URBAN DESIGN STUDY

245 MARION STREET, LEICHHARDT, NSW

AMENDED 30.10.2014

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FOR 245 MARION STREET, LEICHHARDT

1.0 INTRODUCTION

This Urban Design Report supports a Planning Proposal to amend the Leichhardt Local Environmental Plan 2013 (gazetted 3 February 2014) for the rezoning of land at 245 Marion Street, Leichhardt from IN2 Light Industrial Zone to a R1 General Residential zone.

The Urban Design Report:

- Undertakes a contextual analysis of the site – its regional and local context of surrounding neighbourhood and streetscape characteristics;
- Evaluates the site and its existing conditions;
- Identifies the existing planning framework and development densities along centres and corridors;
- Undertakes an urban design analysis of the site – of its planning and development rationale for rezoning, its site attributes, opportunities and constraints;
- Identifies optimum land use for the site, its potential built form and public domain benefits;
- Identifies sound urban design principles for site development;
- Establishes an urban design criteria for the redevelopment of the site; and
- Outline and evaluate the proposal for redevelopment of the site.

The site is located on the northern side of Marion Street, directly adjacent and to the east of Marion light rail station and Hawthorne Canal, and north of Lambert Park (Figures 1 and 2).

The site is currently zoned **IN2 Light Industrial** under *Leichhardt LEP 2013*. Under this planning instrument, the site has an overall floor space ratio (FSR) of 1:1.

The site currently has a single storey industrial building, used for motor vehicle repairs.

The Planning Proposal seeks to rezone the site for residential and mixed land uses.

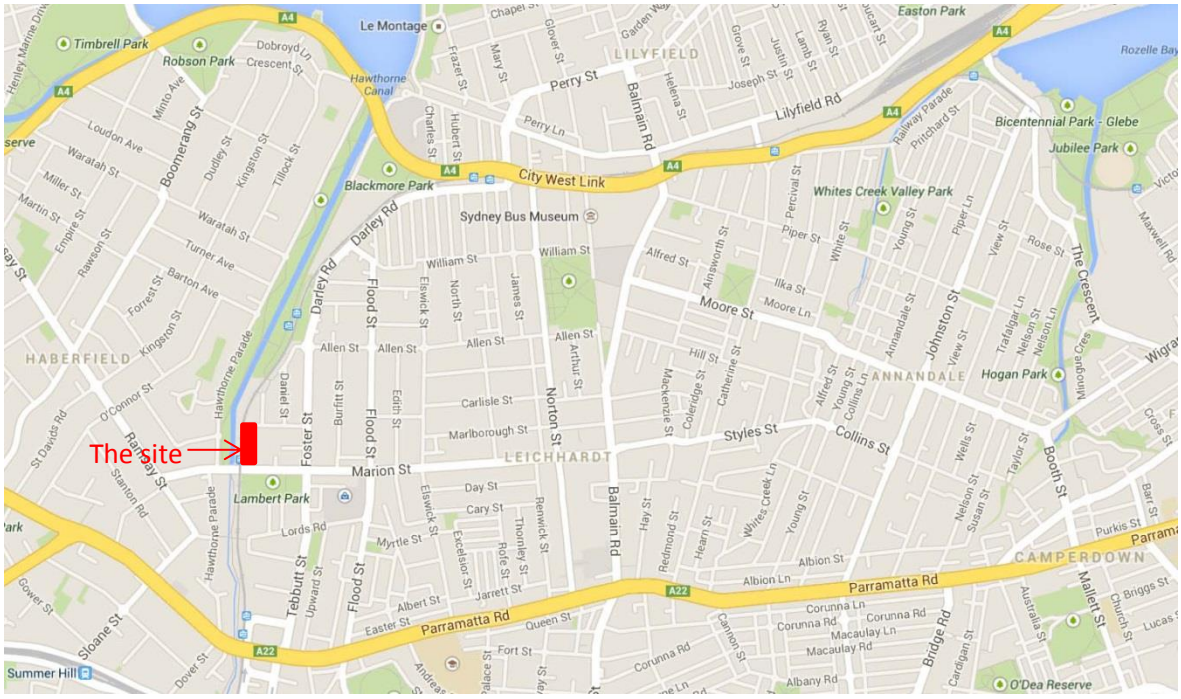

Figure 1: Location map

Figure 2: Location aerial

2.0 REGIONAL AND LOCAL CONTEXT

2.1 Regional Context

The site is located within Sydney's Inner Western suburb of Leichhardt (Figure 1). Leichhardt is located approximately:

- 7km west of Sydney's CBD;
- 6km from the entertainment and convention precinct of Darling Harbour and the Sydney Fish Market;
- 4-5km from tertiary educational facilities of Sydney University and UTS campus at Ultimo;
- 4.5km from Broadway.

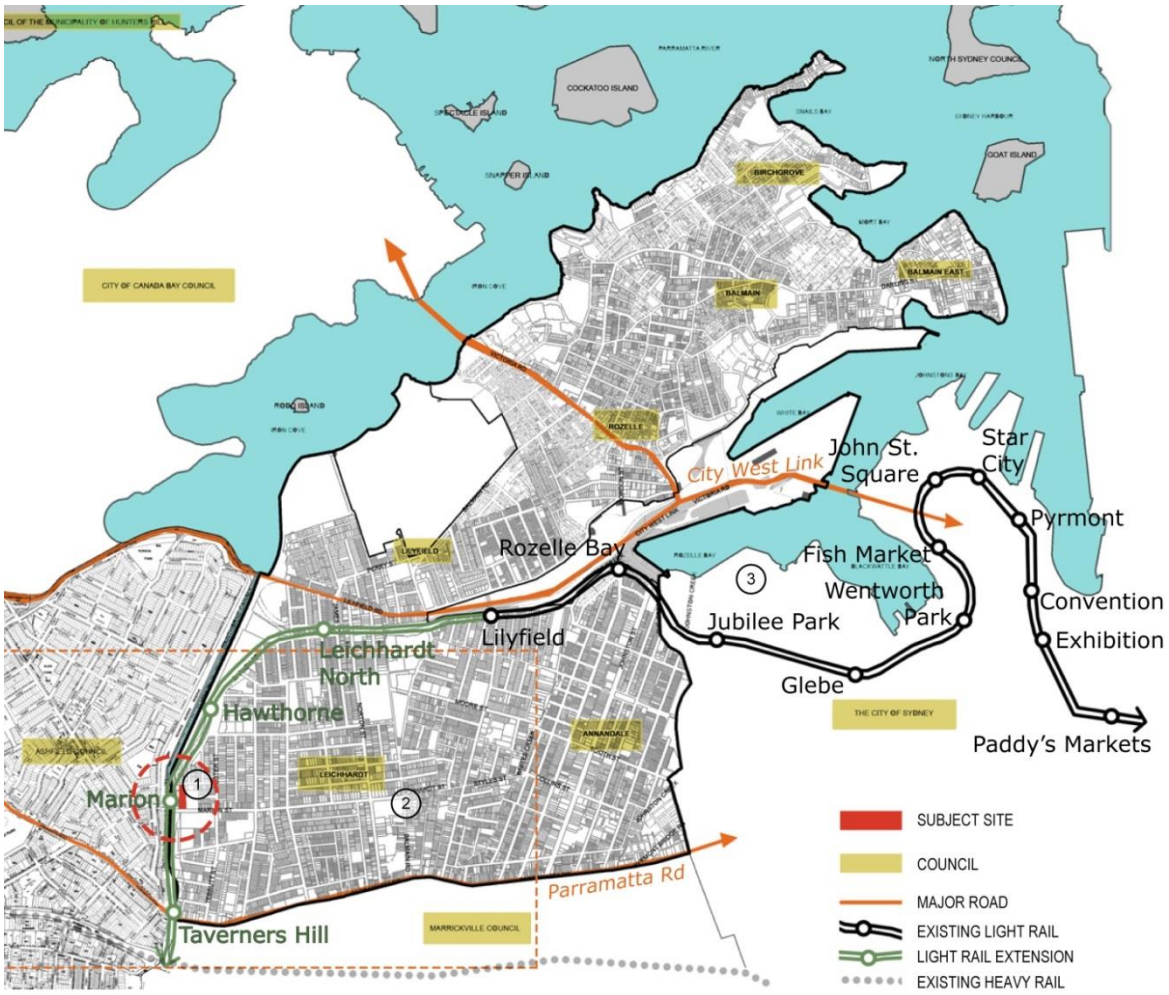

Figure 3

2.2 Strategic Context

The site is within the Leichhardt local government area (LGA). The Leichhardt Municipality stands on land that traditionally belonged to the Gadigal and Wangal people, of the Eora nation. It is a unique area with a long cultural heritage and a special beauty that comes from its Sydney Harbour location and its old suburb origins.

The Leichhardt LGA, located within Sydney's inner west, consists of the uniquely diverse and culturally rich suburbs of Annandale, Balmain, Birchgrove, Leichhardt, Lilyfield and Rozelle. The LGA has an area of 10.03 km^2 and a population of 52,000. Leichhardt is located within Sydney's Inner West.

The Inner West is one of the most densely populated areas in metropolitan Sydney with an average of around 40 dwellings per hectare (approx. 100 people per hectare) with an average household size of 2.5 persons per dwelling, which is lower than the Sydney average of 2.7.

Demographically, the Leichhardt LGA has a relatively high proportion of residents in the 25-39 age group, with a low proportion of residents aged 14 years or younger. Leichhardt, additionally, has a high proportion of single person households (source: *Draft Inner West Subregional Strategy*). Sydney's Inner West is a highly sought after urban residential area, based on residential property sales.

The *Sydney Metropolitan Plan* has a target of 770,000 new housing units by 2036. This translates to approx. 30,000 new houses or apartments a year (Urban Taskforce). The *Draft Inner West Subregional Strategy* targets 30,000 additional dwellings within the Inner West Subregion by 2031, which equates to approx. 1100 new dwellings per year. The *Inner West Subregional Strategy* identifies housing targets for the Leichhardt LGA to have an additional 2000 dwellings.

The site is within a kilometre from the Parramatta Road Corridor. This corridor, stretching from Parramatta to the Sydney City, has been identified by the State government as an important renewal and urban growth corridor with the capacity to deliver additional employment and residential accommodation, with potential to accommodate around 63,000 new dwellings and 50,000 new employment opportunities by the year 2030. This corridor will generate new medium to high density urban forms and will alter the urban landscape along this corridor.

The NSW *State Infrastructure Strategy* identifies that 1.5 million more people will live in Sydney within the next 20 years, needing jobs, housing, transport and services (p.4). The Draft *NSW Metropolitan Strategy* identifies housing must be more affordable, close to jobs and near good transport connections (p.2). Housing should be in areas where people want to live, near amenities, transport and other services.

2.3 Local Context

The site is located within the suburb of Leichhardt, which is the largest suburb within the LGA in terms of number of properties and population. Due to the suburb's relatively flat topography and gridded subdivision pattern, the area has a pattern of development of predominantly free-standing dwellings on allotments larger than typical within the LGA. The residential building stock is predominantly low-scale in form, generally single storey with a random scattering of two storey dwellings. Grander scale dwellings occur mainly on the upper slopes of the area north of Marion Street.

The architecture in the area is primarily late Victorian and Federation, with scattered examples of interwar period dwellings and intact weatherboard cottages. Contemporary development is also scattered throughout the neighbourhood, mainly in the form of residential flat buildings and townhouse style developments.

Key landmarks within the suburb comprise the Civic precinct, with town hall, council chambers, council administrative offices and public school, located at the junction of Marion Street and Norton Street. Norton Street commercial, retail and entertainment precinct (the cultural heart of the suburb) is located between the Civic precinct and Parramatta Road. The retail strip along Norton Street also extends northwards towards the City West Link.

The site is within **Leichhardt West**. Leichhardt West has a mixed character with varying residential lot sizes and within a strong grid of north/south oriented primary local streets, generally following the contours. The east/ west pattern is more fragmented allowing views to the west.

Within Leichhardt West, east of the site, is Leichhardt Marketplace, which is a local neighbourhood commercial-retail precinct to the east the site.

Industrial land uses are predominantly located adjacent to Parramatta Road, with a number of isolated industrial sites sited within the residential neighbourhood. These industrial premises are generally 2 to 3 storey's in height.

The immediate neighbourhood precinct of 245 Marion Street is an area characterised by its inner Sydney urban location with original detached and semi-detached housing forms, small industrial premises, a neighbourhood park (Lambert Park), the light rail corridor along the disused railway line adjoining a landscaped drainage channel of Hawthorne Canal which runs along the western edge of the LGA forming its boundary with Ashfield LGA.

With the redevelopment of the former freight rail corridor for light rail passenger services, the locality is subject to urban renewal with planning proposals to rezone small isolated industrial sites for higher density residential and mixed uses and urban renewal plans for the nearby Parramatta Road corridor.

2.4 Surrounding Land Uses and Amenities

The surrounding land uses along and within the vicinity of Marion Street are residential with pockets of light industrial uses. Directly to the south of the site is the open space reserve of Lambert Park (Figure 4).

The site is located within approximately:

- 500m of Leichhardt Market Place Village Centre, which is a comprehensive shopping centre and the central focus of the business sector tor this area, located on the corner of Flood Street and Marion Street, and extending to Lords Road. It is well established and is a significant local business centre;
- 1.4km of the Norton Street Leichhardt Town Centre, which provides a mix of retail, dining and community (library) facilities;
- 1.2km of the Palace Cinema;
- 1.2km from Leichhardt Public School on Marion Street; and
- 400m from Kegworth Public School on Tebbutt Street.

Links to surrounding amenities are illustrated in Figures 3 and 4.

