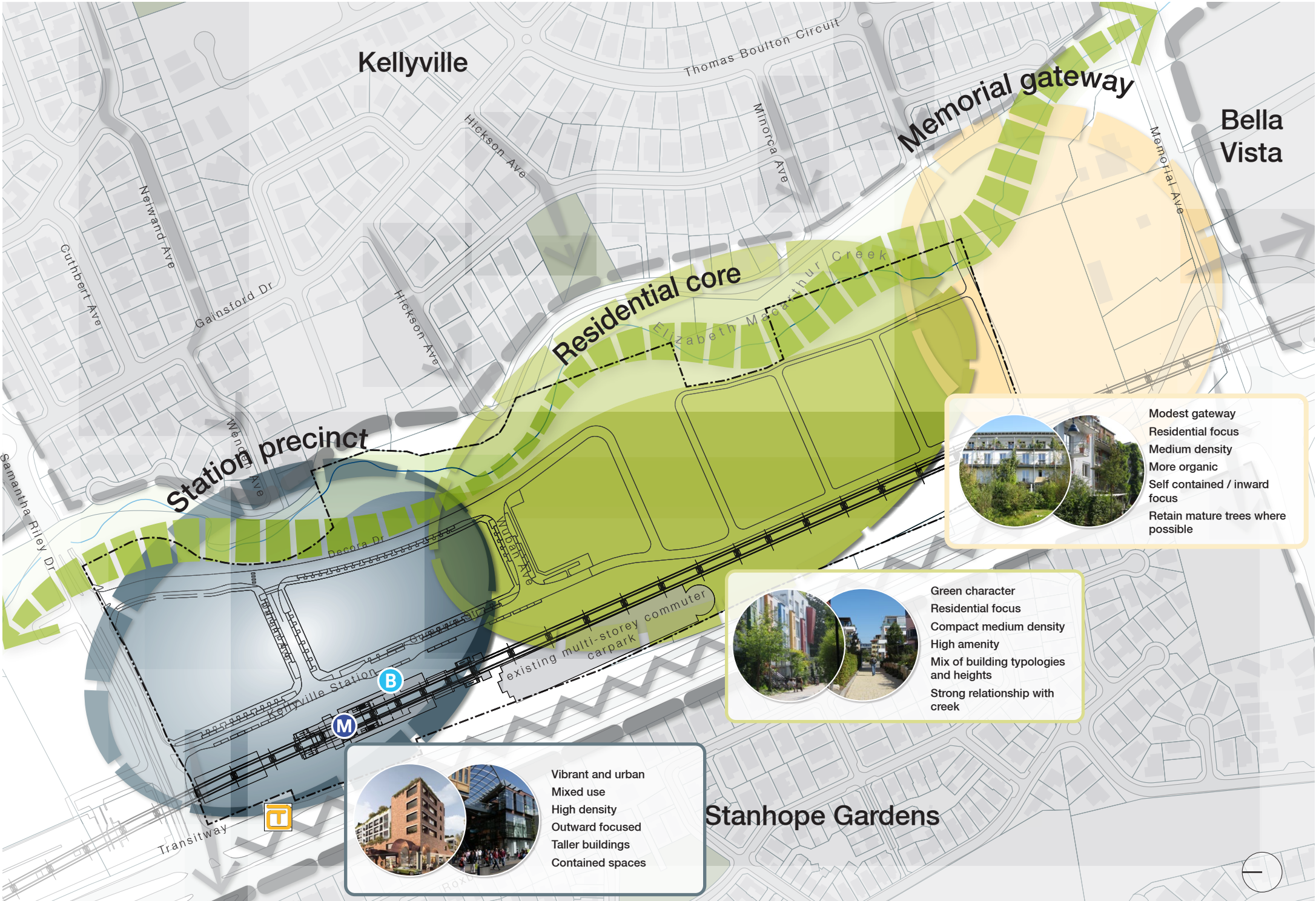


Figure 33: Character areas

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Urban Design Framework

Character Area Statements

Station Precinct

Located at the northern end of the study area, the Station Precinct is the northern gateway to the site and a hub for retail and social activity. The Metro Station, T-Way and bus stops generate pedestrian movement between the different modes of public transport that helps to bring activity to the precinct throughout the day with the Station Plaza as the focus of social life. In contrast to other parts of the masterplan the plaza is compact, enclosed by buildings and more urban in nature. The buildings are mixed use in nature with retail uses (potentially including a local supermarket and grocer) serving as local retail destinations for the broader Kellyville community. Structured parking is provided in basements and in podiums, with entrances strategically located with the view of discouraging vehicle trips through the precinct and past the Station Plaza.

Above the retail podium the buildings offer well located high density residential accommodation in the form of apartments and shop-top housing. The buildings vary in height, from 8 to 15 storeys, taking advantage of distant views of the Blue Mountains and angled views of the creek. The tallest buildings located close to the station with variation in buildings heights. The building interface is more urban with 0-2m setbacks ensuring active ground floor uses and privacy for ground floor residential accommodation. Communal open space is provided above podiums and within the centre of the block.



8 Storey mixed use development
Rouse Hill Town Centre, Rouse Hill



10- 15 Storeys mixed use buildings / apartment
Bridgehill Residence, Milsons Point, SJB Architects



View of the proposed Station Plaza

Residential Core

The Residential Core is located in the centre of the site and is focused around the Local Urban Park. The main street is diverted along the viaduct offering more direct spatial connection between Elizabeth Macarthur Creek and development. The streets within the precinct are green, lush and pedestrian oriented with planted verges and large trees within the on street car parking zone. Existing significant trees and remnants of the Cumberland Plain Woodland habitat are retained and integrated into the courtyard and public domain. The Viaduct Park to the west provides for active recreation and is safe and well overlooked by development. The precinct is predominantly residential providing a range of urban dwelling types including apartments and terrace style units integrated into residential flat buildings. Limited, small scale compatible non-residential uses (such as childcare or community cafes permitted in the LEP) could help activate key locations, such as around the around the urban park. The building footprints are generally smaller with taller buildings (up to 12 storeys) are located along the viaduct providing surveillance of the viaduct park. The communal courtyards located in the centre of the urban blocks open out towards Elizabeth Macarthur Creek offering glimpses of the riparian corridor. Through-site links offer residents convenient access to the open space amenities. The precinct is unified with a 4 storey street wall with upper level setbacks to reduce the perceived scale of taller building, creating more intimate streets and spaces. Buildings include planters on balconies and green roofs to offer amenity and pleasant outlook.



View of local street



Views from apartments over communal courtyards towards Elizabeth Macarthur Creek



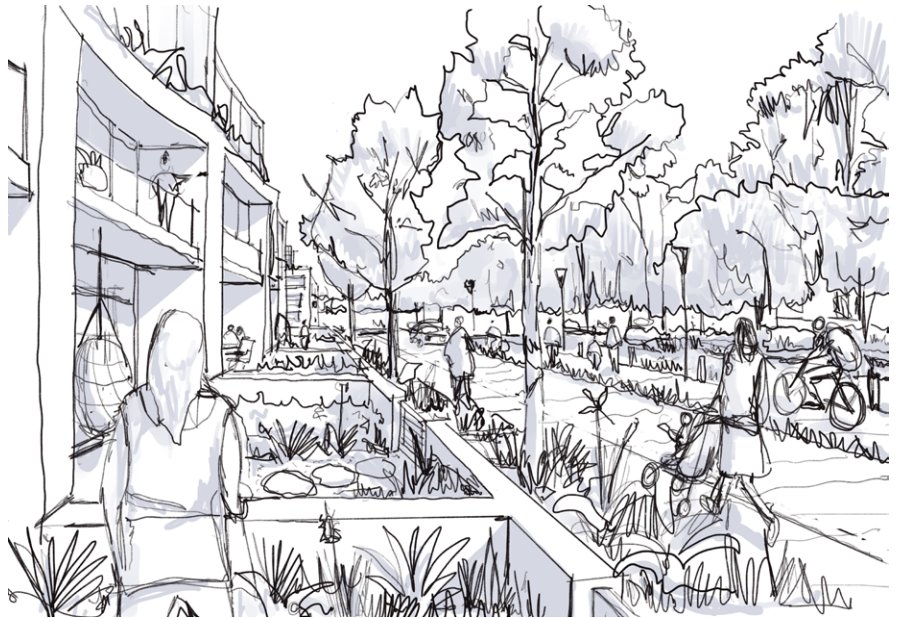
6-8 Storey Apartment
Alora Apartments, Wentworth Point, Turner



4-6 Storey Apartments
Freiberg, Germany



View of the main street along the viaduct activated by people and active frontages



View of the shared street along the riparian corridor - a pedestrian oriented street

Urban Design Framework

Memorial Gateway

The Memorial Gateway Precinct is located at the southern end of the development corridor and beyond the SSDA boundary. Densities in this area are seen to be generally low (50du/Ha) with a broader range of lower rise housing typologies including low rise apartments, terraced housing and attached dwellings. The character of the precinct is more organic, self contained and inwardly focused. The existing mature trees and elements of the Cumberland Woodland Plain are retained and enhanced, potentially a more natural bushland park that serves this precinct.



4 Storey Apartment
The Kensington, Kensington, Fox Johnston



2 Storey Row House
Glebe Harbour, Blackwattle Bay, SJB Architects

Urban Design Framework

6.2 Land Use

The proposed land uses for the site seek to deliver Landcom’s mandate of creating high-quality transit oriented precincts around public transport infrastructure.

- 1. The blocks around the recently completed Metro Station and T-Way stops will form an intensive mixed-use area with an activated retail ground plane supported by shop-top housing. Potential retail uses, include a supermarket, grocer, street front retail, child care and local services that take advantage of the exposure and footfall generated by the station and passing traffic on Samantha Riley Drive.
- 2. New open spaces are to be created within the riparian corridor for residents and workers, who are then invited to explore and make their way southwards to the main open space in the centre of the site through a shared pedestrian and cycle path that winds its way along the creek.
- 3. The central Local Urban Park will be the recreational focal point for the new community.
- 4. The viaduct open space will support more active recreation.
- 5. The blocks south of the mixed use area will be primarily residential. The proportions of the blocks allow for a variety of residential typologies to be developed, including residential flat buildings with integrated terraced units at ground floor. Minimum densities are prescribed within each super lot to ensure that development responds appropriately to the investments in public transport infrastructure.

Public open spaces and roads within the precinct will be dedicated to Council, ensuring public access along the riparian corridor and to the primary open spaces within the precinct.

It is proposed that all land along the riparian corridor that falls within the SP2 zone will be dedicated to Sydney Water.

- SSDA boundary
- Metro station
- T-way stop
- Bus stop
- Mixed use
- Residential
- Open space
- Allowance for future road widening

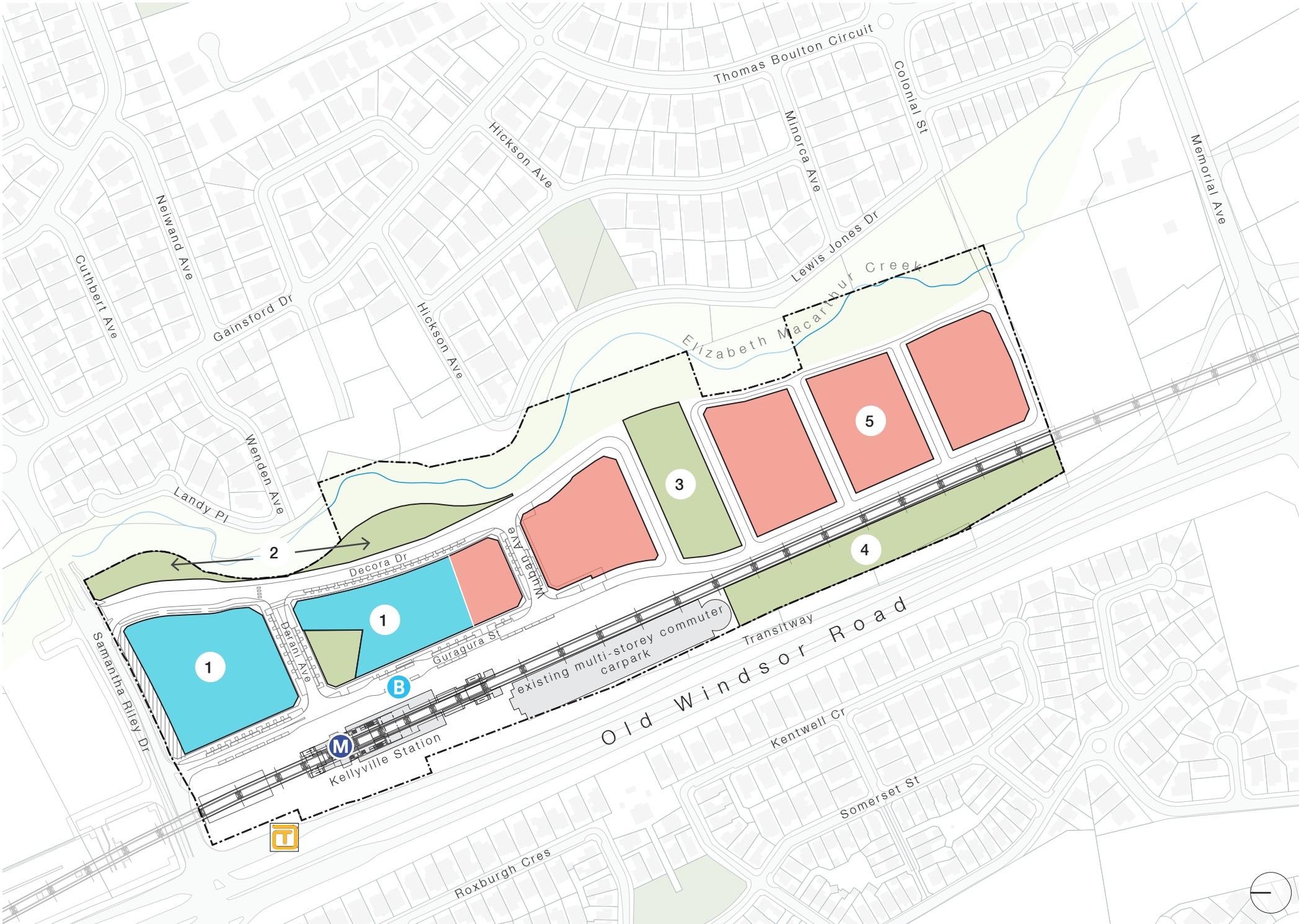


Figure 34: Land use plan

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6.3 Detailed Station Precinct Concept

The northern two development lots adjacent to the Metro Station have the greatest capacity to accommodate retail uses. This precinct will experience higher levels of foot and vehicular traffic on account of the station and existing multi-storey carpark.

The adjacent plan illustrates a concept for the town centre however the final plan for this precinct will be resolved at the next stage of design when there is greater certainty around the retail strategy and development mix. The proposal seeks to:

- Ensure retail frontage along primary movement routes
- Overcome the severance of Darani Avenue and draw people across both sides of the town centre
- Ensure a generous and vibrant Station Plaza that accommodates a range of activities
- Work creatively with level changes across the site
- Resolve access and servicing efficiently and create a safe pedestrian environment

The proposal includes:

- A Station Plaza of a minimum 1,600m² on Lot B with a through-site link between the Station Plaza and Decora Drive
- Potential for an anchor supermarket of approximately 2,400m² within Lot A
- Potential for a mini grocer of approximately 1,200m² within Lot B
- Primary vehicular access to the retail centre from Decora Drive. This will require the widening of the existing carriageway to allow for turning movement into the development
- Left-in-left-out access to Lot A from Guragura Street (southbound only)
- High density shop-top housing above the ground floor retail levels and on Decora Drive taking advantage of views over the riparian corridor











- | | |
|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
|  Residential |  Soft landscape |
|  Indicative core location |  Hard landscape |
|  Retail |  Bus only north bound lane |
|  Retail anchor |  Allowance for future road widening |
|  Servicing/toilets/amenities | |
|  Back-of-house (BOH) | |



Figure 35: Conceptual Station precinct ground floor reference scheme proposal



Figure 36: Conceptual Station Precinct reference scheme site plan

6.4 Subdivision and Yield

The arrangement of streets and open spaces creates six clearly defined and regular development lots. It may be desirable to further subdivide these lots in line with Landcom’s divestment strategy to ensure that opportunities are made available to a range of different investors and developers concurrently or in sequence. These subdivisions will be subject to future applications

In order to ensure that efficient use is made of this strategically important site, an approach has been taken to specify a range of densities based on minimum and maximum thresholds. This quantum of development has been tested in detail to provide a high level of certainty that it is possible to achieve the proposed yield within the constraints of the LEP controls and the vision for the precinct. While every attempt has been made to ensure that it is possible to achieve the maximum yield indicated in the table (within the parameters of the existing controls and other guidelines (e.g. ADG), it may not be possible to achieve the maximum GFA in the final design when more detailed information has been progressed and the development mix is confirmed. The maximum yield has been used as the basis for infrastructure and traffic assessments and consequently can not be exceeded.

Notwithstanding, all future development proposals are required to exceed the minimum threshold identified in the table to ensure that this strategically located land is efficiently developed. This flexible approach is able accommodate short term shifts in the market and allows for a greater variety of built form.

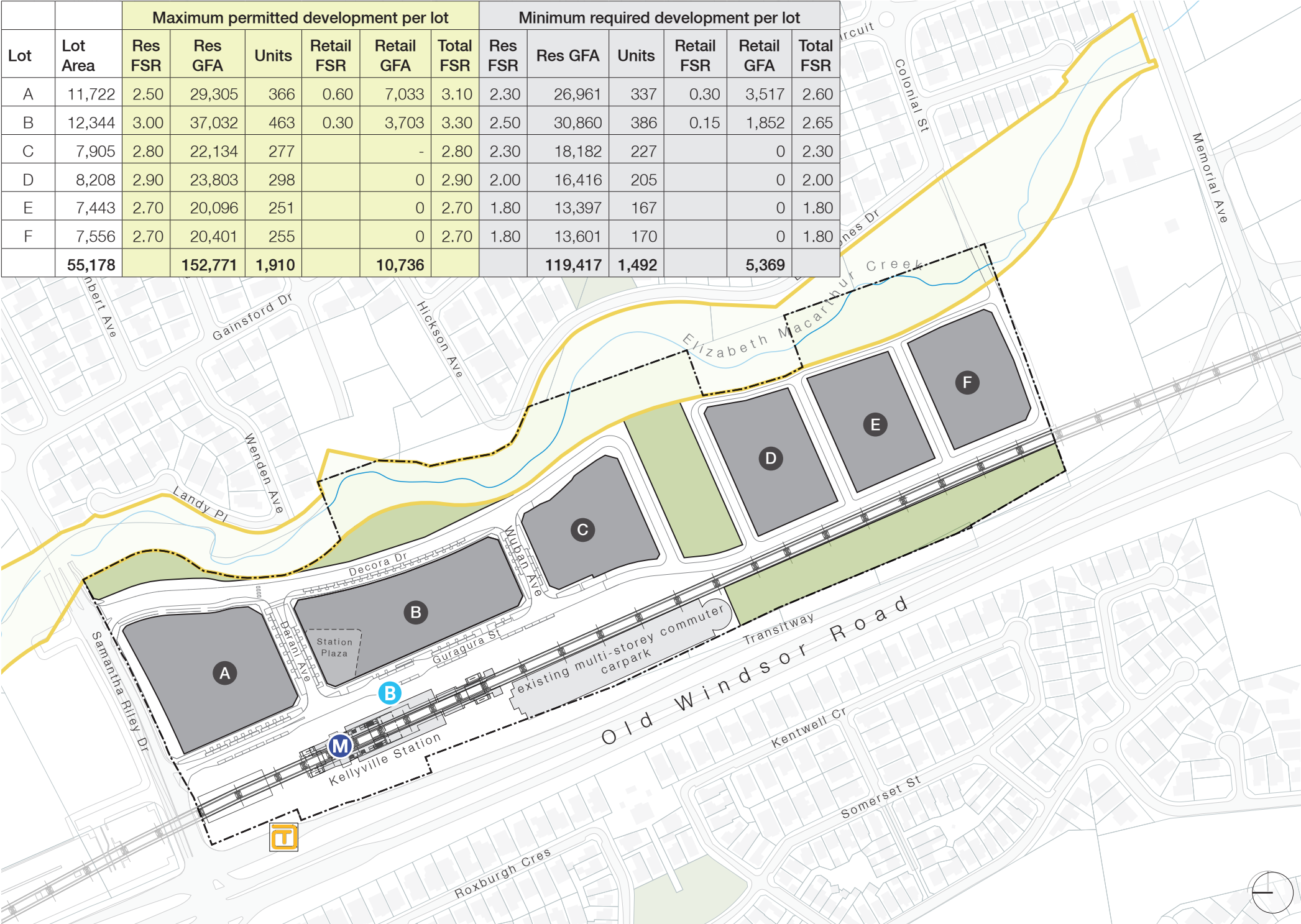


Figure 37: Development lots and yield

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Urban Design Framework

6.5 Open Space

The open space structure for the precinct includes:

Elizabeth Macarthur Creek riparian corridor

Elizabeth Macarthur Creek as an ecological and passive recreational corridor on the eastern edge of the site. The riparian corridor is zoned SP2 and while it does provide visual and recreational amenity it does not count towards open space provision for the precinct

The Station Plaza (1,600m²)

The Station Plaza is envisioned as a more urban space and the active hub for the community. It is envisaged that the plaza will be publicly accessible, private open space, accommodating a range of uses and be activated by retail frontages. The design of the plaza must be considered together with the design of their adjacent buildings and design continuity and material consistency with the existing metro station landscaping is encouraged. Material changes, including tactile / material change to Darani Avenue should be explored to slow traffic speeds and make the plaza more pedestrian focused.

Riparian break away spaces (2,376m² and 3,405m²)

These two spaces form an extension to the riparian corridor and serve as more passive recreational spaces for residents living and working in the northern part of the precinct. Their design promotes engagement with and the experience of the riparian corridor and connects to the riparian corridor and other open space via a linear shared pedestrian and cycle path.

Central Local Urban Park (6,678m²)

This generous park is the main recreational focus of the precinct. It is contiguous with the riparian corridor and will be designed to accommodate all age groups with equipped areas of play and passive multi functional lawns. Connections to the riparian corridor and through to Lewis Jones Reserve through a potential future pedestrian footbridge should be explored.

Viaduct park (10,462m²)

The space to the west of the viaduct will be programmed as an active outdoor space that will attract residents from the precinct as well as those from further afield. This will potentially include skate parks, hard playing courts and out door gym. A cycle path will weave through this area activating it throughout the day.



Figure 38: Open space strategy

6.6 Conceptual Landscape Plan



Figure 39: Conceptual landscape plan

6.7 Integrating into the Existing Road Network

The adjacent plan shows the existing and proposed road networks and illustrates how the precinct is integrated into the local street network. Old Windsor Road is the highest order road and performs an arterial / high mobility function. Access to the precinct from Old Windsor Road is prohibited. The T-Way runs parallel to Old Windsor Road and is not accessible to public traffic.

Memorial Avenue is a second order arterial road and is planned to be upgraded to three lanes in each direction. Access to the precinct from this road is not supported by TfNSW and the properties between the DGL and Memorial Avenue is in private ownership. Consequently there is no direct vehicular access between Bella Vista and Kellyville.

There are two points of access to the precinct. At the northern end, a signalised junction has already been constructed at the intersection of Samantha Riley Drive and Decora Drive. This intersection may need to be upgraded subject to more detailed traffic modelling and the widening of Samantha Riley Drive is currently being considered by TfNSW to improve bus to Metro transfers around the Station. Decora Drive becomes the main street that threads through and serves the precinct along with Guragura Street. The area around the station is likely to be a high traffic environment on account of proposed retail activity, stop-and-drop at the station and the existing multi-storey commuter carpark located to the south of the station. Consequently, both the extension of Decora Drive and Guragura Street perform a collector function. A left-in only access from Samantha Riley into Guragura Street is permitted for general traffic in a southbound direction. Northbound Guragura remains bus only.

The main street continues southwards, skirting the Local Urban Park and then runs parallel to the viaduct before turning eastwards with a new vehicular bridge over Elizabeth Macarthur Creek linking into Colonial Street and Arnold Avenue where access is proposed to Memorial Avenue at a signalised intersection

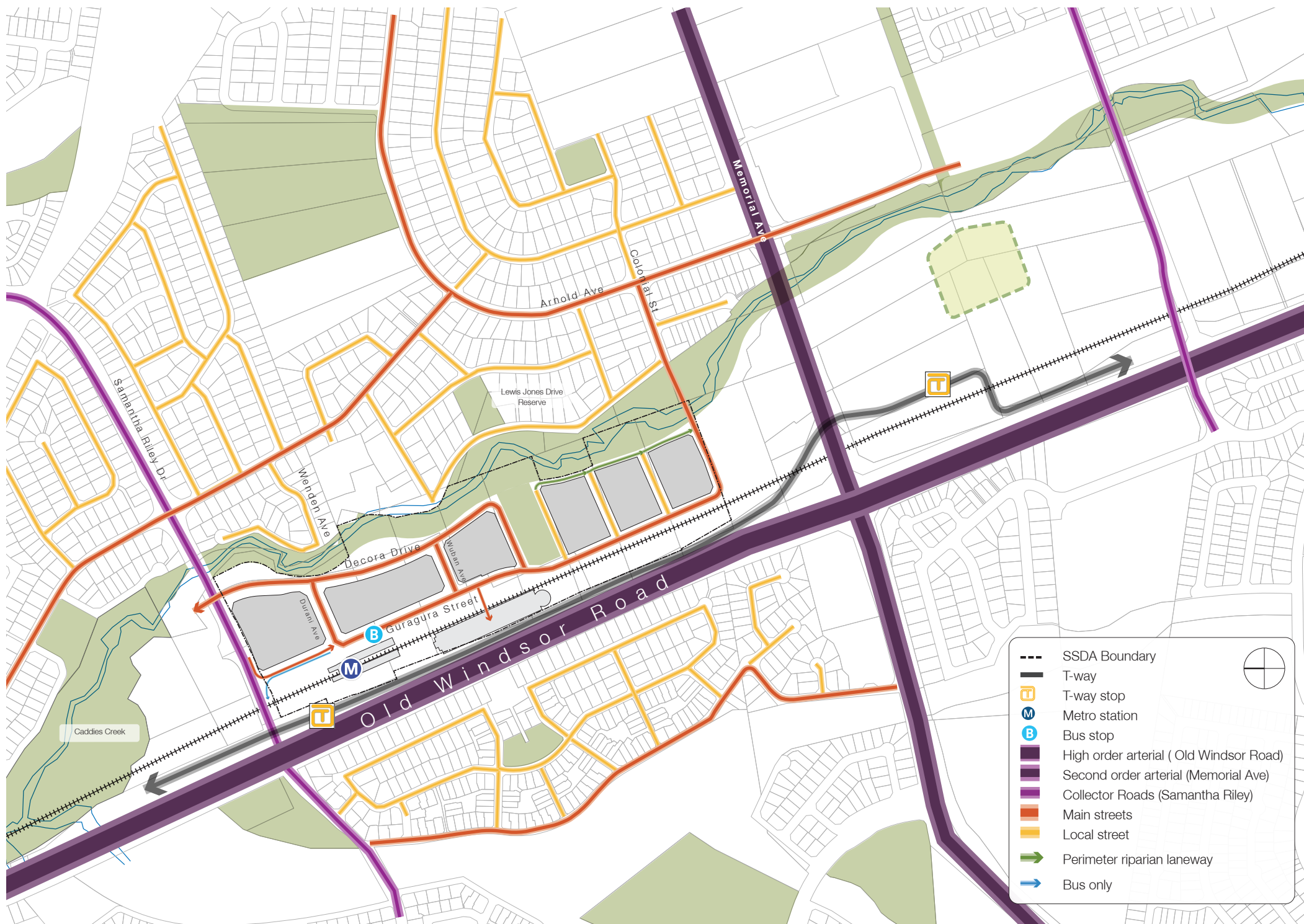


Figure 40: Wider road network plan

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6.8 Road Hierarchy and Street Typologies

The opposing plan illustrates the proposed street hierarchy within the precinct. The movement network aims to:

- Prioritise pedestrians and provide good access to public transport
- Encourage movement through and adjacent to open spaces to provide passive surveillance and enrich their experience of the place
- Establish legible and efficient access to the metro station for commuters
- Provide good access to car parking and facilities to attract people and businesses to the precinct
- Discourage unnecessary through traffic and rat-running through the precinct

The street hierarchy is divided into three levels and explained in the section that follows.

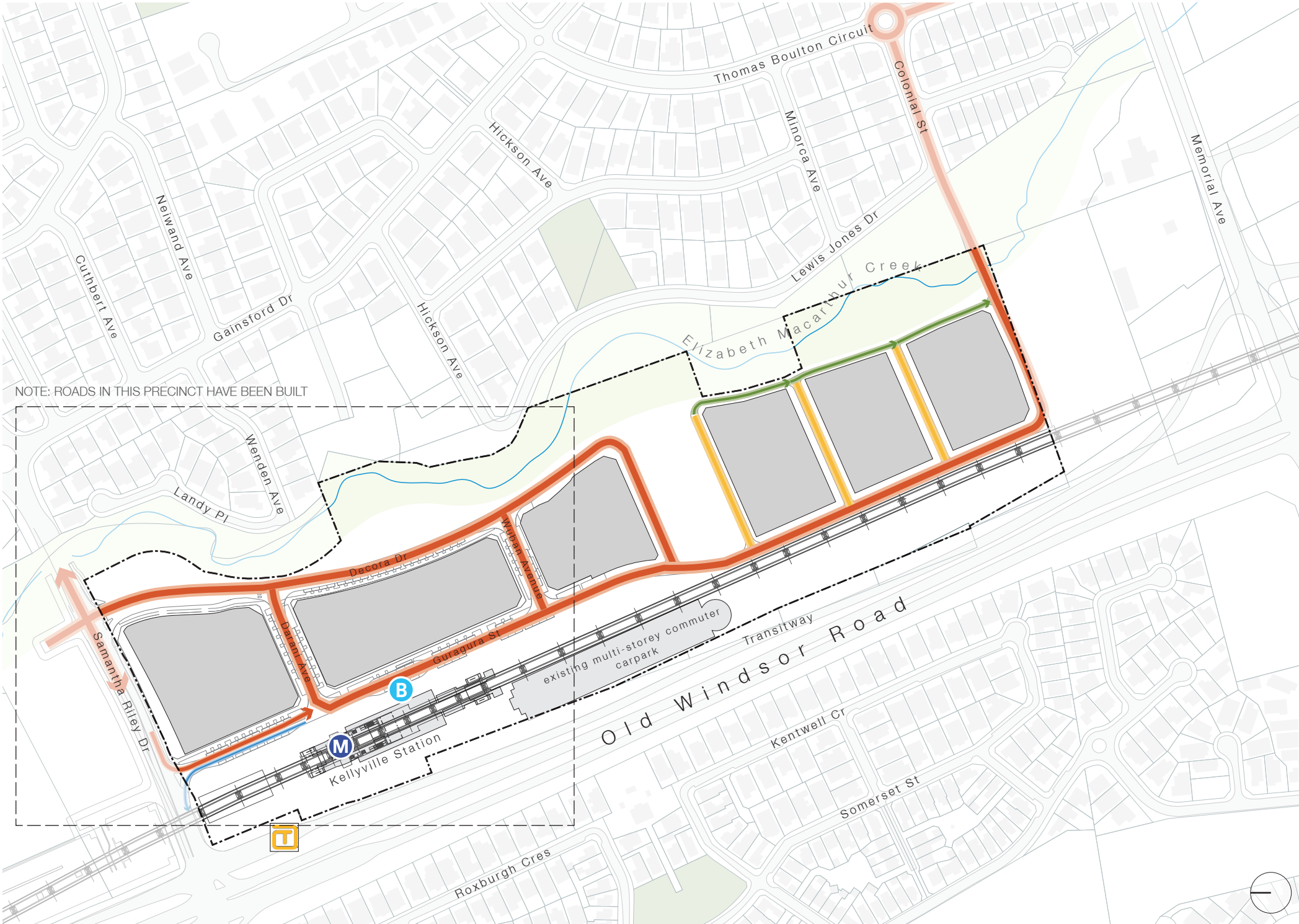


Figure 41: Street hierarchy plan

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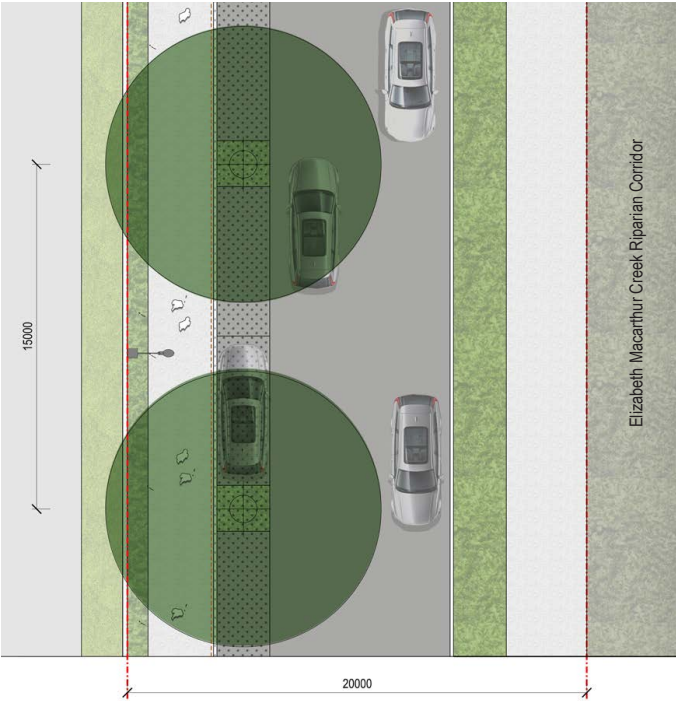
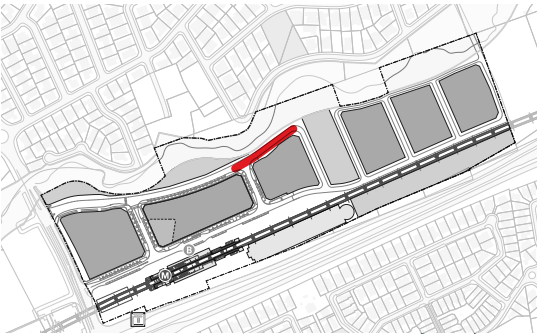
Urban Design Framework

Main Street

The Main Street (Decora Drive)

As outlined above, the primary vehicular route through the precinct is the main street that performs a collector function and runs parallel to Elizabeth Macarthur Creek. All streets adjacent to the station (Decora Drive, Darani Avenue and Guragura Street) share similar proportions and will be activated by retail / residential uses at street level. For much of its length, the main street continuously abuts an open space or viaduct and is seldom enclosed by buildings on either side of the street.

The main street enters the precinct at the signalised intersection of Samantha Riley Drive and Decora Drive, running southwards along Elizabeth Macarthur Creek, where it takes a sharp turn around the local urban park with a sharp left turn to run along the viaduct. At the southern end of the site it takes another sharp left turn over a new proposed



MAIN STREET (DECORA DRIVE)
Kellyville - Riparian

Tree Spacing: 15m (Two carparks between trees)
Road corridor width: 20m from setback to setback
Side of road with trees: 1

Legend

- Structural soil system
- Root barrier
- Setback boundary
- Street light pole

Figure 42: Plan of the proposed extension of Main street (Decora Drive) along the riparian corridor

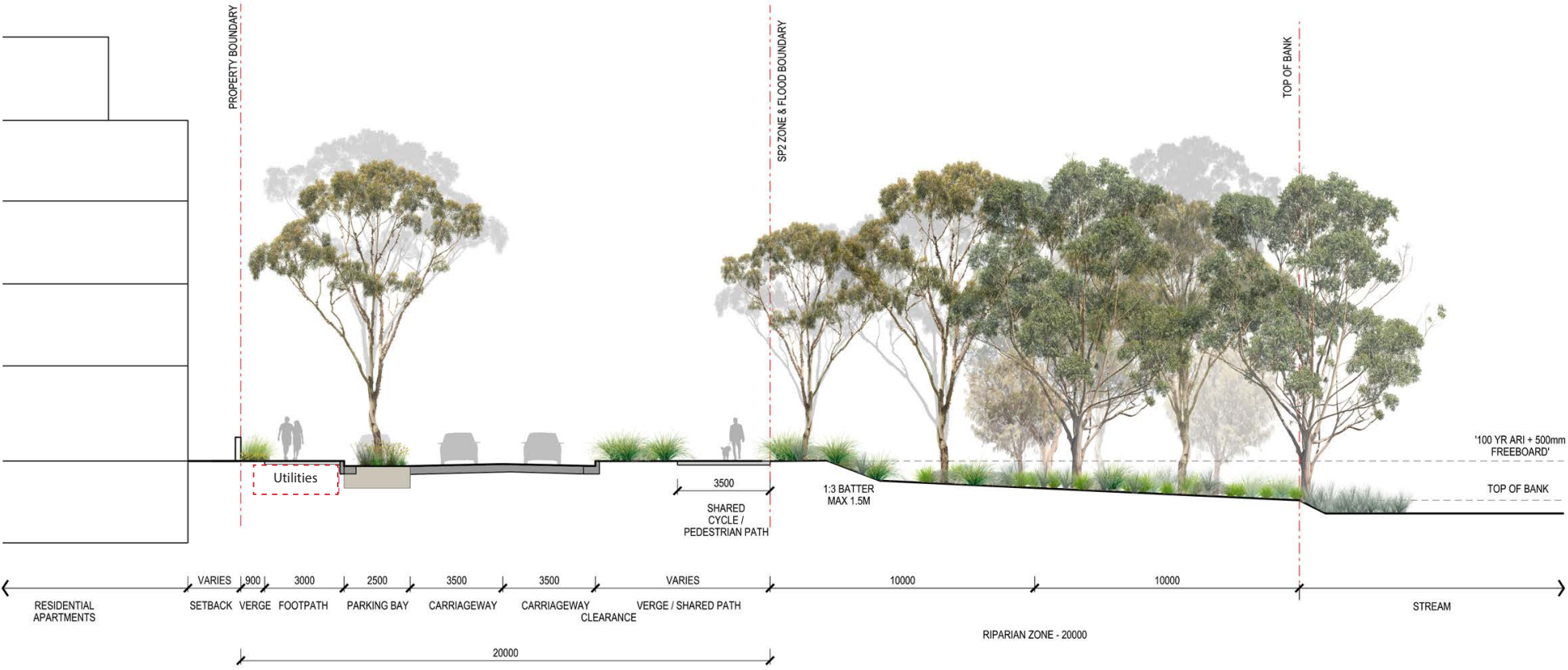


Figure 43: Proposed Cross Section through the Main street (Decora Drive Extension) along the riparian corridor

Urban Design Framework

bridge over Elizabeth Macarthur Creek to link into Colonial Street and then through to Arnold Avenue where access is provided to Memorial Avenue.

