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STRATHFIELD TRIANGLE PLANNING & URBAN DESIGN REVIEW

City of Canada Bay Council

15 April 2020

Strathfield Triangle Planning & Urban Design Review

City of Canada Bay Council

April 2020

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3	Final (Variation Update)	20.03.20	SL	JK
4	Final (Lot Boundary Update)	15.04.20	SL	JK

CONTENTS

EXECUTIVE SUMMARY

Overview

This Planning and Urban Design review relates to a precinct known as the “Strathfield Triangle,” located within the City of Canada Bay Local Government Area (LGA). At its nearest point, the triangular Study Area is located approximately 300m northwest of Strathfield train station. Its extents are defined by Parramatta Road to the north, Leicester Avenue to the east and the T1 North Shore, Northern & Western Line rail corridor to the west.

The current planning framework for the Study Area was developed following a review in 2012. Re-development of the precinct since that time has been limited, hampering Council’s ability to deliver public domain improvements, including a new public park, that are critical to provide amenity for the existing and future residents of a high density residential precinct.

Since the adoption of the current planning framework, land valuations have increased, as have the cost estimates for public domain upgrades. As a result, regeneration of the precinct is considered not feasible under the current framework.

GroupGSA, in conjunction with the economic feasibility expertise of AEC Group, have been engaged by City of Canada Bay Council to review the current planning framework and examine alternative development scenarios that can incentivise re-development of the Study Area and deliver the required public domain infrastructure.

The report recommends amendments that will support the regeneration of the Study Area and delivery of the required public domain infrastructure. The recommendations are based on a considered understanding of existing conditions, sound urban design principles, and feasibility testing of a range of development scenarios by AEC.

The Study Area

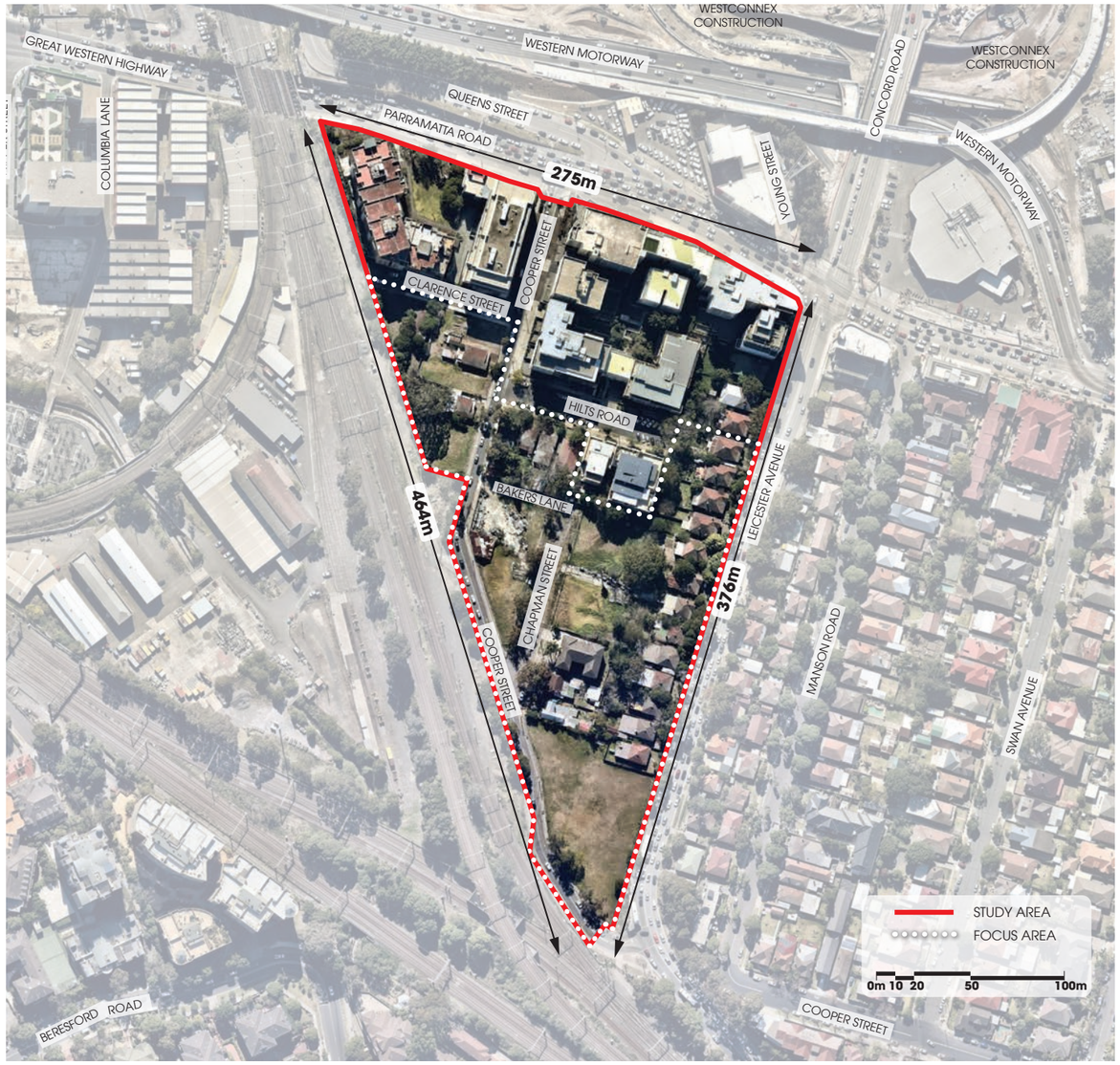
The Strathfield Triangle is an ‘island’ bounded by major roads on two sides and a railway line on the third. The northern areas feature high density residential that have been re-developed relatively recently. The remaining lands consist of low density dwellings and vacant land. This study focuses on these yet to be re-developed lands (amounting to about 29,398 sqm of land area).

The Study Area lacks public open space. Topography slopes down from RL22m (approx) at the Parramatta Road / Leicester Avenue intersection to the south and to the west, flattening at the southern end towards Cooper Street. The lowest point, at RL11m (approx) is along the railway line.

54,652
sqm
STUDY AREA

R4
LAND ZONING (LEP)
HIGH DENSITY RESIDENTIAL

17-59m
PERMITTED HEIGHTS (LEP)



Bakehouse Quarter
in walking distance
7 Mins
5 Mins
Strathfield Train Station
in walking distance

Strathfield Triangle

Methodology

An iterative and collaborative Study Methodology involving Council staff, AEC Group and GroupGSA was implemented. The key steps are summarised below:

1. Analysis of the existing urban condition of the Study Area and its context.
2. Review of the strategic and local planning framework, including the precinct-specific Strathfield Triangle Development Control Plan (DCP).
3. Estimate of the development potential under the current planning controls. No FSR controls are currently applicable, so the potential yield was derived from the Strathfield Triangle DCP. This process indicated that the building envelopes depicted in the DCP will likely overstate the development potential of the Study Area.
   Adjustments were made to the building envelopes to address these factors while minimising any deviation from the DCP controls. This generated a revised GFA for each of the amalgamated lots.
   FSRs derived from this revised GFA could then be associated with each of the individual lots in the Study Area, forming the baseline (the "Base Case") for this study.
4. Review of the *Strathfield Triangle Public Domain Plan* and 2018 cost estimates for the delivery of the identified public domain infrastructure.
5. Review of the Contributions Plan and contributions received to date to confirm the shortfall in contributions under the Base Case, based on the latest available information.
6. Feasibility modelling of the Base Case to identify the feasibility of developing each of the amalgamated lots, based on the latest available information, including land valuations from 2018.
   This identified the FSR threshold for feasible development within the Study Area, and also identified the need to increase density to make development feasible.
7. Urban design scenario testing. Three plan scenarios were prepared to explore different ways of increasing and distributing density across the site. The feasibility of each scenario was analysed and the proposals were workshopped with Council to arrive at a preferred scenario.
8. Development of the preferred scenario into a Recommended Plan.
9. A set of recommendations was prepared based on the Recommended Plan to conclude the study.

Constraints & Opportunities

The conclusion of the urban design analysis into the Study Area can be summarised into the following constraints and opportunities that have informed the development of the Recommended Plan.

Constraints

- The eastern edge of the Study Area interfaces with a low density context along Leicester Avenue, of which some properties are local heritage items. This imposes an implied constraint on the height and character of future development in the vicinity of Leicester Avenue.
- There is a lack of vehicular and pedestrian access off Leicester Avenue. The RMS has stipulated that vehicular access for future development along Leicester Avenue cannot be provided from Leicester Avenue.
- The surrounding busy roads and the railway line result in poor visual amenity and noise impacts.
- 6 Hilts Road presents a blank western elevation. This would face the park proposed in the Strathfield Triangle DCP, resulting in a poor interface with this proposed park.
- Lots under non-contiguous land ownership and a strata title lot imposes constraints on future amalgamation and development feasibility.
- Future development will need to achieve SEPP65 ADG compliant building separations to existing residential development.
- Lots to the south of Clarence Street are overshadowed by existing development.
- The orientation of the Study Area means that the facades of any future development along Leicester Avenue that follows the angle of the road will receive reduced solar access.
- There is a sewer line along the rear boundary of Leicester Avenue properties.

Opportunities

- Improve east-west permeability to overcome the relative isolation of the Study Area and improve pedestrian access to Leicester Avenue bus stops.
- Potential for activation on the corner of Hilts Road and Cooper Street.
- Increase heights along the railway line where impacts on surrounding amenity would be minimised.
- Create a sense of arrival into the Precinct from the train station.
- Connect to existing through-site links and accessible communal open space.
- Chapman Street is under City of Canada Bay ownership. This could be leveraged by locating new public domain in this location (which could reduce the amount of land acquisition), or the land could be divested to generate revenue for the delivery of public infrastructure.
- The re-alignment of Cooper Street creates a safe pedestrian crossing. The disused portion of the existing alignment (which is understood to be under Council control) could be closed off and divested as development land.
- Facilitate future development by proposing an amalgamation pattern that takes advantage of the extensive areas within the precinct that are under contiguous ownership.
- The Study Area topography is generally flat, facilitating accessibility.
- Locate future open space in areas that allow the retention of trees.
- The Study Area is not flood affected.
- The proximity of the precinct to Strathfield Train Station and services at Strathfield Town Centre and the Bakehouse Quarter supports the introduction of higher densities.

The Recommended Plan

This Planning and Urban Design Review confirms that the densities implicit under the current planning framework are unlikely to incentivise re-development of the Strathfield Triangle. Without re-development, the public domain upgrades required to improve amenity for residents cannot be delivered.

The Recommended Plan provides an alternative plan framework to improve the likelihood of precinct re-development, and by extension, the realisation of better public amenity in the form of new open space, improved streetscapes, greater pedestrian permeability, and safer access off Leicester Avenue.

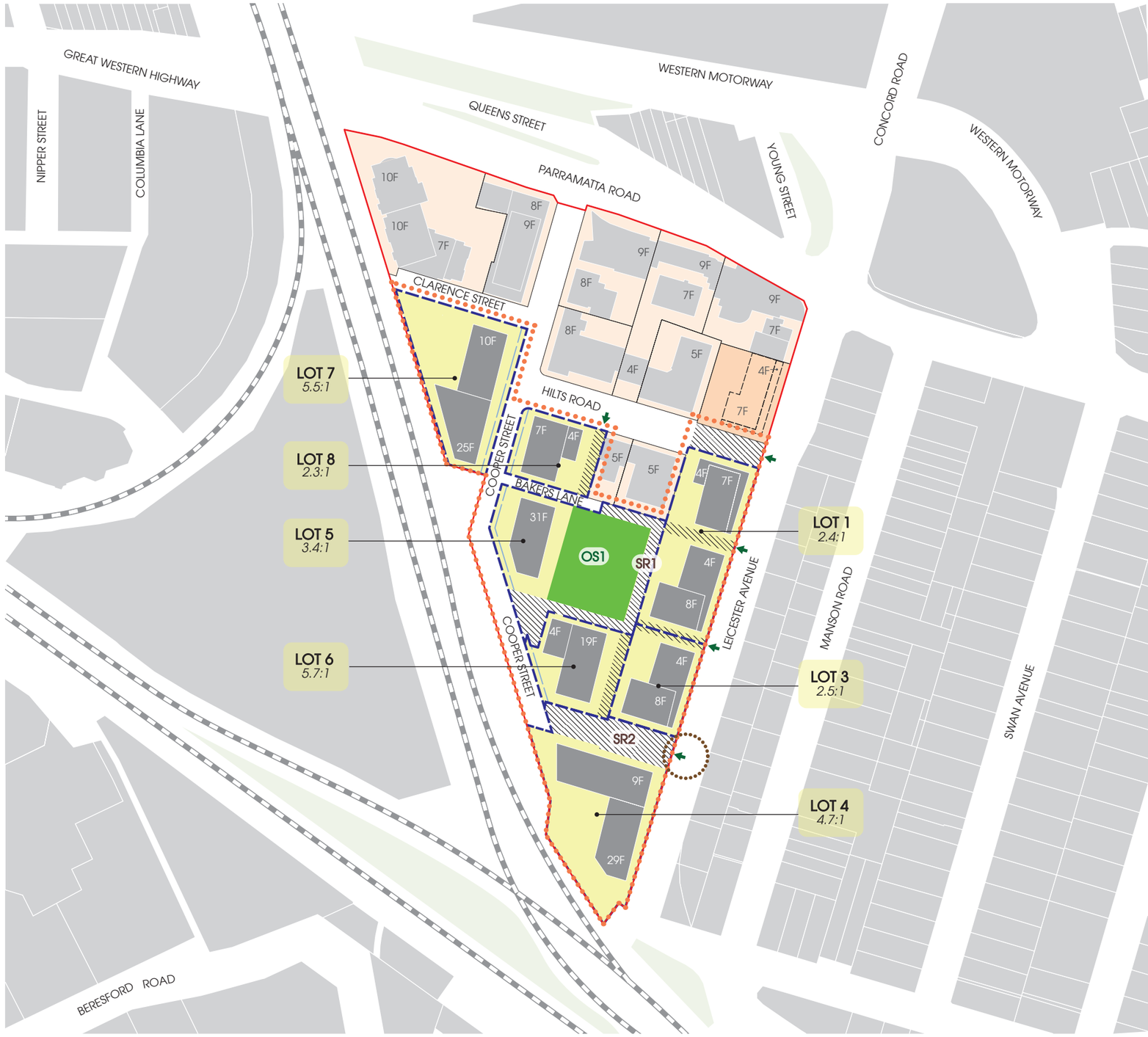
The Recommended Plan secures a better public domain outcome than the current DCP by consolidating open space centrally to make the most of the space.

The following strategies are employed to incentivise development:

- Increase development yields in locations where the yield potential under the current planning framework falls short of the threshold required to incentivise development.
- Secure the land required for public infrastructure through land dedication instead of land acquisition.
- Leverage the floorspace potential of Council-owned land to incentivise the delivery of public infrastructure. This floorspace could be made available as bonus floorspace to developers to incentivise land dedication, or divested and the revenue allocated to public infrastructure works in the precinct.
- Increase permitted building heights to enable the realisation of additional yield and / or improve the development feasibility of a given site from a built form perspective.

Key Features of the Plan

- Open space is consolidated into a Central Park. Easily accessible from the rest of the precinct, the park addresses both existing properties and future development to become an inclusive space. It provides amenity that can be shared by all and stitches the future lots into existing development.
- Moving the park away from privately-owned land (as proposed under the current DCP) onto land that is partially Council-owned creates an opportunity to deliver the park without needing to acquire land.
- The proposed Cooper Street re-alignment is inherited from the Strathfield Triangle DCP to secure the connectivity and safety benefits of having a signalised intersection at Leicester Avenue. This results in a section of the existing Cooper Street being closed off, unlocking an opportunity to utilise the floorspace potential of this Council-controlled land to improve development feasibility within the wider precinct.
- Permeability and integration with the context is maximised by establishing a connected network of streets, shared zones and through-site links that create clear paths of travel throughout the precinct. This connectivity stitches together the existing and the new. Pedestrians are drawn into the heart of the precinct, through the new park, instead of having to walk along the railway line to get to their destination (as is currently the case).



- Clear sightlines, open to the sky, are established across the precinct. This visually links together existing areas to the new, and the precinct as a whole to the wider context. This creates a legible precinct, assisting in reducing the perception of density and avoiding the sense of a gated enclave.
- Proposed urban form is arranged to maximise passive surveillance of streets, open space and pedestrian links to create the conditions for a safe public domain. The distribution of building heights is informed by the following:
  + Taller forms are located along the railway line to minimise overshadowing and amenity impacts on existing and future development.
  + One of the tallest building is located at the southern end of the site to establish a landmark that is visible to pedestrians exiting the Strathfield train station.
  + The built edge drops down to four storeys along Leicester Avenue to respect the existing low rise scale opposite.
- The built form outcome is simplified to create a more legible precinct, while the proposed building envelopes addresses issues with the architectural feasibility and SEPP 65 ADG compliance of some of the envelopes in the current DCP.

The amount of public open space provided is low relative to the proposed density. This is a consequence of the need to achieve a development quantum that can generate the contributions required to deliver the identified public domain infrastructure. This limits the amount of land that can be allocated as public land.

The public domain strategy of the Recommended Plan takes the approach of maximising the potential of private land to provide a public benefit. This is achieved in the following ways:

- Locating the street level communal open space of development lots around Central Park at the interface with the park. This 'borrows' the communal open space to increase the sense of 'void' within the centre of the precinct.
- The park is edged by the public shared zone laneway so that, visually, the park reads as a more generous space. The lane also ensures that public access to the park is secured.
- Through-site links within private development lots tie into the public street network to create a coherent, seamless pedestrian movement network.

Development Metrics: Comparative Summary

Recommended Plan	*Strathfield Triangle DCP (Base Case)*
1,122 units **TOTAL YIELD**	**802** units **TOTAL YIELD**
382 dwelling / ha **DENSITY**	**273** dwelling / ha **DENSITY**
2,470 / 4.5% sqm of study area **TOTAL PUBLIC OPEN SPACE**	**2,311 / 4.2%** sqm of study area **TOTAL PUBLIC OPEN SPACE**
5,587 sqm **TOTAL STREETS / LANES**	**6,820** sqm **TOTAL STREETS / LANES**

Recommendations

The following actions are recommended to translate the Recommended Plan into planning mechanisms that increase incentives for development and provide a greater degree of certainty with respect to the future evolution of the Strathfield Triangle for developers, landowners, Council and the community.

Establish a Land Dedication Mechanism

Land dedication (at nominal cost to Council) is based on the premise that the floorspace of the dedicated land is harvested so that the site's overall development capacity is not reduced. The floorspace associated with the dedicated land is transferred and developed on the remaining site. Built form controls should reflect the intention of the land dedication.

An **Incentive Infrastructure Scheme** should be implemented, with the following clearly identified on a plan:

- Community infrastructure and land requirements (e.g. new park, through site links etc).
- Development blocks/ amalgamation patterns, along with the available incentive floorspace (if community infrastructure delivered).

Contributions (land or works) are to be delivered through a planning agreement. Land dedicated is to be valued at nominal value to avoid 'double dipping'. Unless the land is identified in a s7.11 contributions plan, land that is dedicated is not eligible for any offset or reduction in s7.11 that is payable.

Works identified and funded in a s7.11 contributions plan could be delivered by a proponent and offset against s7.11 contributions payable.

In general, the precinct plan should achieve a balance between certainty and flexibility. A viable plan provides the certainty necessary for investment to occur (as opposed to an ad-hoc approach).

At the same time, landowners' intentions are not always financial, which presents a major challenge to development. Flexibility should be embedded to allow development blocks to be considered on a merits assessment, i.e. delivering the desired infrastructure with acceptable environmental impact to surrounding lands.

Amend the Planning Framework

The following should be amended / created based on the Recommended Plan

- Amendments to Canada Bay LEP 2013.
- Revised Strathfield Triangle DCP.
- New Public Domain Plan.
- New Development Contributions Plan.
- Voluntary Planning Agreement Policy.
- An Infrastructure Strategy to state the implementation framework for the Public Domain Plan and delivery of infrastructure and public benefits.

A summary of the proposed amendments to planning controls are provided below.

Further Studies

Further technical work is needed to progress the implementation of a revised planning mechanism. These would address the following:

- Confirm how the floorspace potential of Council-owned land should be handled.
- Costing of the delivery of the infrastructure required in the Recommended Plan and comparing this with the potential development contributions.
- Setting appropriate s7.11 contribution rates.
- Policy guidelines on how contributions outside s7.11 (land dedication, works-in-kind) are to be valued.
- Depending on how prescriptive / level of detail of the new Strathfield Triangle DCP, the following may also be required:
  - + Further built-form testing including the identification of possible building floorplates.
  - + Feasibility testing to assess the viability of any further built form testing.

Summary of Recommended Amendments to the Planning Framework

Canada Bay LEP 2013

Land Zoning	- Maintain existing R4 and SP2 zoning but adjust locations to reflect the Recommended Plan. - Remove RE1 zoning.
FSR	- Implement FSRs ranging from 2.3:1 up to 5.7:1 across the Study Area, in accordance with the Recommended Plan.
Height of Buildings	- Update building heights to range from 7 storeys (25m) to 31 storeys (100m), in accordance with the Recommended Plan.
Land Reservation Acquisition	- Remove land acquisition within the Study Area from the Land Reservation Acquisition map.
Additional Permitted Uses	- Permit commercial uses at the street level to allow for greater development flexibility and support street-level activation.

Strathfield Triangle Development Control Plan

- Update the Strathfield Triangle DCP to reflect the Recommended Plan, in particular with regards to lot amalgamation, building envelopes, and access.

Strathfield Triangle Development Contributions Plan

- A new plan to reflect the Recommended Plan and the current development context (land acquisition valuations, cost estimates for civil works, residential market demand etc).

Strathfield Triangle Public Domain Plan

- A new plan to reflect the Recommended Plan.

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1.0 INTRODUCTION

1.1 PROJECT OVERVIEW

This Planning and Urban Design review relates to a precinct known as the "Strathfield Triangle," located within the City of Canada Bay Local Government Area (LGA). At its nearest point, the triangular Study Area is located approximately 300m northwest of Strathfield train station. Its extents are defined by Parramatta Road to the north, Leicester Avenue to the east and the T1 North Shore, Northern & Western Line rail corridor to the west.

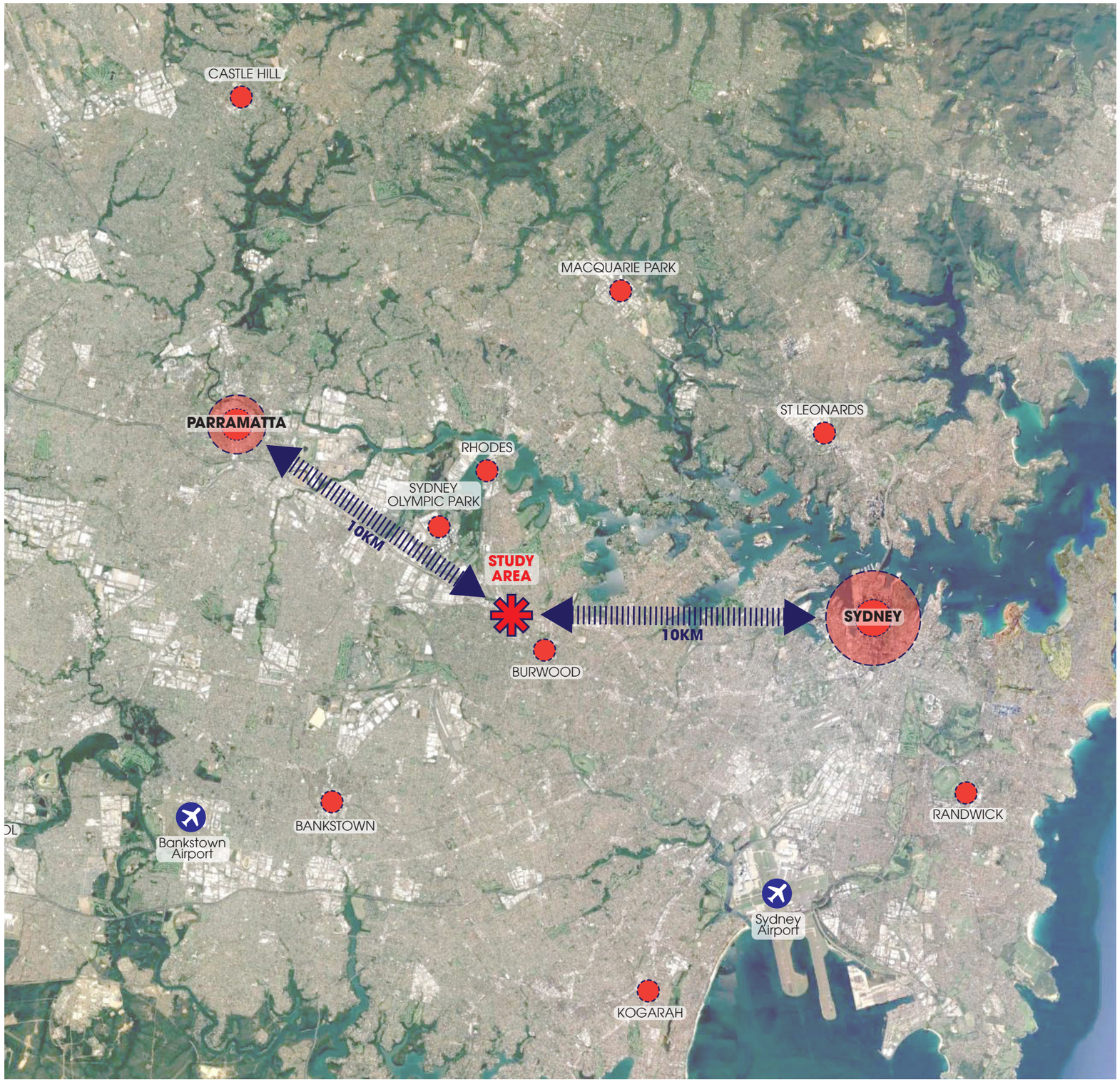
In addition to the *Canada Bay Local Environmental Plan 2013* and the *Canada Bay Development Control Plan*, the Study Area is subject to a site-specific DCP (known as the *Strathfield Triangle Development Control Plan*, and referred to as the "DCP" in this document), the *City of Canada Bay Development Contributions Plan - Strathfield Triangle*, and the *Strathfield Triangle Public Domain Plan*.

The current planning framework for the Study Area was developed following a review in 2012. Re-development of the precinct since that time has been limited, hampering Council's ability to deliver public domain improvements, including a new public park, that are critical to provide amenity for the existing and future residents of a high density residential precinct.

The Project

Since the adoption of the current planning framework, land valuations have increased, as have the cost estimates for public domain upgrades. As a result, regeneration of the precinct is considered not feasible under the current framework.

GroupGSA, in conjunction with the economic feasibility expertise of AEC Group, have been engaged by City of Canada Bay Council to review the current planning framework and examine alternative development scenarios that can incentivise re-development of the Study Area and deliver the required public domain infrastructure.



Site Location

1.2 REPORT PURPOSE & STRUCTURE

Purpose

The purpose of this report is to recommend amendments to the existing planning framework that supports the regeneration of the Study Area and delivery of the required public domain infrastructure. The recommendations are based on a considered understanding of existing conditions, sound urban design principles, and feasibility testing of a range of development scenarios by AEC.

Report Structure

This report is structured as follows:

- **Section 2.0 "Planning Context" provides a summary of the key aspects of the current statutory framework as they apply to development within the Study Area.**
- **Section 3.0 "Study Area: Urban Design Analysis"** presents the analysis of existing urban conditions, concluding with the opportunities and constraints to development.
- **Section 4.0 "Analysis of the Base Case"** analyses the potential development outcome possible under the current framework.
- **Section 5.0 "Scenario Testing"** presents three options that re-think the urban form that is possible for the Study Area. These scenarios seek to address the shortfalls identified under the Analysis of the Base Case.
- **Section 6.0 "Recommeded Plan"** presents the developed version of the preferred scenario selected by Council based on the consultant team's scenario testing.
- **The report concludes with Section 7.0 "Recommendations,"** which summarises the recommended planning framework amendments – as derived from the Recommended Plan – and details the next steps.

Site Overview

1.3 METHODOLOGY

An iterative and collaborative Study Methodology involving Council staff, AEC Group and GroupGSA was implemented. Below is a list of the key steps undertaken to arrive at the recommendations.

1. Analysis of the existing urban condition of the Study Area and its context. This analysed the physical and spatial opportunities and constraints impacting upon the development of the Study Area.
2. Review of the planning framework, including strategic plans, to understand the relationship of the Study Area to the strategic planning framework, as well as the planning controls that dictate the development outcomes for the Study Area. This was done to understand the validity of any proposed increases to the density of the Study Area.
3. Assessment of the development potential under the current planning controls.
   As no FSR controls are currently applicable, the development potential of the Study Area is implicit within the envelopes defined by the site specific Strathfield Triangle DCP. The DCP identifies a lot amalgamation pattern and the development potential (GFA) for each of these amalgamated lots was estimated.
4. Review of the development potential under the current DCP. In assessing the development potential, it became evident that some of the envelopes proposed in the DCP might be problematic from the perspective of urban design, SEPP 65 *Apartment Design Guide* (ADG) compliance, and architectural efficiency of building footprints.
   Collectively, these factors are likely to overstate the development potential of the Study Area. Adjustments were made to the building envelopes to address these factors while minimising any deviation from the DCP controls. This generated a revised GFA for each of the amalgamated lots. FSRs derived from this revised GFA could then be associated with each of the individual lots in the Study Area, forming the baseline (the “Base Case”) for this study.
5. Review of the *Strathfield Triangle Public Domain Plan* and 2018 cost estimates for the delivery of the identified public domain infrastructure.
6. Review of the Contributions Plan and contributions received to date to confirm the shortfall in contributions under the Base Case, based on the latest available information.
7. Feasibility modelling of the Base Case to identify the feasibility of developing each of the amalgamated lots, based on the latest available information, including land valuations from 2018.
   This identified the FSR threshold for feasible development within the Study Area, and also identified the need to increase density to make development feasible.
8. Urban design scenario testing. Three plan scenarios were prepared to explore different ways of increasing and distributing density across the site, while providing amenity for the existing and future community.
   The feasibility of each scenario was analysed and the proposals were workshopped with Council to arrive at a preferred scenario.
9. Development of the preferred scenario into a Recommended Plan. The preferred scenario was refined based on Council comments (including a workshop with Council), feasibility input, and further urban design testing examining the relationship with context, efficient configuration of building envelopes, and solar access to facades, public open space, and communal open space.
10. A set of recommendations was prepared based on the Recommended Plan.

Urban Design Study Qualifications

The following qualifications apply with regards to this Study:

- Yield estimates are based on a building envelopes study that factors in SEPP65 ADG considerations at a high level. Typical floor plans have not been prepared for the building envelopes presented in this Study. Yield estimates have been numerically derived from the building envelopes.
- The traffic impact of the proposed densities have not been reviewed.
- The extent of open space provision relative to the proposed density has not been reviewed by social infrastructure / open space planners. The Study was undertaken upon the assumption that the Recommended Plan should provide at least the equivalent amount of primary open space as the Base Case.
- Utilities and services infrastructure requirements have not been factored in.
- Town planner advice should be sought to translate the recommendations in this report into planning instruments.
- No inputs have been provided by a Quantity Surveyor to estimate the cost of delivering the public domain proposed in the Recommended Plan.
- Existing trees and vegetation have not been surveyed or assessed by environmental specialists. For the purposes of this study, it has generally been assumed that these may be removed.
- No heritage or geo-tech advice has been obtained.
- Roads within the Study Area are assumed to be Council-owned.

Land Economics Analysis: Assumptions and Limitations (AEC)

1. Generic Feasibility Testing

Generic feasibility testing is carried out to test the feasibility and deliverability of development in the Base Case. The feasibility and deliverability of alternate development scenarios are also tested.

The limitations of generic feasibility testing are acknowledged, in particular the following:

- Desktop appraisal of ‘as is’ property values, without the benefit of internal inspections.
- Generic feasibility testing does not consider nuances of a site typically considered in detailed feasibility analysis. Development costs assumed are ‘generic’, based on construction cost publications and past industry experience. No provision is made for extraordinary development costs that may be necessary as a result of ground conditions or environmental constraints.

The results of generic feasibility testing are cross-checked with development site sales to ensure they are in line with observed market activity. Despite the limitations, generic feasibility testing is considered an appropriate tool where a study area is comprised of numerous development blocks and detailed site-by-site analysis is not possible.

2. Revised Cost Estimates

Council undertook a review of the cost of infrastructure delivery (cost of works and cost of land acquisition) in 2018. While the revised cost estimates provide an indication of the cost of delivery in current dollar terms, they relate to items in the Public Domain Plan in the Base Case.

Broad order of magnitude costs for the alternate development scenarios have been estimated relying on Base Case cost plans. The Review highlights that the public domain infrastructure items associated with alternate development scenarios have not been formally specified and costed.

Should an alternate development scenario be pursued in the Strathfield Triangle, preparation of a new Development Control Plan and Public Domain Plan will be necessary. This would necessitate preparation of a new cost plan. The findings of the Review should be re-visited at that stage.

3. Analysis of Potential Contributions v Assumed Cost of Infrastructure

The Review compares potential contributions receivable in the Base Case and alternate development scenarios against the assumed cost of infrastructure in today's dollars. In reality, development occurs over time and contributions received in the future will be at indexed contribution rates. Similarly, the cost of infrastructure works will be subject to escalations over time until delivered.

