North West Rail Link

Cherrybrook Station Draft Structure Plan

A Vision for Cherrybrook Station Surrounds

NSW GOVERNMENT Transport

NSW GOVERNMENT Planning

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1. Introduction

1.1 CONTEXT

The North West Rail Link (NWRL) is a priority transport infrastructure project for the NSW Government. The NWRL will include eight new stations and services as part of a 23 kilometre link, running from Epping to Cudgegong in north-west Sydney, connecting with the Epping to Chatswood Rail Link (ECRL) and Sydney's wider rail network.

The north west of Sydney is expected to experience high growth with the need for new dwellings and additional jobs to meet demand. To sustainably manage this growth, metropolitan planning aims to provide for a more compact, accessible city, capable of supporting more jobs, homes and lifestyle opportunities within close proximity of public transport.

The delivery of a new rail line in the North West is a significant investment in public infrastructure and represents an opportunity to carefully consider the wider implications of rail and to comprehensively plan for the future. The North West has great potential to become a major transport-oriented corridor, delivering a significant amount of housing and employment, high levels of self-containment and an unrivalled level of amenity and lifestyle within a desirable residential community.

The NWRL will meet the challenge of future growth, by:

- **Providing rail access** between North West Sydney and Epping, Macquarie University, Macquarie Park, Chatswood, St Leonards, North Sydney and the Sydney Central Business District (CBD), including new rail services to existing centres in the Hills District, such as Castle Hill, Rouse Hill and Norwest Business Park.
- **Reducing vehicle trips**, when rail is introduced to the North West all modes of public transport will become a more attractive and accessible alternative to the private motor vehicle.
- **Improving travel times** from, to and within the North West and delivering a reliable, dependable service.

1.2 REPORT STRUCTURE

The following report is a study to determine the challenges and opportunities the new station will present to the Cherrybrook locality. This study will culminate in a collective vision and Draft Structure Plan for the station precinct, to guide the future character of the study area and to reinforce the delivery of the NWRL and a new station at Cherrybrook. In preparing the Draft Structure Plan, consideration has been given to the following:

1. **Role of the Study Area in the NWRL corridor.** Consideration is given to the role the Study Area will perform within the rail corridor and the North-West.

2. **Analysis of the physical characteristics**. A comprehensive site analysis has been undertaken to ascertain the natural and physical opportunities and constraints of the Study Area. Please refer to *Section 2: Opportunities & Constraints Analysis*.

3. **Analysis of the existing planning controls in the Study Area.** The key planning controls that apply to the Study Area have been examined to determine their ability to respond to a new rail link and station. Please refer to *Section 3: Current Planning Controls*.

4. **Identification of Opportunities for Growth**. Sites that may contribute to the growth of the Study Area in response to a new rail link and station have been identified. Please refer to *Section 4: Opportunities for Growth*.

5. **Vision for the Study Area.** The overall vision for the Study Area is informed by the above analysis. This vision will be realised through the Draft Structure Plan which provides an overall guide to the future character of the Study Area. Please refer to *Section 5: Vision and Structure Plan*

6. **Actions and Implementation.** To achieve the vision for the Study Area a series of actions to be undertaken, including further detailed investigations and strategies, have been identified. Please refer to *Section 6: Actions and Implementation.*

Figure 1: North West Rail Link Study Area in the context of Metropolitan Sydney

1.3 STUDY AREA LOCALITY & CHARACTER

The NWRL includes a new station at Cherrybrook. The station will be located to the north of Castle Hill Road, between Robert Road and Franklin Road, and will primarily serve as an 'origin' station for the surrounding residential population in the suburbs of Cherrybrook and West Pennant Hills.

The Cherrybrook Study Area is an established low density residential area that covers approximately 187 hectares, and encompasses lands within Hornsby Shire and The Hills Shire Local Government Areas (LGAs).

The boundary of the Study Area is based on the nearest road boundary within a radius of 800m from Cherrybrook Station, which is a distance normally considered to reflect a 10 minute walking trip. The boundary has also been defined by taking into account the existing character, predominant land uses, built form and natural elements of the area.

The Study Area is bisected by Castle Hill Road, a major arterial road located on the top of a ridgeline that also separates the two local government areas. The Study Area's housing stock comprises 1-2 storey mostly detached houses set on large blocks, with strong landscaped settings and extensive vegetation.

The Study Area extends to Edward Bennett Drive to the east, Coonara Ave to the south, Highs Road and County Drive to the west and John Road to the north.

The Study Area contains two schools, the Tangara School for Girls and the Inala Rudolf Steiner School, a childcare centre and the Coonara Avenue Business Park site. There is no existing local centre, retail facilities, or central public space within the Study Area.

The nearest local centre is the Coonara Village shopping centre, south west of the Coonara Avenue Business Park site.

An aerial image of the Study Area is provided in Figure 3 on page 3. A series of photos that illustrate the existing built form and character of the Study Area are provided on Page 7.

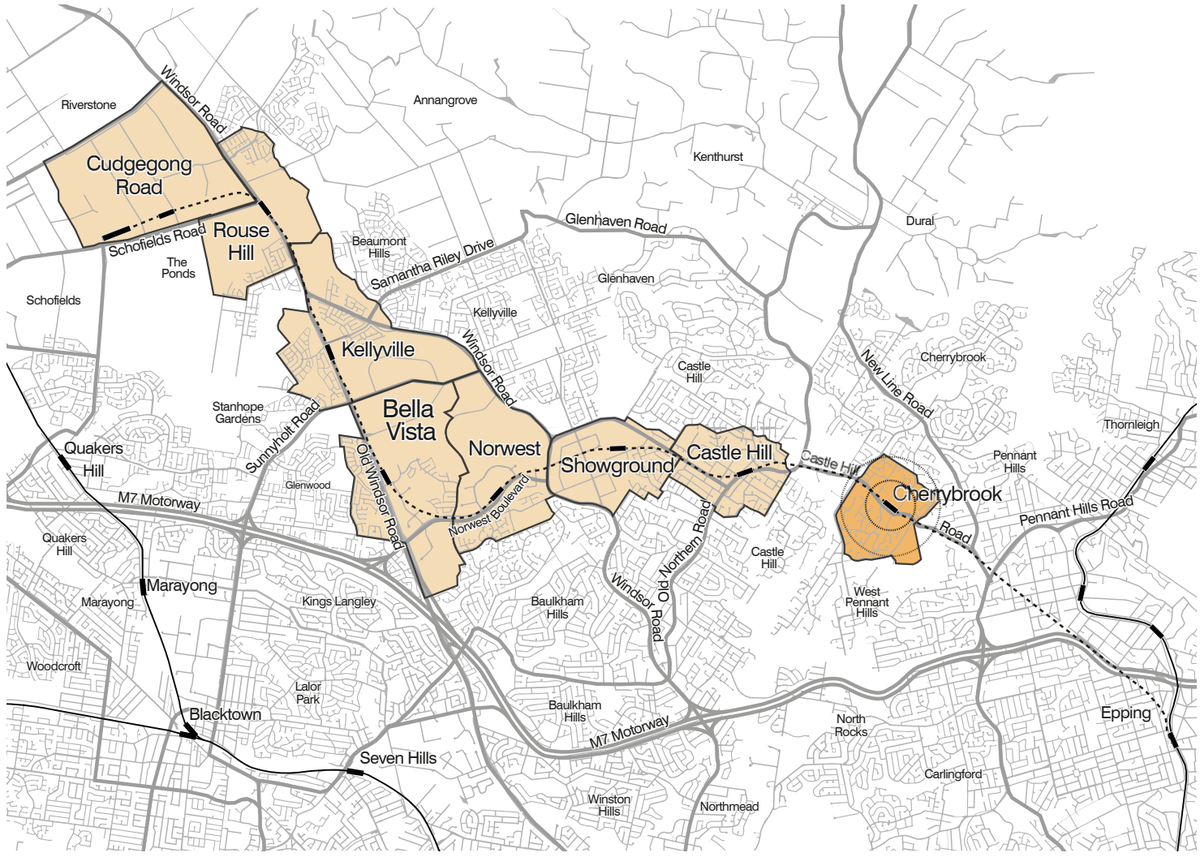


Figure 2: Cherrybrook Study Area, in the context of the North West Rail Link.

Cherrybrook Draft Structure Plan
2. Opportunities & Constraints Analysis

2.1 INTRODUCTION

This section is an assessment of the opportunities and constraints within the Study Area. The physical characteristics of the Study Area have been mapped and analysed to identify its physical constraints and opportunity sites. These characteristics include; transport, traffic and accessibility; open space networks and ecology; topography and landslip; drainage and hydrology; bushfire risk; and infrastructure easements. Constraints related to recent development, heritage, strata-title and community-title have also been examined.

The combination of these elements will reveal the overall level of constraint within the Study Area and highlight those sites which have the opportunity to change in response to a new rail link and station at Cherrybrook.

The analysis of the information contained within sections 2, 3 and 4 of this report have been drawn from a number of sources including;

- Hornsby Shire Council
- The Hills Shire Council
- Department of Planning and Infrastructure
- Land and Property Information Division of NSW
- Transport for NSW.