In its northern section, the main street runs along the riparian corridor. In this section the parallel street parking is omitted and a soft green verge is introduced on the western side of the road to improve visual connections with the creek and reinforce the green character of the precinct.

Main Street (Darani Avenue)

Darani Avenue illustrated in the adjacent section is envisaged as the main retail spine with active retail uses on either side. The road reserve is 20-22m wide and accommodates parallel on-street parking interspersed with street trees on both sides of the carriageway. A generous 4m wide shared path is provided on the southern edge of Darani Avenue providing a strong connection from the proposed pedestrian footbridge over Elizabeth Macarthur Creek, past the Station Plaza and terminating at the Metro Station.



Figure 44: Darani Avenue Cross section

Urban Design Framework

Main Street (Adjacent to the Local Urban Park)

As the main street continues south, it passes the Local Urban Park. In this location on street parking is also introduced along the park edge to help reduce vehicle travelling speeds and provide short stay parking for those visiting the precinct.

The main street on the southern boundary of the precinct links to the proposed vehicular bridge over Elizabeth Macarthur Creek. The street has been aligned with its centreline on the property boundary, but then angles slightly northwards before reaching the creek to ensure that the bridge and its landing can be accommodated in the Landcom controlled portion of the site. Given the Cumberland Plain Woodland that exists to the south of the site, it is anticipated that this area could be converted into a more bushland type park. This will need to be investigated when the adjacent property owner develops their proposal for the site.

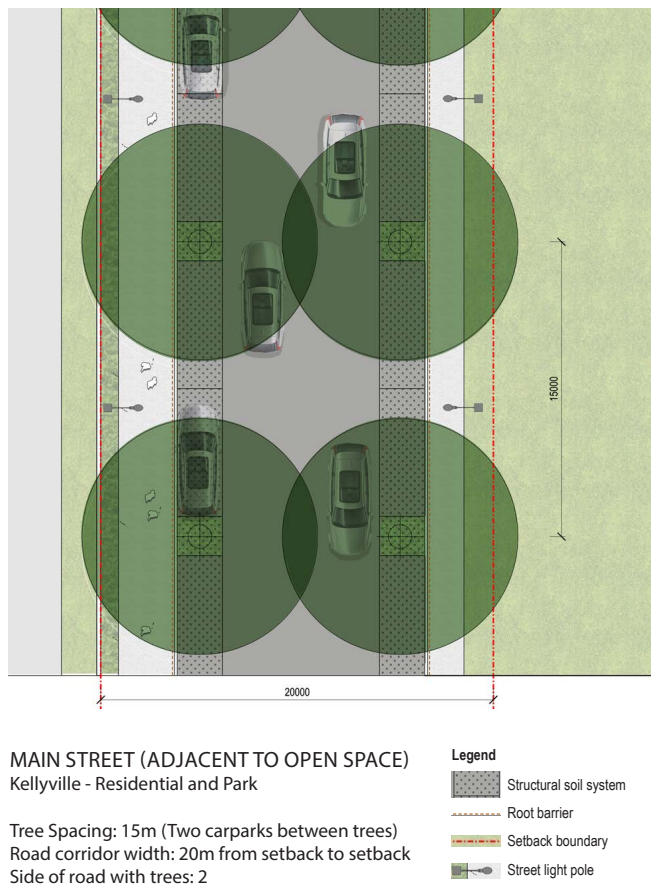


Figure 46: Plan of the main street section along the Local Urban Park



Figure 45: Main street cross section adjacent to the Local Urban Park

Urban Design Framework

Main Street (along the viaduct)

Once the main street enters the residential core south of the Local Urban Park it runs parallel to the viaduct. Here it meets the “fast” shared path linking Kellyville Station Precinct to Bella Vista and skirts the edge of the viaduct park. The regular movement of people in cars past the spaces help to increase levels of passive surveillance and improve safety. Parking is provided on both sides of the street to create friction and slow traffic down, accommodate visitors to the viaduct park who may be coming by car and to provide visitor car parking for the residential precinct. Tree planting and soft landscaping adjacent to the viaduct will be carefully designed to frame views into the viaduct park and create a pleasant environment for apartments at the lower levels.

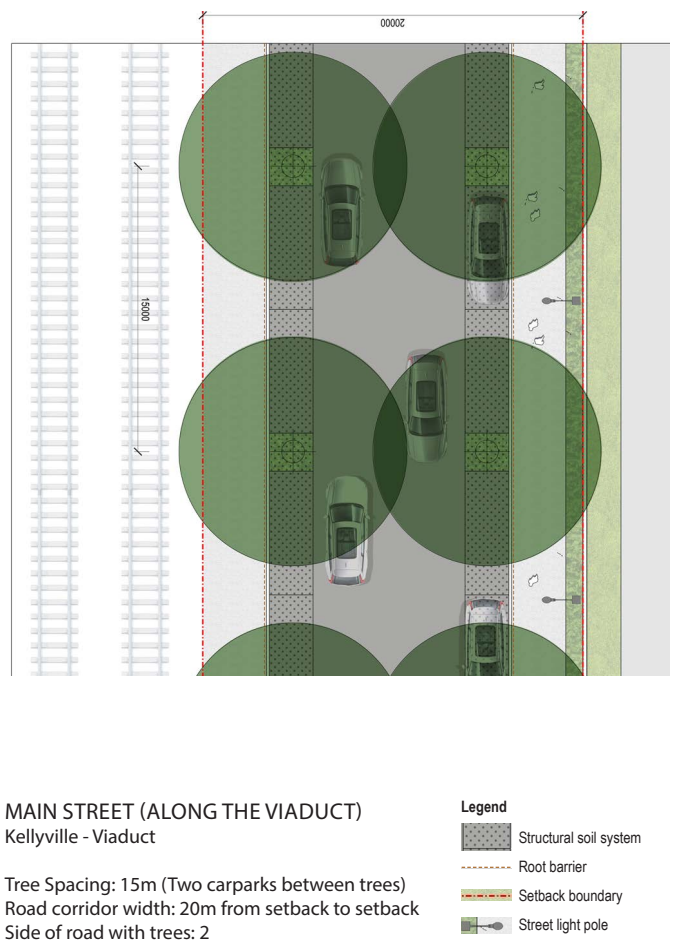


Figure 48: Main street adjacent to the viaduct plan

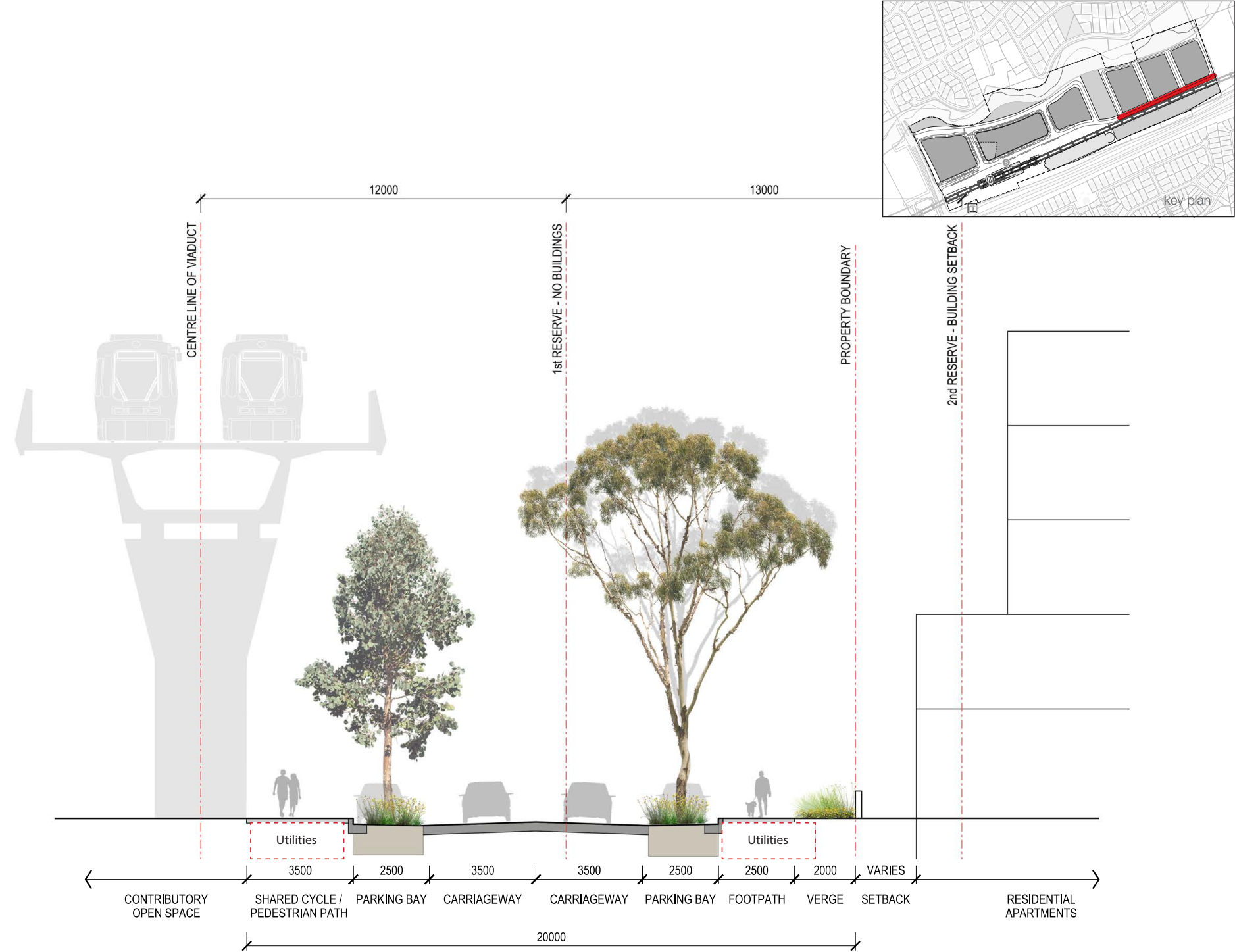


Figure 47: Main Street cross section - Viaduct section

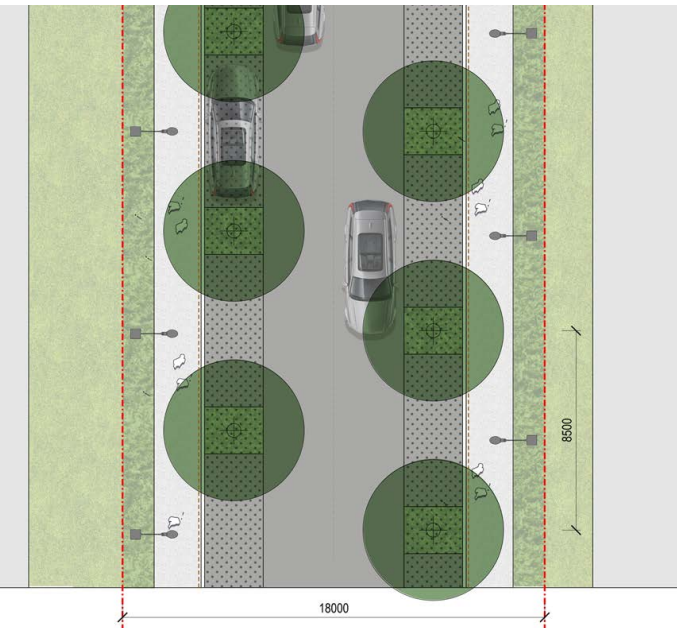


Figure 50: Sketch of the envisaged streetscape of the Main Street along the viaduct

Urban Design Framework

Local Streets (Residential Core)

The narrower local streets are 18m wide and run east-west between the main street and riparian corridor. These are pedestrian priority spaces that provide convenient visitor parking and access to on-site car parking. Trees are planted within the car parking zone and help to increase canopy cover within the precinct. The local streets include a 1.5m soft verge between the footway and the property boundary or perimeter wall / fence assisting to reinforce the green character and experience of the precinct. This will be landscaped and maintained to ensure visual and ecological consistency across the precinct.



LOCAL STREET (RESIDENTIAL)
Kellyville - Residential

Tree Spacing: 8.5m (One carpark between trees)
Road corridor width: 18m from setback to setback
Side of road with trees: 2

Legend

- Structural soil system
- Root barrier
- Setback boundary
- Street light pole

Figure 52: Local street plan



Figure 51: Local street cross section

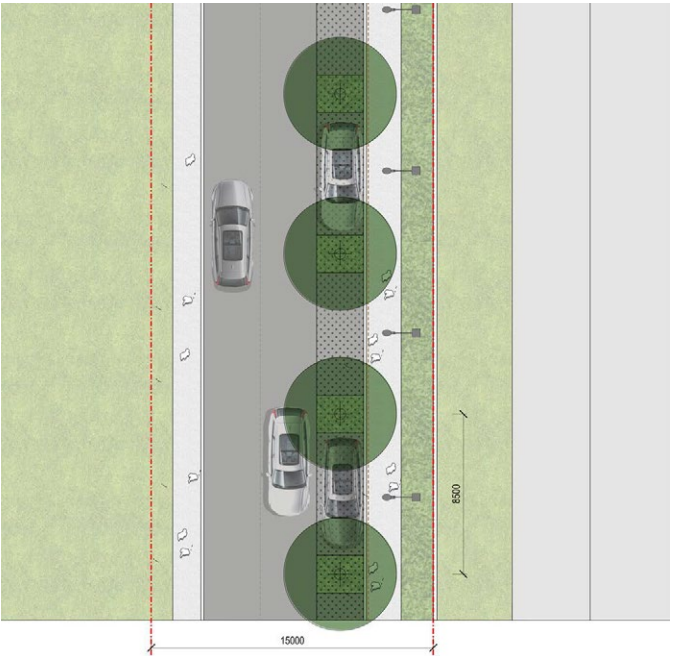


Figure 53: Illustration of proposed character of the Local Streets

Urban Design Framework

Local Street (Adjacent to the Local Urban Park)

The local street to the south of the Local Urban Park provides a unique opportunity for development to engage more directly with the park. This street benefits from great solar access and will experience less vehicular traffic as a result of the layout of the road network. The street has been reduced in width and car parking on the northern edge of the street has been omitted. This helps to remove visual clutter and improves levels of overlooking and surveillance.



LOCAL STREET (ADJACENT TO LOCAL URBAN PARK)
Kellyville - Park and Residential - 15m
Tree Spacing: 8.5m (One carpark between trees)
Road corridor width: 15m from setback to setback
Side of road with trees: 1

- Legend
- Structural soil system
 - Root barrier
 - Setback boundary
 - Street light pole



Figure 55: Typical section through Local Street adjacent to open space plan

Figure 54: Local Street adjacent to open space plan

Urban Design Framework

Perimeter Road along the Riparian Corridor (10m)

The diversion of the Main Street away from the riparian edge to the south of the Local Urban Park presents a unique opportunity to create a softer edge onto the riparian corridor and “invite” the creek into the development. This street is envisaged as a shared, pedestrian oriented street that defines the western edge of Elizabeth Macarthur Creek. The road reserve for this street is 10m wide allowing for a one-way vehicular lane southbound as well as a 3.5m shared path along the riparian corridor (outside of the SP2 zoned land). This street intersects with the proposed new bridge over the creek. This route allows for the convenient circulation of traffic, provides passive movement along the riparian corridor and discourages unnecessary through traffic. No vehicular access to the lots is permitted from this street.

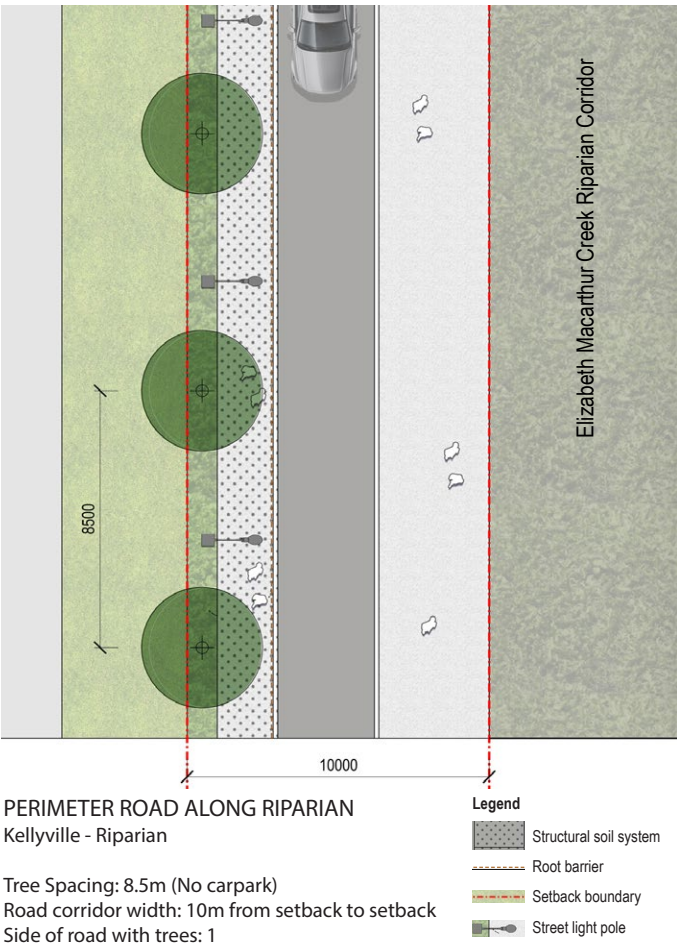


Figure 57: Riparian perimeter road plan

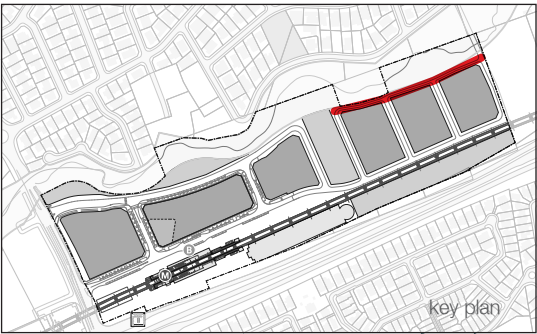


Figure 56: Riparian perimeter road section



Figure 60: Sketch of the riparian perimeter road showing a pedestrian oriented space with a direct connection with the creek

6.9 In-street tree planting

The Greater Sydney Commission has established an urban tree canopy coverage goal of 40% for Sydney (GSC Priority 16/Objective 30) to reduce heat island impacts and enhance ecological systems. Although urban heat island reduction can be complemented by other types of planting such as large shrubs, ground cover, grass and rain gardens, trees play the major role; in this regard street tree canopy coverage is particularly important in mitigating radiant heat from paved street and footpath surfaces.

Street tree planting in the road corridor (rather than in the pedestrian pavement corridor) is proposed for the Kellyville Precinct, using a structural soil system.

This approach has the following typical benefits:

- Permits higher soil volumes including under trafficked areas, without entailing soil compaction
- Results in lesser impact on tree growth from in-ground services
- Detains higher volumes of urban stormwater after storm events
- Increases tree root access to more in-ground water
- Promotes increased mature canopy width and therefore increased shading of paths and parked cars
- Frees up more width for pedestrian movement on paths (and cycle movement if adjoining a shared path)
- Ensures that street lighting can be spaced to avoid being covered by tree canopy.

Structural Soil System Design Application

A structural soil system comprises of a rigid, open grid structure placed in the proposed tree root zone with the soil backfilled as the structure is placed in layers. This system ensures that:

- The soil retains its air structure, permitting the passage of water through the soil and promoting healthy tree root growth and enhancing tree stability in storms or in windy environments
- Vehicles can pass over this soil profile without compacting the soil or causing depressions in the surface; hence road and pedestrian pavement surfaces can be applied over these soils
- Soil volumes can be extended beyond the immediate conventional tree pit volume, ensuring more healthy tree growth
- Underground services (local utility ducts) can be placed within or adjacent to the structural soil system without impact on the tree or the services
- Stormwater can be temporarily detained in greater volumes in streets than with conventional tree pits.
- Specifying a Structural Soil System.
- Soil volume required; the approximate required soil volume is based on Mature Canopy Spread (m²) x 0.6 – 0.8m
- Tree pit shape: in street environments long, linear and continuous soil trenches are recommended along the streets; typically these extend underneath adjoining parking spaces
- Soil type: provision of high quality soil is required to promote healthy tree growth (A and B Horizon). This may vary with local ground conditions and should be directed by a soil scientist after testing . Modified recovered local soils that meet testing criteria may be appropriate
- Root barrier membrane: where applicable a membrane may need to be placed along road kerb to prevent invasive tree root damage.

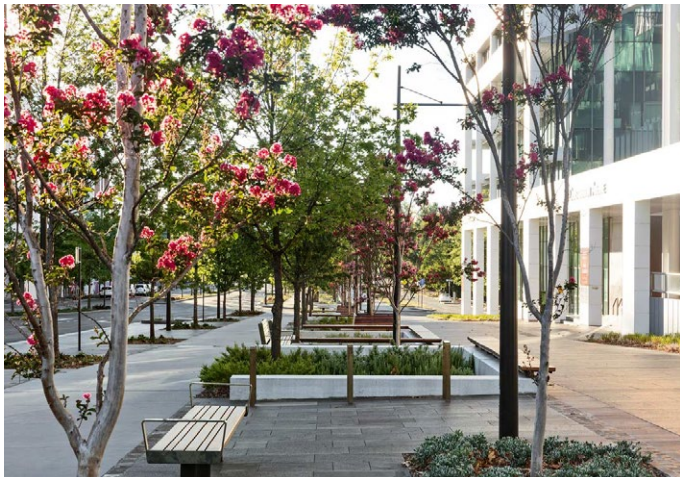


Figure 61: Hand landscaping should encourage lingering on the public domain

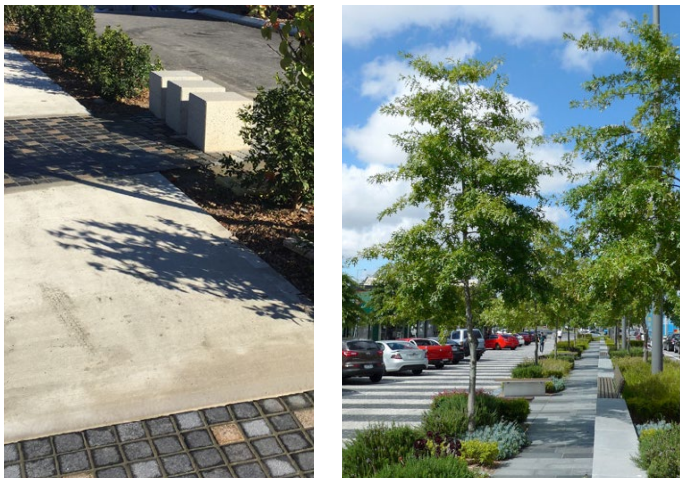


Figure 62: The design of the public domain to be robust and easy to maintain



Figure 63: Example of a potential soil structural system

Urban Design Framework

6.10 Active Movement

The active movement network is guided by connections identified in the conceptual framework and the adjacent plan illustrates the desired future connections both within and outside of the SSDA boundary. It aims to promote the use of public transport as the primary mode of transport, facilitate access to the station and T-Way stops and improve connections over the riparian corridor to the east and along the corridor north to south. The active mobility network therefore consists of the following:

1. A min 3.5m wide shared cycle / pedestrian route along the riparian corridor. This is a passive / experiential route that meanders in and out of the bushland. The route continues northwards towards Caddies Creek at the signalised intersection on Samantha Riley Drive
2. A potential grade separated pedestrian footbridge over Memorial Avenue would facilitate more direct access along the riparian corridor and improve the integration of Bella Vista and Kellyville. This is outside of the SSDA boundary and would be subject to separate applications and feasibility studies
3. A 3.5m wide shared path along the viaduct. This is a direct route for commuter cyclists along the corridor connecting the metro station to surrounding precincts. Improved pedestrian crossings across Decora Drive and Guragura Street will be important
4. A new pedestrian crossing and pedestrian phase at the intersection of the T-Way and Memorial Avenue to facilitate access to the school and other community facilities in the Bella Vista Precinct
5. A new pedestrian / cycle bridge is proposed over Elizabeth Macarthur Creek linking Durani Avenue to Wenden Avenue. This path will continue westwards along Darani Avenue, past the Station Plaza towards the station improving access to the station precinct from the east. This will be subject to a separate Development Application
6. Linkages eastwards for active mobility users are also facilitated via the proposed new vehicular bridge that connects the precinct into Colonial Street and to Arnold Avenue. A proposed shared path to the south of the SSDA boundary is proposed to provide improved access to the viaduct park and other cycling facilities
7. While not essential, it would be desirable for a second pedestrian footbridge over the creek to connect the open spaces of the Lewis Jones Reserve, the central local urban park and the viaduct park. This link could be delivered by others at a later date

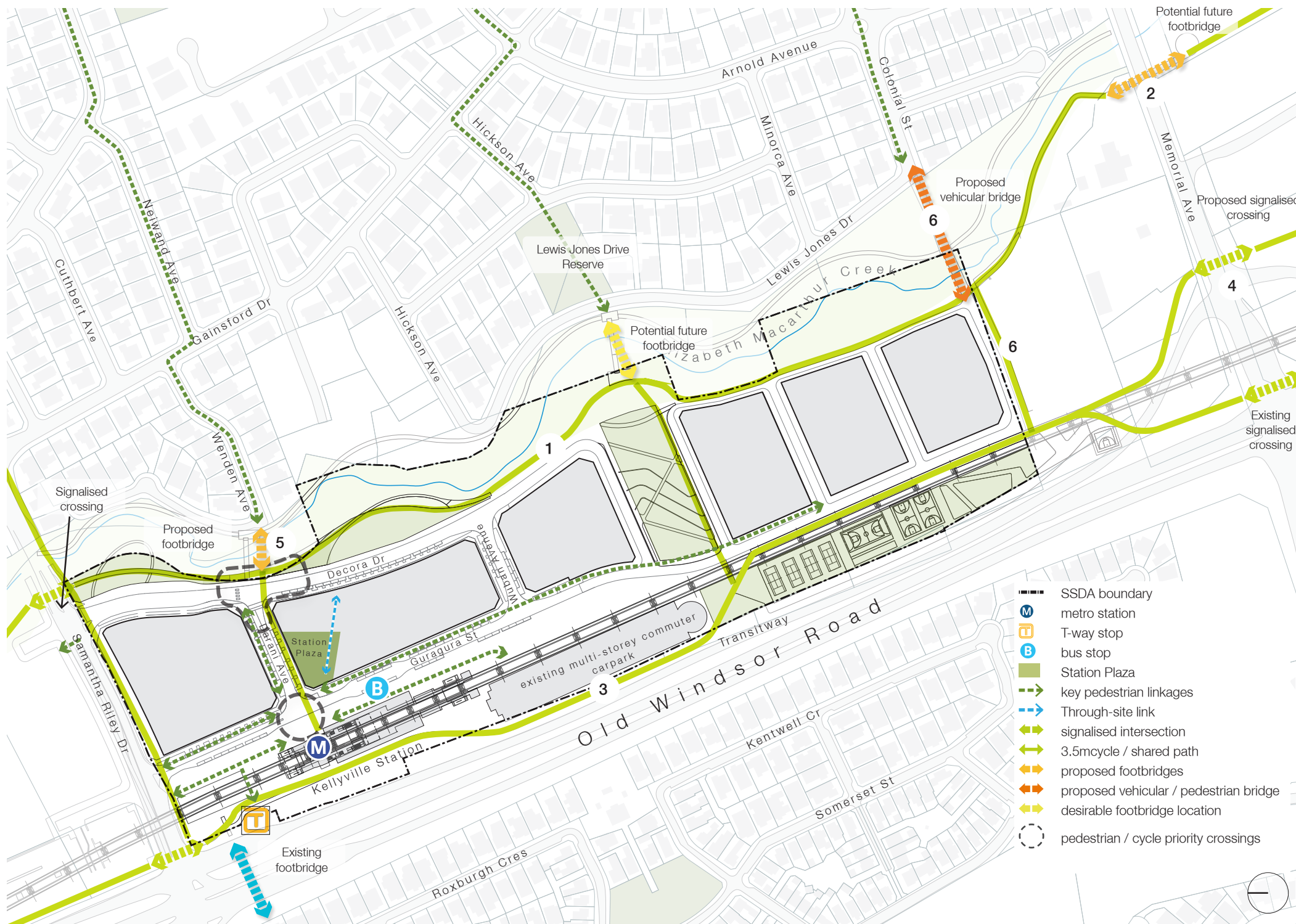


Figure 64: Active mobility framework

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6.11 Vehicular Access

Vehicular access to the individual development lots is provided as per the adjacent plan. Three categories of access have been identified:

- Frontages where vehicular access is prohibited - primarily around intersections, along the riparian corridor and along frontages where active frontages are required
- Frontages where vehicular access is discouraged - such as buildings which front onto public open space or along those facades facing directly onto the main street
- Recommended access points - either on lower order local streets or where access to commercial development has been tested (primarily in the northern blocks)

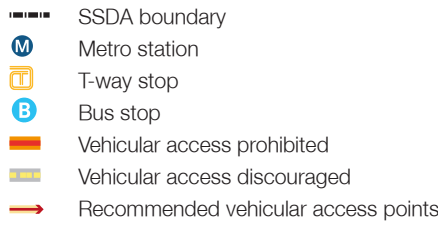


Figure 65: Vehicular access diagram

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6.12 Car Parking

Whilst the proposed development makes provision for vehicular access and car parking the use of public transport and active modes of transport is strongly promoted. Car parking is proposed to be provided in at lower rates than required in Councils DCP on account of the high levels of access to public transport and the requirement for on site car parking are outlined in the table below. Various measures are also suggested to discourage car ownership whilst providing access to cars through car share options.

Residential	Min	Max
1 Bed	0.4 bays per unit	0.6 bay per unit
2 Bed	0.7 bays per unit	0.9 bay per unit
3 Bed	1.2 bays per unit	1.4 bays per unit
Visitor	0.1 bays per unit	0.1 bays per unit
Car share spaces	1 bay per 150 parking spaces	
Retail	1/130sqm	1/60sqm

Table 02: On site parking provision requirements

In addition, and to minimise the impact of car parking and vehicle movements on the overall experience of the precinct, provide attractive alternatives to car ownership and discourage private car use for trips that can be made using a more sustainable modes of transport the following measures are proposed:

- No basements or basement connections are permitted under public streets
- Above ground structured car parking is discouraged outside of the station precinct to facilitate at grade pedestrian through-site links through the centre of development lots and ensure the continuity of open space and landscaping at ground level
- Basement car parking must not protrude above verge level by more than 1m
- Spaces within each building must be set aside for car share as indicated in the table below
- Car parking facilities should be designed to accommodate electric vehicle charging points

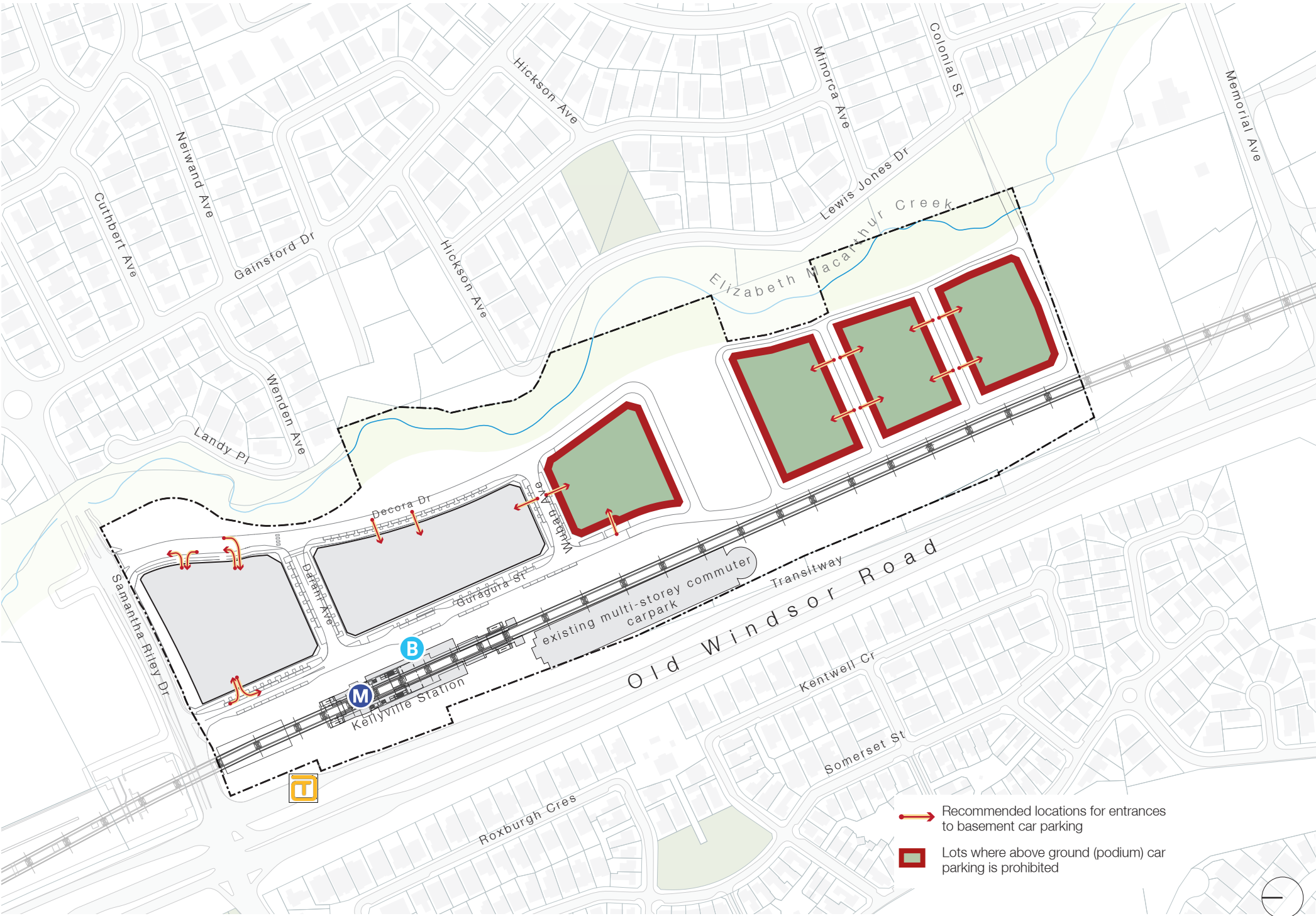


Figure 66: Structured above ground parking limitations

1:4,000 @ A3

6.13 Building Height

The proposed maximum building heights have been determined by the approved LEP for the site. This varies with buildings generally increasing in height towards the station. The maximum building heights range from:

- **21m** along Elizabeth Macarthur Creek allowing for buildings of up to 6 storeys
- **40m** in the centre of the site along the viaduct - allowing for buildings of up to 12 storeys
- **50m** in the north allowing for buildings of up to 15 storeys

Variation in building height within the development is encouraged and some sites will be restricted by solar access limitations (principally to public open spaces). All building heights are to be measured relative to the finished verge level of public roads surrounding the subject allotment. Further guidance in relation to building height controls is provided in the Development Guidelines.