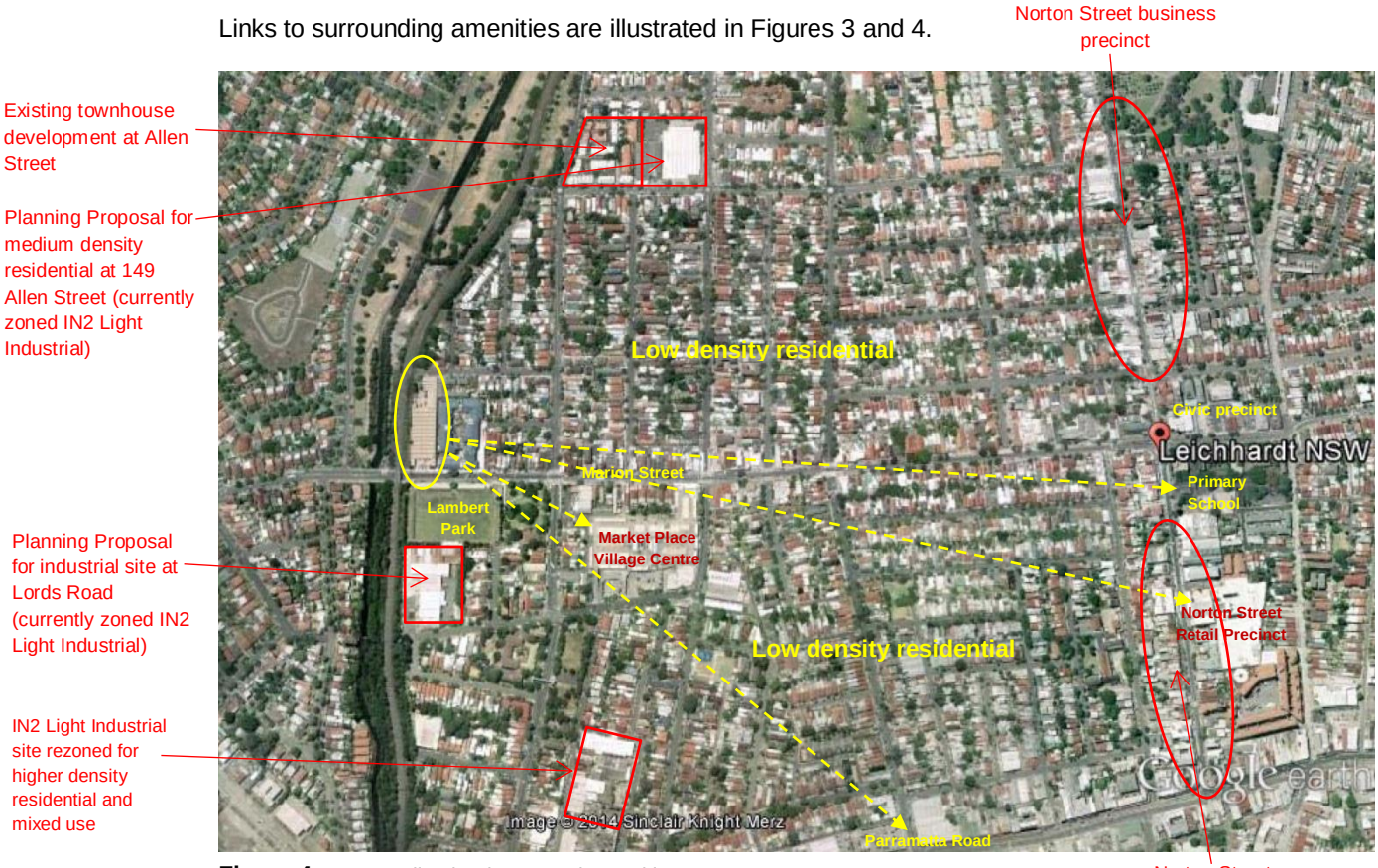

Figure 4: Surrounding land uses and amenities

Allotments along Marion Street have the potential for higher density development as these properties are sited along a main public transport road providing convenient access to the neighbourhood retail and business centre of Leichhardt Market Place Village Centre. The light industrial properties have the potential of higher density development due to their large allotments and their gradual redundancy of use.

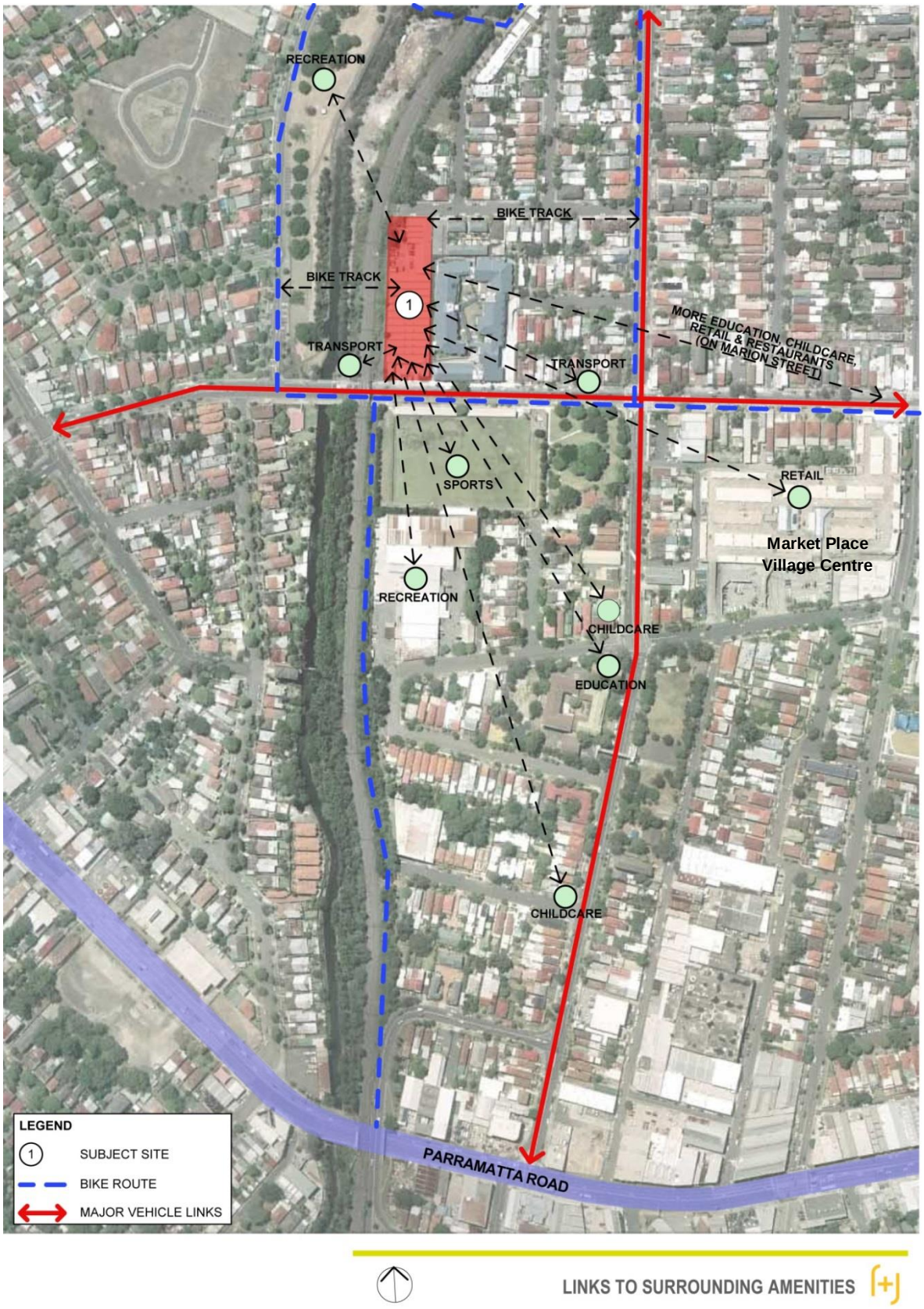
RECREATION
BIKE TRACK
BIKE TRACK
1
TRANSPORT
TRANSPORT
MORE EDUCATION, CHILDCARE, RETAIL & RESTAURANTS (ON MARION STREET)
SPORTS
RETAIL
Market Place Village Centre
RECREATION
CHILDCARE
EDUCATION
CHILDCARE
PARRAMATTA ROAD
LEGEND
1 SUBJECT SITE
BIKE ROUTE
MAJOR VEHICLE LINKS
LINKS TO SURROUNDING AMENITIES

Figure 5

2.5 Surrounding Open Space and Recreational Areas

Directly to the site's south is a large, quality, public open recreational area of Lambert Park.

Directly to the west of the site, immediately west of the light rail line is the open space corridor along Hawthorne Canal which incorporates Richard Murden Reserve and Hawthorne Canal Reserve. This open space corridor extends southwards as well as to the north, to the Sydney Harbour foreshore area. The open space corridor offers pedestrian, cycle and public transport connections to the Iron Cove Bay foreshore areas, Sydney Harbour foreshore attractions, Darling Harbour and the CBD (Figure 6).

Figure 6

2.6 Surrounding Vehicular and Transport Network

The site fronts Marion Street (to its south) and Walter Street (to its north).

Marion Street is a classified secondary road and bus corridor (Figure 7), 20m wide with 3m wide footpaths on both sides of the street.

Walter Street is a local street and a cul-de-sac terminating at the railway corridor. The street is 15m wide with 1.5m wide footpaths on both sides of the street.

Site Connections

The site is well situated, fronting onto Marion Street which is accessible by vehicular and well served by public transport of light rail and bus (Figures 7 and 8).

Vehicular Connections

The site is located along Marion Street, which is an arterial/ collector road that links to:

- The City West link to the west (via Ramsay Street);
- The City West link to the north (via Foster Street and Darley Road); and
- Parramatta Road to the south (via various north-south cross streets).

Public Transport – Light Rail Connections

The site is located adjacent to the proposed Light Rail Extension that links the Inner West suburbs to the Sydney CBD via Rozelle Bay, Glebe, Sydney Fish Market, The Star, Pyrmont and Darling Harbour.

Public Transport – Bus Connections

Marion Street is located along a public transport route – on five inner west bus routes linking Sydney CBD, to Leichhardt Town Centre, Parramatta Road, to surrounding suburbs and the university campuses of Sydney University and University of Technology and Science (UTS).

A bus stop is located near Lambert Park.

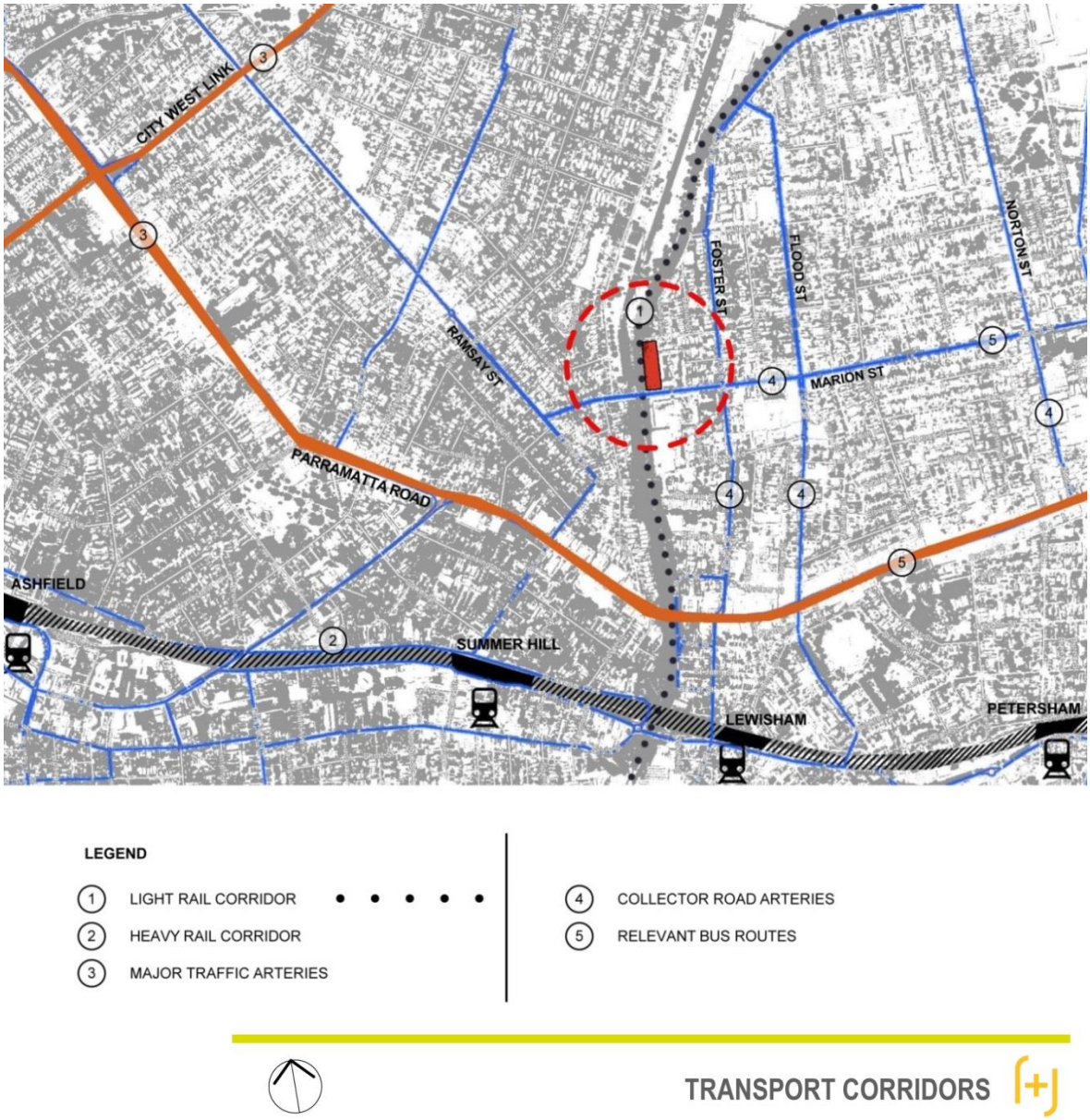

Figure 7

2.7 Surrounding Pedestrian Access and Movement Network

Pedestrian travel within the neighbourhood is via footpaths located on either one or both sides of the street. Footpaths are located on both sides of Marion and Walter Streets.

A shared path is located adjacent to the light rail corridor and Hawthorn Canal, on its eastern side that connects to the Bay (Figure 8).

However, for the residential precinct to the north of the site, there is no direct pedestrian access from the western side of Walter Street to the shared path or the light rail stop. Light rail patrons are required to travel via Foster Street (north-south) and Marion Street (east-west) to the stop (Figure 8).

LEGEND

1. SUBJECT SITE
2. SHARED PATH NEAR HAWTHORN CANAL
3. BUS STOP NEAR LAMBERT PARK
4. MAIN INTERSECTION
5. MARKET PLACE LEICHHARDT

PEDESTRIAN ACCESS TO LIGHT RAIL
NEW LIGHT RAIL STATIONS
SHARED PATH
STRATEGIC BIKE ROUTE ON ROAD
BUS ROUTE
WALKING DISTANCE

LOCAL ACCESS NETWORK

Figure 8

2.8 Surrounding Streetscape, Built Form and Neighbourhood Character

To the north and east of the site is a low density residential neighbourhood, with a traditional pattern of development of a mix of one and two storey detached dwellings sited with a small setback to the street and a small rear yard for private open space (Figure 9).

Figure 9

At Marion Street:

To the east of the site (237 Marion Street) is the relatively newly developed 3 storey Uniting Church seniors' housing development known as The Marion. This site was previously zoned IN2 Light Industrial, but received development approval for higher density residential land use. This development is setback approximately 1m from its front boundary to Marion Street.

