
North West Rail Link Norwest Station Draft Structure Plan

A Vision for Norwest Station Surrounds



Transport



Planning

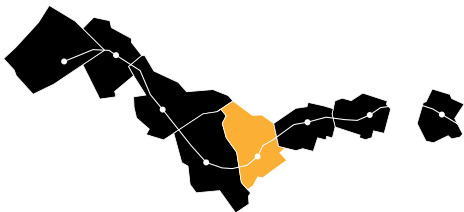
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March 2013

Norwest Draft Structure Plan

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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 which far surpasses that of the bus or car.

1.2 REPORT STRUCTURE

The following report is a study to determine the challenges and opportunities the new station will present to the Norwest 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 Norwest. 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 is to 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 overall vision for the Study Area, a series of actions to be undertaken, have been identified. Please refer to *Section 6: Actions and Implementation*

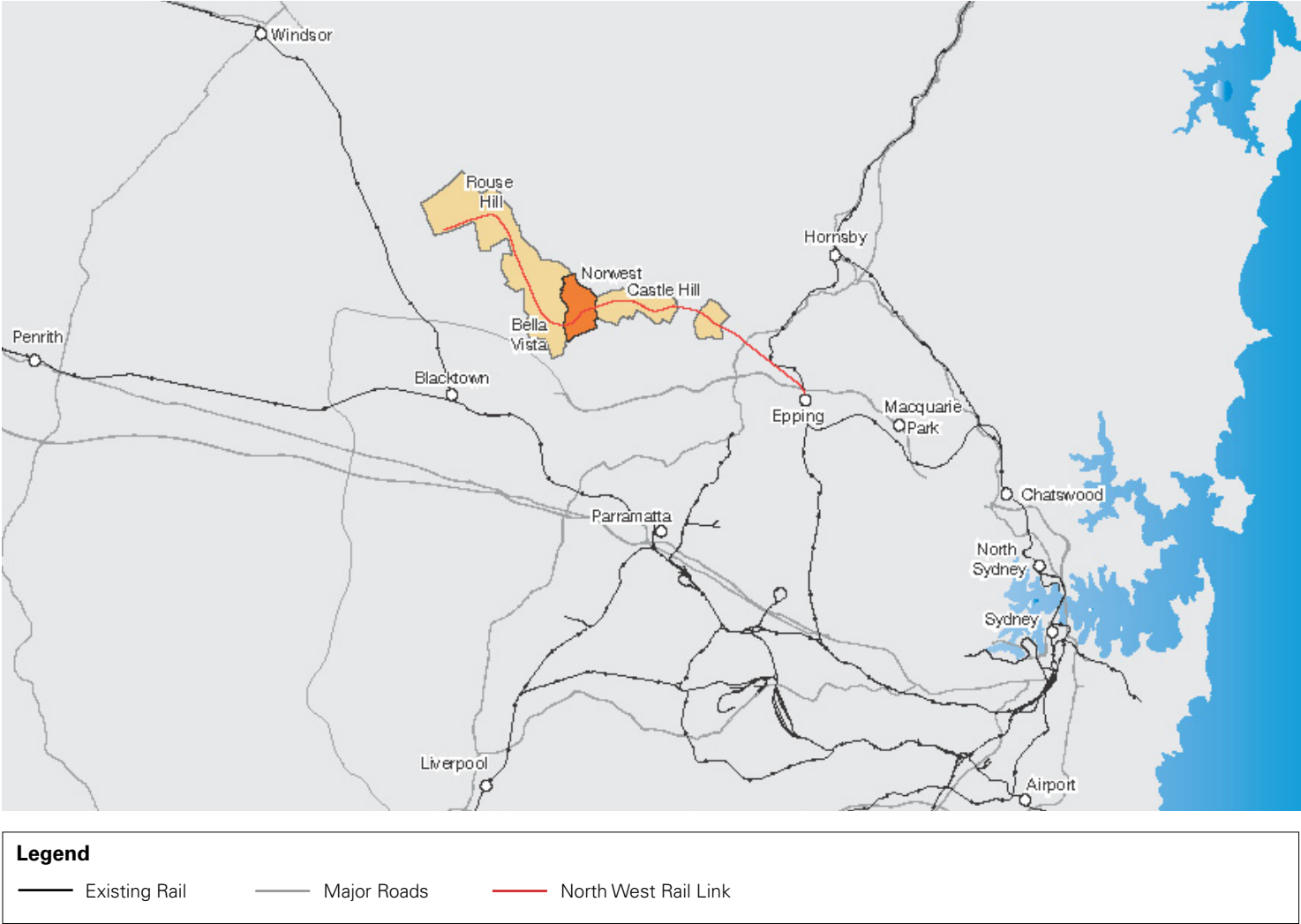
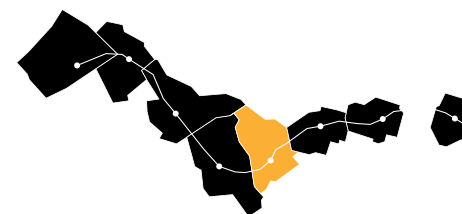


Figure 1: North West Rail Link in the context of Metropolitan Sydney



1.3 STUDY AREA LOCALITY & CHARACTER

The NWRL includes a new station at Norwest. The new train station will be located between Norwest Boulevard and Brookhollow Drive, in Norwest Business Park on a site currently occupied by light industrial uses.

Norwest is designated as a Specialised Centre for the North West under metropolitan planning and is already the largest employment centre in the North West Subregion. This means that Norwest is an important employment centre for the region, and includes residential development within 1km of the centre. Metropolitan planning recognises that any forward planning for the Norwest Study Area and its surrounds will need to consider the future requirements for employment growth and relevant supporting uses. Metropolitan planning also supports residential intensification within the walking catchment of the train station that strengthens the role of the Specialised Centre to provide vital economic and employment opportunities for Sydney.

The NWRL has the potential to strengthen Norwest’s role as a Specialised Centre, by supporting growth in and around the centre. This will also help achieve metropolitan planning goals to intensify employment at Norwest, particularly within the walking catchment of the proposed station.

The boundary of the Study Area is based on the nearest road boundary within a radius of 800m from Norwest 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 element of the area.

The Norwest Study Area is an established commercial/ retail centre that covers approximately 345 hectares and is entirely located within the Hills Shire Local Government Area (LGA).

The Study Area extends to Memorial Avenue in the north, Windsor Road in the east, and Fairway Drive/Solent Circuit in the west.

The Study Area encompasses the existing Norwest Business Park, an established and regionally significant employment area comprised of large floorplate office buildings of 2-6 storeys, generous at-grade car parking on site and deep landscaped setbacks.

Outside of Norwest Business Park, the Study Area comprises largely low density residential development. To the south housing stock consists of 1-2 storey detached housing in a leafy suburban setting on large landscaped lots with large setbacks, such as on Windsor Road. North of Norwest Business Park, there is a largely undeveloped area containing very low density residential development on large lots and large open space areas in Kellyville Park and the Castle Hill Country Club located in the north-west of the Study Area.

The Study Area also contains Norwest Markettown shopping centre and Hillsong Church. The commercial core includes two bodies of water, Norwest Lake and Stranger’s Lake. The Study Area also contains the St Joseph’s Convent site in the south-east, a large single landholding comprising convent buildings in a landscaped setting.

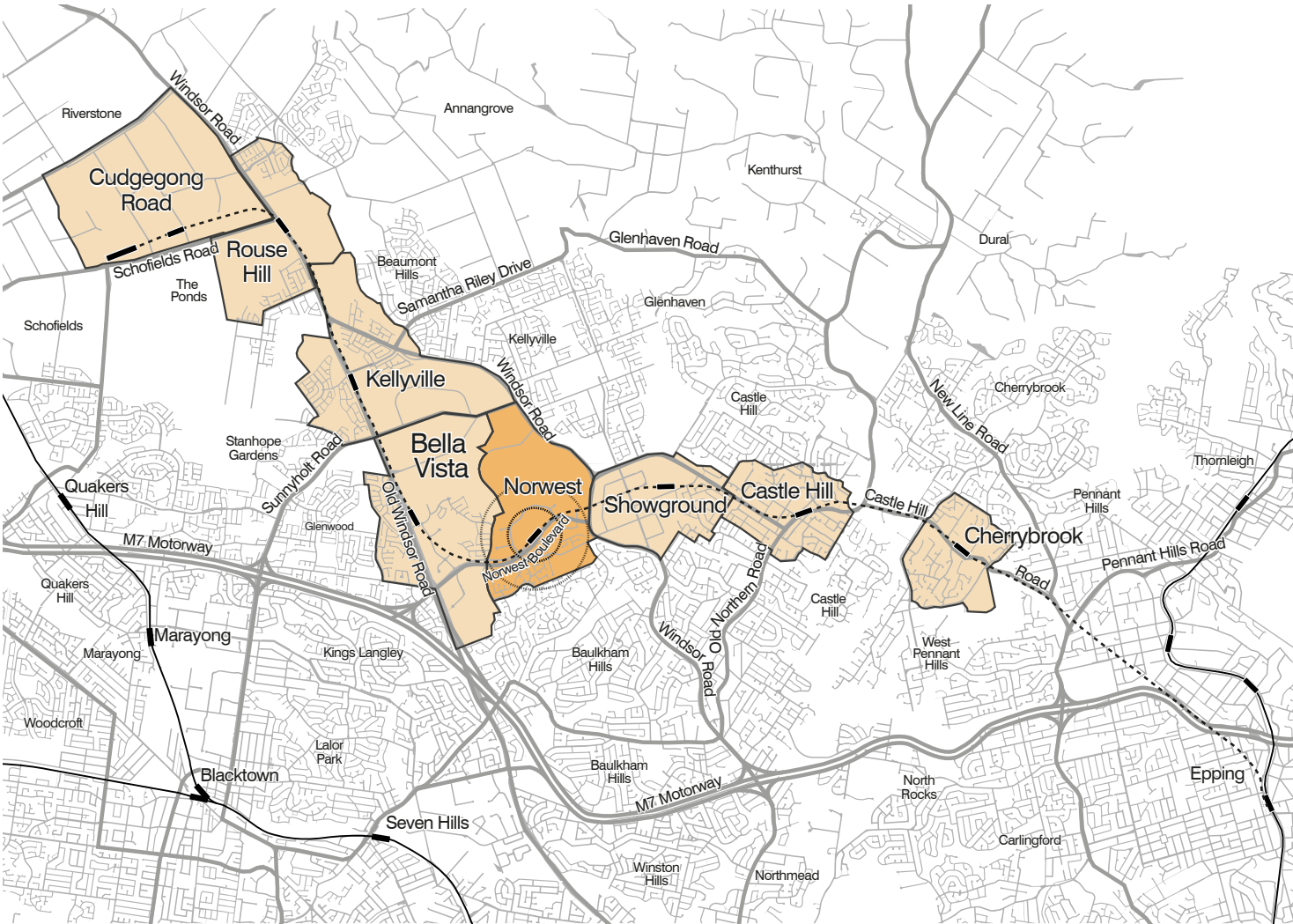


Figure 2: Norwest Study Area, in the context of the North West Rail Link.