Once a new Public Domain Plan and associated cost plan is prepared, an analysis of potential contributions revenue against the cost of infrastructure delivery should be re-visited.

The estimate of potential contributions does not account for credits that may be granted for existing use.

Notwithstanding the limitations above, the approach is considered appropriate for the purposes of the Review, which is to provide direction for amendments to the Strathfield Triangle planning framework.

List of Key Information

The following is a list of information supplied by Council that has been key to this study:

- *Strathfield Triangle Development Control Plan*
- *City of Canada Bay Development Contributions Plan - Strathfield Triangle*
- *Strathfield Triangle Public Domain Plan*
- Strathfield Triangle Land Ownership plan
- Land valuations for selected properties dated August 2018 by Southern Alliance Valuation Services
- CAD survey file dated 27/11/09 (filename "10217D5.dwg"), titled: "Level and Detail Survey over Parts of Cooper Street, Leicester Avenue and Hilts Road, North Strathfield"
- Preliminary Tender Estimate, Proposed Civil Works, Strathfield Triangle. Prepared by Northcroft, dated 6 August 2018.
- Strathfield Triangle Landscape Tender Documentation by Silk Consulting Landscape Architects, 2016
- DA for 38 - 42 Leicester Avenue (selected information)
- *Strathfield Triangle Independent Review, June 2012*, prepared by JBA Planning

2.0 PLANNING CONTEXT

2.1 STRATEGIC PLANNING

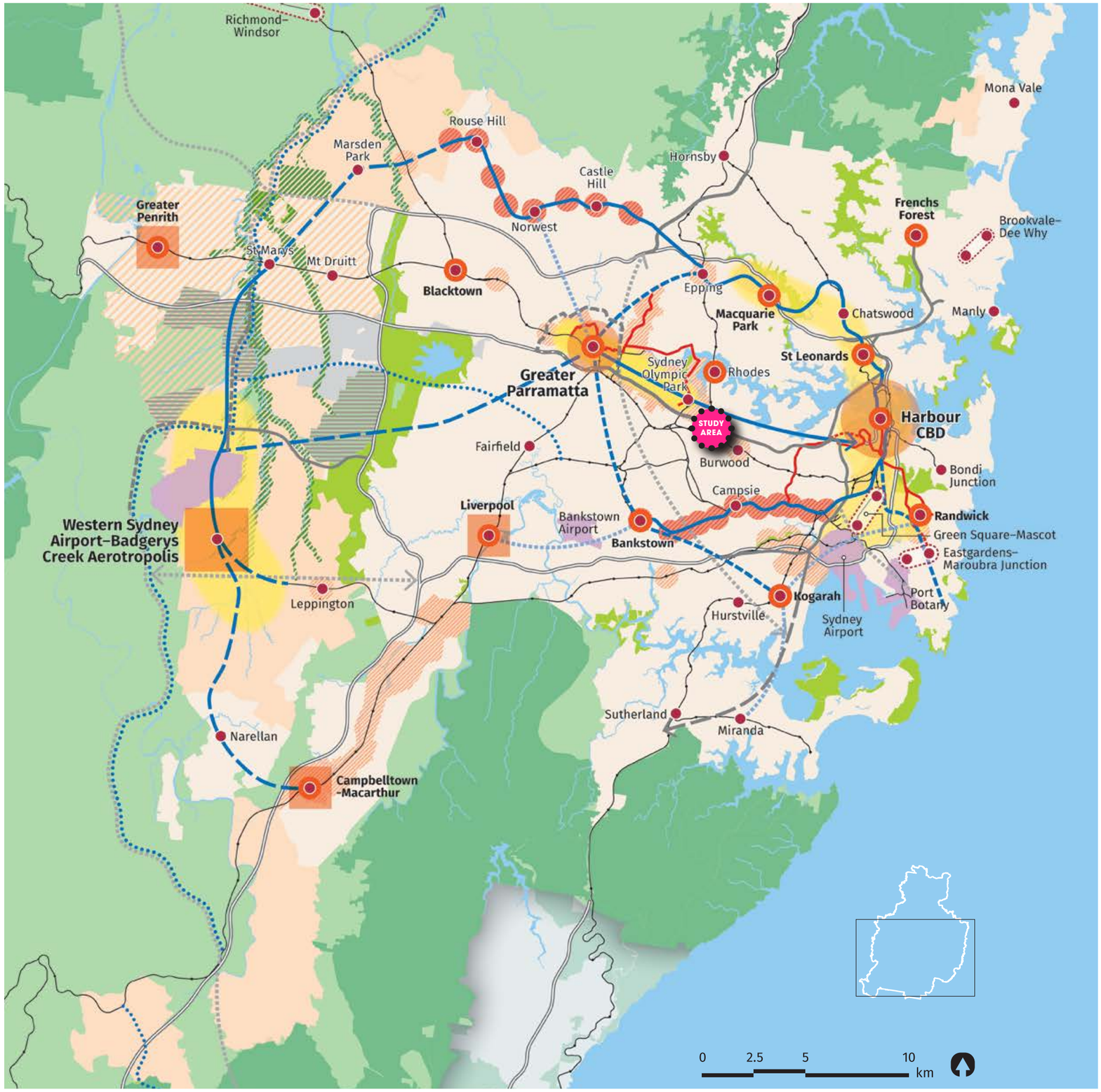
A Metropolis Of Three Cities – The Greater Sydney Region Plan (March 2018)

The *Greater Sydney Region Plan: A Metropolis of Three Cities* (the 'Plan') is a 40-year vision for a Sydney that is organised around three liveable cities – the Western Parkland City, the Central River City, and the Eastern Harbour City. Within these cities, the Plan envisions the majority of people living within 30 minutes of their jobs, education / health facilities, services and great places.

The Plan integrates land use, transport and infrastructure planning between the three tiers of government and across State agencies. It incorporates a 20-year plan to manage the development of the Greater Sydney region, setting out 'Ten Directions' that collectively form a framework for liveability, productivity and sustainability that underpins the growth of Sydney. The Directions are:

1. A city supported by infrastructure: including transport infrastructure that enables access to a metropolitan centre / cluster within 30 minutes.
2. A collaborative city: where growth is delivered through collaboration between government, community and business.
3. A city for people: that celebrates diversity and is driven by people-centric planning.
4. Housing the city: by expanding supply, choice and affordability.
5. A city of great places: designed for people, with improved access to open space, and conserves / enhances environmental heritage.
6. A well-connected city: more accessible and walkable.
7. Jobs and skills for the city: to create a stronger economy.
8. A city in its landscape: that values green space and protects landscape.
9. An efficient city: that is sustainable and re-uses energy, water and waste.
10. A resilient city: that can adapt to a world of climate change and manages exposure to natural and urban hazards.

Roughly speaking, the Study Area is strategically located at the boundary of the Central River City and the Eastern Harbour City, with good access to both the Greater Parramatta and Harbour CBD metropolitan centres. Developing the Study Area for higher density residential use supports the objectives of the Plan by introducing additional housing in a location that benefits from connectivity to amenities and employment areas. Enhancements to the public domain that accompany the increased density is important in order to be consistent with the liveability directions of the Plan.



Eastern City District Plan (March 2018)

The Eastern City District Plan is a 20-year blueprint to inform growth in relation to social, economic and environmental factors within the area identified in the adjacent diagram. The Plan sets out planning priorities for implementing the *Greater Sydney Region Plan, A Metropolis of Three Cities*, at a district level. The Plan also informs local planning strategies, planning proposals and community strategy policies.

The Plan identifies multiple planning priorities that are categorised under five broad themes including:

- Infrastructure and collaboration
- Liveability
- Productivity
- Sustainability
- Implementation

Single-person households are the dominant household type in the Eastern City District, and the Plan expects this to be the case into the future. The Plan anticipates Strathfield will experience the largest growth in this household type, with a projected increase of 75%.

According to the Plan, housing supply in the Canada Bay LGA increased by 3,990 dwellings between 2012 and 2017. This represents the third highest increase within the Eastern City District. Taking into account the District's dwelling needs and existing opportunities to deliver supply, the Plan sets a minimum housing supply target of 2,150 dwellings in Canada Bay over a five-year period between 2016-2021.

Re-development of the Study Area is an opportunity to contribute to this housing supply target, and aligns with the principles of 'liveability.' It responds particularly to 'Planning Priority E5' through the provision of housing integrated with public open space. The delivery of a re-vamped public domain as part of this re-development will provide benefits for both existing and future communities.

Parramatta Road Corridor Urban Transformation Strategy (November 2016)

The *Parramatta Road Corridor Urban Transformation Strategy* is a statutory framework intended to support housing growth and employment along the corridor in response to significant infrastructure and economic challenges. The Parramatta Road Corridor spans 20 kilometres from Granville in the west to Camperdown in the east, comprising eight precincts in total.

The City of Canada Bay is one of seven LGAs to which the strategy applies. The vision for the Corridor is guided by seven principles that will inform high quality multi-use development, better amenity, balanced housing, and improved transport choices. The seven principles for transformation include:

- Housing choice and affordability
- Diverse and resilient economy
- Accessible and connected
- Vibrant communities and places
- Green spaces and links
- Sustainability and resilience
- Delivery

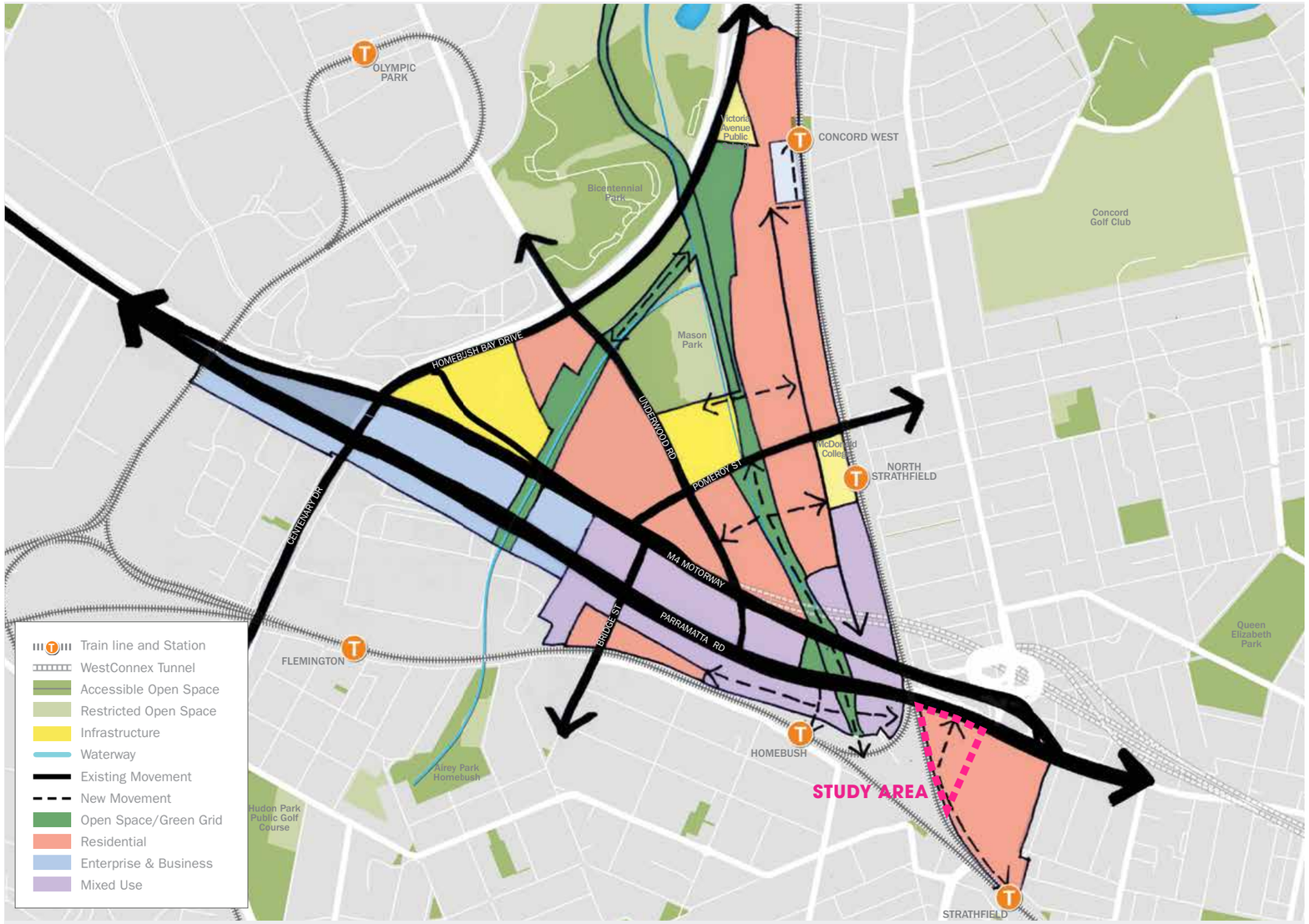
Eight precincts have been earmarked for renewal along the corridor based on their unique access to jobs, transport, infrastructure, and potential to accommodate new development in a balanced way. The Study Area is within the Homebush Precinct, which is located in the central section of the corridor.

Given its strategic location, the Homebush Precinct is identified as an opportunity to transform Homebush into a major high-density, mixed-use Precinct. The Strategy notes that the activity hub of the Precinct will be located between the Homebush, North Strathfield and Strathfield Stations. The Study Area fits within this zone and has been identified for residential uses.

The following key actions for the Precinct are particularly pertinent to the planning of the Study Area:

- Locate high density residential development near Strathfield Station to capitalise on the development potential of transport nodes.
- Break up large blocks with laneways and through-site links.
- Facilitate site amalgamation to provide opportunities for master planned redevelopment that delivers good quality public open space.

The Strategy also notes the Strathfield Triangle Heritage Conservation Area as a significant place. As this conservation area is not marked on the plan, it is difficult to understand the extent of the land to which this applies. It is assumed that this refers to the land east of the Study Area, which features a clustering of a number of heritage items.



Parramatta Road Corridor Urban Transformation Strategy: Homebush Precinct

Burwood, Strathfield and Homebush Planned Precinct

The NSW Department of Planning & Environment (DPE) is currently undertaking a precinct planning process for Burwood, Strathfield and Homebush to support the revitalisation of these attractive places to live with strong public transport links to the Sydney and Parramatta CBDs. This strategic planning process was announced as part of the NSW Government's housing affordability package in June 2017 and builds on the Parramatta Road Corridor Urban Transformation Strategy.

The key intent of this planning process is to provide new homes to assist in making houses more affordable. DPE are coordinating with the City of Canada Bay, Burwood and Strathfield Councils to ensure infrastructure such as schools, parks, community facilities, public transport and road upgrades meet community needs.

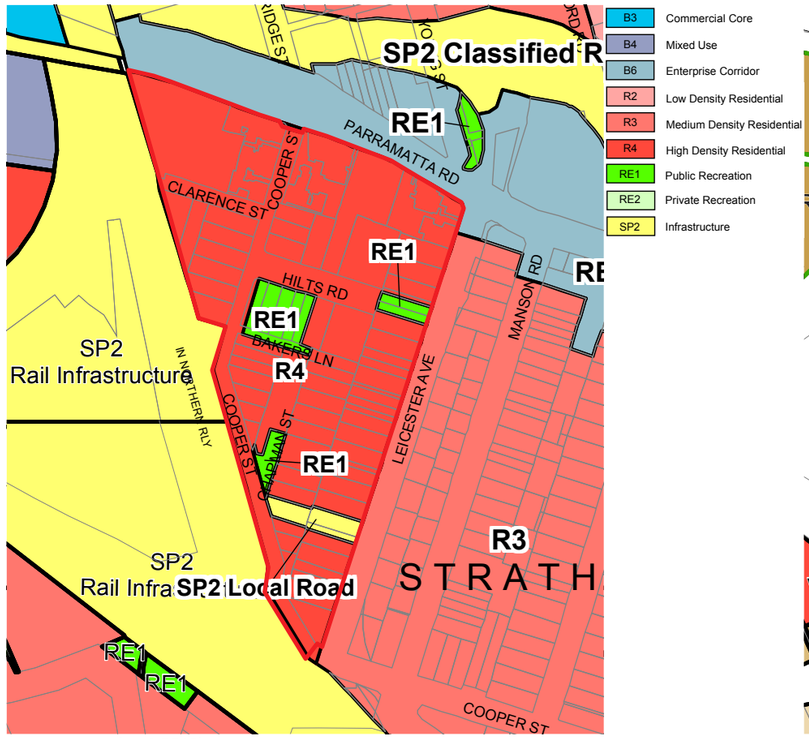
The extent of the precincts under study are yet to be confirmed, and is intended to be refined as technical studies are completed. It is understood however that walking catchments around train stations will inform these precinct extents. This suggests that the Study Area may likely be included in these precincts.

2.2 LOCAL PLANNING

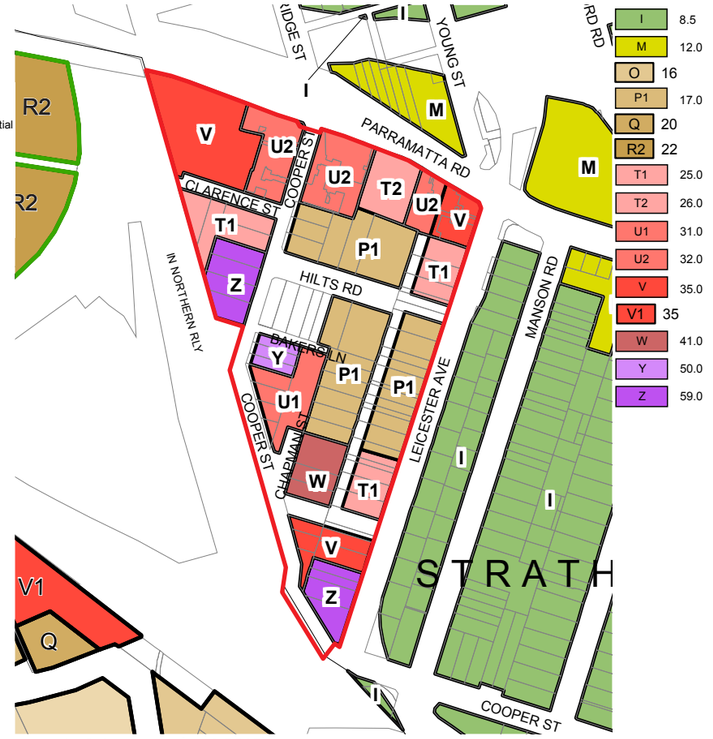
Canada Bay Local Environmental Plan 2013

The Study Area is located on the edge of the City of Canada Bay LGA, and borders the Strathfield LGA. The *Canada Bay Local Environmental Plan 2013* (LEP) maps reproduced here combine the mapping from the two LGAs to better understand the current planning framework around the Study Area.

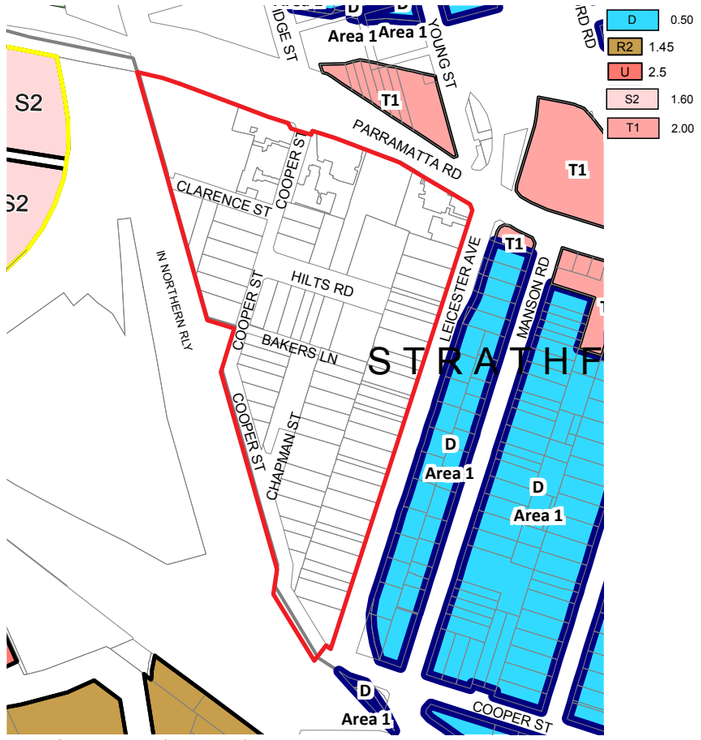
- **Land Use Zoning**: The Study Area is largely zoned R4 High Density Residential with commercial premises as an additional permitted use, with key public spaces zoned RE1 Public Recreation. The RE1 zones correlate with the public spaces proposed in the Strathfield Triangle DCP such as the Hilts Road park. The DCP also proposes a re-alignment of Cooper Street and this is acknowledged with an SP2 Local Road zoning.
  The Parramatta Road corridor that bounds the Study Area to the north is zoned B6 Enterprise Corridor, while to the east, the adjoining context is zoned R3 Medium Density Residential. The western boundary adjoins the railway corridor which is zoned SP2 Rail Infrastructure.
- **Height of Buildings**: Areas proposed for development under the Strathfield Triangle DCP are subject to height controls ranging from 17m (5 storeys) to 59m (18 storeys). Height controls are not applicable to land proposed for future public domain elements such as the new park and laneways.
  None of the permitted building heights around the Study Area exceed 10 storeys. Permitted heights are set at 8.5m (2 storeys) for properties on the other side of Leicester Avenue from the Study Area, indicating that future development in this zone will likely continue to be low-rise.
- **Floor Space Ratio**: No FSR controls apply to the Study Area. The development potential of the Study Area is therefore defined by the LEP Height of Buildings map and the related building envelopes proposed in the Strathfield Triangle DCP.
  FSRs on the other side of Leicester Avenue from the Study Area are set at 0.5:1. This however does not apply to multi-dwelling housing or residential flat buildings. In addition, the maximum FSR varies depending on the site area, starting at 0.5:1 for sites larger than 450sqm. It increases for smaller sites, with the maximum allowed being 0.7:1 for development on sites less than 150sqm.
- **Land Reservation Acquisition**: Land required for the proposed Hilts Road park, through-site link between Hilts Road / Leicester Avenue, and the Cooper Street re-alignment are all identified for acquisition.
- **Minimum Lot Sizes**: 450sqm are the minimum lot sizes for the Study Area. A number of existing lots within the Study Area are less than the minimum.



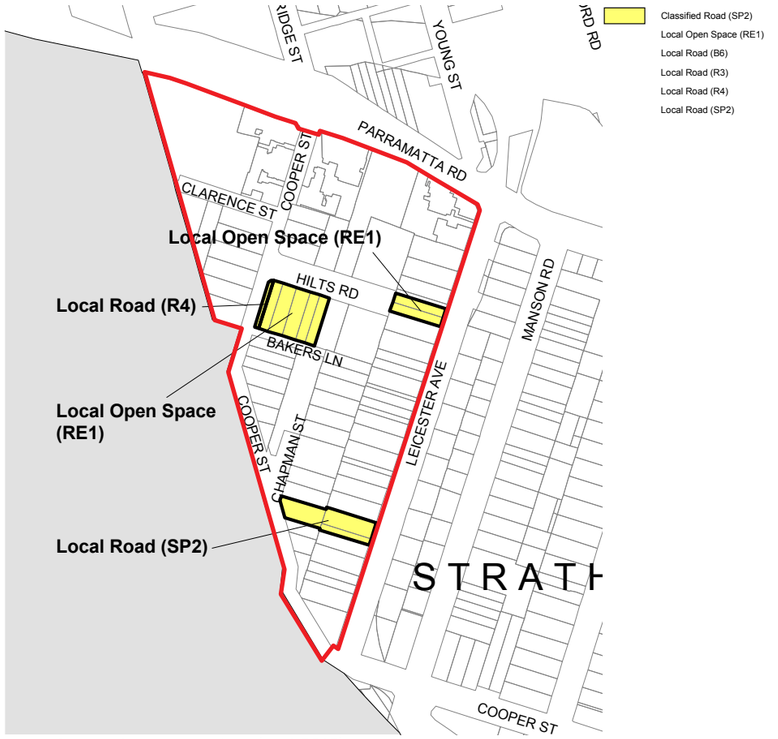
Land Zoning (LEP 2013)



Height of Buildings (LEP 2013)



Floor Space Ratio (LEP 2013)



Land Reservation Acquisition (LEP 2013)

STUDY AREA

Canada Bay Development Control Plan

The *Canada Bay Development Control Plan* (DCP) was adopted in 2017 and provides planning and design controls that support the directions in the Canada Bay LEP 2013.

The DCP applies to all land within the Canada Bay LGA, except where site or precinct-specific DCPs are in place. The Strathfield Triangle is one such DCP and as such the site-specific DCP applies to the Study Area.

Strathfield Triangle Development Control Plan

The *Strathfield Triangle Development Control Plan* was adopted in April 2013 and provides detailed development principles, controls and guidelines to achieve the development outcomes desirable for the Study Area.

The Strathfield Triangle DCP adopts the following provisions of the Canada Bay DCP:

- Part 3 General Information
- Part 4 Heritage
- Part 9 Signs and Advertising
- Part 10 Child Care Centres.

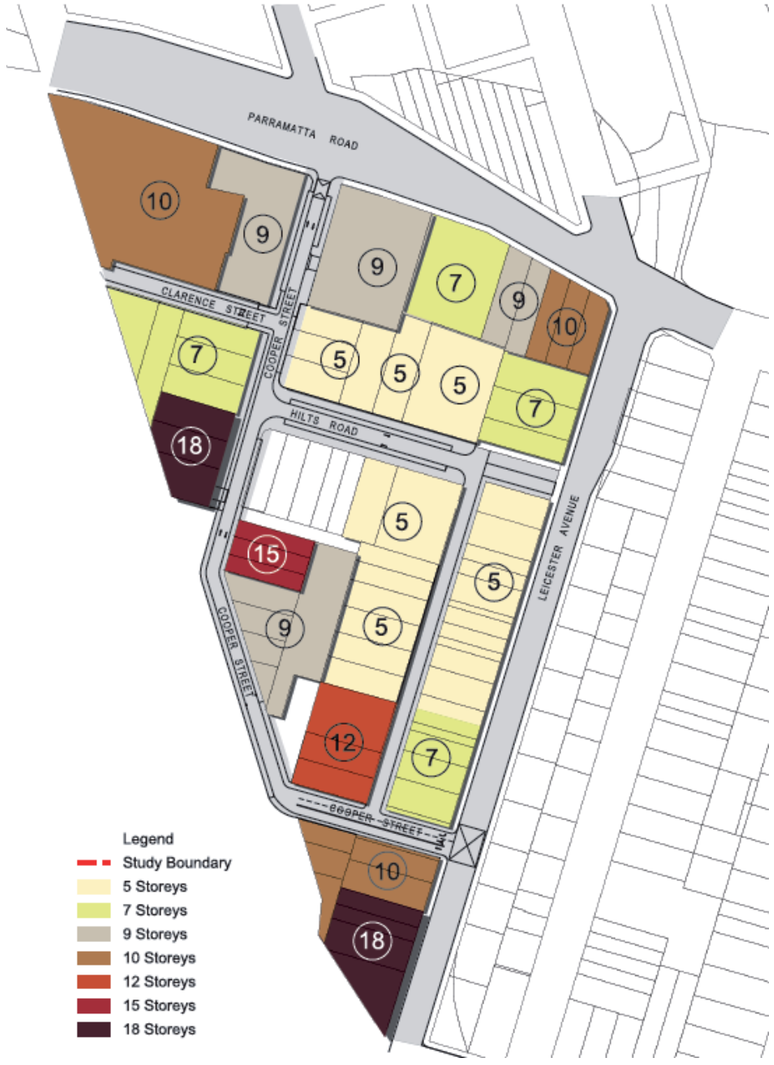
A key objective of the Strathfield Triangle DCP is to develop the Study Area with a compatible mix of retail and residential development that capitalises upon the proximity to the Strathfield Train Station and town centre, as well as the Bakehouse Quarter.

Around the time of the DCP's drafting, a number of high density residential developments were approved and constructed, changing the character of the Study Area. The Strathfield Triangle DCP acknowledges the transition towards higher density, and is formulated to ensure that future development is of high design quality. Importantly, it identified a suite of public domain improvements intended to enhance amenity for the existing and future community.

The Strathfield Triangle identifies a preferred development outcome through a set of urban form controls including building heights of up to 18 storeys in selected locations, indicative building footprints, and a lot amalgamation pattern.

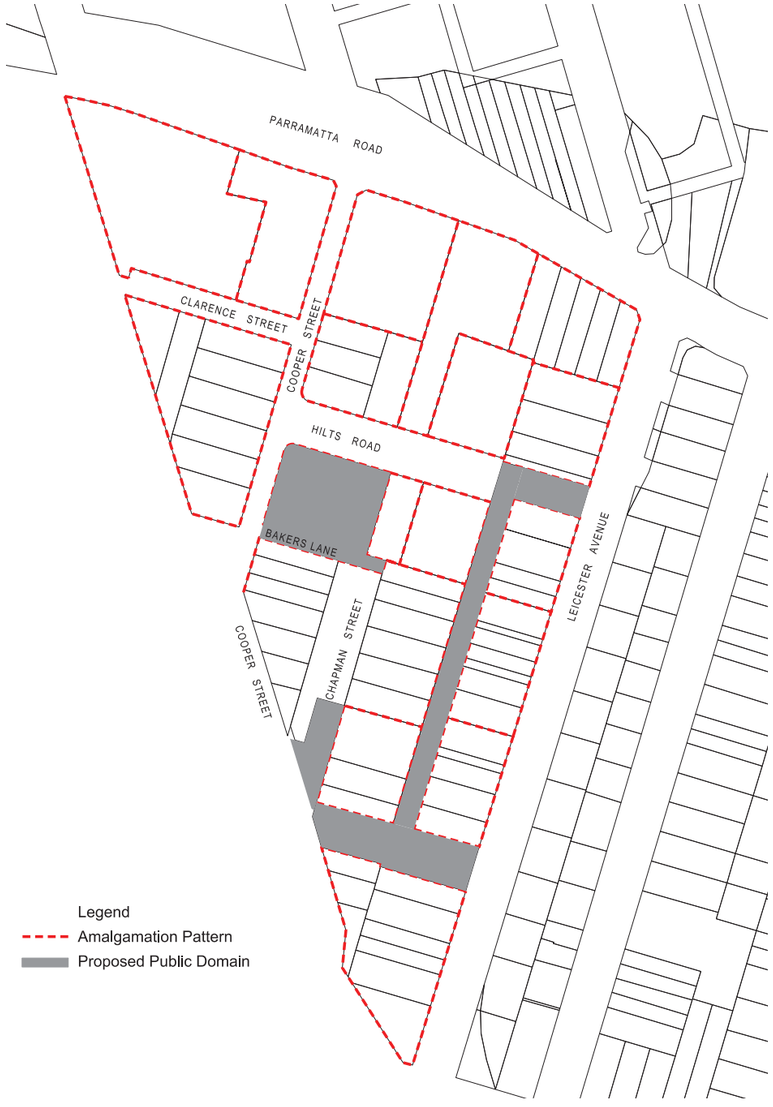
Key public domain infrastructure includes the creation of a new park on the corner of Hilts Road and Cooper Street, and the re-alignment of Cooper Street's intersection with Leicester Avenue to improve access and safety. Further detail on the proposed public domain are provided in the *Strathfield Triangle Public Domain Plan*, which was prepared in conjunction with the DCP.

The DCP anticipates that the public domain outcomes would be delivered over 15 years.