Beyond this development to the east along Marion Street, are traditional single storey detached dwellings, with small setbacks to the street.

Along both sides of Marion Street are 3m wide (approximately) footpaths. There are no street trees at the site's frontage to Marion Street with a scattering of trees along the northern side of Marion Street.

To the south of the site is the Lambert Park. A 3-4m wall and oval grandstand is sited along the northern boundary of the Park fronting Marion Street, which provides an unattractive visual barrier to the Park. Along the park edge of the street is an avenue of native trees (Figure 10).

Figure 10: Marion Street with grandstand wall at Lambert Park

Figure 11: Marion Street – view east to railway overpass/ bridge and light rail stop

To the west of the site is the former freight rail corridor which runs along the western boundary of the site and is part of the Sydney Light Rail extension. The railway corridor is sited above Marion Street and rail overpass elevated approximately 5m above Marion Street. The railway bridge is an identifiable western gateway to Leichhardt. Adjacent to the site is the proposed Marion Street Light Rail stop (Figure 11).

At Walter Street:

Walter Street is a local street surrounded by single storey and 2 storey dwellings. Walter Street consists of narrower 1.5m wide footpaths running along the street, with on-street vehicle parking (Figure 12).

To the west of Walter Street is the vegetated corridor is Richard Murden Reserve. Walter Street is accessed from Foster Street, which runs north-south.

Figure 12: Walter Street – view west to its cul-de-sac

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3.0 THE SITE – EXISTING CONDITIONS

3.1 Site Location

The site is 245 Marion Street, Leichhardt, located within the Leichhardt Local Government Area. The site is approximately 7km west of Sydney CBD, within Sydney's Inner West (Figure 13).

The site is bounded:

- to the south by Marion Street, which is a classified secondary road and bus corridor;
- to the north by Walter Street, which is a local street;
- to the east by a 3 storey retirement and aged care facility;
- To the west by the Inner West light rail corridor and the Marion Street light rail station.

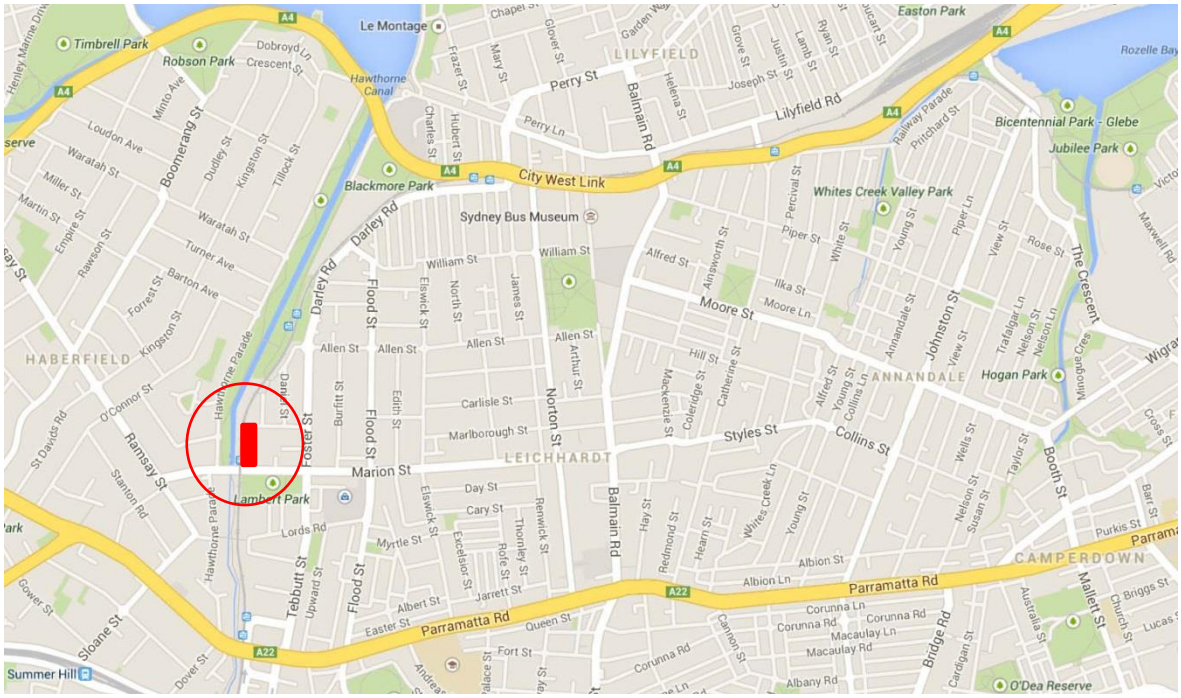

Figure 13: Location map

3.2 Legal Description

The legal description of 245 Marion Street is Lot 1 in DP 507525.

3.3 Site Description and Area

The site is rectangular with allotment dimensions of:

- 40.235m at Marion Street (southern boundary);
- 35.04m at Walter Street (northern boundary);
- 137.21m at its eastern boundary; and
- 137.3m at its western boundary.

The site has an area of approximately 5,210m^2.

3.4 Existing Land Use and Built Form

The site currently contains a single storey industrial building which is currently used for motor vehicle repairs. Surround land use comprises a pattern of low density dwellings on small rectangular allotments (Figure 14).

Figure 14: Site Aerial

3.5 Site Topography

The site is relatively flat with a fall of 150mm (approx.), falling from north RL 3.85 (approx.) at Walter Street to RL 4.0 (approx.) at Marion Street.

Contextually, the topography of Leichhardt has long, gentle slopes that enable views out to the east, across the ridge of Annandale to the City, Haberfield to the west, and the north shore to the north.

3.6 Site Vegetation and Landscape Features

There is little vegetation on the site of landscape or ecological value, with low level planting within the building setback area to Marion Street. There is a single palm within the front landscaped areas (Figure 15). A large tree is located at the north-west corner of the site at the boundary to Walter Street (Figure 16). Some vegetation exists within the rail corridor, west of the site.

Figure 15: View of site at Marion Street frontage

Figure 16: View of site at Walter Street frontage

3.7 Site Access

The site has vehicular access from both Marion and Walter Streets, with driveways from the site to these streets.

Pedestrian access to the site is via footpaths on surrounding streets.

3.8 Parking and Loading Facilities

Parking for vehicles servicing fronts Marion Street. Staff and service parking is also available from Walter Street.

3.9 Utility Services Infrastructure

The site is currently serviced for the existing motor repair premises. The capacity of the existing services infrastructure to service the proposed development will be investigated at a future Development Application Stage. Infrastructure for a full range of utility services - of electricity, telecommunications, gas, sewerage, water supply and drainage is on the site.

3.10 Heritage Considerations

The site is not a heritage item or located in a heritage conservation area. There are no known items of aboriginal or archaeological significance on the site.

Lambert Park, located directly to the south of the site, is an item of Local Heritage Significance, for historically being the home ground of the APIA Soccer Club.

3.11 Environmental Constraints

There is no critical habitat or threatened species, populations or ecological communities, or their habitats on or around the subject land or that will be significantly affected by the proposed development.

The site is affected by the 1:100 year flood events for a small portion of the site, at its boundaries to Marion and Walter Streets. The site is also affected in total by Probable Maximum Flood (PMF) levels (Figure 17).

The site has no known other environmental impacts.

1:100 YEAR FLOOD CONSTRAINT

LEGEND

FLOOD PLAIN
STORMWATER PITS
STORM WATER PIPE

PMF FLOOD CONSTRAINT

LEGEND

FLOOD PLAIN
STORMWATER PITS
STORM WATER PIPE

Figure 17: Flood Study

3.12 Existing Visual Character

The surrounding neighbourhood precinct is characterised by medium and low density developments, with:

- A medium density (3 storey) residential development directly to the east of the subject site; and
- Low density (single and 2 storey), detached and attached dwellings to the north, east, west (beyond Hawthorne Canal) and south of the subject site.

A visual assessment of the existing surrounding neighbourhood character is illustrated below (Figure 18):

VIEW #1 - FROM MARION STREET TOWARDS THE SOUTHERN BOUNDARY SUBJECT SITE

VIEW #2 - LIGHT RAIL INFRASTRUCTURE FROM MARION STREET

VIEW #3 - ENTRY TO AGED CARE FACILITY ON MARION STREET

VIEW #4 - EAST ON MARION STREET TOWARDS LAMBERT PARK

VIEW #5 - TOWARDS AGED CARE FACILITIES ON HAWTHORNE STREET

VIEW #6 - FROM WALTER STREET TOWARDS THE NORTHERN BOUNDARY SUBJECT SITE AND LIGHT RAIL INFRASTRUCTURE

VIEW #7 - FROM THE JUNCTION OF WALTER & LOFTUS STREET

VIEW #8 - SOUTHERN BOUNDARY OF THE SUBJECT SITE

Figure 18: Surrounding neighbourhood visual character

4.0 EXISTING PLANNING FRAMEWORK

4.1 Land Use Zoning and Development Density

The site is zoned IN2 Light Industrial under *Leichhardt LEP 2013* (Figure 19).

Maximum permissible density (FSR) under this zone is 1:1. The residential area surrounding the site has a maximum permissible FSR of 0.5:1.

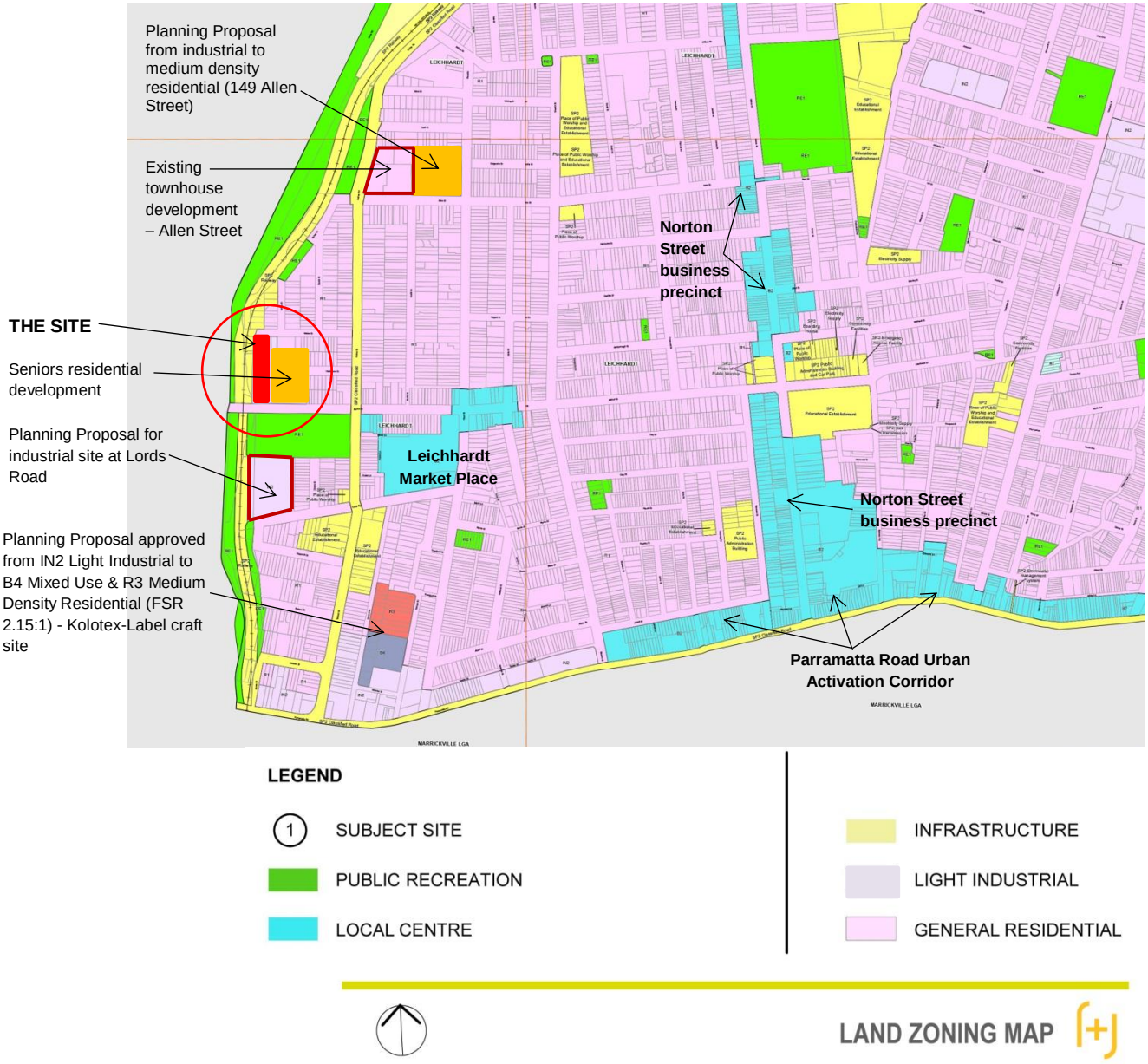

Figure 19

(source: *Leichhardt LEP 2013*)

Neighbouring sites recently zoned and proposed to be zoned for higher density residential and/ or mixed-use developments include the:

- Adjacent site to the east for seniors housing development;
- Kolotex/ Label craft site – zoned from IN2 to part R3 and B4; and
- 149-151 Allen Street – zoned from IN2 to residential.

Additionally, the Parramatta Road corridor is identified by the State government for higher density land use.

4.2 Urban Density Precedents

The Sydney Metropolitan Plan has a target of 770,000 new dwellings by 2036, which translates to approximately 30,000 new houses or apartments per year. Many of these will be sited in infill areas within the metropolitan area. Research by Urban Taskforce indicates that 10,000 new apartment buildings (with 50 apartments/ building) can be accommodated within a minimum area of 15 square kilometres of the Sydney CBD (based on an average height of 6 storeys), with this model contributing to a compact and vibrant city.

Apartments within urban areas, close to amenities, transport, retail and employment are becoming the residence of choice among younger, as well as older people (retirees and seniors). Preferred locations for these dwellings are on transport nodes, public transport corridors of heavy, light rail and buses, and in urban centres (Urban Taskforce).

These are optimum areas for urban renewal and intensification for both residential and commercial development, as these areas provide opportunities for jobs, compact living and services within walking distance of each other and to high quality transport. Additionally, higher intensity development along public transport corridors supports investment in transport infrastructure, increases public transport patronage and their viability of operation.

Making more housing affordable will improve home ownership for the 25-35 year age group of first home buyers. The affordability problem can be addressed partially by making more sites available for the construction of medium and high density housing. To make more sites available, matters that restrict site availability must be addressed, to include encouragement of infill development, particularly on sites that are losing their economic viability. Additionally, land in suitable locations should be assigned the appropriate zone, density and building heights that will facilitate efficient development.