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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 the Study Area's 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 Norwest.

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

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



Figure 3: Norwest 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

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2. Opportunities & Constraints Analysis

2.2 TRANSPORT, TRAFFIC & ACCESSIBILITY

The Study Area is accessible from Memorial Avenue/Balmoral Road and Windsor Road in the north, and Old Windsor Road via Norwest Boulevard to the west. Norwest Boulevard traverses the precinct's commercial/business core, linking the precinct to key destinations to the east and west. Fairway Drive, Solent Circuit, Brookhollow Drive and Barina Downs Road provide internal access within the precinct.

Internal movement by all modes of transport is limited, particularly in the north-south direction by the presence of the golf course and a poorly connected local street network, featuring residential culs-de-sac. Norwest Boulevard, a busy four-lane road, is a constraint to north-south movement, and effectively separates the core of Norwest Business Park into two parts. The road is currently operating close to capacity. While the NWRL should assist with reducing the number of overall vehicle trips at a network-wide level, a well-developed secondary road network is also required to provide alternative movement and improve connectivity within the Study Area.

The local bus network provides services in an east-west direction through Norwest Business Park and to residential areas to the north and south. However, services can be indirect and may be delayed by traffic congestion during peak times.

Figure 5 below demonstrates the 5, 10 and 20 minute walking catchments from the proposed station location. Within the Study Area, cycling and pedestrian infrastructure is generally inadequate throughout the precinct in terms of street lighting, crossings and dedicated cycle lanes. Norwest Boulevard and streets surrounding the new station represent a hostile environment to active modes of transport.



Figure 5: Walking Catchment within the Study Area

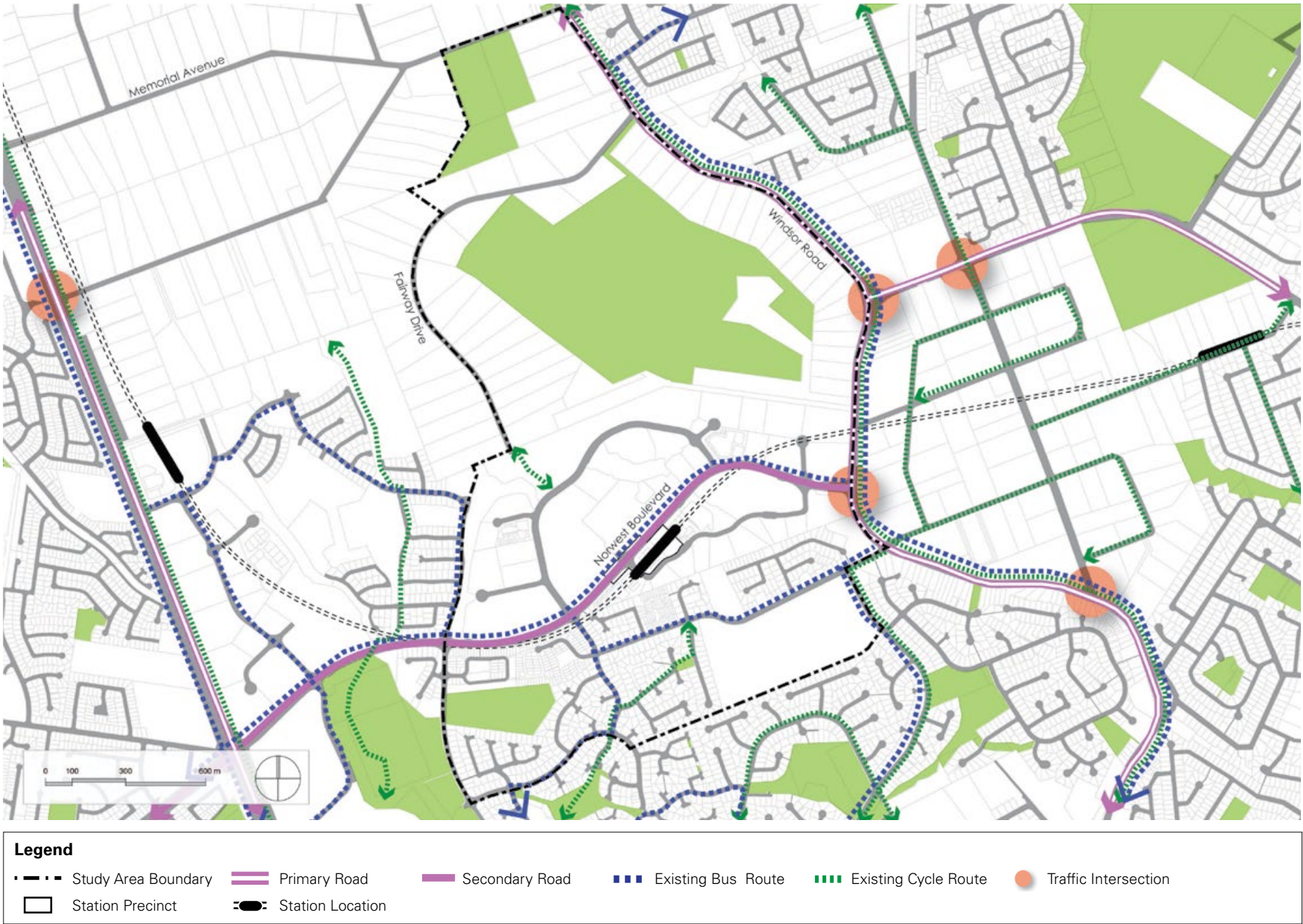
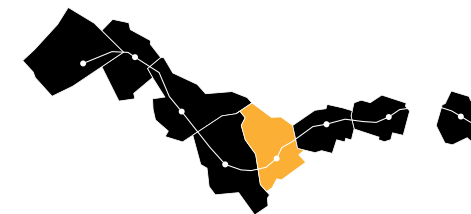


Figure 6: Access & Movement within the Study Area



2.3 OPEN SPACE & CONSERVATION

Key open spaces within the Study Area include;

- Kellyville Park in the north
- The riparian corridor to the west of Norwest Business Park
- Several small local parks located in existing residential areas.

Castle Hill Country Club is a privately owned property.

Despite its highly urbanised character, there remain areas of biodiversity importance within the precinct. Of these, the largest is a tract of Cumberland Plain Woodland, classified as a Critically Endangered Ecological Community under the *Environment Protection and Biodiversity Conservation Act (EPBC) 1999* and the *Threatened Species Conservation Act 1995*, located west of the golf course. Tracts of the same species are located along the north-east precinct boundary and in dispersed locations in residential areas to the south.

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

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2. Opportunities & Constraints Analysis

2.4 HERITAGE & SPECIAL USES

Hillsong Church and its associated performing arts school, the water tower site in the south-west and the Catholic Convent of St Joseph in the south-east are identified in Figure 8 as special uses within the Study Area.

Three local heritage items are located within the Study Area. These include the Castle Hill Country Club, the Catholic Convent in the south-east, and a section of Memorial Avenue in the north.

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

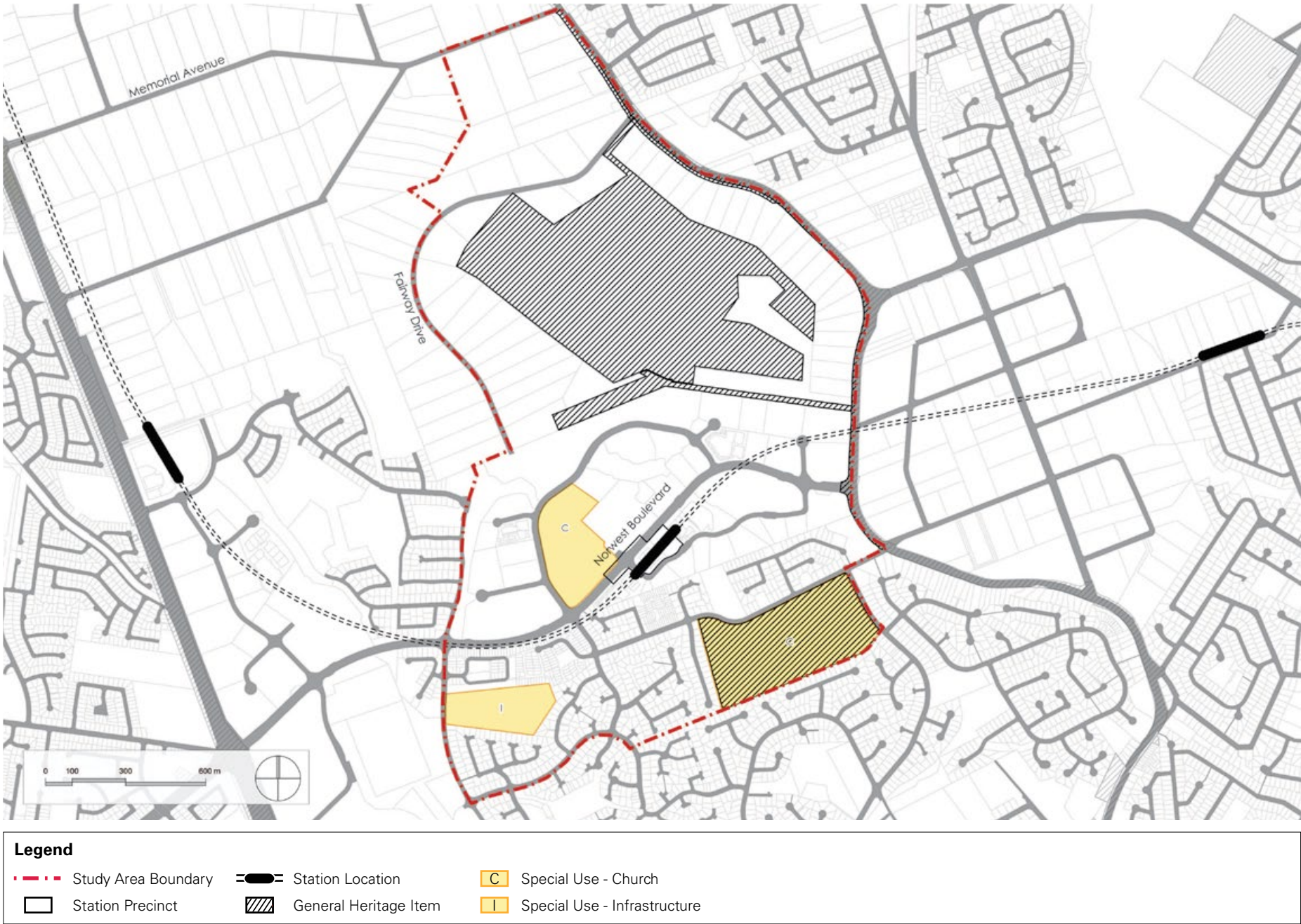
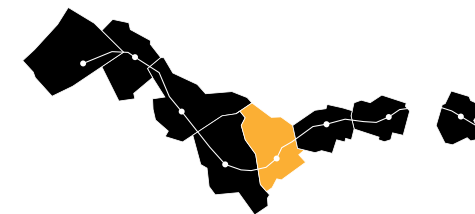


Figure 8: Heritage and Special Uses



2.5 TOPOGRAPHY

The topography within the Study Area is typical of a valley that gently falls from the ridge lines of Barina Downs Road and the Castle Hill Country Club towards Strangers Creek. Heights within the Study Area range between approximately 56-110 metres above sea level. The highest points within the Study Area are located at the junction of Windsor Road and Showground Road and within the Convent of St Joseph in the south-east.