Figure 3: Cherrybrook Station precinct, showing station location, study area boundary and Key Land Uses

Source: Google Maps 2012

Figure 4: Images illustrating the existing built form and character within the Study Area

Source: TfNSW

Cherrybrook Draft Structure Plan
2. Opportunities & Constraints Analysis

2.2 TRANSPORT, TRAFFIC & ACCESSIBILITY

Castle Hill Road serves as the Study Area's primary east-west access way and provides the main regional route for through traffic in the area. North-south access points are provided along the Study Area's boundaries, including County Drive/Highs Road to the west and Edward Bennett Drive/Coonara Avenue to the east. Castle Hill Road and County Drive experience significant congestion in peak periods.

North-south vehicle movements are limited by a lack of direct road connections across Castle Hill Road. The main spines of the local road network are provided by Franklin Road and Robert Road to the north and Glenhope Road, connecting with Salisbury Downs Drive, to the south.

The southern half of the Study Area below Castle Hill Road contains a poorly connected local road network, featuring a number of culs-de-sac that create barriers to vehicular movement in both east-west and north-south directions. Traffic signalisation is limited to intersections at the boundaries of the Study Area, including the intersections of Castle Hill Road and Edward Bennett Drive and Castle Hill Road and County Drive.

Figure 5 below demonstrates the 5, 10 and 20 minute walking catchments from the proposed station location. Pedestrian and cycling accessibility is restricted by the lack of dedicated and signalised crossings on Castle Hill Road, lack of street network permeability, due to the number of culs-de-sac, and the Study Area's steep topography south of Castle Hill Road. There are also a number of local streets with limited street lighting and pedestrian footpaths that further restricts active modes of transport.

Figure 5: Walking Catchment within the Study Area

Figure 6: Access & Movement within the Study Area

2.3 OPEN SPACE & CONSERVATION

There are four areas zoned as open space within the Study Area, all of which are located to the south of Castle Hill Road and which have passive recreation and conservation functions, this includes Henry Curtis Reserve. There are also a number of large undeveloped sites, zoned for residential development, which contribute to the sense of open space within the Study Area.

The Study Area contains a number of tracts of threatened species of flora. This includes areas of Blue Gum High Forest, a Critically Endangered Ecological Community listed under the *Threatened Species Conservation Act 1995* and *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*, located to the north of Cherrybrook station, adjacent to the Coonara Avenue Business Park site and south east of the Castle Hill Road and Highs Road intersection. The area of Blue Gum High Forest to the north of Cherrybrook station is located within close proximity to the construction of the station and associated infrastructure.

There is also a dispersed area of Shale/Sandstone Transition Forest (High Sandstone Influence), an Endangered Ecological Community listed under the *Threatened Species Conservation Act 1995*, located south of the intersection of Castle Hill Road and Franklin Road. These ecologically significant areas represent constraints to development as a result of their biodiversity significance and the contribution they make to the attractiveness and leafy character of Cherrybrook.

Detailed ecological studies will be required to identify impacts on native vegetation and threatened flora and fauna as part of any future rezoning investigations within the Study Area.

Figure 7: Open Space & Conservation within the Study Area

Cherrybrook Draft Structure Plan
2. Opportunities & Constraints Analysis

2.4 HERITAGE & SPECIAL USES

Figure 8 shows that five sites within the Study Area accommodate special uses. This includes two private schools on Franklin Road (Inala Rudolf Steiner School and Tangara School for Girls) and a water tower to the east of the station.

Three local heritage items are located within the Study Area. This includes the original 'Inala School' house on Castle Hill Road located adjacent to the Inala Rudolf Steiner School. The other heritage sites comprise individual historical dwellings on large lots on Castle Hill Road.

There are no heritage conservation areas within the Study Area, however, Cumberland State Forest to the south east of the Study Area, is classified as an archaeological heritage item.

The Draft Structure Plan seeks to retain and reinforce the heritage items identified in Figure 8: Heritage & Special Uses within the Study Area.

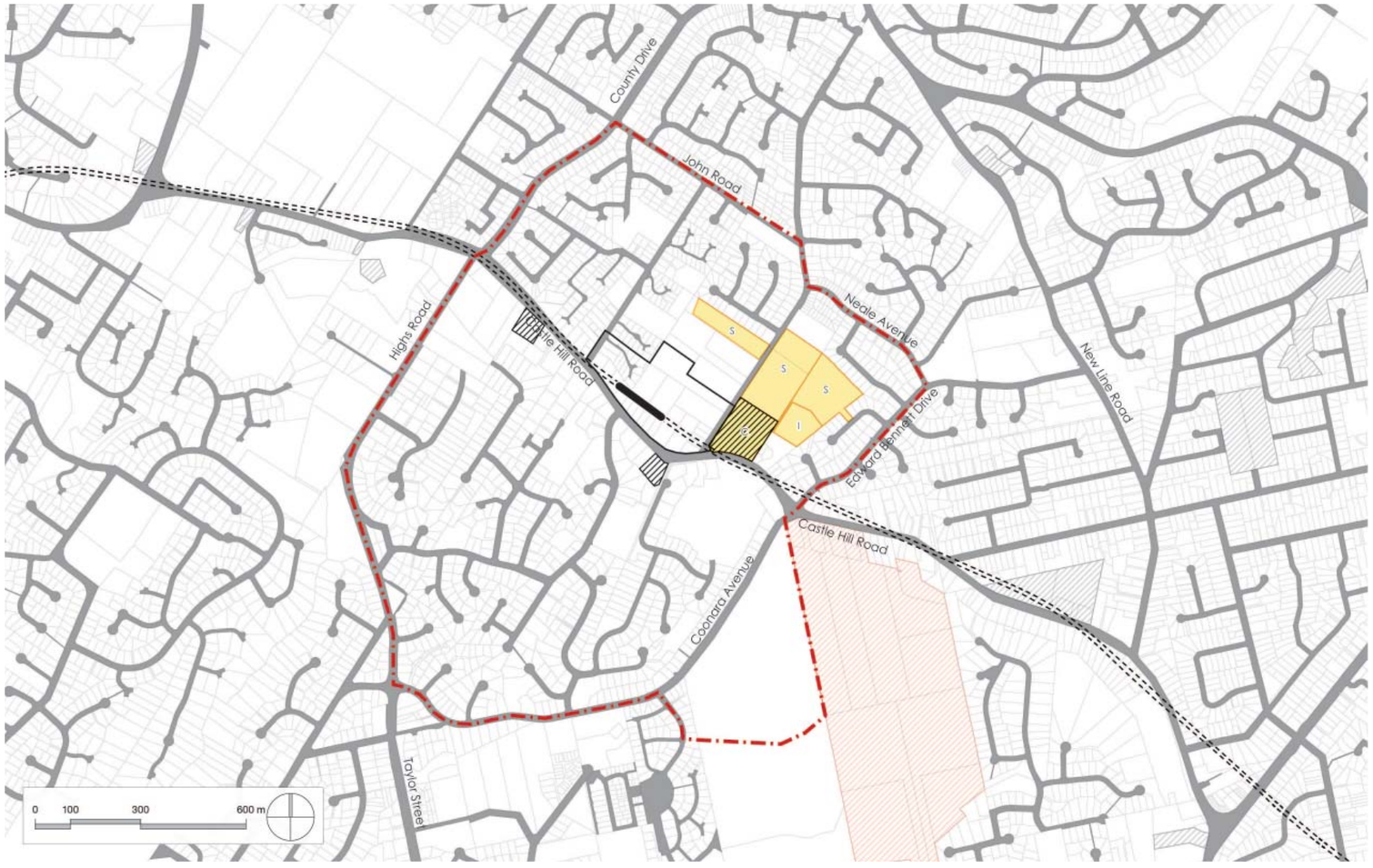


Figure 8: Heritage & Special Uses within the Study Area

2.5 TOPOGRAPHY

The topography within the Study Area is undulating with an east-west ridgeline that runs along Castle Hill Road. This divides the Study Area into two distinct topographical areas with heights ranging between approximately 88-180 metres above sea level.

The resulting slopes exceed 10 percent. These areas have been nominated as lands at risk of landslip. The development of slopes greater than 10 percent and within landslip risk areas, requires alternative development and construction techniques and may limit the types of buildings that can be constructed.

Figure 9: Topography within the Study Area

Images illustrating the changes in topography within the Study Area

Cherrybrook Draft Structure Plan
2. Opportunities & Constraints Analysis

2.6 DRAINAGE

The station will be located on the northern side of the ridge between the two major catchments of Sydney - the Hawkesbury River catchment which lies to the north and the Sydney Harbour catchment which lies to the south.

The Study Area contains a number of low order drainage lines, the majority of which are located south of Castle Hill Road. The majority of the Study Area, particularly to the north of Castle Hill Road, is free of flooding constraints.

While the risk of flooding is low and is not considered to be a major constraint to development, further investigation may be required at any future re-zoning or development application stage to establish appropriate flood planning levels. Similarly, given the Study Area's location at the start of significant drainage catchments, controls governing stormwater capture, treatment and re-use will need to be devised to govern any future growth within the Study Area.

The flooding information captured in this report is preliminary and a detailed flooding study will need to be undertaken at master plan level.