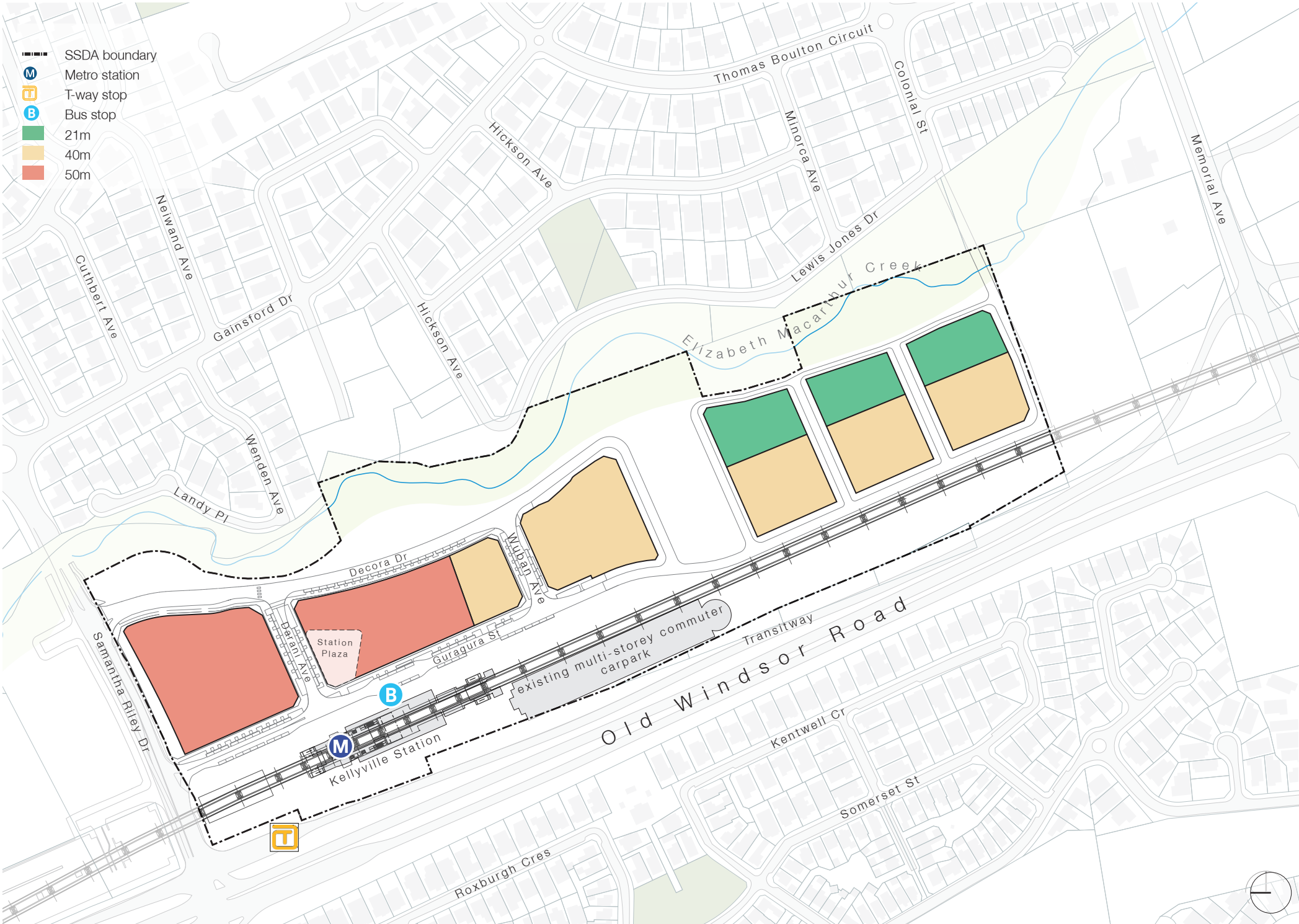


Figure 67: Proposed building heights

1:4,000 @ A3

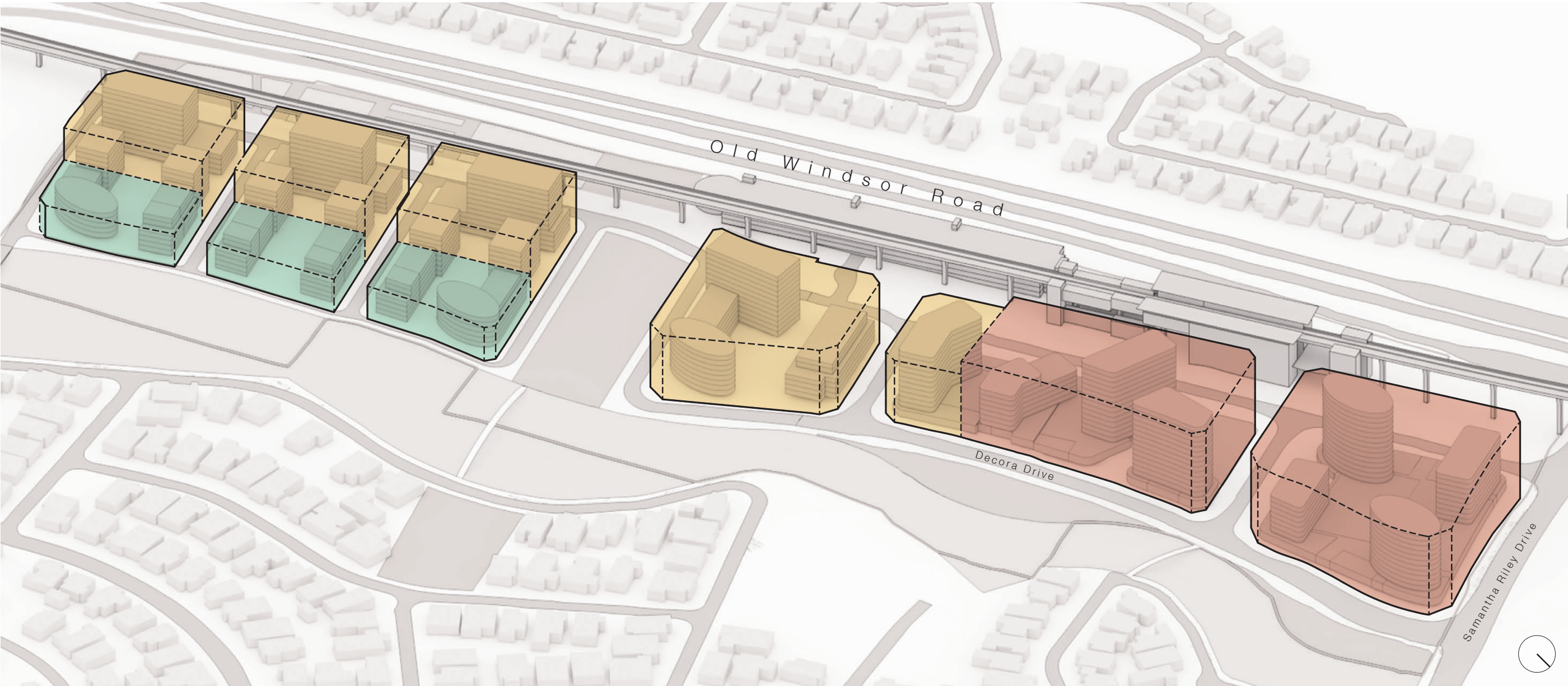


Figure 68: Volumetric illustration of building heights rising towards the station

- 50m height envelope
- 40m height envelope
- 21m height envelope

6.14 Street Setbacks and Interface

The interface between the buildings and the public domain is moderated through street setback and interface controls. These controls help to ensure that the desired future character across each block aligns with the aspirations for the wider precinct.

Clause 8.4 of The Hills LEP requires a 5m setback from the street boundary for all development within the R1 General Residential zone as well as for all Residential Flat Buildings in the B2 Local Centre and R4 High Density Residential zone. This application argues for a reduced setback on the following grounds:

- A more urban and varied setback is consistent with the proposed vision for the precinct and character areas outlined previously. The character of each precinct changes from a more urban condition around the station to a more open condition within the residential core
- The proposed street typologies are generous in terms of their cross sectional dimensions (18m). This, together with the front / street setback ensures adequate building separation and solar access into the streets
- Where the street has buildings on both sides of the street, the proposed street typologies include a 1.5m-2m landscaped verge between the public footway and the street boundary. This reinforces the green character of the precinct and ensures that the landscape interface between the street and the buildings is consistent
- The range of setbacks proposed encourages variation in the street wall leading to a more interesting and varied streetscape

- A reduced setback improves levels of passive surveillance and perceptions of safety by bringing windows closer to the street
- The Kellyville precinct has a particular condition where buildings often front an open space or open viaduct. Reducing the setback along these edges allows for a more direct relationship between the buildings and the open spaces
- A uniform 5m setback could result in an overly generous front garden for units on ground floor and narrower communal open spaces in the centre of the blocks that would have higher levels of overshadowing and would provide residents with less amenity. Residents are likely to erect screens or will introduce planting to achieve privacy with a negative impact on the public domain. A reduced / varied setback of 2-5m is a more efficient use of space whilst allowing for a transition between private and public space

A range of building setbacks are proposed in Table 03 to:

- Ensure a rich and varied streetscape that is in keeping with the character statement outlined above
- Support positive interfaces with the public domain
- Ensure privacy and amenity for residents of ground floor units
- Deliver communal courtyards with good solar access and amenity

	Building height	Minimum Street Setback	Street Wall Height	Street Wall Setback	Street Wall setback along EMC
Station Precinct					
Retail ground floor		0m			
Residential ground floor		2m			
Min Street Wall			1 storey	3m	3m
Max Street wall			15m / 4 storeys	3m	3m
Residential Core					
	4-6 storeys	3m	4 storeys	3m	6m
	7-8 storeys	5m	None	-	-
	> 8 storeys	3m	4 storeys	3m	6m

Table 03: Proposed building setback controls

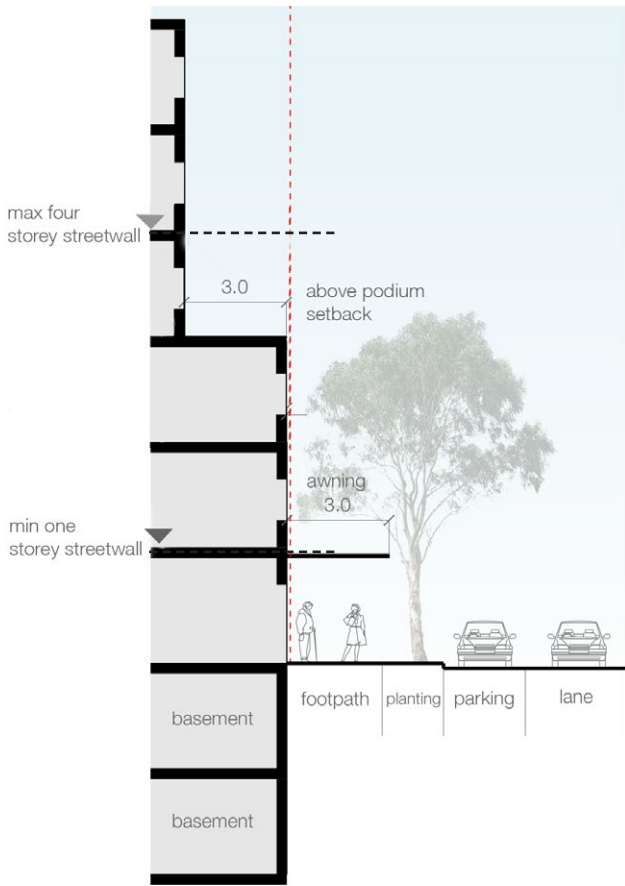


Figure 69: Proposed town centre building interface condition with retail uses at ground floor

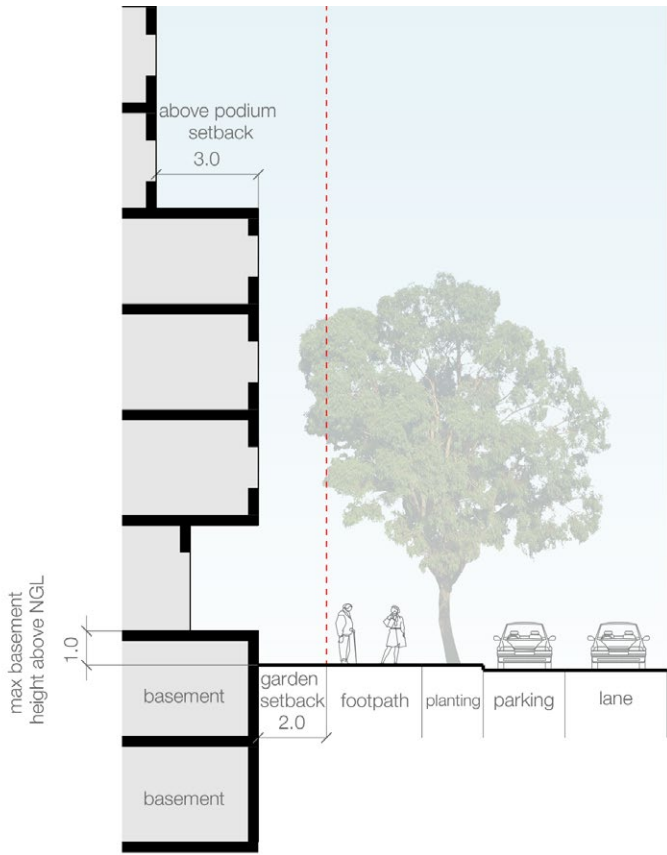


Figure 70: Proposed street interface in the residential precincts within the Station Precinct

Urban Design Framework

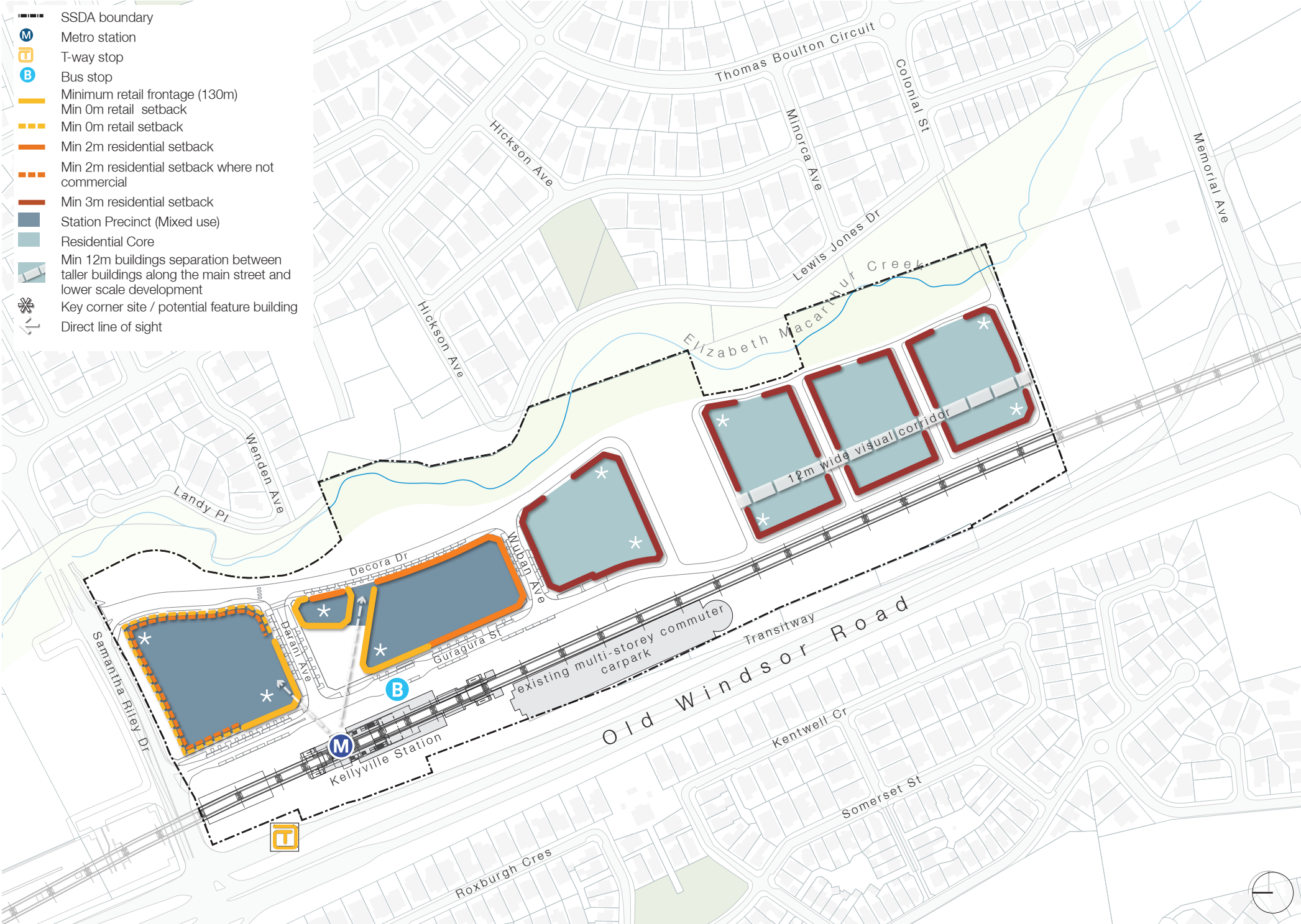
Figure 71 illustrates the three primary setbacks or interface conditions:

- Min 0m - Retail Interface**

These urban interfaces feature primarily retail frontages and a minimum 0m setback is proposed. In alignment with the LEP, a total minimum active frontage of 130m must be provided around the Station Plaza and along Guragura Street. retail frontages along Samantha Riley Drive and Decora Drive are encouraged to take advantage of the high level of exposure that these block enjoy. Retail frontages may be set back up to 2m to create a more generous public realm and permit outdoor seating / eating and dining. All retail frontages should provide a 3m awning to afford pedestrians protection from the elements
- Min 2m - Residential Interface**

These more urban residential interfaces are limited to the Station Precinct where the urban blocks are limited in width. Larger setbacks, level changes and recessed balconies may be introduced to ensure privacy
- Min 3m - Residential Interface**

This interface is proposed in the remainder of the site and seeks to enshrine the green character of the precinct. A minimum building setback of 3m is proposed together with a maximum 5m setback. Traditional perimeter blocks are encouraged to increase the surveillance of the street and provide enclosure to the open spaces that abut the development



1:4,000 @ A3

6.15 Street Wall Setbacks

The proposed scale of development is a significant step change to the areas to the east and west of the precinct, which typically comprise of low rise single-detached house types. There are also local site specific constraints, like the easement and reserve associated to the viaduct that require very specific development conditions. Therefore, in order to create a more intimate streetscape and a suitable transition in building heights, the following street wall setback controls are proposed:

Within the town centre:

In order to ensure the delivery of a human scaled public space and street environment, the following street walls are proposed (see Table 04):

- Minimum street wall of 1 storeys (5m)
- Maximum street wall of 4 storeys (15m)

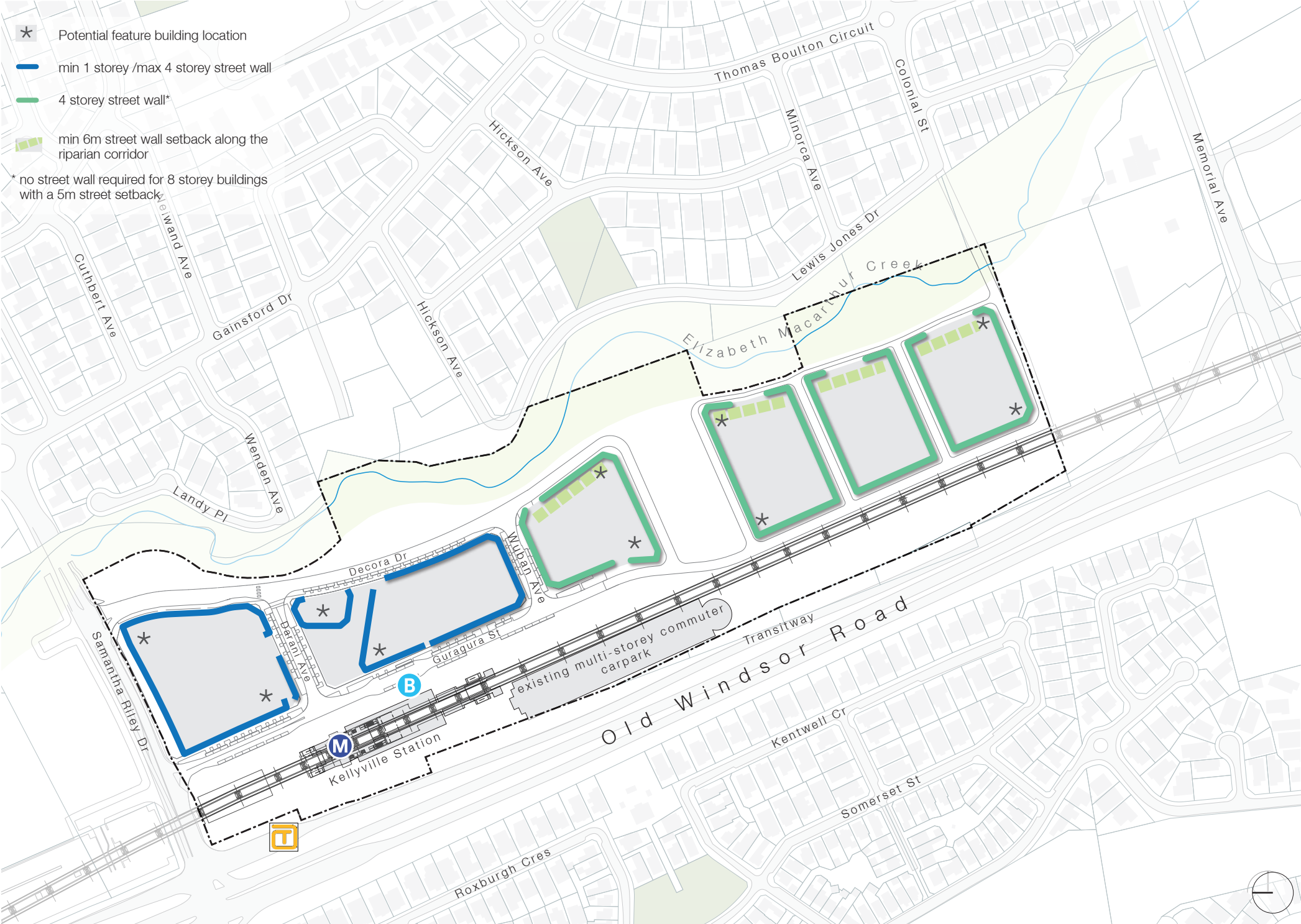


Figure 72: Proposed street wall setback plan

1:4,000 @ A3

Urban Design Framework

Within the Residential Core (Lots C, D,E and F):

Within the residential core buildings setbacks are proposed to be varied according to the height of building and their location - see Table 04. All buildings above the street wall should be setback by a minimum of 3m, with an additional setback along the riparian corridor of 6m from the street wall. Buildings between 7 and 8 storeys do not require a street wall but are required to be set back by 5m from the street boundary.

The street wall setback makes provision for an articulation zone where individual elements such as, signature elevations, circulation cores, and balcony runs may project into the street wall setback provided that the width of this element is less than 20m in width or less than 30% of the length of the street wall.

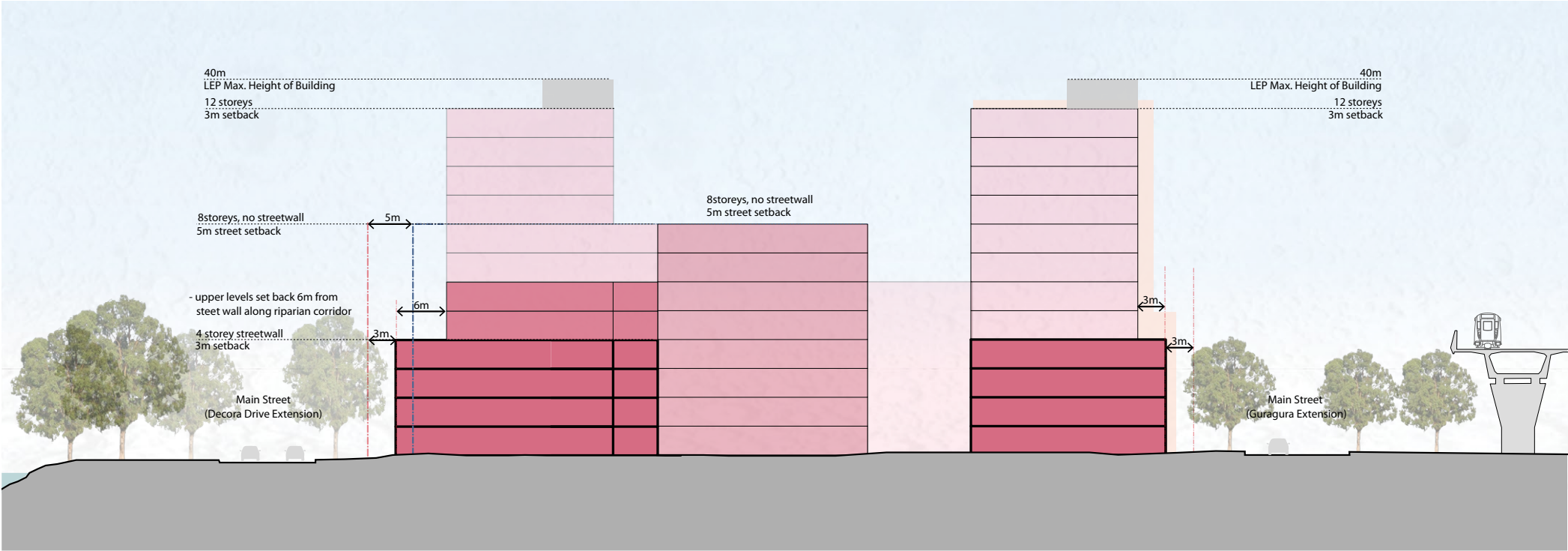


Figure 73: Proposed street wall setbacks in the Residential Core (Lots C)

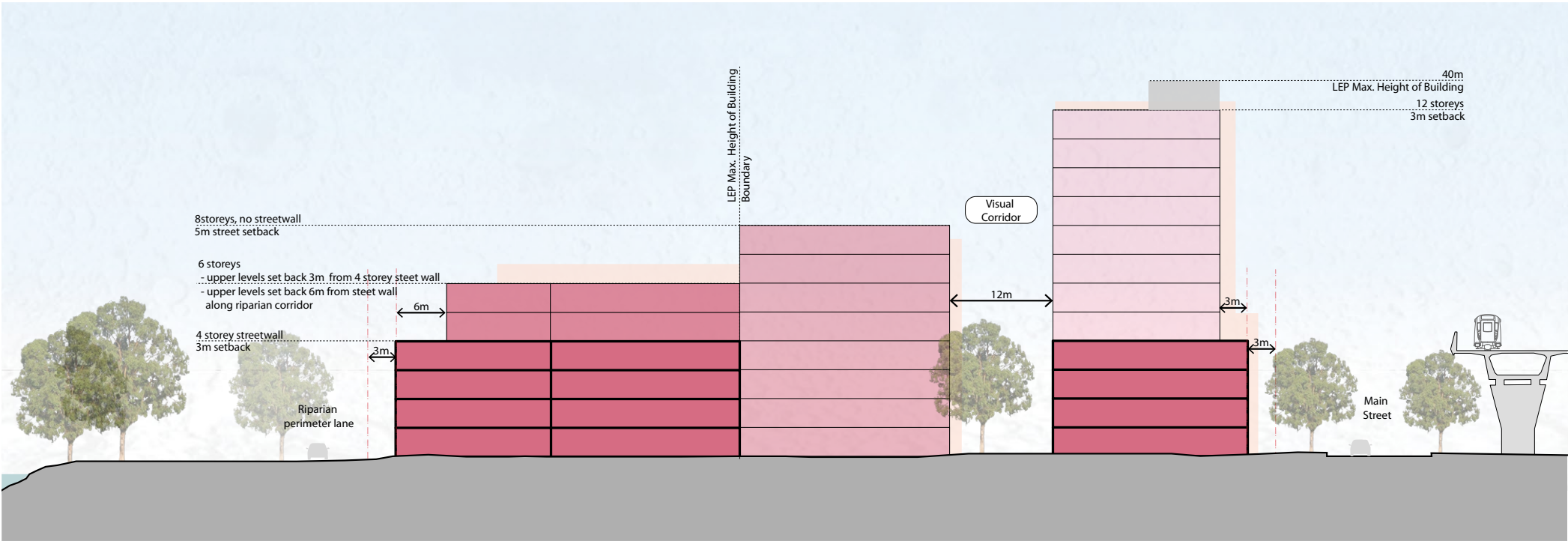


Figure 74: Proposed street wall setbacks in the Residential Core (Lots D,E and F)














6.16 Staging

The staging of the development will be informed by existing infrastructure and the triggers for additional new infrastructure and road connections required to support the future potential of the Metro precinct. The following staging approach is proposed:

Stage one will comprise those lots in the northern part of the site that have been serviced through the station related infrastructure (Lots A and B). The footbridge to Wenden Avenue will be delivered in this stage and the riparian break away spaces upgraded. The delivery of some additional elements of infrastructure (such as water, electricity and telecommunication lines may be required to support development in stage one.

Stage two is triggered by access constraints to the precinct off Samantha Riley Drive. This necessitates the extension of the main street to the south and the proposed vehicular bridge connection to Colonial Street and Arnold Avenue. During this stage, the central neighborhood park will be delivered together with lots C and D.

Stage three features the development of the two most southerly lots as well as the active mobility connections between Kellyville and Bella Vista. The development of the privately owned sites to the south of the site can occur any time after the delivery of the vehicular bridge over the Elizabeth Macarthur Creek.

-  SSDA boundary
-  Metro station
-  T-way stop
-  Bus stop
-  Stage 1 development lots
-  Stage 1 open space
-  Stage 1 infrastructure
-  Stage 2 development lots
-  Stage 2 open space
-  Stage 2 infrastructure
-  Stage 3 development lots
-  Stage 3 open space
-  Stage 3 infrastructure

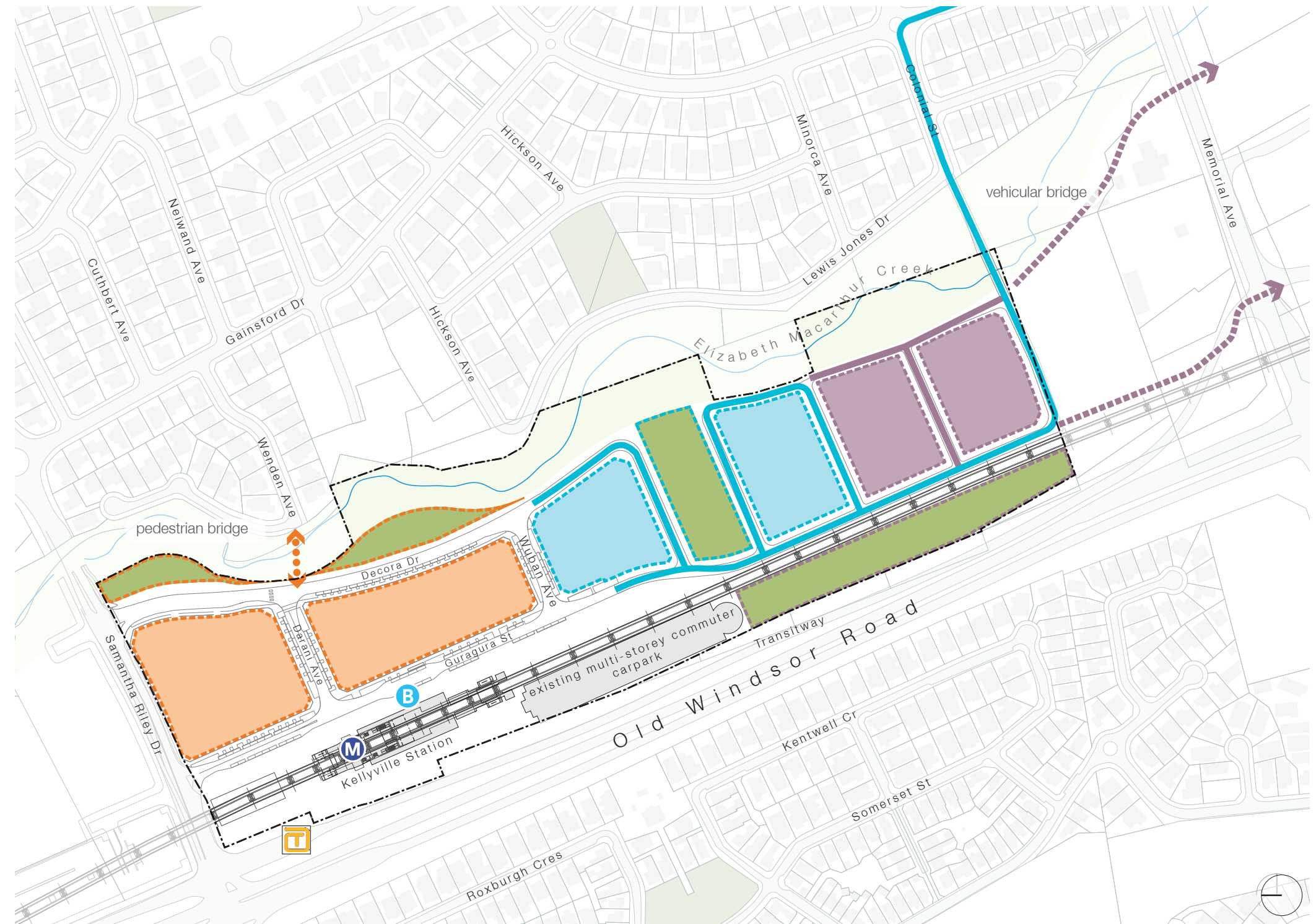


Figure 75: Proposed staging plan

1:4,000 @ A3

Conclusion

7

7.1 Masterplan Summary

The urban design framework for the Kellyville precinct that forms part of this SSDA application addresses all the key requirements set out in the SEARS. The framework presents a clear vision of the precinct and the design thinking that underpins the masterplan in terms of land use, open space access and streets. The masterplan also sets out the broad parameters that will inform future built form proposals and will deliver:

- A high density mixed use precinct around the metro station accommodating up to 10,736m² of retail related land uses, including a Station Plaza, located on Lot B
- A central Local Urban Park of approximately 6,600m²
- Two smaller open spaces forming an extension of Elizabeth Macarthur Creek
- A new pedestrian footbridge over the Elizabeth Macarthur Creek, that extends beyond the lands subject of this application, improving connectivity within the wider community
- A main street road running through the site which varies in width and function
- A new vehicular bridge over Elizabeth Macarthur Creek
- New local streets further improving connectivity
- Between 1,490 and 1,910 new residential dwelling opportunities with a variety of typologies including shop-top housing in the station precinct, residential flat buildings (up to 15 storeys) and terraces style units integrated into the high density residential developments

Once approved, the urban design framework, together with the development guidelines, will be used as the basis for assessing designs and proposals in the next stage of the development process. The strategy and planning tools adopted will help ensure the orderly development of the precinct that meets the aspirations of all stakeholders and delivers a truly vibrant and distinctive precinct.



Figure 76: Visualisation the precinct from above Elizabeth Macarthur Creek looking towards the station with the Local Urban Park in the foreground

Conclusion

7.2 Reference Scheme

The parameters set out in the urban design framework have been tested in the adjacent reference scheme, which is presented in greater detail in the following pages. The reference scheme illustrates how the vision could be delivered and how the built form might materialise based on the Development Guidelines that follow. The scheme, whilst illustrative, it provides a high degree of confidence that the maximum development yield proposed in the document is achievable and meets the desired urban design outcomes of the project. It also identifies where attention will need to be paid in the next stage of design (DA submission). In future phases of development, the design of each of the individual lots will be progressed and tested and the outcome will be enriched beyond what is illustrated in the reference scheme.