Map 2 - Maximum Building Heights

Prepared by Clouston Associates



Map 8 - Amalgamation

Prepared by Clouston Associates

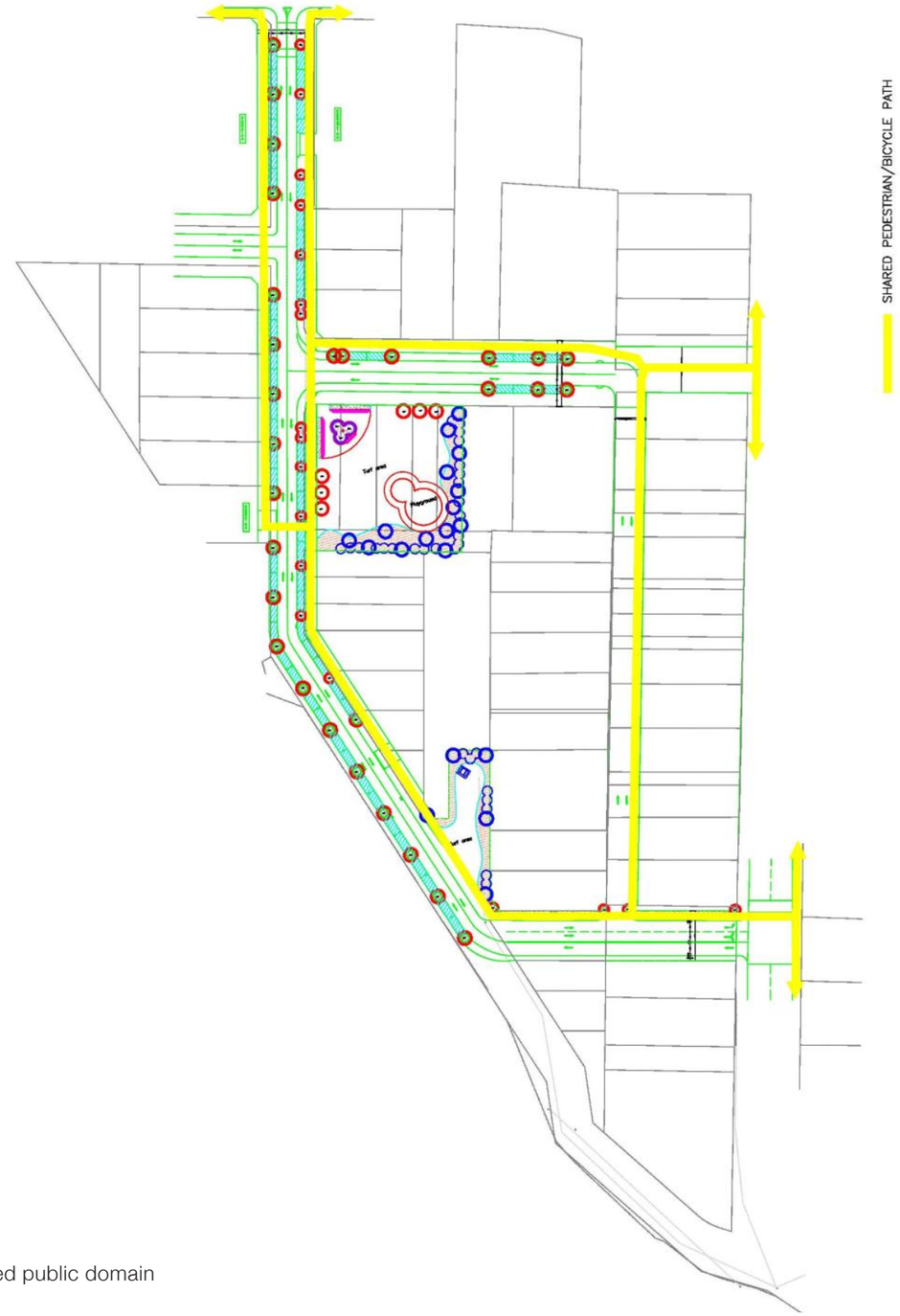
2.3 PUBLIC DOMAIN PLAN

The *Strathfield Triangle Public Domain Plan* was adopted concurrently with the Strathfield Triangle DCP in April 2013. The document provides guidance on the design of the public domain within the Strathfield Triangle, as well as the staging of its delivery. The following key principles underpin the Plan:

- **An inviting and pedestrian-orientated public domain**: A permeable network of streets and pedestrian links within the precinct will provide convenient access to and from the Strathfield Triangle.
- **A landscaped urban environment**: Street trees will be provided to define streets and soften building elevations. A public park will provide a landscaped heart to the precinct.
- **High quality design, finishes and materials**: These contribute to an attractive and inviting public domain.

The Public Domain Plan identifies a number of upgrades to the public domain, comprising:

1. **A New Public Park**
   This forms the key public space within the Strathfield Triangle, providing a park within a precinct that currently lacks this amenity. The park is proposed to be located on the corner of Hilts Road and Cooper Street, and incorporate Bakers Lane, which will be closed. The park area will be 1,840sqm, not including Bakers Lane.
2. **Realignment of Cooper Street where it meets Leicester Avenue**
   The southern end of Cooper Street is proposed to be closed, and realigned further north to establish a new signalised intersection that will improve accessibility into the Triangle as well as pedestrian safety.
3. **Widening of Cooper Street**
   Much of Cooper Street is currently 10 to 12m wide and the Public Domain Plan proposes to widen the street to 16m. This improves the existing streetscape by enabling the introduction of street trees, on-street parking, and shared pedestrian / bicycle ways.
4. **Hilts Road / Leicester Avenue Pedestrian Link**
   The proposed link, conceptualised as an open landscaped area, opens up permeability between Hilts Road and Leicester Avenue.
5. **Pocket Park at the southern end of Chapman Street**
   Under the plan proposed in the Strathfield Triangle DCP, Chapman Street is no longer required for access, allowing it to be closed to vehicular traffic and converted into a pocket park.
6. **Leicester Lane**
   This new laneway runs parallel to Leicester Avenue, providing rear lane access to future development on amalgamated lots along Leicester Avenue. The laneway would be established through land dedication.



Overview of proposed public domain

2.4 DEVELOPMENT CONTRIBUTIONS PLAN

The *City of Canada Bay Development Contributions Plan - Strathfield Triangle* ('Contributions Plan') was adopted in April 2013 with the objective of delivering the infrastructure that will be required by new development within the Study Area. It describes the delivery mechanism for the infrastructure upgrades identified in the Strathfield Triangle DCP and Public Domain Plan. These include:

- Dedication of land by developers. This includes dedication for the widening of Cooper Street and construction of a rear laneway parallel to Leicester Avenue. These would be dedicated in lieu of development contributions.
- Acquisition of private land by Council. These would be used to construct a pedestrian link between Leicester Avenue and Hilts Road, the new Hilts Road park and the realignment of Cooper Street.
- Development contributions
- Disposal of Chapman Street
- Formal closure of Bakers Lane and southern section of Cooper Street.

The acquisition and dedication of land into Council ownership is reliant upon the collection of sufficient funds under the Contributions Plan.

The Contributions Plan works off the estimate that a maximum of 730 additional dwellings can be realised in the Study Area. At the time of the preparation of the Contributions Plan, it was estimated that the total cost of civil works and land value would be $20.1 million, of which the cost of acquisition and dedication amounted to approximately $8.7 million. After allowing for contributions received / expected at the time, the revenue from selling Chapman Street, and money from Council's General Revenue to support open space acquisition, the Contributions Plan estimated that just under $11 million would need to be levied.

Strathfield Triangle Development Contributions Plan Map

Works proposed under the Plan

1. Cooper St works and road widening
2. New Park: Cnr Cooper St & Hilts Rd
3. Pedestrian and cycle access from Hilts Rd to Leicester Ave
4. Laneway behind Leicester Ave, connecting Hilts Rd and Cooper St
5. Leicester Ave Junction
6. Chapman St redevelopment

Potential works outside the scope of the Plan

A. Hilts Rd pedestrian and cycle access
B. Clarence St redevelopment
C. Shared pedestrian and cycle access

Section 7.11 Monetary Contribution Rates

CPI Applied: June2018	Monetary Contribution – Residential Development			
	Per Resident	Studio/One bedroom dwelling	Two bedroom dwelling	Three + bedroom dwelling
Development Contribution	$8, 328.36	$10,744.02	$15,823.89	$20,000.00

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3.0 STUDY AREA: URBAN DESIGN ANALYSIS

3.1 LOCAL CONTEXT

Land Use

The surrounding context is characterised by a mix of residential, commercial and employment uses with residential densities ranging between low to high density. A number of schools are located within a theoretical 15 minute walking catchment of the Study Area.

The Strathfield Triangle is currently edged by generally low scale residential developments to the east and heavy rail, industrial, employment and residential uses to the west. To the immediate north is mixed use, retail and the WestConnex Concord Interchange. The latter exacerbates the disconnection to the residential areas north of the Western Motorway. Areas to the south of the Study Area include higher density and taller residential developments rising up to 14 storeys along the railway line.

Amenities & Open Space

The closest local centres are Strathfield Town Centre and the Bakehouse Quarter. Both are located within an approximately ten minute walk from the Study Area. The Bakehouse Quarter is a diverse commercial and retail precinct, but the route to the Quarter is a poor pedestrian experience. The other closest retail destination is the Strathfield Plaza just south of the Strathfield Station.

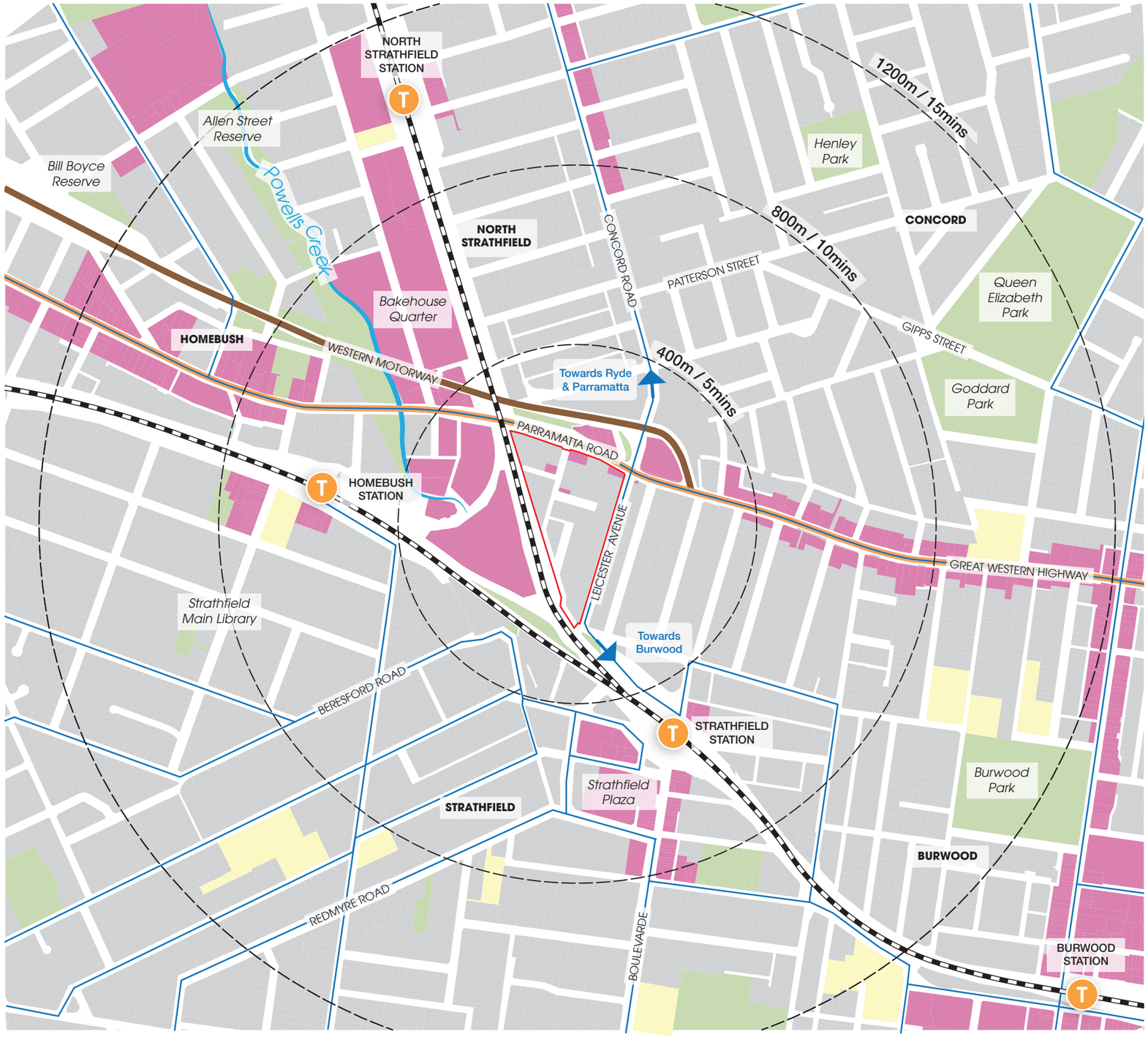
There is a lack of open space of any significance within an 800m radius of the Study Area. The closest parks are Goddard, Queen Elizabeth and Burwood Park - approximately a 15 to 20 minute walking distance from the Triangle.

Public Transport

The Study Area has good access to public transport. Strathfield Train Station is within a five to ten minute walk, as is Homebush Station. However, the walk to Homebush Station is via Parramatta Road - a busy arterial road with high traffic volumes, making for a poor pedestrian experience.

The Study Area is well serviced by bus links along Parramatta Road and Leicester Avenue. A bus stop is situated on Leicester Avenue on the eastern periphery of the Study Area. The bus routes servicing the site include:

- Route 458 : Ryde to Burwood along Leicester Avenue.
- Route 525 : Parramatta to Burwood via Sydney Olympic Park along Leicester Avenue and Parramatta Road.
- Route 526 : Burwood to Rhodes Shopping Centre along Leicester Avenue and Parramatta Road.



3.2 LAND USE & ACTIVATION

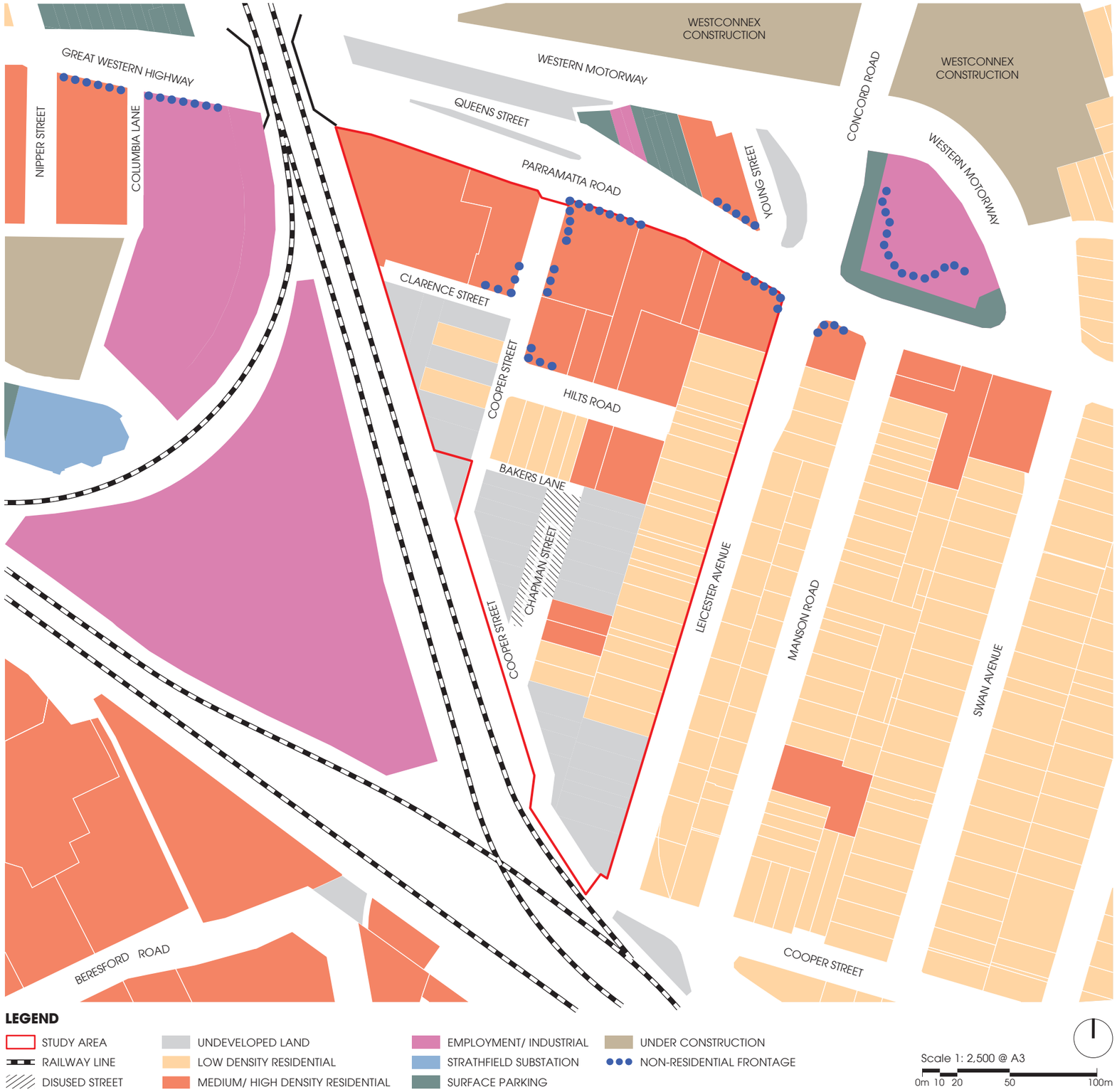
The Strathfield Triangle is located amidst diverse land uses including residential, employment and transport infrastructure. The Study Area features mostly residential uses, with some mixed use development to the northern part of the precinct. The retail / commercial spaces of these mixed-use developments were unoccupied at the time of a October 2018 site visit, resulting in a lack of activation and visual interest along the streetscape. The corner development at the intersection of Hilts Road and Cooper Street has an elevated ground level, diminishing the activation potential of this ground floor commercial space.

There is currently no public open space within the Strathfield Triangle. A fair portion of the Study Area is vacant. These privately-owned lands present as fenced off grassed areas and add no recreational value to the precinct.

The Study Area faces the following uses around its boundaries:

- To the north is a 5 storey mixed use development with an unactivated ground floor and Homebush City Motors, which is ringed by surface parking. Beyond this is the WestConnex Motorway construction site.
- The eastern edge faces low scale residential properties across Leicester Avenue. These predominantly present their back fences to the road.
- To the west of the site beyond the rail corridor are employment lands featuring low rise shed structures.
- Areas to the south of the Triangle and the railway line include high density residential developments.

Overall, the Study Area interfaces are dominated by infrastructure including busy roads and heavy rail, resulting in a lack of public domain activation.



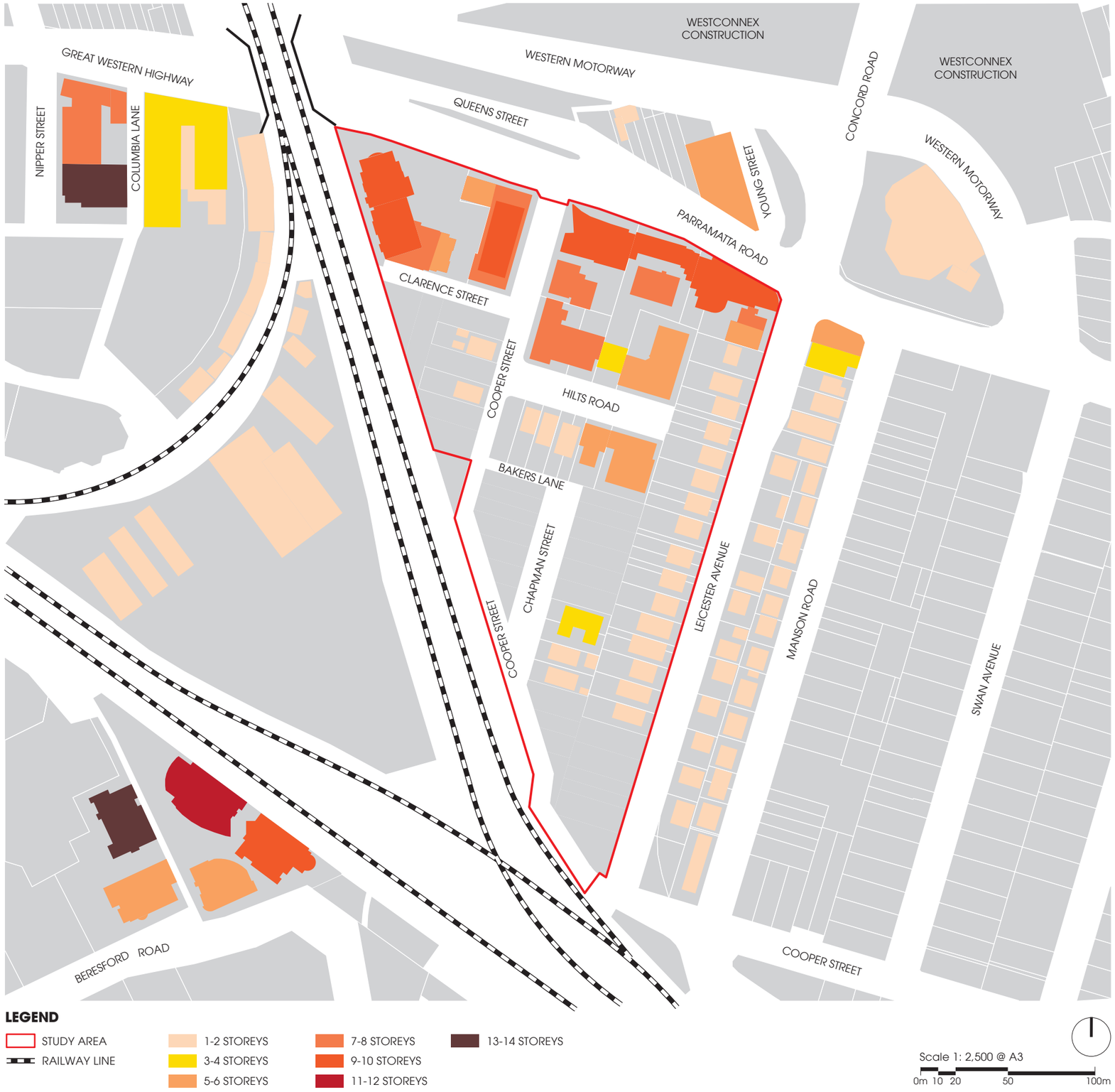
3.3 BUILT FORM

The existing built form within the Study Area is characterised by low, medium and high density residential and mixed-use developments. The low density is made up of one storey detached dwellings along Leicester Avenue complementing the residential character across the road.

The greater density is focused in the northern parts of the Study Area towards Parramatta Road. These are relatively recent residential developments with a maximum height of up to ten storeys. The apartment buildings are typically characterised by setbacks at upper levels. The built form steps down in height from the north towards the interior of the Study Area.

Parramatta Road features a spine of employment/ mixed-use built form. The residential area on the eastern side of Leicester Avenue has a historic character with a number of dwellings recognised as local heritage items. Built form is predominantly one storey.

To the south of the Study Area is a loose cluster of taller residential form around the railway line. At up to 14 storeys these represent the tallest built form in the vicinity. These developments, in combination with other high density development (both within the Study Area and to the west of the precinct) start to establish a precedent for higher density on the future development areas within the Strathfield Triangle.



Parramatta Road Streetscape

Low density housing on the other side of Leicester Avenue

Medium rise apartment buildings along Hilts Road

Existing development at the intersection of Cooper Street and Clarence Street

Tall built form across the railway tracks south of the Study Area

Key Plan

3.4 ROAD NETWORK

The Study Area is accessed via Cooper Street, which runs north-south between Parramatta Road and Leicester Avenue. At Parramatta Road, the access into the precinct is via a 'left-in' and 'left-out' intersection. At the southern end, Cooper Street connects to Leicester Avenue via a priority intersection.

The Leicester Avenue intersection is unsignalised. There are no pedestrian crossings resulting in poor pedestrian safety.

The Study Area has excellent access to the strategic road network of Sydney via Parramatta Road, from where the M4 Western Motorway can be accessed. The WestConnex Concord Interchange is immediately north of the site. When completed, this will further improve access to the metropolitan road network.

Cooper Street

This is the main internal road of the Study Area. The other internal streets branch off Cooper Street and terminate in dead ends, limiting vehicular permeability.

The street is relatively narrow along much of its length, except at the northern end where the street has been widened in conjunction with the development of the adjoining apartment blocks. The street is characterised by footpaths of varying widths and lacks shade and street trees. This results in a relatively poor quality pedestrian environment.

A bend mid-way along Cooper Street impedes visibility for traffic rounding this corner. Most of the street has no on-street parking.

Hilts Road

Hilts Road is a local street that extends eastwards from Cooper Street. At 20m wide, it is wider than Cooper Street and provides on-street parking. Hilts Road is a no-through road and terminates at the back fence of 36 Leicester Avenue.

Clarence Street

Clarence Street extends westwards from Cooper Street and terminates at the railway corridor. The street is narrow, being 12m wide, most of which is taken up by road surface and on-street parking, resulting in narrow footpaths The street lacks trees and is edged by tall apartment buildings on the north side.

Chapman Street

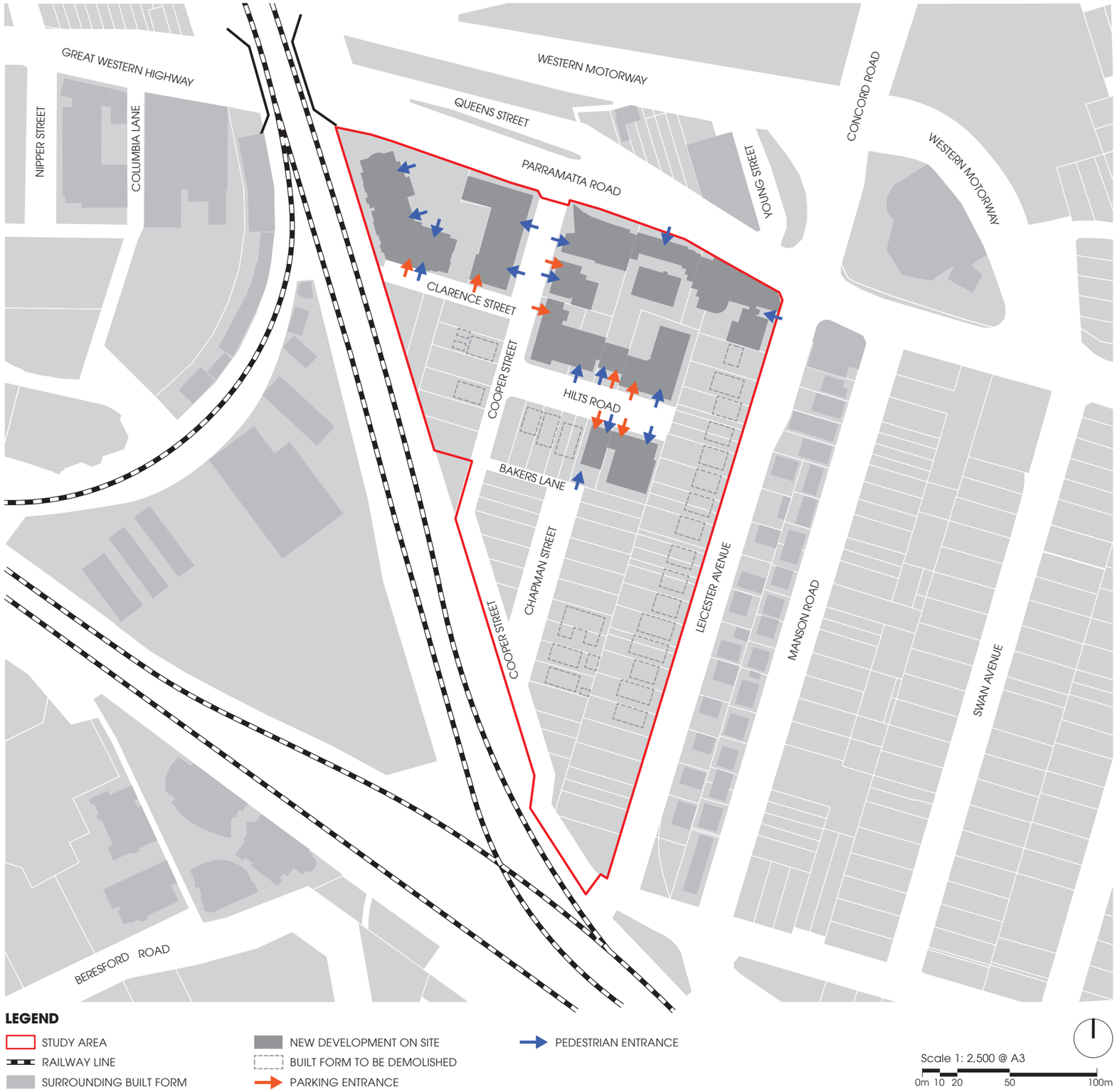
This dead-end street extends northwards off Cooper Street. Most of it is disused, except for the southern end where it provides access to three properties as well as on-street parking. A fence prevents access to the northern part of the street past these properties.

3.5 BUILDING ACCESS

The adjacent diagram maps out the location of pedestrian entries and parking access for the existing apartment buildings in the northern part of the Study Area. Any new plan for the precinct should ensure that existing access is not impeded.

No.6 Hilts Road has a rear pedestrian access off Bakers Lane requiring the lane to remain publicly accessible as part of any future development.

Clarence Street is characterised by parking entrances and bin storage areas contributing to an unattractive streetscape.

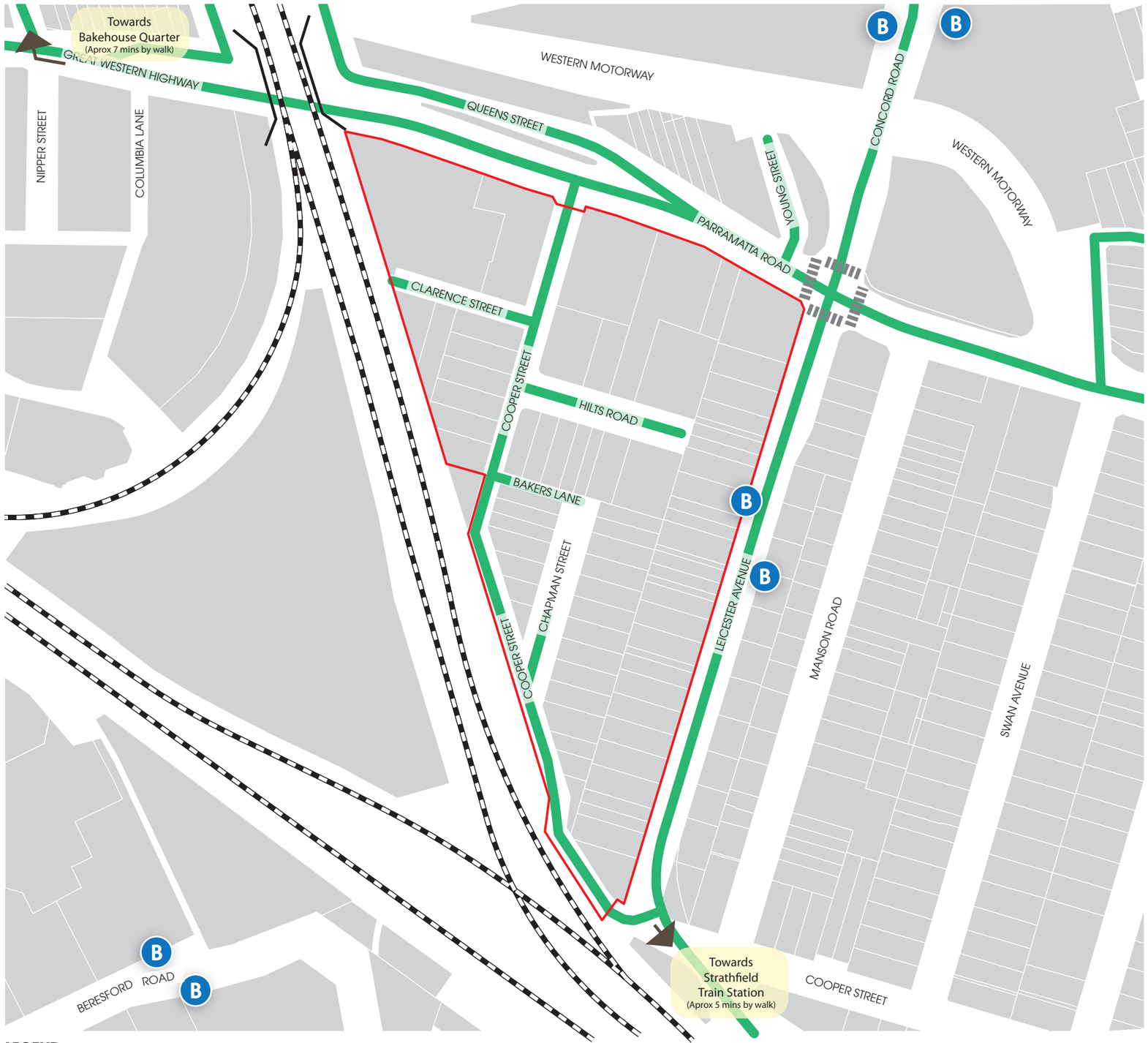


3.6 PEDESTRIANS & BICYCLES

Footpaths are provided along all internal streets within the Strathfield Triangle, as well as along Leicester Avenue and Parramatta Road. The quality of pedestrian infrastructure is generally poor due to narrow footpaths, lack of activation and passive surveillance, heavy traffic volumes along Parramatta Road and Leicester Avenue, and minimal street landscape.

There are no dedicated bicycle paths. The northern section of Cooper Street has been upgraded to provide wide footpaths which, according to the Strathfield Triangle Public Domain Plan, is intended to be a shared pedestrian / bicycle path.

Public transport services in the form of buses and trains can be accessed on foot from the Study Area. Strathfield Train Station is a five minute walk from the southern part of the Study Area. The closest bus stops are located centrally on Leicester Avenue. The lack of east-west permeability between Leicester Avenue and the interior of the Study Area makes accessing these stops less convenient that they could be.