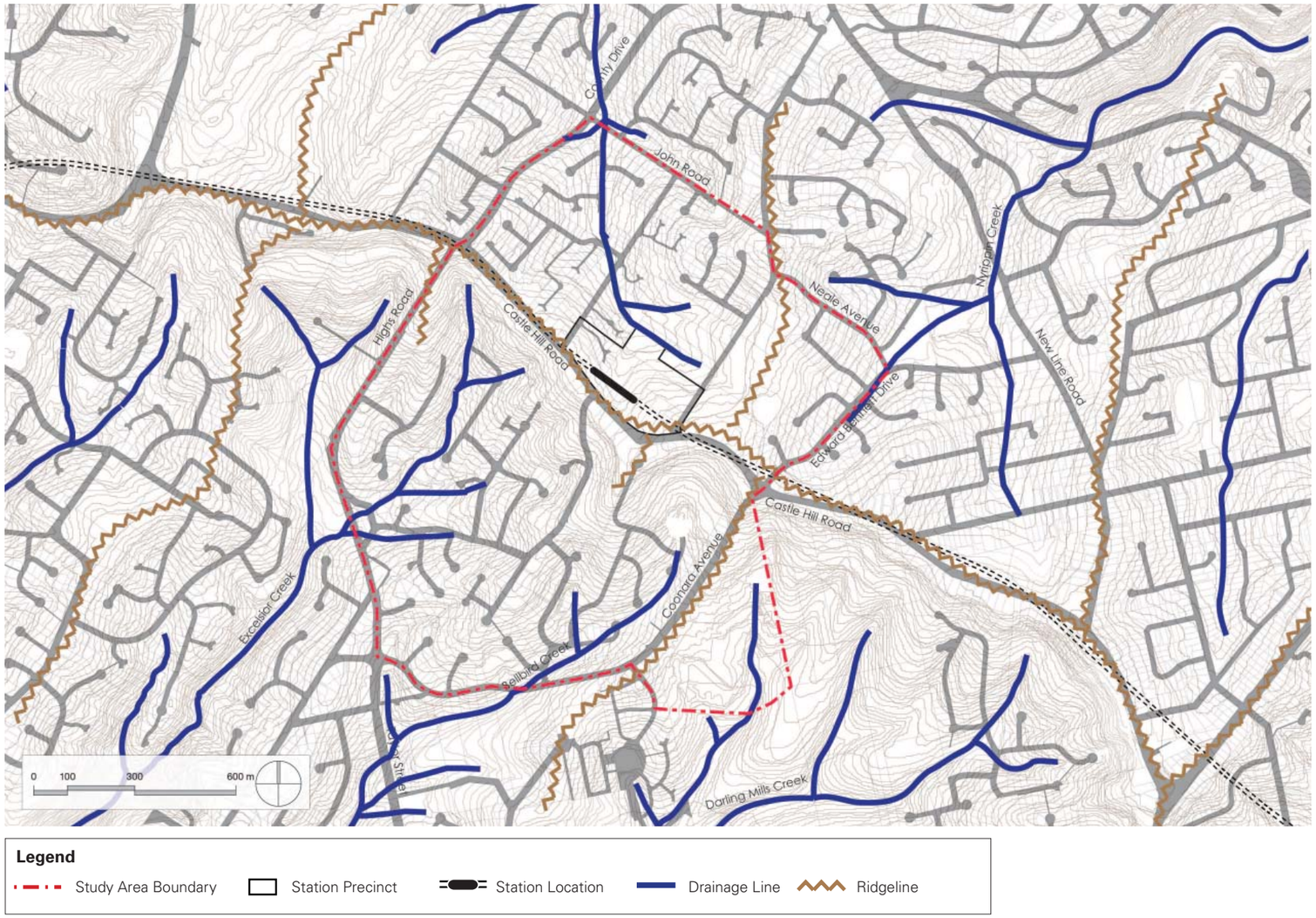


Figure 10: Drainage within the Study Area

2.7 RECENT RESIDENTIAL DEVELOPMENT

The assessment of recent residential development includes development that has occurred over the last 15 years.

An analysis of recent residential development indicates that incremental low density residential development has occurred throughout the Study Area. Please refer to the images provided on page 7 that illustrates the character of the recent residential development.

Recent development is concentrated along Glenhope Road to the south of Castle Hill Road, and surrounding Robert Road and Ridgemont Close in the north of the Study Area. There have also been several recent development approvals for the subdivision of remaining undeveloped sites for residential development.

Consideration has also been given to the condition and age of the existing building stock and impact of these factors on the likelihood of land being redeveloped in the lifetime of the Draft Structure Plan. Recent development is considered a short to medium term constraint to development as the average life cycle of a building is generally 30-40 years. A high proportion of dwellings within the Study Area have been recently built and/or are of sufficient quality to be excluded as potential urban renewal redevelopment opportunity sites in the short to medium term. Refer to section 4 for an overview of the opportunity sites within the Study Area.

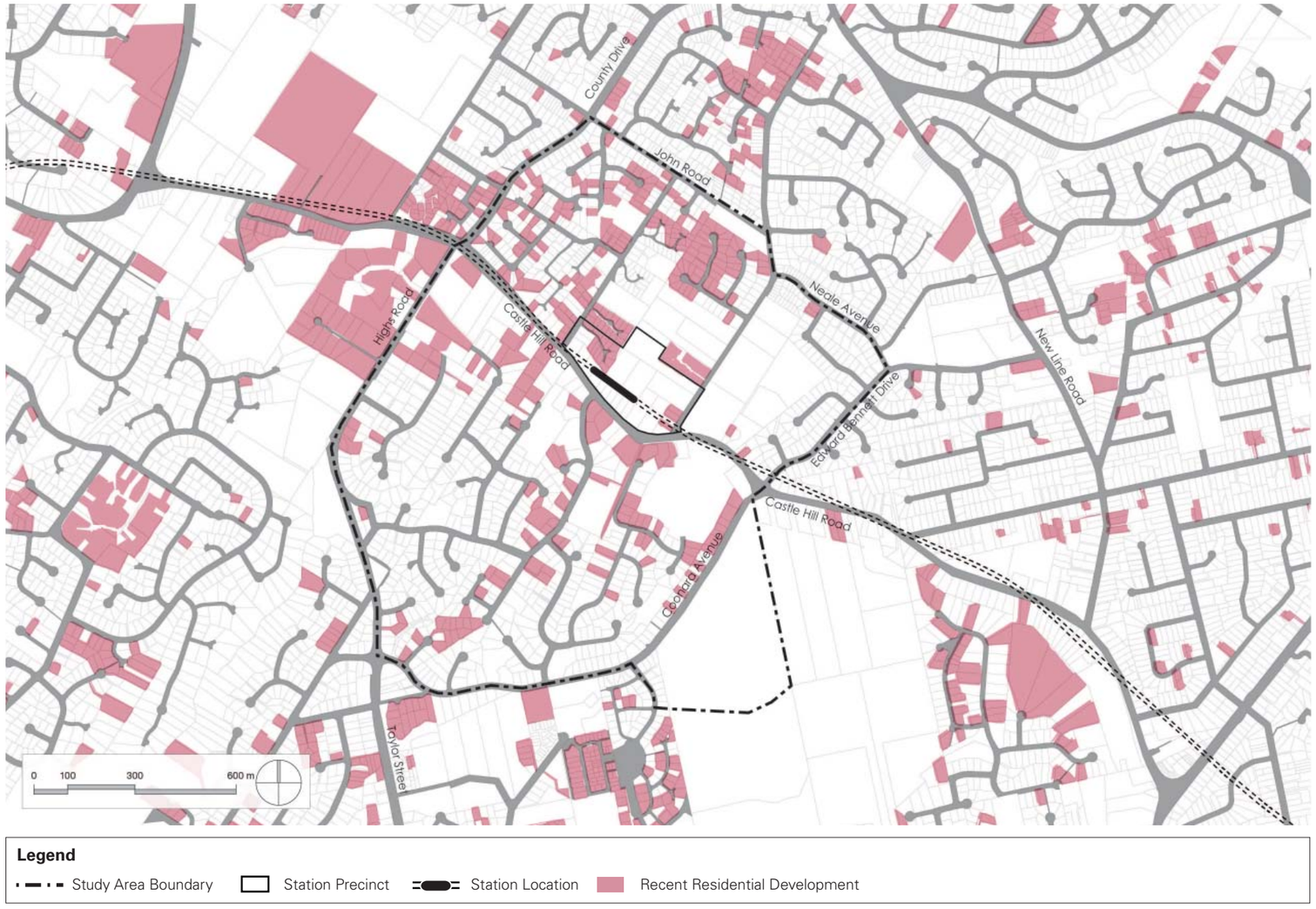


Figure 11: Recent Residential Development within the Study Area

2. Opportunities & Constraints Analysis

2.8 OTHER CONSTRAINTS

There are areas within the Study Area which, as a result of their highly vegetated setting, are prone to bushfire. Bushfire prone land is concentrated in the south of the Study Area and includes the Coonara Avenue Business Park site, adjacent to the Cumberland State Forest. The remainder of the Study Area is otherwise free of bushfire prone land.

Any redevelopment of land within these bushfire prone areas will need to provide the required asset protection zones in accordance with relevant Planning for Bushfire Protection guidelines.