The development of compact, mixed-use neighbourhoods in the vicinity of transport corridors and urban centres would bring together residential, employment, service and recreational areas within walking distance of public transport infrastructure. Living close to public transport has the additional benefit of reducing car dependence which results in boosting household disposable income.

Precincts in centres and along public transport corridors, close to the subject site, are increasingly approved for higher density mixed use and/ or residential developments as illustrated in Figure 20.

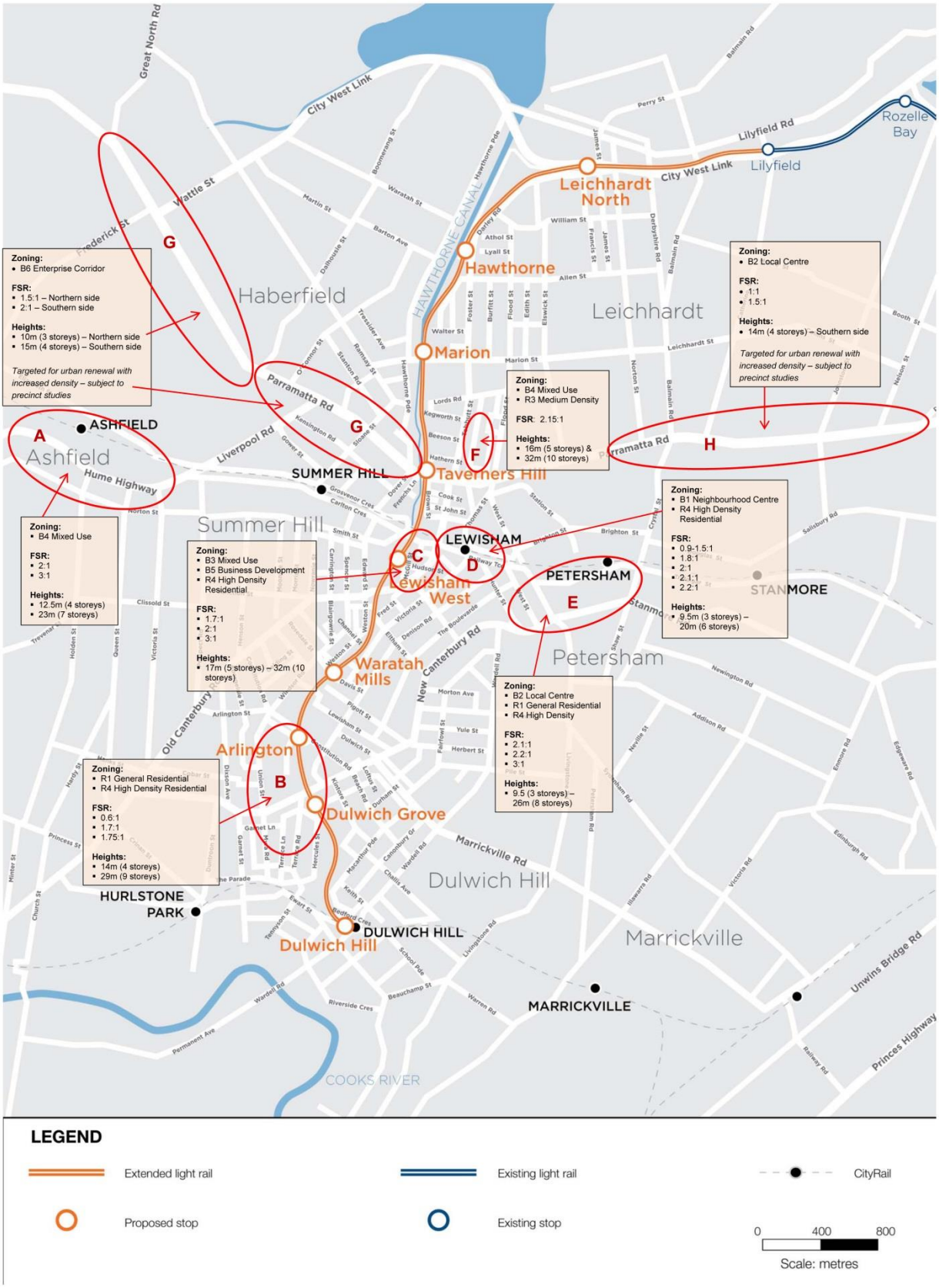

Figure 20: Urban density precedents

A schedule of surrounding areas and sites of urban intensification are as follows:

Location		Zoning	Density (FSR)	Building heights
A	Ashfield Town Centre (near Ashfield railway station)	▪ B4 Mixed Use	▪ 2 : 1 ▪ 3 : 1	▪ 12.5m (4 storeys) ▪ 23m (7 storeys)
B	Urban centre near Arlington and Dulwich Grove light rail stations	▪ R1 General Residential ▪ R4 High Density Residential	▪ 0.6 : 1 ▪ 1.7 : 1 ▪ 1.75 : 1	▪ 14m (4 storeys) ▪ 29m (9 storeys)
C	Former Allied Mills site and McGill Street precinct	▪ B3 Mixed Use ▪ B5 Business Development ▪ R4 High Density Residential	▪ 1.7 : 1 ▪ 2 : 1 ▪ 3 : 1	▪ 17m (5 storeys) ▪ 32m (10 storeys)
D	Lewisham Town Centre (near Lewisham railway station)	▪ B1 Neighbourhood Centre ▪ R4 High Density Residential	▪ 0.9-1.5 : 1 ▪ 1.8 : 1 ▪ 2 : 1 ▪ 2.1 : 1 ▪ 2.2 : 1	▪ 9.5m (3 storeys) – 20m (6 storeys)
E	Petersham Town Centre (near Petersham railway station)	▪ B2 Local Centre ▪ R1 General Residential ▪ R4 High Density Residential	▪ 2.1 : 1 ▪ 2.2 : 1 ▪ 3.1 : 1	▪ 9.5m (3 storeys) – 26m (8 storeys)
F	Kolotex and Label craft sites	▪ B4 Mixed Use ▪ R3 Medium Density Residential	▪ 2.15 : 1	▪ 16m (5 storeys) – 32m (10 storeys)
G	Parramatta Road urban activation corridor (west of light rail line) – Ashfield LGA	▪ B6 Enterprise Corridor	▪ 1.5 : 1 (northern side of road) ▪ 2 : 1 (southern side of road) *Targeted for urban renewal with increased density – subject to precinct studies*	▪ 10m (3 storeys) – northern ▪ 15m (4 storeys) – southern
H	Parramatta Road urban activation corridor (east of light rail line) – Marrickville and Leichhardt LGA	▪ B2 Local Centre	▪ 1 : 1 (northern side of road) ▪ 1.5 : 1 (southern side of road) *Targeted for urban renewal with increased density – subject to precinct studies*	▪ 14m (4 storeys) on southern side
	Rhodes West (near Rhodes railway station)	▪ R4 High Density Residential	▪ 1.9 – 2.5 : 1 (nearer Bay) ▪ 2.8 – 3.3 : 1 (near railway corridor)	▪ 25-31m (near Bay) ▪ 28, 35 and 82m along railway corridor
	St Leonards – south of Pacific Highway (Lane Cove LGA)	▪ B3 Commercial Centre	▪ 2.5 : 1 ▪ 3 : 1 ▪ 5 : 1 ▪ 10 : 1	▪ 25m (8 storeys) ▪ 36m (12 storeys) ▪ 65m (21- 22 storeys)

Location		Zoning	Density (FSR)	Building heights
	St Leonards – north of Pacific Highway (Willoughby LGA)	▪ B3 Commercial Centre ▪ R4 High Density Residential	▪ 3 : 1 ▪ 3.3 : 1 ▪ 5.5 : 1	
	Erko development (near Erskineville railway station)	▪ R4 High Density Residential	▪ 250 people/ hectare	▪ 6-8 storeys
	Bay Precinct, Blackwattle Bay, Wentworth Park, Rozelle Bay, White Bay	▪ Residential and commercial land uses	▪ Targeted for higher density	

4.2 Heritage

The site is not within a heritage conservation area under *Leichhardt LEP 2013* (Figure 21). Lambert Park, located directly to the south of the site, is an item of Local Heritage Significance, for historically being the home ground of the APIA Soccer Club.

Figure 21 (source: *Leichhardt LEP 2013*)

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5.0 URBAN DESIGN ANALYSIS

5.1 Planning Rationale

The site has an isolated light industrial land use within an existing low density residential precinct in the Inner West. The Inner West is experiencing high residential demand due to its proximity to the Sydney CBD and its employment, educational and recreational opportunities. With the redevelopment of the former transport rail corridor for light rail passenger services to link the inner west to the Sydney CBD. The site, with its diminishing viability as a vehicular service centre, the size of the allotment and its siting as a transit oriented development, has the potential for urban renewal.

The adjoining site to its east (formerly with light industrial uses) has been redeveloped into seniors housing development.

This development presents an opportunity to promote transit oriented development. The site meets the criteria as a transit oriented development, being:

- Adjacent to the proposed light rail extension that links the Inner West suburbs of Leichhardt, Rozelle Bay, Glebe, Sydney Fish Market, The Star, Pyrmont and Darling Harbour;
- Along 5 Inner West bus routes to local centres and the Sydney CBD; and
- In close proximity to retail and community facilities at Leichhardt Town Centre.

The site, being close to transport networks, employment opportunities and existing social infrastructure, presents the opportunity for utilising the land for urban consolidation to provide for more compact higher density development. It will enable the revitalisation and regeneration of this underutilised site, with an isolated light industrial use in a predominantly residential precinct.

This proposed development will provide social sustainability to widen the choice of housing typologies with the beneficial potential to assist in affordability and improved entry into the much in demand housing market of the Inner West, as well as provide housing opportunities for an empty nester/ retirement age group who have lived and wish to remain in this neighbourhood, to be in close proximity to transport routes and services.

The viability and success of well-designed higher density developments around transport nodes are often limited by the fragmented nature of land tenure and the size of available allotments. This site of 5,500m^2 provides a viable opportunity for a higher density, whilst allowing its traditional neighbourhood to be preserved.

Locating multi-family housing or compact mixed-use development around mass transit access points allows residents, workers, and shoppers to travel to and from many destinations without a car. The proximity and access of this proposed residential development to public transport will reduce car dependency, particularly for the daily work to home commute.

Creating a development project around a planned or existing transit line is one of the best ways to increase ridership. It will provide a sustainable initiative to change travel habits from private vehicle use to public transport. For transit agencies, concentrated clusters of housing near stops and stations can mean a critical mass of riders and revenue that will contribute to the viability and encourage the use of this proposed transport mode.

The development is environmentally sustainable, additionally close to retail, services and recreational facilities. The development can offer reductions in greenhouse gas emissions by having less car based trips and reduce traffic congestion.

5.2 Site Attributes and Site Opportunities

The site is well located with attributes suitable for higher density residential, supporting commercial, retail and community uses, as the site is:

- Adjacent to good public transport:
  - Of a light rail station and corridor that connects to neighbourhood precincts and the Sydney CBD; and
  - along the route of bus services to surrounding precincts;
- Good vehicular connectivity to key arterial road networks of City West Link and Parramatta Road.
- Good pedestrian connectivity:
  - via the open space corridor of Hawthorne Canal to the Sydney foreshore areas;
  - via Marion Street to surrounding retail, commercial and entertainment facilities.
- Proximity to key retail, commercial and entertainment facilities.
- A consolidated site of 5,500m^2.
- The site is bounded by 2 street frontages - Marion Street and Walter Street, with potential access from the development to these streets.
- Proximity to a large playing field (Lambert Park) and open space corridor adjacent to Hawthorne Canal.
- The site is buffered from the existing low density residential neighbourhood and their residential amenity by:
  - a seniors residential development to the east;
  - Marion Street and Lambert Park to the south;
  - Light rail corridor Hawthorne Canal and open space corridor to the west;
  - Open space corridor to the north.
- Offers 360^o views from upper levels of the development.
- Provide greater affordable housing choices and housing typologies.

5.3 Site Constraints

The site has the following constraints to redevelopment for higher density, with:

- Juxtaposition of urban forms of greater mass and height within low density residential forms;
- Impact on residential amenity of existing neighbourhood;
- Potential overshadowing of surrounding developments and recreational open spaces (such as Lambert Park);
- Impact of increased traffic on surrounding streets;
- Flood prone land and drainage constraints to development.

5.4 Urban Design Principles and Urban Design Objectives/ Criteria for the Site

To achieve a quality urban design outcome for the site, with consideration of the context of the site and its surrounding characteristics, site conditions, its constraints and opportunities, development on the site is to be guided by sound urban design principles. These principles inform the urban design guidelines for the site. Development shall be planned and designed in accordance with these urban design principles and urban design guidelines as follows:

Urban design principles	Urban design guidelines
A. Design for Variety/ Mixed Uses and Forms	
▪ Provide a variety of compatible uses to create a sustainable and desirable development. ▪ Facilitate uses that encourage active streetscapes and passive surveillance of the public domain.	▪ Facilitate land uses that complement the public transport node. ▪ Add to the mix of housing types and choices in the locality. ▪ Provide for land uses that meet the changing needs of the neighbourhood.
B. Create Places for People	
▪ Create quality of public realm in terms of pedestrian amenity, safety, and attractiveness. ▪ Ensure buildings surrounding the public realm engage with these spaces by opening up and connecting to them. ▪ Create an environment where everyone can access and benefit from the full range of opportunities that the site has to offer.	▪ Provide urban design measures that respect and contribute to the existing streetscape, future neighbourhood character and local heritage, and addresses the site's environmental constraints. ▪ Provide public domain benefits and improvements to the precinct, particularly around the Marion Street light rail station. ▪ Provide an attractive and engaging public domain with high pedestrian amenity of quality spaces, landscape features, universal access and sheltered pathways, and safety in design.
C. Enrich the Existing	
▪ Encourage active engagement from neighbourhood areas into the site. ▪ Design the development to respect and integrate with the surrounding urban forms. ▪ Design to respect the residential amenity of surrounding properties. ▪ Provide legible connections through the development to create an active public domain. ▪ Contribute to existing residential neighbour-hoods with complementing housing typologies.	▪ Create a landmark/ gateway development, architecturally attractive to highlight this transport node. ▪ Design a development that sensitively integrates with its contextual environment and minimise residential impacts on surrounding developments and neighbourhood. ▪ Encourage active engagement from neighbourhood areas into the site through the provision of community and convenient retail facilities to complement its location next to a light rail stop. ▪ Provide a high quality sustainable building.
D. Encourage Permeability	
▪ Improve and reinforce connections to the site, both physically and visually, with surrounding neighbourhood areas. ▪ Provide greater legibility of the site through design to provide visual connections into and from the site.	▪ Improve connections between the light rail station, surrounding residential neighbourhoods and public recreational open spaces. ▪ Create a legible, permeable and universally accessible public domain at street level that connects to the surrounding neighbourhood

Urban design principles	Urban design guidelines
▪ Reinforce and improve pedestrian connections through the site from neighbouring areas. ▪ Provide universal access within the public domain. ▪ Create safe connections through the site with Crime Prevention through Environmental Design Measures.	and the light rail station.
E. Create Legibility	
▪ Incorporate the legibility and identity of the focal light rail station with a development that complements its location. ▪ Connect the development to the surrounding public domain.	▪ Create a legible, permeable and universally accessible public domain at street level that connects to the surrounding neighbourhood and the light rail station.
F. Design for Robustness	
▪ Ensure new building layouts, design and forms have robustness of use, with: – Quality and energy efficient design; – Design that complies with *SEPP 65 Design Quality of Residential Flat Development*; – High building standards; – Contribution to and improvement of the streetscape quality with setbacks that provide for landscape, street trees and pedestrian amenity; – Design for optimum residential amenity; & – Design for residential liveability and affordability.	▪ Provide a high quality, sustainable and liveable development with: – Quality and energy efficient design; – High building standards; – Attention to noise attenuation; – Minimise visual and residential amenity impacts.
G. Design for Economic Feasibility	
▪ Ensure that the development is economically viable by establishing uses for the site that have economic demands. ▪ Provide for economically viable development density appropriate to site location and land values.	▪ Create a responsive, affordable design that is economically feasible and viable.
H. Design for Environmental Sustainability	
▪ Ensure that the development is environmentally sustainable with: – Land use and density that is appropriate to its transit oriented location; – Creation of an improved quality of life or its occupants and users; – An ESD approach to the planning, siting, design and management of the site and development.	▪ Provide an environmentally responsible design in the siting, design, construction and management of the development.