Lot	Lot Area	Maximum permitted development per lot					
		Res FSR	Res GFA	Units	Retail FSR	Retail GFA	Total FSR
A	11,722	2.50	29,305	366	0.60	7,033	3.10
B	12,344	3.00	37,032	463	0.30	3,703	3.30
C	7,905	2.80	22,134	277	-	-	2.80
D	8,208	2.90	23,803	298		0	2.90
E	7,443	2.70	20,096	251		0	2.70
F	7,556	2.70	20,401	255		0	2.70
	55,178		152,771	1,910		10,736	

Table 04: Maximum permitted development per lot

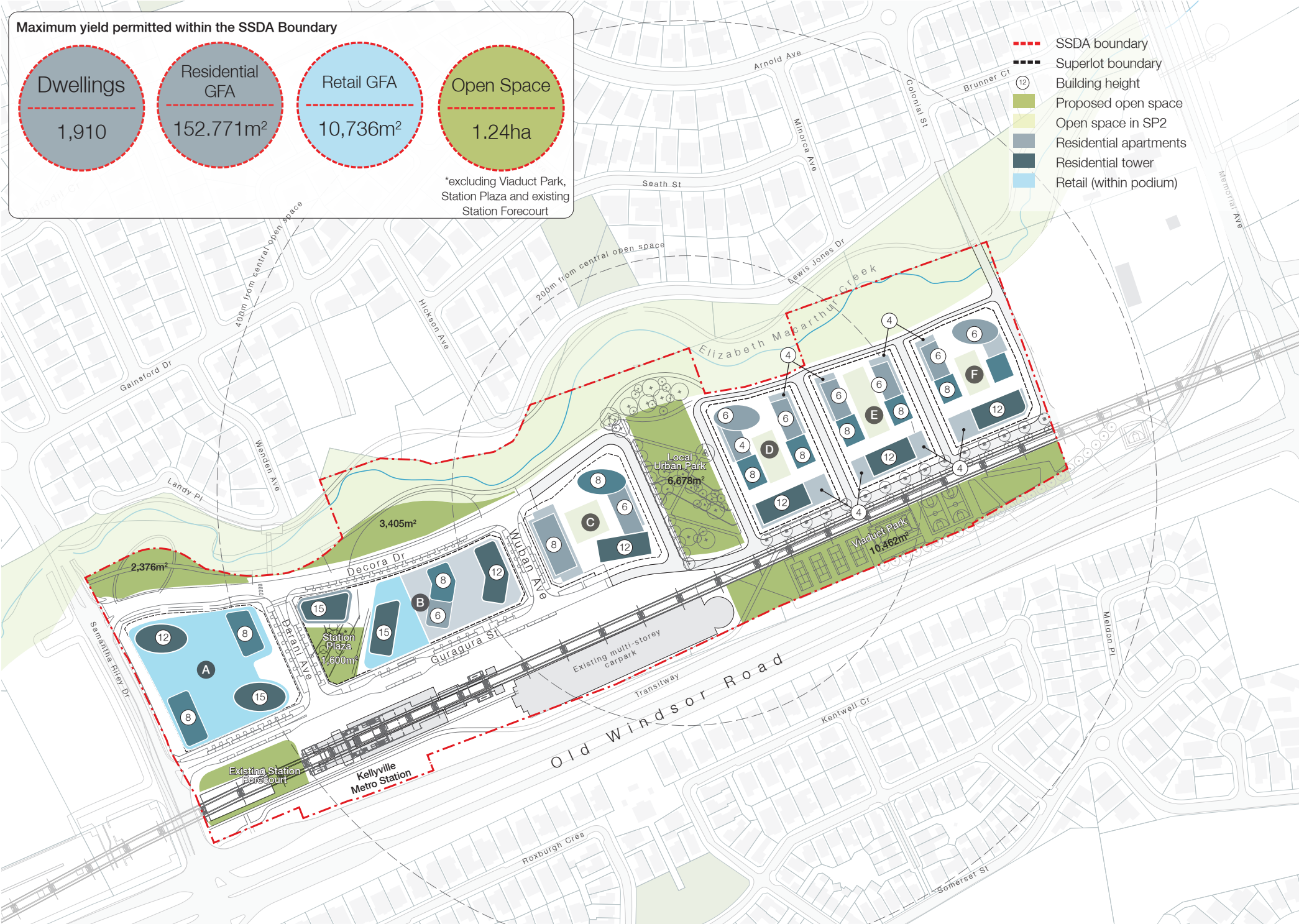


Figure 77: Reference scheme

Conclusion



Figure 78: Potential massing view from the south west

Conclusion



Figure 79: Potential massing view from the west

Conclusion

Solar Access Study

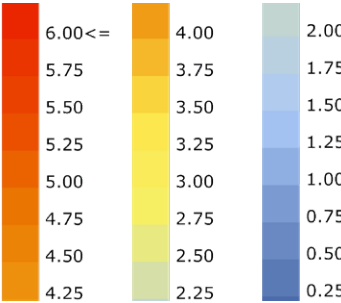


Solar insolation analysis has been undertaken on the reference scheme to identify how proposed built form envelopes perform in terms of solar access and where refinements will be required in the next stage of design and development.

The study illustrates the number of hours of sunlight received by the massing facade on the winter solstice (21st of June) which has the fewest hours of sunlight of any day of the year. It demonstrates the majority of all proposed buildings receive more than two hours of direct sunlight therefore exceeding the SEPP65 requirement for 70% of apartment living rooms and private open spaces receiving 2 hours of sunlight between 11am and 2pm.

Figure 80: Solar access study based on the reference scheme - view from the north east

Hours of sunshine received during winter solstice 21st June



Conclusion

Solar Access Study

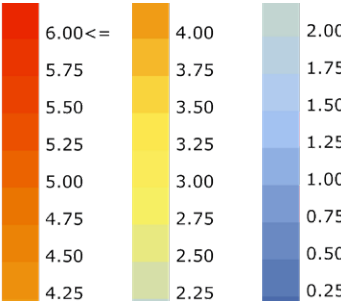


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The study illustrates the number of hours of sunlight received by the massing facade on the winter solstice (21st of June) which has the fewest hours of sunlight of any day of the year. It demonstrates the majority of all proposed buildings receive more than two hours of direct sunlight therefore exceeding the SEPP65 requirement for 70% of apartment living rooms and private open spaces receiving 2 hours of sunlight between 11am and 2pm.

Figure 81: Solar access study based on the reference scheme - view from the north west

Hours of sunshine received during winter solstice 21st June



Conclusion

Shadow Studies

The shadow analysis demonstrates the movement of shadows on the 21st of June (winter solstice). The study illustrates that there are no overshadowing impacts on adjacent properties. Future proposals must demonstrate that the overshadowing of open spaces, particularly the portion of the Station Plaza on Lot B and central Local Urban Park are acceptable. Solar access controls for both these open spaces are detailed in the design guidelines.



Figure 82: Shadow study of the proposed reference scheme

Conclusion

Shadow Studies

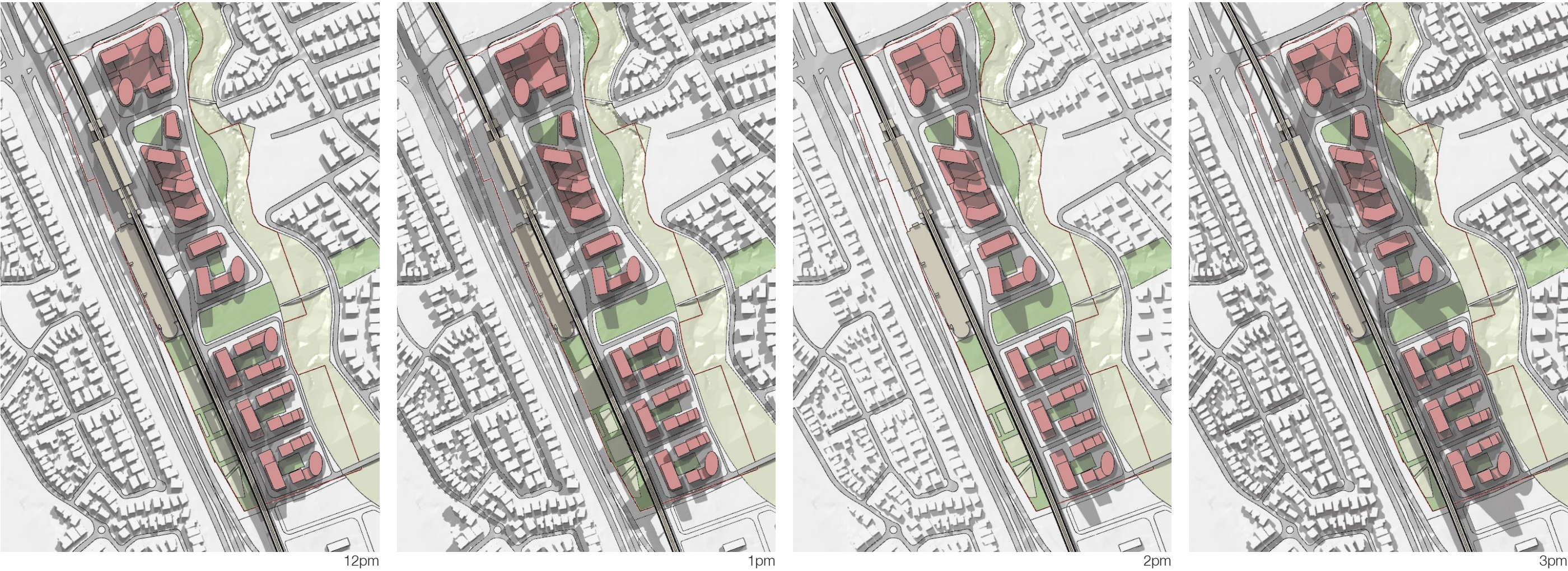


Figure 83: Shadow study of the proposed reference scheme

Conclusion

Solar access to public open space

This solar access study illustrates that the reference scheme exceeds the solar access requirements at the winter solstice.

- 77% of the Station Plaza receives more than 4 hours of direct solar access at the winter solstice where the guidelines require 75%
- 86% of the Central Local Urban Park receives more than 4 hours of direct solar access at the winter solstice where the guidelines require 80%



Percentage of open space receiving >3 hours of sunshine during winter solstice 21st June

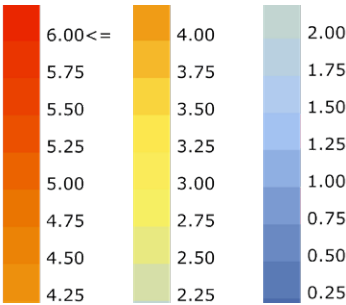


Figure 84: Solar analysis of solar access to open spaces

Annex 1 - Studies

8

8.1 Station Precinct Investigations

The two lots to the north of the precinct, directly adjacent to the new metro station, have already been defined by station related infrastructure and hold the greatest potential for mixed use development. Much of the roads and public domain have been built.

These blocks that form part of the station precinct, accessed off Samantha Riley Drive offer the greatest potential for high density, mixed use development. The sites are zoned B2 Local Centre with an FSR control of 4:1 and an height control of 50m.

The Brief

The initial brief for the station precinct that was provided to the team is as follows:

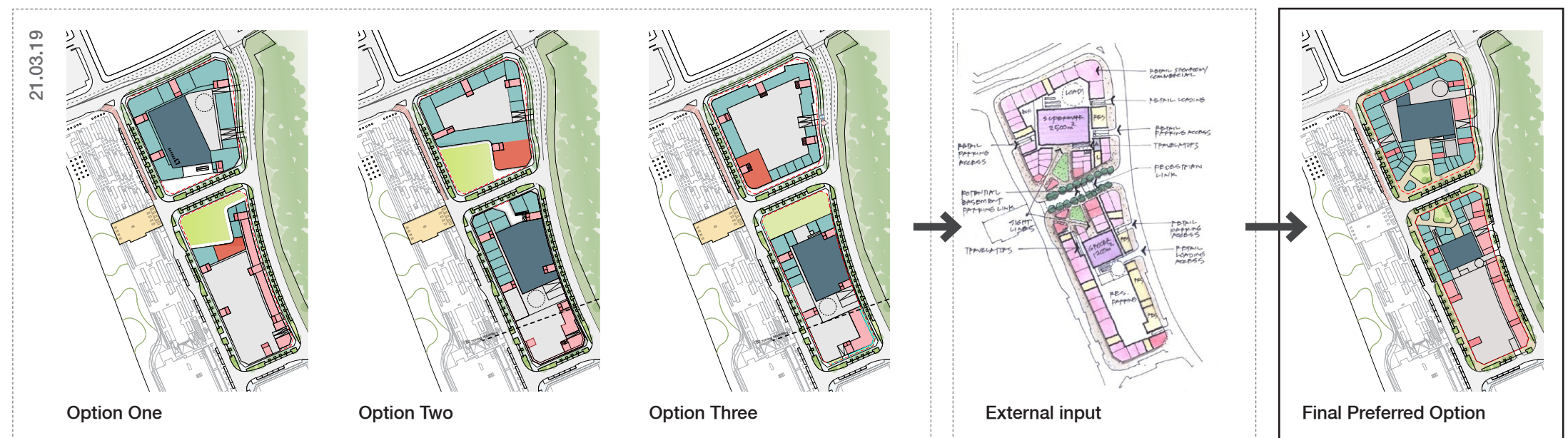
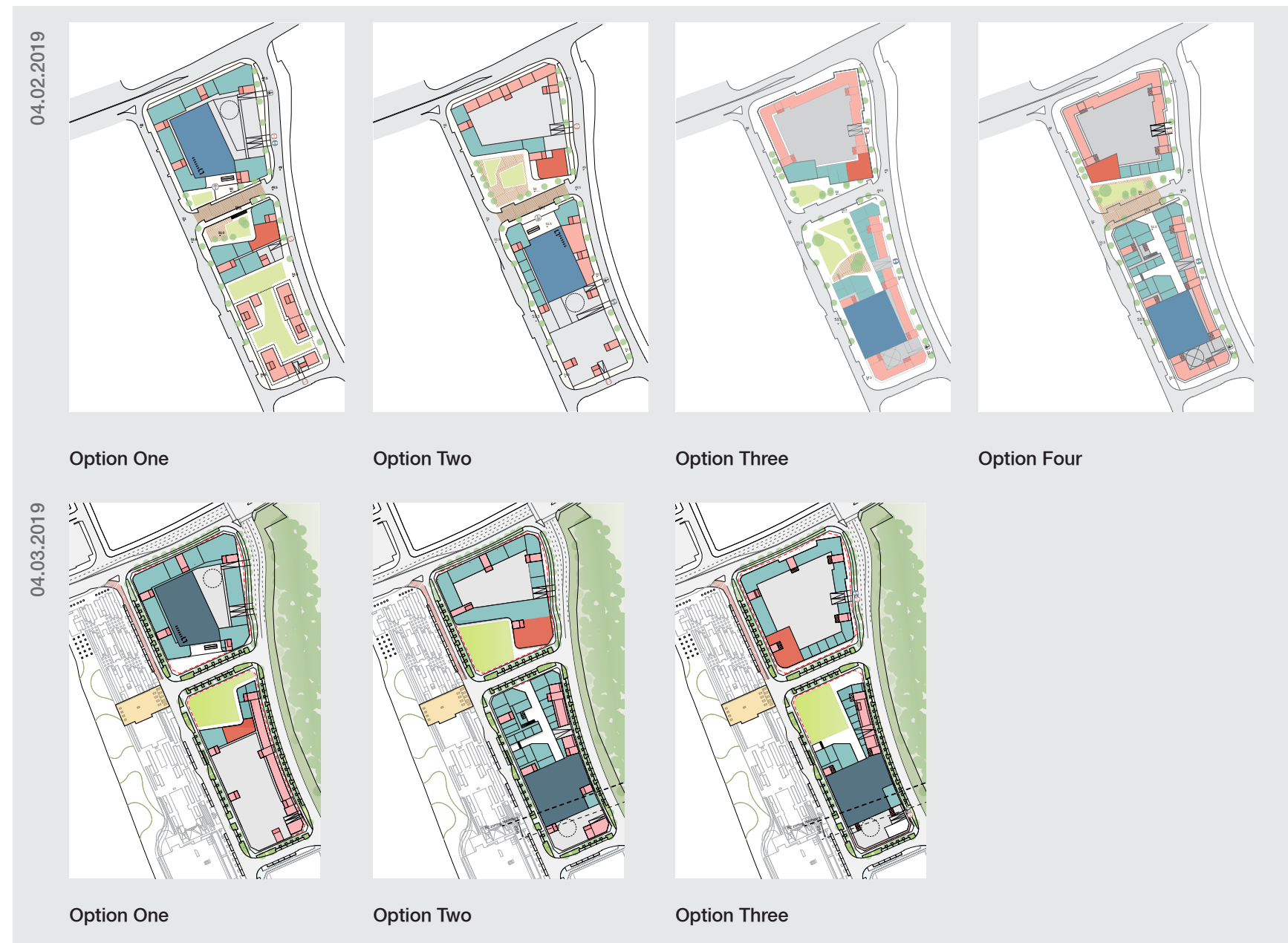
- An open space related to the station
- A full line supermarket of approximately 3,000-3,500 sqm
- Station related retail of approximately 5,000-6,000 sqm
- A community facility of approximately 500 sqm that is integrated into the base of a mixed use building
- High quality, high density shop-top housing

This brief was reviewed through this study and a multi criteria assessment framework was used to assess the options. Finally, once specialist input on retail viability was obtained from Esquisse Architects, a preferred option was developed.

The final brief for the town centre was for:

- A Station Plaza that is defined by two private open spaces either side of Darani Avenue
- A supermarket of approximately 2,400 sqm on the northern lot
- A grocer of approximately 1,200 sqm on the southern block
- Other station related retail of approximately 5,000-6,000 sqm
- High quality, high density shop-top housing

This section of the report presents the evolution of the design for this precinct and explains and assesses each of the options.



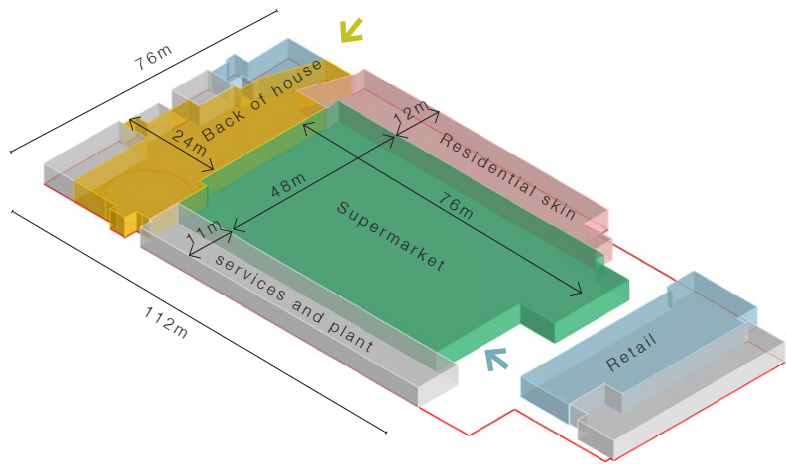
Principles

The following principles underlie all of the three options:

- The delivery of an active Station Plaza that would be a dignified arrival space for commuters using the station
- Pedestrian prioritisation around the station with clear wayfinding for residents and commuters
- Visual connections from the station to Elizabeth Macarthur Creek and the proposed pedestrian footbridge
- Active retail frontage along building frontages that experience high pedestrian flows
- Attractive residential frontages on secondary edges where pedestrian volumes are lower with an appropriate transition from private to public space
- Regular building shapes and subdivisions to efficiently accommodate the supermarket and high density residential buildings
- An uninterrupted retail volume for the supermarket not interrupted by circulation cores or servicing
- High residential amenity and compliance with SEPP 65 / the Apartment Design Guide
- Viable building footprints for residential towers that are able to accommodate a mix of different units and achieve high levels of efficiency (8 units per plate / 750-900 sqm per plate)
- Screened servicing
- Separate access for servicing
- Clear and legible access arrangements

Best Practice

The adjacent illustration and schematic shows the proposal for Surrey Hills Village which includes a 3,400 sqm supermarket and shop top housing in an urban context. The diagram below illustrates the typical dimensions and arrangement of the ground floor of which achieves active frontages on all facades using level changes that are similar to those found at Kellyville.



Surry Hills Village Supermarket

Supermarket - 3,840 sqm
Loading - 1,160 sqm



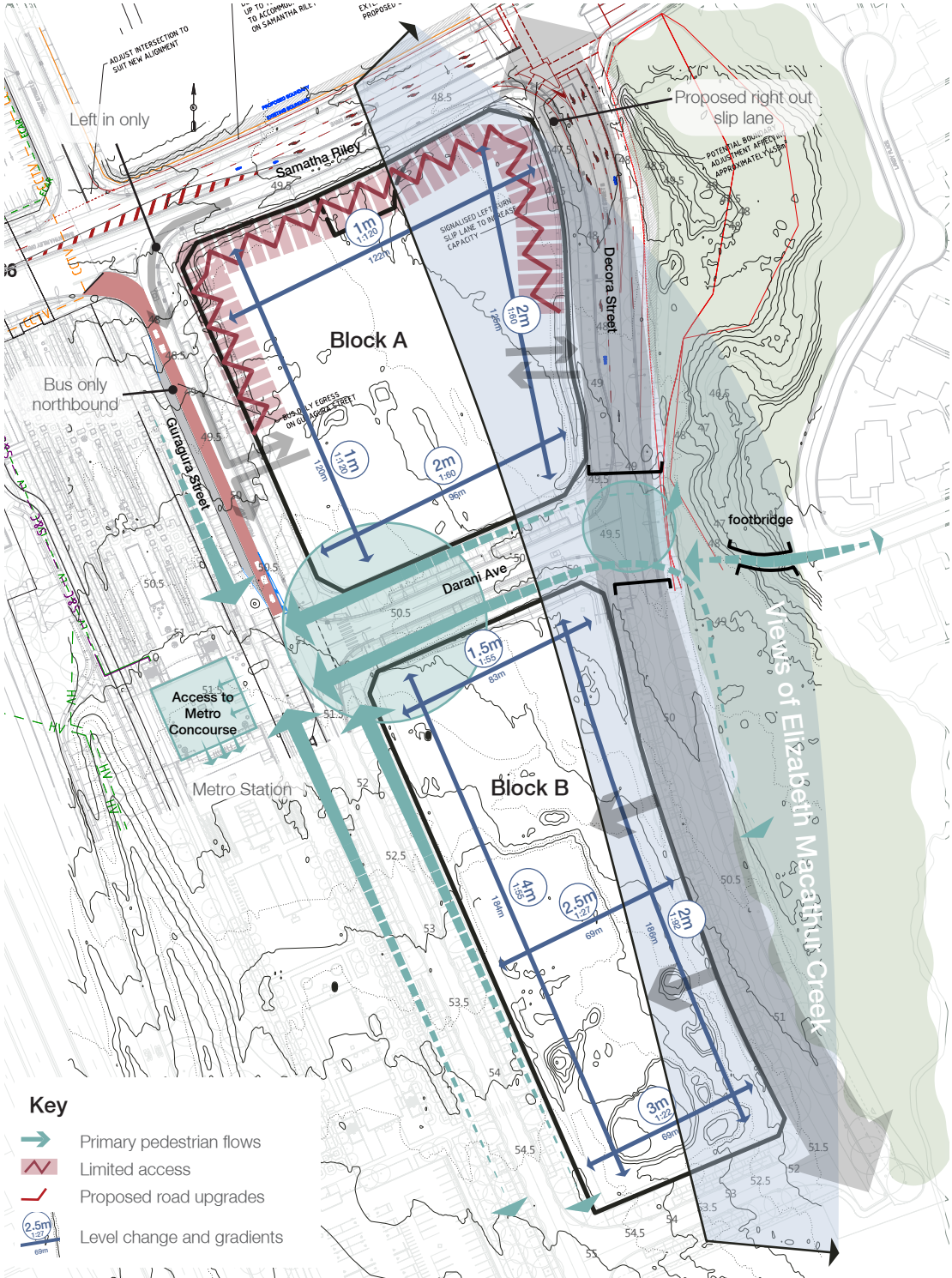
Annex 1 - Studies

Site Conditions

As outlined to above, most of the roads and public realm within the precinct have been constructed or are near completion. There are two development portions that are framed by roads. For the purposes of this report, the northern development portion is referred to as Block A and the southern portion as block B.

All options are informed by the following site conditions:

- Block A, to the north of the precinct, is a gateway corner site with high levels of exposure to Samantha Riley Drive and Old Windsor Road
- The primary access to the entire Kellyville Station Precinct is from a signalised intersection at Samantha Riley and Decora Drive
- No direct vehicular access into Block A is permitted from Samantha Riley Drive
- Planned road upgrades that include:
 - Left-in only access for west bound traffic on Samantha Riley into Guragura Street is permitted
 - Bus only access northbound on Gugagura Street from Darani Avenue to Samantha Riley.
 - Limited access into the Block A from Decora Drive due to the left turning lane.
- Strong pedestrian desire lines from the station towards Elizabeth Macarthur Creek where a pedestrian footbridge is proposed
- A strong connection between the station concourse along Darani Avenue
- Attractive views eastwards across Elizabeth Macarthur Creek towards the hills of the Shire
- A level changes across the site
 - Gentle slopes across the northern site in the order of 1 to 2m (1:60 to 1:120 fall)
 - More pronounced level changes across the longer southern site of 4m north to south and 1.5m east to west at the northern end and 3m east to west at the southern end.





Option One



Option Two



Option Three



Preferred Option

High Level Description

On 04.03.2019, three options for the arrangement of the land uses on the two blocks were investigated. These options were amended to ensure both the supermarket and its service yard fell within the B2 zone.

The adjacent plans illustrate the three options that are unpacked further in this report.

Option One

Locates the supermarket in Block A and the Station Plaza, community facility and smaller retail units located at the northern end of the southern site

Option Two

Locates the Station Plaza and community facility on Block A and the supermarket in Block B as part of a mixed use development.

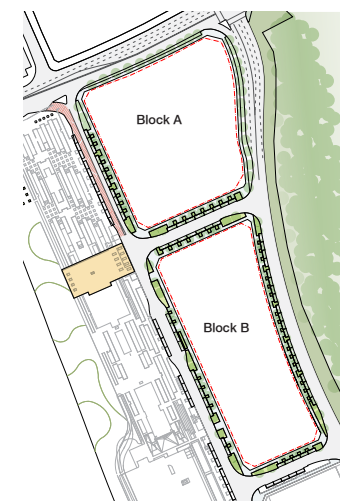
Option Three

Locates the Station Plaza and the supermarket in Block B as part of a mixed use development. Block A is a mixed use development with a large podium.

Preferred Option

Splits the Station Plaza across Darani Avenue with a smaller supermarket in Lot A and a large Grocer in Lot B. This helps to spread the retail anchors and ensure that the Station Plaza and surrounds is successful and economically viable from a retail perspective.

It is important to note that the building locations and height and massing for each option has been intentionally sculpted to optimise solar access and ensure compliance with SEPP 65 / ADG. Consequently the built form and yield on each development option varies within the constraints of the LEP.



Key

- Open space
- Residential
- Indicative core location
- Community Centre
- Retail
- Supermarket box

Annex 1 - Studies

Assumptions

For all options, the built form has been modelled digitally in 3D. Volumes and areas have been drawn directly from the model and these areas have been used to generate the metrics for each option. The following assumptions have been used:

Efficiencies GBA to GFA	
Residential - 75%	
Retail - 80%	
Residential building widths	
Residential towers - 18-20m	
Sleeving units - 12m	
Floor to floor heights	
Residential - 3.1m	
Retail - 5m	
Average unit size - 90sqm	
Unit mix:	
1 bed - 30%	
2 bed - 45%	
3 bed - 20%	
4 bed - 5%	
Parking rates	
*Based on draft DCP rates	
Residential	
1/2bed - 1 bay per unit	
3 bed - 1.5 bay per unit	
4 bed- 2 bay per unit	
Visitor- 1 bay per 10 units	
Retail	
Supermarket	1 per 30 sqm
Line shops	1 per 50 sqm
Area for a parking bay 35 sqm	
* Servicing, back of house and car parking has been excluded from GFA calculations.	

Annex 1 - Studies

Option One

	Block A	Block B	Totals
Development lot area (sqm)	12,657	12,344	
Total GFA	43,383	37,844	81,228
Total FSR	3.4	3.1	
Residential GBA (sqm)	48,571	48,909	
GFA Residential (sqm)	36,428	36,682	73,110
Unit numbers	405	408	812
Residential Parking	506	510	
Retail Total GBA (sqm)	8,694	1,453	
Retail Total GFA (sqm)	6,955	1,162	8,118
Supermarket (sqm)	3,411		
Line shops (sqm)	3,544	662	
Servicing / back of House	1,985		
Community GFA (sqm)		500	
Retail Parking	185	23	
Total Parking (Provided)	691	533	
Total Parking (sqm)	24,170	18,664	
Number of basements	2.1	1.32	
Size of open space (sqm)	860	2,400	3,260

Key

- Open space
- Residential
- Indicative core location
- Community Centre
- Retail
- Supermarket box
- BOH
- Loading access
- Residential access
- Customer access

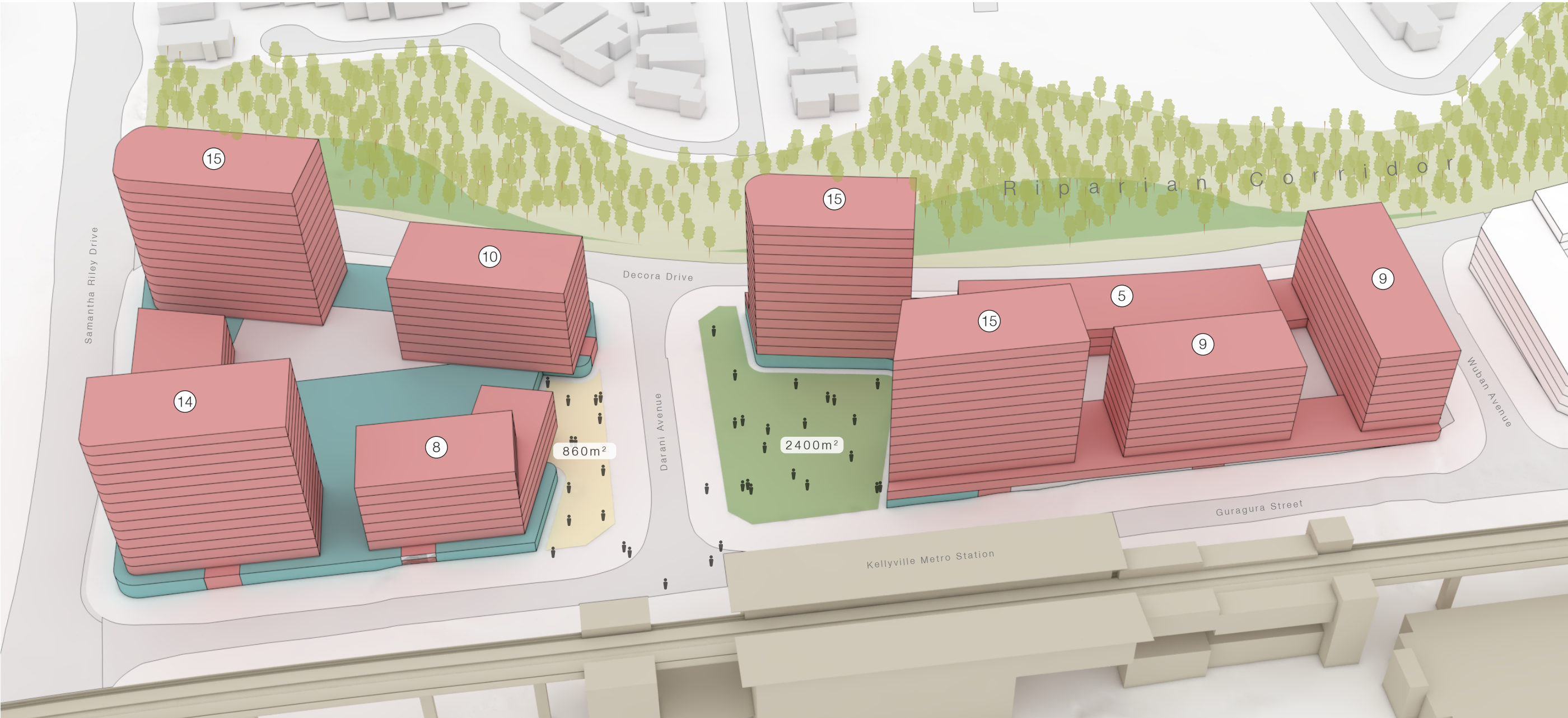


Ground floor plan



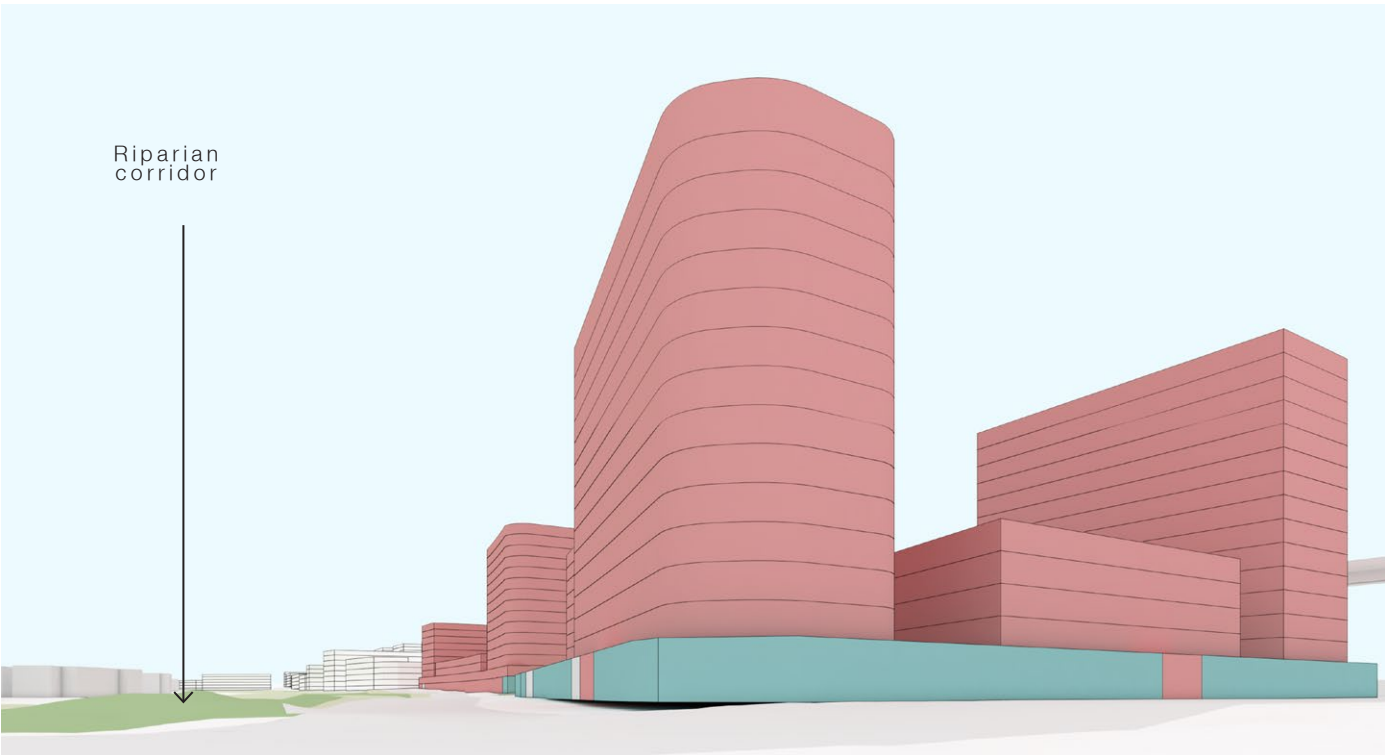
Roof plan

Massing

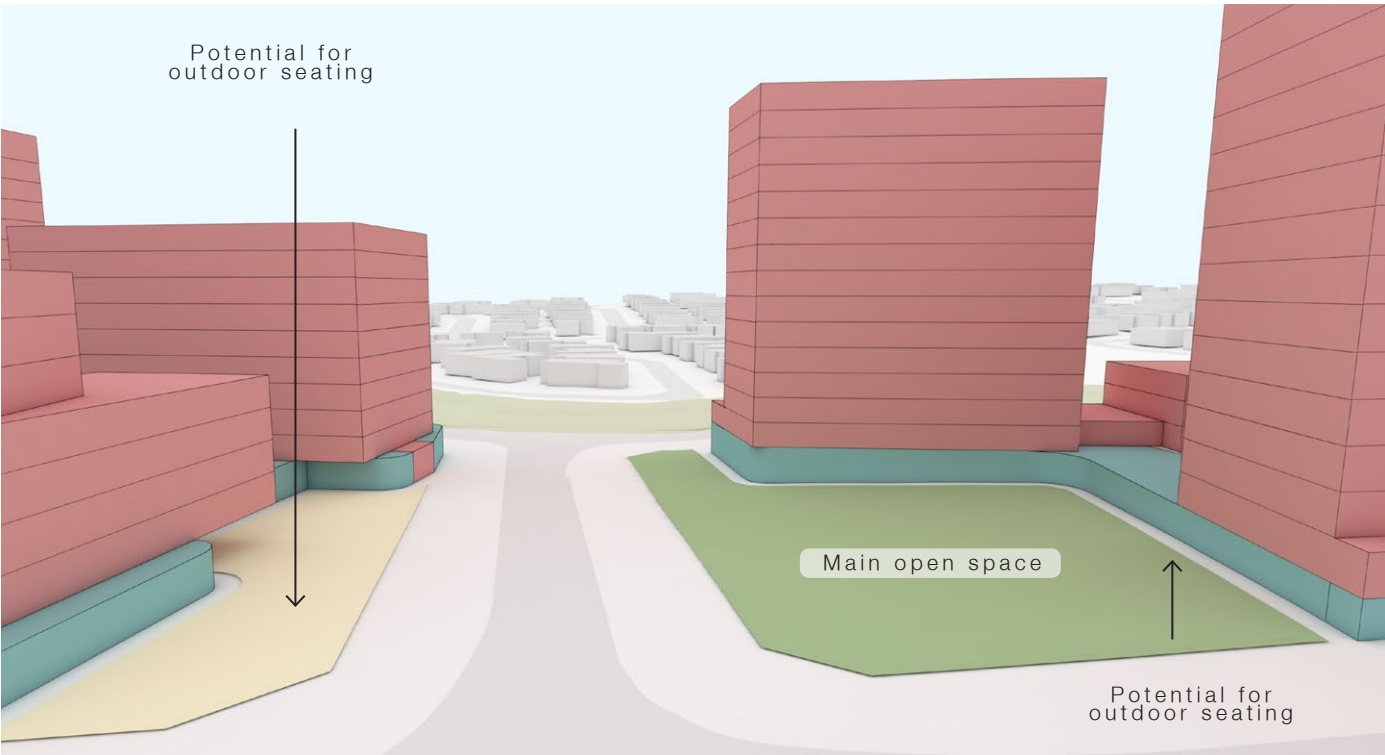


- Residential
- Retail
- Servicing
- Open space
- Hardscape public domain
- Riparian corridor