Slope analysis illustrates that Windsor Road is built on a north-south ridge and Barina Downs Road on an east-west ridge, which divides the Study Area into two distinct topographical areas. To the north and south of Barina Downs Road, lie moderately undulating areas. In contrast, land to the west of Windsor Road falls relatively sharply down towards Stranger's Creek. However, the resultant slopes are not considered to be significant constraints to development.



Figure 9: Topography within the Study Area

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2. Opportunities & Constraints Analysis

2.6 DRAINAGE

The Study Area contains a number of lower order creeks, located in the west and south, including Stranger's Creek, which flows south to north through Stranger's Lake and Norwest Lake.

There are no areas within the Study Area that are subject to major flooding. Properties adjacent to the creek may be subject to localised flooding, however, the risk of this occurring is low and flooding is not seen as 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.

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

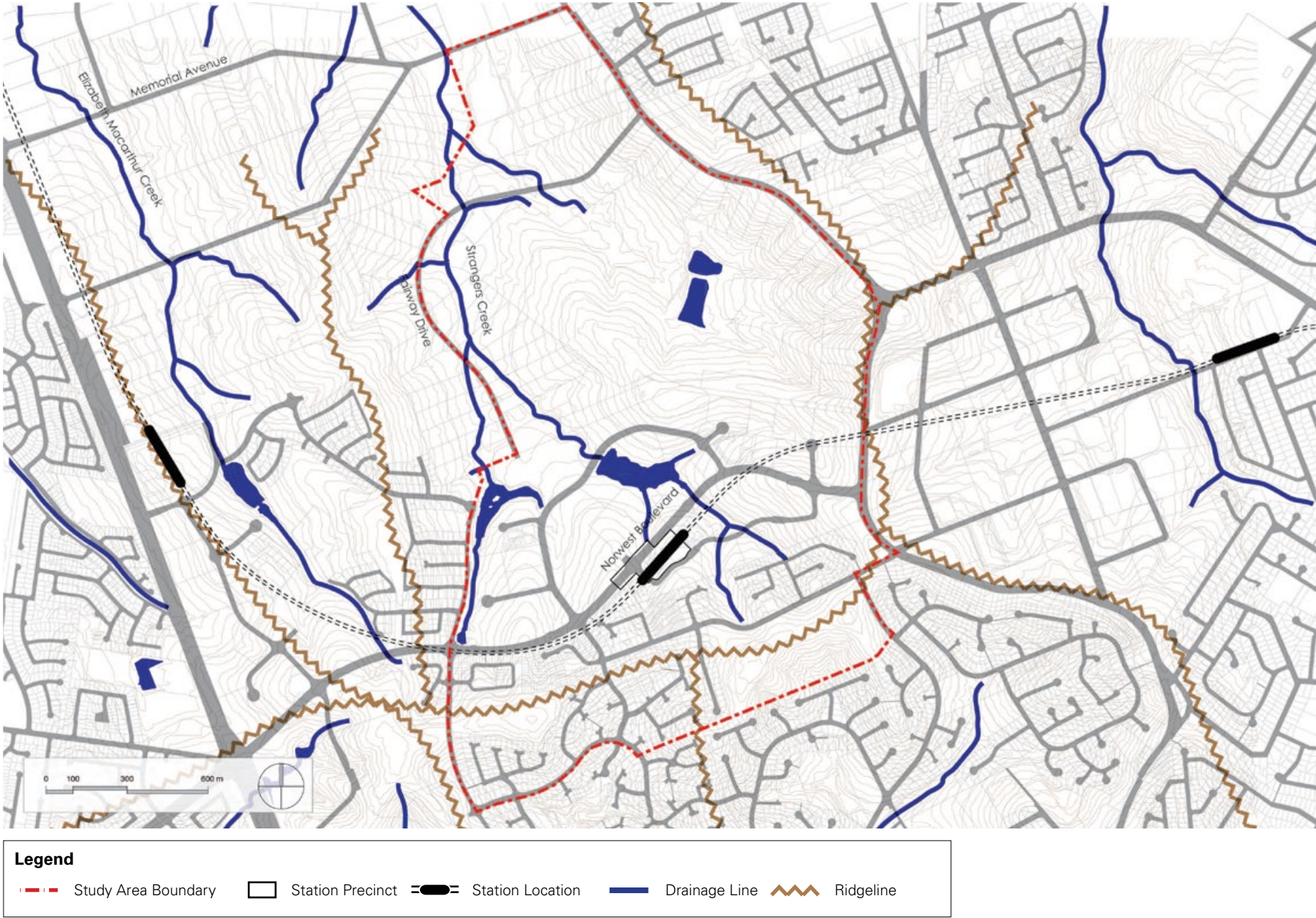
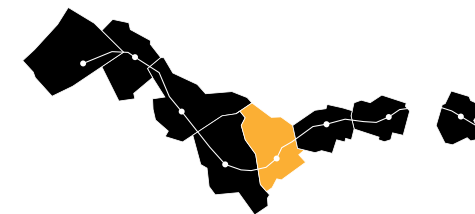


Figure 10: Drainage within the Study Area



2.7 RECENT RESIDENTIAL DEVELOPMENT

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

An analysis of recent residential development indicates that residential development has largely occurred in the south in recent years, with limited dispersed residential development taking place in the north. This development has been predominantly low density residential in character, with some medium density housing being developed to the north of the commercial core.

Consideration has been given to the condition and age of the existing building stock and the 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 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.

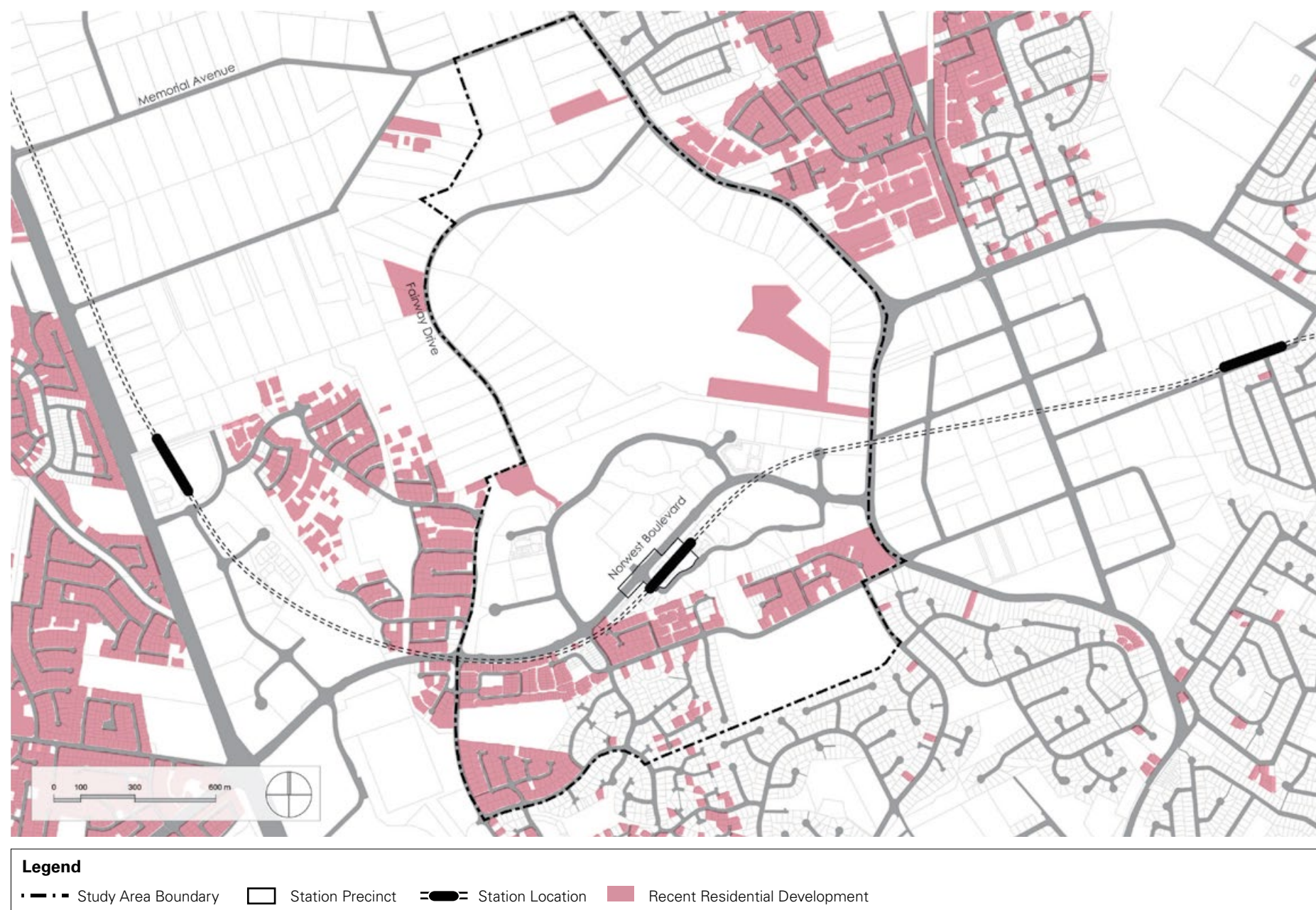


Figure 11: Recent Residential Development within the Study Area

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2. Opportunities & Constraints Analysis

2.8 OTHER CONSTRAINTS

Lands in community title ownership comprise a number of residential subdivisions, predominantly located within the south of the Study Area. A number of commercial developments in community title ownership are located in the commercial core, including sites adjacent to Norwest Boulevard and the proposed new station.

The Study Area also contains a number of properties in strata title ownership, including commercial sites within the core and several low and medium density residential developments.

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 redevelopment of the Study Area into the foreseeable future.