6.0 DEVELOPMENT PRINCIPLES AND CONCEPT DESIGN INTENT

6.1 Planning Proposal

The Planning Proposal seeks to rezone and redevelopment this subject site of approximately 5,500m^2, currently zoned IN2 Light Industrial with maximum permissible FSR of 1:1 under Leichhardt LEP 2013, to:

- R1 General Residential, that permits residential and neighbourhood land uses;
- Maximum permissible FSR of 3.3:1;
- Maximum permissible building heights from:
  - 10m (3 storeys) on street frontages (Marion and Walter Streets);
  - Up to 50m (15 storeys) at the central portion of the development.

6.2 Objectives of the Planning Proposal

The objectives of the Planning Proposal for the rezoning of the subject land to higher density residential and mixed uses are to:

- Facilitate urban renewal with a new transit oriented development adjacent to light rail infrastructure consistent with government strategic planning objectives and policies;
- Improve the amenity of the subject land and locality by transforming an underutilised industrial zone to a residential zone with new modern building forms and uses;
- Contribute a supply of housing to meet market demand for additional housing choices and more affordable housing;
- Provide the opportunity for new child care centre and community uses, neighbourhood shops and cafes as needed in the locality;
- Establish a density and scale of development that is appropriate for the urban context, proximity to transport infrastructure and environment capability of the subject land, and is compatible with surrounding land uses; and
- Facilitate design excellence and consistency with the principles of ecologically sustainable development.

6.3 Urban Design Intent

Development on the site will be a sustainable transit-oriented, mixed-use development (Figure 22), with:

- Neighbourhood facilities, of community, retail and dining, at ground level, close to the Marion Street and the light rail station.
- Multi-unit residences above ground level with building heights:
  - 3 storeys along Marion Street and Walter Street frontages;
  - An overall building height from 6 to 8 storey's across the length of the building;
  - 3 higher towers, at 9-10 flanking a central 15 storey tower rising above the overall building form.
- Pedestrian walkway (public), with high pedestrian amenity, at ground level, providing 24 hour access between Walter Street and Marion Street.

The walkway will be lit and designed in accordance with Crime Prevention through Environmental Design (CPTED) principles.

6.4 Access and Movement

Vehicular access

Vehicular access for the occupants and users of the development will be primarily from Marion Street. A turning circle will be incorporated into the design of the driveway to enable ingress into and egress from the site in a forward manner (Figure 22).

To contribute to the amenity of the light rail stop, a kiss-and-ride/ pick up-drop off area, linked to a turning area, will be provided for public use.

Universal pedestrian access

A quality public domain with high pedestrian amenity will be created, with delineation of vehicular and pedestrian routes through selection of paving materials, use of bollards for pedestrian safety and shelter. All public paths will be designed to be universally accessible, suitable for all users in compliant with AS 1428: *Design for access and mobility* (Figure 22).

A colonnade will be provided at ground level, as a covered walkway to front an active edge of the retail, dining and service facilities. This walkway will be part of the pedestrian network (for public use) through the site from Marion Street to Walter Street.

6.5 Traffic Generation

The proposed development accommodated a projected 200 residences is anticipated to generate approximately 38 car trips in the AM peak hour and 30 car trips in the PM peak hour.

The site has two road frontages, with vehicular access to parking from both streets. As Marion Street is a classified secondary road and Walter Street as a local street, it is anticipated that the street network has the capacity to accommodate the proposed increase in land use.

As the development is transit oriented, located adjacent to a public transport station, the amount of car parking on site may be reduced to support the use of public transport for the daily commute. Additionally, the site is located within a 5 and 6 minute walk to two GoGet car share vehicles at Flood Street (corner of Marion and Flood Streets) and Regent Street (corner of Regent and Edith Streets).

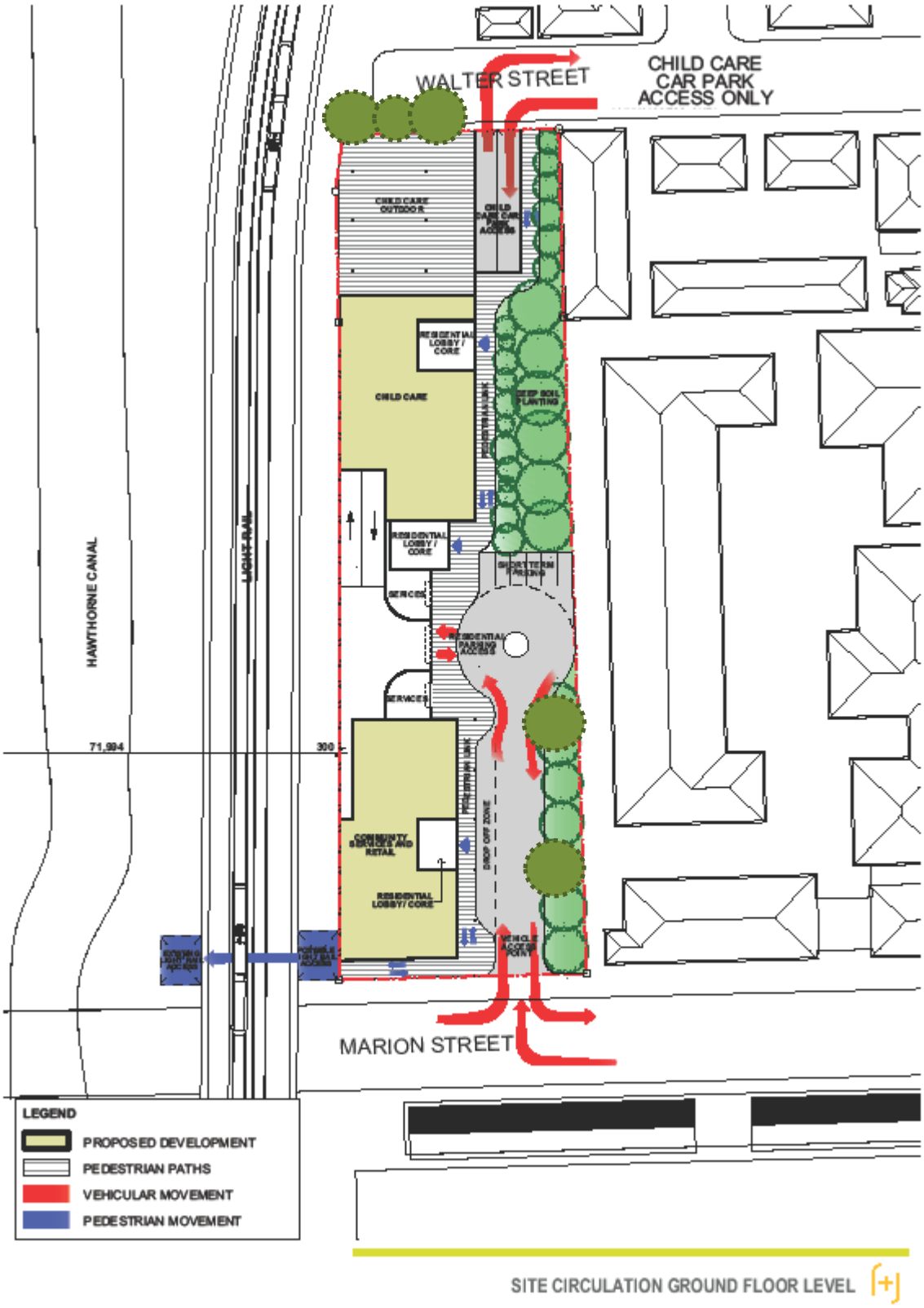

WALTER STREET
CHILD CARE
CAR PARK
ACCESS ONLY
HAWTHORNE CANAL
LIGHT RAIL
CHILD CARE
RESIDENTIAL LOBBY / CORE
DEEP SOIL PLANTING
SHORT TERM PARKING
SERVICES
RESIDENTIAL CARPARK ACCESS
COMMUNITY SERVICES AND RETAIL
DROP OFF ZONE
VEHICLE ACCESS POINT
71,994
300
MARION STREET
LEGEND
PROPOSED DEVELOPMENT
PEDESTRIAN PATHS
VEHICULAR MOVEMENT
PEDESTRIAN MOVEMENT
SITE CIRCULATION GROUND FLOOR LEVEL

Figure 22

6.6 Landscape and Open Space

Landscaped private or public open spaces will be provided within building setbacks, along walkways and driveways at ground level and on podium level terraces to provide residential amenity of visual and acoustic privacy for the development and its neighbouring residences.

The open space corridor, east of the light rail line, will be planted with screen trees to provide visual privacy to the western side of the development.

Provision of street trees at Marion and Walter Streets will enhance the public domain and streetscapes of these streets.

Green roofs and landscaping to terraces and balconies will be explored in the development.

6.7 Social Sustainability

A development on the site, well located close to the Sydney CBD and Leichhardt Town Centre, sited adjacent to a public transport route of light rail and bus, will be a transit oriented development that will encourage the use of public transport, cycling and walking, aimed to minimise private vehicle use.

For a development on the site, close to public transport, off-street car parking can be reduced to promote environmental sustainability, to support light rail patronage and to encourage community car hire initiatives.

The development will contribute to social sustainability, with the opportunity to provide community and child care facilities, and convenient retail outlets within the development. The walkways through the site will be for public use to provide safe and convenient access to the light rail stop, with the implementation of Crime Prevention through Environmental Design measures in the design of the development.

The residential development will enable additional passive surveillance of the light rail stop and open space corridor.

6.8 Environmental Sustainability

A development proposal on the site will provide the opportunity to implement the following ESD strategies of:

- Passive and active systems design measures, integrated into the overall design of the development.
- Energy efficiency and conservation;
- Water conservation and management – by providing water efficient mechanisms (e.g. fixtures and fittings) to each unit and tenancy.
- Waste water and stormwater management with the use of water sensitive urban design strategies for water harvesting and reuse;
- Solid and waste management; and
- Flood mitigation.

6.9 Streetscape and Proposed Building Setbacks (Figure 23)

A Concept Design for the site proposes a development with the following urban design guidelines for building massing and form:

Marion Street:

At the Marion Street frontage, the development will be setback from 1-1.5m to the street for at least the first 3 storeys. This is generally consistent with setback of the adjacent seniors' development to the east which has minimal setback to the street. An avenue of street trees will be planted along the street, with benefits to:

- Soften the impact of the 4m high brick wall to the Lambert Park grandstand with direct frontage to Marion Street;

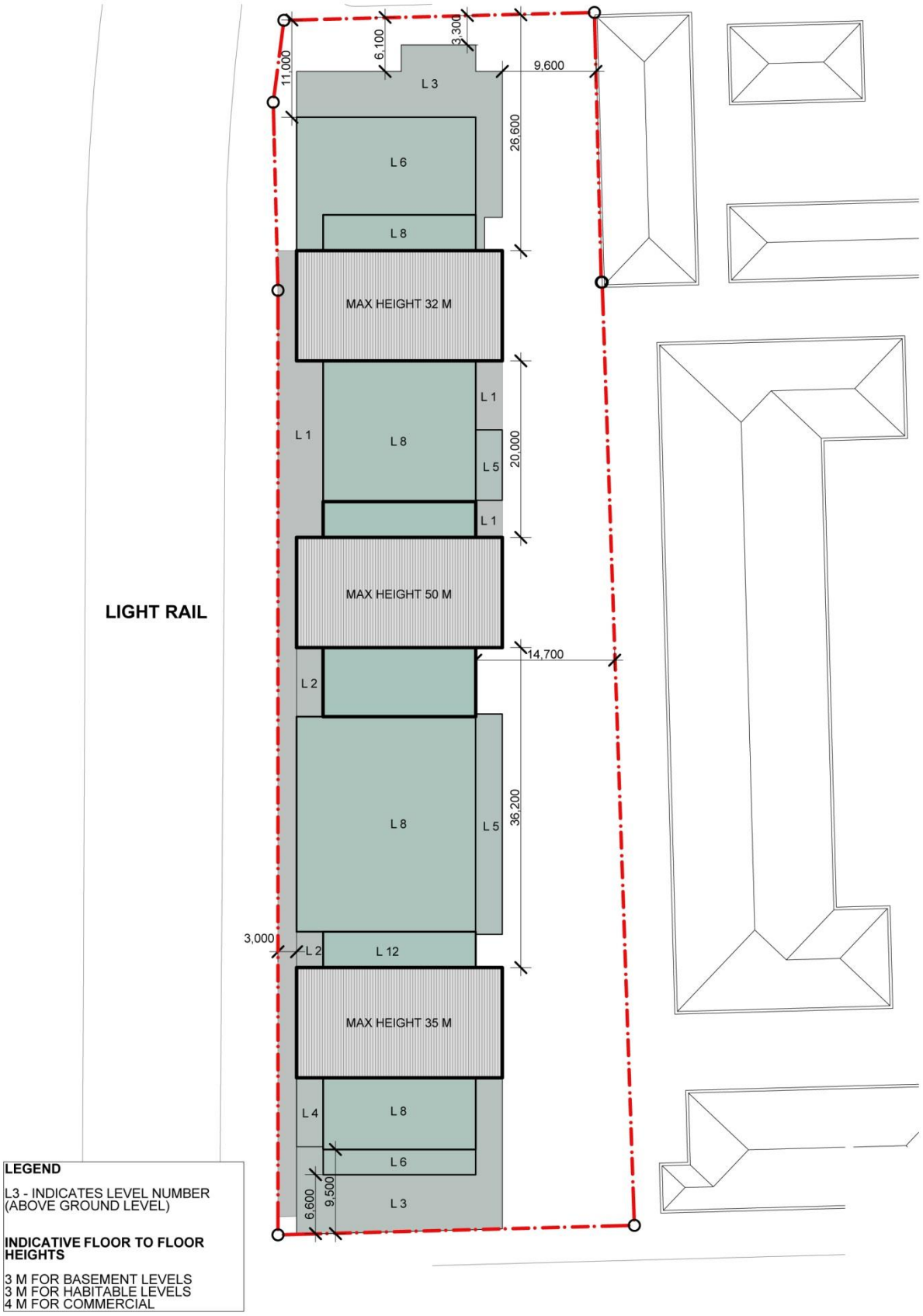
- Ameliorate the impact of the height of and provide landscape amenity to the proposed development; and
- Provide signature landscape treatment along this section of Marion Street to strengthen its identity as the western "gateway" route to Leichhardt.