View Montages

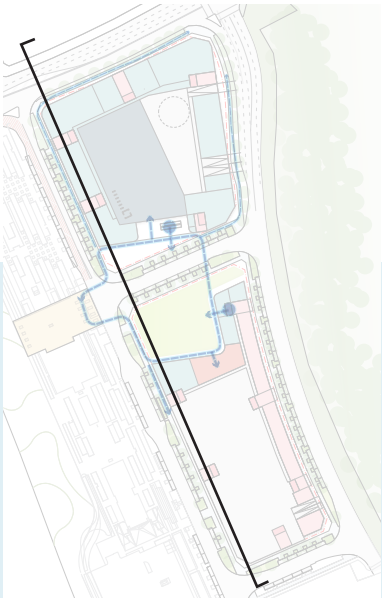
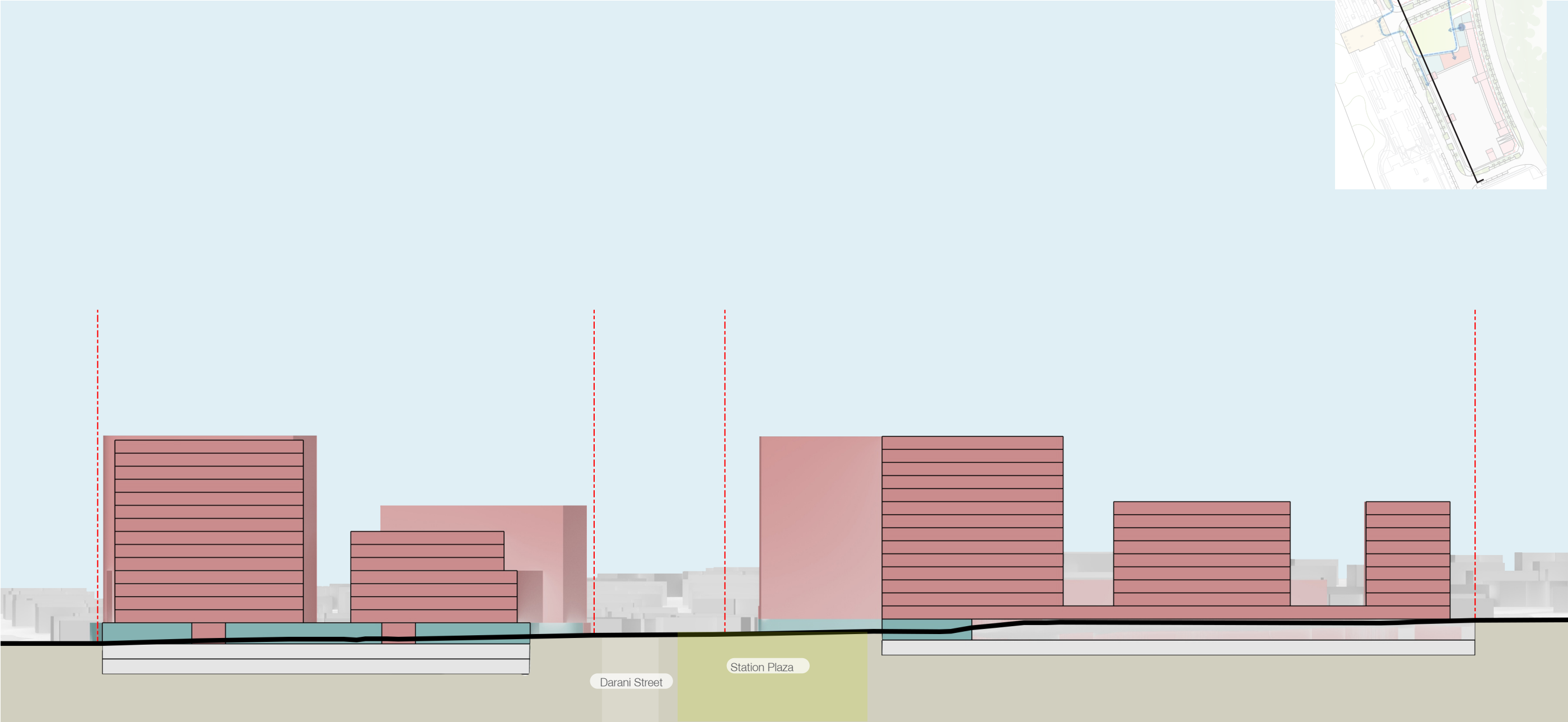


View down Decora Drive from Samantha Riley Drive



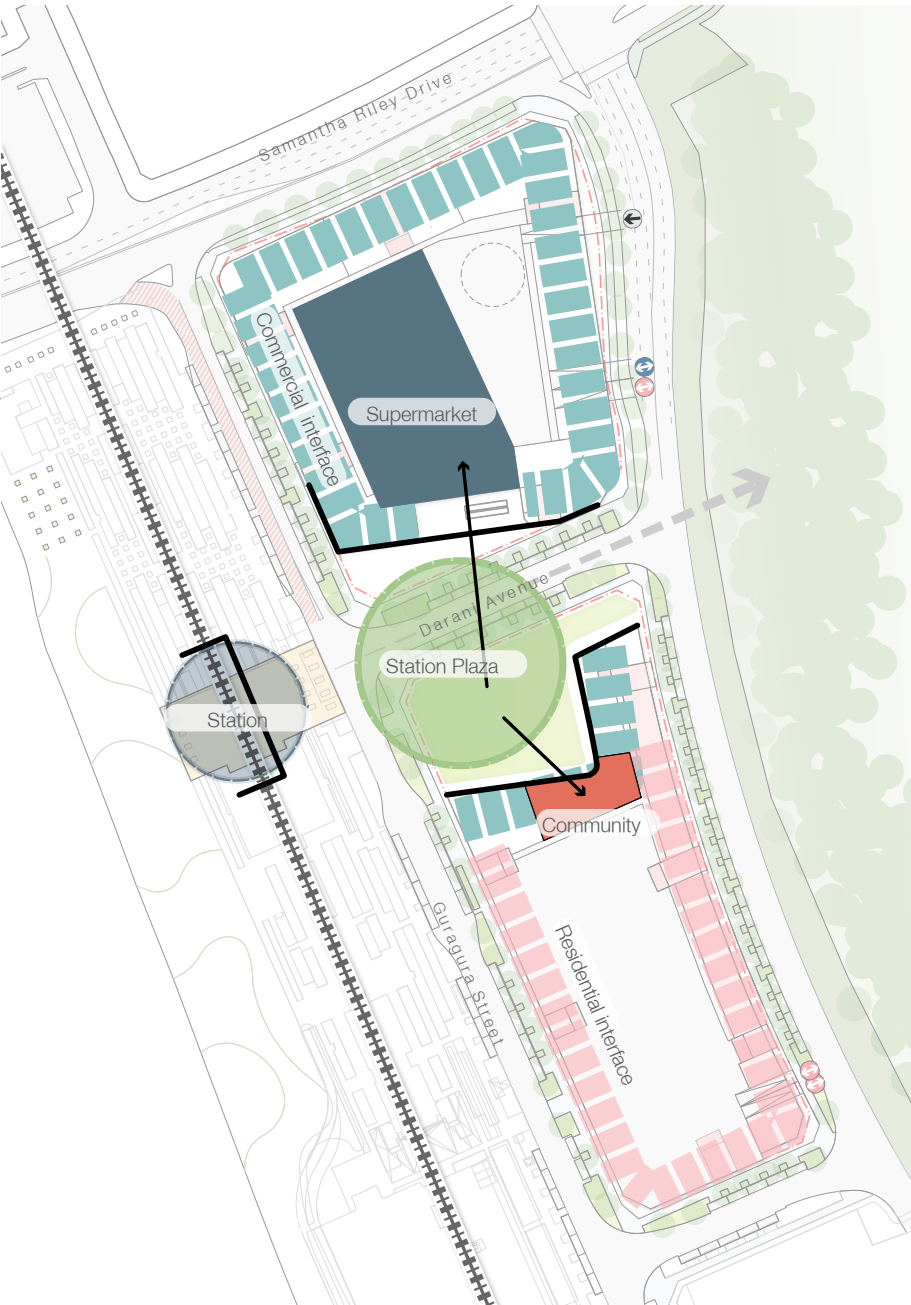
View of the Station Plaza from the metro

Long Section



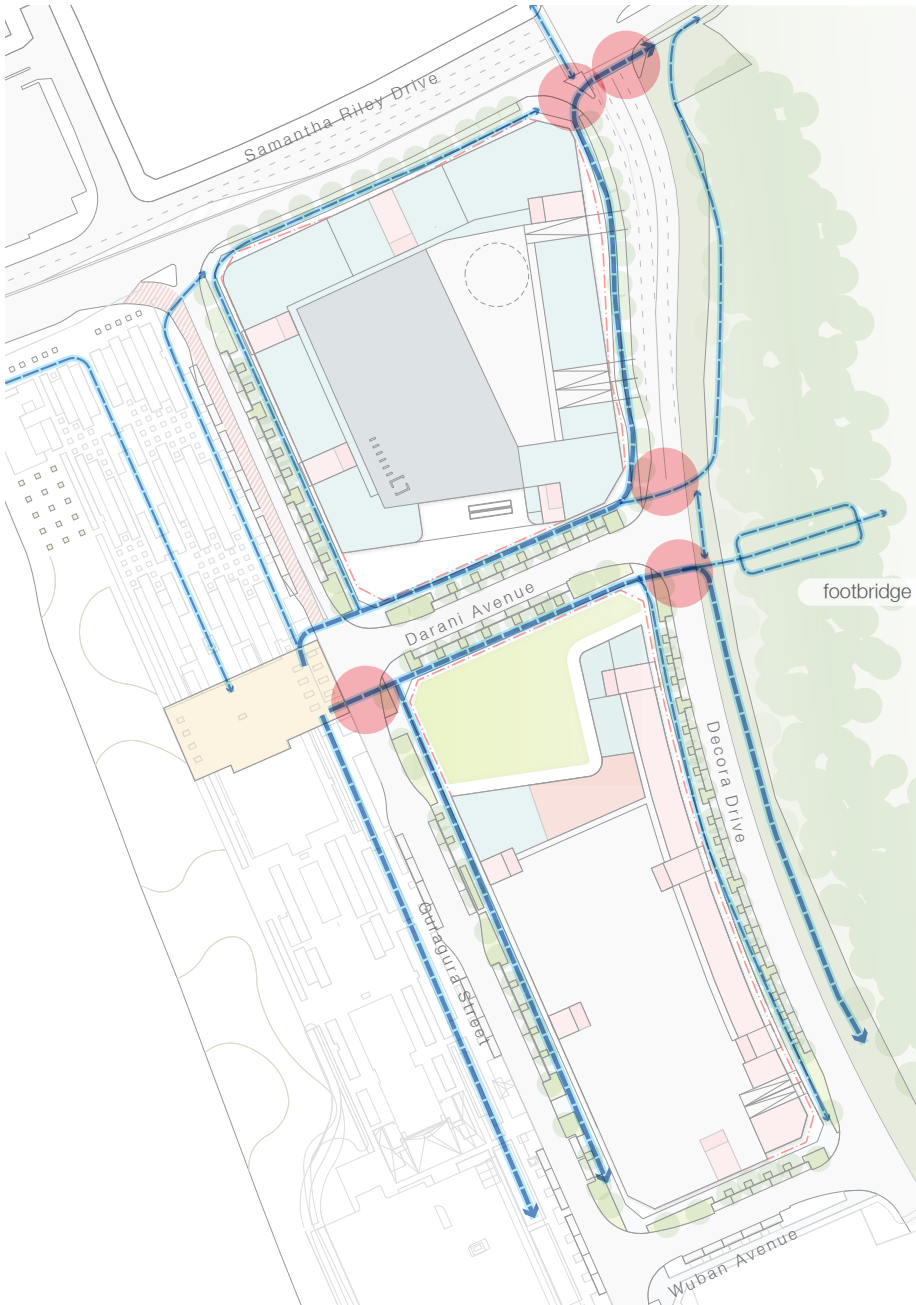
- Residential
- Supermarket
- Retail
- Basement / servicing

Precinct Structure and Movement



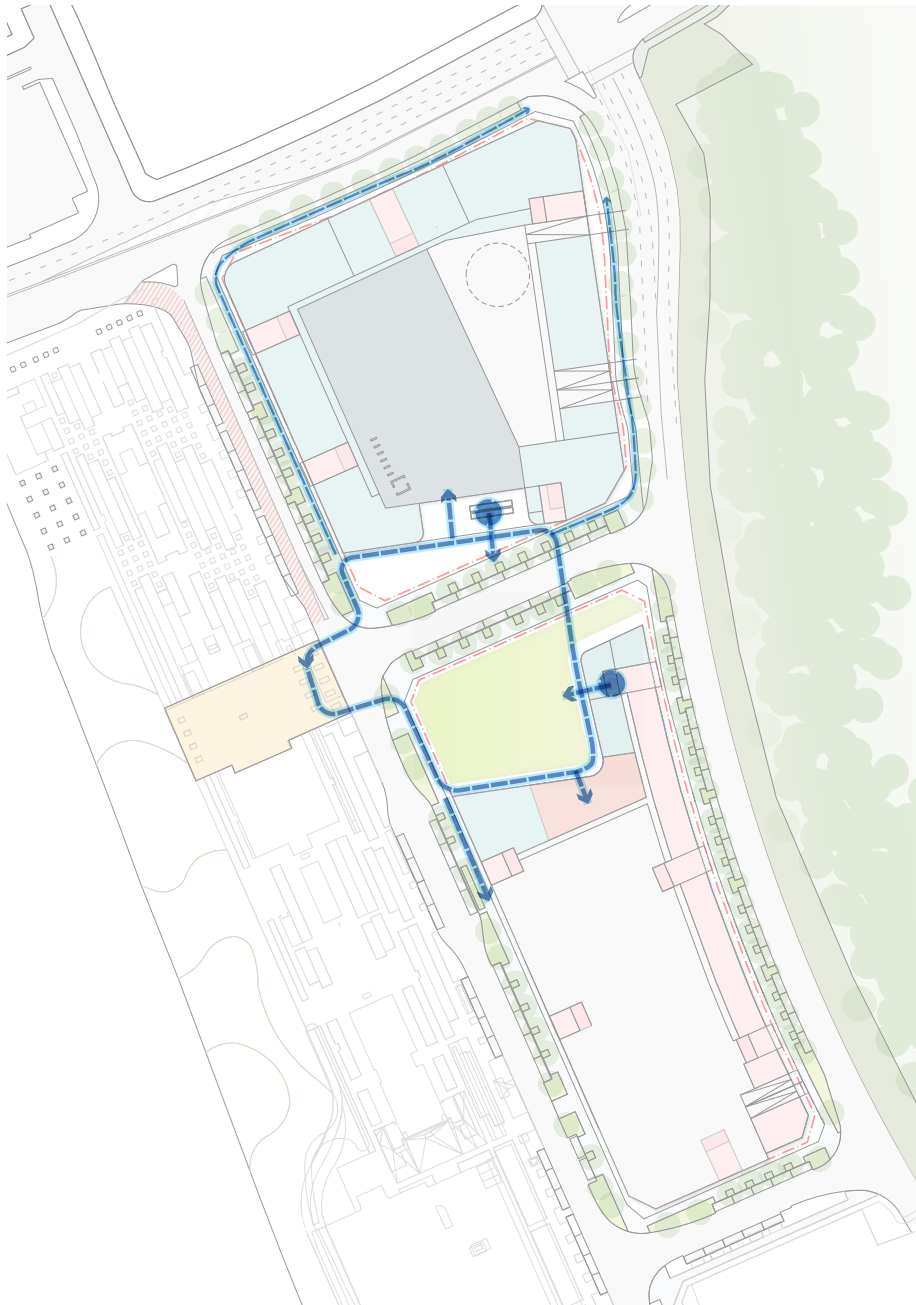
Conceptual diagram

- Residential interface
- Commercial interface
- Supermarket
- Open space
- Community facility



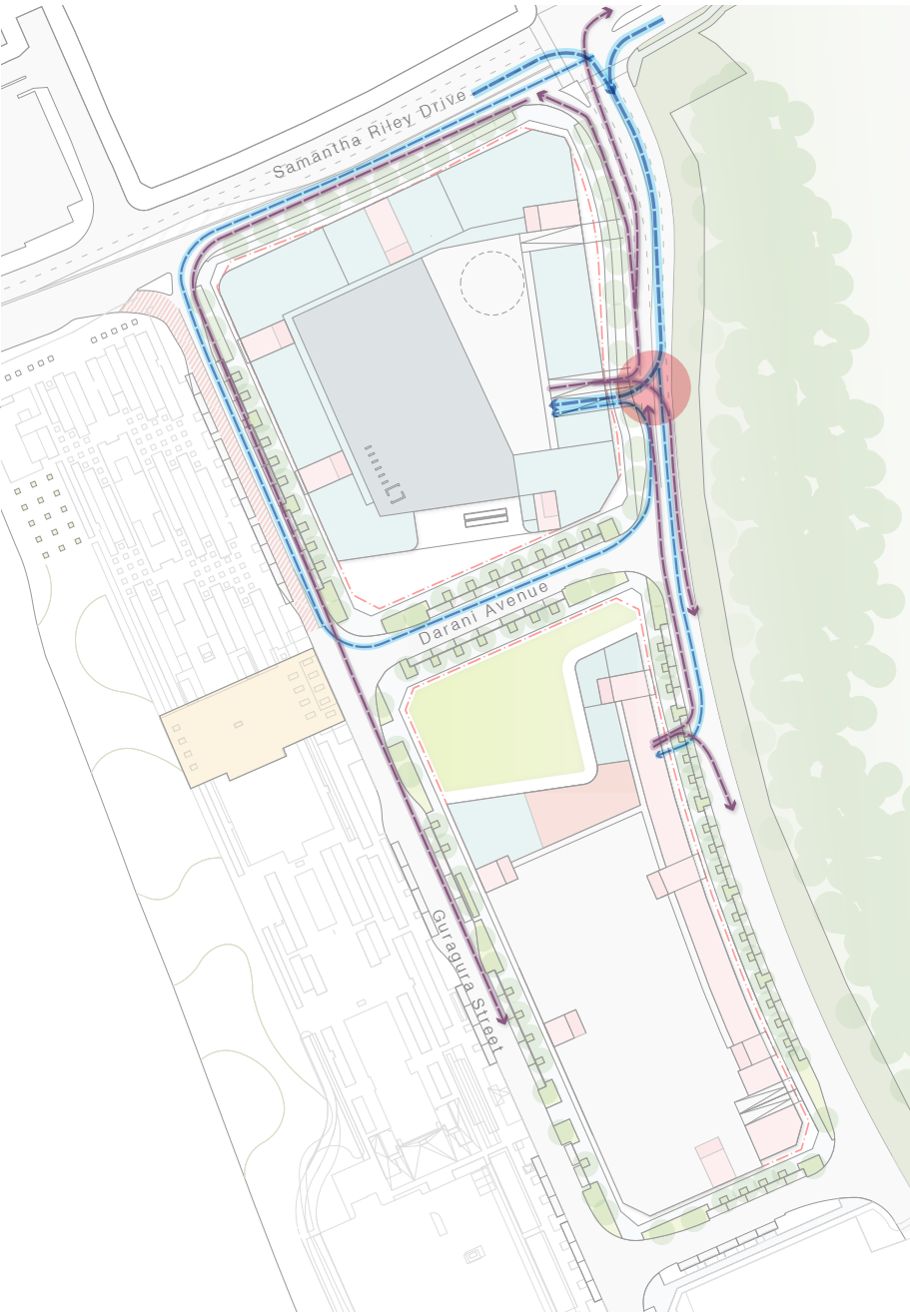
Pedestrian commuter movements

- Primary pedestrian flows
- Secondary pedestrian flows
- Potential points of conflict



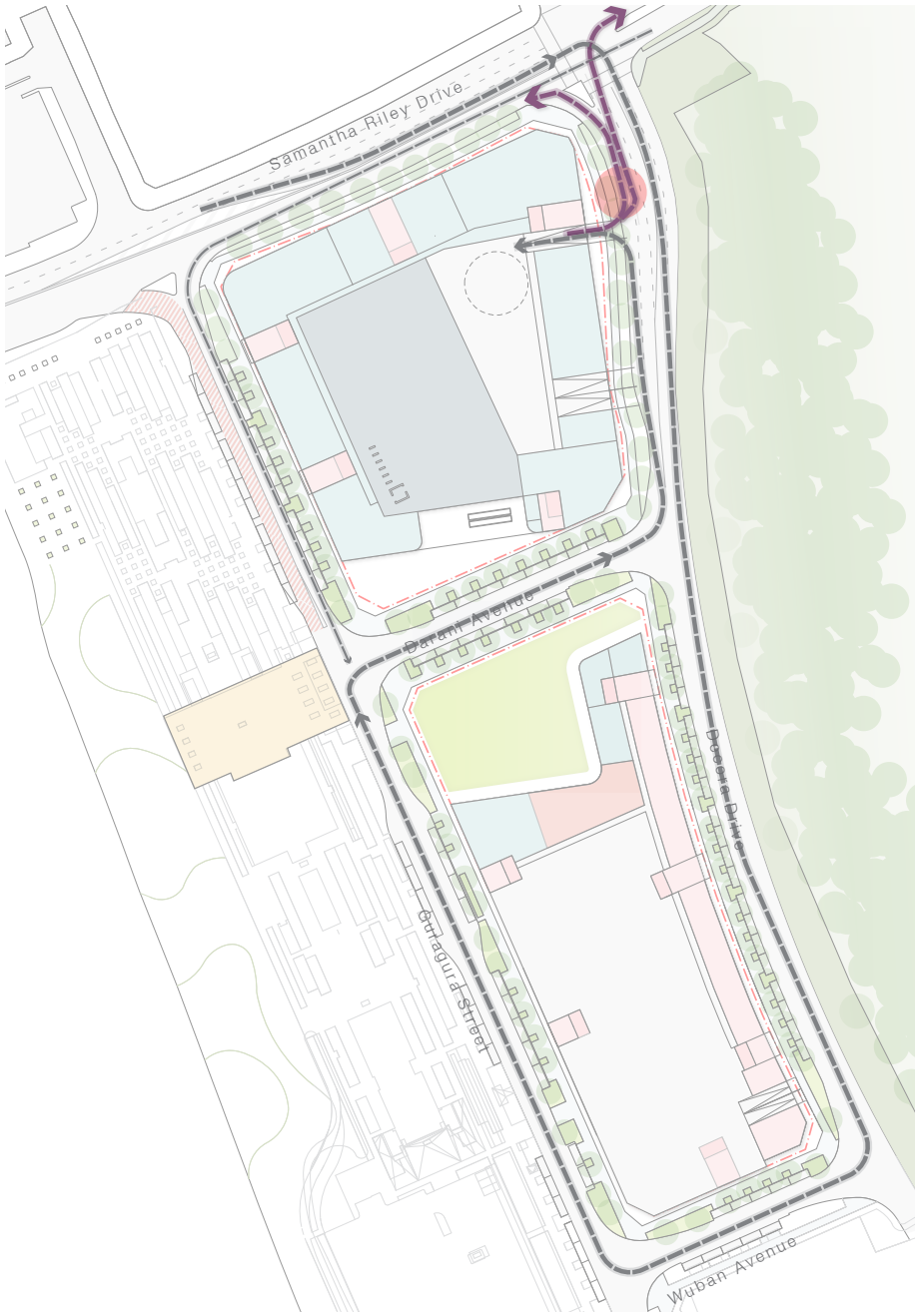
Pedestrian retail movements

- Primary pedestrian flows
- Secondary pedestrian flows
- Vertical connection to basement car parks



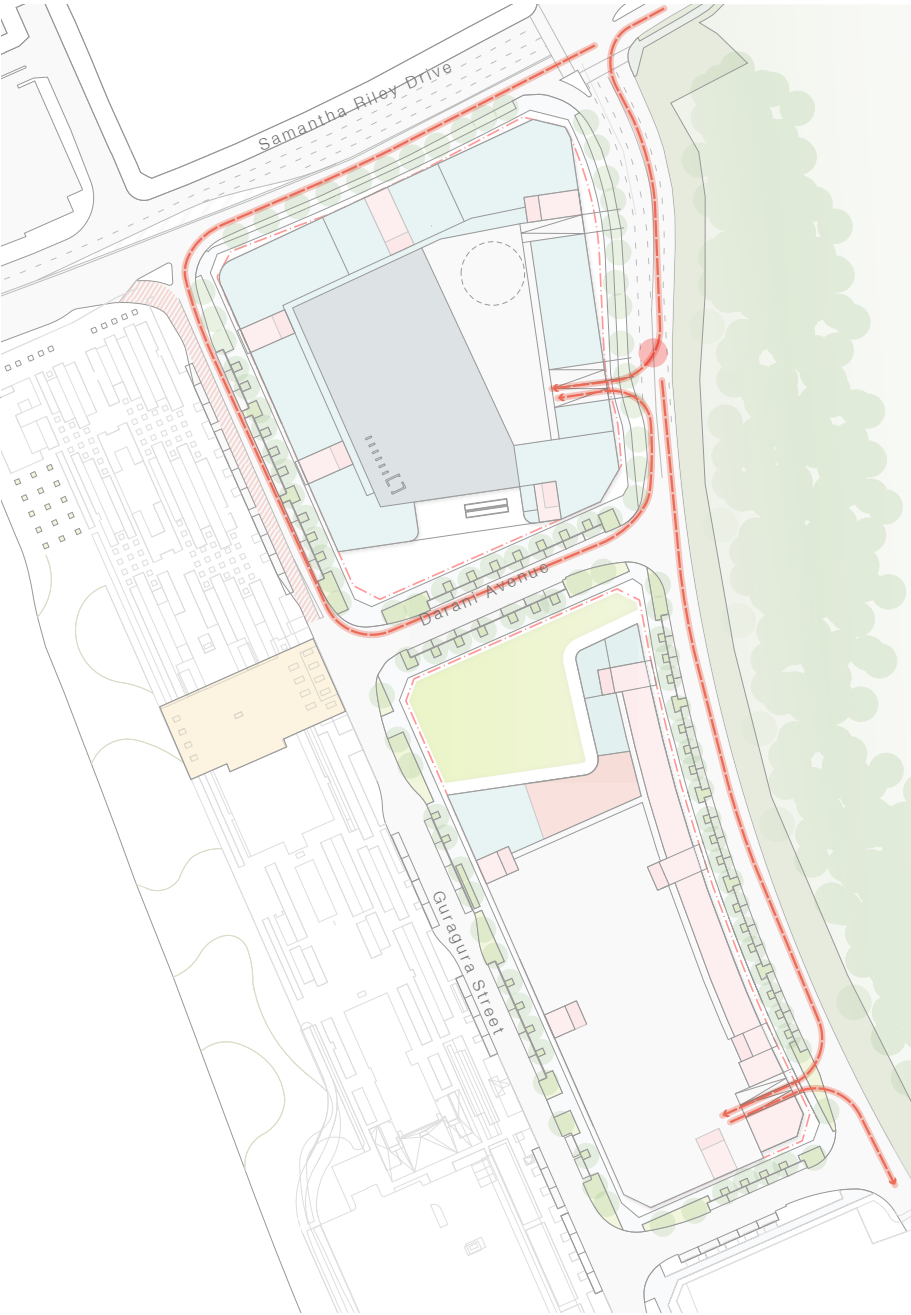
Retail related traffic movements

- Arriving traffic
- Departing traffic
- Potential points of conflict



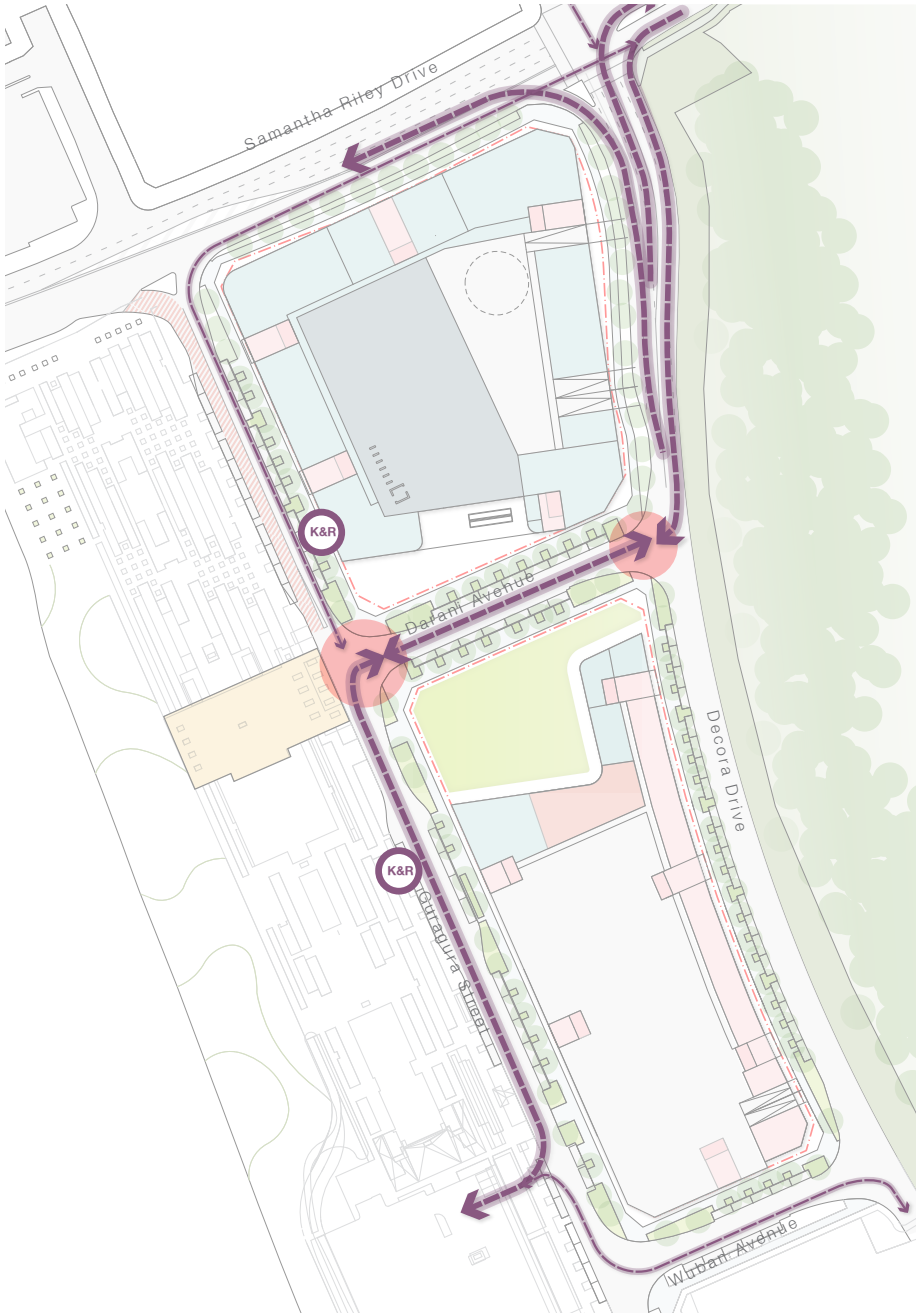
Servicing and deliveries

- Arriving service vehicles
- Departing service vehicles
- Potential points of conflict



Residential associated movements

- ➡ Arriving vehicles
- Potential points of conflict



Commuter - movements

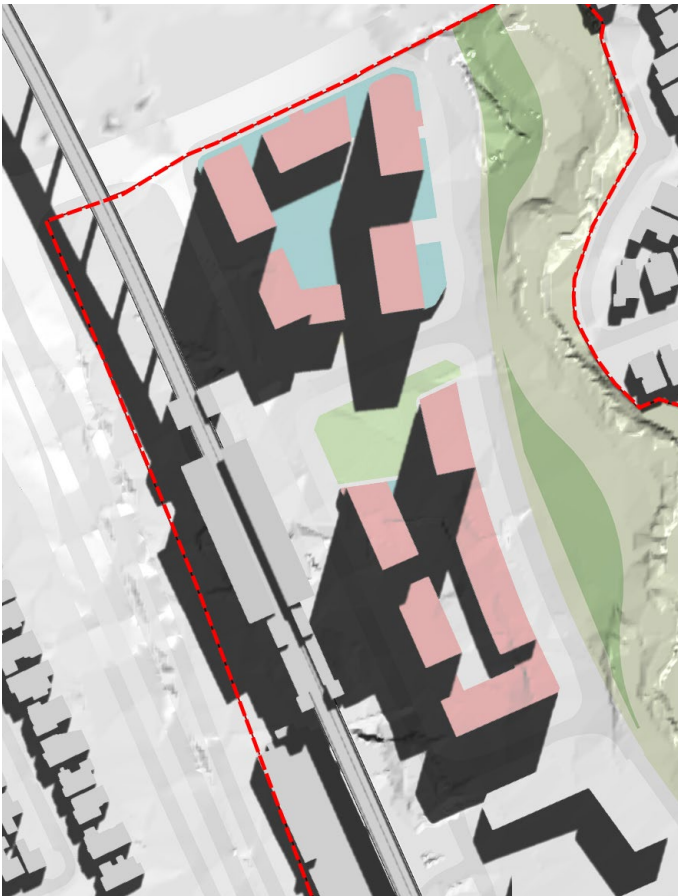
- ➡ Primary traffic flows
- ➡ Secondary traffic flows
- Ⓚ Kiss-and-ride opportunities

Shadow Analysis

Winter solstice 21st June



9am



11am



1pm



3pm

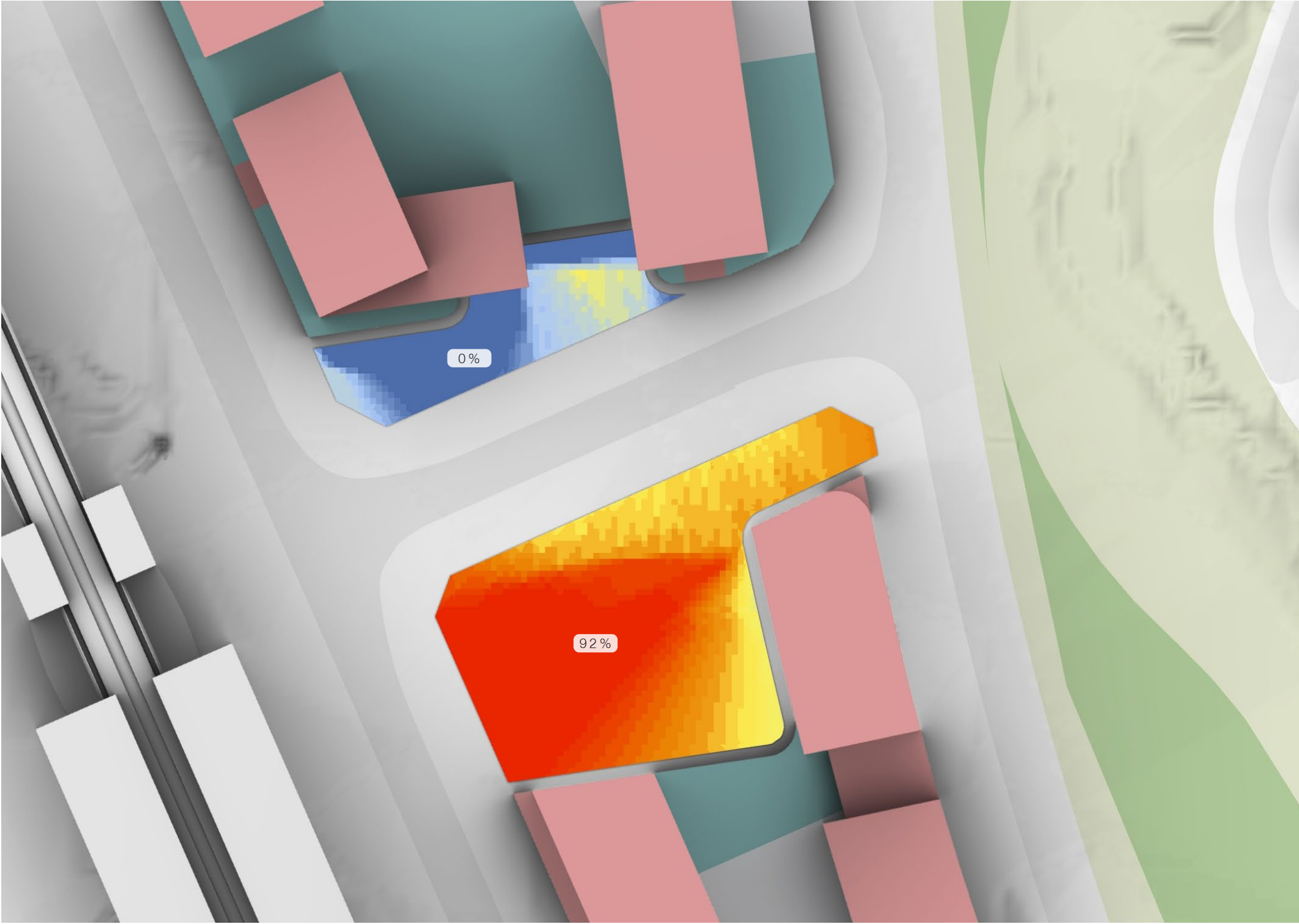
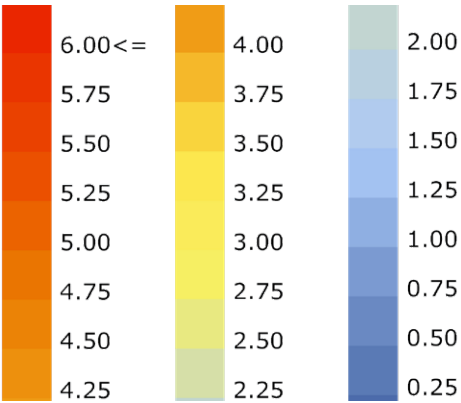
Solar Access in Public Spaces

The benchmark for solar access to public open spaces across Sydney varies considerably depending on the size of open space, the character of the open space and the times during which the open space is typically used.