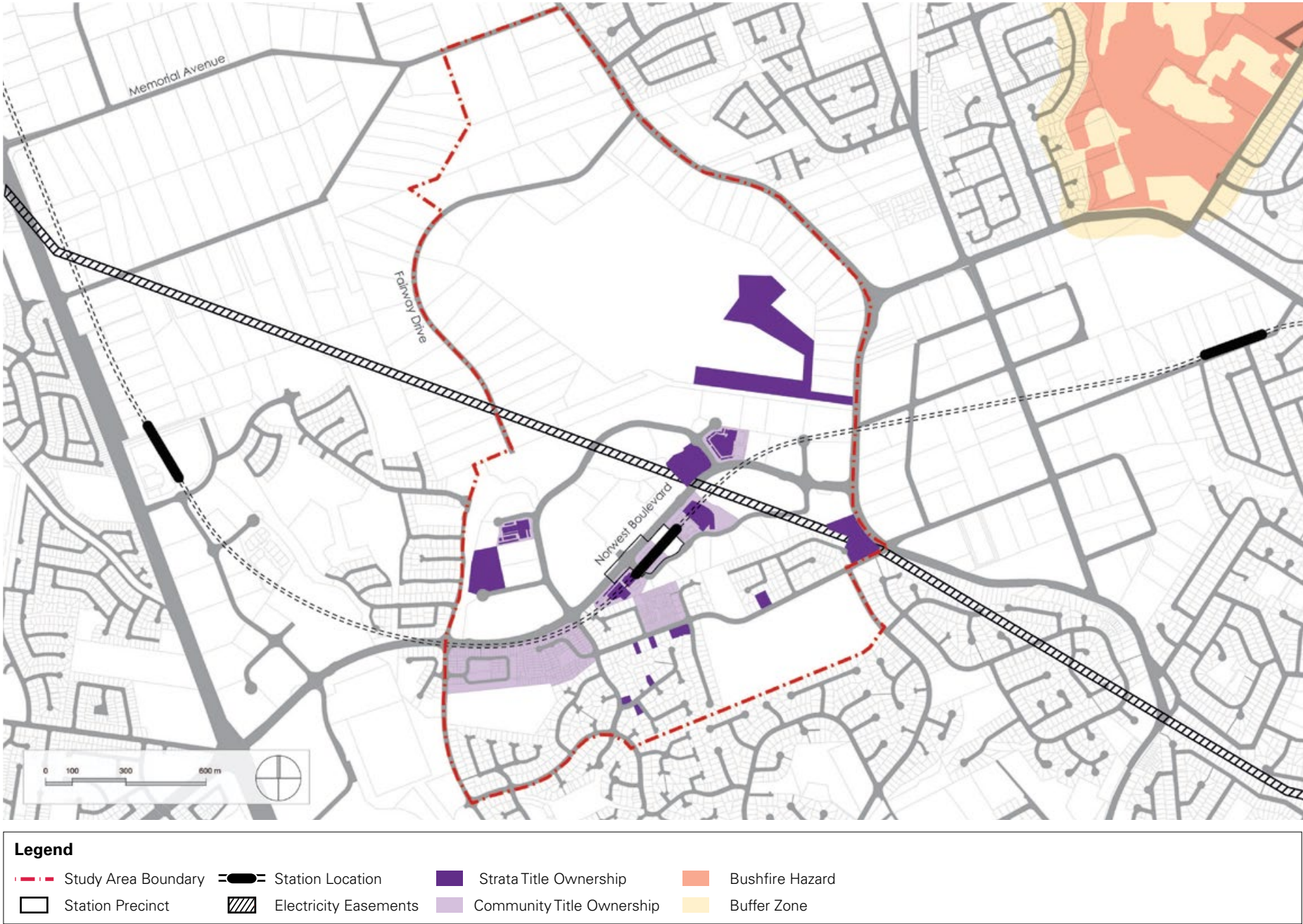
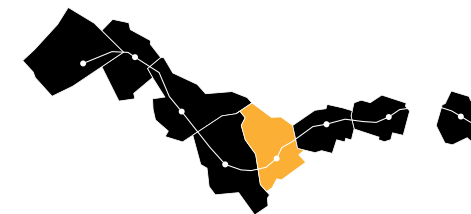


Figure 12: Other Constraints within the Study Area



2.9 COMBINED CONSTRAINTS

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

Large areas of recent residential development are located primarily around Barina Downs Road in Baulkham Hills and Reston Grange in Bella Vista. These parcels are unlikely to be developed in the short term, however may be suitable for renewal in the longer term.

There are a number of commercial properties and residential apartment buildings governed by strata title arrangements that are not likely to contribute to the future residential capacity of the Study Area into the foreseeable future.

Special uses such as Hillsong, the water reservoirs and Convent of St Joseph are seen as both constraints and opportunities.

Similarly, the protection of areas of threatened vegetation may provide the opportunity to increase community facilities, and active and passive recreation spaces to contribute to increased levels of amenity for workers and residents of Norwest in to the future.

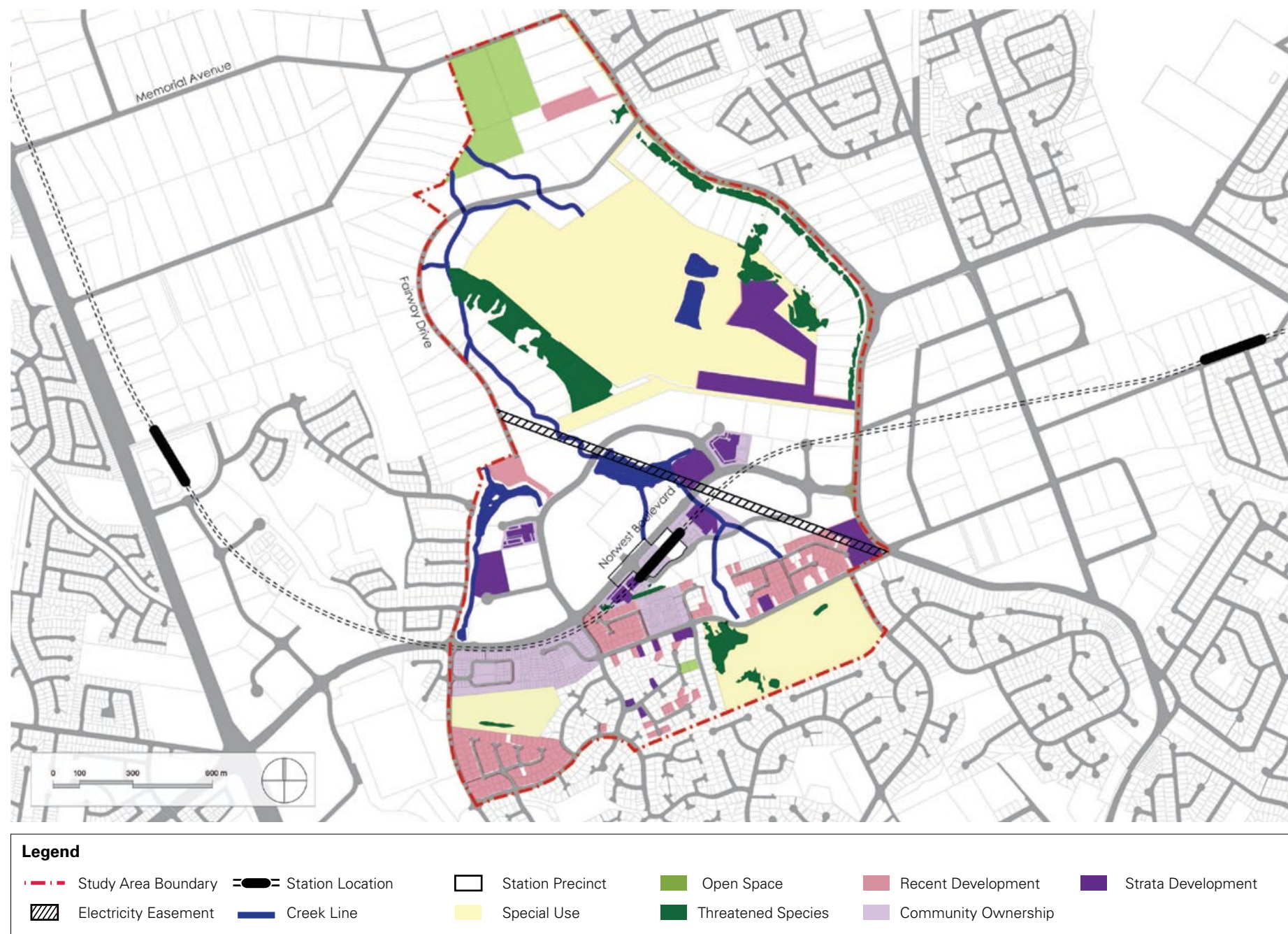


Figure 13: Combined Constraints within the Study Area

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3. Planning Controls

3.1 INTRODUCTION

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

The key planning controls applying to the Norwest Study Area are included in *The Hills Local Environmental Plan 2012*.

Additional relevant controls are also contained in *The Hills Development Control Plan 2011*.

3.2 LAND USE

The commercial core of Norwest, comprising Norwest Business Park, is zoned B7 Business Park, which allows a range of uses from commercial offices through to light industrial uses, including high technology industries.

The Norwest Market Town Shopping Centre, located to the north of the proposed station, is zoned B2 Local Centre to allow for retail, business, entertainment and community uses.

Lands on the periphery of the employment area are zoned for a mixture of high and medium density residential. Beyond this, land is zoned predominantly for low density residential.

The Castle Hill Country Club site is zoned RE2 Private Recreation, while land between the Country Club and Windsor Road to the West, and Memorial Drive to the north, is zoned for medium density residential development.