At Ground Floor level, the development will be setback approximately 3m from the street boundary to create a sheltered colonnade wraps around the southern and eastern sides of the building. The setback will improve pedestrian amenity to the proposed retail frontages and the public domain.

Walter Street:
From its northern boundary to Walter Street, the development will be setback from 3-6m to maintain the traditional setback of the surrounding residential dwellings from the local streets and to provide a landscaped frontage (front yard) to the local street to match the streetscape frontages of existing local streets.

Eastern boundary:
The development will be setback a minimum of 9.6m from its eastern boundary (to the aged care development). The setback will enable deep soil planting of trees to be provided along this boundary to achieve optimum residential amenity (such as privacy and landscaped views) for this residential development to the east.

Western boundary to the rail corridor:
The development will be sited along its western boundary at Ground Floor level, with a minimum 3m setback proposed to upper residential levels. To articulate the building form, increased setbacks at upper levels will be provided. The lack of setback at the western boundary at ground level has minimal urban design impact to surrounding developments as the development has a distance of approx. 5m from the light rail corridor and approx. 110m from the residential precinct west of the infrastructure corridor. The corridor of land between the development and the light rail line will benefit from landscape measures such as tall trees to improve the residential amenity of the proposed development.



SITE SETBACKS AND SEPARATION

Figure 23

6.10 **Proposed Built Form** (Figures 24 and 25)

The Concept Design for the site is for a gateway development, sited at the Marion Street light rail station, identifying the light rail stop as well as the Marion Street entrance to Leichhardt from the City West Link (to the west).

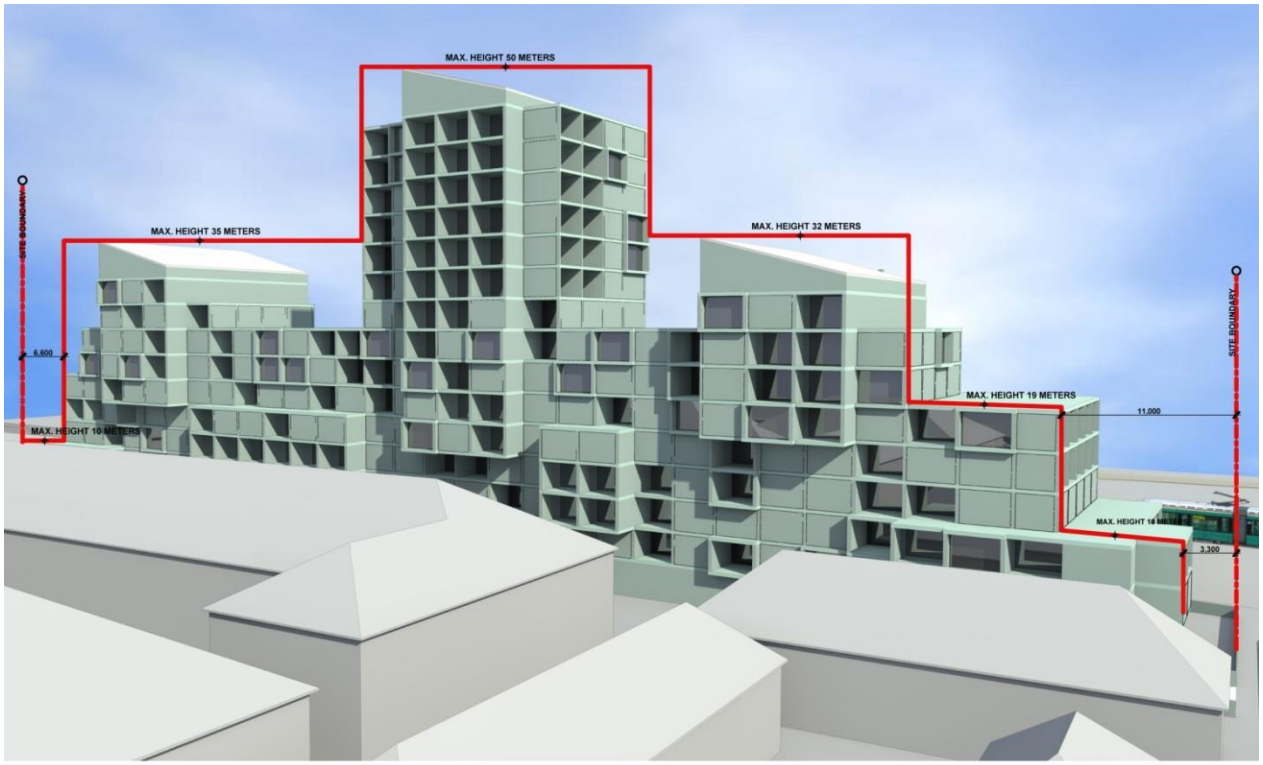
The development, sited within its low scale residential neighbourhood context, will be designed to be modulated in height, with articulated building forms and mass. The design assembly of solids (building walls) and voids (residential balconies) will create additional articulation and variety in the building facades. Development on the site is to be sited and designed in accordance with SEPP 65: *Design Quality of Residential Flat Development*.

The urban design intent for a future development is for:

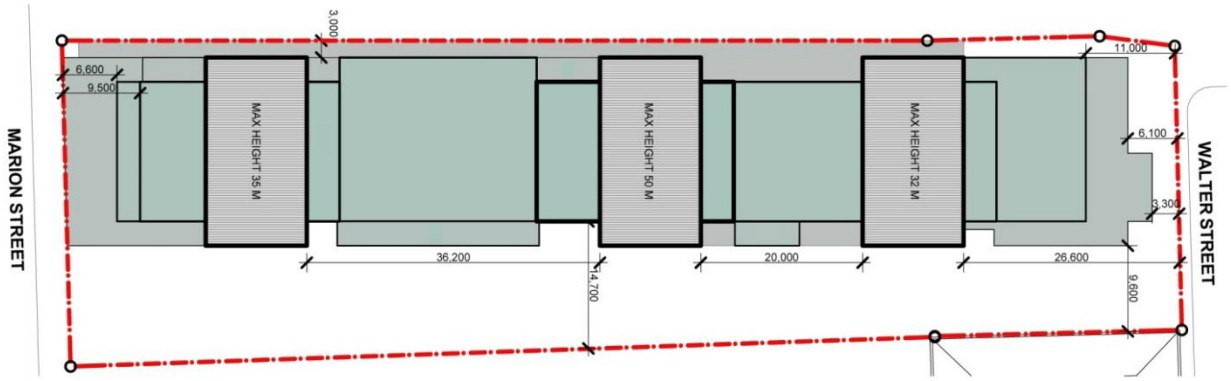
- Low building heights (of up to 3 storeys) along Marion Street and Walter Street;
- Rising up to 6 and 8 storeys along the central portion of the site; with
- Up to 3 residential towers with a central 15 storey residential tower flanked by lower (9 or 10) storey towers on each side.

The urban design intent for 3 storey facades at Marion and Walter Streets is to provide an appropriate scale and interface between the development and surrounding residential areas. These design heights are compatible with the:

- Adjacent medium scale (2-3 storeys) development to the east;
- Neighbouring low scale residential streetscape of 1 and 2 storey dwellings with traditional pitched roofs;
- 5m (1.5 storeys) high light rail corridor, raised above Marion Street; and
- Its siting along a public transport corridor, adjacent to a wide open space corridor to the west, and at the edge/ fringe of a low density residential neighbourhood.



PROPOSED ENVELOPE

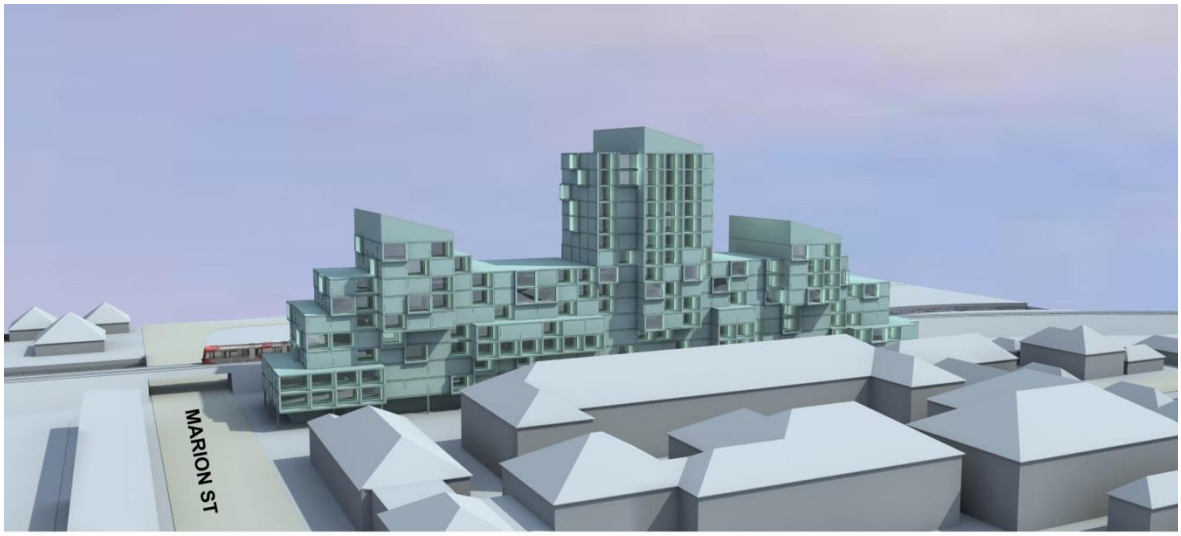


SET BACK AND SEPARATION PLAN

PROPOSED BUILDING ENVELOPE

Figure 24

Aerial view west from Walter Street



Aerial view west from Marion Street

Aerial view east from Marion Street

6.11 Concept Design Streetscape Analysis

Figure 26: Aerial of streetscape views

View 1 (Figure 27):

From this view towards the west along Marion Street, the proposed Concept Design is partially screened by existing street trees and by the multi-unit seniors' residential development to its east. Landscape design measures of the planting of street trees along the footpath at Marion Street will ameliorate the visual impact of the development and improve the urban design and pedestrian amenity of the street.

Figure 27: **View 1** – View from Marion Street west towards the Concept Design

View 2 (Figure 28):

From this view towards the east along Marion Street, the Concept Design is seen against the 5m high (1.5 storeys) light rail bridge that spans across Marion Street and across the western facade of the development. The urban forms can be ameliorated by a landscape corridor of screen trees and dense vegetation planted along the eastern corridor of the light rail line.

Figure 28: **View 2** – View from Marion Street east towards the Concept Design with the light rail station in the foreground

View 3 (Figure 29):

The Concept Design proposes a graduating built form, from 3 storeys along Walter Street, stepping back to 6 storey's and 8 storey's in height. Adjacent buildings to its east, along the southern side of Walter Street, are 1 and 2 storey's in height.

The streetscape character of the dwellings at the Walter Street cul-de-sac are low scale, predominantly single storey in height. A new urban form that respects the residential amenity of this local street can contribute positively to the desired urban character of this cul-de-sac precinct, with enhancement of the existing open space corridor along the eastern side of the light rail line with a landscape of screen trees.

Figure 29: **View 3** – View from Walter Street west towards the Concept Design

6.12 Visual Assessment of the Concept Design

VISUAL IMPACT ANALYSIS

Figure 30

Views 1 and 2: View of the Concept Design, heading west on Marion Street (Figures 31 and 32)

The Concept Design provides a new urban form within the context of the traditional single and 2 storey urban character of Leichhardt. Mature trees within Lambert Park along the southern side of Marion Street provide a scale that complements the urban form of the proposed development to the north. An avenue of tall trees with broad canopies along both sides of Marion Street will ameliorate the visual impact of the new urban form, as well as provide an attractive "gateway" landscape treatment to this wide street.