Overhead electricity wires, with a corresponding easement, traverse the Study Area from John Road (between Robert Road and Franklin Road) in the north through to Coonara Avenue (near the intersection of Glenroe Ave) in the south. This significant utility service and easement represents a constraint to certain types of land uses within its vicinity.

There are six residential subdivisions located throughout the Study Area that are governed by community title arrangements. In addition, a number of dispersed residential sites are subject to strata title ownership. Land governed by strata or community title arrangements are considered a constraint to redevelopment, as under current legislation, the approval of all owners and lenders is first required. Accordingly, these schemes are not likely to contribute to the future residential capacity of the Study Area into the foreseeable future.

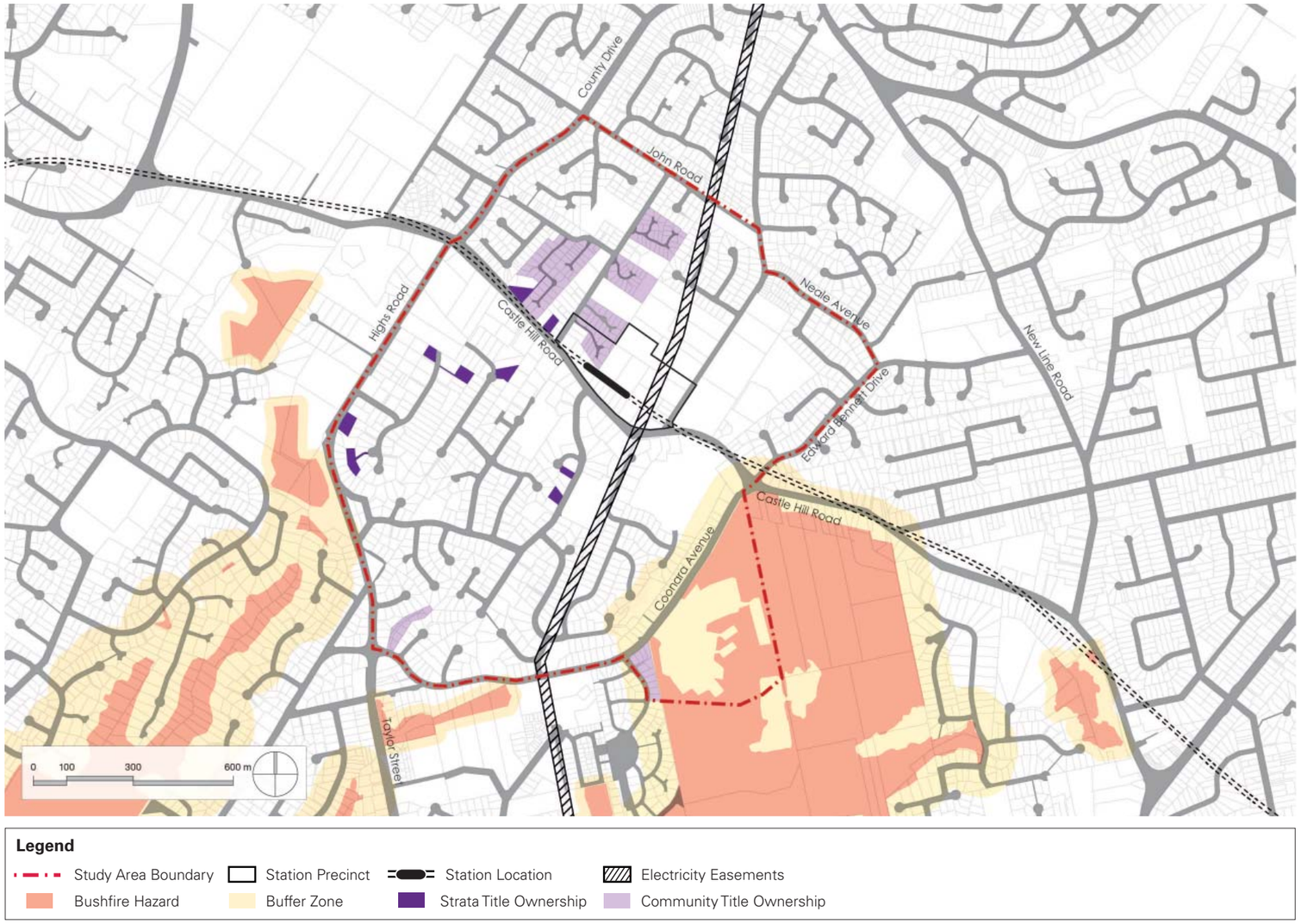


Figure 12: Other Constraints within the Study Area

2.9 COMBINED CONSTRAINTS

The constraints mapping indicates there are large portions of the Study Area that are constrained.

The steep topography to the south of Castle Hill Road is a considerable constraint to connect to the station precinct.

Pockets of recent development are scattered across the Study Area. These parcels are unlikely to be developed in the short term, however may be suitable for renewal in the longer term.

There are six identified residential subdivisions governed by community title arrangements are not likely to contribute to the future residential capacity of the Study Area into the foreseeable future.

Figure 13: Combined Constraints within the Study Area

Cherrybrook Draft Structure Plan
3. Planning Controls

3.1 INTRODUCTION

This section reviews the existing and proposed land use, height, floor space and lot size controls that apply to land within the Study Area.

The key planning controls applying to the Study Area are included in *The Hills Local Environmental Plan 2012*. Hornsby Shire Council exhibited *Draft Hornsby Local Environmental Plan 2012* in August 2012. It primarily translates the existing controls into the Standard Instrument Local Environmental Plan format. Additional planning controls are also contained in the Hills DCP 2011, and Draft Hornsby DCP.

3.2 LAND USE

Planning controls facilitate low density residential development throughout the Study Area. The steep topography on the southern side of Castle Hill Road further influences these controls, with low density residential development on larger allotments permissible on sites zoned as 'environmental living'.

The low density residential controls are also maintained to the north of Castle Hill Road under *Hornsby Local Environmental Plan 2013*. Commercial activity within the Study Area is located on the Coonara Avenue Business Park site.

A plan illustrating the Study Area's existing zoning controls is provided in *Figure 14: Zoning Controls*.

Note: All existing controls and zoning for lands within the Hornsby Local Government Area relate to the *Hornsby Local Envrionmental Plan 2013*.