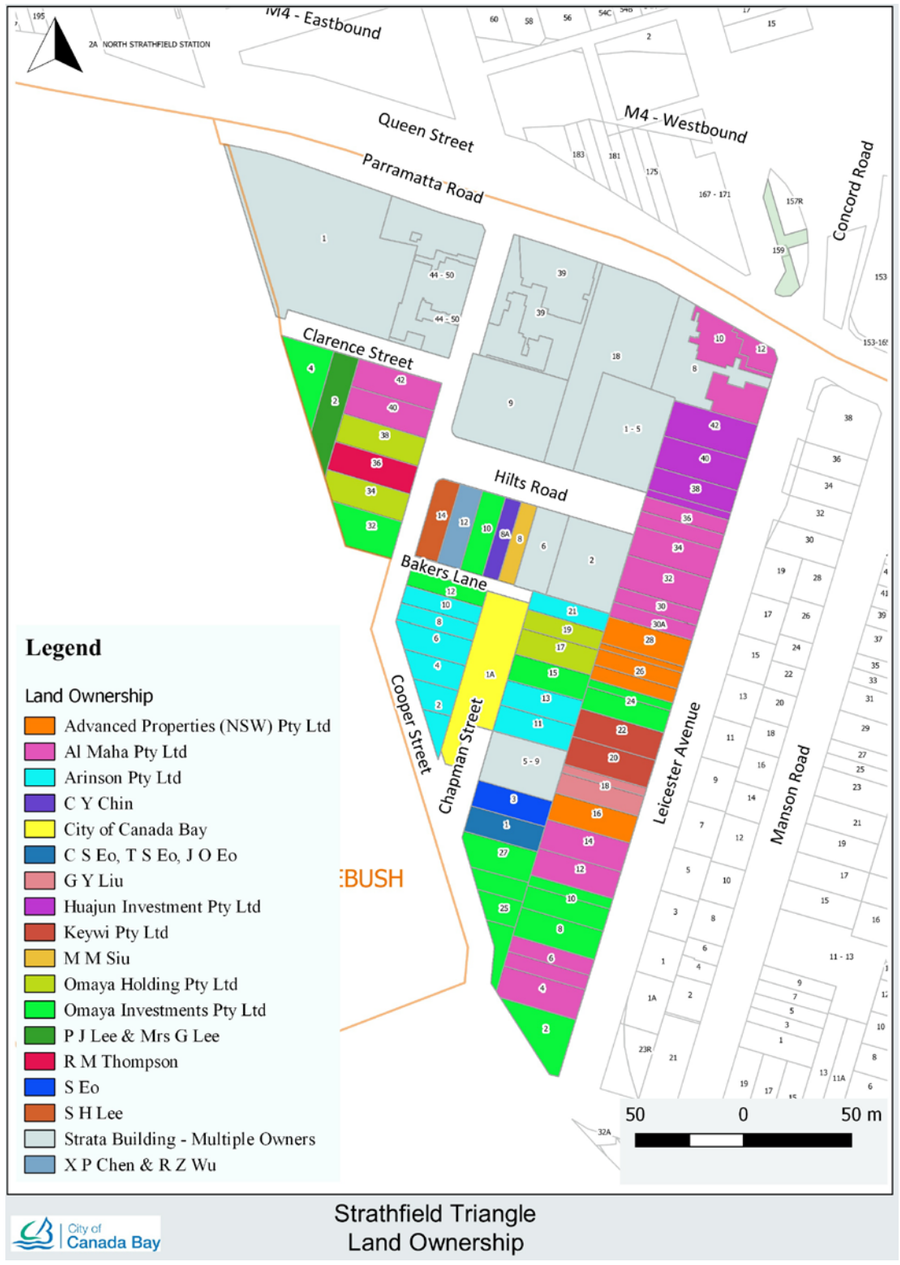


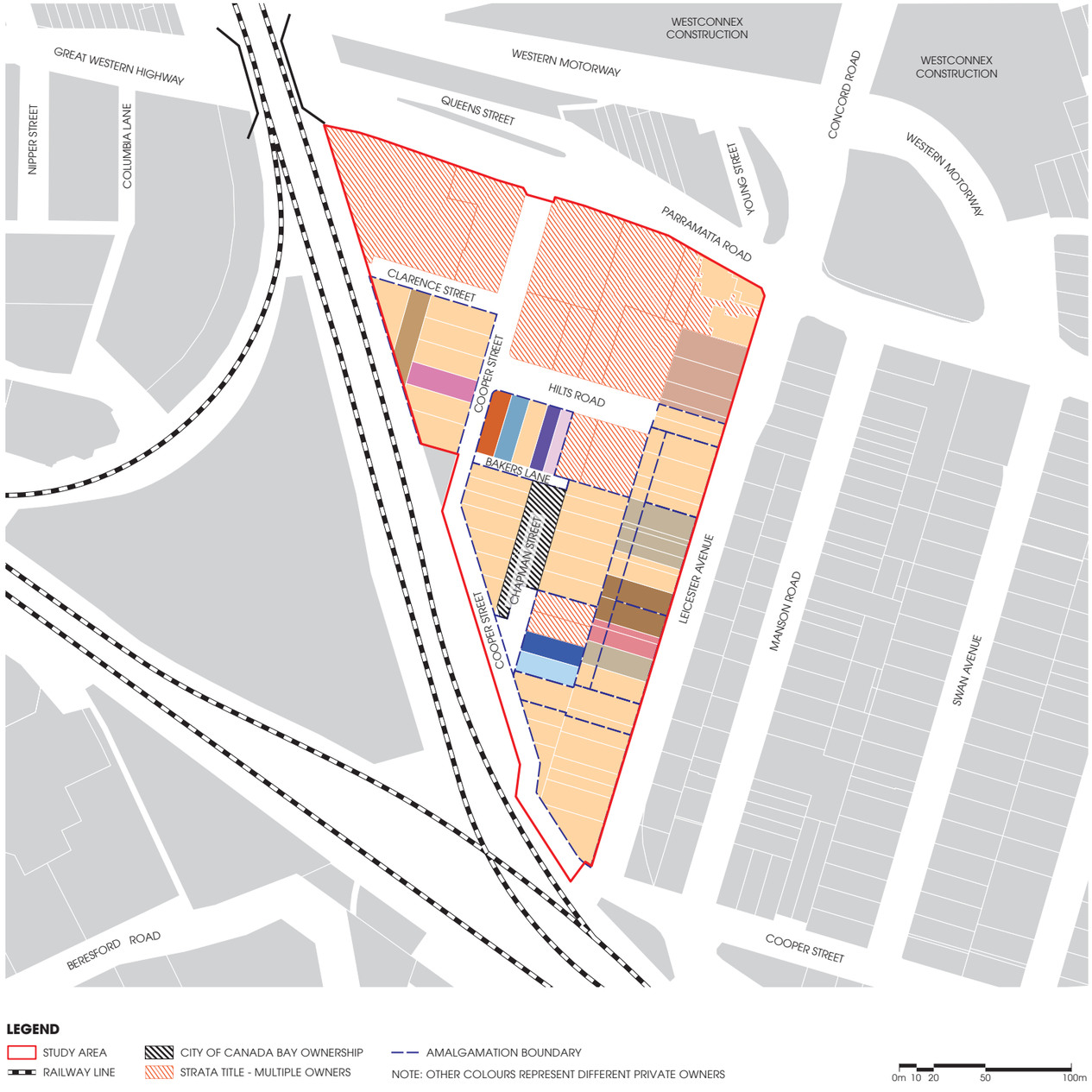
Streetscape at the northern end of Cooper Street featuring wide footpaths

3.7 LAND OWNERSHIP

The diagram below presents the various land parcels and their landowners within the Study Area. Four of the entities identified in the diagram are in fact part of the same landowner, which means that much of the precinct is under the control of a majority landowner. The diagram on the right identifies the extent of the majority landowner's land holdings.

The amalgamation pattern in the Strathfield Triangle DCP has been informed by the ownership pattern.

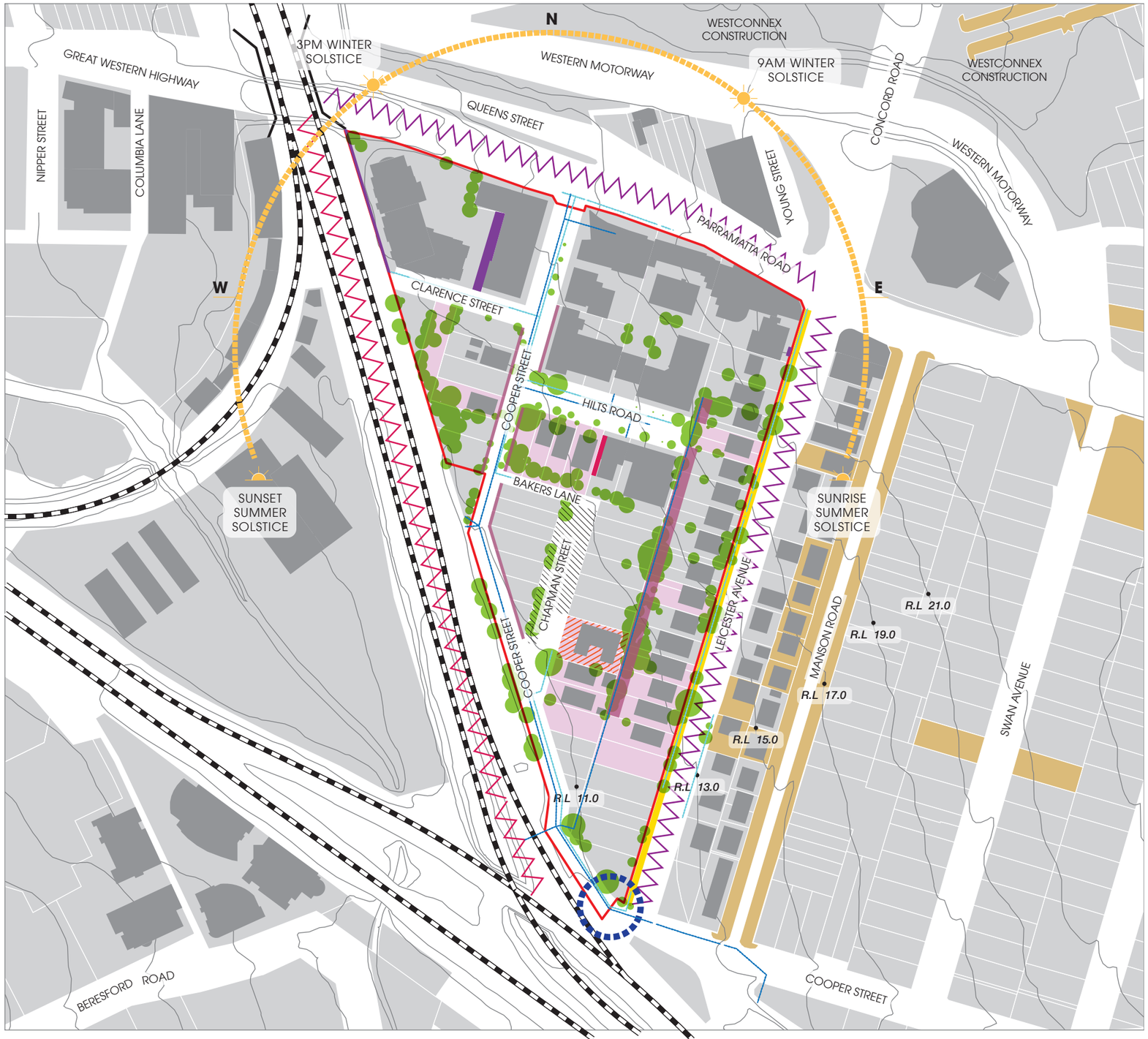




GROUPGSA

3.8 CONSTRAINTS

- The eastern edge of the Study Area interfaces with a low density context along Leicester Avenue, of which some properties are local heritage items. This imposes an implied constraint on the height and character of future development in the vicinity of Leicester Avenue.
- There is a lack of vehicular and pedestrian access off Leicester Avenue. The RMS has stipulated that vehicular access for future development along Leicester Avenue cannot be provided from Leicester Avenue.
- The surrounding busy roads and the railway line result in poor visual amenity and noise impacts.
- 6 Hilts Road presents a blank western elevation. This would face the park proposed in the Strathfield Triangle DCP, resulting in a poor interface with this proposed park.
- Lots under non-contiguous land ownership and a strata title lot imposes constraints on future amalgamation and development feasibility.
- Future development will need to achieve SEPP65 ADG compliant building separations to existing residential development.
- Lots to the south of Clarence Street are overshadowed by existing development.
- The orientation of the Study Area means that the facades of any future development along Leicester Avenue that follows the angle of the road will receive reduced solar access.
- There is a sewer line along the rear boundary of Leicester Avenue properties.



3.9 OPPORTUNITIES

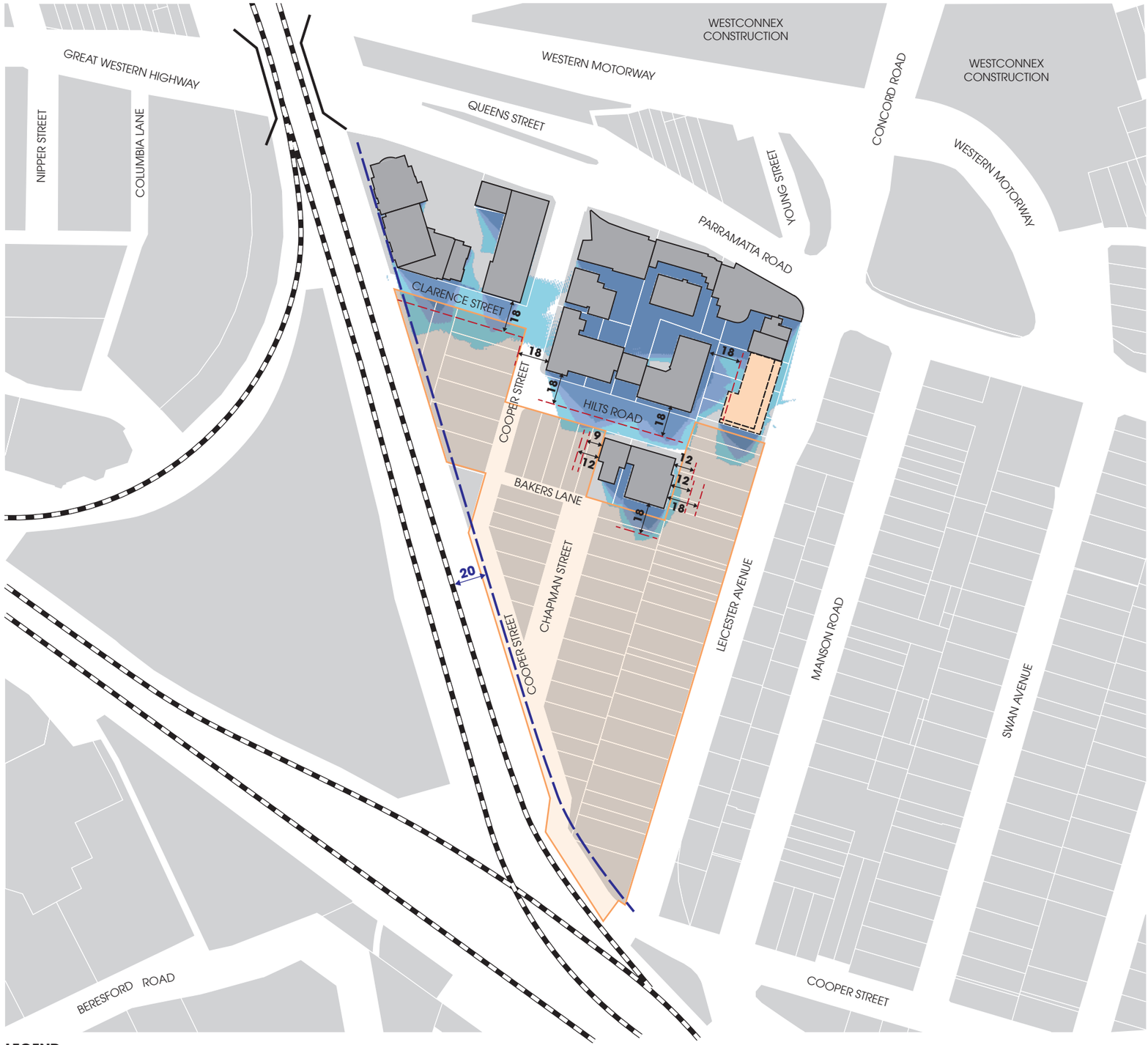
The proposed plan for the Stud Area should aim to capitalise upon the following opportunities:

- Improve east-west permeability to overcome the relative isolation of the Study Area and improve pedestrian access to Leicester Avenue bus stops.
- Potential for activation on the corner of Hilts Road and Cooper Street.
- Increase heights along the railway line where impacts on surrounding amenity would be minimised.
- Create a sense of arrival into the Precinct from the train station.
- Connect to existing through-site links and accessible communal open space.
- Chapman Street is under City of Canada Bay ownership. This could be leveraged by locating new public domain in this location (which could reduce the amount of land acquisition), or the land could be divested to generate revenue for the delivery of public infrastructure.
- The re-alignment of Cooper Street creates a safe pedestrian crossing. The disused portion of the existing alignment (which is understood to be under Council control) could be closed off and divested as development land.
- Facilitate future development by proposing an amalgamation pattern that takes advantage of the extensive areas within the precinct that are under contiguous ownership.
- The Study Area topography is generally flat, facilitating accessibility.
- Locate future open space in areas that allow the retention of trees.
- The Study Area is not flood affected.

3.10 INTERFACE CONSIDERATIONS

Based on the analysis of opportunities and constraints, the adjacent diagram highlights the impacts of existing development and infrastructure on land available for re-development. These shape the Recommended Plan presented in this study, and include the following:

- Ensuring ADG compliant building separation to existing development. The diagram shows the required minimum distances from existing development to future development. Where two numbers are shown, the larger distance relates to building separation for habitable to habitable rooms, while the smaller number relates to building separation between habitable and non-habitable rooms.
- Areas shaded in blue represent land within the Study Area that does not receive ADG compliant solar access at the winter solstice (i.e., these areas receive less than 2 hours of sun between 9am and 3pm). This impacts upon the potential locations of public and communal open space. It also influences the location of building envelopes as facades located within these shaded areas will not receive compliant solar access to at least some extent.
- This study assumes the need for a 20m buffer zone from the railway line. The Infrastructure SEPP states that development within 25m of a rail corridor needs to refer to the NSW Department of Planning *Development Near Rail Corridors and Busy Roads - Interim Guideline (2008)*. This document does not specify any requirements for setbacks.
  GroupGSA has had previous project experience at Wolli Creek where Railcorp identified the need for a throw protection zone 20m from the railway line. Residential development within this zone was not permitted to have open balconies on facades facing the railway line to reduce the risk of objects falling into the rail corridor.
  It is noted that there are examples of development located closer to the railway line than the 20m allowed for in this study, such as in the vicinity of Burwood station. Further study is therefore recommended to establish an appropriate setback distance from the railway line. In this instance, the 20m setback has been assumed as (a) it is similar to the setback of existing development in the Study Area from the railway line; (b) it allows for a 20m throw protection zone; and (c) allows for some distance between the railway line and residential development to mitigate amenity impacts.



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4.0 ANALYSIS OF THE BASE CASE

4.1 URBAN DESIGN REVIEW

An urban design review of the development outcome envisioned under the Strathfield Triangle DCP was undertaken. The adjacent diagram from the Strathfield Triangle DCP summarises the intended development outcome, identifying indicative building footprints, proposed lot amalgamations, and key open space.

The review was informed by GroupGSA's understanding of the current planning context and our independent assessment of the Study Area and its context. The objective was to examine whether there were any opportunities to improve the urban design of the precinct and the deliverability of the proposed development lots. The building envelopes proposed by the DCP was replicated as a 3D computer model to aid the review, which included an analysis of solar access.

Issues

Potential issues revealed by the review include the following:

1 Rear Access to Leicester Avenue properties

+ The laneway is 150m long and appears to be largely impermeable in the east-west direction. Combined with the likelihood that the backs of buildings are likely to face the laneway, the risk is that a poor and potentially unsafe urban design outcome will result.
+ Properties affected by the lane are owned by five different landowners. The fragmented ownership complicates the redevelopment of the lots and therefore the completion of the full length of the laneway. This is problematic given that access and circulation within the Study Area will be dependent upon this laneway.
+ The distance between the rear lane's intersection with Cooper Street and the proposed signalised intersection at Leicester Avenue may be too close and should be investigated by a traffic engineer (if not done so already).

2 Continuous building footprint along Leicester Avenue

The DCP suggests that a continuous frontage over 100m in length is proposed along Leicester Avenue, across three amalgamated lots. Potential issues / impacts include the following:

+ Results in an imposing street wall along Leicester Avenue that is incongruous with the low density context opposite.
+ Lack of permeability between Leicester Avenue and the interior of the Study Area perpetuates the precinct's relatively isolated character.
+ Assuming the three amalgamated lots along Leicester Avenue will be developed by different landowners, the continuous footprints ignore the need for setbacks from site boundaries as stipulated in the ADG.
+ The topography along Leicester Avenue slopes downwards from the north. Built form will therefore step down along the road, despite the intent of having a consistent five / seven storey height along the road. Coupled with the stipulation of the DCP to provide setbacks to the upper level/s of built form, resolving the various stepping of built form in a visually appealing way will require careful treatment.

3 Upper level setbacks

Setbacks to the upper levels of built form is proposed for a number of building footprints, with the aim of mediating the perception of building scale when viewed from the street level. Although this is welcomed from an urban design perspective, the extent of setback proposed can result in less efficient, narrow building floorplates (down to 14m) that may result in an over-estimation of dwelling yield if using standard assumptions.

4 Small tower footprints

Some of the tower footprints are small and not optimal for residential development, potentially resulting in inefficient floorplates. As with the preceding point, this may result in the potential yield being over-estimated, and / or be a disincentive to developing the permitted envelope.

5 9 / 10 storey building heights

Building heights are set at either nine or ten storeys in a couple of locations. Due to the requirement for fire-sprinklered buildings above eight storeys, nine to ten storey buildings are less economical to build, and may disincentivise development.

6 Inefficient building envelopes

Long building envelopes and envelopes that turn the corner at an acute angle are difficult to plan efficiently. Long building envelopes also make it more difficult to meet the ADG criteria of having 60% of units achieve natural cross-ventilation.

7 Building separation

Separation distances between building footprints do not appear to comply with ADG requirements in certain instances.

8 Solar access

Solar access analysis indicates that some of the proposed building footprints may struggle to achieve the ADG requirement for 70% of units to have compliant solar access, assuming a typical unit mix and sizes. Larger apartment units may be required in these instances. Furthermore, in some lots the ground floor communal open space receives very little sunlight.

9 Park provision and location

+ The DCP proposes two parks - one main park on Hilts Road, and a pocket park on Chapman Street. The combined total open space is just under 5%, which is low for a high density precinct. Fragmenting this quantum of public space could therefore be considered an inefficient allocation of public space.
+ The Hilts Road park is somewhat less convenient to access from the southern parts of the Triangle, where much of the future density is concentrated.
+ The Chapman Street pocket park reads as a leftover space with an awkward relationship to surrounding streets and built form.

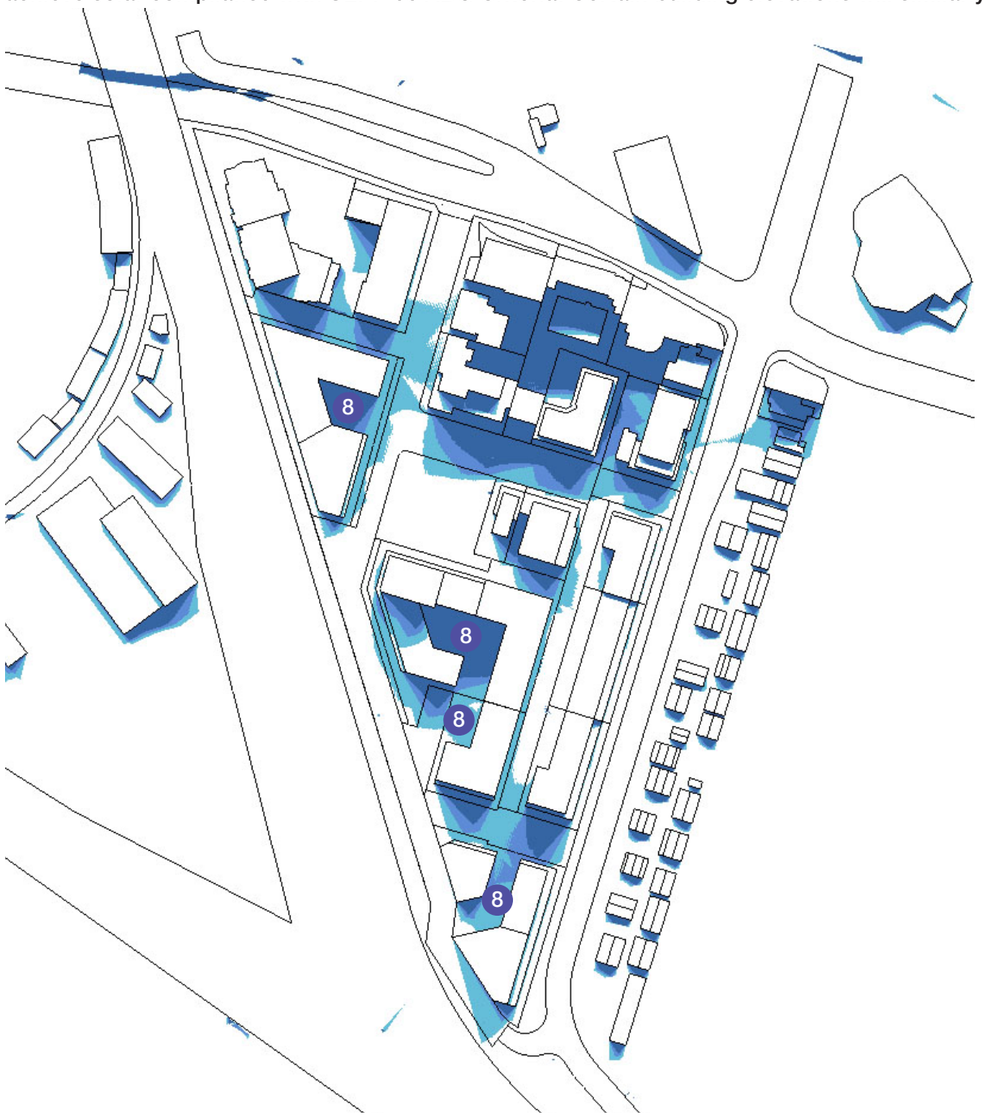
10 Lack of through views

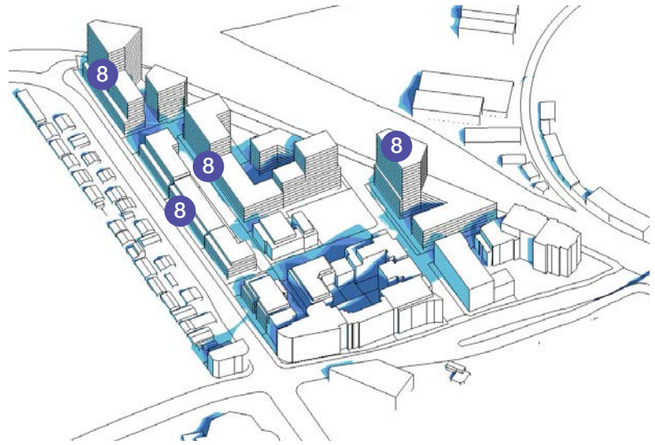
There is a lack of visual permeability throughout the Study Area owing to long, unbroken building footprints and sightlines terminating in buildings. This exacerbates the perception of density and hampers wayfinding through the precinct.

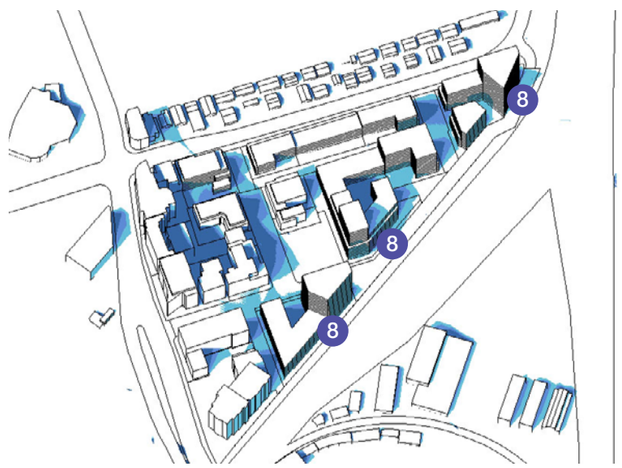
11 Blank facade to the proposed Hilts Road park

The existing apartment block at No.6 Hilts Road presents a blank elevation to the proposed Hilts Road park.

Solar Access Analysis: Shaded areas receive less than 2 hours of sunlight on 21 June. It is evident that a number of communal open spaces is unlikely to achieve solar compliance with SEPP 65 ADG Criteria. Certain building elevations will similarly struggle to achieve compliance.







AREAS THAT RECEIVE 0 HOUR SUNLIGHT

AREAS THAT RECEIVE 0-1 HOUR SUNLIGHT

AREAS THAT RECEIVE 1-2 HOURS SUNLIGHT (BETWEEN 9 AM TO 3 PM IN THE WINTER SOLSTICE)

Map 6 - Building Access Point

Prepared by Clouston Associates

Yield Implications

The urban design review uncovered a number of issues related to the proposed building envelopes. The issues of continuous envelopes along Leicester Avenue, upper level setbacks, tower footprints, separation distances, solar access and inefficient floorplates all have implications upon the potential yield of the precinct. Collectively, these factors are likely to over-estimate the yield that can be achieved, as follows:

- Where building envelopes result in a poor urban design outcome and / or does not comply with ADG criteria, the envelopes can be considered excessive and would overstate the GFA of the precinct. This in turn would overstate the dwelling yield, as well as implying an unrealistic FSR for the affected lot.
- Where a compliant building envelope results in an inefficient building plan, the number of units that can be delivered would be overstated.

Obtaining a reasonably accurate and realistic yield estimate for the precinct is important for the following reasons:

- To ensure a reasonably accurate estimate of the potential contributions that can be collected.
- Given that there are no FSR controls over the Study Area, its existing development potential is not readily apparent. Estimating a reasonably realistic FSR under the current controls creates a clear benchmark of development potential against which the benefits of the amended plans recommended in this study can be assessed and quantified.

Although a yield estimate based on a literal application of the Strathfield Triangle DCP is unlikely to be realistic, this is presented here nevertheless for information purposes.

Yield Estimate Assumptions

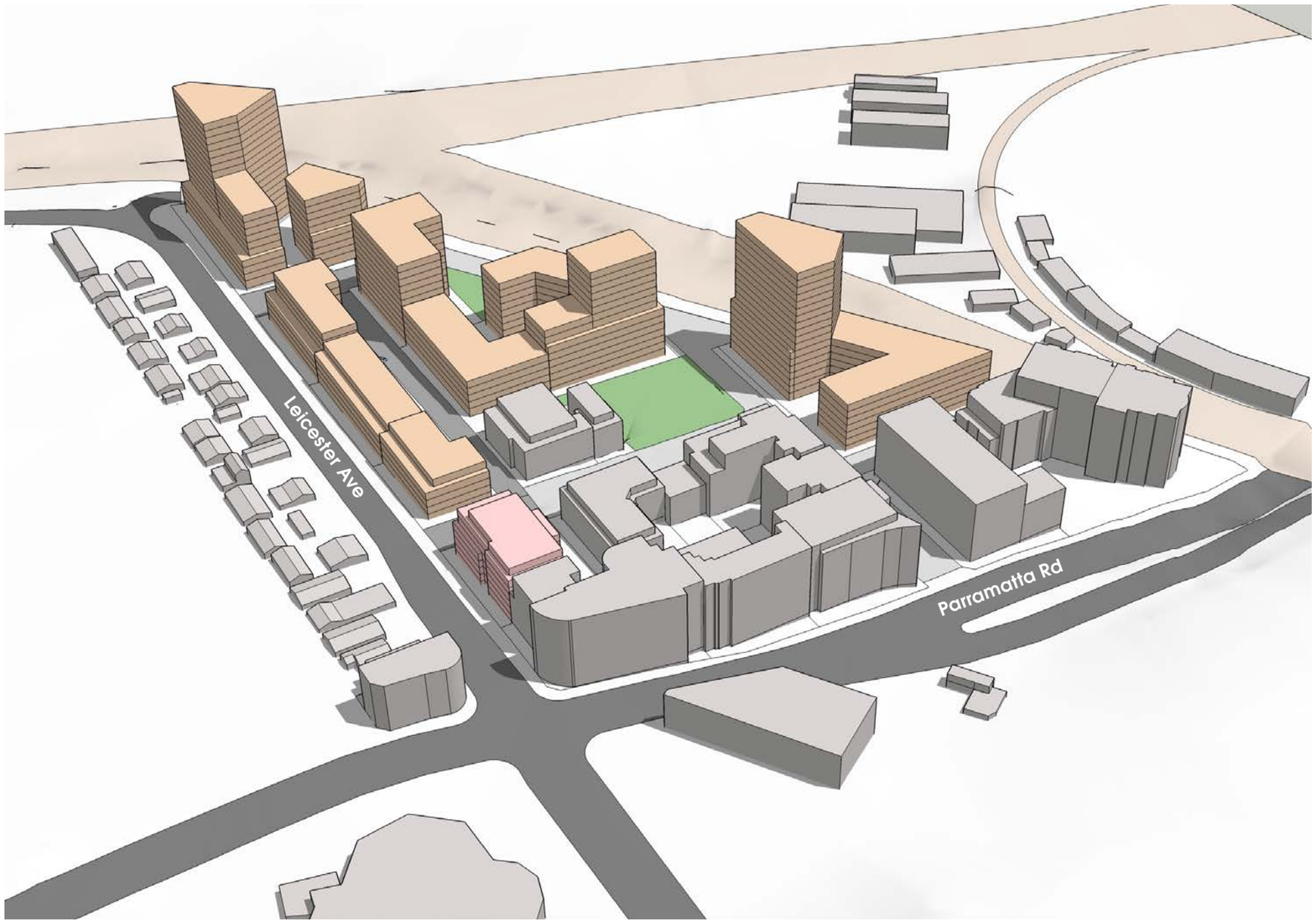
Yield estimates presented in this document are numerically derived and based on the following assumptions:

- Efficiency ratio: GFA (Gross Floor Area as per the Standard Instrument definition) is assumed to be 83% of the GEA (Gross Envelope Area; derived from the measured area of building envelopes)
- FSR (Floor Space Ratio) is calculated from the GFA.
- Unit sizes: 55sqm for 1-bed, 77sqm for 2-bed, 105sqm for 3-bed (floor areas in Net Saleable Area (NSA)). These are effectively 10% more than the minimum apartment sizes given in the Strathfield Triangle DCP. The 10% addition is to allow for the fact that the units in a given development are unlikely to all be the minimum size.
- Efficiency ratio: NSA is assumed to be 85% of GFA.
- Unit mix: 20% 1-bed, 60% 2-bed, 20% 3-bed

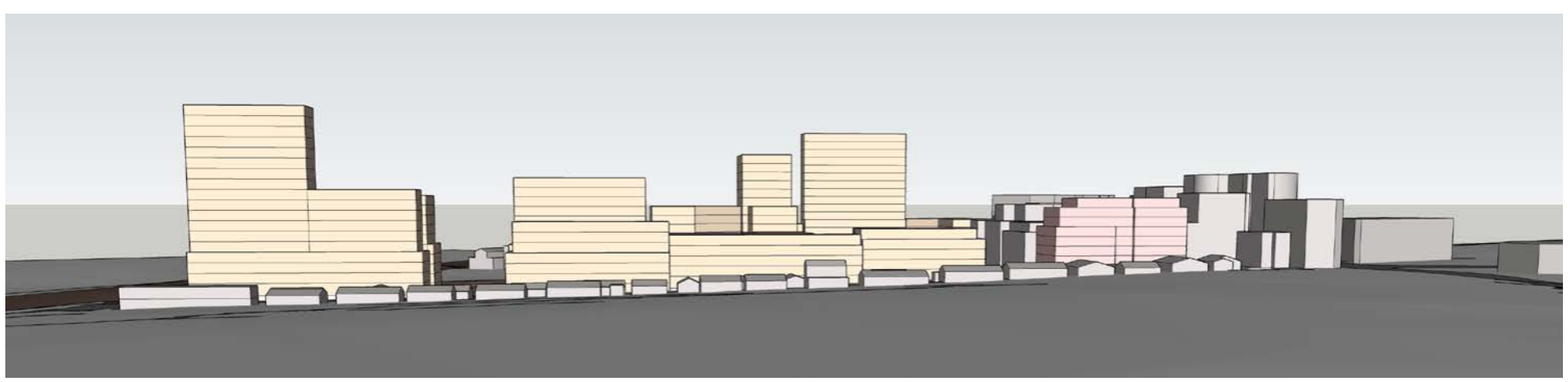
The above parameters result in an average unit size of 92sqm.