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

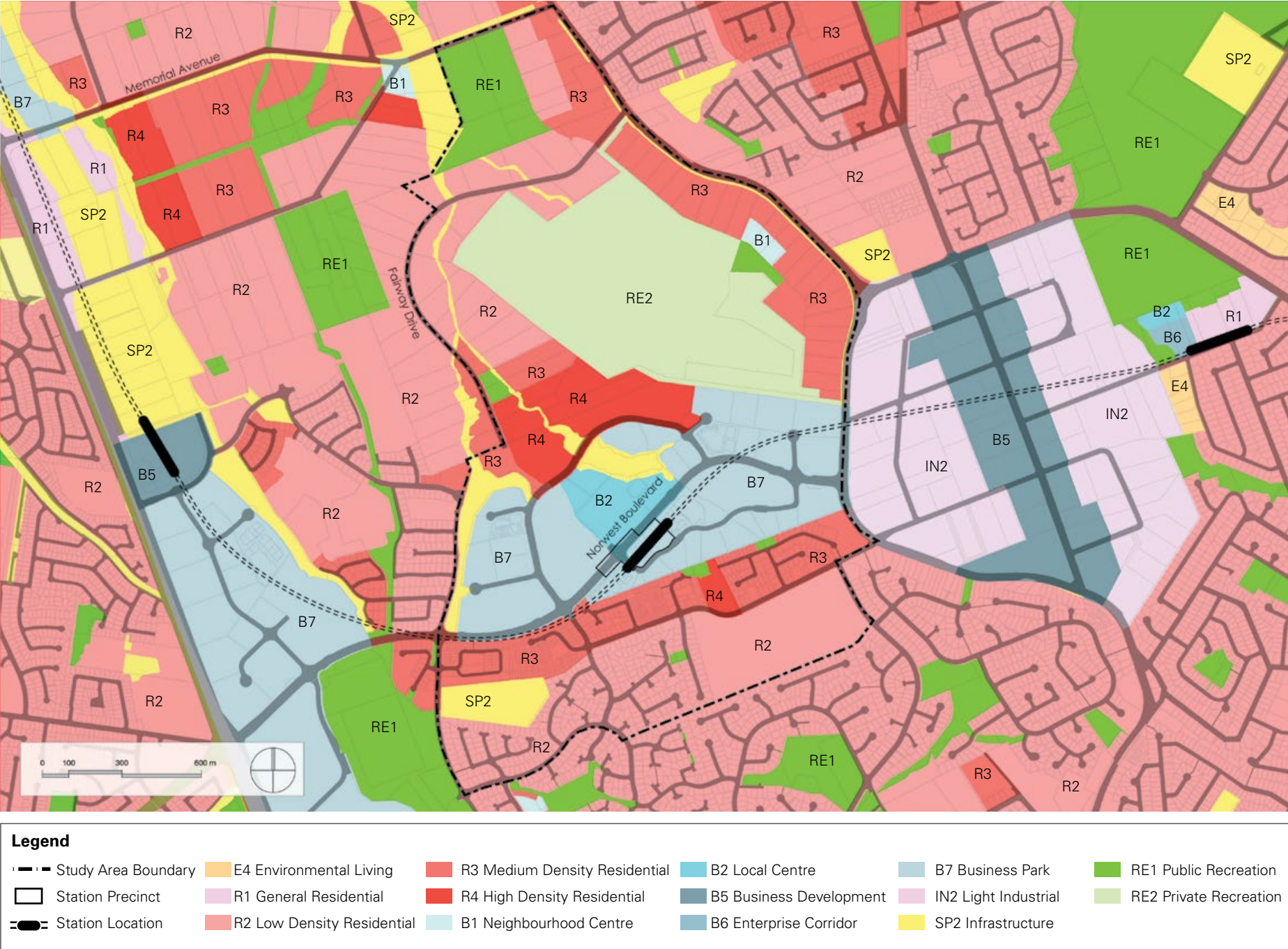
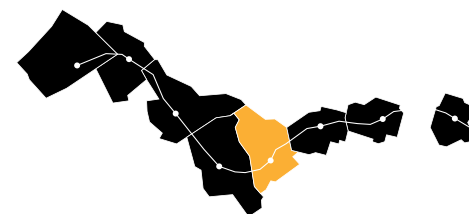


Figure 14: Zoning Controls within the Study Area



3.3 BUILDING HEIGHT

To preserve view corridors, including to the Bella Vista Farm conservation area, the majority of Norwest Business Park is governed by a height limit of 116m RL. An assessment of the topography reveals that buildings within this control could vary between a minimum height of 8m near the junction of Salisbury Road and Windsor Road to the east, to a maximum height of 48m west of Burbank Place.

Areas zoned for high density residential to the north of the commercial core are governed by a 16m height limit.

Land to the south of the station that is zoned for medium and low density residential development has a maximum building height of 9m. Beyond this a 10m maximum building height governs the areas surrounding Castle Hill Country Club.

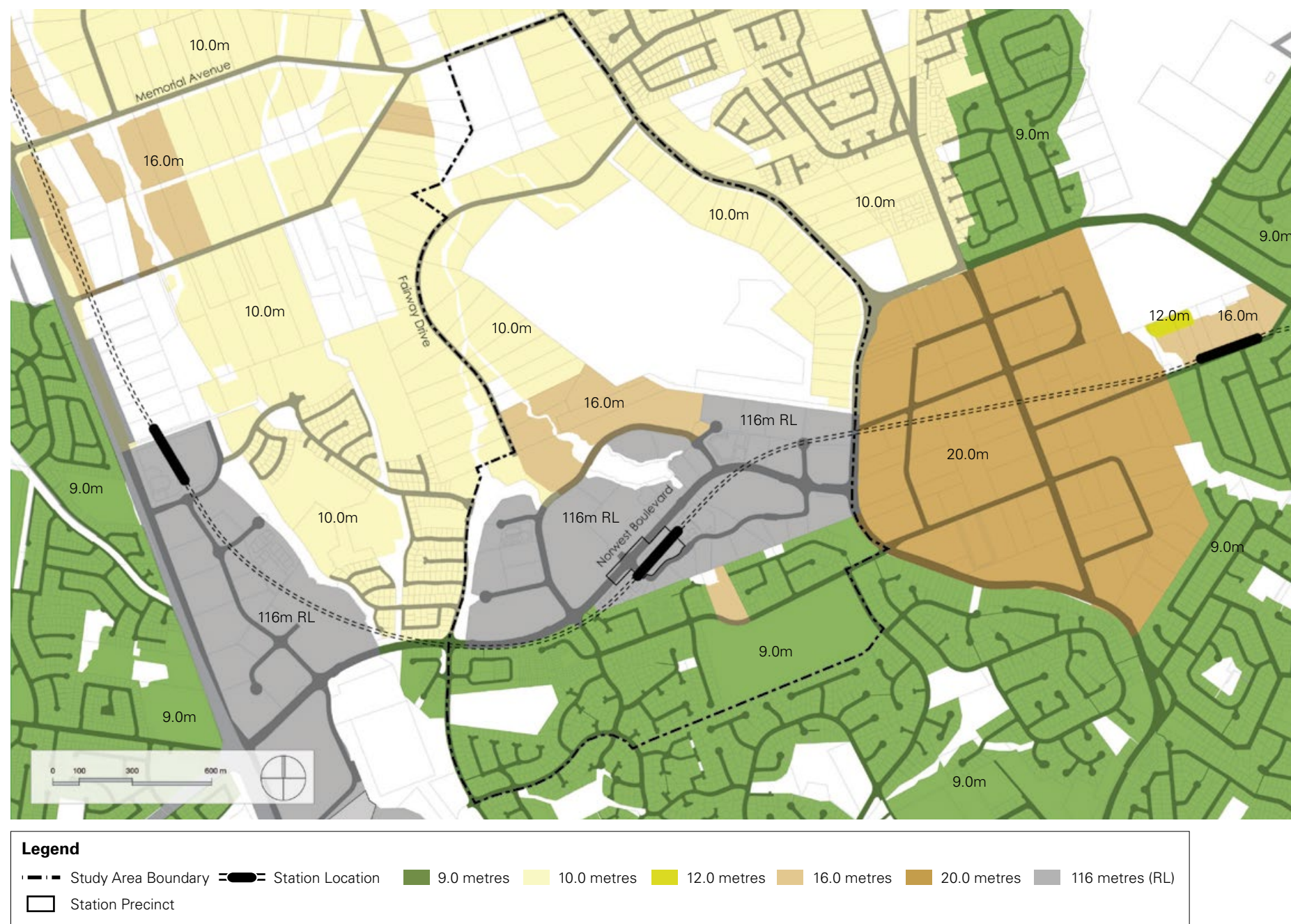


Figure 15: Building Heights within the Study Area

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3. Planning Controls

3.4 LOT SIZE

A large proportion of the land zoned for residential uses (low and medium density) in the north and south are governed by a minimum lot size of 700sqm. The remaining residential areas zoned for high density are governed by a minimum lot size of 1,800sqm, with additional minimum lot size controls for particular uses contained within cl. 7.17 of the Hills LEP.

Development in Norwest Business Park requires a minimum lot size of 8,000m2. The shopping centre/retail core site has a minimum lot size of 600m2.

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

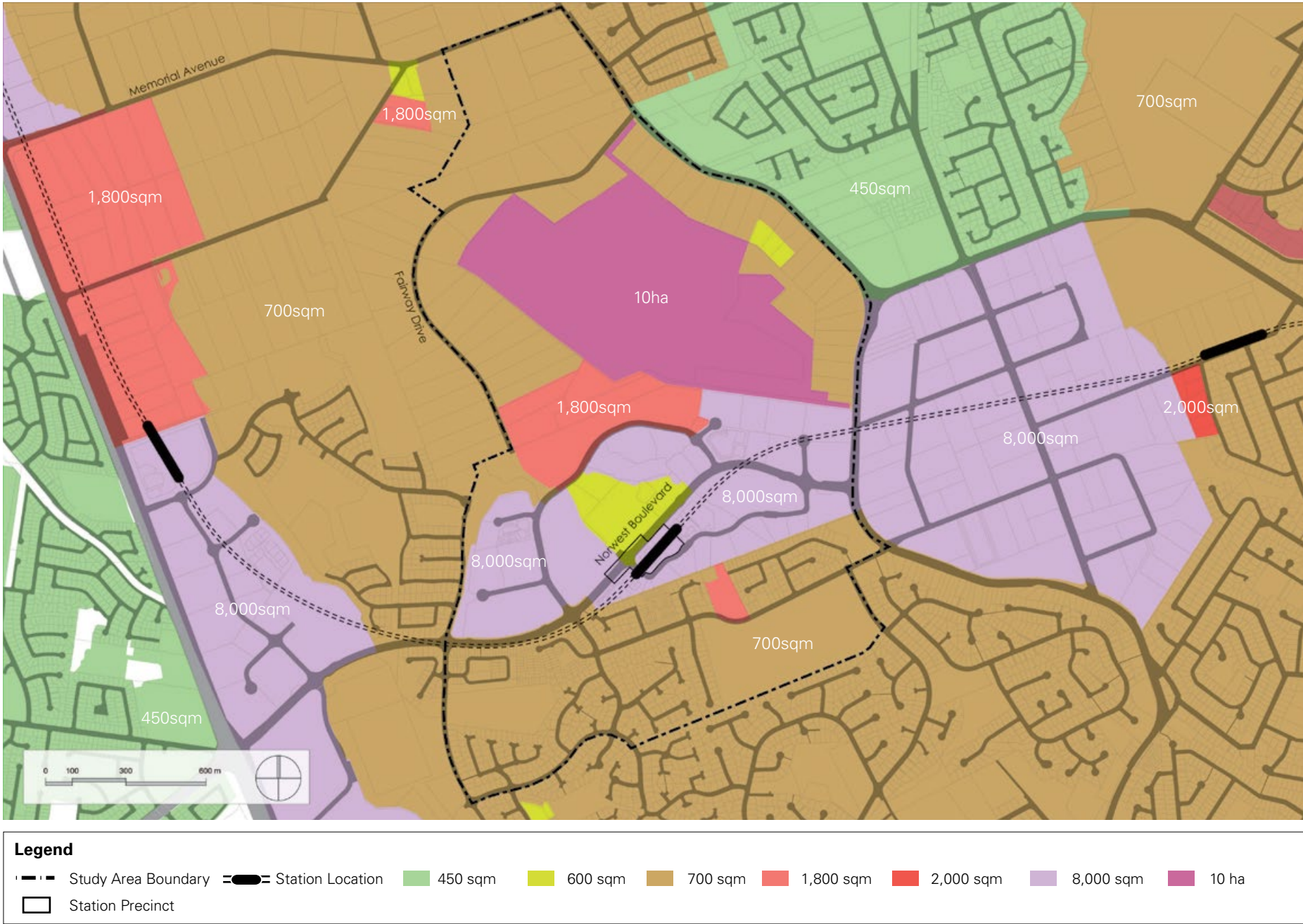
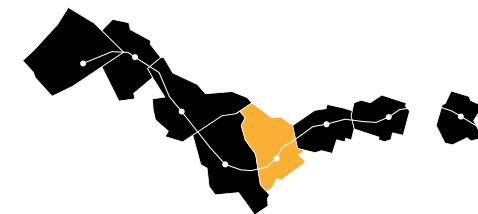


Figure 16: Minimum Lot Size Controls within the Study Area



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.