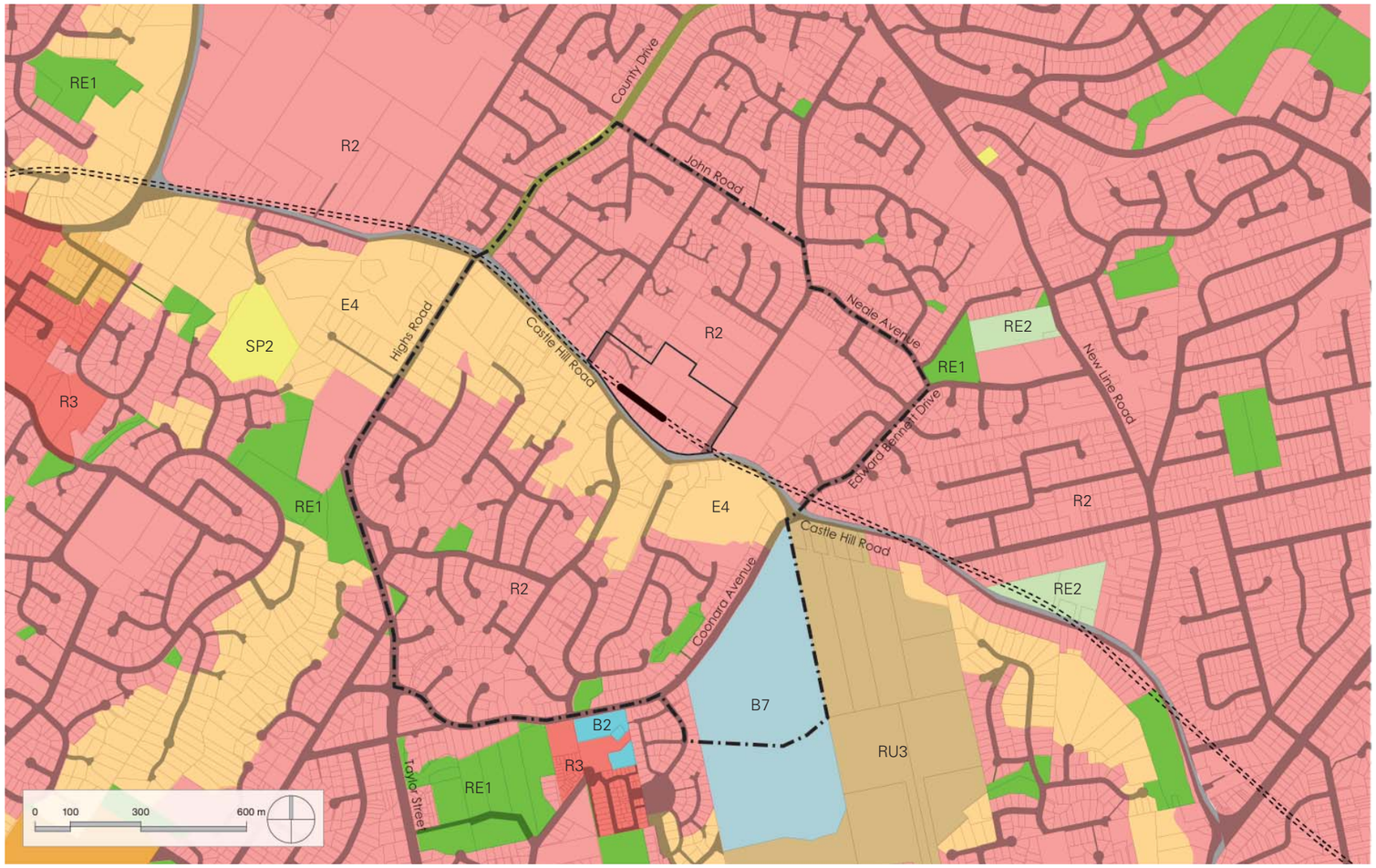


Figure 14: Zoning Controls within the Study Area

3.3 BUILDING HEIGHT

The existing controls for residential development permit 1-2 storey building heights throughout the Study Area. Land to the north of Castle Hill Road will be subject to a maximum building height of 8.5m under *Hornsby Local Environmental Plan 2013*, while land to the south of Castle Hill Road is restricted to a building height of 9m. The Coonara Avenue Business Park site has a building height limit of 22m, although *The Hills Draft Development Control Plan 2011* restricts all buildings on the site to a maximum of four floors.

A plan illustrating the existing zoning controls is provided in *Figure 15: Building Height Controls*.

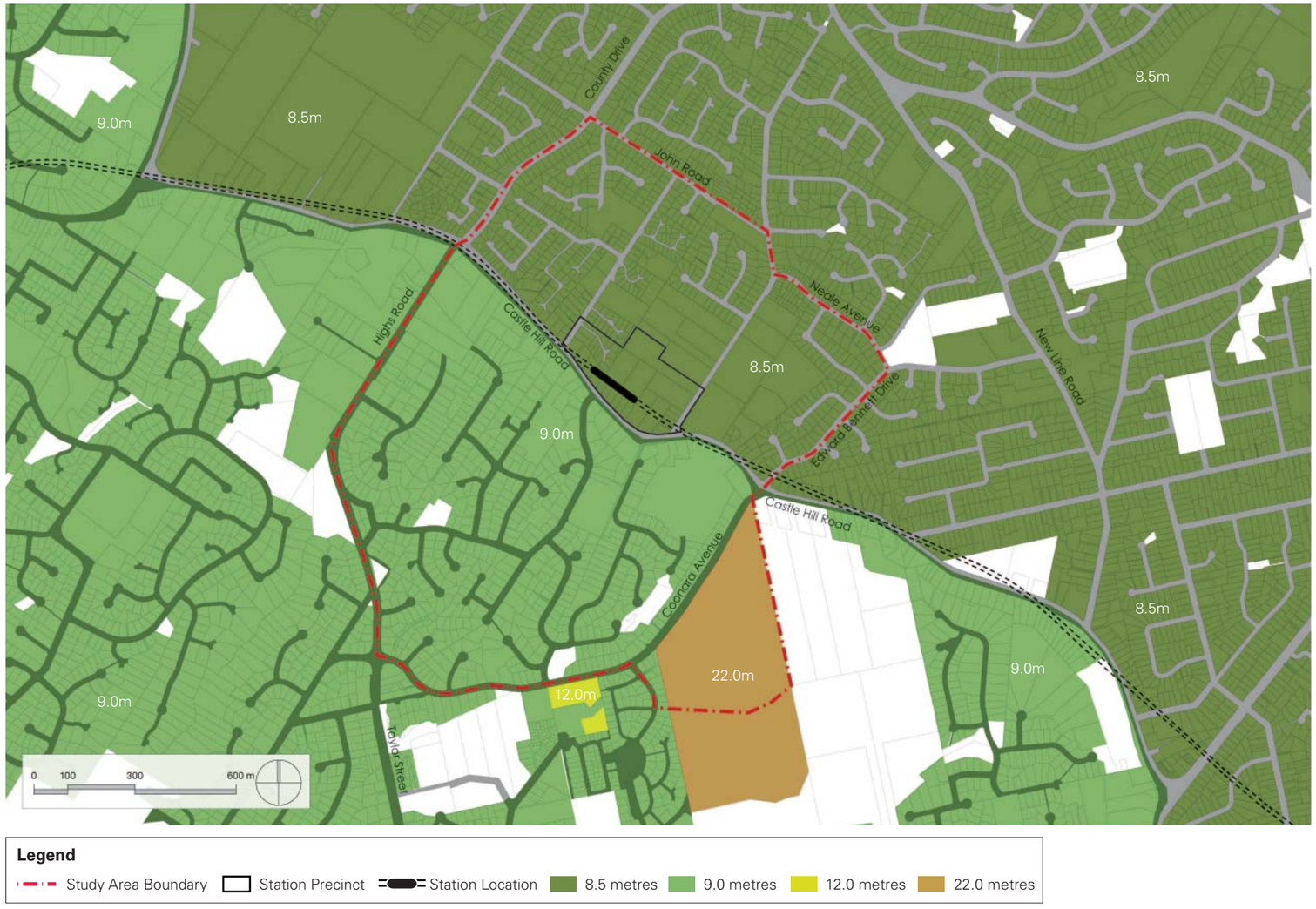


Figure 15: Building Height Controls within the Study Area

Cherrybrook Draft Structure Plan
3. Planning Controls

3.4 LOT SIZE

Land within the Study Area to the north of Castle Hill Road has a minimum lot size of 500sqm under existing controls and *Hornsby Local Environmental Plan 2013*.

To the south of Castle Hill Road, the residential lands zoned for environmental living have a minimum lot size of 2000sqm, while remaining residential lands have a 700sqm minimum lot size. The Coonara Avenue Business Park site has a minimum lot size of 8000sqm.

A plan illustrating the existing zoning controls is provided in *Figure 16: Minimum Lot Size Controls*.

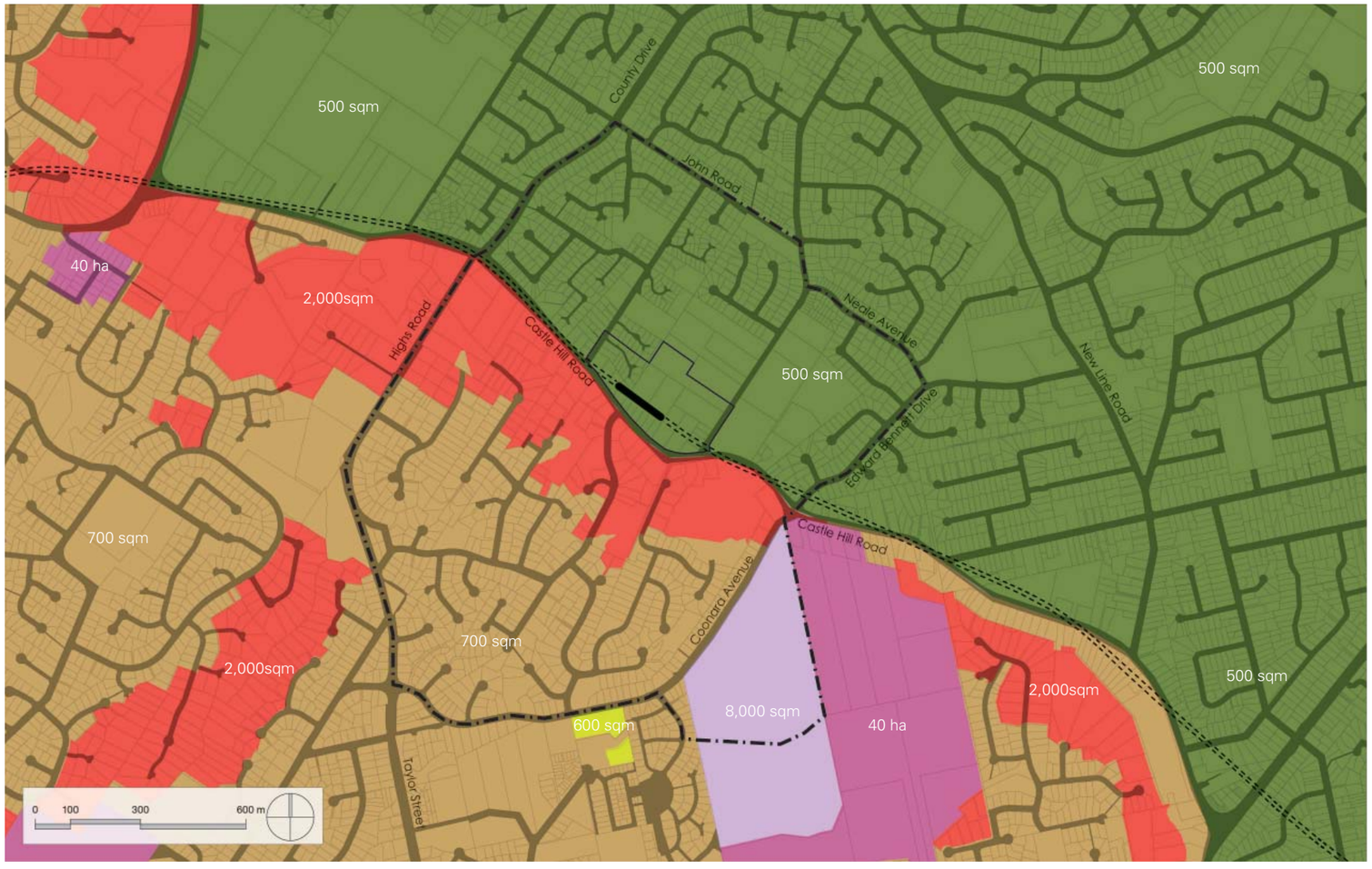


Figure 16: Minimum Lot Size Controls within the Study Area

3.5 FLOOR SPACE RATIO

Floor space ratio (FSR) controls refer to the relationship of the permitted built form to the area of a site. The low density residential area to the north of Castle Hill Road has an FSR of 0.4:1, although this control will be removed once the Hornsby Local Environmental Plan 2013 commences. The Coonara Avenue Business Park site has an FSR of 0.2:1, while the remaining lands within the Study Area do not have any FSR controls.