Yield Estimate: DCP Plan

Area of Non-Developed Land (excl. 38-42 Leicester Ave):	**29,398 sqm**
Total Estimated GFA (for the Non-Developed Land):	**87,162 sqm**
Study Area FSR (for the Non-Developed Land):	**2.96 : 1**
Potential Additional Units (On the Non-Developed Land):	**947 units**
...including current DA at 38-42 Leicester Avenue	*1,010 units*
Density (across the Non-Developed Land):	**322 dw/ha**
Open Space as % of Study Area:	**4.2%**



AERIAL PERSPECTIVE OF THE STUDY AREA



EAST ELEVATION

4.2 ADJUSTED DCP SCHEME

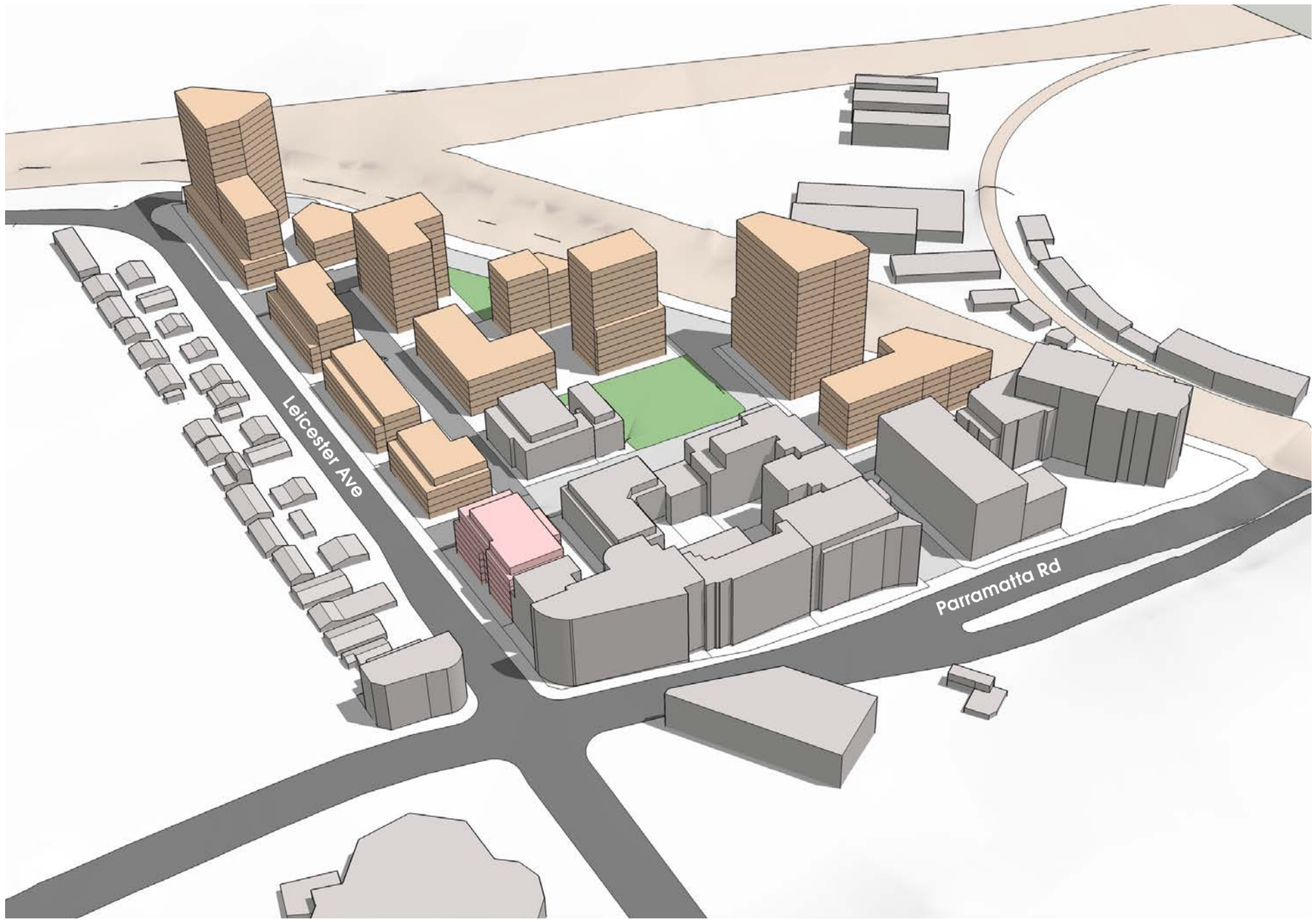
In order to arrive at a more reasonable estimate of the development potential of the Study Area, adjustments were made to the DCP building envelopes to address the identified issues to a certain extent while minimising deviation from the Strathfield Triangle DCP controls.

The primary adjustments involved breaking up envelopes to introduce the possibility of built outcomes that can better achieve compliance with key ADG criteria. Current DCP controls such as setbacks, building heights and the overall plan structure remain unchanged.

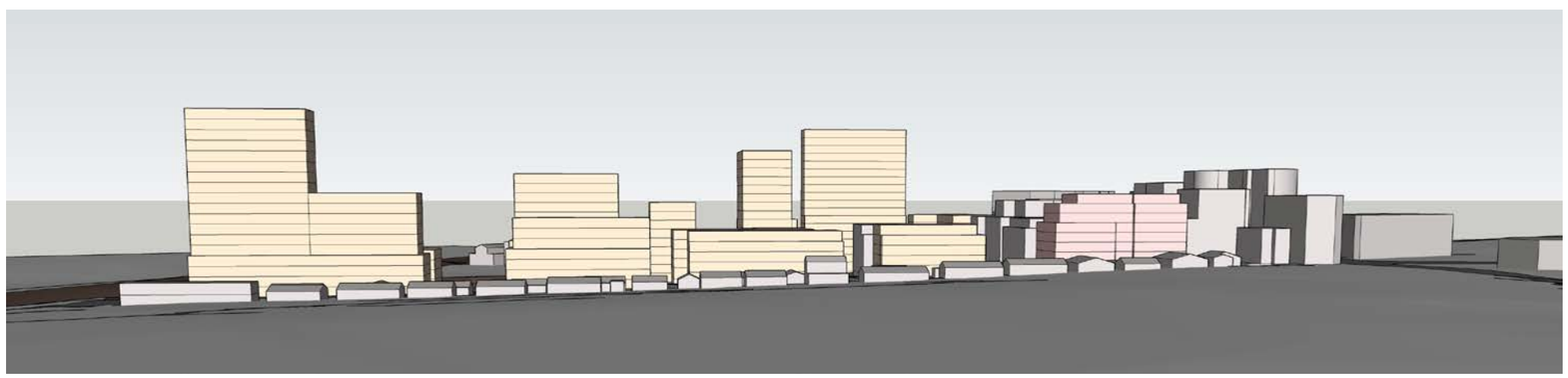
GFAs and dwelling yields for each of the amalgamated DCP lots were calculated on the basis of these adjusted envelopes. FSRs for each of the amalgamated lots were derived from this GFA. These FSRs were then associated with each of the individual lots in the Study Area to form the baseline (the “Base Case”) for this study.

The economic feasibility analysis undertaken by AEC have been based on the yields of this adjusted DCP scheme. The Recommended Plan presented later on in this document that forms the basis for the study recommendations was designed to maintain, at a minimum, the FSRs of the Base Case.

Area of Non-Developed Land (excl. 38-42 Leicester Ave):	**29,398 sqm**
Total Estimated GFA (for the Non-Developed Land):	**73,806 sqm**
Study Area FSR (for the Non-Developed Land):	**2.51 : 1**
Potential Additional Units (On the Non-Developed Land):	**802 units**
...including current DA at 38-42 Leicester Avenue	*865 units*
Density (across the Non-Developed Land):	**273 dw/ha**
Open Space as % of Study Area:	**4.2%**



AERIAL PERSPECTIVE OF THE STUDY AREA



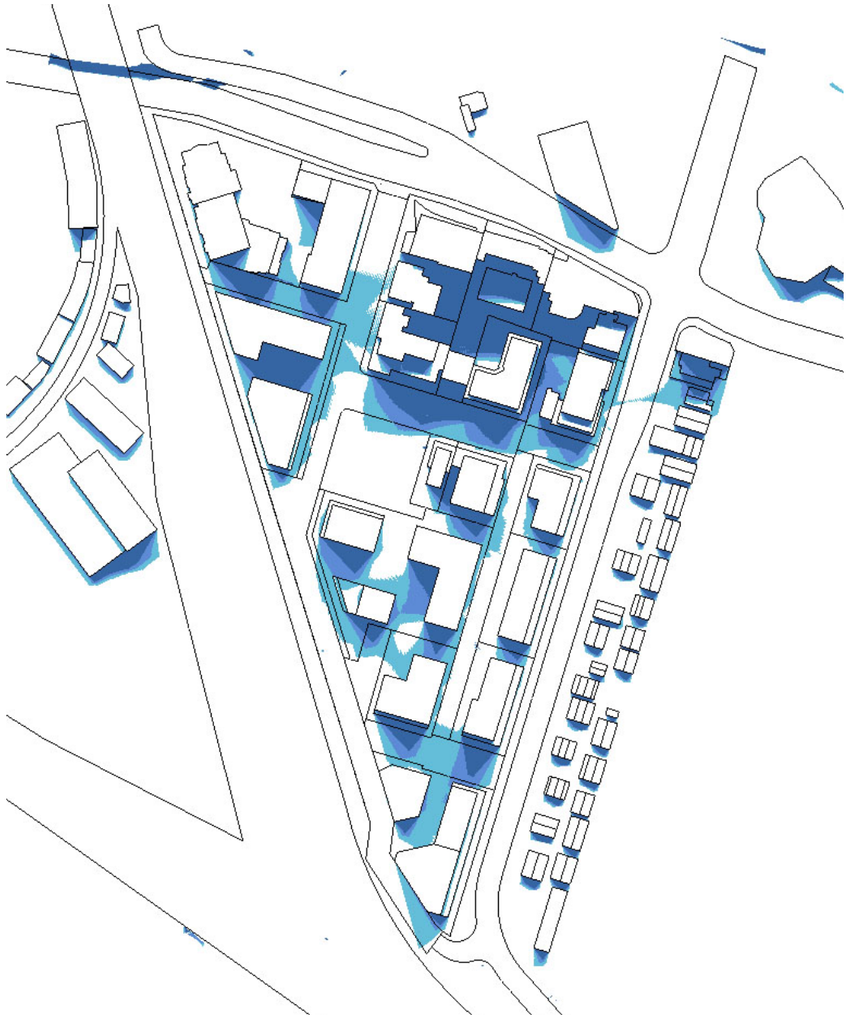
EAST ELEVATION

Solar Access Analysis: Shaded areas receive less than 2 hours of sunlight on 21 June.

LEGEND

- STUDY AREA
- EXTENT OF NON-DEVELOPED LAND
- RAILWAY LINE
- AMALGAMATION BOUNDARY*
- STREET WIDENING
- DEVELOPED RESIDENTIAL LOT
- FUTURE DEVELOPMENT LOT
- PROPOSED PARK
- STREET RESERVE
- LOT SUBJECT TO CURRENT DA

** NOTE: Proposed Lot Amalgamation as per Strathfield Triangle DCP.*



- AREAS THAT RECEIVE 0 HOUR SUNLIGHT
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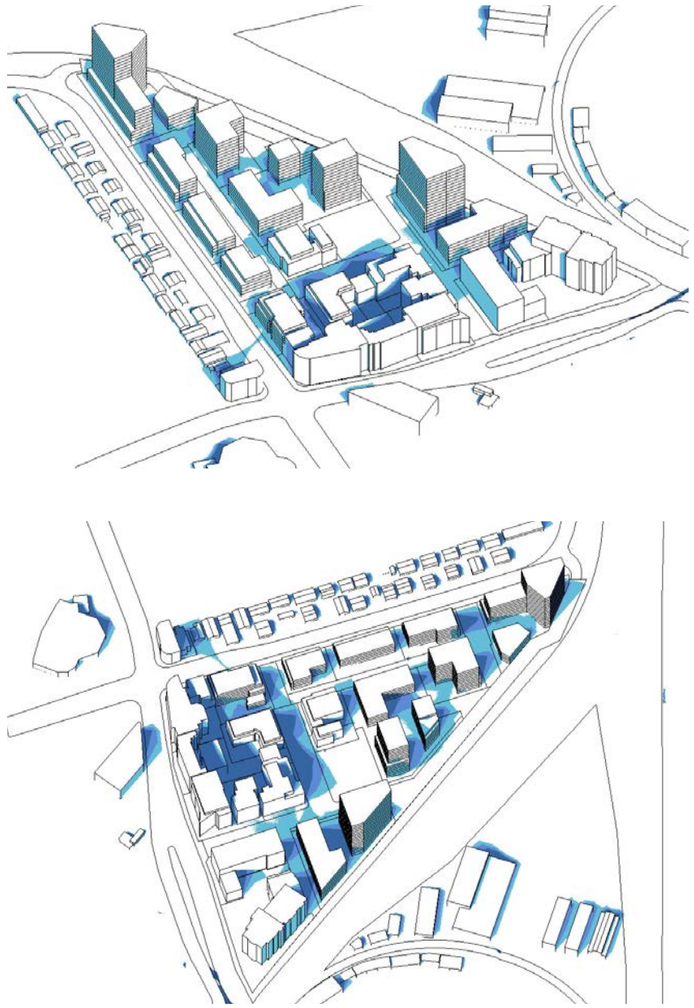


4.3 BASE CASE FEASIBILITY ANALYSIS (AEC)

Cost of Infrastructure Delivery

The deliverability of the identified public domain infrastructure items is dependent on the collection of development contributions to fund the acquisition of privately-owned land and construction of public domain works.

Little new development in the Study Area has occurred post-implementation of the Strathfield Triangle planning framework. None of the major infrastructure items detailed in the Public Domain Plan have been delivered.

Total development contributions received under the Contributions Plan (Q2 2019) are understood to be in the order of $1.8m. These funds have generated some $200,000 of interest, bringing the total contributions revenue received to date to just over $2m.

A recent review (2018) of the civil costs associated with the Public Domain Plan was undertaken by Northcroft Quantity Surveyors on behalf of Council. Owing to significant increases in the price of construction materials and labour since 2013, the cost of works has increased to $18.1m (from $7.9m in 2013).

Revaluations of the properties identified for compulsory acquisition were undertaken by Southern Alliance Valuation Services in mid-2018 on behalf of Council. Strong price growth in the residential housing market over the 2013-2018 period across Greater Sydney has resulted in a significant increase in the market value of these properties.

The market value of properties required for acquisition was assessed at $20.97m (increased from $8.7m in 2013). Council has commenced compulsory acquisition proceedings for 36 Leicester Avenue to progress delivery of an identified through-site link between Leicester Avenue and Hilts Road. An indicative sum of $3.5m is included.

In total, the estimated cost of delivering the Public Domain Plan is $42.6m (compared to $20.1m in 2013).

Table 4.1 illustrates the headline findings outlined above.

Item	Amount
Land Acquisition Costs	
8 Hilts Road	$1,725,000
8a Hilts Road	$1,780,000
10 Hilts Road	$2,470,000
12 Hilts Road	$2,465,000
14 Hilts Road	$2,470,000
12 Leicester Avenue	$4,300,000
Part 10 Leicester Avenue	$1,920,000
Part 27 Leicester Avenue	$3,840,000
36 Leicester Avenue	$3,500,000
Total Land Costs	**$24,470,000**
Public Domain Infrastructure Works	
Site Preparation and Bulk Earthworks	$959,434
Cooper St	$3,629,383
Chapman St Park	$719,902
Leicester Lane	$1,025,980
Leicester Avenue (incl. Pedestrian access to Leicester Lane from Hilts Rd)	$952,929
Hilts Rd	$920,060
Clarence St	$690,682
Parramatta Rd	$545,695
Bakers Lane Park	$1,388,297
Electrical Services	$675,108
Preliminaries, Overheads and Margin	$1,475,531
Contingency	$3,500,000
GST	$1,648,300
Total Public Domain Infrastructure Works Costs	$18,131,301
Revised Cost of Public Domain Plan	**$42,601,301**

Source: Northcroft (2018)/Southern Alliance Valuations (2018)

Table 4.1: Land Acquisition Costs and Civil Works Costs (2018)

Base Case Development Capacity

To assess the viability of the planning controls (specifically FSRs) proposed in the Adjusted DCP Scheme, the Hypothetical Development or Residual Land Value (RLV) approach has been adopted as the method of assessment, utilising development feasibility software Estate Master.

The RLV approach involves assessing the value of the end product of the development, allowing for development costs, and making a further deduction for the profit and risk that a developer would require to take on the project.

The principle of highest and best use influences the feasibility of development. In order to economically acquire and develop land, development must translate into a higher value than the existing use of a property, including any improvements on it (or its 'as is' use). A key metric for development feasibility is land value, which is a 'residual' after all costs and revenues are taken into account. In order for development of any given site to be considered feasible, the Residual Land Value (RLV) must exceed the 'as is' value of the land and any premium required to incentivise a landowner to sell.

A total of 802 units can be delivered under the Base Case (excluding the DA for 38-42 Leicester Avenue). Generic feasibility testing found that density controls of at least FSR 2.2:1 to FSR 2.5:1 are required for development to be viable in the Study Area, with three development lots (Lot 1, 2 and 3) considered not feasible under the Adjusted DCP Scheme.

Therefore, the number of dwellings likely to be delivered in the Study Area decreases from 802 units to 750 units. The results of the generic feasibility testing are summarised in Table 4.2.

Lot	FSR	Storeys	Units	Feasible?	Comments
1	1.2:1	4-5	30	No	Not feasible; requires min. FSR 2.2:1. Located along Leicester Avenue where interface to low-density residential limits building heights.
2	1.4:1	4-5	36	No	
3	2.0:1	4-7	49	Marginal	Development is marginal; multiple landowners likely to inhibit economical site consolidation.
4	4.0:1	4-18	195	Yes	Feasible; single owner with much of the site cleared.
5	2.6:1	5-15	162	Yes	Feasible. Held in single ownership (with the exception of the Council-owned road) with much of the site cleared.
6	4.9:1	5-12	93	Yes	Feasible; density high-enough to displace existing 3-storey unit block comprising 12x2 bedroom apartments.
7	5.2:1	7-18	237	Yes	Feasible.

Source: AEC

Table 4.2: Development Feasibility Summary Base Case Yields (AEC)

The feasibility of development implicates deliverability and ultimately capacity of the Adjusted DCP Scheme to fund the cost to deliver the Public Domain Plan through development contributions.

Potential Development Contributions and Implications

By applying the contribution rates (rates that were current in November 2018 have been applied) to the development lots considered feasible to develop, a total of $12.4m in development contributions results. Lot 3 (which was identified as being marginally feasible) is excluded. When including the $2m of development contributions already received, total contributions under the Adjusted DCP Scheme (the Base Case) amounts to $14.4m.

When comparing the potential contributions that could be received ($14.4m) under the Adjusted DCP Scheme against the revised cost of delivering the Public Domain Plan ($42.6m), a shortfall of $28.2m results.

Table 4.3 shows the potential contributions revenue against the revised costs of the Public Domain Plan.

There is a significant shortfall in funding required to deliver the Public Domain Plan. It is therefore reasonable to expect that many of the infrastructure items would not be delivered under the Adjusted DCP Scheme, thereby compromising the future amenity and built outcome desired for the Study Area.

Intervention is accordingly needed to examine alternate development schemes and sources of funding.

Lot	FSR	Potential Yield				Feasible?	Potential Contributions
		1BR	2BR	3BR	Total		
1	1.2:1	6	18	6	30	No	-
2	1.4:1	7	22	7	36	No	-
3	2.0:1	10	29	10	49	Marginal	-
4	4.0:1	39	117	39	195	Yes	$3,050,412
5	2.6:1	32	97	33	162	Yes	$2,538,726
6	4.9:1	18	56	19	93	Yes	$1,459,530
7	5.2:1	47	142	48	237	Yes	$3,711,961
Current DA	3.0:1	29	28	6	63	Yes	$874,646
Potential Contributions							$11,635,275
Contributions Received							$2,005,444
Total Potential Contributions							$13,640,719
Revised Cost of Public Domain Plan							$42,601,301
Surplus (Shortfall)							**($28,960,582)**

Source: AEC

Table 4.3: Potential Contributions v Revised Costs, Base Case (AEC)

Opportunities

There are two key opportunities to improve the prospects of infrastructure delivery:

1. Relocation of DCP parks to locations where transfer of floorspace to adjoining sites is viable.
2. Increase densities across each development lot noting additional density is not possible on all sites.

Three alternative development scenarios were considered with these two issues in mind.

5.0 SCENARIO TESTING

5.1 INTRODUCTION

The analysis of the Base Case confirmed that the current planning framework does not result in a feasible development outcome. The ways in which to potentially improve feasibility can broadly be summarised as follows:

1. Deliver the public domain through other planning mechanisms. For example, the Base Case requires a significant amount of land acquisition. Minimising these costs could improve the deliverability of public domain improvements. Parks / public infrastructure could be re-located to locations where the floorspace on dedicated land could be transferred to adjoining sites.
2. Increase the development capacity of the Study Area, to the extent justifiable from an urban design perspective, such that development of currently non-viable land becomes viable.
3. Reduce the extent of public domain. This approach is not desirable as the quantum of public domain, in particular the open space, is arguably low relative to the density of development proposed in the base case.

In exploring opportunities to improve the prospects of delivering public domain infrastructure, this study focuses on the first two approaches above.

Given the densities proposed for the Study Area, a key tenet of the scenario testing has been to maintain the quantum of open space proposed in the Base Case. The identification of open space in the current planning framework reflects a public expectation that this would be delivered.

On the other hand, the scenario testing has re-examined the provision of other forms of public domain such as laneways and through-site links. For example, if a given plan achieves an acceptable level of permeability with less laneways than the Base Case, the resultant reduction in public domain could be considered acceptable.

A major issue under the Base Case is the location of the proposed Hilts Road park. There is limited opportunity to deliver the park through a mechanism other than costly land acquisition because:

- The land is owned by multiple landowners, and
- The affected lots are not contiguous with potential development lots to which floorspace could be transferred.

To address this issue, three development scenarios were prepared that explored different park locations. The aim was to unlock opportunities to transfer floorspace to adjoining sites.

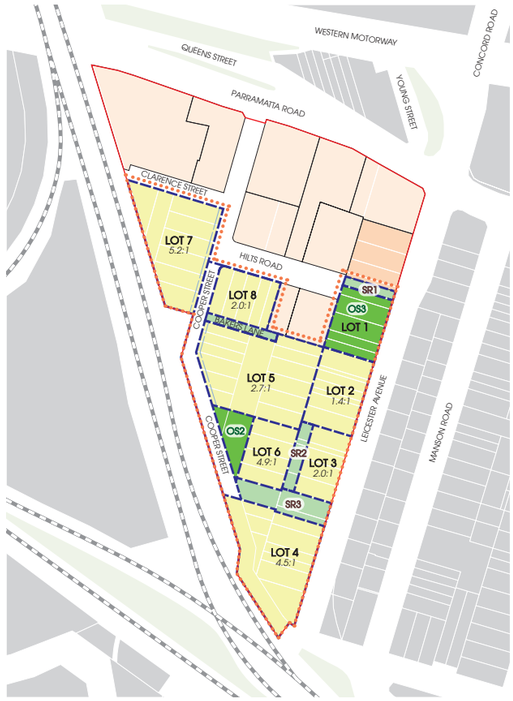
The Base Case FSRs were then applied to the revised development lots that resulted, and their feasibility assessed. The scenario testing therefore examines whether a different plan arrangement can improve the feasibility of development. A preferred scenario was then selected and developed into the Recommended Plan documented in this report.

Design Considerations

The development of each scenario was guided by a common set of design considerations, as follows:

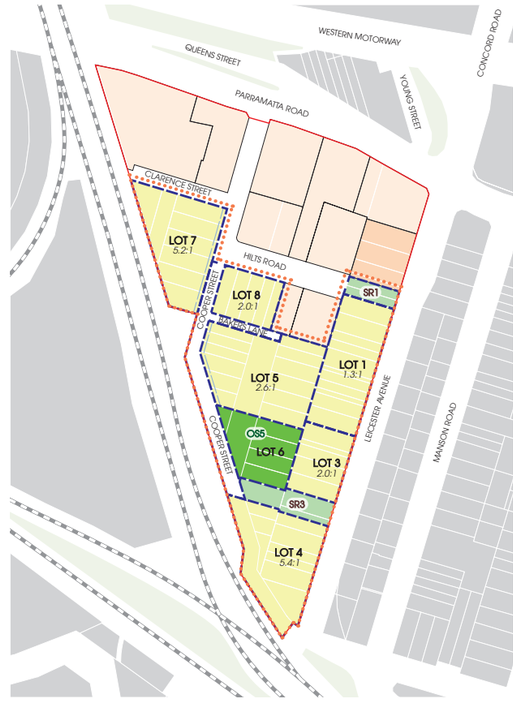
- Consolidate open space in accessible locations.
- Maximise permeability and integration with the context.
- Create a safe public domain with good amenity.
- Deliver an urban form that is context-sensitive, amenity-driven and feasible.
- Maintain access to existing developments and ensure good access to future developments.
- Create a new development lot on Hilts Road on the land proposed as a park in the Base Case.
- Re-align Cooper Street as per the Base Case because this enables an improved, safer intersection with Leicester Avenue.
- The re-alignment of Cooper Street makes part of the existing alignment redundant, releasing this land (assumed to be Council-owned) for potential development. This land is incorporated into Lot 4 to provide greater development flexibility on this lot.
- No vehicular access to lots from Leicester Avenue as per RMS direction.
- Minimise the need for rear lane access to the future Leicester Avenue development lots to avoid a long and potentially less safe rear lane.

Scenario 1
Leicester Avenue Park



Scenario 2
Central Park

Scenario 3
Cooper Street Park



5.2 SCENARIO 1

Leicester Avenue Park

This scenario locates the main park along Leicester Avenue to consolidate it with the proposed pedestrian link between Hilts Road and Leicester Avenue, thereby using land more efficiently. A secondary pocket park (OS2) is proposed in a similar location to the Base Case, located mainly on Council-owned land (Chapman Street).

The floorspace potential of Lot 1 is transferred to Lot 4 and 5.

Pros

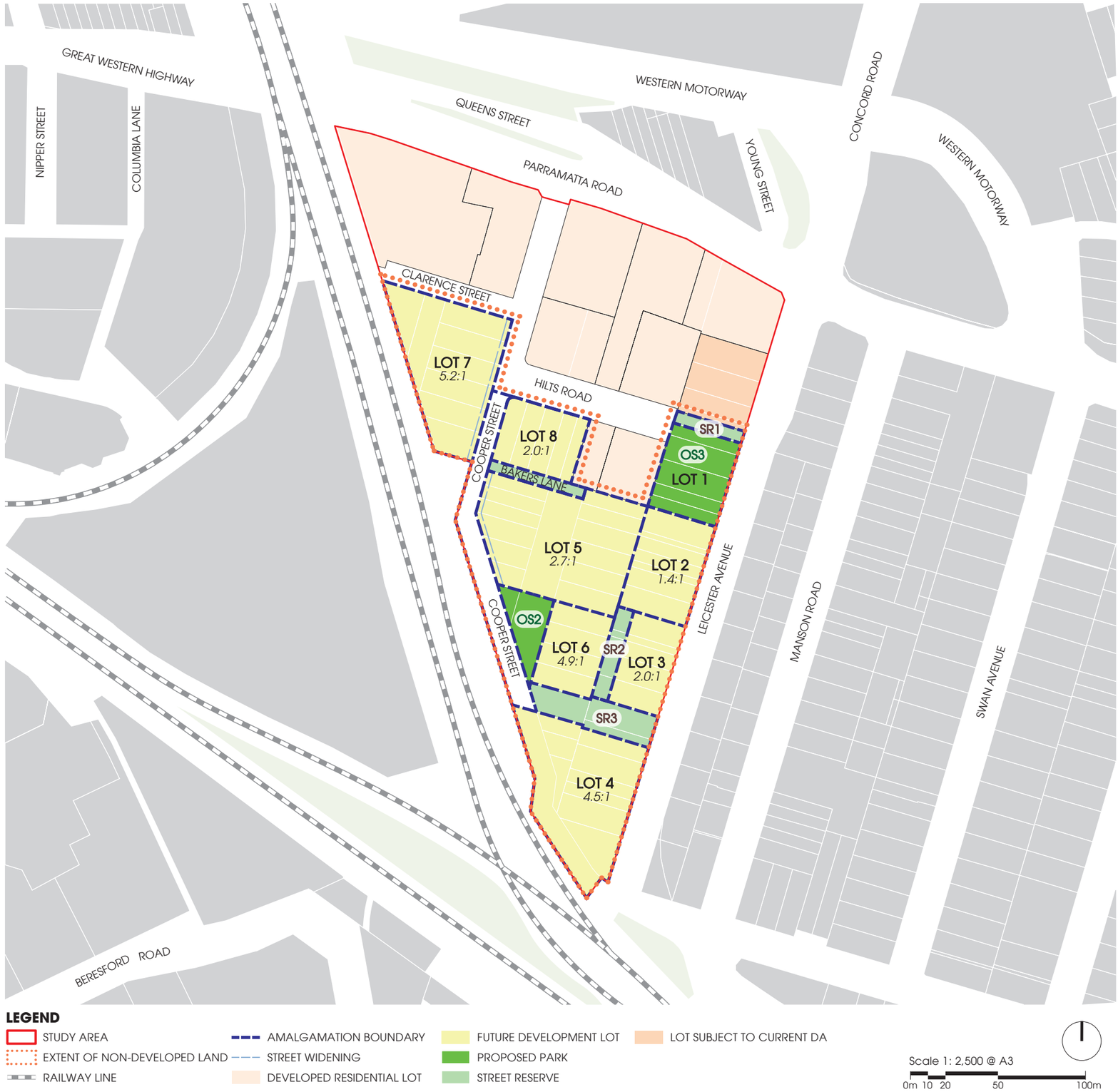
- The new park opens up the Study Area through the strong visual link between Hilts Road and Leicester Avenue, which serves to integrate the Study Area with its context.
- Access to future Leicester Avenue development lots is maintained without the need for a long rear lane.
- Reducing development along Leicester Avenue is more sensitive to the low-rise character of existing development opposite the Study Area.
- The integration of Council-owned land (Chapman Street) into Lot 5 creates an opportunity for Council to leverage the floorspace potential of their land.