Under The Hills LEP 2012, the land zoned B7 Business Park surrounding the train station has an FSR of 1:1.

Land zoned B2 Local Centre has an FSR of 1:49 to 1. There are no FSR controls relating to the remainder of the Study Area.

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

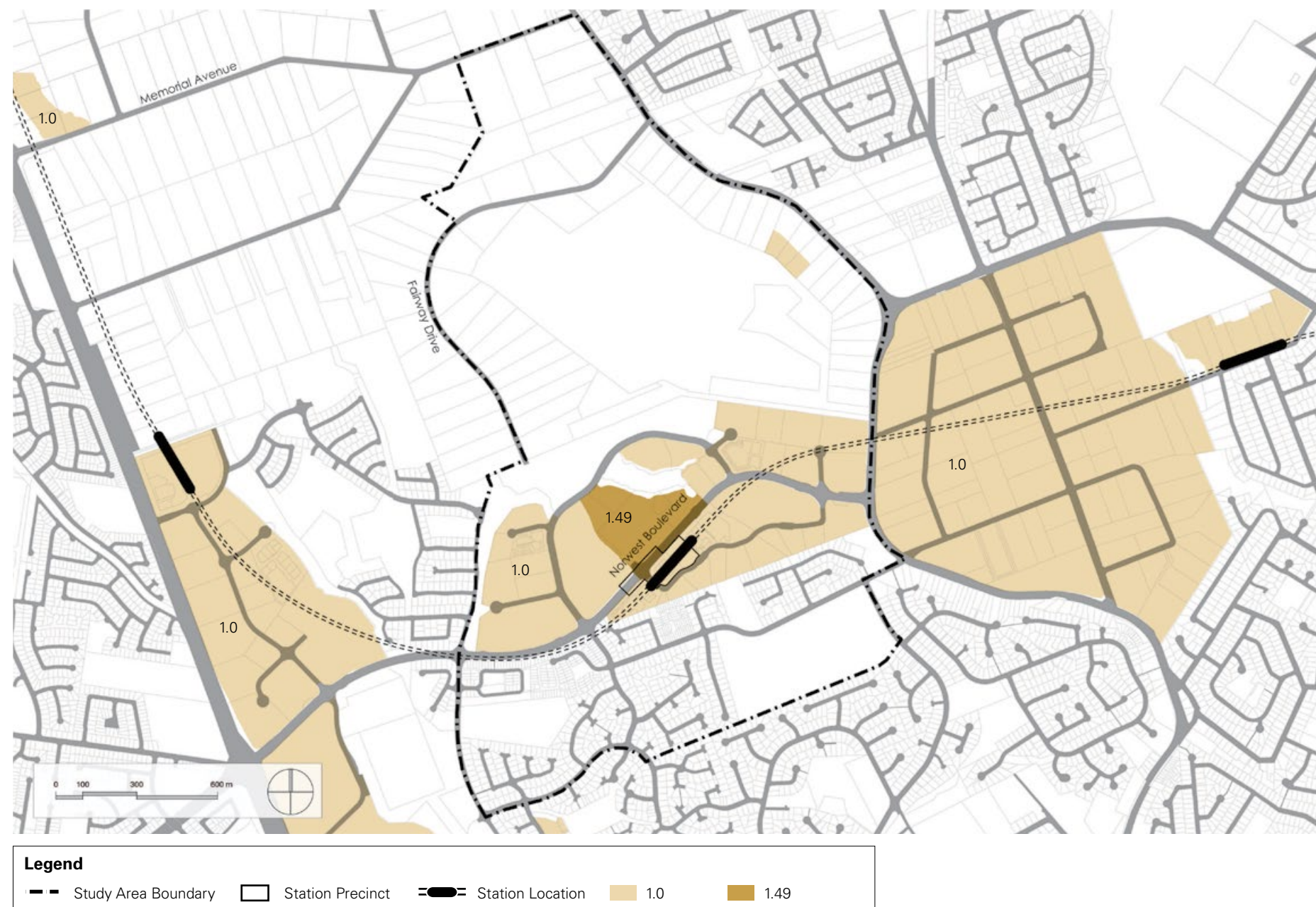


Figure 17: Floor Space Ratios within the Study Area

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4. Opportunities for Growth

4.1 OPPORTUNITY SITES

The outcome of the opportunity and constraints analysis review of the existing planning controls of the Study Area, leads to the identification of sites that could make a contribution to the evolution of the Study Area in response to a new rail link and station.

The 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 themselves 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 the station, along Windsor Road and Fairway Drive are predominantly large lots that are available in the short term as opportunities for development.

Similarly, large commercial use landholdings exist within the Norwest Business Park on Norwest Boulevard and Solent Crescent. These sites present themselves as opportunities for redevelopment due to the age and condition of the existing building stock.

To the south of the station, adjacent to Barina Downs Road, there are a number of sites that are likely to only present themselves as opportunities in the medium to long term.

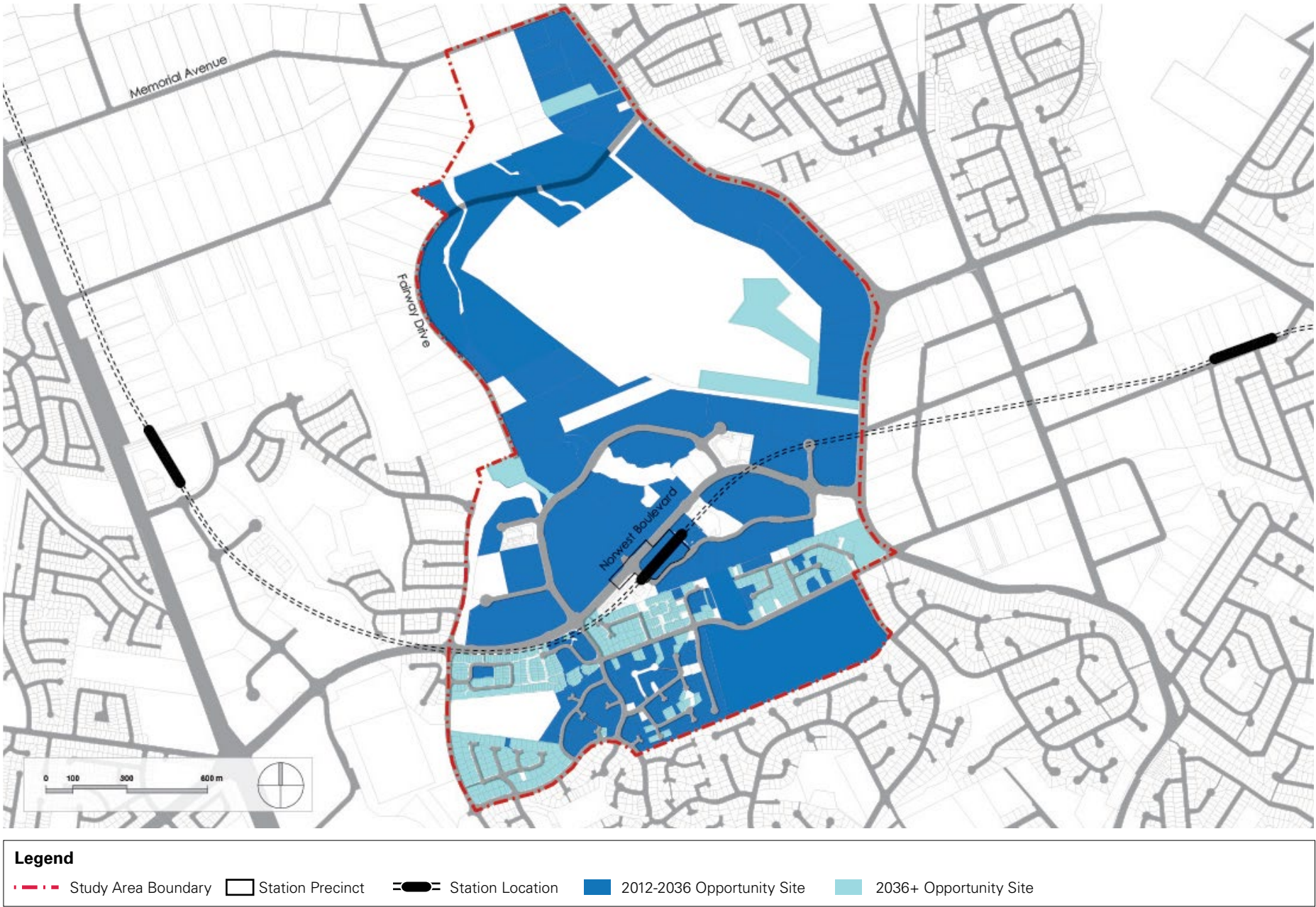
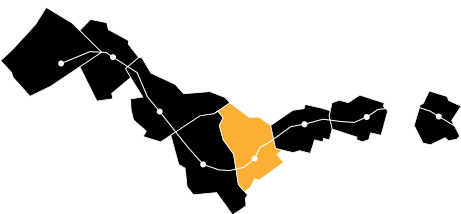


Figure 18: Opportunity Sites within the Study Area



4.2 PROJECTED GROWTH UNDER EXISTING CONTROLS

Under the planning controls contained within the *The Hills Local Environmental Plan 2012*, the opportunity sites within Norwest have a variety of land use, height, floor space and minimum lot size controls that could deliver a mixture of uses including business, office, retail, education and recreational uses.