A plan illustrating the existing zoning controls is provided in *Figure 17: Floor Space Ratio Controls*.

Figure 17: Floor Space Ratio Controls within the Study Area

Cherrybrook Draft Structure Plan
4. Opportunities for Growth

4.1 OPPORTUNITY SITES

The outcome of the opportunities and constraints analyses and planning controls of the Study Area, leads to the identification of sites that could make a contribution to the growth of the Study Area in response to a new rail link and station.

Those sites which are unconstrained present opportunities for renewal within the Study Area. This includes short term opportunity sites that may be renewed prior to 2036 and long term opportunity sites that are subject to recent residential development, however, due to the average 30-40 year building lifespan, may present as opportunities for renewal beyond 2036.

The diagram adjacent highlights these opportunity sites, both short and long term. The sites located to the north of Castle Hill Road present the fewest constraints with good connectivity and within walking distance of the proposed Cherrybrook station. Contiguous opportunity sites may also allow for the amalgamation of lots in to larger single landholdings.

To the south of Castle Hill Road, the opportunity sites are constrained by poor accessibility, due to an inadequately connected road network and steep topography. Furthermore, the development of slopes greater than 10 percent and within landslip risk areas, requires alternative development and construction techniques and may limit the types of buildings that can be constructed.

4.2 PROJECTED GROWTH UNDER EXISTING CONTROLS

Under the planning controls contained within the *The Hills Local Environmental Plan 2012* and *Hornsby Local Environmental Plan 2013*, the opportunity sites within the Cherrybrook precinct are zoned to retain the low-density 1-2 storey, detached residential character which exists at present. Lot size controls are also reflective of the existing development type, with a minimum lot size of 500m2 in Hornsby and 700m2 in The Hills.

An assessment of these current controls on the opportunity sites reveals that the capacity for future growth within the Study Area is limited to single, detached dwellings only on those very few opportunity sites which are currently vacant. These vacant sites would likely yield a maximum of 100 dwellings.

The existing and draft planning controls for the Study Area do not allow for any change in response to the delivery of the NWRL. Current controls do not permit any further subdivision or intensification of residential lands and do not permit any commercial or retail uses within the immediate station precinct.

Therefore, the vision and draft structure plan contained within this report will detail the desired future character of the area and proposed land uses to complement the new rail link and station.

	RESIDENTIAL		EMPLOYMENT	
	TOTAL DWELLINGS	GROWTH	TOTAL JOBS	GROWTH
2012	1,100	-	2,000	-
2036	1,200	100	2,000	-

Table 4.1: Projected growth in Housing and Jobs under existing controls

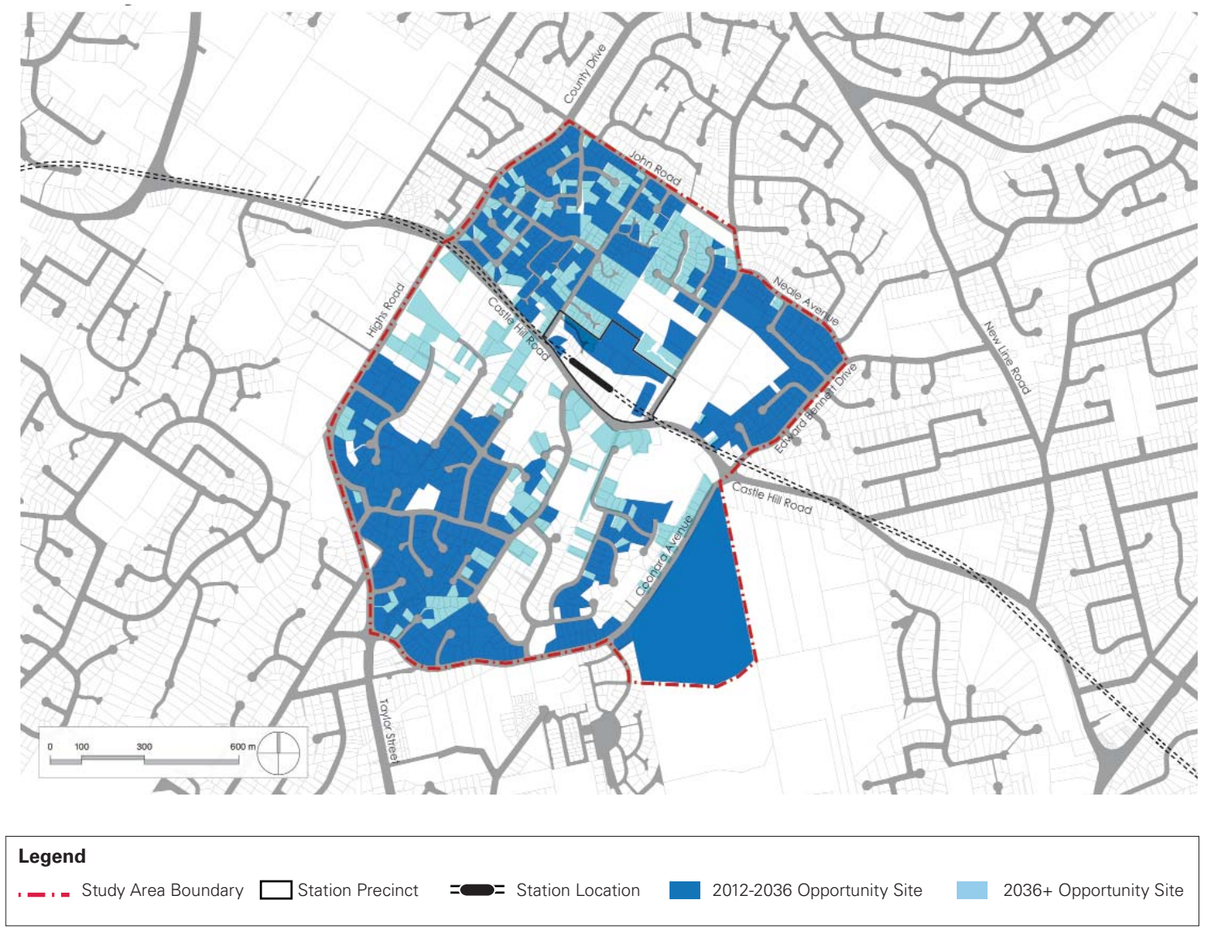


Figure 18: Opportunity Sites within the Study Area

5. Vision & Structure Plan

5.1 VISION FOR THE STUDY AREA

The introduction of the NWRL has the potential to transform the Cherrybrook Study Area by providing a new focal point for the community centred around the station. This is proposed to include a mix of neighbourhood shops and services to provide for the daily needs of the local community.

The NWRL will also provide opportunities to increase residential densities within walking distance of the station, involving a variety of housing types to ensure there is affordable and appropriate housing for all members of the community.

To the north of Castle Hill Road, opportunities have been identified which will benefit from good accessibility to the new station. It is envisaged that the future character of this area will comprise, over the long term, low to medium density residential dwellings, ranging in height from two storey townhouses to six storey apartments, with higher density developments located closest to the station.

Taking into consideration the Study Area's constraints to the south of Castle Hill Road, particularly poor pedestrian accessibility and steep topography, the appropriate future character of this area will continue to be low density residential.

Underpinning this vision will be the final Structure Plan, formulated on the principles of Transit Oriented Development (TOD). TODs are generally mixed use communities within walking distance of a transit node that provide a range of residential, commercial, open space and public facilities in a way that makes it convenient and attractive to walk, cycle or use public transport for the majority of trips.

Figure 19: Images illustrating the desired future character of the Study Area

5.2 PROPOSED DRAFT STRUCTURE PLAN

The Draft Structure Plan for the Cherrybrook Study Area has been prepared by The Department of Planning and Infrastructure, Transport for NSW, Cox Richardson Architects and Planners and Hill PDA economic consultants, in consultation with Hornsby Shire Council and The Hills Shire Council.

The Draft Structure Plan is the framework which will guide future planning within the Study Area. It is the result of assessing the natural and built elements of the Study Area and existing planning controls. It is founded on principles of providing greater connectivity, by strengthening existing links and providing new links between the station and surrounding uses.