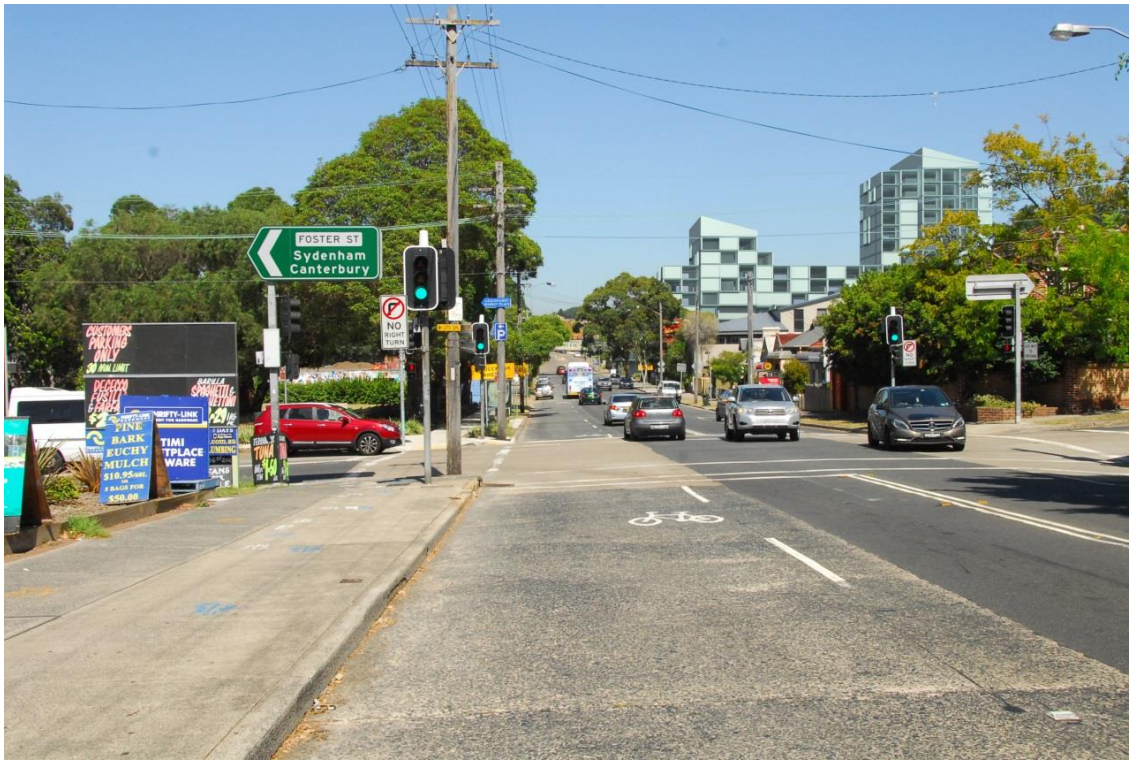


Figure 31: **View 1** – View from Marion Street west towards the Concept Design

View 2:

Figure 32: **View 2** – View from Marion Street west towards the Concept Design from the junction of Marion & Foster Streets

View 3: View of the Concept Design westwards from Walter Street (Figure 33)

Whilst the Concept Design proposes a new urban form sited within a traditional neighbourhood precinct of single and 2 storey residences, the urban form will be stepped in height from the street, reducing the impact of its scale to surrounding streets.

Figure 33: **View 3** – View west towards the Concept Design from Walter Street

View 4 (Figure 34):

View south of the development from Loftus Street, the majority of the Concept Design will be screened by existing street trees. Only the higher portion of the residential tower will be visible from this vantage point.

Figure 34: **View 4** – View south to the Concept Design from Loftus Street

View 5: View of the Concept Design southwards from the open space corridor along Hawthorne Canal (Figure 35)

Only the upper portions of the Concept Design are visible from this vantage point. Its high urban form in the distance does not detract from the attractive landscape setting of mature trees within this reserve.

Figure 35: **View 5** – View south to the Concept Design from Richard Murden Reserve

View 6: View of the Concept Design, eastwards from Marion Street (Figure 36)

The high urban forms juxtaposed against the vertical element of bridge and associated structures are not incongruous within this setting in this inner city precinct. The introduction of tall screen trees along the eastern side of the light rail corridor will assist in ameliorating the impact of the Concept Design.

Figure 36: **View 6** – View east towards the Concept Design from Marion Street

6.12.1 Elevation and Topography Analysis

Refer Figure 37

- The diagram illustrates the topography of the locale with relative spot levels shown at Stanton Street and Norton Street and Parramatta Road to the South East.

- It can be seen that the subject site is located in a shallow valley rising to the East and to the West.

- The subject site has a ground level of approximately 4.0 m relative to Norton Street at approximately 47m, Parramatta road at approximately 49m and Ormond Street at approximately 39m.

Refer Figure 38

- For clarity, the diagram has an exaggerated vertical scale. What is revealed however is that, the highest tower of the building envelope illustrated in this study will be approximately 3m higher than Norton Street ground level and 1m higher than Parramatta Road at Rose Street.

NORTON STREET AND STANTON STREET LEVELS TAKEN FROM TOPOGRAPHICAL MAP BELOW FIGURE 37.

Figure 37: View 7 Topograhic Map;
Elevation Heights Above Ground Level Sourced From;
<h p ://en-au.topographic-map.com/places/Leichhardt-279167/>

SITE SECTION AA

Figure 38: Elevation Heights Above Ground Level in the Surrounds (Not to Scale)

6.13 Overshadowing Assessment of the Concept Design

A. Mid-winter (22 June)

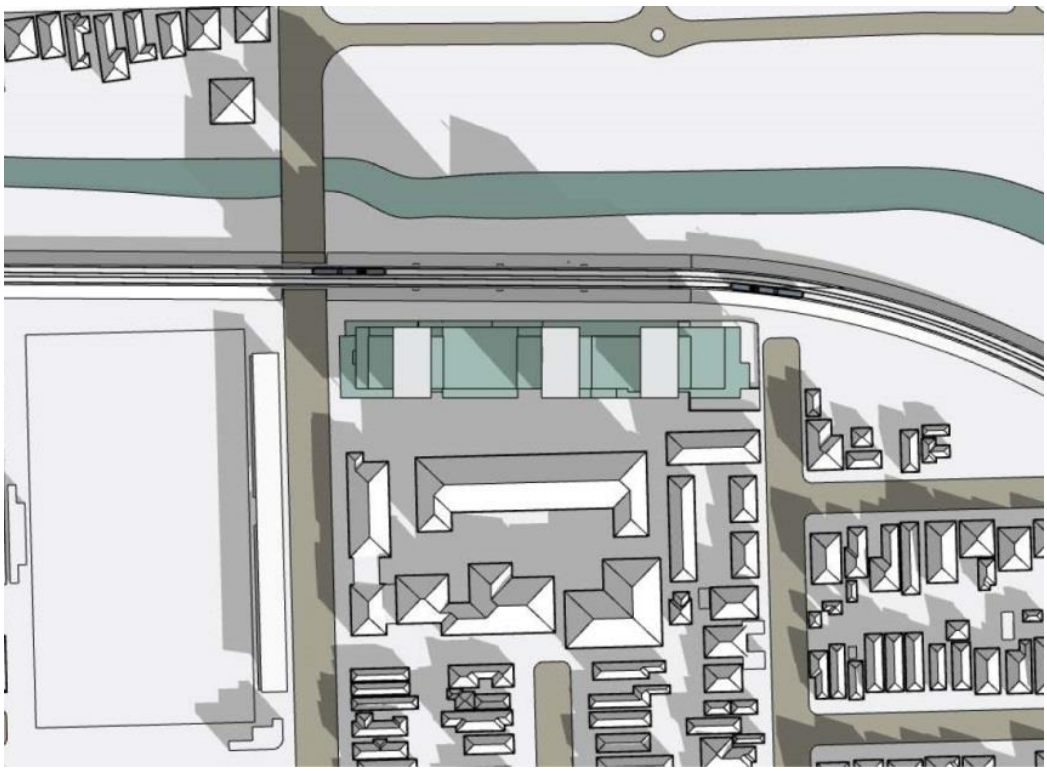


Figure 39

At **9am mid-winter** (Figure 39) – the Concept Design overshadows the railway corridor and canal to the west and south-west of the site, Marion Street to the south-west of the site from the rail line to the intersection at Hawthorne Parade, and some dwellings to the south-west.

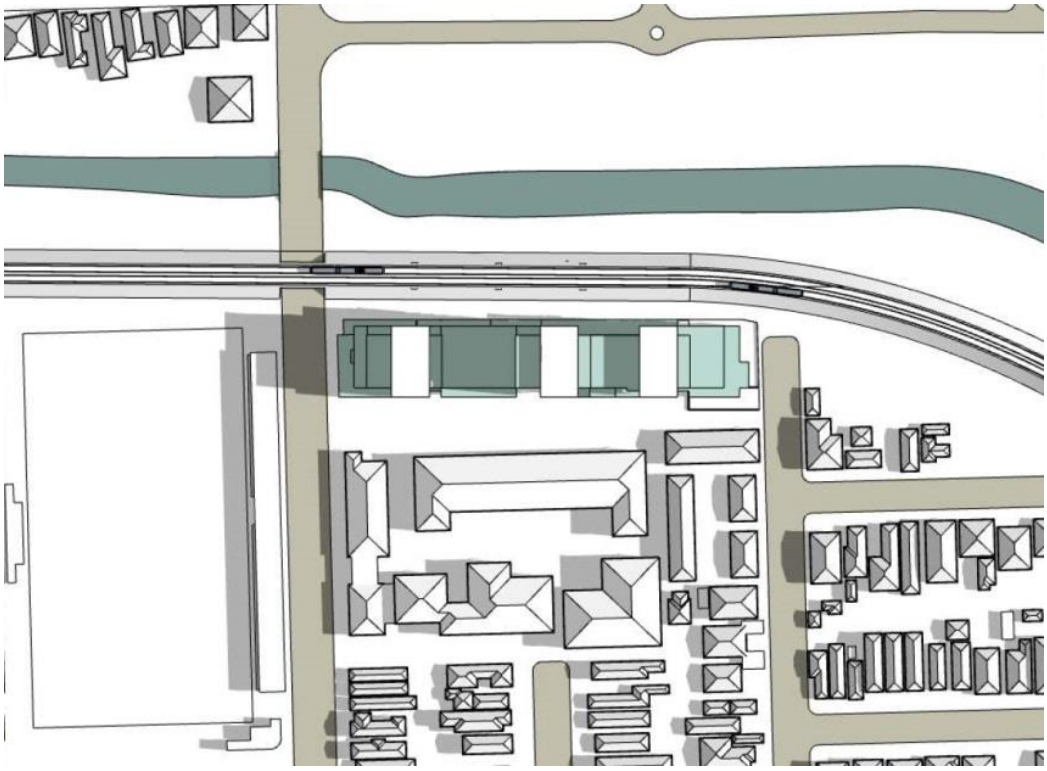


Figure 40

At **12pm mid-winter** (Figure 40) – there is very little shadow present across open space areas of Lambert Park and open space reserve adjoining the light rail corridor, and across dwellings beyond. Only a small section of Marion Street directly east of the rail line is overshadowed by the Concept Design.

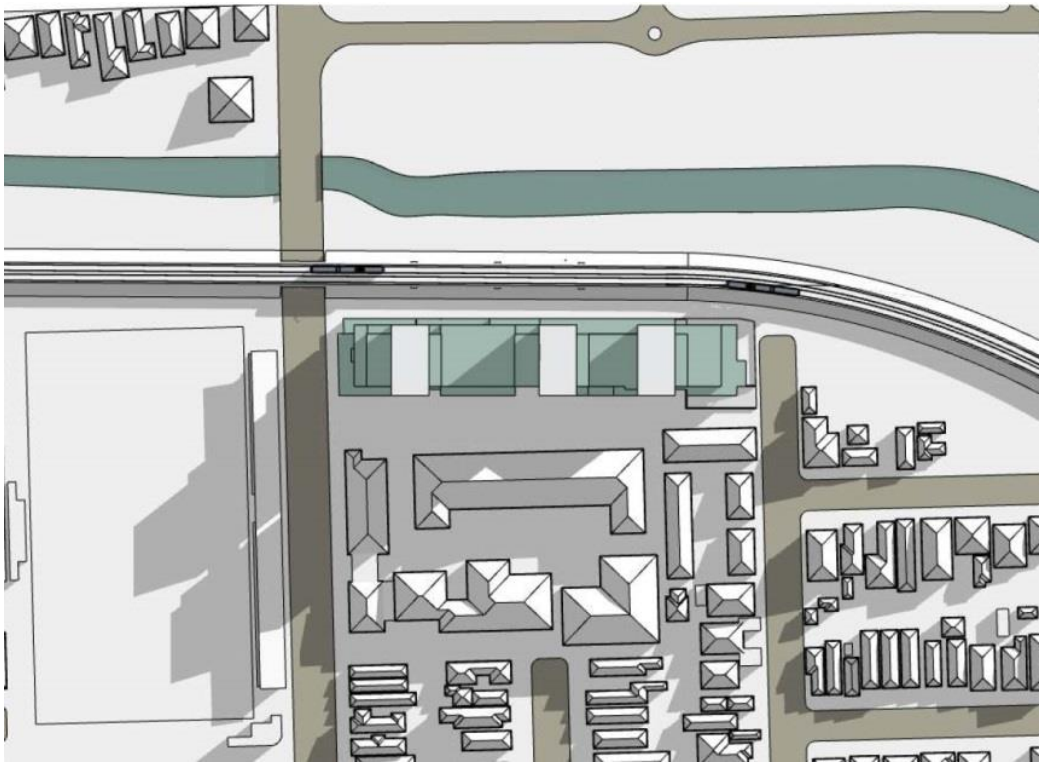


Figure 41

At **3pm mid-winter** (Figure 41) – the Concept Design overshadows much of the aged care facility directly east of the site, most of Marion Street to the south-east and the northern portion of Lambert Park.

Summary:

Evaluating the urban design intent of a Concept Design on the site:

- In **mid-winter**, the Concept Design will not overshadow surrounding public open spaces and residences/ residential development by more than 3- 4 hours and will allow these spaces to receive more than 5 hours of solar access.

B. Mid-summer

Figure 42

In **mid-summer at 9am** (Figure 42) – the Concept Design only overshadows the rail line directly west of the site.

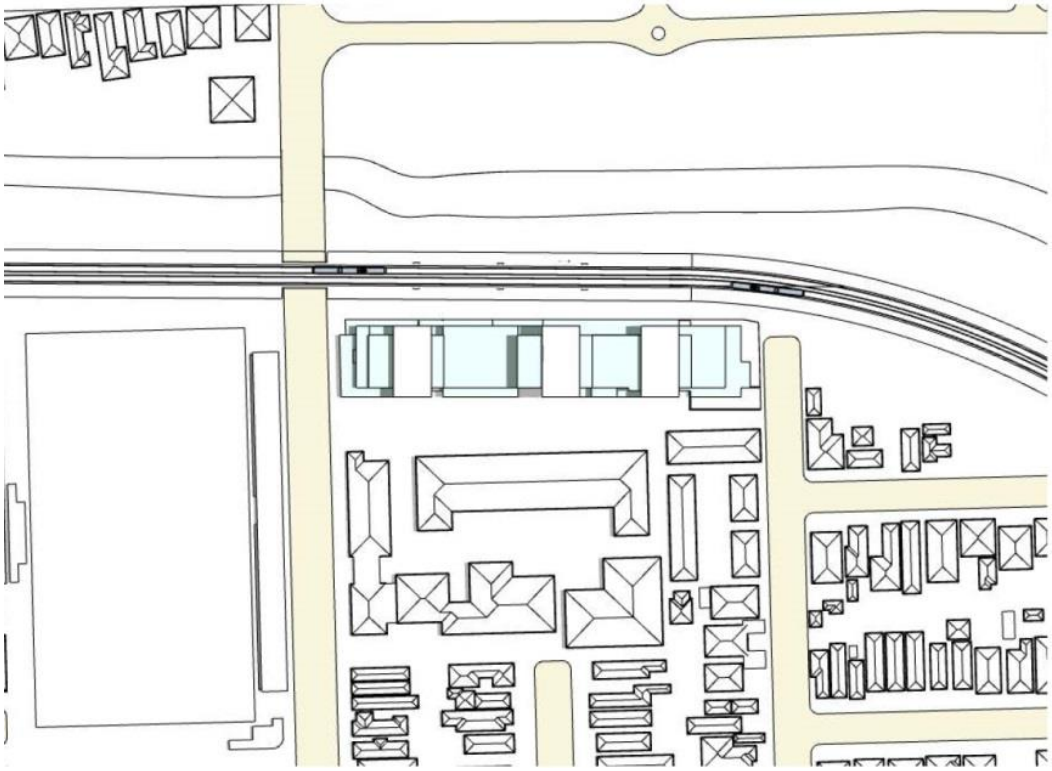


Figure 43

In **mid-summer at 12pm** (Figure 43) – there is very little shadow cast by the Concept Design.