Within the Business Park zone, current height controls vary between 8m (2 storeys) and 48m (12 storeys). Renewal within the Business Park is governed by an FSR control of 1:1 that will largely maintain the existing built form and density on the site.

The areas zoned for high density residential to the north and a single site to the south, currently allow for 4-5 storey apartment buildings on minimum lot sizes of 1,800m². This is likely to result in a moderate increase in the number of dwellings within the Study Area.

Between Norwest Boulevard and Barina Downs Road to the south and Solent Circuit and Fairway Drive to the north areas of medium density residential are governed by controls which permit 3-storey apartment buildings on minimum lots of 1,800m², townhouses on minimum lots of 720m², or dual-occupancy dwellings on a minimum lot size of 600sqm. These controls are likely to result in a moderate increase in the number of dwellings within the Study Area, over time however the majority of these will in the long term.

An assessment of these current controls on the opportunity sites reveals that the capacity for future growth within Norwest is predominantly within the residential market. The controls governing the Local Centre and Business Park are unlikely to result in any significant increase in jobs over the next 25-40 years. The assessment also reveals that parking requirements and minimum apartment sizes are restricting the supply of a variety of apartments.

The existing controls for the Study Area could result in an additional 3,500 jobs and 2,200 dwellings.

The existing planning controls require some amendments to reinforce the delivery of such a significant investment in infrastructure such as the NWRL. Current controls do not promote the growth of Norwest as a Specialised Centre, with little additional capacity for jobs and a moderate increase in housing. 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	1,300	-	13,000	-
2036	3,500	2,200	16,500	3,500

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



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5. Vision & Structure Plan

5.1 VISION FOR THE STUDY AREA

The introduction of the NWRL and a station at Norwest has the potential to further reinforce Norwest as a Specialised Centre and the largest employment centre for Sydney’s North West. A new station, located within the existing Norwest Business Park, will provide further impetus for Norwest to evolve as a vibrant and active Centre of business for the region, comprising offices, retailing, community facilities, recreation, cultural, education and housing to serve the 650,000 people of the North West by 2036.

To reinforce this status of a Specialised Centre for the North West, Norwest will need to accommodate a significant amount of jobs. The target for Norwest is to provide approximately 30,000 jobs by 2036. This will require approximately 300,000-400,000 sqm of commercial floor space, of a variety of grades, to be delivered within Norwest to 2036.

Norwest Business Park will remain the major commercial hub of the North West. The introduction of the NWRL will increase the catchment and desirability of Norwest Business Park beyond the immediate context of the North West of Sydney. The vision is to see the orderly expansion and intensification of the Business Park, in line with this increase in demand, by delivering commercial floor space with a focus on efficient, large floor plate, campus-style office spaces. Within the Local Centre, there will also be the opportunity to integrate expanded retailing, community uses and cultural facilities which will activate a number of new pedestrian streets, plazas and squares and cater for the increased numbers of workers, residents and visitors alike.

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

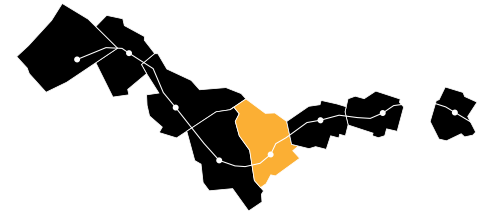
Similarly, the introduction of the NWRL will enable Norwest to become a transport hub for the local area, centred on a new train station with a supporting bus system to provide access for residents to the employment and retail centres of Norwest from across the North West subregion.

The Study Area will provide opportunities for increased employment and housing capacities within walking/cycling distance of the station and the Business Park, while ensuring the local amenity, heritage, open spaces and natural environment are protected. This vision will be achieved by: building on the Centre’s assets to enhance the competitiveness of commercial office employment, as well as retailing; identifying and assembling strategic sites within the Centre to attract public and private investment around a compact commercial core; and improving livability and amenities within the Centre by providing a diverse range of dwellings and an enhanced public domain.

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 depicting the desired future character of Norwest



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5. Vision & Structure Plan

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5.2 PROPOSED DRAFT STRUCTURE PLAN

The Draft Structure Plan for Norwest 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 The Hills Shire Council.

The Draft Structure Plan is the framework which is proposed to guide future planning within the Norwest 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 reinforcing Norwest as a Specialised Centre for the North West, delivering an active and vibrant precinct with a variety of uses, providing greater connectivity by strengthening existing links and providing new links between the station and surrounding uses.

The Draft Structure Plan proposes a true commercial core for Norwest to ensure the job targets for 2036 are achieved and that Norwest is reinforced as a Specialised Centre for the North West. The existing commercial and retail premises adjacent to the station have been enveloped in a commercial core, to create a more flexible centre that can provide for a variety of uses over the short to medium term. This intensive, mixed commercial and retail core is to be set around the shores of Norwest Lake.

To the east and west of the centre, land has been set aside as a Business Park with more flexible controls to respond to the growing market demands for large floor plate commercial spaces and to encourage the growth of Norwest as a Specialised Centre. In the north of the Study Area a space for a smaller Local Centre has been designated on the corner of Wager Road and Stone Mason Drive.

Suitable locations for high density residential of 7-12 storeys, have been identified surrounding the commercial/retail core to the immediate north, which will benefit from direct access to the train station, Business Park and the mix of uses and facilities in the core. Medium density living comprising of 3-6 storey apartments will be located within the residential areas to the south of the Business Park and core on Barina Downs Road and to the east, along Windsor Road.

Beyond this, low density dwellings to the north-west of the station, comprised of townhouses, duplexes and single-detached dwellings will deliver a diversity of housing within an attractive and accessible Centre to cater for the growing population of the North West.

Norwest Boulevard is proposed to remain the primary thoroughfare of Norwest, however significant upgrades, likely to be required in the future, will make pedestrian access and amenity a challenge. Consideration will need to be given to new signalised, potentially grade separated crossings as part of this work. Retention of the existing landscape character should also be an aim for this to be successful.

New links are proposed in locations within the Study Area where they will increase connectivity and permeability. These links could be either pedestrian and/or vehicular connections. Drawing on existing significant vegetation and parks, green links are proposed between Fairway Drive and Castle Hill Country Club Golf Course, and along the eastern side of Edgewater Drive. They will also provide significant ecological and drainage corridors within the Study Area.

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

The primary public domain initiative nominated within the Norwest 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 Norwest.

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

1. The creation of new open space linkages, streets and connections between transport, new and existing housing, commercial, retailing and civic spaces.

2. The creation of a legible secondary road network that is pedestrian and cycle friendly and provides good accessibility between the station and peripheral precincts within the Study Area.
 3. The protection of existing green spaces within the Study Area which form part of the Norwest identity, such as Kellyville Park, the riparian corridor to the west of Norwest Business Park and the Castle Hill Country Club and the preservation of Norwest Lake and Stranger's Lake in the commercial core.
 4. 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 and the core of the Centre.
- 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 also address 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 Norwest, the key connectivity issue is pedestrian access across Norwest Boulevard to and from the core of Norwest and the proposed station location. The anticipated growth within the Draft Structure Plan and increased activity around the new station will require a number of pedestrian priority measures, such as signalised crossings and potentially grade separated overpasses to provide safe and attractive pedestrian and cycle access to the station.
- Complementing these connections will be a number of new links through the revitalised areas of high density living directly adjacent to the station and core. The existing large blocks will be renewed and deliver a network of mid-block connections, linking the gardens and plazas of the apartment buildings with the green links, main street and station of the Centre. These mid-block connections

will primarily occur around Maitland Place, Spurway Drive, Brookhollow Avenue, Barina Downs Road and Solent Crescent.

Within the medium density residential upgrades of existing connections and provision of new connections will link the new townhouses and low-scale apartments to the new connections of the high density residential and to the business park, retail, commercial core and transport interchange. These links could be either pedestrian or vehicle connections and would be subject to detailed analysis to determine the most appropriate location and configuration.

Local road improvements may also be required within the station precinct and broader Study Area to accommodate increased movements associated with the evolution of the Centre and future growth opportunities. These requirements are to be determined through further investigations by the relevant government agencies and authorities.

As documented in the Environmental Impact Statement (EIS) for the station precinct, to improve access and provide for ease of movement around the station and bus interchange, the NWRL project allows for the provision of kiss and ride spaces, bicycle parking, taxi spaces and bus bays at the proposed station and at-grade and future grade separated pedestrian links across Norwest Boulevard.

Traffic management measures will include:

- Removal of the roundabout and signalisation of the intersection of Norwest Boulevard /Brookhollow Avenue/Century Circuit;
- Provision of taxi ranks in Brookhollow Avenue near the intersection with Norwest Boulevard;
- Provision of short term parking (kiss and ride) in Brookhollow Avenue.

Future actions and investigations to complement the delivery of the NWRL include developing a Parking Management Strategy, including measures to manage and monitor parking spaces in the Study Area and particularly near the station.