Cons

- The proposed location of the main park in Lot 1 may be partially overshadowed by future development to the north. The park's interface with a busy road (Leicester Avenue) would impact upon park amenity.
- The main park is relatively isolated from future development.
- Although Lot 1 and Lot 4 are understood to be owned by the same landowner, the lots are not contiguous. This complicates the transfer of floorspace.

Summary Metrics (Estimated)

902 units — TOTAL YIELD	**307** dwelling / ha — DENSITY
2,897 / 5.3% sqm / per study area — TOTAL PUBLIC OPEN SPACE	**4,531** sqm — TOTAL STREETS / LANES



5.3 SCENARIO 2

Central Park

This scenario consolidates the functions (and area) of the two parks in the Base Case into one park and locates it centrally within the development. The proposed park location allows both existing and proposed development to enjoy a park outlook.

Access to the future Leicester Avenue development lots is via a shared zone along the periphery of the Central Park, avoiding the need for a rear lane.

The park would require part of the Lot 5 land to be dedicated, but the floorspace could be transferred to the part of Lot 5 that remains and Lot 6.

Pros

- The central location of the park maximises outlook for new development and integrates with existing apartments to the north.
- Creates one large park.
- Part of the park is on Council-owned land, reducing the amount of private land that would need to be acquired or dedicated to deliver the park.
- Council-owned land (Chapman Street) is integrated into Lot 5 and 6, creating an opportunity for Council to leverage the floorspace potential of their land.

Cons

- The park is relatively internalised within the Study Area, being defined by built form on four sides. Careful consideration of the ground plane is required to avoid resulting in a park that feels like a private space.

Summary Metrics (Estimated)

940 units **TOTAL YIELD**	**320** dwelling / ha **DENSITY**
2,734 / 5.0% sqm / per study area **TOTAL PUBLIC OPEN SPACE**	**5,371** sqm **TOTAL STREETS / LANES**

5.4 SCENARIO 3

Cooper Street Park

This scenario consolidates the two parks in the Base Case into one park, and locates it where it is visible at the entry into the Study Area from the proposed Cooper Street intersection with Leicester Avenue. Lots 1 and 2 are amalgamated into one, with access provided from Hilts Road. Lot 3 is accessed off the re-aligned Cooper Street.

Pros

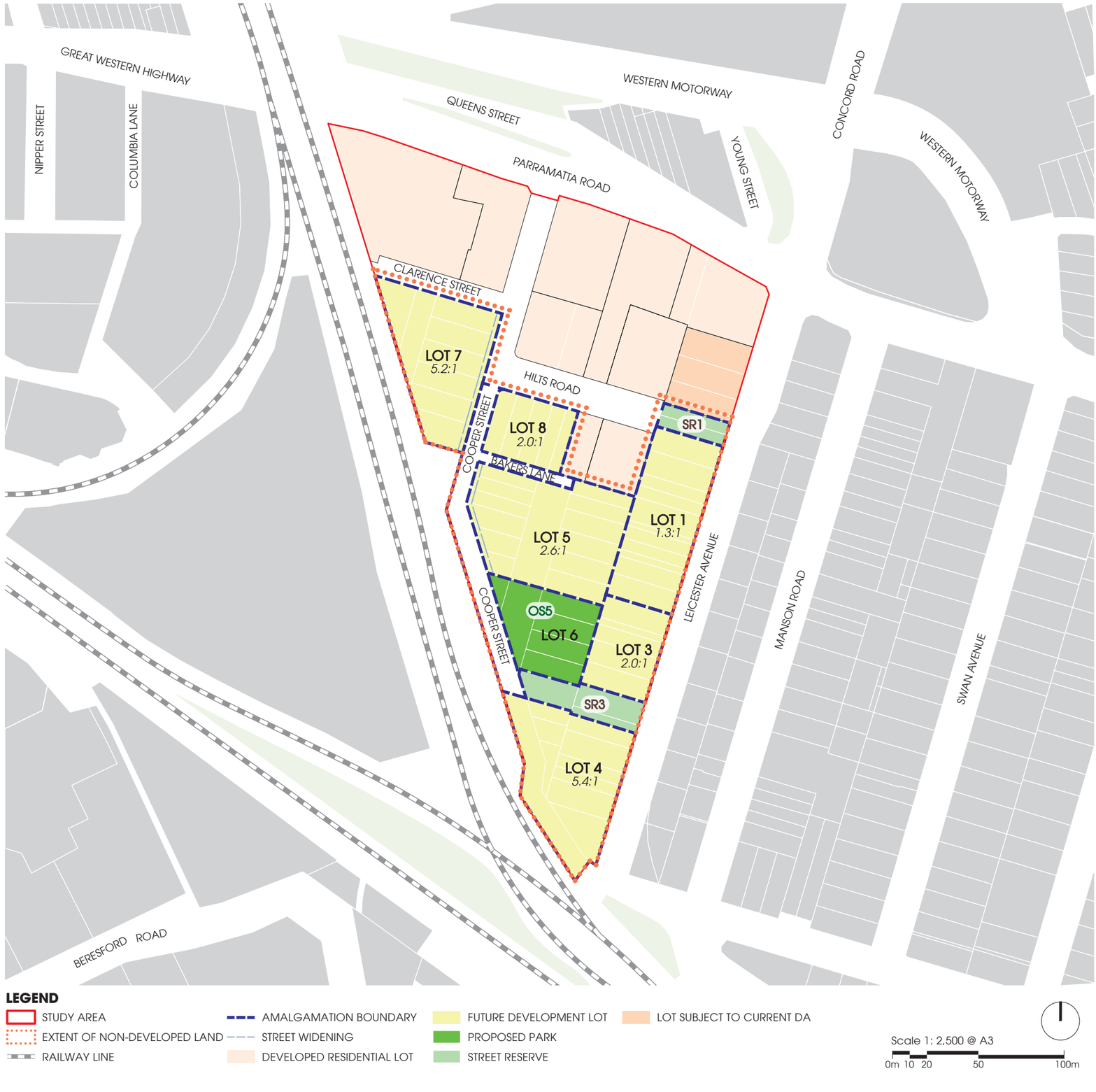
- Creates one large park whose location and configuration results in a more regular development lot for Lot 5.
- The park is partially on Council-owned land, reducing the need for land acquisition / dedication to deliver the park.
- Eliminates the need for rear lane access to Leicester Avenue lots.
- Least amount of land required for streets / lanes out of the three scenarios, potentially reducing the cost of civil works and maximising developable land.
- Council-owned land (Chapman Street) is integrated into Lot 5, giving Council the opportunity to leverage the floorspace potential of their land.

Cons

- The location of the park towards the southern end makes it relatively isolated and less convenient for existing residents to the north.
- The park opens up to a road with a railway line beyond.
- The park requires acquisition of strata title and individual landowner lots.
- May impose constraints on heights / building envelopes on Lot 5 in order to minimise overshadowing of the park.
- Lots 1 and 5 are back to back, contributing to an overall lack of permeability through the Study Area relative to the other scenarios.

Summary Metrics (Estimated)

902 units — TOTAL YIELD	**307** dwelling / ha — DENSITY
2,618 / 4.8% sqm / per study area — TOTAL PUBLIC OPEN SPACE	**4,308** sqm — TOTAL STREETS / LANES



5.5 SUMMARY COMPARISON: KEY METRICS

STRATHFIELD TRIANGLE DCP BASE CASE	SCENARIO 1 LEICESTER AVENUE PARK	SCENARIO 2 CENTRAL PARK	SCENARIO 3 COOPER STREET PARK
802 units **TOTAL YIELD**	**902** units **TOTAL YIELD**	**940** units **TOTAL YIELD**	**902** units **TOTAL YIELD**
273 dwelling / ha **DENSITY**	**307** dwelling / ha **DENSITY**	**320** dwelling / ha **DENSITY**	**307** dwelling / ha **DENSITY**
2,311 / 4.2% sqm / per study area **TOTAL PUBLIC OPEN SPACE**	**2,897 / 5.3%** sqm / per study area **TOTAL PUBLIC OPEN SPACE**	**2,734 / 5.0%** sqm / per study area **TOTAL PUBLIC OPEN SPACE**	**2,618 / 4.8%** sqm / per study area **TOTAL PUBLIC OPEN SPACE**
6,820 sqm **TOTAL STREETS / LANES**	**4,531** sqm **TOTAL STREETS / LANES**	**5,371** sqm **TOTAL STREETS / LANES**	**4,308** sqm **TOTAL STREETS / LANES**

5.6 FEASIBILITY ANALYSIS (AEC): SCENARIOS

Premise

The cost of delivering the public domain infrastructure items identified in the Strathfield Triangle Public Domain Plan has risen significantly since 2013.

Analysis of the Base Case indicates a potential funding shortfall of $28.2m, putting at serious risk the likelihood of infrastructure delivery in the Study Area.

Given the significance of the funding shortfall, the alternate development scenarios examined on the preceding pages seek to reduce the quantum/ cost of infrastructure and land acquisition or increase revenue potential.

Dedication of Land and Transfer of Development Potential

Where land is identified as required by Council or a public authority for a public purpose (whether in an infrastructure schedule or in a precinct plan) and the development potential of that land can be transferred to the remaining site*, this procurement of land is referred to as 'land dedication'. A voluntary planning agreement (VPA) is expected to be the instrument through which land is dedicated to Council.

*(*remaining site refers to land that is contiguous and in similar ownership, regardless of whether that land is in a single, or multiple allotments.)*

In contrast, where land dedication is required to address development need, for example, if proposed residential uses are to front a rear laneway and a footpath is required to be created for access, the land required for dedication is not for a public purpose. Accordingly, the requirement for land will be a condition of development consent.

Land dedication (and transfer of development potential) is distinguished from land reservation for a public purpose in an environmental planning instrument where Council could be identified as the acquiring authority. In this instance, the procurement of land is through compulsory acquisition and compensation would be subject to the provisions of Land Acquisition (Just Terms Compensation) Act 1991.

The planning mechanism for procuring land (allowing for transfer and development of floorspace potential) for a public purpose is not new. Its premise is a recognition that should development potential (FSR) of the land dedicated be transferred for development elsewhere on the remaining site, there is no loss of development potential. No loss is suffered and therefore no value is ascribed to the land that is dedicated.

Analysis: Scenario 1 (Leicester Avenue Park)

The Leicester Avenue Scenario relocates the DCP Park to the northern edge of Leicester Avenue (on the former Lot 1) and creates a new Lot 8 on the former DCP Park. This new location responds the low-density nature of existing built form on the eastern side of Leicester Avenue. The floorspace potential associated with Lot 1 is assumed to be transferred to Lot 4 and 5.

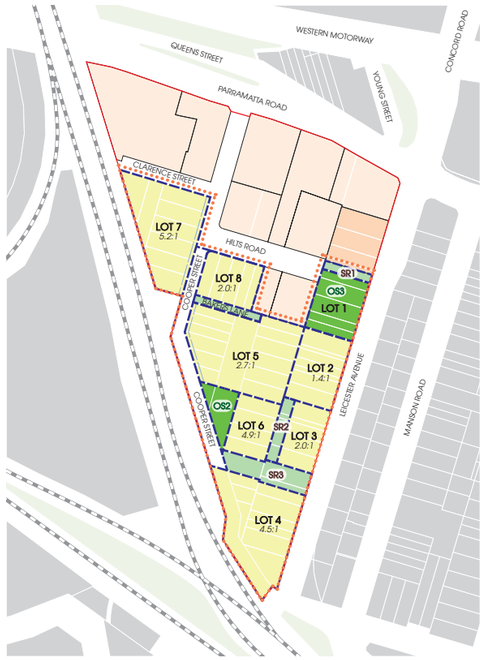
Whilst the floorspace mechanism is possible given a common landowner of Lot 1, 4 and 5, these lots are not contiguous. This could make any floorspace transfer difficult to administer from a legal and planning perspective.

The Leicester Avenue Scenario has a theoretical capacity of 902 units (965 units when including the DA-approved site at 38-42 Leicester Avenue). This represents an increase of 100 units compared to the Adjusted DCP Scheme.

Notwithstanding, densities for Lot 2, Lot 3 and the new Lot 8 were considered unlikely to be feasible given they did not meet the FSR 2.2:1 threshold.

When excluding infeasible and marginal development lots, the total number of dwellings which could be delivered under the Leicester Avenue Park Scenario falls from 965 units to 842 units.

Applying current s7.11 contribution rates to the 842 units results in potential development contributions revenue of almost $13.1m.



Item	Amount
Development Contributions	
Total Potential Contributions	$13,078,981
Contributions Received	$2,005,444
Total Contributions	$15,084,425
Cost of Infrastructure	
Acquisition of 36 Leicester Avenue	$3,500,000
Civil Works	$18,131,301
Total Costs	$21,631,301
Surplus (Shortfall)	**($6,546,876)**

Source: AEC

Table 5.1: Potential Contributions v Revised Costs, Leicester Avenue Park Scenario

The Leicester Avenue Park Scenario is premised on a floorspace transfer mechanism. The cost of land acquisitions is therefore excluded from the cost to deliver the Public Domain Plan (the exception being 36 Leicester Avenue given compulsory acquisition proceedings have commenced).

When comparing potential revenue contributions from the Leicester Avenue Park Scenario (and including $2m of contributions already received) against the assumed costs of infrastructure delivery, a shortfall of $6.5m results. This is detailed in Table 5.1.

Lot	DCP FSR	New FSR	Yield	Feasible	Comments	Potential Contributions
1		-	-	-	Location of new DCP park. Floorspace transferred to Lots 4-5.	-
2	1.4:1	1.4:1	36	No	Not feasible; no increase in FSR.	-
3	2:1	2.0:1	49	Marginal	Marginal; no increase in FSR.	-
4	4:1	4.5:1	287	Yes	Feasible; additional GFA transferred from Lot 1.	$4,494,118
5	2.6:1	2.7:1	161	Yes	Feasible; additional GFA transferred from Lot 1.	$2,538,726
6	4.9:1	4.9:1	93	Yes	Feasible, no increase in FSR.	$1,459,530
7	5.2:1	5.2:1	237	Yes	Feasible, no increase in FSR.	$3,711,961
8	-	2:1	39	Marginal	New development lot on former DCP park site. Feasibility is marginal; likely need FSR 2.2:1 to 2.5:1.	-
Current DA	3:1	3:1	63	Yes		$874,646
Total						**$13,078,981**

Source: AEC

Table 5.2: Feasibility Results and Potential Contributions, Leicester Avenue Park Scenario

Analysis: Scenario 2 (Central Park)

The Central Park Scenario relocates the DCP Park (and smaller pocket park) in the Adjusted DCP Scheme into a consolidated, central park in the heart of the Study Area.

This new park would be situated mainly on Lot 5; its development potential assumed to be transferred to the remainder of Lot 5 and Lot 6. Part of Lot 5 is Council-owned land.

The Central Park Scenario has a theoretical capacity of 940 units (1,005 units including the DA-approved site at 38-42 Leicester Avenue). This represents an increase of 140 units compared to the Adjusted DCP Scheme.

Development on Lots 1 and 2 is unlikely to be feasible. Similar to the Leicester Avenue Park Scenario, development feasibility of the new Lot 8 at FSR 2:1 is considered marginal.

When excluding infeasible and marginal development lots, the likely number of dwellings that could be delivered under the Central Park Scenario falls from 1,005 units to 851 units.

Applying current s7.11 contribution rates to the 851 units results in potential development contributions revenue of $13.2m.

Item	Amount
Development Contributions	
Total Potential Contributions	$13,210,333
Contributions Received	$2,005,444
Total Contributions	$15,215,777
Cost of Infrastructure	
Acquisition of 36 Leicester Avenue	$3,500,000
Civil Works	$18,131,301
Total Costs	$21,631,301
Surplus (Shortfall)	**($6,415,524)**

Source: AEC

Table 5.3: Potential Contributions v Revised Costs, Central Park Scenario

The Central Park Scenario is premised on a floorspace transfer mechanism. The cost of land acquisitions is therefore excluded from the cost to deliver the Public Domain Plan (the exception being 36 Leicester Avenue given compulsory acquisition proceedings have commenced).

When comparing potential contributions from the Central Park Scenario (and including $2m of contributions already received) against the assumed costs of infrastructure delivery, a shortfall of $6.4m results.

Lot	DCP FSR	New FSR	Yield	Feasible	Comments	Potential Contributions
1	1.2:1	1.2:1	30	No	Not feasible; no increase in FSR.	-
2	1.4:1	1.4:1	36	No	Not feasible; no increase in FSR.	-
3	2.0:1	2.0:1	49	Marginal	Marginal; no increase in FSR.	-
4	4.0:1	4.0:1	257	Yes	Feasible; no increase in FSR.	$4,024,824
5	2.6:1	2.6:1	154	Yes	Feasible although site area reduced; GFA harvested.	$2,408,863
6	4.9:1	4.9:1	140	Yes	Feasible, additional GFA transferred from Lot 5.	$2,190,039
7	5.2:1	5.2:1	237	Yes	Feasible, no increase in FSR.	$3,711,961
8	-	-	39	Marginal	New development lot on former DCP park site. Feasibility is marginal; likely need FSR 2.2:1 to 2.5:1.	-
Current DA	3:1	3:1	63	Yes		$874,646
Total						**$13,210,333**

Source: AEC

Table 5.4 Feasibility Results and Potential Contributions, Central Park Scenario

Analysis: Scenario 3 (Cooper Street Park)

In the Cooper Street Park Scenario, the DCP park (and smaller pocket park) in the Adjusted DCP Scheme are consolidated into one park adjoining a proposed Cooper Street/ Leicester Avenue intersection. This scenario requires the least amount of land for streets and laneways, maximising developable land.

This Cooper Street Park would be situated on part of Lot 5 and all of Lot 6, with the floorspace potential associated with the required land harvested and transferred to Lot 4 and remainder of Lot 5. Additionally, Lots 1 and 2 could be consolidated as there is no longer a requirement for rear lane access to lots along Leicester Avenue.

Given that Lot 6 comprises a three-storey unit block with multiple owners, the transfer of floorspace mechanism is likely to be challenging to implement. Additionally, the density proposed for the amalgamated Lots 1 and 2 is still below the required FSR threshold.

Item	Amount
Development Contributions	
Total Potential Contributions	$12,584,607
Contributions Received	$2,005,444
Total Contributions	$14,590,051
Cost of Infrastructure	
Acquisition of 36 Leicester Avenue	$3,500,000
Civil Works	$18,131,301
Total Costs	$21,631,301
Surplus (Shortfall)	**($7,041,250)**

Source: AEC

Table 5.5: Potential Contributions v Revised Costs, Cooper Street Park Scenario

Lot	DCP FSR	New FSR	Yield	Feasible	Comments	Potential Contributions
1	1.2:1	1.3:1	66	No	Not feasible; FSR still below FSR 2.2:1.	-
2-3	2.0:1	2.0:1	49	No	Feasibility is marginal; larger site however FSR still below 2.2:1	-
4	4.0:1	5.4:1	349	Yes	Feasible; additional GFA harvested from Lot 6.	$5,459,274
5	2.6:1	2.6:1	162	Yes	Feasible; additional GFA harvested from Lot 6.	$2,538,726
6	4.9:1	-	-	-	Location of new DCP park. Floorspace transferred to Lots 4-5.	-
7	5.2:1	5.2:1	237	Yes	Feasible, no increase in FSR.	$3,711,961
8	-	2:1	39	Marginal	New development lot on former DCP park site. Feasibility is marginal; likely need FSR 2.2:1 to 2.5:1.	-
Current DA	3:1	3:1	63	Yes		$874,646
Total						**$12,584,607**

Source: AEC

Table 5.6: Feasibility Results and Potential Contributions, Cooper Street Park Scenario

The Cooper Street Park Scenario has a theoretical capacity of 902 units (965 units when including the DA-approved site at 38-42 Leicester Avenue). This represents an increase of 100 units compared to the Adjusted DCP Scheme.

Development on Lots 1, 2 and 8 are unlikely to be feasible given they are below FSR 2.2:1.

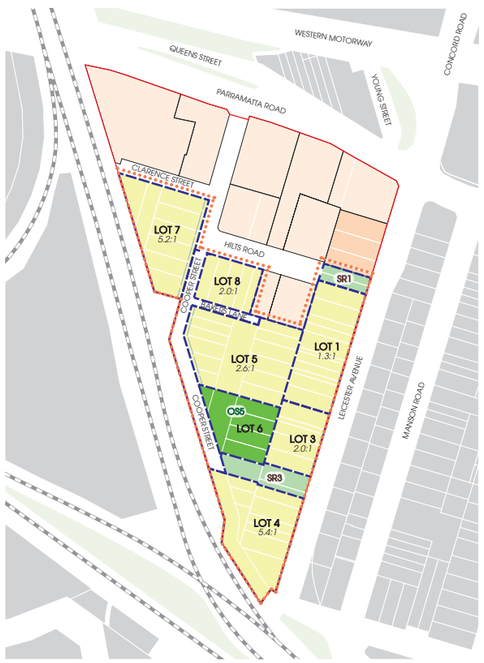
The floorspace potential harvested from Lot 6 improves the feasibility of Lots 4 and 5, however these lots were already feasible under the Adjusted DCP Scheme.

When excluding infeasible and marginal development lots, the likely number of dwellings which could be delivered falls from 965 units to 811 units. This is the lowest yield of the three development scenarios.

Applying current s7.11 contributions to those 811 units, potential development contributions revenue of $12.6m results.

The Cooper Street Park Scenario is premised on a floorspace transfer mechanism. The cost of land acquisitions is therefore excluded from the cost to deliver the Public Domain Plan (the exception being 36 Leicester Avenue given compulsory acquisition proceedings have commenced).

When comparing potential contributions from the Cooper Street Park Scenario (and including $2m of contributions already received) against the assumed cost of infrastructure delivery, a shortfall of $7m results. This is detailed in Table 5.5.



Selection of Preferred Development Scenario

Following a review of the alternate development scenarios and their implications for infrastructure delivery, the Central Park Scenario was selected as preferred as it provides the greatest level of amenity and has the greatest potential for development take-up.

Feasibility testing of the Central Park Scenario indicated that densities proposed on a number of development lots were insufficient to incentivise redevelopment. Accordingly, the Central Park Scenario was re-visited and refined to optimise densities (where appropriate) and leverage the floorspace potential of Council-owned land.

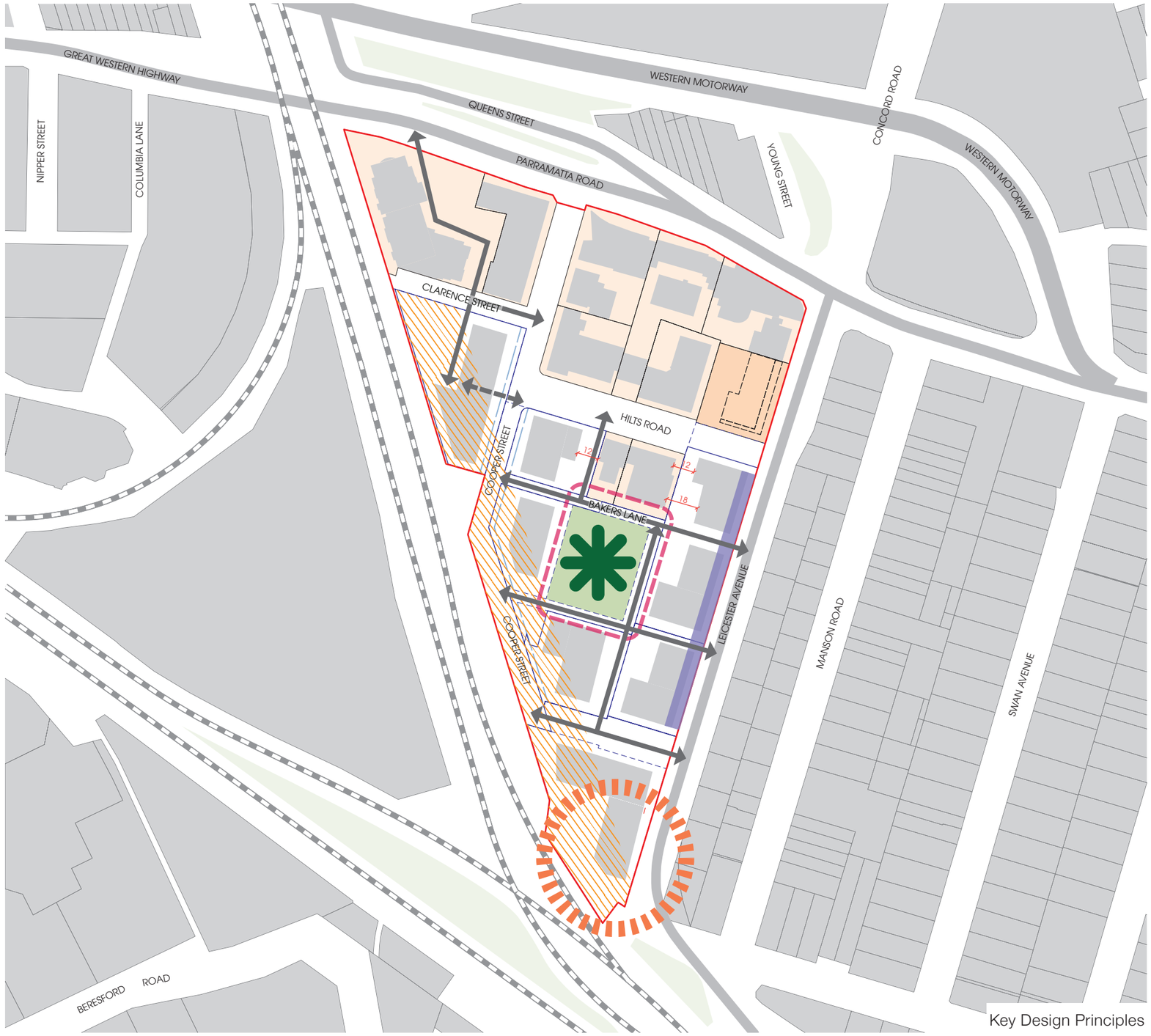
6.0 RECOMMENDED PLAN

6.1 RECOMMENDED PLAN

Scenario 2 was selected as the preferred scenario from an urban design perspective as the park location provides the best potential for amenity. The feasibility analysis of the various scenarios (including Scenario 2) revealed that densities on certain lots were still insufficient for development to be viable. Opportunities to increase densities, as well as leverage the floorspace potential implicit in Council-owned land, has driven the design development of the preferred scenario into the Recommended Plan.

Design Determinants

- Open space is consolidated into a Central Park. Easily accessible from the rest of the precinct, the park addresses both existing properties and future development to become an inclusive space. It provides amenity that can be shared by all and stitches the future lots into existing development.
- Moving the park away from privately-owned land (as proposed under the current DCP) onto land that is partially Council-owned creates an opportunity to deliver the park without needing to acquire land.
- The proposed Cooper Street re-alignment is inherited from the Strathfield Triangle DCP to secure the connectivity and safety benefits of having a signalised intersection at Leicester Avenue. This results in a section of the existing Cooper Street being closed off, unlocking an opportunity to utilise the floorspace potential of this Council-controlled land to improve development feasibility within the wider precinct.
- Permeability and integration with the context is maximised by establishing a connected network of streets, shared zones and through-site links that create clear paths of travel throughout the precinct. This connectivity stitches together the existing and the new. Pedestrians are drawn into the heart of the precinct, through the new park, instead of having to walk along the railway line to get to their destination (as is currently the case).
- Clear sightlines, open to the sky, are established across the precinct. This visually links together existing areas to the new, and the precinct as a whole to the wider context. This creates a legible precinct, assisting in reducing the perception of density and avoiding the sense of a gated enclave.
- Proposed urban form is arranged to maximise passive surveillance of streets, open space and pedestrian links to create the conditions for a safe public domain. The distribution of building heights is informed by the following:
  + Taller forms are located along the railway line to minimise overshadowing and amenity impacts on existing and future development.
  + One of the tallest building is located at the southern end of the site to establish a landmark that is visible to pedestrians exiting the Strathfield train station.
  + The built edge drops down to four storeys along Leicester Avenue to respect the existing low rise scale opposite.



Proposed Lot Configuration

The Recommended Plan amalgamates the existing lots into eight lots to facilitate future development. The amalgamation has been informed by ownership patterns, development feasibility, and maximising the potential of Council-owned land. The rationale behind the proposed lot configuration is explained below on a lot-by-lot basis, with reference to the lot configuration under the Strathfield Triangle DCP. Lot numbers for the Recommended Plan are based on the lot numbering assigned to the Adjusted DCP scheme presented earlier in this report.

- **Lot 1**: Under the Strathfield Triangle DCP amalgamation pattern, the extent of land covered by Lot 1 in the Recommended Plan was divided into Lots 1, 2, and a pedestrian link connecting Hilts Road and Leicester Avenue.
  This DCP arrangement required a rear laneway to access the lots, as well as acquisition of land to establish the pedestrian link.
  By amalgamating these three lots into one, the Recommended Plan allows the lot to be accessed from Hilts Road, eliminating the need for a rear laneway.
  By establishing a requirement for a through-site link, pedestrian permeability is provided without the need for land acquisition.
  The larger lot of the Recommended Plan also facilitates increasing the FSR to a level that makes development on the lot feasible.
- **Lot 2**: No longer present in the Recommended Plan as this has been combined into Lot 1.
- **Lot 3**: Same as the DCP, but eliminates the need to dedicate land for a rear laneway. Land that makes up this lot is owned by four landowners.
- **Lot 4**: Similar lot extent as the DCP, but enlarged to incorporate the Cooper Street corridor made redundant by the re-alignment of Cooper Street. The lot is under single ownership (with the exception of the redundant section of Cooper Street, which is understood to be owned by Council).
- **Lot 5**: Same as the DCP, but part of the lot is to be dedicated for public open space and a public, shared zone laneway. The shared zone extends Bakers Lane and loops around the Central Park ('OS1') to define its edges and connects back to Cooper Street.
  This lot is under single ownership, with the exception of Chapman Street, which is owned by Council. A portion of the proposed Central park overlaps the Council owned land in order to reduce the extent of dedication of private land for public use.
- **Lot 6**: Same as the DCP. Western part of the lot is Council-owned remaining portion of Chapman Street. The rest of the lot is owned privately, including a strata-titled lot.
- **Lot 7**: Same as the DCP. Land that makes up this lot is owned by three landowners.
- **Lot 8**: A new lot created in the location of what was previously a park under the Strathfield Triangle DCP. The land is owned by five landowners.

LEGEND

- STUDY AREA
- RAILWAY LINE
- EXTENT OF NON-DEVELOPED LAND
- AMALGAMATION BOUNDARY
- STREET WIDENING
- DEVELOPED RESIDENTIAL LOT
- LOT SUBJECT TO CURRENT DA
- FUTURE DEVELOPMENT LOT
- PROPOSED PARK
- PROPOSED BUILT FORM
- EXISTING BUILT FORM
- NEW RESERVE (STREET/ LANE)
- THROUGH-SITE LINK
- ACCESS POINT
- NEW SIGNALISED INTERSECTION

Scale 1: 2,500 @ A3
0m 10 20 50 100m

GROUPGSA

Building Massing Strategy

The proposed building massing is designed to:

- Define a context-sensitive urban environment that provides good levels of amenity.
- Reduce the perception of density.
- Achieve the FSRs required to make development feasible.

The majority of built form ranges between four and nine storeys. These heights are consistent with the scale of existing development within the precinct. Four towers, located along the railway line, exceed this typical height range to introduce diversity into the precinct built form.

Compared to the current DCP, the range of proposed building heights has been simplified and the extent of building envelopes featuring upper level setbacks has been reduced. Collectively, these moves result in a more visually coherent and cleaner urban form.

Built Form Interface with Leicester Avenue

Where building envelopes on Lots 1 and 3 face Leicester Avenue, a four storey street wall is defined to present a pedestrian-friendly scale and respond to the one to two storey built form on the other side of the road. Built form above four storeys is proposed to be setback further from the road. Where possible, these are oriented so that the narrow end faces the road as opposed to the longer elevation in order to reduce the extent of building frontage facing Leicester Avenue that exceeds four storeys.

Built Form Interface with Central Park

Proposed built form around the park is arranged to maximise outlook from apartments around the park. Buildings are to be setback from the park where possible, and where taller form (four storeys plus) face the park, the extent of this frontage is reduced. This approach reduces the perception of density by:

- Creating a greater sense of openness around the park.
- Increasing separation distances for buildings around the park to facilitate resident privacy.

Towers

The tallest tower is 31 storeys, located on Lot 5. After an incentive height distribution, variety is introduced into the tower skyline by having the towers on Lots 4, 6 and 7 at 29, 19 and 25 storeys respectively.

Locating the towers along the railway line achieves the following:

- The towers are offset from each other, avoiding towers that face each other directly. This opens up views from apartments and provides more privacy for residents.
- The majority of the towers are located as far away from Leicester Avenue as possible. Apart from reducing their visibility from existing low rise areas to the east, this also allows the introduction of four to eight storey built form that provides a transition in scale between the towers and the existing low-rise built form on the other side of Leicester Avenue.

The proposed tower locations also ensures that overshadowing of the Central Park is minimised.

Lot Access

Vehicular access to the lots proposed under the Recommended Plan is intended to be from Hilts Road, Cooper Street and Clarence Street. This avoids the need for vehicular access from the shared zone around the Central Park.