Drawing on the constraints and opportunity sites analysis and existing land uses, the Study Area is proposed to retain its residential character with some uplift north of Castle Hill Road, in close proximity to the station precinct. The Draft Structure Plan integrates this uplift with the surrounding built form through a graduation of height. The area north of Castle Hill Road is proposed to have two distinct sub-precincts. The sub-precinct with direct access to the station is proposed to become medium density residential characterised by 3-6 storey apartments. The second sub-precinct is also proposed to become medium density residential but characterised by 2-3 storey townhouses.

To the south of Castle Hill Road the Study Area is proposed to retain its existing low density residential character due to significant slope constraints and resultant disconnection from the station. Some new or improved pedestrian/cycle links are proposed within this area and their implementation would be subject to further investigation and consultation.

New links are proposed to increase connectivity between Edward Bennett Drive, Franklin Road and Robert Road. These links could be either pedestrian and/or vehicular connections. Drawing on existing significant vegetation and parks, a green link is proposed between Robert Park, an area of Blue Gum High Forest and the proposed station precinct. This link will become a pedestrian and cycle connection between Robert Road and the station. Castle Hill Road will remain the primary east-west thoroughfare within the Study Area, supported by Highs Road/County Drive and Coonara Avenue/Edward Bennett Drive links, which will remain significant in connecting the southern West Pennant Hills suburb with New Line Road.

Gateway or entry demarcation points are proposed at entry points to the Study Area along Castle Hill Road and Highs Road, as well as the intersection of Castle Hill Road and Franklin Road. These are likely to take the form of a change in streetscape, a defined built form and/or artworks/sculpture.

The Coonara Avenue Business Park site and the Inala and Tangara Schools have been identified as significant sites and a potential future land use has been nominated. These sites will be subject to further consideration and collaboration with stakeholders, to determine their likely role in the future.

The redevelopment of sites within the Study Area, and the establishment of a new neighbourhood centre surrounding Cherrybrook station, will provide significant opportunities to improve the Study Area's public domain.

The primary public domain initiative nominated within the Cherrybrook Draft Structure Plan is the upgrading of the streetscapes in and around the proposed station precinct. The creation of new and widening of existing footpaths, providing barrier-free access and introducing attractive and appropriate street furniture will be required to reinforce the introduction of the NWRL and a new station at Cherrybrook.

Upgrading the public domain of Cherrybrook can be achieved through a number of initiatives:

1. The creation of open space linkages, streets and connections between transport, new and existing housing and open space, particularly a major pedestrian/cycle green pathway adjacent to the Blue Gum Forest, which will provide an active transport link between the station and Robert Road.

2. The protection of existing green spaces within the Study Area which form part of the Cherrybrook identity, such as the Blue Gum Forest and the reinforcement of ecological corridors that link north-south, connecting Cumberland State Forest to Berowra Valley Regional Park and Pyes Creek.

3. The provision of additional urban plazas, parks and open spaces for the amenity of existing and future residents and workers, particularly within the station precinct.

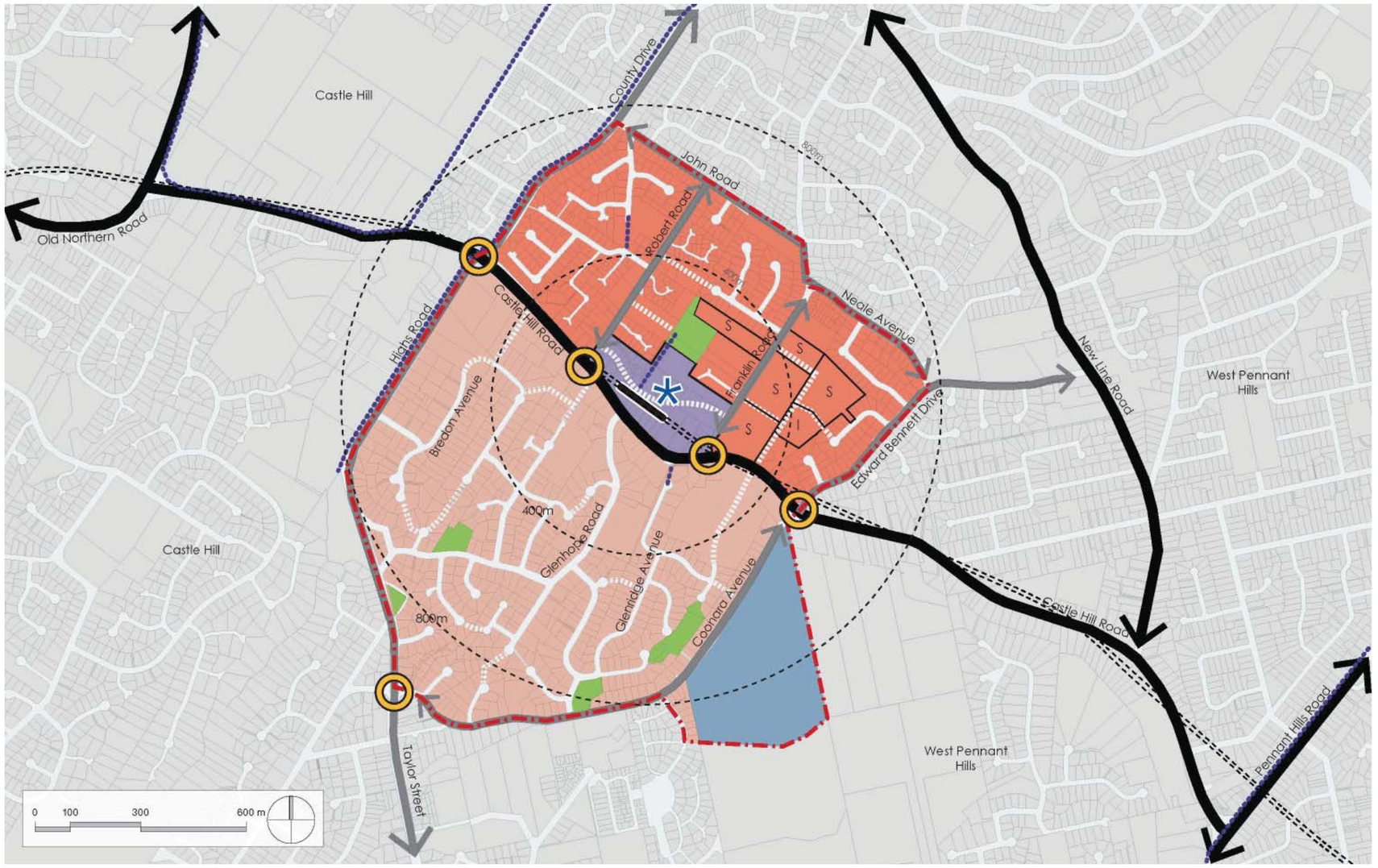
A Public Domain Strategy will be required to detail the delivery of the above initiatives and to guide the broader character of the public domain within the Study Area. This Strategy will need to address a legible hierarchy of streetscapes, treatment of open spaces and plazas, preservation of ecological corridors, pedestrian and cycling linkages, built form response to public and private open space, signage and wayfinding, street furniture, lighting and public art.

To complement the introduction of the NWRL to the study area a number of transport, movement and accessibility initiatives will need to be delivered to ensure safe and attractive movement to, from and within the Study Area.

Within Cherrybrook, the key connectivity issue is pedestrian access across Castle Hill Road and to the proposed station location. The anticipated growth within the Draft Structure Plan and increased activity around the new station will require a number of signalised crossings to provide safe and attractive pedestrian and cycle access to the station from the south.

Complementing this will be the upgrade of existing connections and provision of new connections potentially linking; Bredon Avenue, Matthew Way, Carioca Way, Glenayr Grove, Staley Court and Grosvenor Road with Castle Hill Road and the station to the north; Coonara Avenue, Glenridge Avenue, Glendale Avenue and Mildara Place with the broader road network within Cherrybrook South; Robert Road and Franklin Road to the station precinct via the Blue Gum Forest; and Robert Road and Radley Place to Franklin Road and the broader road network within Cherrybrook North. These links could be either pedestrian or vehicular connections and would be subject to more detailed analysis to determine the most appropriate location and configuration.

Local road improvements may also be required within the station precinct to accommodate future growth opportunities. These requirements are to be determined through further investigations by the relevant government agencies and authorities.



Legend

- Study Area Boundary
- Station Platform
- Station Precinct
- Primary Road
- Secondary Road
- Low Density Residential
- Low/Medium Density Residential
- Business Park
- Mixed Use
- Open Space
- Indicative Link
- Green Link
- Cycle/Pedestrian Link
- Gateway
- Infrastructure
- School
- Proposed New Local Centre

Figure 20: Draft Structure Plan for the Cherrybrook Study Area

5. Vision & Structure Plan

5.3 FUTURE PRECINCT CHARACTER

The following diagrams and images demonstrate the desired future character for the sites which may contribute to the growth of Cherrybrook in the future.

Station Precinct

Objectives: To provide a precinct that contains a mix of local retail and residential uses to provide activation within the station and interchange areas, and attractive public spaces that are a focal point for the local community. To provide a public domain that ensures safety and accessibility for all modes of transport, particularly cycling and walking, within the station precinct and between the station and adjoining uses. It is anticipated that the Precinct will contain a bus, taxi, kiss n ride interchange, which is integrated with the stations.