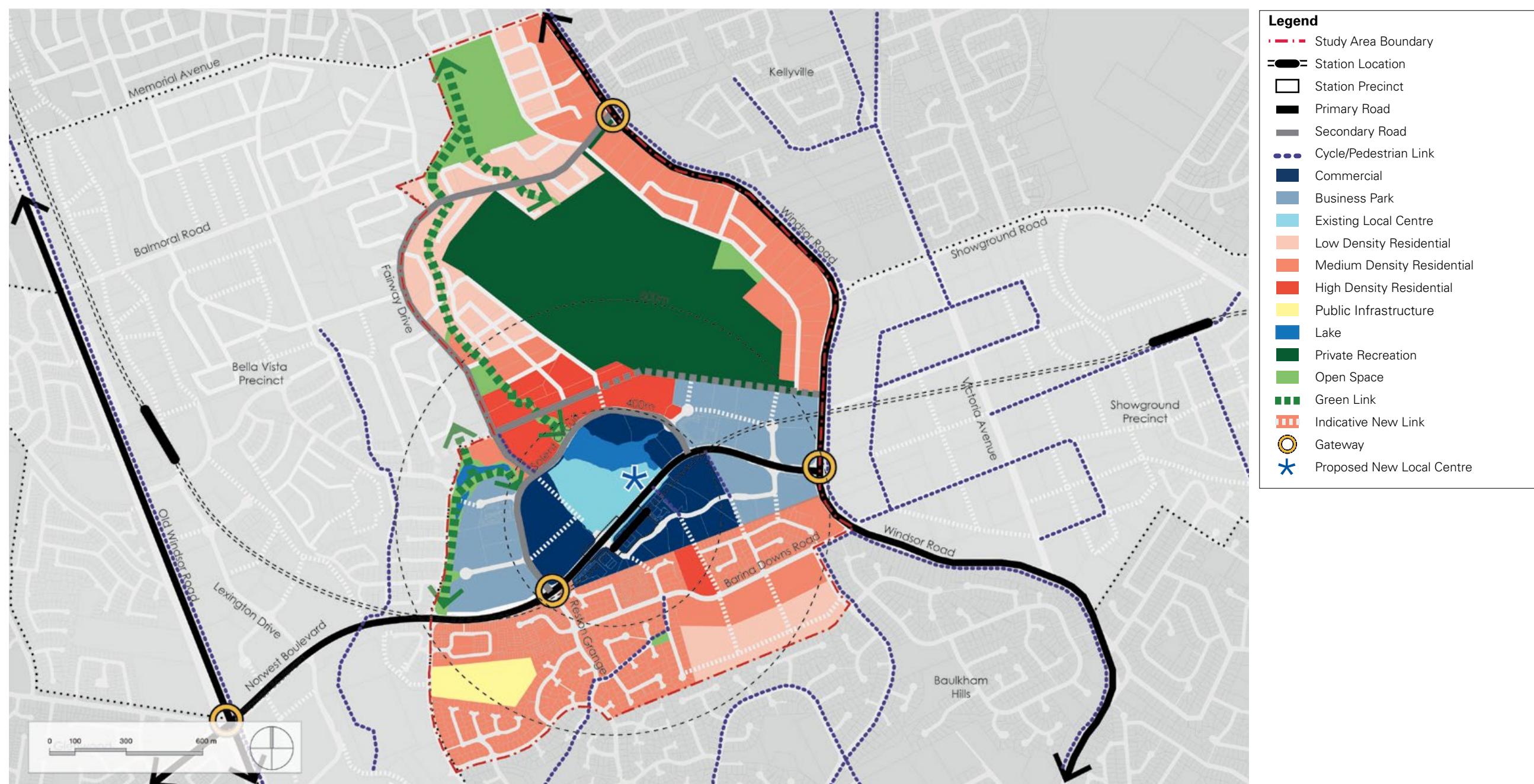
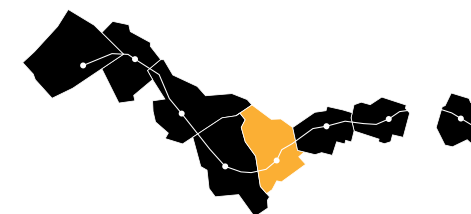


Figure 20: Draft Structure Plan for the Norwest Study Area

Norwest Draft Structure Plan

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 Norwest in the future.

Station Precinct

Objectives: To provide a precinct that contains a flexible mix of retail and commercial uses that suit the surrounding character and are located in close proximity to the proposed station.

Character: It is anticipated that under the vision and draft structure plan this precinct could accommodate retail and commercial that would complement the character of the local area and that are carefully designed to integrate into the existing streetscape. This precinct would also provide residents with direct access to the new rail link and station which would be located underground.



Figure 21: Proposed Location of Station Precinct



Public Domain and Open Space

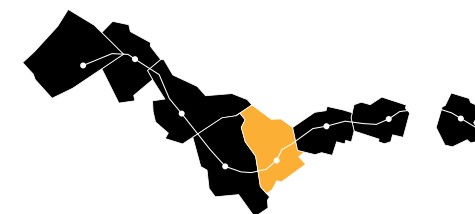
Objectives: To provide attractive open spaces of high amenity for the public.

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 22: Proposed Location of Public Domain and Open Space





Commercial Core

Objectives: To provide attractive A-Grade commercial floor space within close proximity of the station.

Character: It is anticipated that under the vision and draft structure plan, this precinct will evolve to become a high intensity commercial core comprising of 8-10 storey office buildings and expanded opportunities for retail.



Figure 23: Proposed Location of Commercial Core



Business Park

Objectives: To provide for the employment needs of a growing community and to encourage the emergence of a prominent employment area with direct access to the new rail link and station.

Character: It is anticipated that under the vision and draft structure plan, this precinct could accommodate commercial offices on sites that are carefully designed to integrate into the character of the area.



Figure 24: Proposed Location of the Business Park



Norwest Draft Structure Plan

5. Vision & Structure Plan

Local Centre

Objectives: To provide for the day to day needs of the surrounding residential community.

Character: It is anticipated that under the vision and draft structure plan this precinct could accommodate neighbourhood scale retailing on sites that are carefully designed to integrate into the existing streetscape.

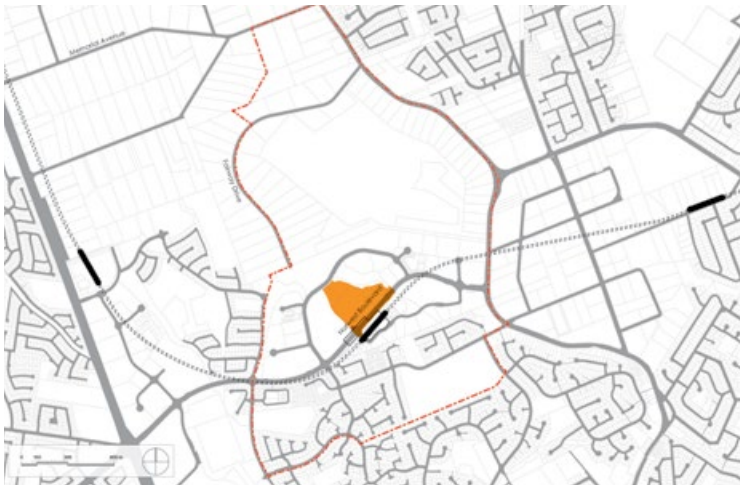


Figure 25: Proposed Location of new Local Centre



High Density Apartment Living

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, Business Park and Core.

Character: It is anticipated that under the vision and draft structure plan, this residential area will evolve to accommodate multi-dwelling housing only where the site is an appropriate size to deliver a high amenity for the existing and future residents. This could comprise 7-12 storey apartment buildings, carefully master planned around communal open spaces and incorporating landscaped setbacks to existing streetscapes.



Figure 26: Proposed Location of High Density Living



Medium Density Apartment Living

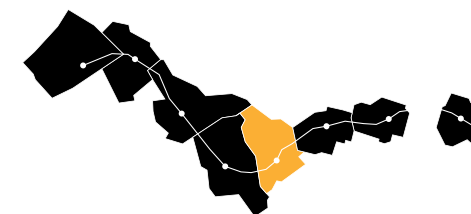
Objectives: To provide for the housing needs of a growing community and to provide a variety of housing types within close proximity of the station and associated uses.

Character: It is anticipated 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 27: Proposed Location of Medium Density Living





Low/Medium Density Townhouse Living

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.

Character: Under the vision and structure plan it is anticipated 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 28: Proposed Location of Medium Density Townhouse Living



Low Density Detached Living

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.

Character: It is anticipated that under the vision and draft structure plan that this precinct could accommodate single detached dwellings to ease the transition into the low density residential areas beyond the Study Area and the station.



Figure 29: Proposed Location of Low Density Living



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 30: Areas Expected to Remain Unchanged

Norwest Draft 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 Norwest, 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 59% 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 161 hectares.

Application of the proposed land uses and typologies within the Draft Structure Plan will result in a total capacity for an additional 4,350 dwellings by 2036. It is anticipated that 100% of this capacity will be realised, delivering an additional **4,350** dwellings within the Study Area.

The proposed Draft Structure Plan will result in an additional employment capacity of 22,500 jobs by 2036. However it is anticipated that only 59% of this capacity will be realised, delivering an additional **13,200** jobs within the Study Area.

RESIDENTIAL

TYPE OF HOUSING	DWELLINGS IN 2012		DWELLINGS IN 2036		GROWTH
	TOTAL	%	TOTAL	%	TOTAL
SINGLE DETACHED	1,000	77%	1,200	21%	200
TOWNHOUSE	100	8%	1,200	21%	1,100
3-6 STOREY APARTMENT	200	15%	2,900	51%	2,700
7-12 STOREY APARTMENT	0	0%	350	7%	350
TOTAL DWELLINGS	1,300	100%	5,650	100%	4,350

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

EMPLOYMENT

TYPE OF JOBS	JOBS IN 2012		JOBS IN 2036		GROWTH
	TOTAL	%	TOTAL	%	TOTAL
COMMERCIAL	10,000	77%	24,200	92%	14,200
RETAIL	1,000	8%	2,000	8%	1,000
BULKY GOODS	2,000	15%	0	0%	-2,000
INDUSTRIAL	0	0%	0	0%	0
TOTAL JOBS	13,000	100%	26,200	100%	13,200

Table 5.2: Projected Employment Growth in Norwest 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:

- Demand for Additional Dwellings.** Future demand for additional residential development in the Study Area is estimated to be in the order of **200** dwellings per annum comprised of 8% 7-12 storey apartments, 62% 3-6 storey apartments, 25% townhouses and 5% single detached dwellings 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 Norwest, the demand for housing diversity and improved access to social, recreational and employment opportunities as a result of the North West Rail Link.
- Demand for Employment Lands.** Future demand for additional employment (commercial and retail) floorspace within the Study Area is projected to increase within the Study Area at a rate of **14,000m2** p.a. of commercial, **1,200m2** p.a. of retail, both of which will gradually replace the bulky goods retailing over time.
- Type and Location of Development.** The demand analysis supports the provision for 7-12 and 3-6 storey garden apartments on the periphery of the commercial core and business park. 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.

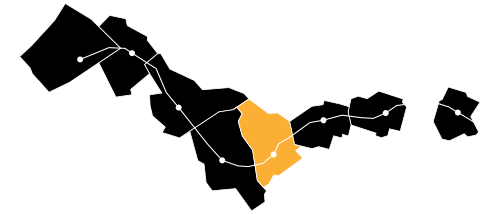
The analysis supports the provision for townhouse and single detached development on the periphery of the Study Area where large undeveloped lots could accommodate a number of townhouses or single detached dwellings.

In terms of future employment generating development, the feasibility analysis supports the provision for the intensification of a true commercial core around the new transport opportunities that the station will provide, supported by moderate intensification of the business park.

Future retail floorspace within Norwest is to be located within the commercial core and station precinct and is expected to increase in line with the growth of the local population and employment catchment.

Norwest 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, Section 94 Schemes and Public Domain Strategies 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. Other matters for consideration include public domain, transport, accessibility and infrastructure servicing.

6.2 PUBLIC DOMAIN, URBAN DESIGN & OPEN SPACE STRATEGY

Consideration is to be given to public domain and open space planning for the Study Area including:

- Streetscapes, with open space linkages and connections to transport, new and existing housing and open space,
- The need for open spaces and civic spaces,
- Upgrades to Norwest Boulevard to create a significant green corridor that is pedestrian and cycle friendly and provides good accessibility between the station and peripheral precincts within the Study Area,
- 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 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,
- Identification of improvements to bus networks serving the precinct,
- Parking requirements,
- Investigate the potential need for road upgrades, including 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.