No vehicular access to lots is provided off Leicester Avenue. On the other hand, multiple through-site links between Leicester Avenue and the interior of the precinct provide pedestrian permeability and easy access to the Central Park from surrounding areas.

The Recommended Plan leaves vehicular and pedestrian access to existing properties unchanged.

Development Metrics (Estimate)

Area of Non-Developed Land (excl. 38-42 Leicester Ave):	**29,398 sqm**
Total Estimated GFA (for the Non-Developed Land):	**103,316 sqm**
Study Area FSR (for the Non-Developed Land):	**3.51 : 1**
Potential Additional Units (On the Non-Developed Land):	**1,122 units**
Density (across the Non-Developed Land):	**382 dw/ha**
Open Space as % of Study Area:	**4.5%**

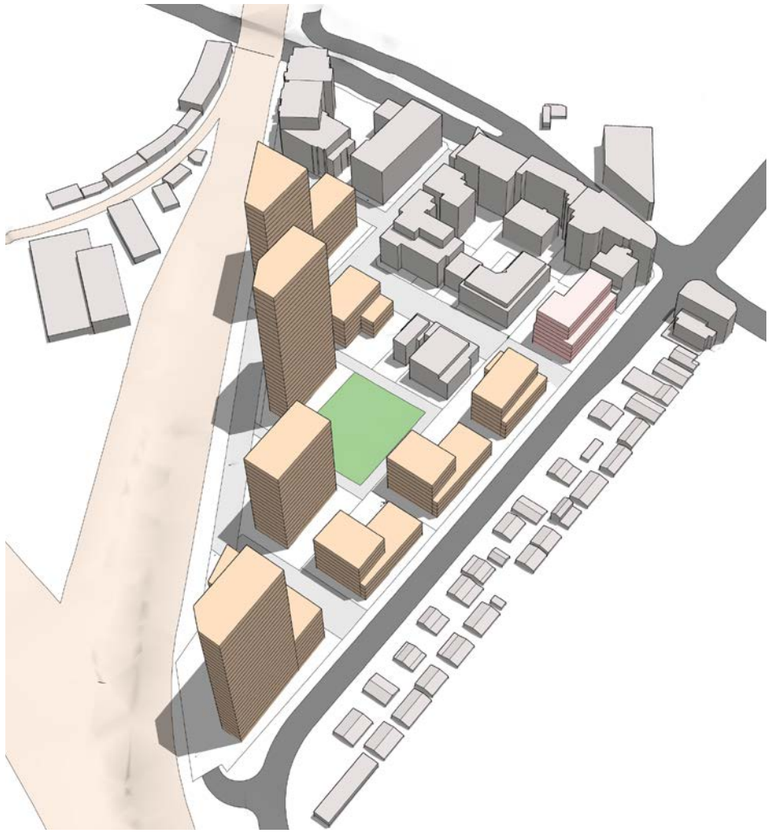
1,122
units
TOTAL YIELD

382
dwelling / ha
DENSITY

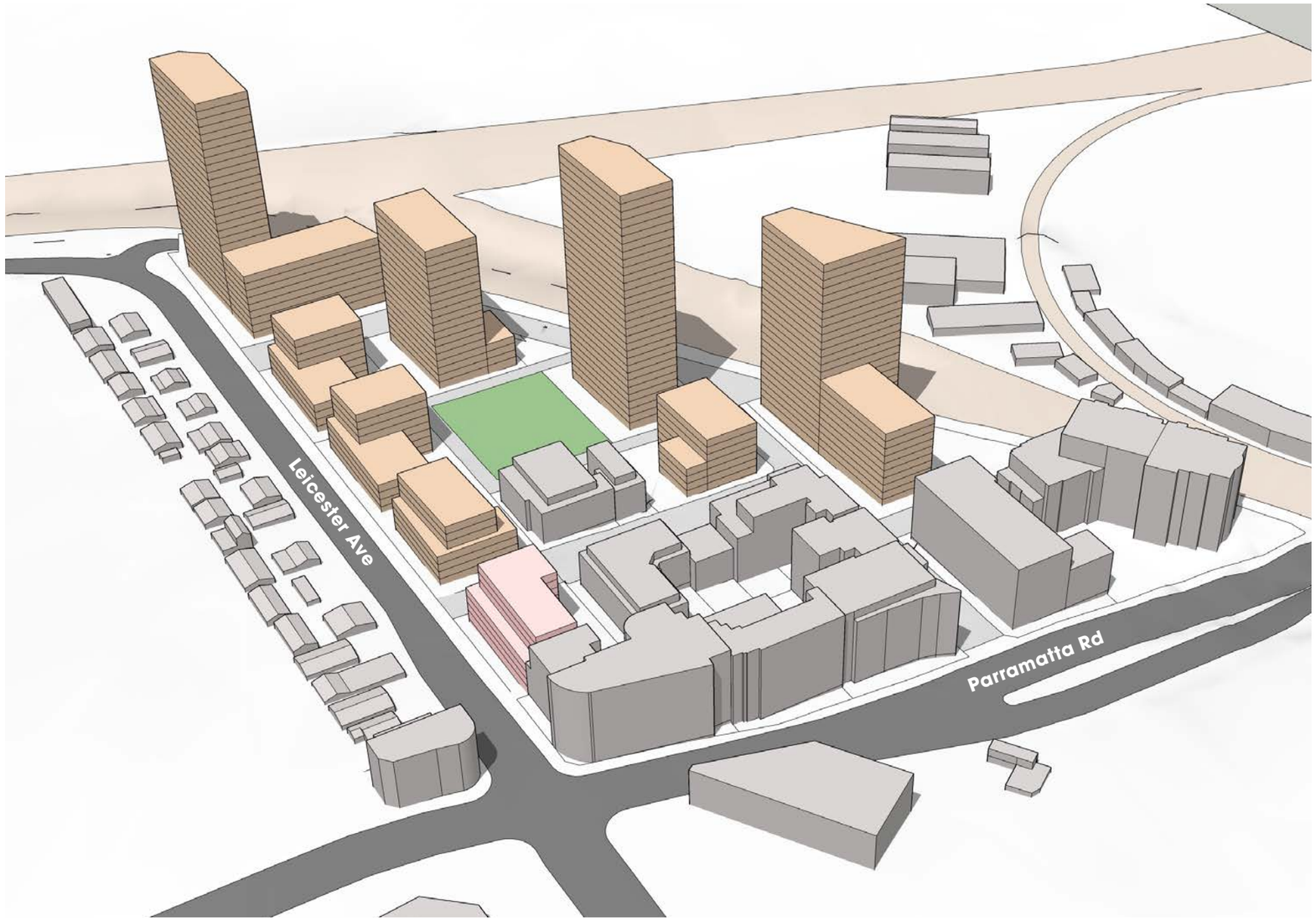
2,470 / 4.5%
sqm / per study area
TOTAL PUBLIC OPEN SPACE

5,587
sqm
TOTAL STREETS / LANES

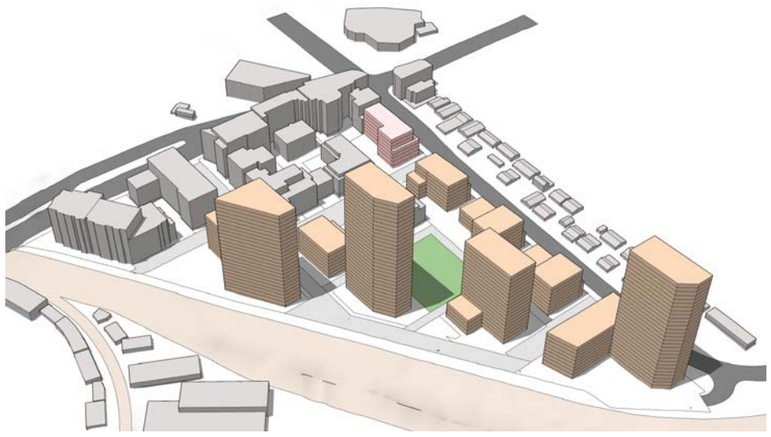
6.2 MASSING OVERVIEW



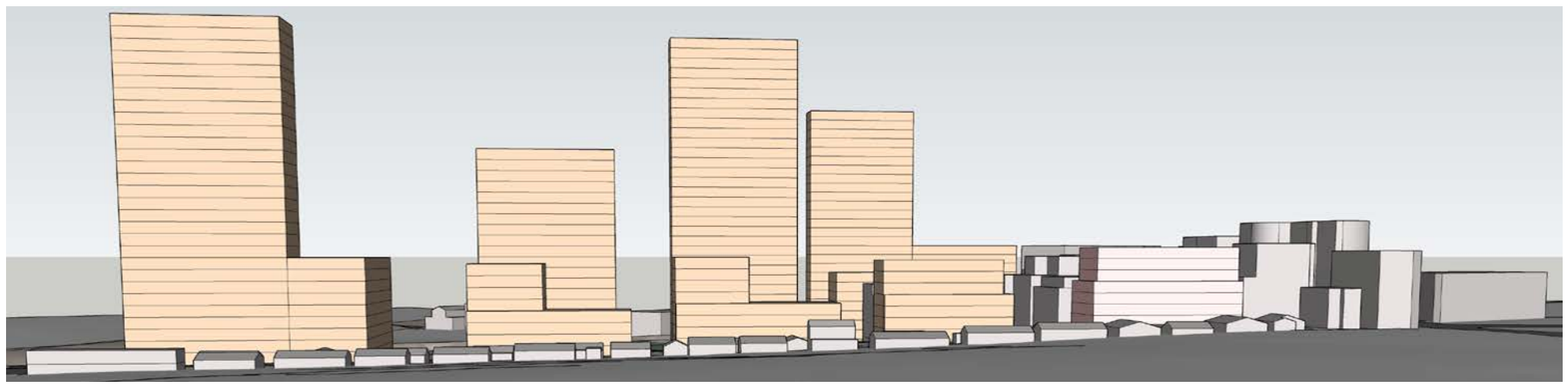
AERIAL PERSPECTIVE VIEW FROM THE SOUTHEAST



AERIAL PERSPECTIVE VIEW FROM NORTHEAST

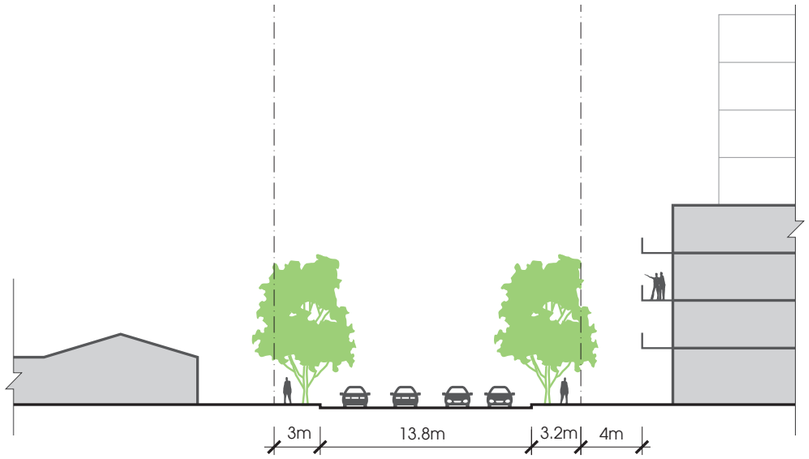


AERIAL PERSPECTIVE VIEW FROM THE WEST

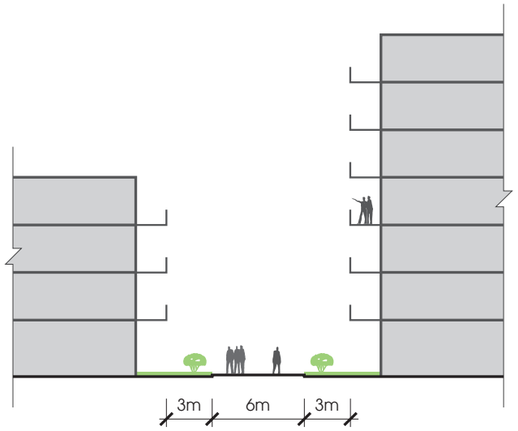


EAST ELEVATION

6.3 SECTIONS



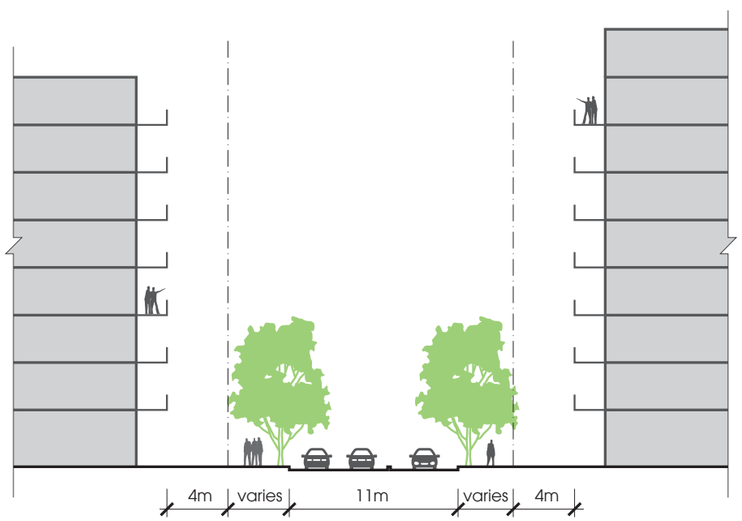
Section 1-1 Leicester Avenue



Section 2-2 Through-site Link

Scale 1:400 @ A3

0m 2 5 10 15m



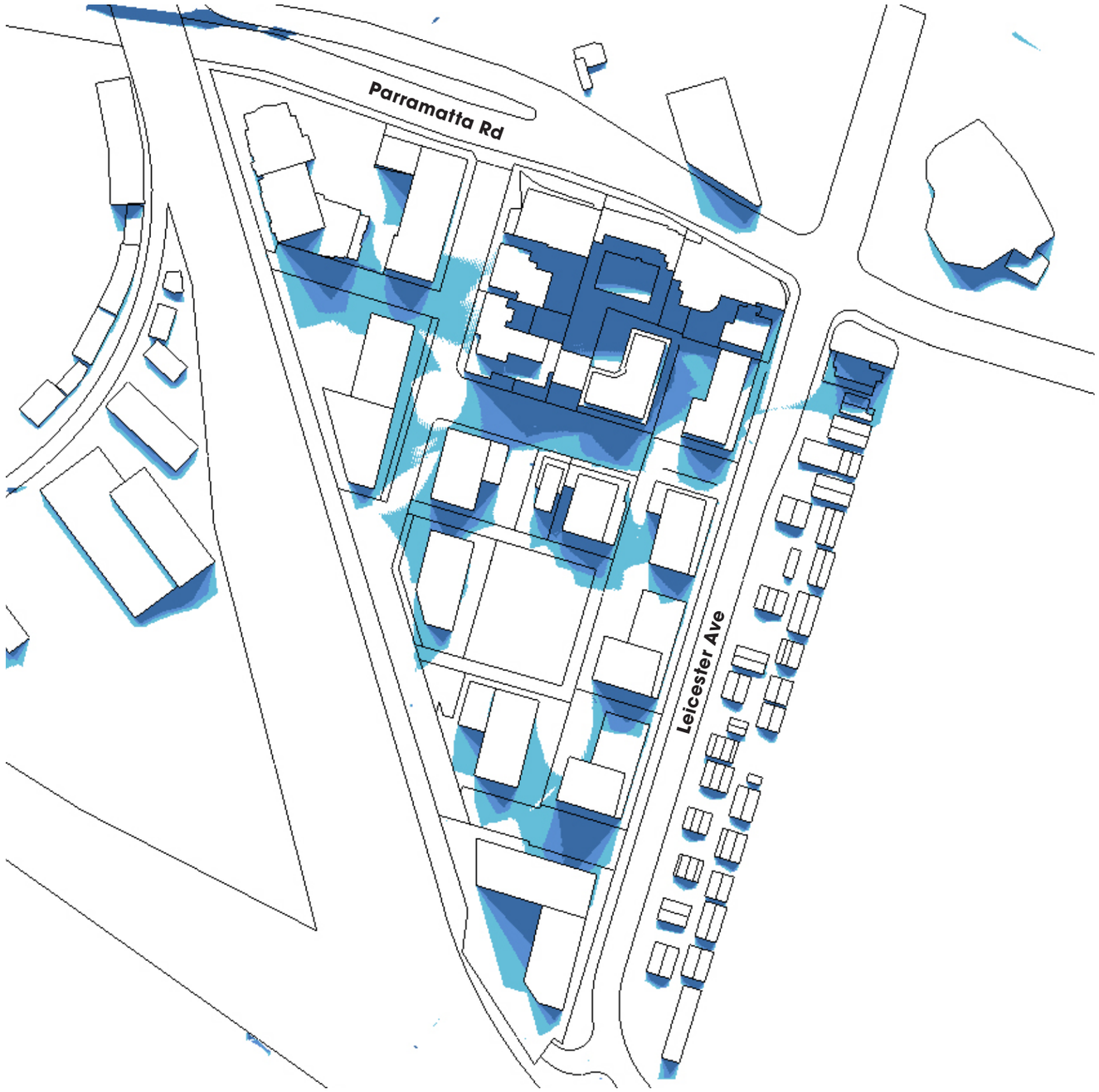
Section 3-3 Cooper Street Realignment

Section 4-4 Central Park

6.4 SOLAR ANALYSIS

The entirety of Central Park, with the exception of a small area in the north eastern corner, recieves more than two hours of sun at the winter solstice.

Communal open space within development lots are opened up to the north wherever possible to maximise solar access.



AREAS THAT RECEIVE 0 HOUR SUNLIGHT

AREAS THAT RECEIVE 0-1 HOUR SUNLIGHT

AREAS THAT RECEIVE 1-2 HOURS SUNLIGHT (BETWEEN 9 AM TO 3 PM IN THE WINTER SOLSTICE)

6.5 FEASIBILITY ANALYSIS

Development Potential

The analysis found development potential associated with Council-owned lands (shown blue on the map) could be made available.

1. Chapman Street - 1,946sqm site area. GFA potential 7,950sqm

2. Cooper Street (part) - 1,392sqm site area. GFA potential 6,542sqm

The Recommended Plan incorporates the GFA potential of this Council-owned land into various development blocks.

This development potential could be (one of the following):

- Made available as bonus floorspace to incentivise land dedication;
- Made available as bonus floorspace to assist capacity to pay for Special Infrastructure Contributions (SIC) and affordable housing; or
- Divested and revenue received be made available for infrastructure works in the Precinct; or
- Foregone.

The feasibility study shows that the use of the additional floorspace attributed to the Council-owned land will be an important incentive tool to deliver public infrastructure.

Impact of Other Contributions

The economic analysis and feasibility testing considers only known statutory charges such as s7.11 contributions, DA and CC fees. Should the other contributions required, the development feasibility can yield a different result. These contributions below may be required:

- Special Infrastructure Contributions
- Affordable Housing Contribution (5-10%)

The analysis shows when both contributions are included, some sites are no longer feasible to develop at the proposed densities. Shortfall of around $6.4-8.9m will occur even if GFA from Council-owned lands developed.

Although the above number is less than the current DCP scenario shortfall ($28.9m), it is still a shortfall.

Recommendation for Additional Funding Options

The Preferred Development Scenario still shows a shortfall with a large component attributed to the acquisition of 36 Leicester Avenue. The analysis suggests for Council to investigate additional funding sources such as:

- Divestment of Council-owned land
- Increasing s7.11 contribution rates.

Council-owned Land: Possible Development Potential

6.6 PUBLIC DOMAIN APPROACH

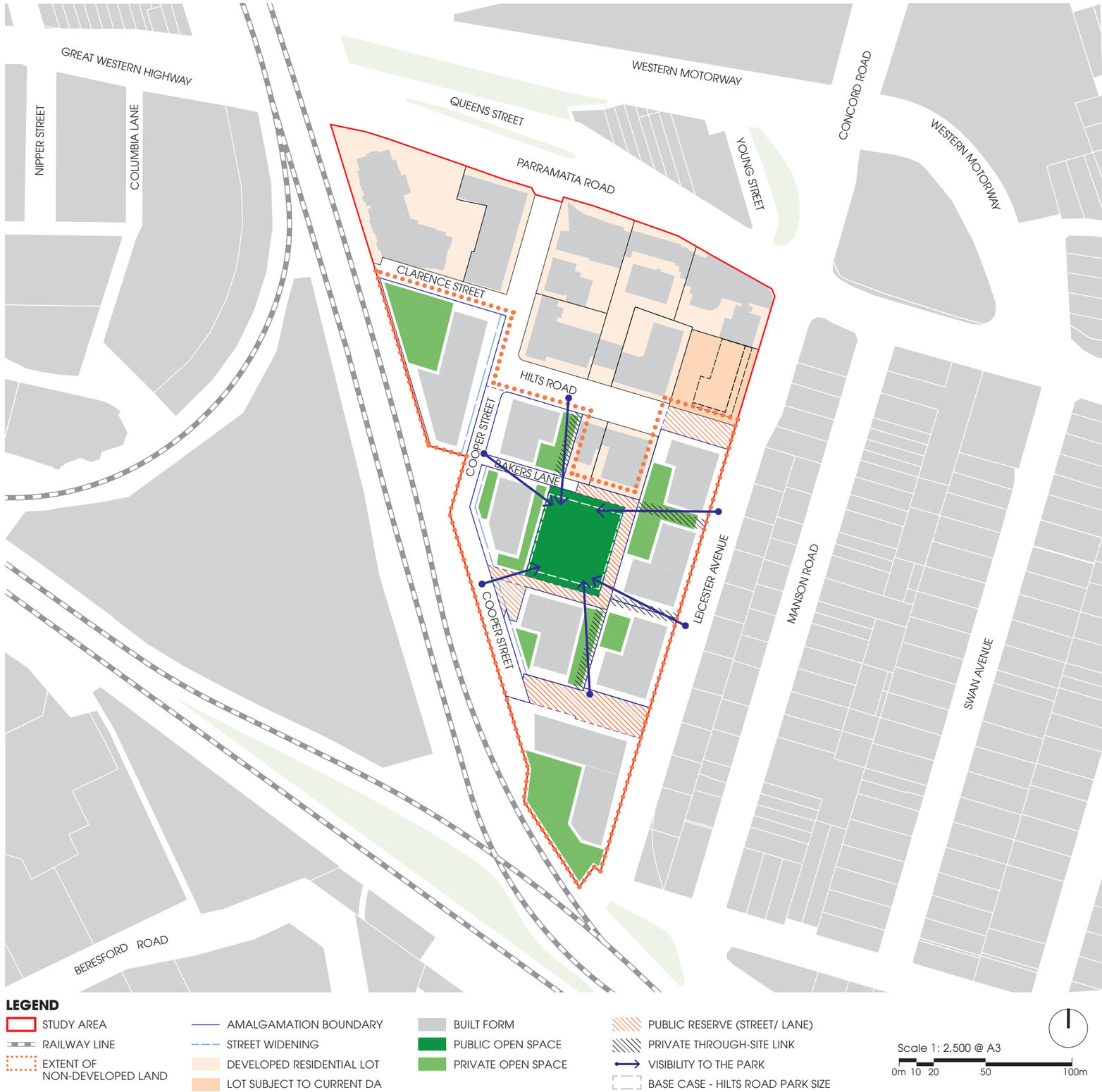
Establishing a high quality public domain is fundamental to provide good levels of amenity for existing and future residents in the precinct. The key public domain improvements proposed in the scheme include the following:

1. The new Central Park ringed by a one-way shared zone laneway. Besides benefiting the residents of future development lots facing the park, the park location also provides existing residents on No. 4 and 6 Hilts Road with an outlook to the park.
2. Widening of the Cooper Street corridor as per the Strathfield Triangle DCP. Street to be widened by 3m on either side, creating space for new street trees, on-street parking and a shared pedestrian / bicycle path.
3. Re-alignment of the Cooper Street / Leicester Avenue intersection as per the Strathfield Triangle DCP.

In order to deliver the required public domain upgrades, existing lots need to be re-developed. The development quantum required to incentivise re-development is dictated by the feasibility analysis. Meeting this quantum within the constraints of the Study Area limits the amount of land that can be allocated as public land.

Therefore, in addition to creating a public Central Park, the public domain strategy of the Recommended Plan takes the approach of maximising the potential of private land to provide a public benefit. This is achieved in the following ways:

- Locating the street level communal open space of development lots around Central Park at the interface with the park. This 'borrows' the communal open space to create a sense of 'void' within the centre of the precinct that is greater than what can be achieved by the public park on its own.
- The park is edged by the public shared zone laneway so that, visually, the park reads as a more generous space. The lane also ensures that public access to the park is secured.
- Through-site links within development lots tie into the public street network to create a coherent, seamless pedestrian movement network. This improves permeability within the precinct.
  The through-site links provide clear lines of sight across the precinct to make the Central Park visible from multiple vantage points. This makes the park a highly legible and accessible public space within the precinct, encouraging its use.



Central Park: Indicative Concept

The adjacent sketch provides an indicative concept for how the Central Park and its adjoining development could be realised.

Key design considerations include:

- Ground floor units face the park to provide passive surveillance of the public domain.
- As far as practical, each ground floor unit is to have its own entrance off the shared zone or streets to activate and impart a fine grain scale and rhythm to the public domain.
- Residential towers are to be designed with townhouse units at the ground level and / or architectural features that present a townhouse proportion at the lower levels of the building. This assists in breaking down the bulk of the building at the street level and provide a pedestrian scale appearance from public spaces.
- Service access and driveways are located on peripheral streets, away from the Central Park and shared zoned laneway. This contributes to the establishment of a high quality sense of place for the park, as well as reinforcing the pedestrian-focused character of the space.

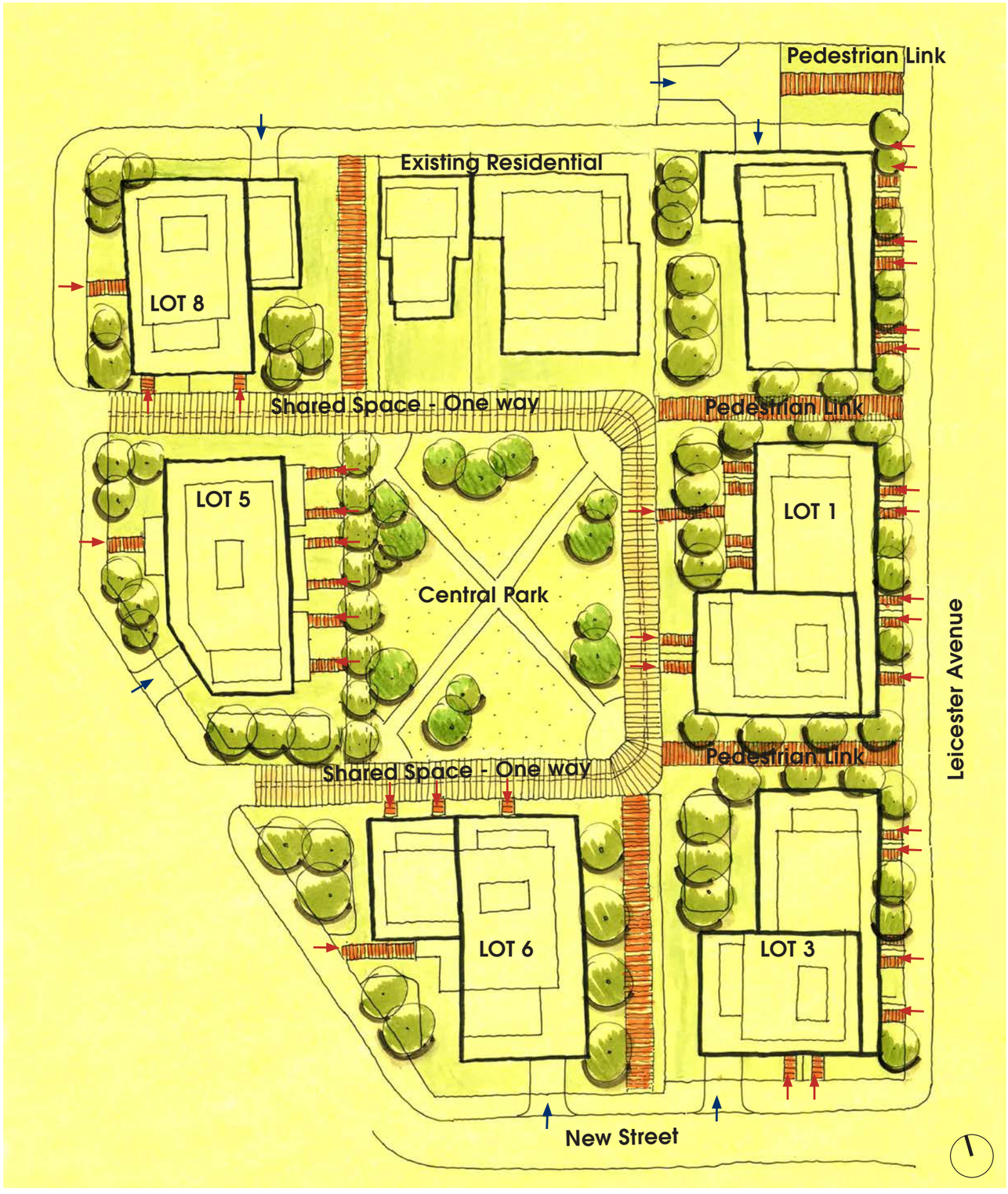
Breaks in the building massing combined with architectural details that modulate and articulate built form can promote a fine grain character at the street level in high density precincts.

Apartment buildings with townhouse-type units at the lower level, with individual entries off the ground level (Harold Park)

Lower levels articulated as separate elements from the tower to provide fine grain street-level articulation (Jacksons Landing)

Apartments with ground floor units featuring entries and private open space off a street

Apartments with street level entries off a shared zone (Bowden Urban Village, Adelaide)



Indicative Sketch of Central Park Public Domain Concept

Public Domain Concept: Central Park

The proposed Central Park could provide the following design elements.

(1) Broad turf area used as an informal, flexible kick-around space

This would form the majority of the park area, providing a breathing space for apartment dwellers.

The turfed area could incorporate subtle mounding to give a sense of space and volume to the park that counterbalances the height and scale of the surrounding built form.

(2) Playground

This would engage the younger population and would be essential for providing amenity to the precinct. The playground should be designed to cater to a range of abilities and ages. It should be situated within the park so that it benefits from good visual surveillance.

(3) BBQ Facilities

These facilities should be located in close proximity to the playground and sheltered from the elements by an all-weather structure that provides a shaded area within the park.

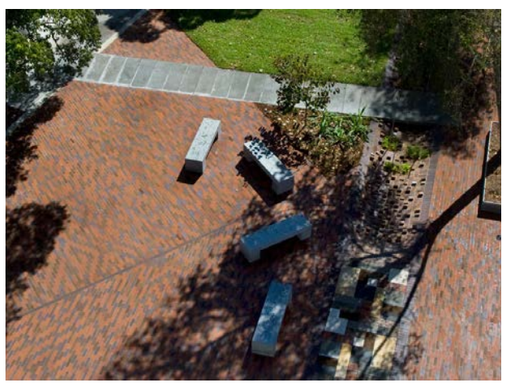
(4) Loop Path

This would connect surrounding development and provide a circuit for exercise, children to ride their bikes, and dog walking.

(5) Green framework

Trees should be planted at the park boundaries to define the space, reduce summer heat, provide visual relief and contribute to a pedestrian sense of scale.

Entry points into the park could be highlighted with feature planting.



Public Domain Concept: Shared Zone

The one-way shared zone laneway around Central Park is designed to create a seamless relationship between the public domain and built form. It should be designed to prioritise pedestrian activities, with appropriate details and finishes to maximise legibility for pedestrians, cyclists and drivers. The lane should be paved with flush kerbs, and utilise tree planting, bollards and street furniture (including streetlights) to define the edge.

Street furniture and landscape features can be used to define activity zones that improve the legibility of the street and control vehicle speeds. The 6m wide shared zone can accommodate on-street parking to provide parking spaces for visitors.

Public Domain Concept: Boundary Treatments

How the interface between residential development and public domain is designed has an impact on the experience and quality of public space. Low walling and planting should be utilised to define the boundary between private and public domain. Fencing should be permeable, with a maximum height of 1000mm to ensure good functional and visual connection between private and public areas. This allows for “borrowed views” from communal open space to public open space to maximise the sense of openness around the Central Park. The use of planting in conjunction with fencing can create a continuous green edge to the park.

Open Space Precedents: Scale Comparison

The comparative diagrams below overlay the proposed Central Park size on existing open space precedents to illustrate the potential amenity that could be incorporated in the Central Park. The comparison also assists to describe the scale and sense of openness of the proposed park.

Chelsea Street Pocket Park, Redfern - Approx. Area 645 sqm

Sweetacre Park, Rosebery - Approx. Area 4,746 sqm

Tote Park, Zetland - Approx. Area 2,436 sqm

PARK BOUNDARY

PREFERRED OPTION - PARK AREA - 2,470 SQM

7.0 RECOMMENDATIONS

7.1 CONCLUSION

This Planning and Urban Design Review confirms that the densities implicit under the current planning framework are unlikely to incentivise re-development of the Strathfield Triangle. Without re-development, the public domain upgrades required to improve amenity for residents cannot be delivered.

The Recommended Plan provides an alternative plan framework to improve the likelihood of precinct re-development, and by extension, the realisation of better public amenity in the form of new open space, improved streetscapes, greater pedestrian permeability, and safer access off Leicester Avenue.