Character: It is anticipated that under the vision and draft structure plan this precinct could accommodate a mix of local retail and residential uses that would complement the character of the local area and that are carefully designed to integrate into the surrounding streetscape. The precinct will also contain a local transport interchange and commuter car parking. New public spaces will seek to enhance the landscape character of the area.

Public Domain and Open Space

Objectives: To provide attractive open spaces of high amenity for the public, as well as an accessible and safe public domain.

Character: The draft structure plan identifies green open spaces for residents that are accessible and safe. They should be landscaped appropriately to integrate with the existing character of the area.

Figure 21: Proposed Location of Station Precinct

Figure 22: Proposed Location of Public Domain and Open Space

Low/Medium Density Townhouses

Objectives: To provide for the housing needs of a growing community and to provide a variety of housing types within close proximity of the station and associated uses. As well as a well-developed public domain which ensures the safety and accessibility of pedestrians and cyclists, and the provision of open space and civic spaces.

Character: It is anticipated that under the vision and draft structure plan that this precinct will evolve to become a mixture of single detached dwellings and townhouses. This precinct will serve as a transition between the lower density residential areas beyond the Study Area and the station precinct.

Figure 23: Proposed Location of Low/Medium Density Townhouses

Medium Density Apartment Living

Objectives: To provide for the housing needs of a growing community and to encourage an increased residential density in areas with direct access to the new rail link and station, as well as an enhanced public domain.

Character: It is anticipated that under the vision and draft structure plan that this precinct could accommodate multi-dwelling housing only where the site is an appropriate size to deliver a high level of amenity for the existing and future residents. This could comprise of 3-6 storey apartment buildings, carefully master planned around communal open spaces and incorporating landscaped setbacks to existing streetscapes.

Figure 24: Proposed Location of Medium Density Apartments

Areas Expected to Remain Unchanged

Within the Study Area there are areas and sites which are expected to remain largely unchanged through the delivery of the NWRL and the Structure Plan.

This is due to a number of factors including existing uses, varying degrees of constraints, connectivity, accessibility and market demand.

Figure 25: Areas to remain largely unchanged under the Structure Plan

5. Vision & Structure Plan

5.4 PROJECTED GROWTH

Calculating Projected Growth

The projected growth is a calculation of the amount of residential and employment development that is expected to take place in the Study Area. The projected growth calculations take into consideration the following factors:

- **Development on Opportunity Sites.** Development is projected to occur on the opportunity sites identified in Section 4.1 of this report.
- **The Proposed Future Character and Built Form.** The Draft Structure Plan identifies the future desired character and built form for areas within the Study Area. These character/building types have been applied to the opportunity sites.
- **Assumptions.** A series of assumptions related to the different development types have been applied to calculate the land areas required for each built form. Details can be found in the North West Rail Link Corridor Strategy.
- **Demand.** The amount, and rate of development is influenced by market demand for different types of development within the Study area. Market demand is determined by 'take-up' or 'realisation' rates, which reflect market conditions and has been informed by a high-level feasibility analysis. In Cherrybrook, due to the high level of amenity and quality of life afforded within the Study Area at present and the added accessibility delivered by the North West Rail Link, the take up/ realisation rate is considered to be 100% for housing and 100% for employment. Take-up/realisation rates have been identified for each development type and these have been used in the projected growth calculations.

Projected Growth in the Study Area

The outcome of these projected growth calculations is provided in the tables below. Total opportunity site area within the Study Area equates to approximately 39 hectares.

Application of the proposed land uses and typologies within the Draft Structure Plan will result in an additional capacity for **1,800** dwellings by 2036. Given the focus on providing housing within the Cherrybrook Study Area, employment is limited to jobs generated by the retail floorspace within the proposed local centre adjacent the station and the Coonara Ave Business Park. Therefore, it is anticipated that employment capacity within the study area, generated by the new local centre could deliver **50** new jobs through to 2036.

RESIDENTIAL

TYPE OF HOUSING	DWELLINGS IN 2012		DWELLINGS IN 2036		GROWTH
	TOTAL	%	TOTAL	%	TOTAL
SINGLE DETACHED	1,100	100%	750	26%	-350
TOWNHOUSE	0	0%	400	14%	400
3-6 STOREY APARTMENT	0	0%	1,750	60%	1,750
7-12 STOREY APARTMENT	0	0%	0	0%	0
TOTAL DWELLINGS	**1,100**	**100%**	**2,900**	**100%**	**1,800**

Table 5.1: Projected Residential Growth in Cherrybrook under the Draft Structure Plan

EMPLOYMENT

TYPE OF JOBS	JOBS IN 2012		JOBS IN 2036		GROWTH
	TOTAL	%	TOTAL	%	TOTAL
COMMERCIAL	2,000	100%	2,000	98%	0
RETAIL	0	0%	50	2%	50
BULKY GOODS	0	0%	0	0%	0
INDUSTRIAL	0	0%	0	0%	0
TOTAL JOBS	**2,000**	**100%**	**2,050**	**100%**	**50**

Table 5.2: Projected Employment Growth in Cherrybrook under the Draft Structure Plan

Demand Analysis

A high level demand analysis has been undertaken to ascertain the demand for potential development scenarios on opportunity sites within the Study Area. The analysis:

- Assessed the proposed future desired character and built form, including densities, as proposed under the Draft Structure Plan, against market conditions and demand; and
- Identified take-up/realisation rates for each land use within the Study Area, which informed the calculation of projected growth.

Outcomes of the demand analysis:

1. **Demand for Additional Dwellings**. Future demand for additional residential development in the Study Area is estimated to be in the order of **80** dwellings per annum comprised of 19% townhouses and 81% 3-6 storey apartments in addition to existing stock resulting in the total dwelling diversity shown in the adjacent table in 2036. Such demand is related to the high level of amenity and quality of life afforded within Cherrybrook, the demand for housing diversity and improved access to social, recreational and employment opportunities as a result of the North West Rail Link.
2. **Demand for Employment Lands**. Future demand for additional employment (commercial and retail) floorspace within the Study Area is projected to remain a constant within the Study Area through to 2036.
3. **Type and Location of Development.** The analysis supports the provision for 3-6 storey, garden apartments within close walking distance of the new train station. These areas of residential uplift and renewal may serve as the catalyst for regeneration within the broader precinct. In particular, future residents will be attracted to these areas for their high levels of amenity, employment opportunities, retail, cultural and community facilities and close proximity to the train station.

   The analysis supports the provision for townhouse development on the periphery of the Study Area where large single lots could accommodate 2-4 townhouses each and the possibility to amalgamate sites into larger contiguous landholdings exists.

   In terms of future employment generating development, the feasibility analysis supports the provision for retail land-use at the mixed use area around the new station to provide for the day to day needs of residents and workers. Future retail floorspace within Cherrybrook is expected to increase in line with the growth of the population catchment and provide a small amount of additional employment within the new Local Centre.

Cherrybrook Draft Structure Plan
6. Actions and Implementation

6.1 INTRODUCTION

The Draft Structure Plans for the NWRL Station Precincts are to be considered at the strategic planning level, similar to that of the Subregional Strategies for Sydney. The Draft Structure Plans will inform, and be implemented through, appropriate zonings, amendments to built form controls and to guide the assessment of major projects and development applications within the Study Area.

To deliver the Draft Structure Plan's projected growth, zoning and planning controls for the study area will require review. Current controls, such as those relating to minimum lot size, height, and FSR constrain intensification of land use and thus should be revisited. Similarly, Development Control Plans and Section 94 Schemes may also need to be revised in light of the NWRL. Current parking policies and minimum apartment sizes are constricting the type and variety of dwellings being offered within the study area.

The above will be carried out in consultation with relevant agencies, stakeholders and key landholders. Others matters for consideration include public domain, transport, accessibility and infrastructure servicing.

6.2 PUBLIC DOMAIN, URBAN DESIGN & OPEN SPACE

Consideration is to be given to public domain and open space planning for the study area, including;

- Streetscapes, open space linkages and connections to transport, new and existing housing and open space,
- The need for open spaces and civic spaces, and protection of existing green spaces,
- Pedestrian and cycling linkages,
- Built form response to public and private open spaces,
- Signage and wayfinding,
- Street furniture, lighting and public art.

6.3 TRANSPORT, MOVEMENT AND ACCESSIBILITY

Consideration is to be given to transport, movement and accessibility planning for the study area to assist in delivering the identified modal share target for the study area, including:

- Safe and efficient movement to, from and within the Study Area,
- Improvements to connectivity, particularly for non-vehicular transport modes, to the new station and new centres including the identification and provision of cycle and pedestrian infrastructure along key routes within the study area,
- Identification of improvements to bus networks serving the precinct,
- Parking requirements,
- Local road widening to accommodate increased movements associated with the evolution of the Centre and future growth opportunities,
- Bus, taxi, kiss n ride interchange which is integrated with the stations.

6.4 INFRASTRUCTURE AND SERVICES

The projected growth in population and employment within the Study Area will require considerations of infrastructure networks, such as water, sewer, electricity and gas to meet projected demand.