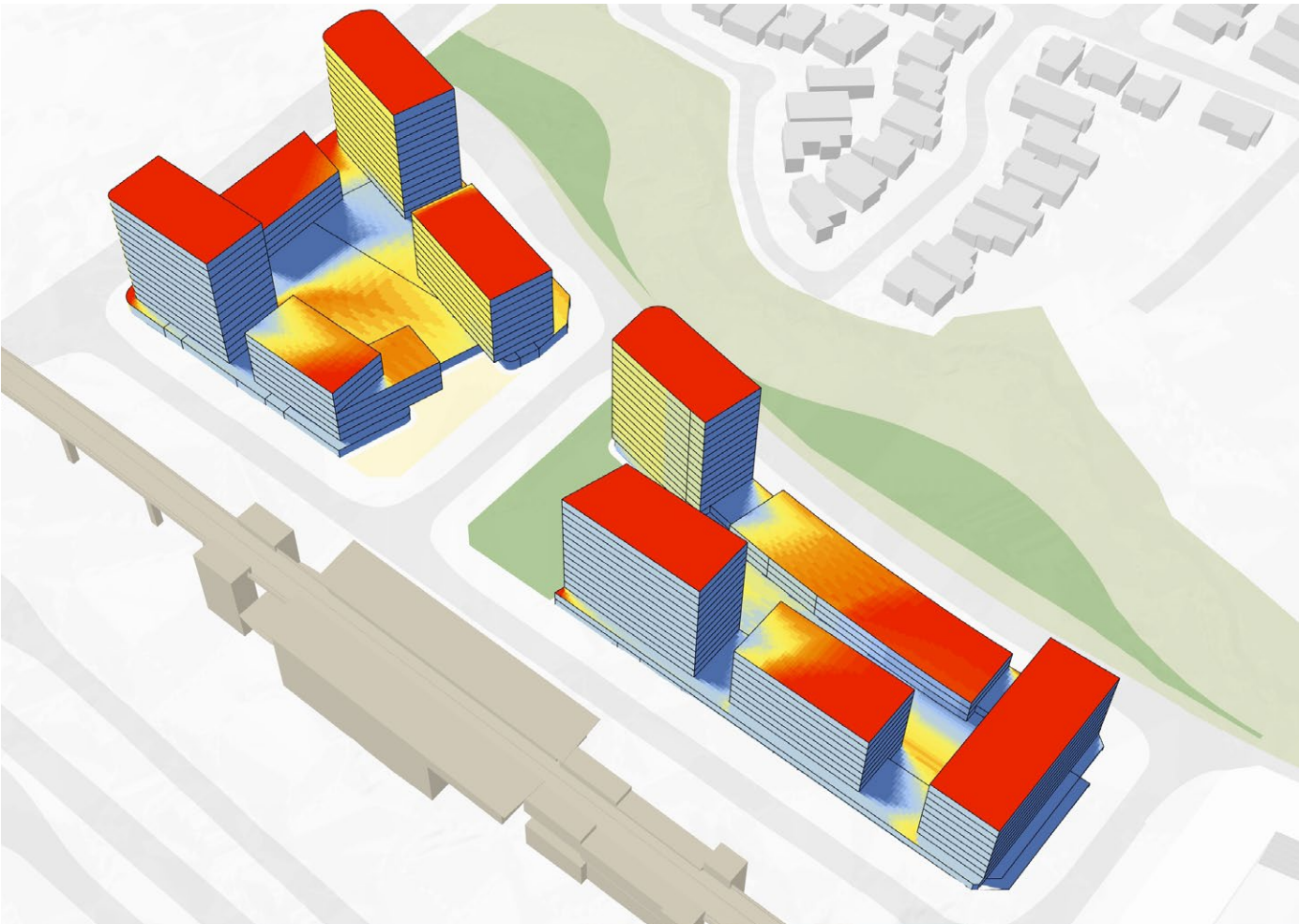
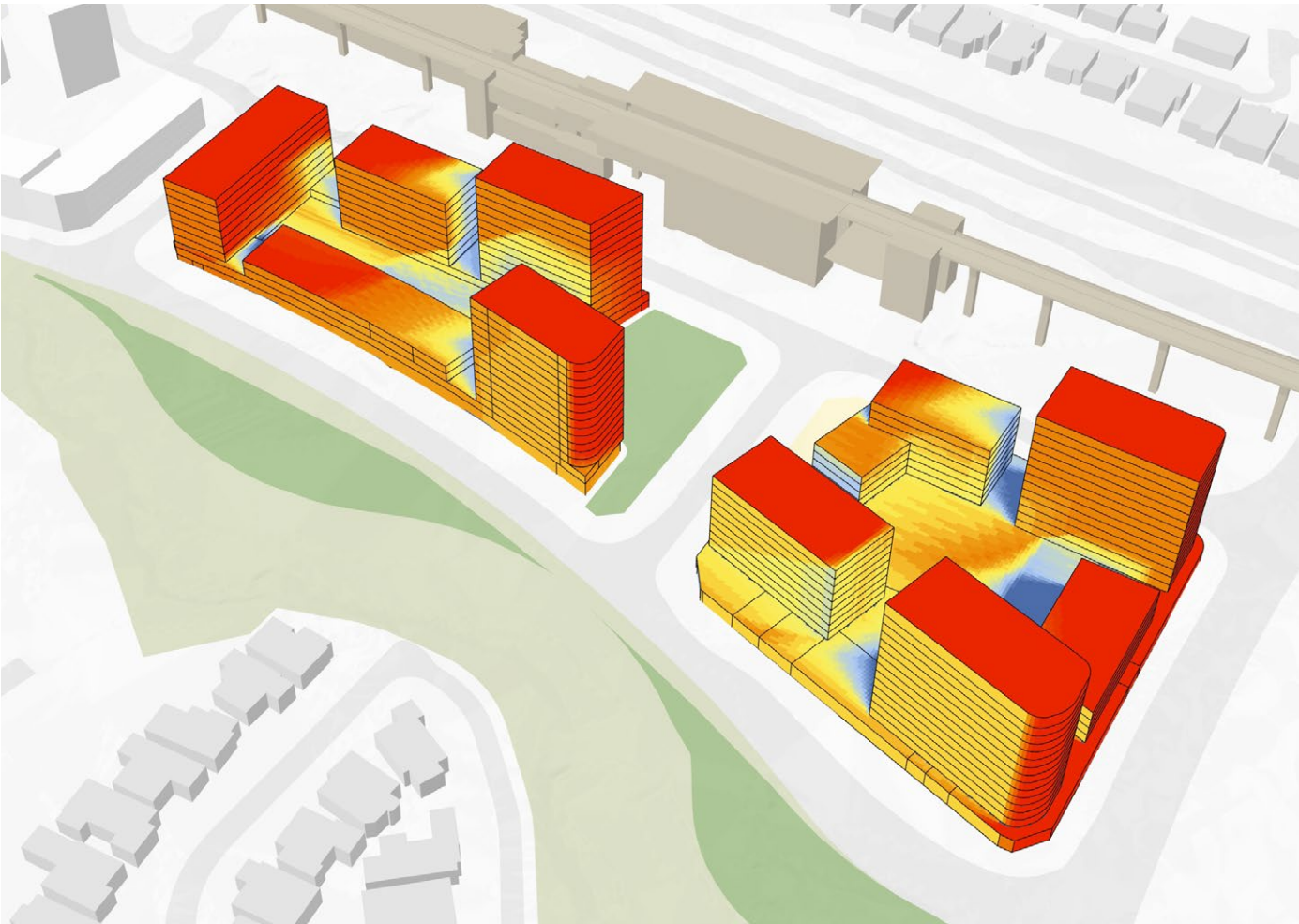
A common benchmark is that 50% of the open space receives more than 3 hours of direct sunlight in the winter solstice. In the west of Sydney more shade might be desirable and plant species selection and landscape design would need to consider plants that require lower levels of sunlight exposure.

This drawing illustrates 92% of the major public open space receives more than 3 hours of sunshine during the winter solstice (21st June). The forecourt to the north of the open space is predominantly in shade.

Hours of sunshine received during winter solstice 21st June



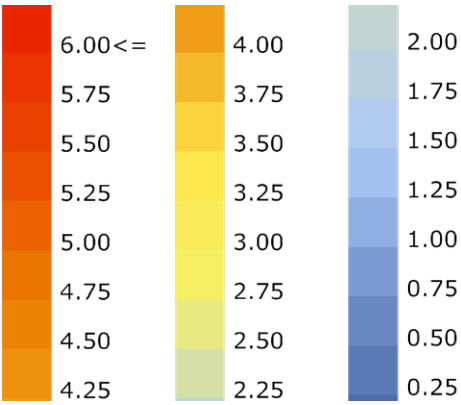
Solar Insolation



Hours of sunshine received during winter solstice 21st June

View from northeast

View from southwest



Option one assessment

	Score	Comment
Size and functionality of the public open space	4	The generous Station Plaza is disconnected from the supermarket, which will be a major draw in the precinct. The widening of the road adjacent to the supermarket allows for spill out space in the northern side of the square, which will be in shadow. The square will consequently take a more local identity and would be activated by smaller retail units and the community facility to the south.
Solar access to the open space	5	Controlling building heights to the north of the Station Plaza ensures high levels of solar access to the open space. The location of a tower to the east of the open space will create shade in the morning - this suggests the space is more active midday to afternoon.
Viability of retail offering (general)	3	Good visual exposure for the supermarket and the associated retail on Samantha Riley Drive. Good mix of retail units within the line shops with those units adjacent to the supermarket benefiting from the pull of this anchor.
Viability of smaller retail units (foot traffic)	3	Retail units on Samantha Riley and Guragura Street may struggle for pedestrian footfall. Those units fronting onto the park will benefit from passing commuter foot traffic.
Inactive frontage of supermarket / serving areas screened	5	The generous podium on Block A allows for the supermarket box and back of house to be completely screened from public view.
Flexibility of the internal retail layout	4	The generous podium on Block A allows for flexibility in how the supermarket is orientated and how servicing and access is arranged. It is possible to accommodate a range of different retail units within this block and capitalise on trolley traffic to the basement car park.
Potential traffic impact (Samantha Riley / Decora Drive)	1	The proximity of the customer parking entrance relative to Samantha Riley Drive increases traffic on Decora Drive and would necessitate a new right turning bay with a keep clear box in front of the access. Traffic impacts of this option need to be tested bearing in mind that peak periods for the supermarket and commuter car parking may differ.
Potential traffic impact (On broader precinct)	5	Supermarket bound traffic is not drawn into the precinct which improves connections between the station precinct and Elizabeth Macarthur Creek
Ease of access / clarity of movement for servicing vehicles	2	Delivery vehicles approaching from the east can use the left in access via Guragura Street, pass the station, into Darani and will then need to enter Decora Drive to access the service area. Service vehicles arriving from Old Windsor Road need to do a longer loop within the precinct to access the servicing area. Conflict may exist on leaving the precinct due to the proximity of the entrance / exit of the service entrance to Samantha Riley Drive
Residential yield	4	Building heights have been moderated to ensure solar access to the Station Plaza and ensure that ADG requirements are met
Number of basement levels	3	The parking requirement necessitate 2 levels of basement parking on the northern block.

Option two

	Block A	Block B	Totals
Development lot area (sqm)	12,657	12,344	
Total GFA	36,547	44,430	80,977
Total FSR	2.9	3.6	
Residential GBA (sqm)	42,953	52,986	
GFA Residential (sqm)	32,215	39,740	71,954
Unit numbers	358	468	825
Residential Parking	447	594	
Retail Total GBA (sqm)	5,415	5,863	
Retail Total GFA (sqm)	4,332	4,690	9,022
Supermarket (sqm)		3,722	
Line shops (sqm)	3,832	468	
Servicing / back of House	300		
Community GFA (sqm)	500		
Retail Parking	77	133	
Total Parking (Provided)	524	727	
Total Parking (sqm)	18,327	25,460	
Number of basements	1.58	2.13	
Size of open space (sqm)	2,600		2,600

Key

Open space

Residential

Indicative core location

Community Centre

Retail

Supermarket box

BOH

Ground floor plan



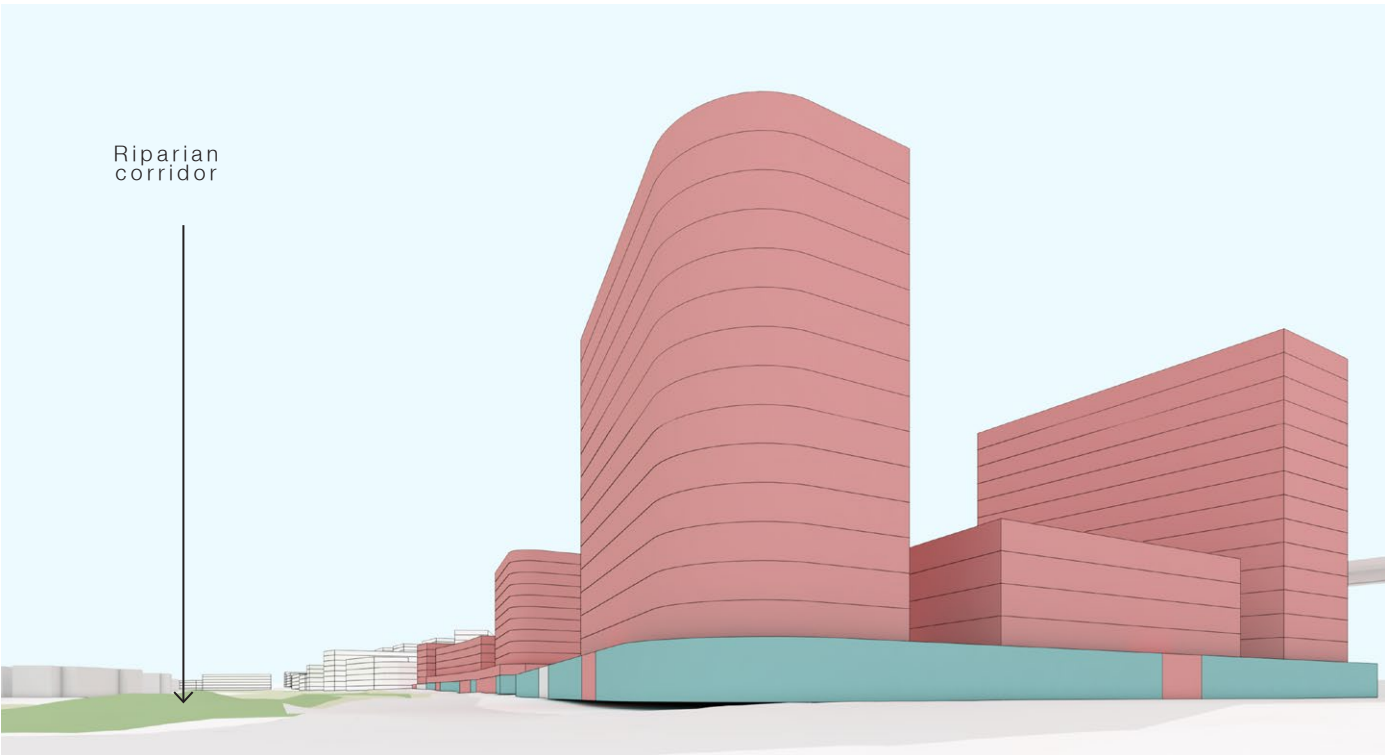
Roof plan



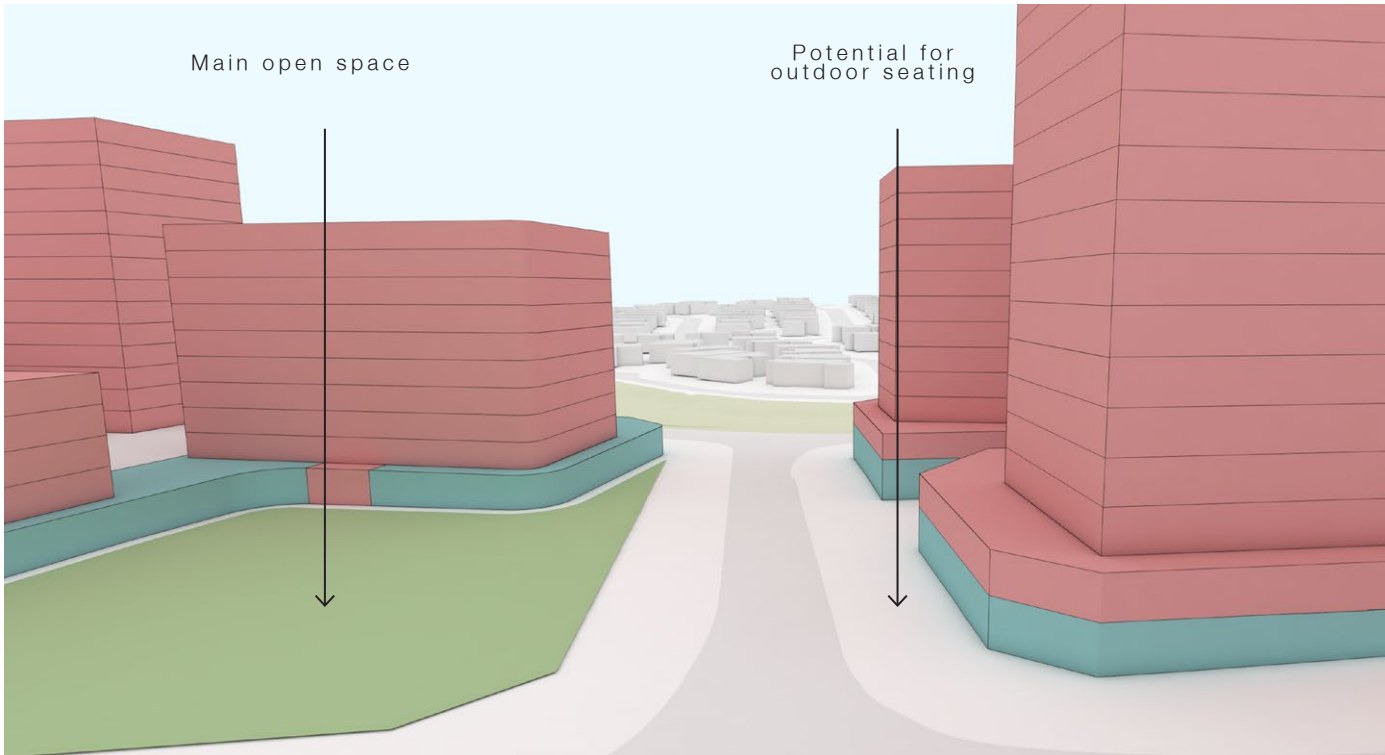
Massing



View Montages

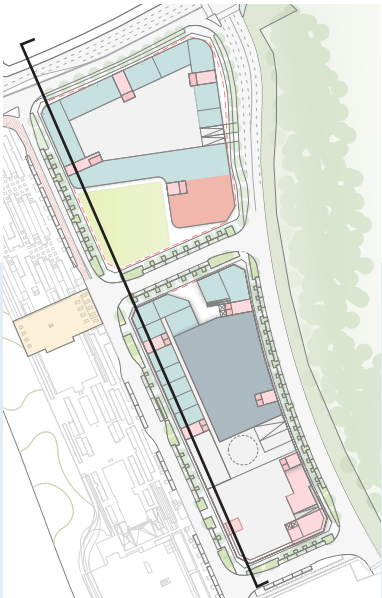
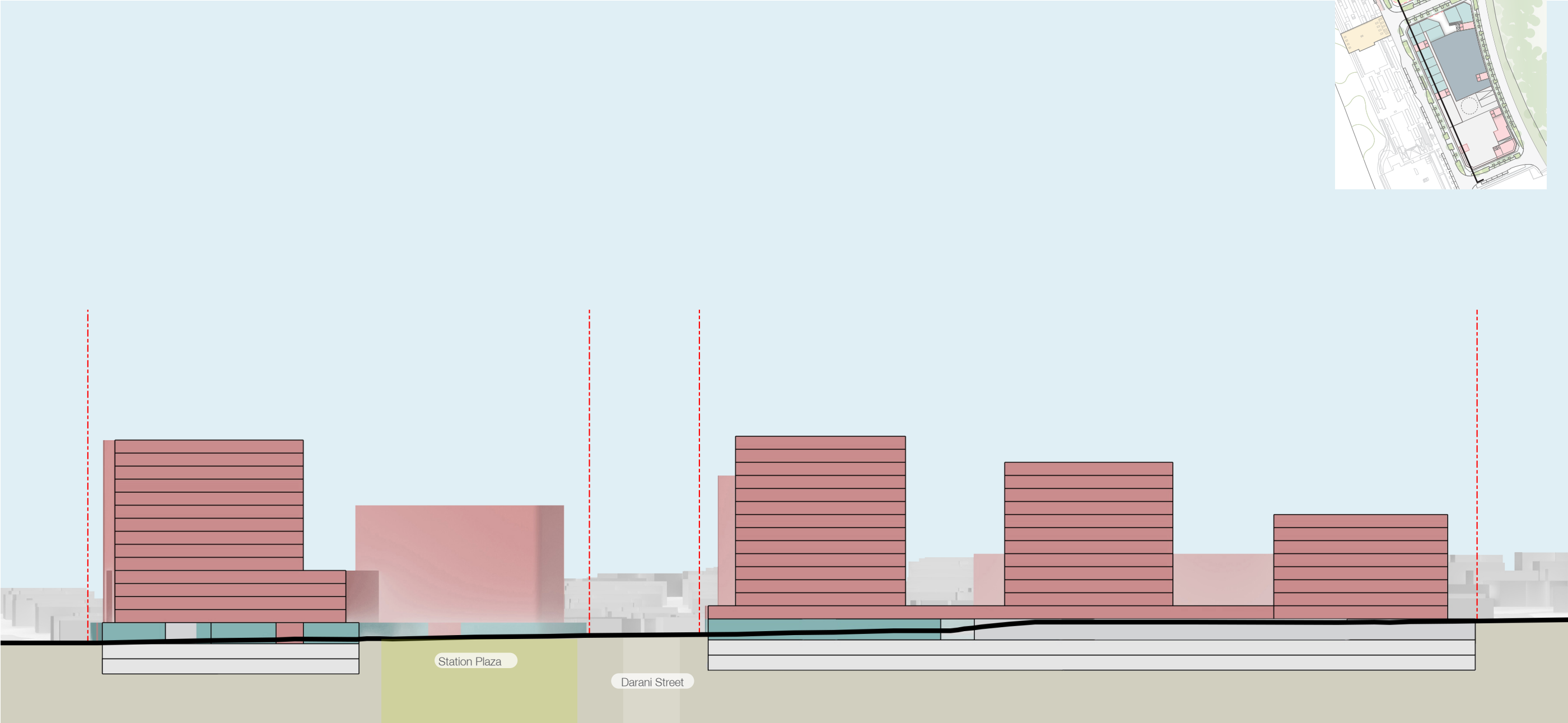


View down Decora Drive from Samantha Riley Drive



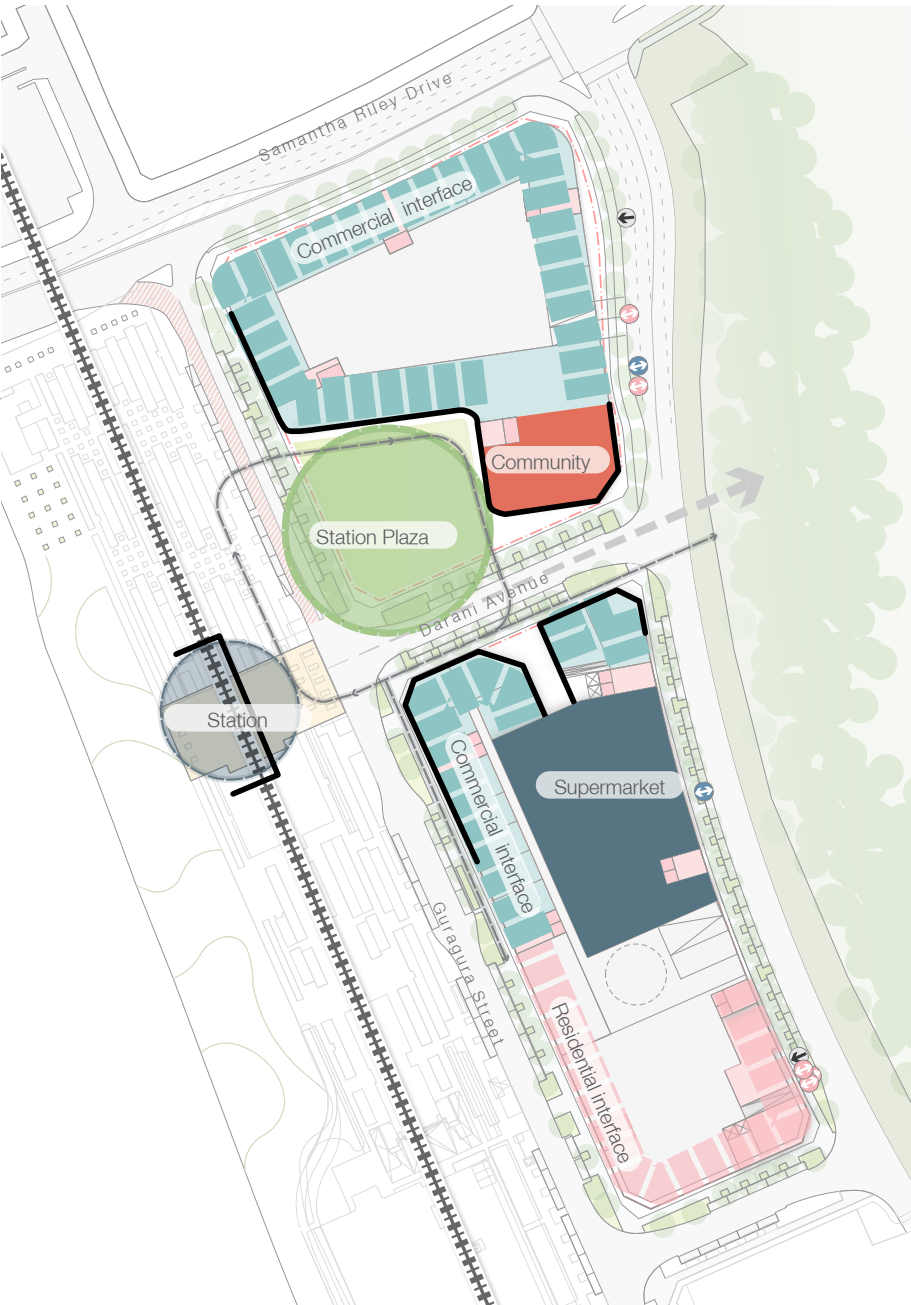
View of the Station Plaza from the Metro

Long Section



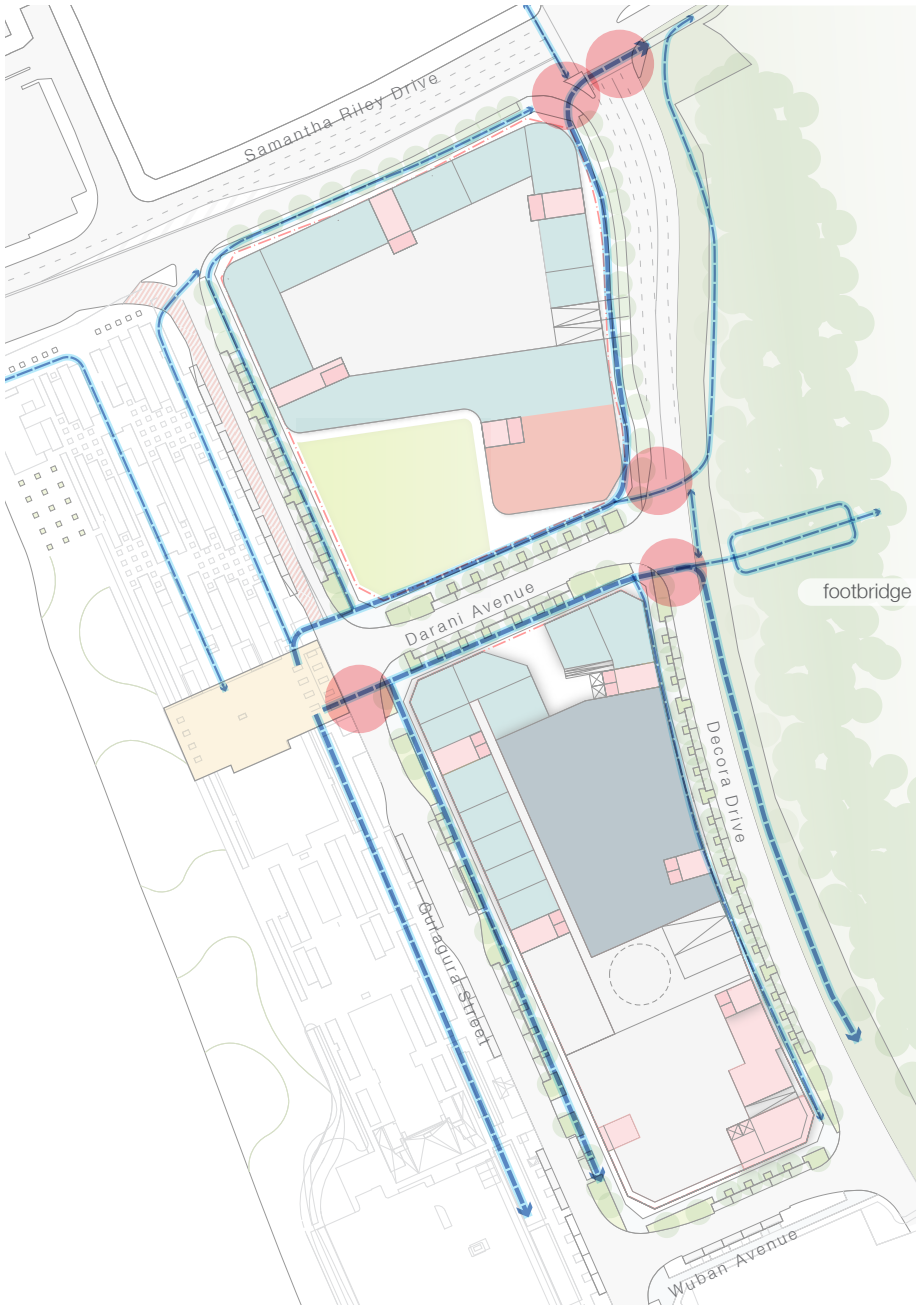
- Residential
- Supermarket
- Retail
- Basement / servicing

Precinct Structure and Movement



Conceptual diagram

- Residential interface
- Commercial interface
- Supermarket
- Open space
- Community facility



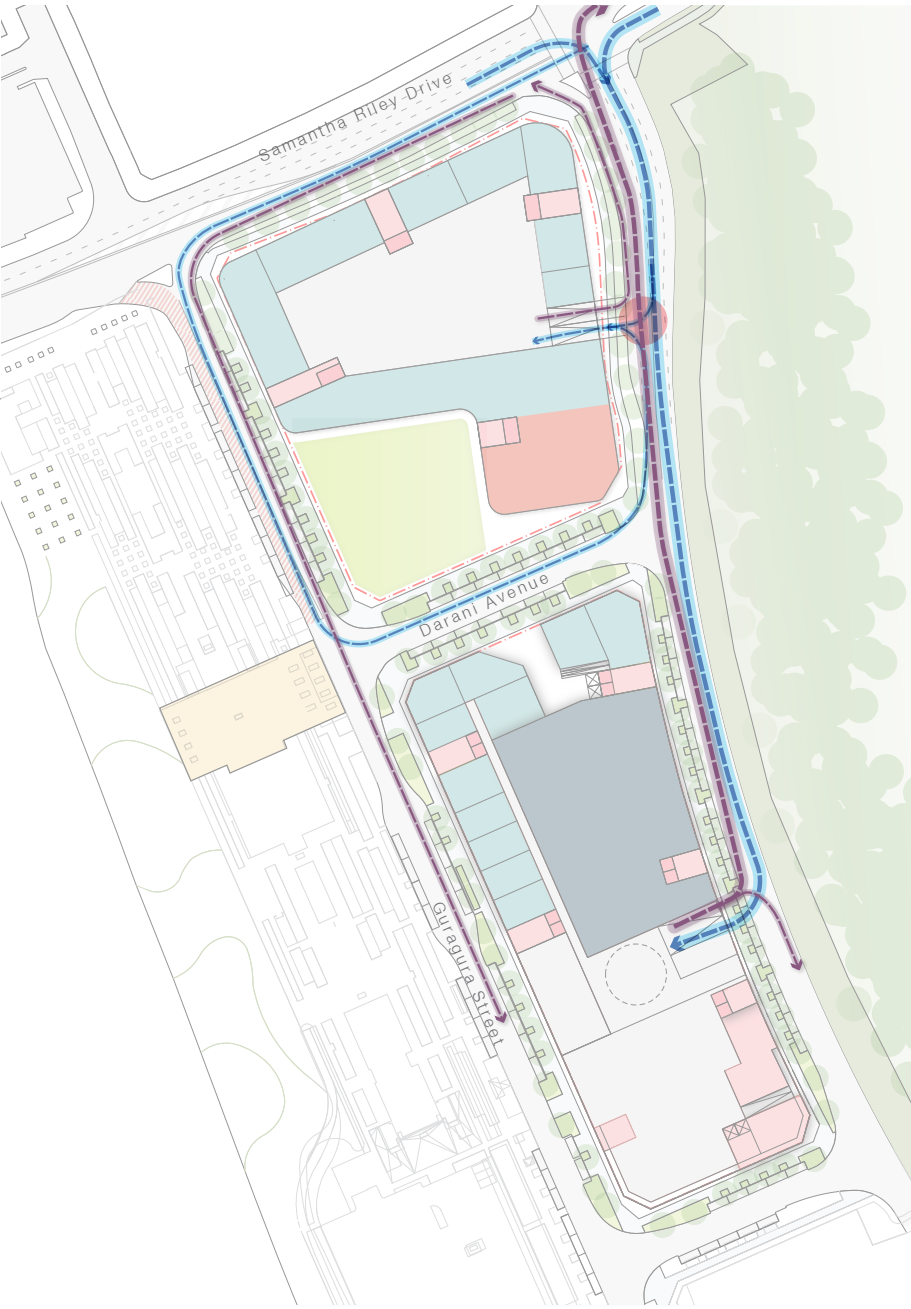
Pedestrian commuter movements

- Primary pedestrian flows
- Secondary pedestrian flows
- Potential points of conflict