The following strategies are employed to incentivise development:

- Increase development yields in locations where the yield potential under the current planning framework falls short of the threshold required to incentivise development.
- Secure the land required for public infrastructure through land dedication instead of land acquisition.
- Leverage the floorspace potential of Council-owned land to incentivise the delivery of public infrastructure. This floorspace could be made available as bonus floorspace to developers to incentivise land dedication, or divested and the revenue allocated to public infrastructure works in the precinct.
- Increase permitted building heights to enable the realisation of additional yield and / or improve the development feasibility of a given site from a built form perspective.

The Recommended Plan secures a better public domain outcome than the current DCP by consolidating open space centrally to make the most of the space, establishing a more permeable movement network, and avoiding the need for rear laneways.

The built form outcome is simplified to create a more legible precinct, while the proposed building envelopes addresses issues with the architectural feasibility and SEPP 65 ADG compliance of some of the envelopes in the current DCP.

The proximity of the precinct to Strathfield Train Station and services at Strathfield Town Centre and the Bakehouse Quarter supports the introduction of the higher densities proposed in the Recommended Plan.

On the other hand, the amount of public open space provided is low relative to the proposed density. This is a consequence of the need to achieve a development quantum that can generate the contributions required to deliver the identified public domain infrastructure.

7.2 RECOMMENDATIONS

The following actions are recommended to translate the Recommended Plan into planning mechanisms that increase incentives for development and provide a greater degree of certainty with respect to the future evolution of the Strathfield Triangle for developers, landowners, Council and the community.

Establish a Land Dedication Mechanism

Land dedication (at nominal cost to Council) is based on the premise that the floorspace of the dedicated land is harvested so that the site's overall development capacity is not reduced. The floorspace associated with the dedicated land is transferred and developed on the remaining site. Built form controls should reflect the intention of the land dedication.

An **Incentive Infrastructure Scheme** should be implemented, with the following clearly identified on a plan:

- Community infrastructure and land requirements (e.g. new park, through site links etc).
- Development blocks/ amalgamation patterns, along with the available incentive floorspace (if community infrastructure delivered).

Contributions (land or works) are to be delivered through a planning agreement. Land dedicated is to be valued at nominal value to avoid 'double dipping'. Unless the land is identified in a s7.11 contributions plan, land that is dedicated is not eligible for any offset or reduction in s7.11 that is payable.

Works identified and funded in a s7.11 contributions plan could be delivered by a proponent and offset against s7.11 contributions payable.

In general, the precinct plan should achieve a balance between certainty and flexibility. A viable plan provides the certainty necessary for investment to occur (as opposed to an ad-hoc approach).

At the same time, landowners' intentions are not always financial, which presents a major challenge to development. Flexibility should be embedded to allow development blocks to be considered on a merits assessment, i.e. delivering the desired infrastructure with acceptable environmental impact to surrounding lands.

Amend the Planning Framework

The following should be amended / created based on the Recommended Plan

- Amendments to Canada Bay LEP 2013.
- Revised Strathfield Triangle DCP.
- New Public Domain Plan.
- New Development Contributions Plan.
- Voluntary Planning Agreement Policy.
- An Infrastructure Strategy to state the implementation framework for the Public Domain Plan and delivery of infrastructure and public benefits.

A summary of the proposed amendments to planning controls are provided on the next page, followed by existing and proposed planning maps. The proposed planning maps are based on the Recommended Plan.

Further Studies

Further technical work is needed to progress the implementation of a revised planning mechanism. These would address the following:

- Confirm how the floorspace potential of Council-owned land should be handled; for example, whether this should be allocated as incentive floorspace for the delivery of public infrastructure.
- Costing of the delivery of the infrastructure required in the Recommended Plan and comparing this with the potential development contributions.
- Setting appropriate s7.11 contribution rates.
- Policy guidelines on how contributions outside s7.11 (land dedication, works-in-kind) are to be valued.
- Depending on how prescriptive / level of detail of the new Strathfield Triangle DCP, the following may also be required:
  + Further built-form testing including the identification of possible building floorplates.
  + Feasibility testing to assess the viability of any further built form testing.

Summary of Recommended Amendments to the Planning Framework

Canada Bay LEP 2013	
Land Zoning	- Maintain existing R4 and SP2 zoning but adjust locations to reflect the Recommended Plan. - Remove RE1 zoning.
FSR	- Implement FSRs ranging from 2.3:1 up to 5.7:1 across the Study Area, in accordance with the Recommended Plan.
Height of Buildings	- Update building heights to range from 7 storeys (25m) to 31 storeys (100m), in accordance with the Recommended Plan.
Land Reservation Acquisition	- Remove land acquisition within the Study Area from the Land Reservation Acquisition map.
Additional Permitted Uses	- Permit commercial uses at the street level to allow for greater development flexibility and support street-level activation.

Strathfield Triangle Development Control Plan

- Update the Strathfield Triangle DCP to reflect the Recommended Plan, in particular with regards to lot amalgamation, building envelopes, and access.
- Provide clear controls for the proposed through-site links to ensure public access, create a pleasant environment, and provide a seamless transition between the public and private domain.
- Updates to the DCP would be focused on Sections 1 to 4. Section 5 “Design Guidelines” would require minor refinement.

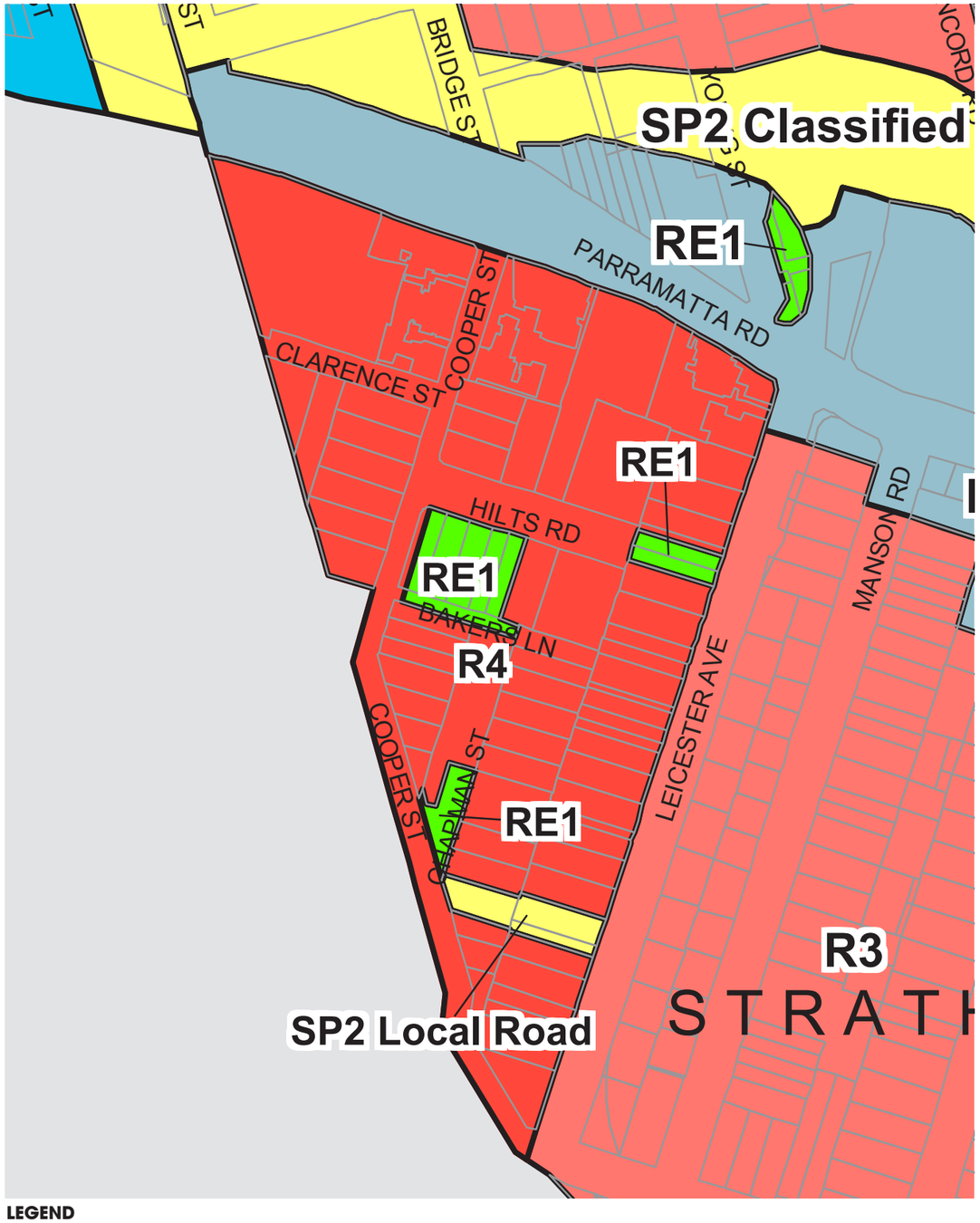
Strathfield Triangle Development Contributions Plan

- A new plan to reflect the Recommended Plan and the current development context (land acquisition valuations, cost estimates for civil works, residential market demand etc).

Strathfield Triangle Public Domain Plan

- A new plan to reflect the Recommended Plan.
- Review street sections to reduce the extent of hard paved area and increase opportunities for street trees in order to create a leafier public domain.

Canada Bay LEP 2013: Current Zoning



LEGEND

B3	Commercial Core	R4	High Density Residential
B6	Enterprise Corridor	RE1	Public Recreation
R3	Medium Density Residential	SP2	Infrastructure

Proposed Zoning

LEGEND

STUDY AREA	R4 HIGH DENSITY RESIDENTIAL
LOT BOUNDARY	SP2 INFRASTRUCTURE
AMALGAMATED LOT BOUNDARY	RE1 PUBLIC RECREATION
COUNCIL OWNED LAND	

FSR's derived from the Adjusted Base Case

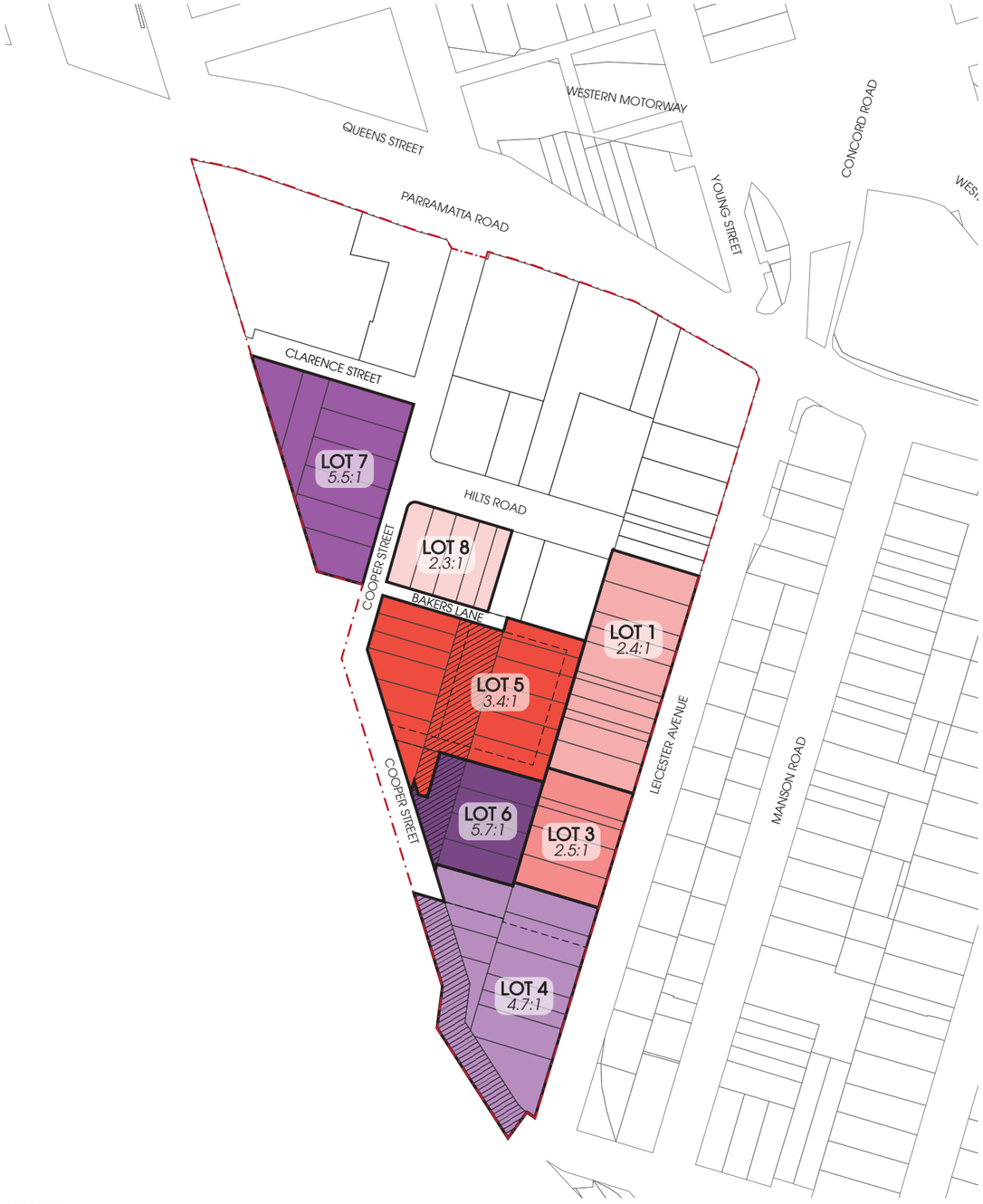
LEGEND

- STUDY AREA
- LOT BOUNDARY
- AMALGAMATED LOT BOUNDARY
- COUNCIL OWNED LAND

1.2 1.4 2.0 2.6

4.0 4.9 5.2

Proposed FSR



LEGEND

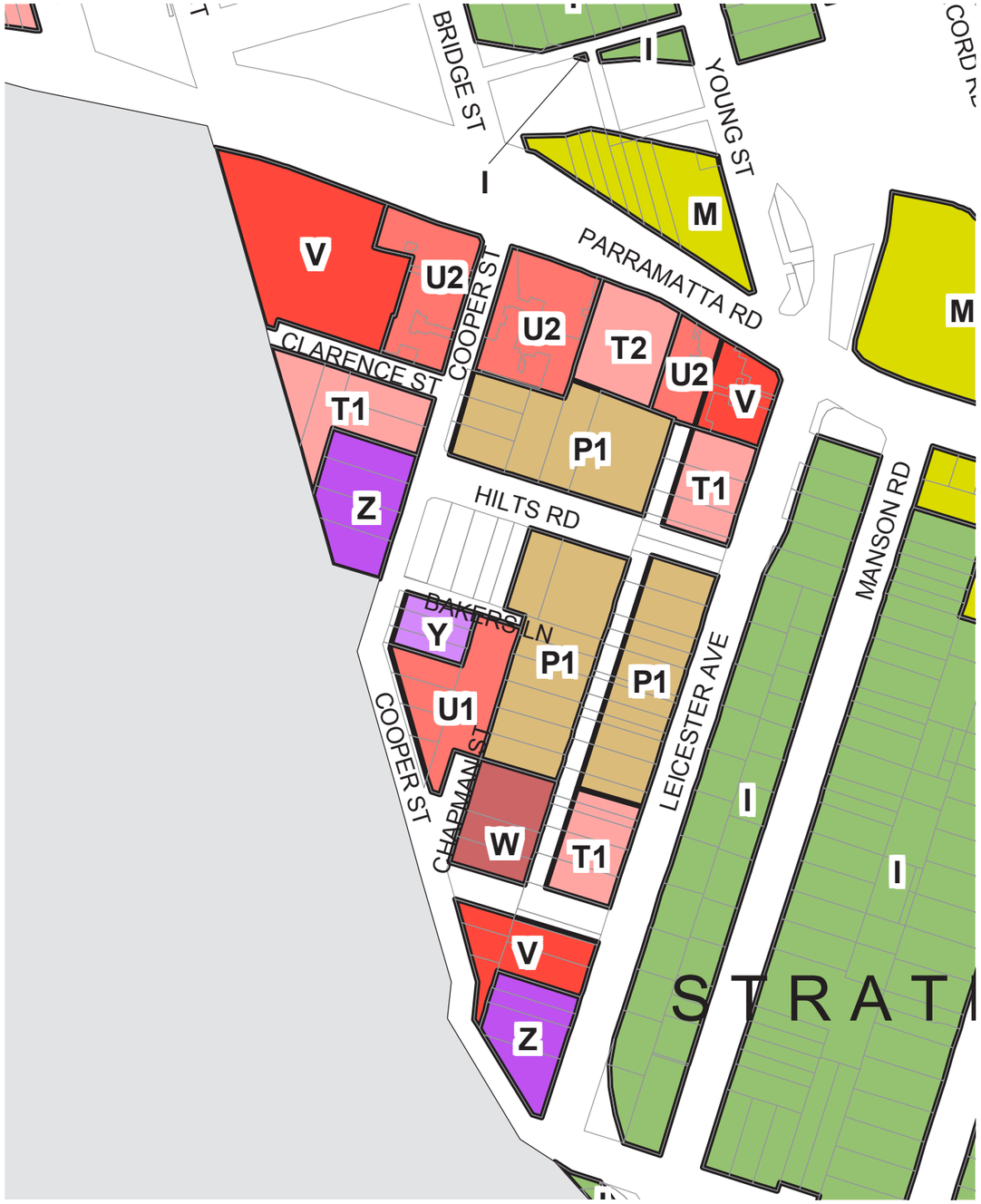
- STUDY AREA
- LOT BOUNDARY
- AMALGAMATED LOT BOUNDARY
- COUNCIL OWNED LAND

2.3 2.4 2.5 3.4

4.7 5.5 5.7

GROUPGSA

Canada Bay LEP 2013: Current Height of Buildings



LEGEND

I	8.5	T2	26.0	W	41.0
M	12.0	U1	31.0	Y	50.0
P1	17.0	U2	32.0	Z	59.0
T1	25.0	V	35.0		

Proposed Base Height of Buildings

LEGEND

STUDY AREA	25M (7 STOREYS)	56M (17 STOREYS)
LOT BOUNDARY	28M (8 STOREYS)	75M (23 STOREYS)
AMALGAMATED LOT BOUNDARY	35M (10 STOREYS)	81M (25 STOREYS)
COUNCIL OWNED LAND		

Proposed Incentive Height of Buildings

Building height envelopes have been defined based on the following assumptions for floor-to-floor heights, consistent with the Apartment Design Guide (ADG):

- Ground floor = 3.7 metres
  This allows for non-residential uses on the ground floor, as part of the “additional permitted use” for the R4 zone.
- Upper residential levels = 3.1 metres

Additional height, up to 2.5 metres (max.) is provided to allow for factors such as:

+ Lift overrun / roof top plant allowance
+ Roof articulation
+ Raising the ground floor to enable ground floor units to be elevated from the street level for privacy.

The above assumptions result in the correlation between storey height and building envelopes as detailed in the table below. The proposed height in metres should prevent the addition of an extra floor, while still having the flexibility to incorporate outcomes such as a non-residential use on the ground floor, raising the ground level units above street level, and roof plant / lift overruns.

No. Storeys	Height in Metres
7	25
8	28
9	31
10	35
19	62
25	81
29	93
31	100

Proposed Community Infrastructure Plan

LEGEND

- STUDY AREA
- LOT BOUNDARY
- AMALGAMATED LOT BOUNDARY
- PARK
- THROUGH - SITE LINK
- STREET RESERVE
- STREET WIDENING

Land Required for Public Purposes

LEGEND

- STUDY AREA
- LOT BOUNDARY
- AMALGAMATED LOT BOUNDARY
- LAND REQUIRED FOR ACQUISITION
- LAND REQUIRED FOR DEDICATION - 3M WIDE
- LAND REQUIRED FOR DEDICATION - 6M WIDE
- LAND REQUIRED FOR DEDICATION (PUBLIC OPEN SPACE)
- LAND REQUIRED FOR DEDICATION (NEW ROAD)

Proposed Lot Amalgamation Plan

LEGEND

- STUDY AREA
- LOT BOUNDARY
- AMALGAMATED LOT BOUNDARY
- STREET RESERVE BOUNDARY
- PROPOSED PUBLIC DOMAIN

Proposed Minimum Building Setbacks

* *Correlates to 20m setback from railway line*

LEGEND

- STUDY AREA
- LOT BOUNDARY
- AMALGAMATED LOT BOUNDARY
- SETBACK LINE
- UPPER LEVEL SETBACK FROM LEVEL 4
- COOPER STREET WIDENING (3M FROM LOT BOUNDARY)

Proposed Lot Access Plan

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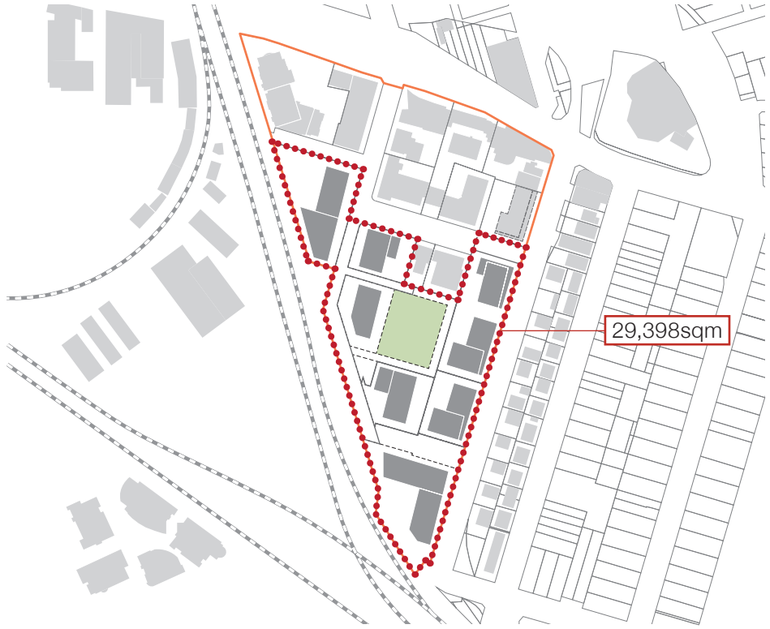
8.0 APPENDIX 1: YIELD ESTIMATES

Table 1: Study Area Summary	
Overall Area:	**54,652 sqm**
Area of Non-Developed Land (excl. 38-42 Leicester Ave):	**29,398 sqm**
Total Estimated GFA (for the Non-Developed Land):	**103,316 sqm**
Study Area FSR (for the Non-Developed Land):	**3.51 :1**
Potential Additional Units (On the Non-Developed Land):	**1,122 units**
Density (across the Non-Developed Land):	**382 dw/ha**
Open Space as % of Study Area:	**4.5%**

Development Assumptions		
Building Efficiency (Non-Resi)		
GFA / GEA Ratio: Retail / Commercial		80%
Apartments		
GFA / GEA Ratio		83%
NSA / GFA Ratio		85%
Apartments: Typical Unit Size		
	1B	55 sqm (NSA)
	2B	77 sqm (NSA)
	3B	105 sqm (NSA)
Parking		
Area per Parking Space (Structured Parking)		35 sqm

LEGEND

- STUDY AREA
- RAILWAY LINE
- EXTENT OF NON-DEVELOPED LAND
- AMALGAMATION BOUNDARY
- CADASTRE LINE
- PROPOSED STREET RESERVE
- PROPOSED PARK
- PROPOSED BUILT FORM
- EXISTING BUILT FORM



Key Plan

Table 2: Yield Estimate Breakdown

DEVELOPABLE LAND (on the non-developed parts of the Study Area)

Lot	Land Use	Lot Area (m2)	Lot Area as % of Non-Developed Parts	Base Case FSR	New FSR	Building Heights	TOTAL GFA (m2)	Units	Unit Mix						Indicative Average Unit Size (GFA, m2)
									1-Bed	*2-Bed*	*3-Bed*	*% 1-Bed*	*% 2-Bed*	*% 3-Bed*	
LOT 1	Residential	4,151	14.1%	1.3 :1	2.4 :1	4 to 8	9,961	108	22	65	22	20%	60%	20%	92
LOT 2	(Amalgamated into Lot 1)														
LOT 3	Residential	2,150	7.3%	2.0 :1	2.5 :1	4 to 8	5,375	58	12	35	12	20%	60%	20%	92
LOT 4	Residential	5,906	20.1%	4.0 :1	4.7 :1	9 to 29	27,757	302	60	181	61	20%	60%	20%	92
LOT 5	Residential	5,734	19.5%	2.6 :1	3.4 :1	31	19,494	212	42	127	43	20%	60%	20%	92
LOT 6	Residential	2,327	7.9%	4.9 :1	5.7 :1	4 to 19	13,266	144	29	86	29	20%	60%	20%	92
LOT 7	Residential	4,230	14.4%	5.2 :1	5.5 :1	10 to 25	23,264	253	50	152	51	20%	60%	20%	92
LOT 8	Residential	1,825	6.2%		2.3 :1	4 to 7	4,199	46	9	27	9	20%	60%	20%	92
TOTAL		**26,322**	**89.5%**				**103,316**	**1,122 units**	**214**	**646**	**217**				

PROPOSED PUBLIC DOMAIN

Lot	Land Use	Lot Area (m2)	Lot Area as % of Non-Developed Parts
OS4	Central Park	2,470	8.40%
TOTAL (PROPOSED PUBLIC DOMAIN)		**2,470**	**8%**

Address	Ownership	Base Case				Preferred Scenario (Central Park)				GFA Gained	
		Dev. Lot	Site Area	FSR	Total GFA	Dev. Lot	Site Area	FSR	Total GFA		
36-1 Leicester Ave	1	SR1	286	1.2 :1	343	1	286	0.0 :1	0	-343	
36-2 Leicester Ave	1	SR1	288	1.2 :1	346	1	288	0.0 :1	0	-346	
34 Leicester Ave	1	1&SR2	579	1.2 :1	695	1	579	2.4 :1	1,391	695	
32 Leicester Ave	1	1&SR2	579	1.2 :1	695	1	579	2.4 :1	1,390	695	
30 Leicester Ave	1	1&SR2	290	1.2 :1	348	1	290	2.4 :1	695	348	
30A Leicester Ave	1	1&SR2	289	1.2 :1	347	1	289	2.4 :1	694	347	
		Lot 1 Total (Before Dedication)	**2,312**	**1.2 :1**	**2,774**						
28 Leicester Ave	2	2&SR2	701	1.4 :1	982	1	701	2.4 :1	1,684	701	
26 Leicester Ave	2	2&SR2	586	1.4 :1	821	1	586	2.4 :1	1,407	586	
24 Leicester Ave	1	2&SR2	585	1.4 :1	819	1	585	2.4 :1	1,403	585	
22 Leicester Ave	3	2&SR2	540	1.4 :1	756	1	540	2.4 :1	1,297	540	
		Lot 2 Total (Before Dedication)	**2,413**	**1.4 :1**	**3,378**	**Lot 1&2 Total (Before Dedication)**	4,151	2.4 :1	**9,961**	**3,809**	
20 Leicester Ave	3	3&SR2	539	2.0 :1	1,078	3	539	2.5 :1	1,347	269	
18 Leicester Ave	4	3&SR2	538	2.0 :1	1,075	3	538	2.5 :1	1,344	269	
16 Leicester Ave	2	3&SR2	536	2.0 :1	1,072	3	536	2.5 :1	1,341	268	
14 Leicester Ave	1	3&SR2	537	2.0 :1	1,074	3	537	2.5 :1	1,343	269	
		Lot 3 Total (Before Dedication)	**2,150**	**2.0 :1**	**4,300**	**Lot 3 Total (Before Dedication)**	**2,150**	**2.5 :1**	**5,375**	**1,075**	
12 Leicester Ave	1	SR3	542	4.0 :1	2,168	SR2	542	4.7 :1	2,547	379	
10-1 Leicester Ave	1	SR3	198	4.0 :1	794	SR2	198	4.7 :1	933	139	
27 Cooper St	1	SR3	493	4.0 :1	1,971	SR2	493	4.7 :1	2,316	345	
10-2 Leicester Ave	1	4	375	4.0 :1	1,502	4	375	4.7 :1	1,765	263	
8 Leicester Ave	1	4	576	4.0 :1	2,305	4	576	4.7 :1	2,708	403	
6 Leicester Ave	1	4	571	4.0 :1	2,285	4	571	4.7 :1	2,685	400	
4 Leicester Ave	1	4	567	4.0 :1	2,267	4	567	4.7 :1	2,664	397	
2 Leicester Ave	1	4	559	4.0 :1	2,235	4	559	4.7 :1	2,626	391	
25 Cooper St	1	4	632	4.0 :1	2,528	4	632	4.7 :1	2,971	442	
		Lot 4 Total (Before Dedication)	**4,513**	**4.0 :1**	**18,054**						
Former Cooper Street	Council		1,392	0.0 :1	0	4	1,392	4.7 :1	6,543	6,543	
						Lot 4 Total (Before Dedication)	**5,906**	**4.7 :1**	**27,757**	**9,703**	
1A Chapman St	Council	5	1,366	2.6 :1	3,552	OS1 & SR1	1,099	3.4 :1	3,737	185	
						5	267	3.4 :1	906		906
11 Chapman St	1	5	440	2.6 :1	1,145	OS1 & SR1	440	3.4 :1	1,497	352	
13 Chapman St	1	5	442	2.6 :1	1,149	OS1	442	3.4 :1	1,502	353	
15 Chapman St	1	5	443	2.6 :1	1,152	OS1	443	3.4 :1	1,507	355	
17 Chapman St	1	5	445	2.6 :1	1,156	OS1	445	3.4 :1	1,512	356	
19 Chapman St	1	5	334	2.6 :1	869	OS1	334	3.4 :1	1,137	268	
21 Chapman St	1	5	313	2.6 :1	813	OS1 & SR1	313	3.4 :1	1,063	250	
2-1 Chapman St	1	5	213	2.6 :1	553	SR1 & 5	213	3.4 :1	723	170	
2-2 Chapman St	1	5	140	2.6 :1	365	5	140	3.4 :1	477	-365	477
4 Chapman St	1	5	309	2.6 :1	803	5	309	3.4 :1	1,051	247	
6 Chapman St	1	5	405	2.6 :1	1,054	5	405	3.4 :1	1,378	324	
8 Chapman St	1	5	293	2.6 :1	762	5	293	3.4 :1	997	235	
10 Chapman St	1	5	301	2.6 :1	783	5	301	3.4 :1	1,023	241	
12 Chapman St	1	5	290	2.6 :1	754	5	290	3.4 :1	985	232	
		Lot 5 Total (Before Dedication)	**5,734**	**2.6 :1**	**14,909**	**Lot 5 Total (Before Dedication)**	**5,734**	**3.4 :1**	**19,494**	**4,585**	
1 Chapman St	5	6	435	4.9 :1	2,129	6	435	5.7 :1	2,477		348
3 Chapman St	6	6	436	4.9 :1	2,136	6	436	5.7 :1	2,485		349
5-9 Chapman St	7	6	876	4.9 :1	4,295	6	876	5.7 :1	4,996		701
		Lot 6 Total (Before Dedication)	**1,747**	**4.9 :1**	**8,560**						
Former Chapman Street	Council	OS2	580	0.0 :1	0	6	580	5.7 :1	3,308		3,308
						Lot 6 Total (Before Dedication)	**2,327**	**5.7 :1**	**13,266**		**4,706**
32 Cooper St	1	7	493	5.2 :1	2,564	7	493	5.5 :1	2,712	148	
34 Cooper St	1	7	506	5.2 :1	2,633	7	506	5.5 :1	2,785	152	
36 Cooper St	8	7	531	5.2 :1	2,763	7	531	5.5 :1	2,923	159	
38 Cooper St	1	7	531	5.2 :1	2,763	7	531	5.5 :1	2,923	159	
40 Cooper St	1	7	531	5.2 :1	2,763	7	531	5.5 :1	2,923	159	
42 Cooper St	1	7	531	5.2 :1	2,763	7	531	5.5 :1	2,923	159	
2 Clarence St	9	7	596	5.2 :1	3,101	7	596	5.5 :1	3,280	179	
4 Clarence St	1	7	509	5.2 :1	2,644	7	509	5.5 :1	2,797	153	
		Lot 7 Total (Before Dedication)	**4,230**	**5.2 :1**	**21,995**	**Lot 7 Total (Before Dedication)**	**4,230**	**5.5 :1**	**23,264**	**1,269**	
8 Hilts Rd	10	OS1	267	0.0 :1	0	8	267	2.3 :1	613	613	
8A Hilts Rd	11	OS1	315	0.0 :1	0	8	315	2.3 :1	725	725	
10 Hilts Rd	1	OS1	413	0.0 :1	0	8	413	2.3 :1	950	950	
12 Hilts Rd	12	OS1	410	0.0 :1	0	8	410	2.3 :1	942	942	
14 Hilts Rd	13	OS1	421	0.0 :1	0	8	421	2.3 :1	968	968	
						Lot 8 Total (Before Dedication)	**1,825**	**2.3 :1**	**4,199**	**4,199**	
TOTAL GFA			73,970						103,316	29,346	

1	Main Landowner
2	Advanced Properties (NSW) Pty Ltd
3	Keywi Pty Ltd
4	G Y Liu
5	C S Eo, T S Eo, J O Eo
6	S Eo
7	Strata Building - One Owner
8	R M Thompson
9	P J Lee& Mrs G Lee
10	M M Siu
11	S Y Chin
12	X P Chen & R Z Wu
13	S H Lee

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