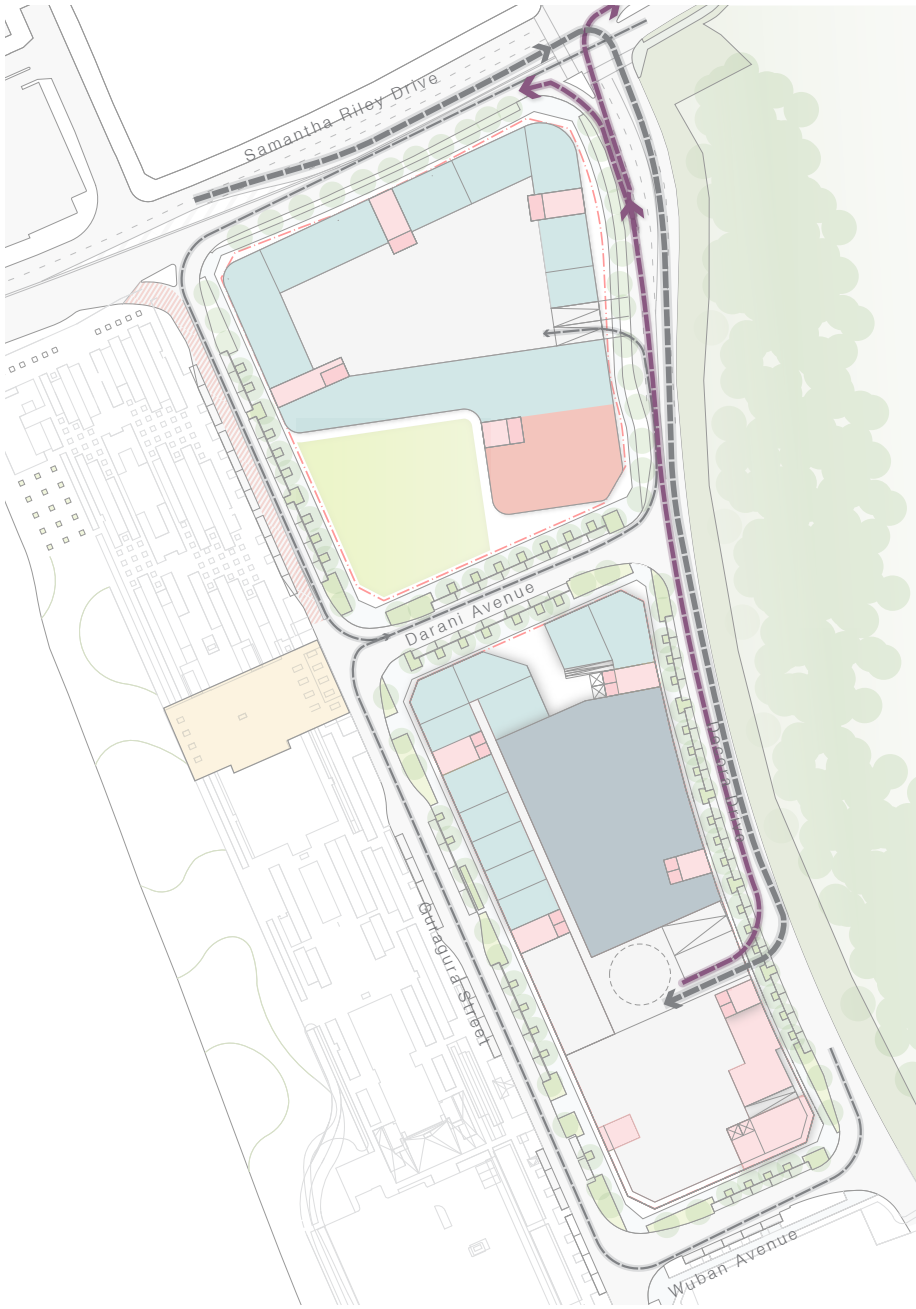
Pedestrian retail movements

- Primary pedestrian flows
- Secondary pedestrian flows
- Vertical connection to basement car parks



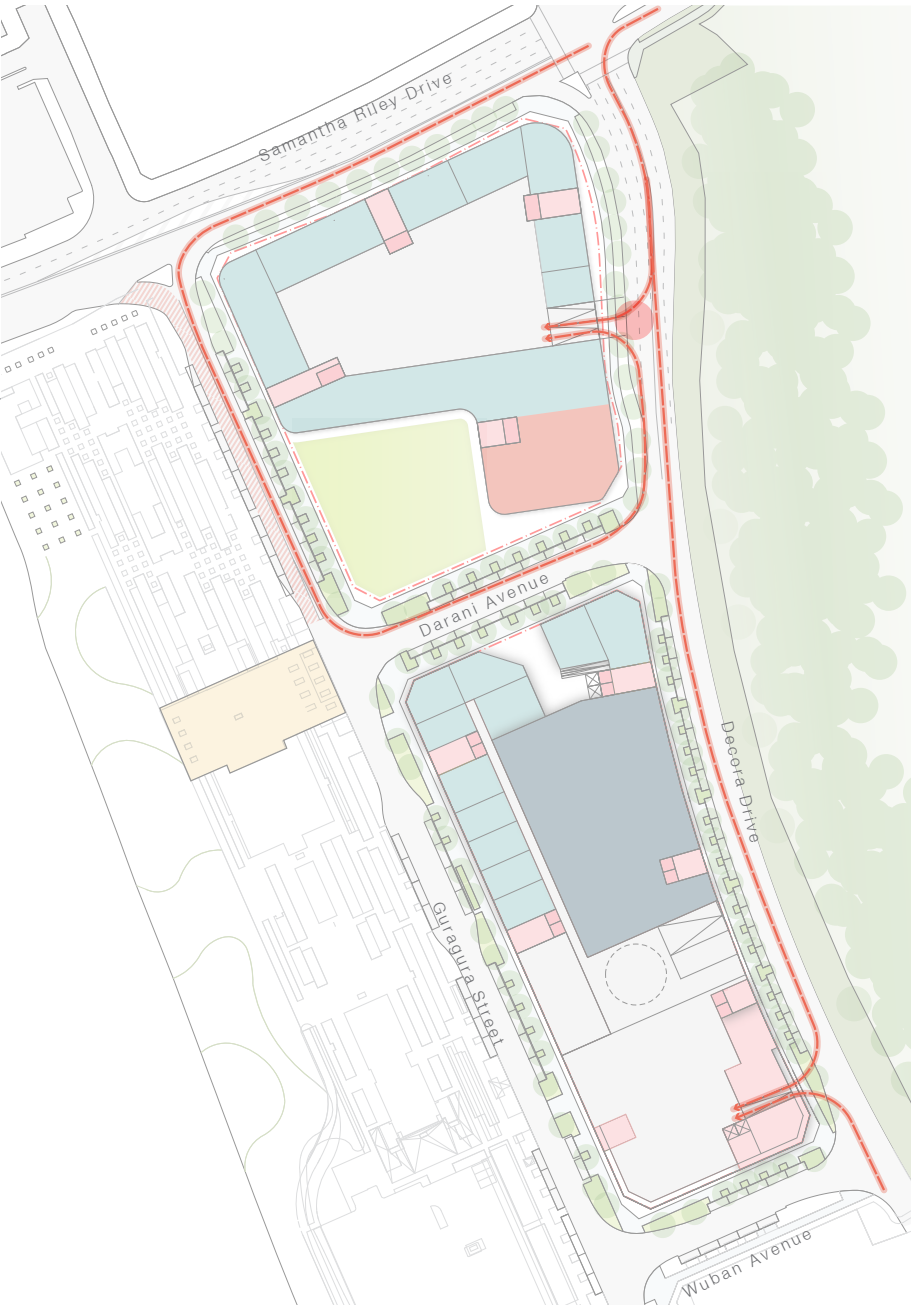
Retail related traffic movements

- Arriving traffic
- Departing traffic
- Potential points of conflict



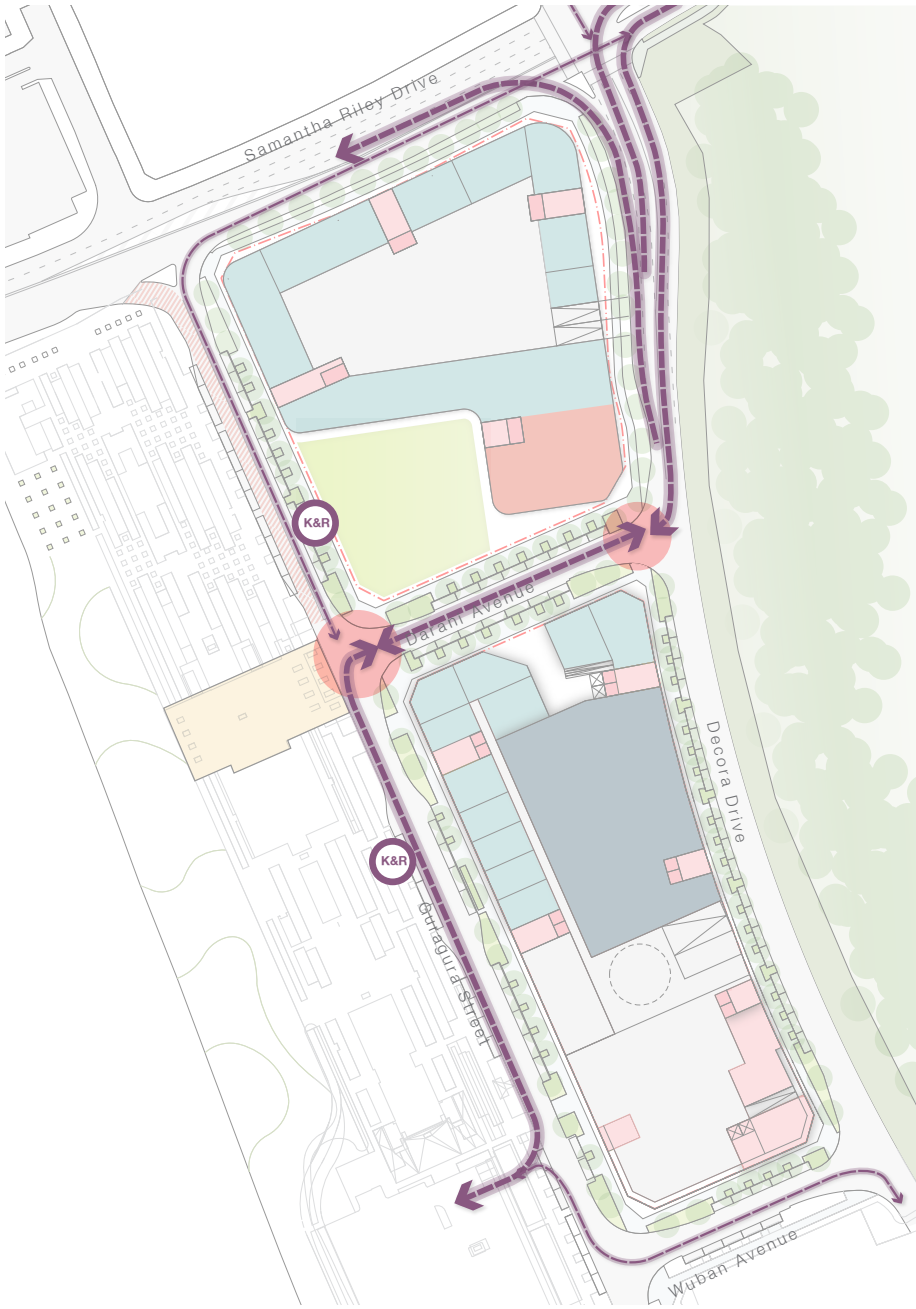
Servicing and deliveries

- Arriving service vehicles
- Departing service vehicles
- Potential points of conflict



Residential associated movements

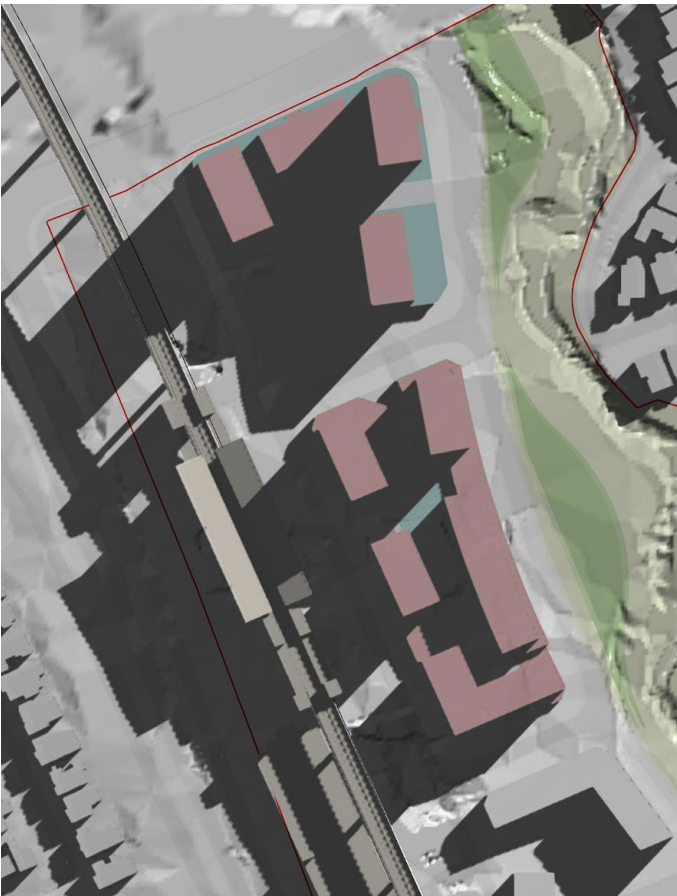
- ➡ Arriving vehicles
- Potential points of conflict



Commuter - movements

- ➡ Primary traffic flows
- ➡ Secondary traffic flows
- Ⓚ Kiss-and-ride opportunities

Shadow Analysis



Winter solstice 21st June 9am



11am

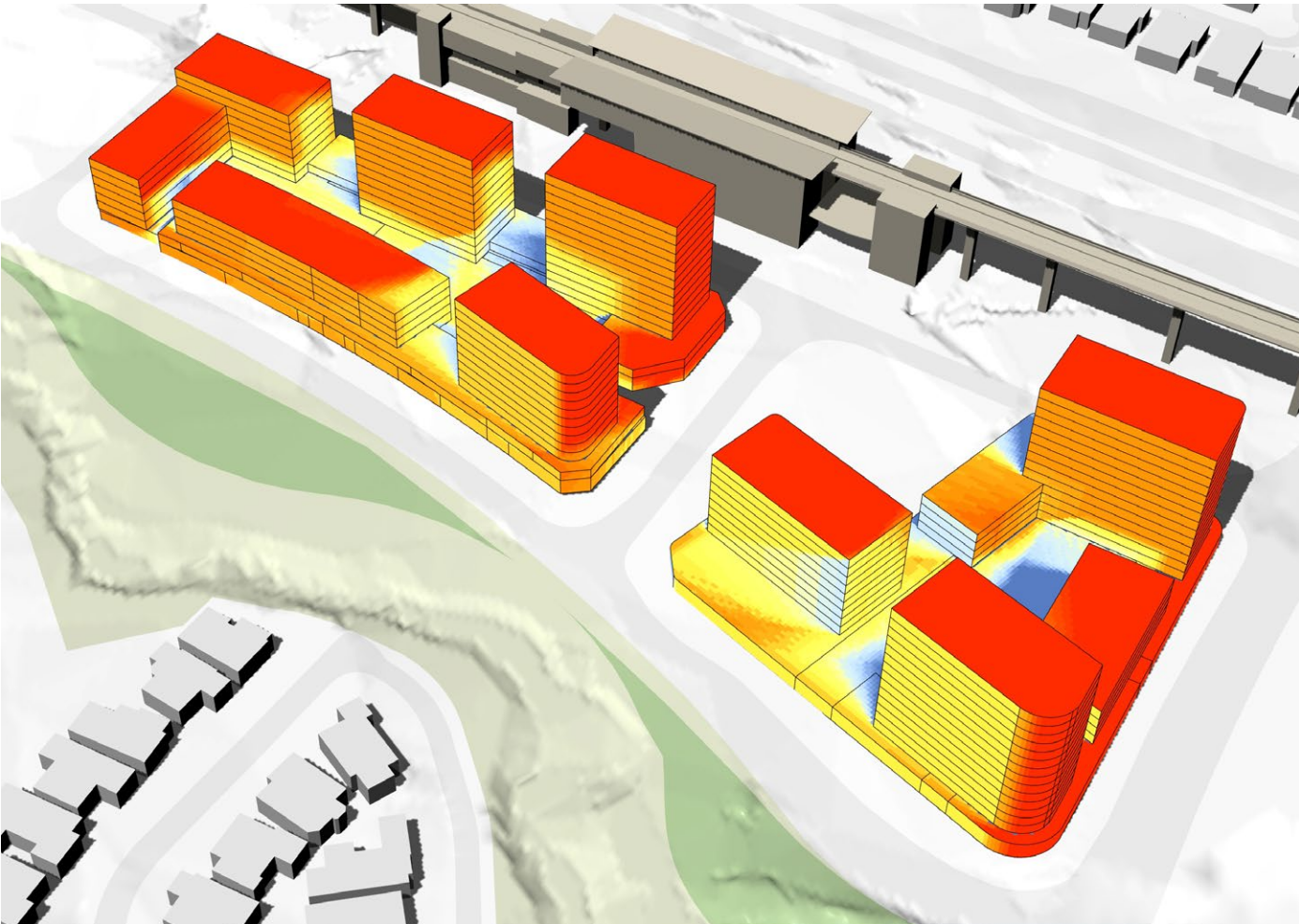


1pm

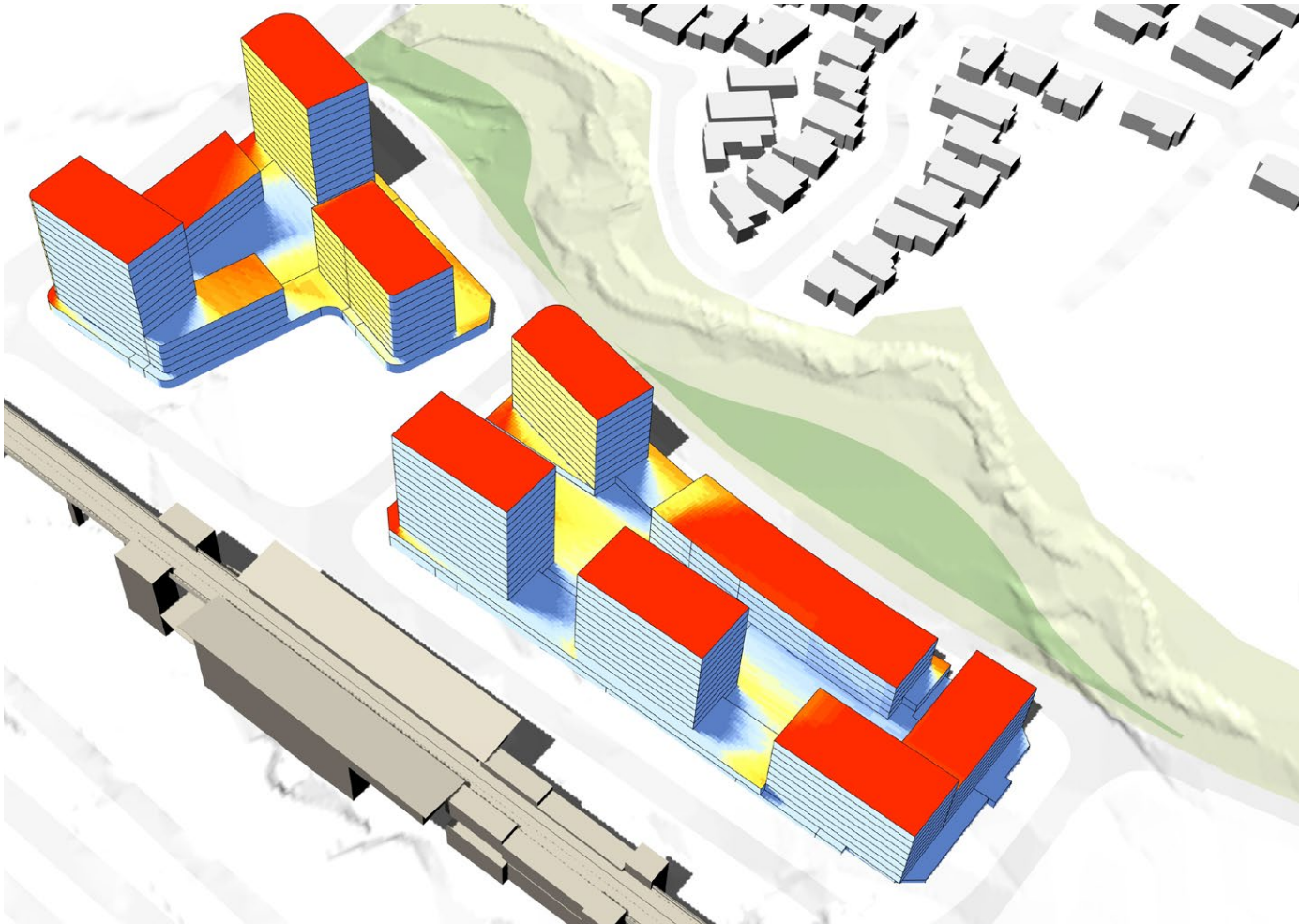


3pm

Solar Insolation

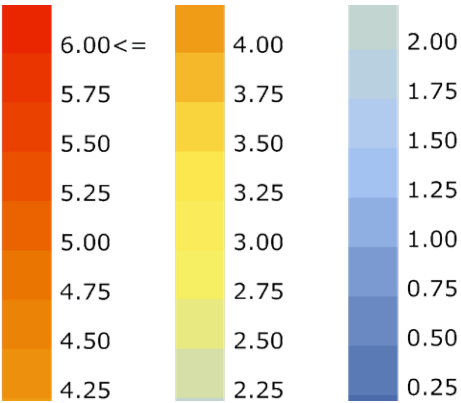


Hours of sunshine received during winter solstice 21st June



View from northeast

View from southwest



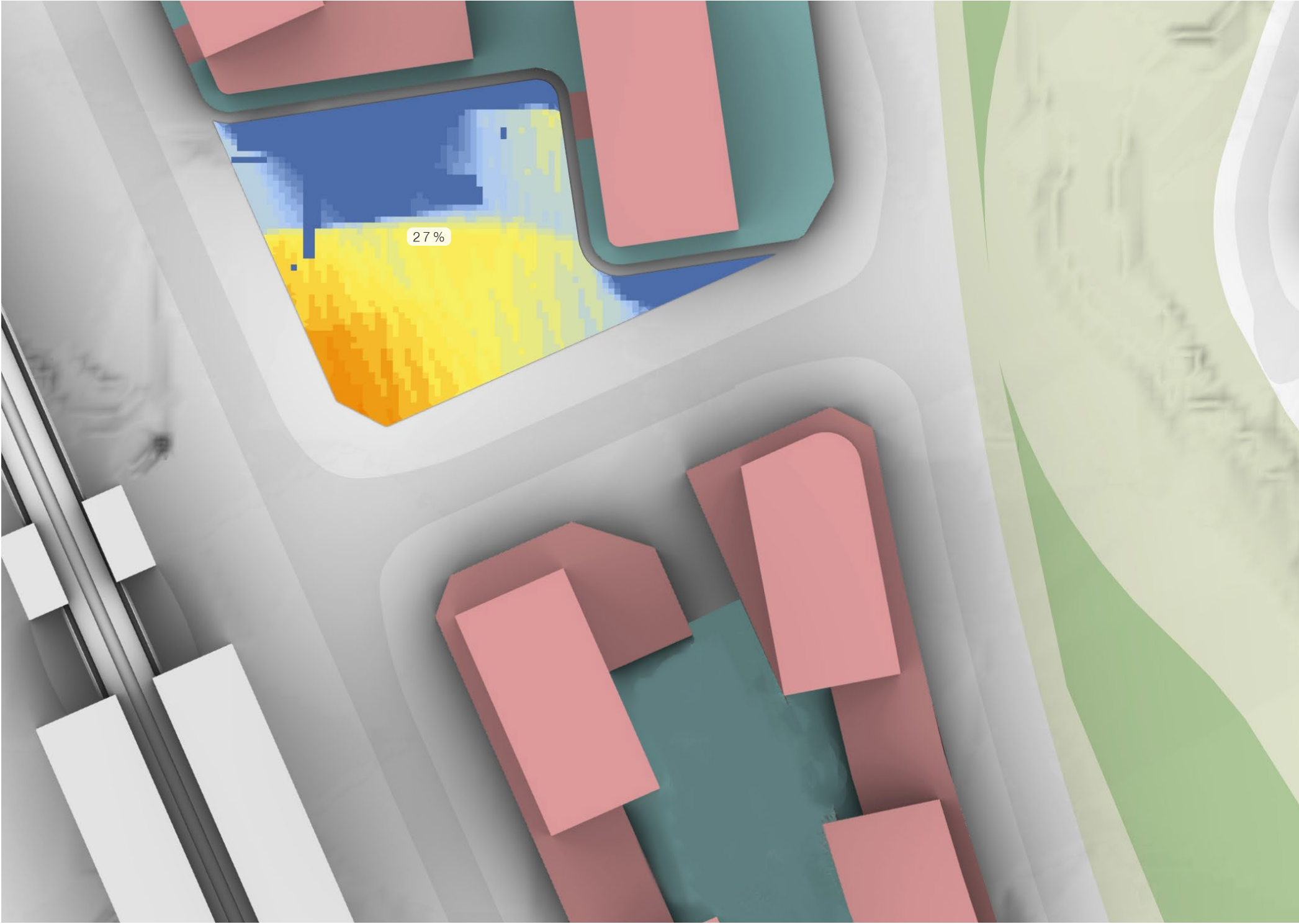
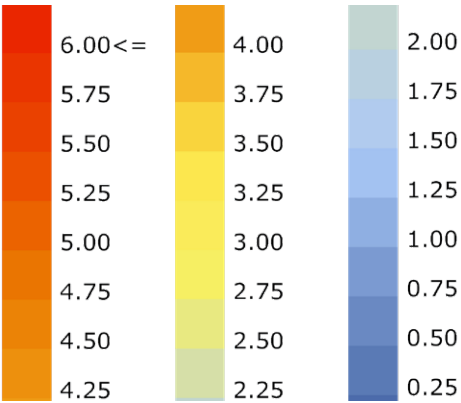
Solar Access in Public Spaces

The benchmark for solar access to public open spaces across Sydney varies considerably depending on the size of open space, the character of the open space and the times during which the open space is used.

A common benchmark is that 50% of the open space receives more than 3 hours of direct sunlight in the winter solstice. In the west of Sydney more shade might be desirable and plant species selection and landscape design would need to consider plants that require lower levels of sunlight exposure.

This drawing illustrates 27% of the major public open space receives more than 3 hours of sunshine at the winter solstice (21st June). Should the benchmark for solar access be reduced to 2 hours, then 53% of the open space would receive the required amount of sunlight hours.

Hours of sunshine received during winter solstice 21st June



Option Two Assessment

	Score	Comment
Size and functionality of the public open space	3	While the Station Plaza is of generous proportions, it is located on the southern side of Block A and will be overshadowed for large portions of the day. The public space, being separated from the main retail hub by Darani Street, will take on a more low key character and will be activated by the community centre and shop front retail. The southern edge of the square on Darani Street will be activated by retail / coffee shop destinations overlooking the square.
Solar access to the open space	3	Controlling building heights to the north of the open space will permit sun into the open space, but this is unlikely to be where people will be gathering (along the building façades). Retail units on the northern end of the retail centre will benefit from good solar access and activate the southern edge of the square.
Viability of retail offering (general)	3	The narrow width of Block B and requirement for both the supermarket and its service yard are located within the B2 zone results in most retail units being street front type retail. This does not take advantage of the anchor attraction of the supermarket. Smaller retail units that demand passing trade may struggle to be viable. Embedding the supermarket further in the site limits its exposure to passing traffic.
Viability of smaller retail units (foot traffic)	3	Generally the smaller retail units may struggle to be viable as they do not benefit from “draw” of the supermarket. The retail units on the northern side of the square may struggle to attract patronage without a strong anchor and the units on Samantha Riley and Guragura Street may struggle for pedestrian footfall. The units onto Samantha Riley Drive may be appropriate for show rooms that benefit from exposure / visibility and not footfall.
Inactive frontage of supermarket / serving areas screened	3	The narrow width of Block B and the desire to accommodate a 3,400 sqm supermarket will require a portion of the street frontage onto the riparian corridor to be shop-front for the supermarket. This is not likely to be activated. The servicing area is screen by virtue of level changes towards the rear of the site
Flexibility of the internal retail layout	2	The smaller podium on Block A together with the narrowness of Block B limits flexibility in the arrangement of retail units within the precinct. It is also challenging to accommodate clear volumes for the supermarket due to the requirement to incorporate cores for the residential units above.
Potential traffic impact (Samantha Riley / Decora Drive)	4	Locating the main retail destination away from Samantha Riley Drive reduces congestion at the northern end of Decora Drive, but parking access for the smaller retail units will suffer the same challenges as option 1, although less likely to create conflict due to the relatively low foot area.
Potential traffic impact (On the broader precinct)	3	The entrance to the car park further into the site brings traffic further into the site and along the riparian corridor. This swill increase conflict between pedestrian and retail related traffic at the Darani Street intersection with Decora Drive. It does however lessen conflict with commuter traffic.
Ease of access / clarity of movement for servicing vehicles	4	Servicing access to the main retail component of the scheme is simplified, although access to Block A is still challenging
Residential yield	4	All options achieve similar yields, although more units are delivered in Block B than on Block A as a result of a bigger development footprint on this site. Building heights have been moderated to ensure solar access to the Station Plaza and ensure that ADG requirements are met.
Number of basement levels	3	The requirement for basement car parking for the supermarket as well as for the residential development above on Block B necessitate 2.13 levels of basement parking on this block. An additional level of parking is at the southern end of the site and could serve the residential development with independent access.

Option Three

	Block A	Block B	Totals
Development lot area (sqm)	12,657	12,344	
Total GFA	39,986	48,647	88,632
Total FSR	3.2	3.9	
Residential GBA (sqm)	49,453	15,117	
GFA Residential (sqm)	37,090	45,117	82,207
Unit numbers	412	501	913
Residential Parking	515	520	
Retail Total GBA (sqm)	3,620	4,412	
Retail Total GFA (sqm)	2,896	3,530	6,426
Supermarket (sqm)		2,976	
Line shops (sqm)	2,396	554	
Servicing / back of House	200	1,884	
Community GFA (sqm)	500		
Retail Parking	48	110	
Total Parking (Provided)	563	630	
Total Parking (sqm)	19,702	22,060	
Number of basements	1.3	2.0	
Size of open space (sqm)		2,096	2,096

Key

Open space

Residential

Indicative core location

Community Centre

Retail

Supermarket box

BOH

Ground floor plan



Roof plan



Massing



Annex 1 - Studies

Option Assessment

	Score	Comment
Size and functionality of the public open space	3	The Station Plaza has been reduced in size to 2,000 sqm and is completely open to the riparian corridor to the east. The square would be activated by the supermarket - although it is anticipated that most shoppers would be car bound and are unlikely to exit the development. The narrowness of the park (20m) and the fact that it lacks enclosure may impact negatively on its functionality.
Solar access to the open space	5	By limiting building heights on Block A and having an open edge onto Elizabeth Macarthur Creek, solar access into the open space is very good. The openness of the space may result in exposure to wind.
Viability of retail offering (general)	2	In order to accommodate the open space as well as the supermarket and its service yard are located within the B2 zoned land means that the supermarket is under 3,000 sqm. This is well below the size that would be attractive to a large format supermarket and the location of cores that serve the residential development above limits flexibility. The compact nature of the development also means that vertical circulation into the basement for shoppers is interrelated into the supermarket minimising passing foot traffic past line shops.
Viability of smaller retail units (foot traffic)	3	Generally, the smaller retail units may struggle to be viable as they do not benefit from “draw” of the supermarket. The retail units on the northern side of the square may struggle to attract patronage without a strong anchor and the units on Samantha Riley and Guragura Street may struggle for pedestrian footfall. The units onto Samantha Riley Drive may be appropriate for show rooms that benefit from exposure / visibility and not footfall.
Inactive frontage of supermarket / serving areas screened	3	The narrow width of Block B and the desire to accommodate the supermarket on this portion of the site will require a portion of the street frontage onto the riparian corridor to be shop-front for the supermarket. This is not likely to be activated. The servicing area is screen by virtue of level changes towards the rear of the site
Flexibility of the internal retail layout	3	The larger podium on Block A allows greater flexibility in the arrangement of retail on this block and the accommodation of other mini-anchors may be possible. The narrow dimensions of Block B and the open space on this portion of the site limits flexibility in the arrangement of retail units within this block. It is also challenging to accommodate clear volumes for the supermarket due to the requirement for cores for the residential units above.
Potential traffic impact (Samantha Riley / Decora Drive)	4	Locating the main retail destination away from Samantha Riley Drive reduces congestion at the northern end of Decora Drive, but parking access for the smaller retail units will suffer the same challenges as option 1, although less likely to create conflict due to the relatively low foot area.
Potential traffic impact (On the broader precinct)	3	The entrance to the car park further into the site brings traffic further into the site and along the riparian corridor. This swill increase conflict between pedestrian and retail related traffic at the Darani Street intersection with Decora Drive. It does however lessen conflict with commuter traffic.
Ease of access / clarity of movement for servicing vehicles	4	Servicing access to the main retail component of the scheme is simplified, although access to Block A is still challenging
Residential yield	4.5	All options achieve similar yields, although more units in delivered in this option as a result of the reduction is size of the Station Plaza.
Number of basement levels	3	The requirement for basement car parking for the supermarket as well as for the residential development above on Block B necessitate 2 levels of basement parking on this block (note no basement parking has been provided under the square. An additional level of parking is at the southern end of the site and could serve the residential development with independent access.

Multi Criteria Analysis

The adjacent assessment table allows for the comparison of the three options based on a weighting provided by the Landcom team. It is clear that both Options 1 and 3 score well and are comparable when considering all factors and the weighted scoring. Input from a transport perspective is required to determine whether the access constraints for Option 1 rule it out completely as an option for consideration.

It is worth noting that the previous option three that located the supermarket further south scored significantly better than any of these two options on account of its attractiveness from a retail perspective and should be kept in mind when divesting or developing this site. A planning proposal to amend the LEP zoning boundary may be required and this could be done by a developer at a later stage.

	Scoring			Weighting	Weighted score		
	Option 1	Option 2	Option 3		Option 1	Option 2	Option 3
Size and functionality of the public open space	4	3	3	3	8	6	6
Solar access to the open space	5	3	5	3	20	12	20
Viability of retail offering (general)	3	3	2	3	15	15	10
Viability of smaller retail units (foot traffic)	3	3	3	3	12	12	12
Inactive frontage of supermarket / serving areas screened	5	3	3	2	10	6	6
Flexibility of internal retail layout	4	2	3	2	12	6	9
Potential traffic impact (Samantha Riley / Decora Drive)	1	4	4	4	3	12	12
Potential traffic impact (On the broader precinct)	5	3	3	3	10	6	6
Ease of access / clarity of movement for servicing vehicles	2	4	4	4	8	16	16
Residential yield	4	4	4.5	4	20	20	22.5
Number of basement levels	3	3	3	3	12	12	12
Total					130	123	131.5

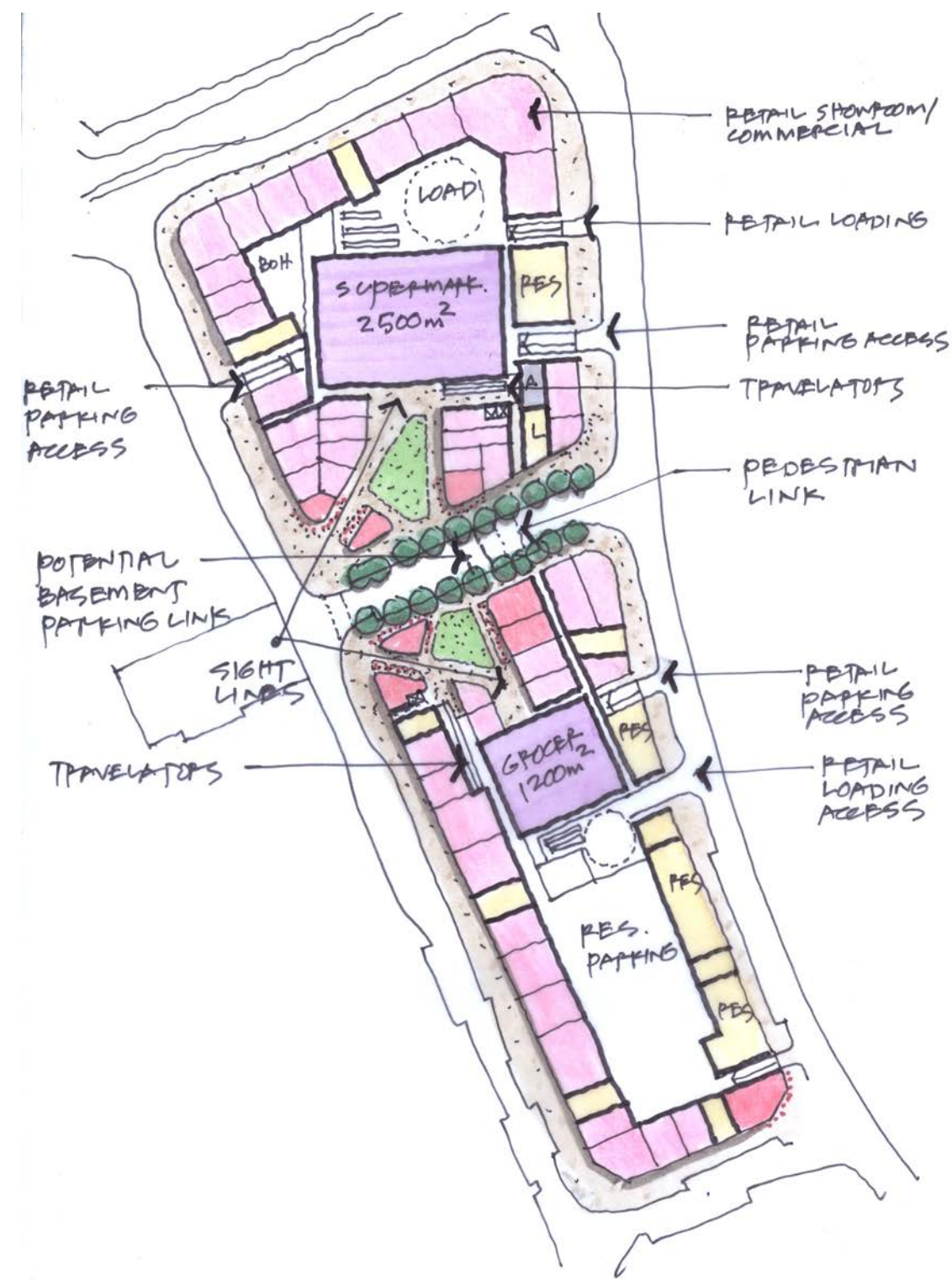
Annex 1 - Studies

External Expert Advice - Esquisse

Following the completion of the above options study, expert retail advice from Esquisse was obtained. The key directions from this advice was:

- To reduce the size of the supermarket to 2,400 sqm and locate this together with its parking in Lot A where it has high levels of exposure and where the block dimensions offer the greatest level of flexibility
- To introduce a grocer on Lot B of approximately 1,200 sqm
- To reduce the size of the Station Plaza and split this across the two northern most lots
- To ensure clear line of sight between the station entrance and the entrances to the major and mini anchors
- Look at means to overcome the severance created by Darani Avenue through landscape improvements
- Investigate a subterranean link between the parking basements of Lot A and Lot B

This concept was then developed and tested in the option presented below and formed part of the reference scheme.



Proposal submitted for SSDA Approval

	Block A	Block B	Totals
Development lot area (sqm)	12,657	12,344	
Total GFA	39,818	43,668	83,486
Total FSR	3.15	3.54	
Residential GBA (sqm)	43,921	54,115	
GFA Residential (sqm)	33,023	40,688	73,711
Unit numbers	389	479	867
Residential Parking	486	598	
Retail Total GBA (sqm)	3,620	4,412	
Retail Total GFA (sqm)	6,795	2,980	9,775
Supermarket (sqm)	2,400	1,200	
Line shops (sqm)	4,395	1,780	
Servcing / back of House	18,750	645	
Retail Parking	168	76	
Total Parking (Provided)	654	674	
Total Parking (sqm)	22,887	23,576	
Number of basements	2.0	2.1	
Open space (sqm) (PRIVATE)	825	660	1,485

Key

Open space

Residential

Indicative core location

Community Centre

Retail

Supermarket box

BOH

Ground floor plan



Roof plan



Amended Proposal following exhibition

Following the exhibition of the SSDA the following option was developed in detail and now forms the basis for the Station Precinct Design and Reference Scheme. It seeks to:

- Ensure retail frontage along primary pedestrian movement routes
- Overcome the severance of Darani Avenue and draw people across both sides of the town centre
- Ensure a generous and vibrant Station Plaza that accommodates a range of activities
- Work creatively with level changes across the site
- Resolve access and servicing efficiently and create a safe pedestrian environment

The proposal includes:

- A more generous setback from Samantha Riley Drive to accommodate future road widening
- A Station Plaza of 1,600m² on Lot B with a through-site link between the Station Plaza and Decora Drive
- Potential for an anchor supermarket of approximately 2,400m² within Lot A
- Potential for a mini anchor / grocer of approximately 1,200m² within Lot B
- Primary vehicular access to the retail centre from Decora Drive. This will require the widening of the existing carriageway to allow for turning movement into the development
- Left-in-left-out access to Lot A from / to Guragura Street
- High density shop-top housing above the ground floor retail levels and on Decora Drive taking advantage of views over the riparian corridor











- | | |
|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
|  Residential |  Soft landscape |
|  Indicative core location |  Hard landscape |
|  Retail |  Bus only north bound lane |
|  Retail anchor |  Allowance for future road widening |
|  Servicing/toilets/amenities | |
|  Back-of-house (BOH) | |



Figure 85: Conceptual Station precinct ground floor reference scheme proposal

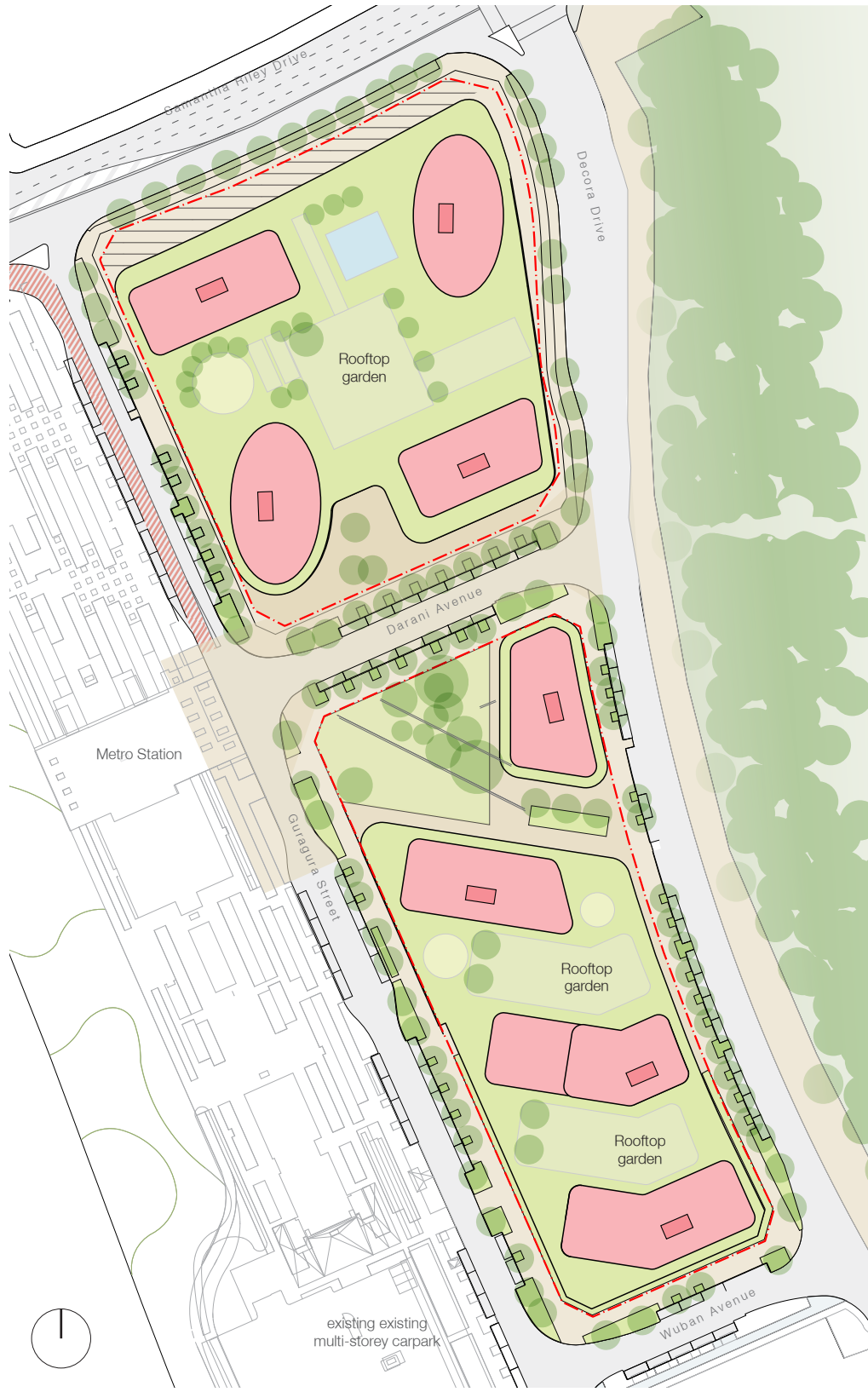


Figure 86: Conceptual Station Precinct reference scheme site plan

8.2 LEP Overlays of the Reference Scheme



Figure 87: LEP Zoning Plan with reference scheme underlay

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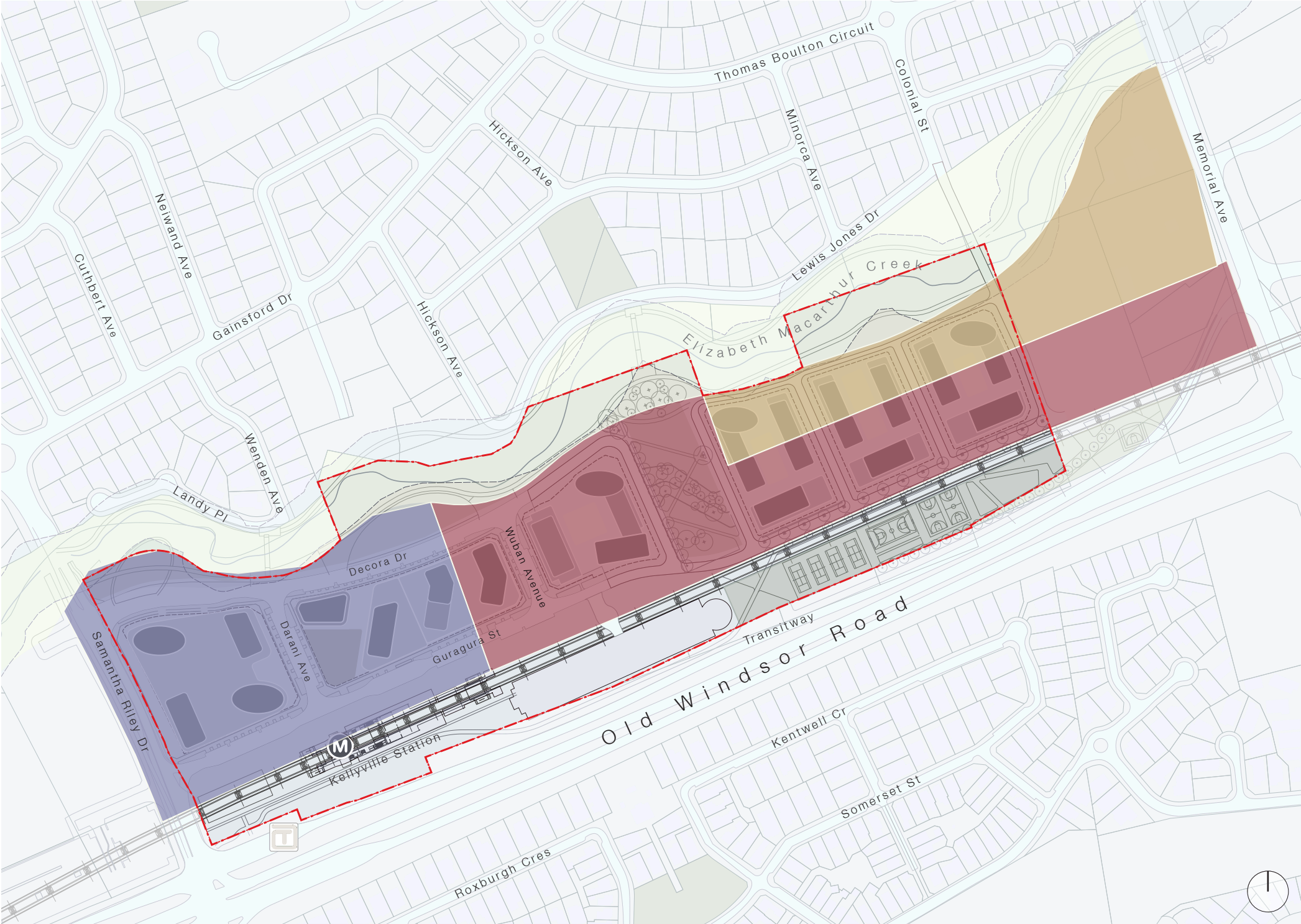
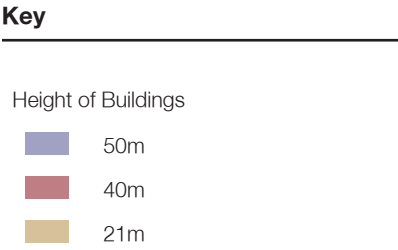


Figure 88: LEP Height of Building Plan with reference scheme underlay

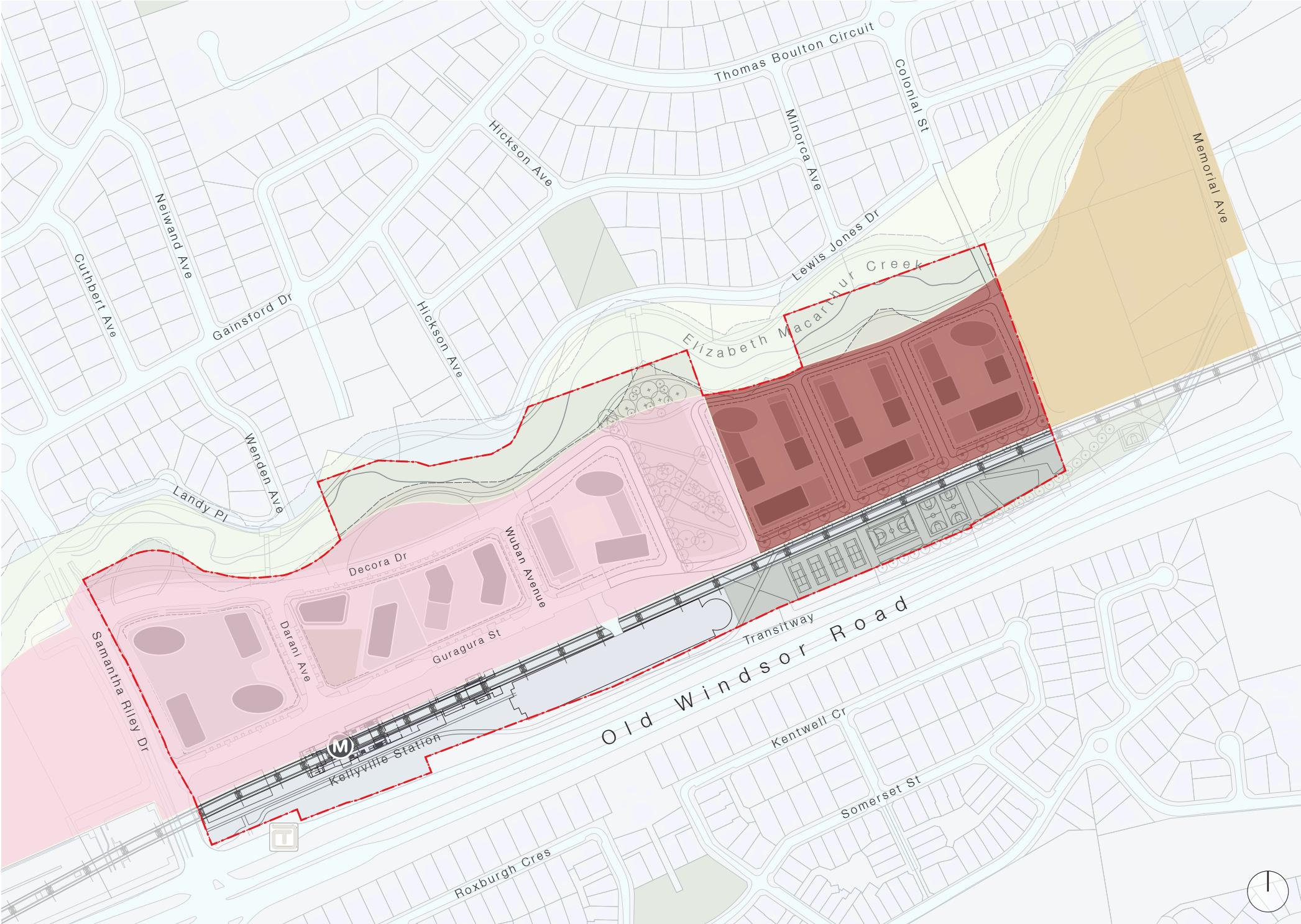
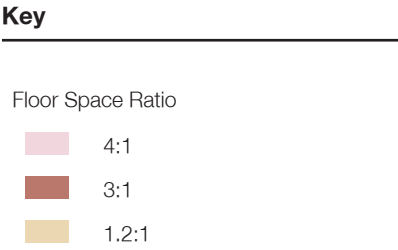


Figure 89: LEP Floor Space Ratio plan with reference scheme underlay

Annex 2 - Plans for Approval

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Kellyville open space framework plan

Scale
1:3000@A3



Drawing number
5947/01
Revision number
10

Project number
5947
Project name
Kellyville Station Precinct

Project address
Kellyville
Client
Landcom

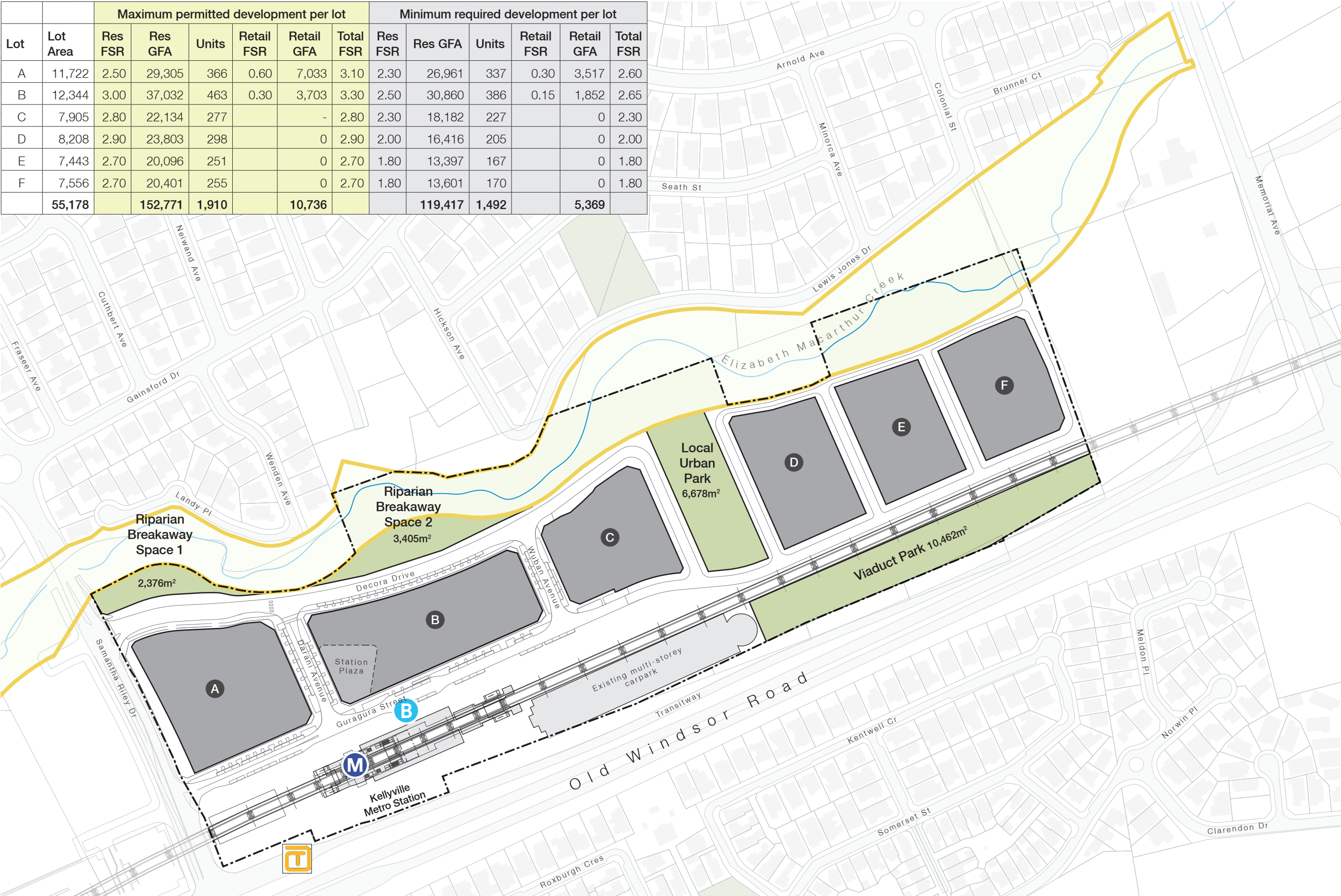
Key

- riparian corridor - SP2 zoned land
- open space
- publicly accessible private open space
- distance from open space
- required through-site link

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Lot	Lot Area	Maximum permitted development per lot						Minimum required development per lot					
		Res FSR	Res GFA	Units	Retail FSR	Retail GFA	Total FSR	Res FSR	Res GFA	Units	Retail FSR	Retail GFA	Total FSR
A	11,722	2.50	29,305	366	0.60	7,033	3.10	2.30	26,961	337	0.30	3,517	2.60
B	12,344	3.00	37,032	463	0.30	3,703	3.30	2.50	30,860	386	0.15	1,852	2.65
C	7,905	2.80	22,134	277		-	2.80	2.30	18,182	227		0	2.30
D	8,208	2.90	23,803	298		0	2.90	2.00	16,416	205		0	2.00
E	7,443	2.70	20,096	251		0	2.70	1.80	13,397	167		0	1.80
F	7,556	2.70	20,401	255		0	2.70	1.80	13,601	170		0	1.80
	55,178		152,771	1,910		10,736			119,417	1,492		5,369	



Kellyville subdivision and yield framework plan

Scale
1:3000@A3



Drawing number
5947/02
Revision number
10

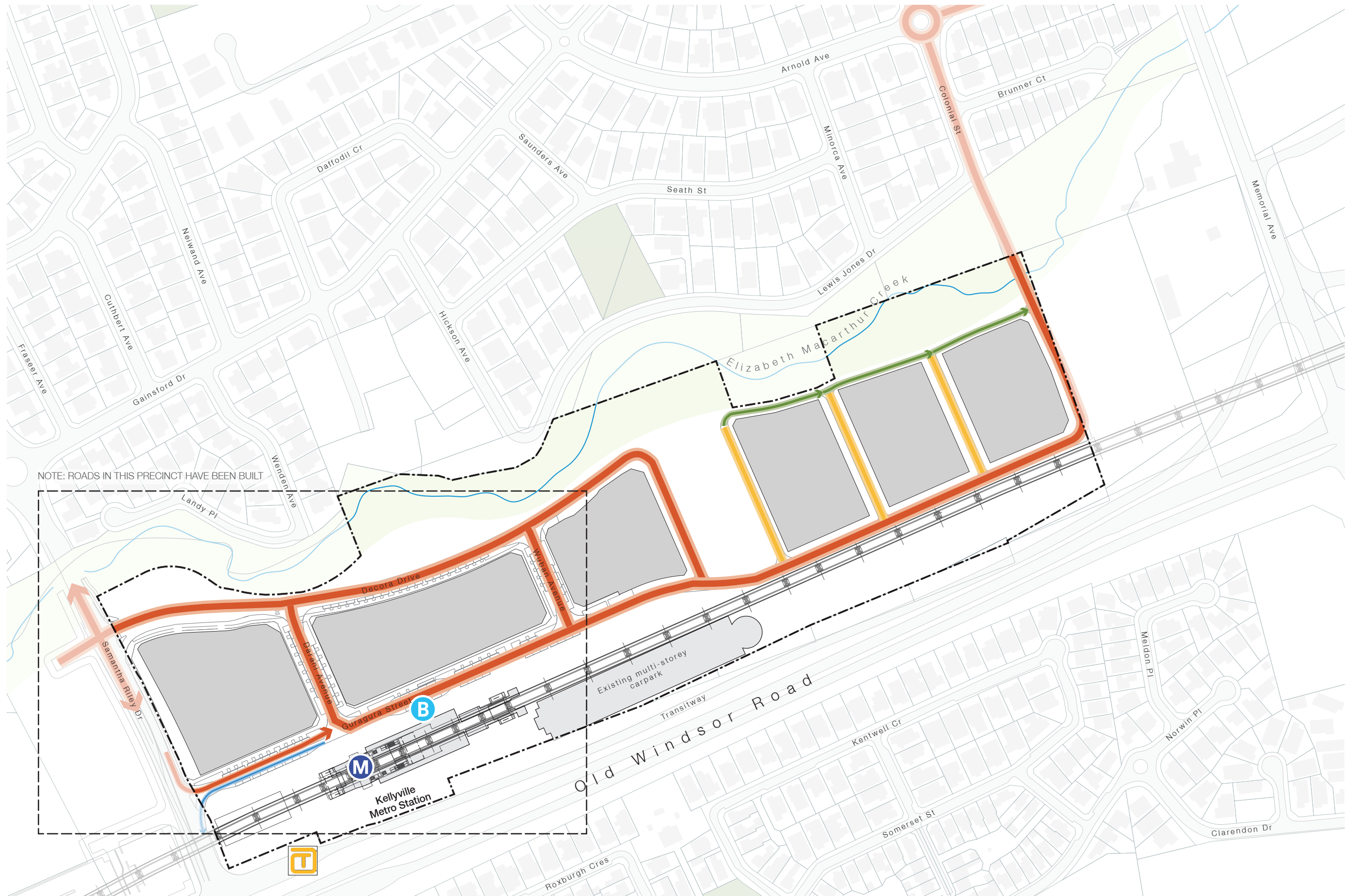
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Project name
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Key
development lots
open space
riparian corridor (SP2)

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Kellyville movement & street hierarchy framework plan

Scale
1:3000@A3



Drawing number
5947/03
Revision number
10

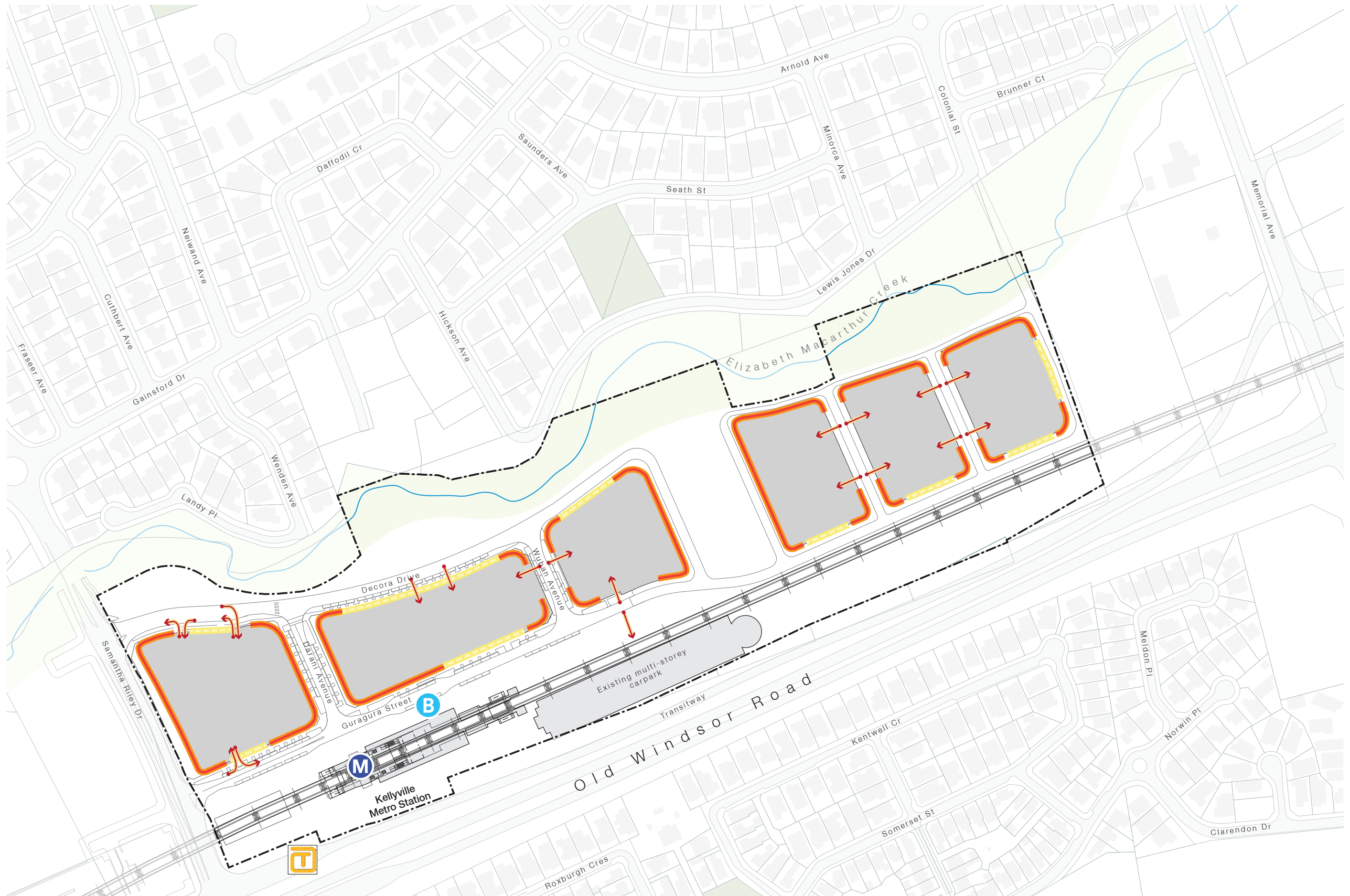
Project number
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Project name
Kellyville Station Precinct

Project address
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Client
Landcom

Key
main street
local street
bus only lane
Perimeter Road along Riparian Corridor (10m)

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Kellyville vehicular access framework plan

Scale
1:3000@A3



Drawing number
5947/04
Revision number
10

Project number
5947
Project name
Kellyville Station Precinct

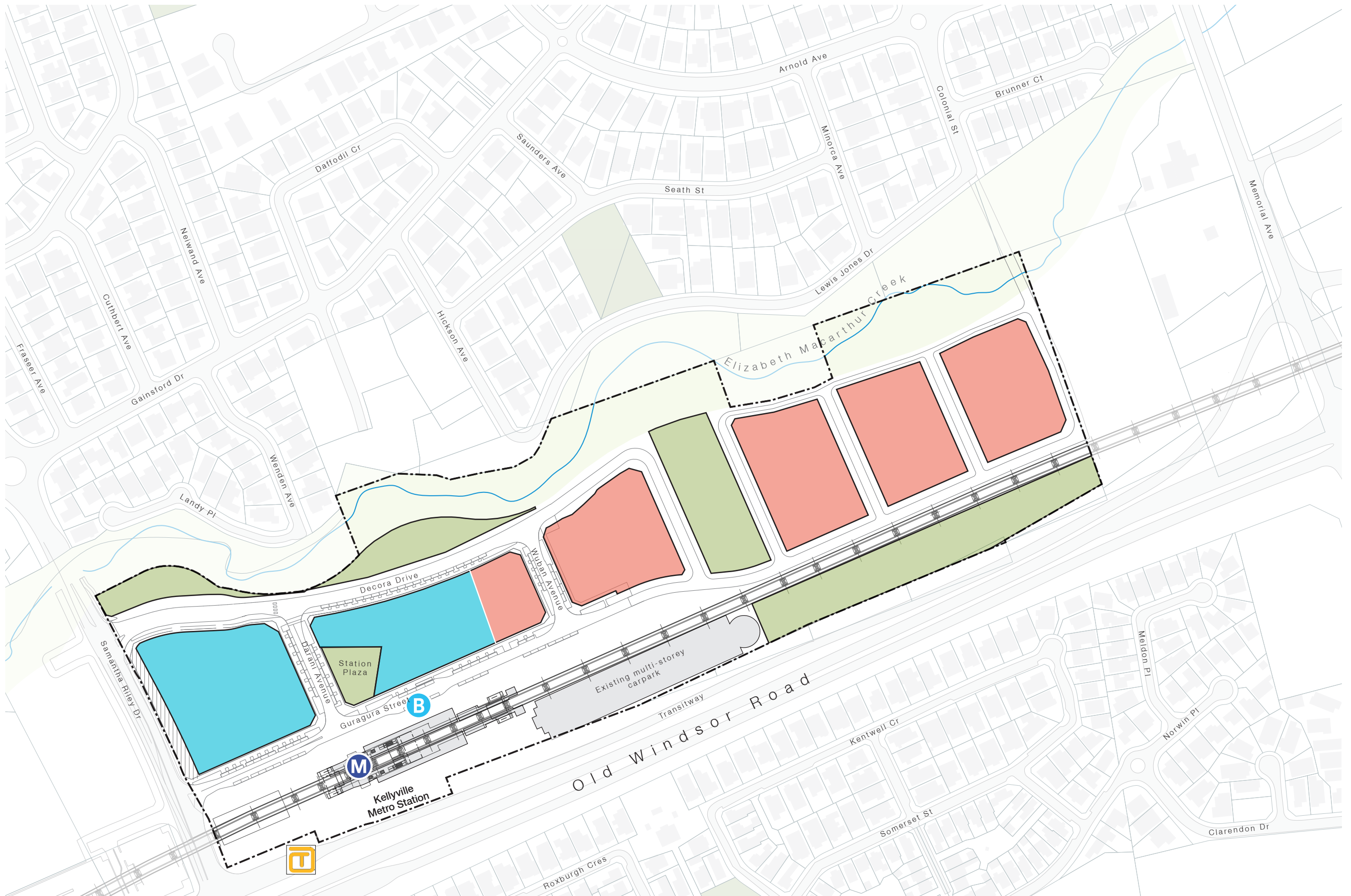
Project address
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Key

- vehicular access prohibited
- vehicular connection discouraged
- recommended vehicular access points

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Kellyville land use framework plan

Scale
1:3000@A3



Drawing number
5947/05
Revision number
10

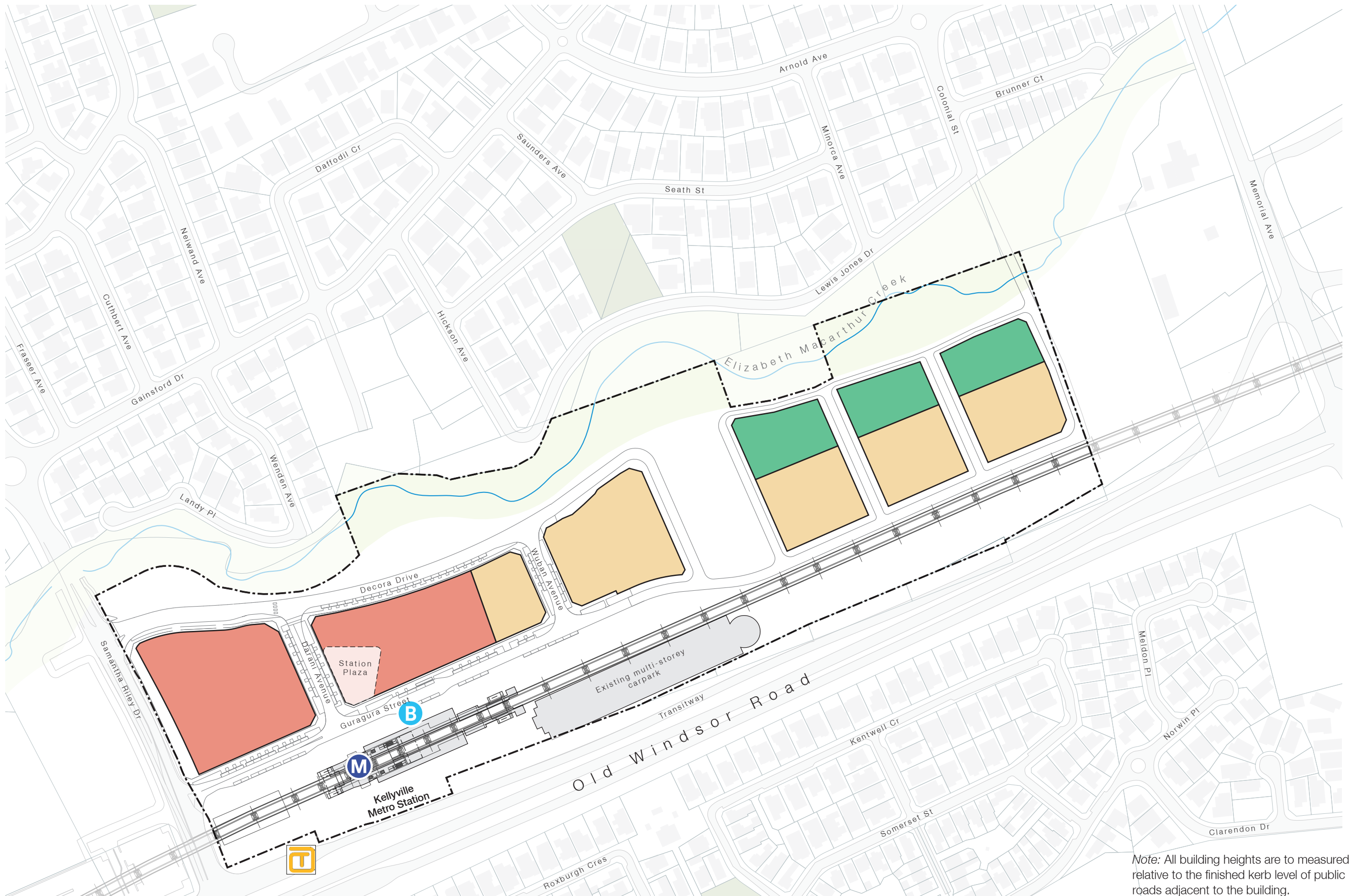
Project number
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Project name
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Project address
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Key
■ mixed use
■ residential
■ open space
 reserved for future road widening

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Note: All building heights are to measured relative to the finished kerb level of public roads adjacent to the building.

Kellyville building heights framework plan

Scale
1:3000@A3



Drawing number
5947/06
Revision number
10

Project number
5947
Project name
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Project address
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Key
■ 50m height limit
■ 40m height limit
■ 21m height limit

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Annex 3 - Kellyville Station Precinct Design Guidelines

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