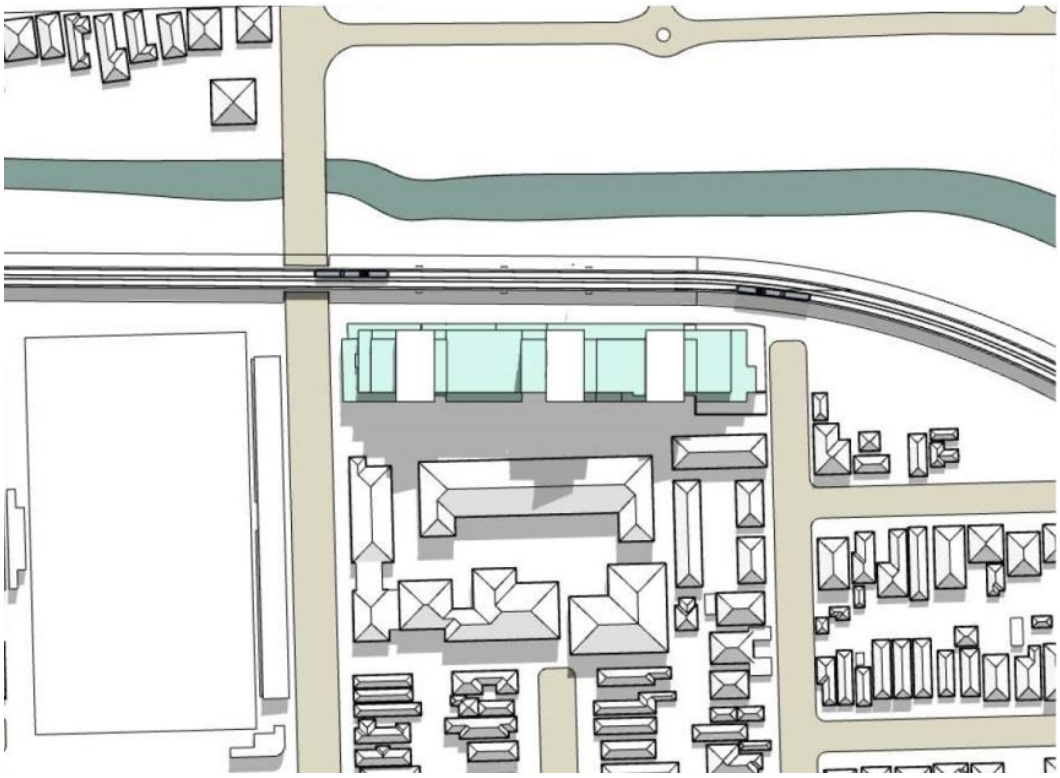


Figure 44

In **mid-summer at 3pm** (Figure 44) – only a relatively small portion of the aged care facility to the east is overshadowed by the Concept Design.

Summary:

Evaluating the urban design intent of a Concept Design on the site:

- In **mid-summer**, the Concept Design will not overshadowing surrounding public open spaces and residences/ residential development by more than 2 hours and will allow these spaces to receive a great deal of sun.

C. Solstice (September)

Figure 45

At **9am Spring solstice** (Figure 45) – the Concept Design will overshadow the railway corridor and canal to the west of the site.

Figure 46

At **12pm Spring solstice** (Figure 46) – there is very little shadow cast across Marion Street, surrounding open space areas or adjacent residential buildings.

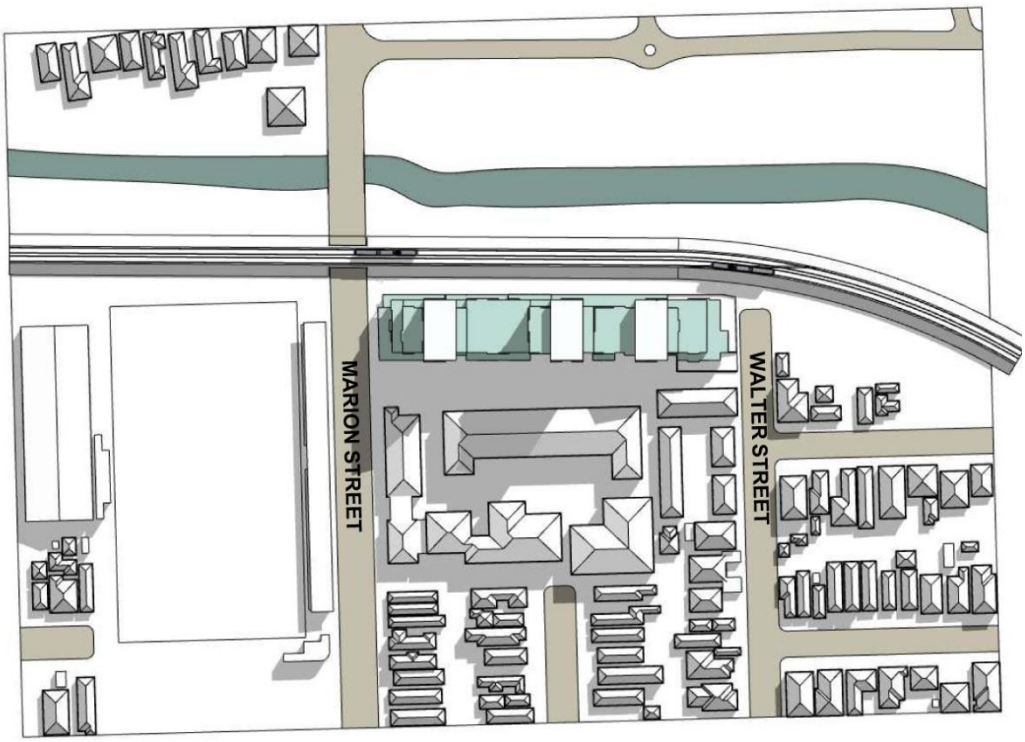


Figure 47

At **3pm Spring solstice** (Figure 47) – the Concept Design will overshadow the western buildings of the aged care development directly east of the site, and the northern footpath of Marion Street.

D. Solstice (March)

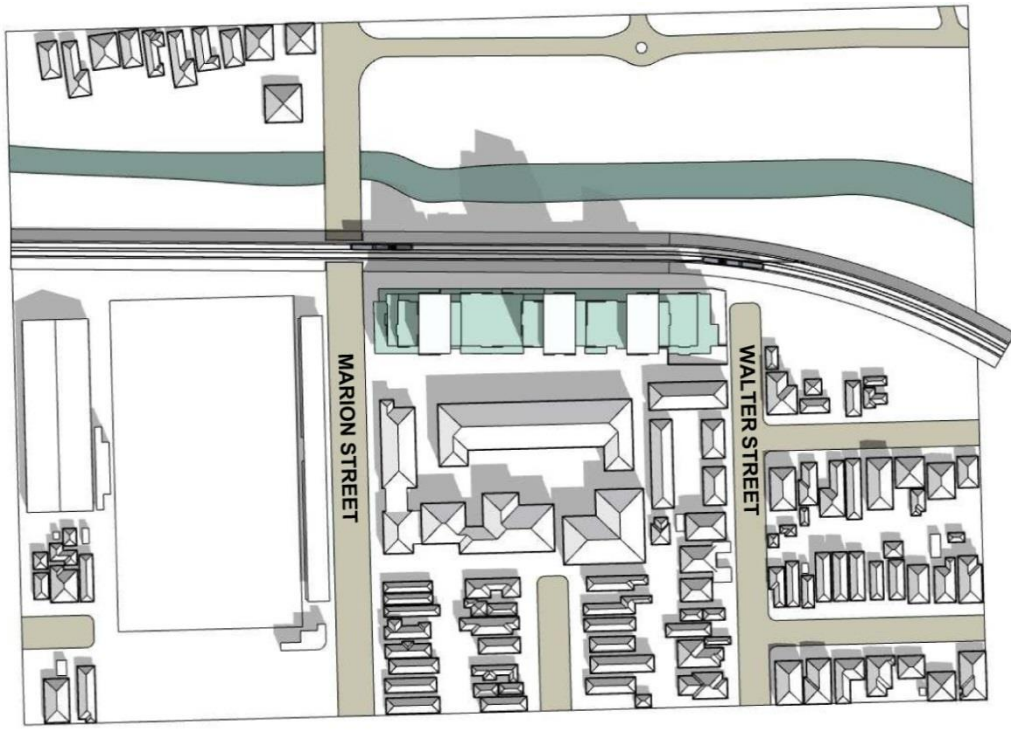


Figure 48

At **9am Autumn solstice** (Figure 48) – the Concept Design will overshadow the railway corridor and canal to the west of the site.

Figure 49

At **12pm Autumn solstice** (Figure 49) – there is very little shadow cast across Marion Street, surrounding open space areas or adjacent residential buildings.

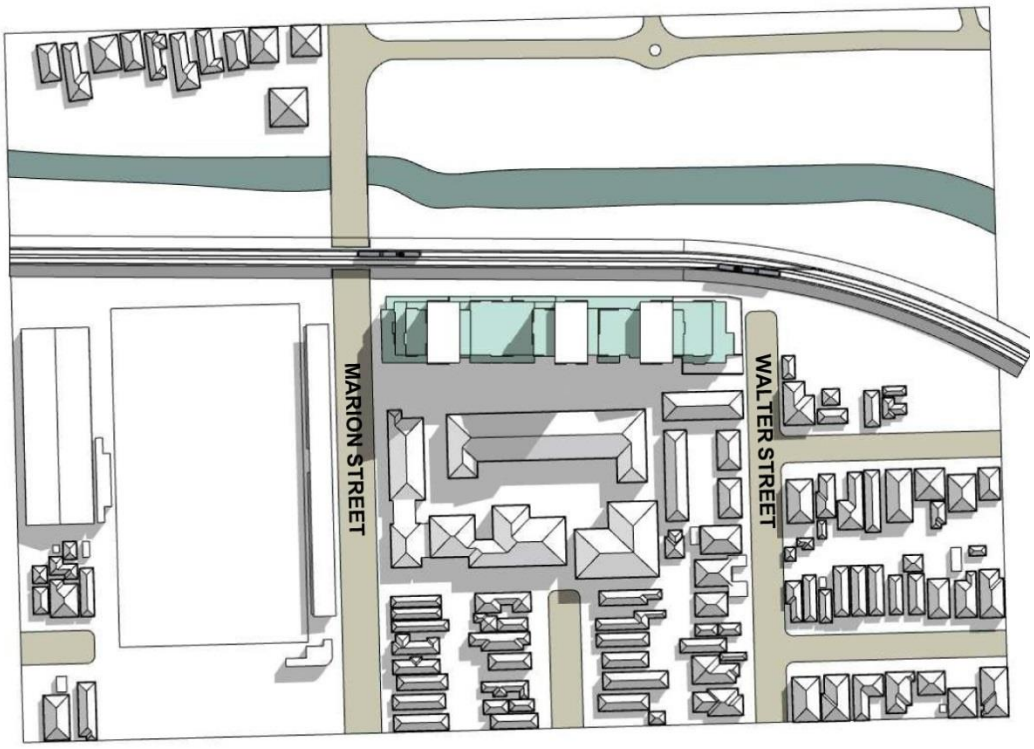


Figure 50

At **3pm Autumn solstice** (Figure 50) – the Concept Design will overshadow the western buildings of the aged care development directly east of the site, and the northern footpath of Marion Street.

SHADOW DIAGRAM - MARCH (AUTUMN EQUINOX)

Solar access to surrounding open spaces and residences

The Concept Design will only have minimal overshadowing effects on surrounding residential development and open space areas.

The greatest overshadowing effects of the development are during winter, although the shadow impacts from the development on surrounding areas will be minimal. Only a small portion of the residential dwellings to the south-west of the site will be overshadowed during the 9am time period in winter. The aged care/ seniors' facility and Lambert Park to the east and south of the development will only be overshadowed by the development around 3pm in mid-winter.

6.14 Visual Privacy

Given the site location the potential for overlooking of neighbouring residential properties is limited to the East and North.

To the West of the site is the light rail and public open space; beyond which are residential properties approximately 95m away from the subject site.

South of the site is Marion Street and lambert park. The nearest residential is approximately 126m away.

Immediately to the east of the site is an aged care facility which is 4.3m off the neighbouring boundary. Its closest residential windows are approximately 6 m from the existing industrial building at 245 Marion Street.

At the Northern end of the Eastern boundary, is a commercial building built to the boundary. North of the site is Walter Street with a residential property approximately 15m from the subject site, 17m from the proposed building envelope.

The proximity of nearby residential building is illustrated in Fig 51-54

Figure 58 shows the projection of a 45^0 overviewing plane at ground level adjacent to the proposed development, generated from a 45^0 sight line from the top of the subject building. The areas affected by the 45^0 overviewing plane include the western windows of the aged care facility and the courtyard of the aged care facility. There is also a minor intrusion into the courtyard of a nearby townhouse development to the North East.

It is noted that the potential over viewing plane, could be controlled so as to prevent privacy intrusion within the 45^0 plane. A device is illustrated in figure 59 which could be applied to crucial sections of a building façade to prevent sight lines intruding into nearby building and open space.

By adjusting the positions and angle of illustrated device, sight lines could be controlled to prevent visual intrusion into neighbouring properties up to 60m away.

Figures 60 & 61 show a similar means of controlling over viewing of the properties to the North of the subject site with 20^0 overviewing plane.

In summary, it is considered that;

- Potential over viewing of the public open space to the south and west of the site will provide passive supervision of the open spaces.
- Distant views over public open space will provide amenity for residents of the proposed development.
- Potentially intrusive over viewing of residential neighbouring buildings to the East and North can be effectively controlled.

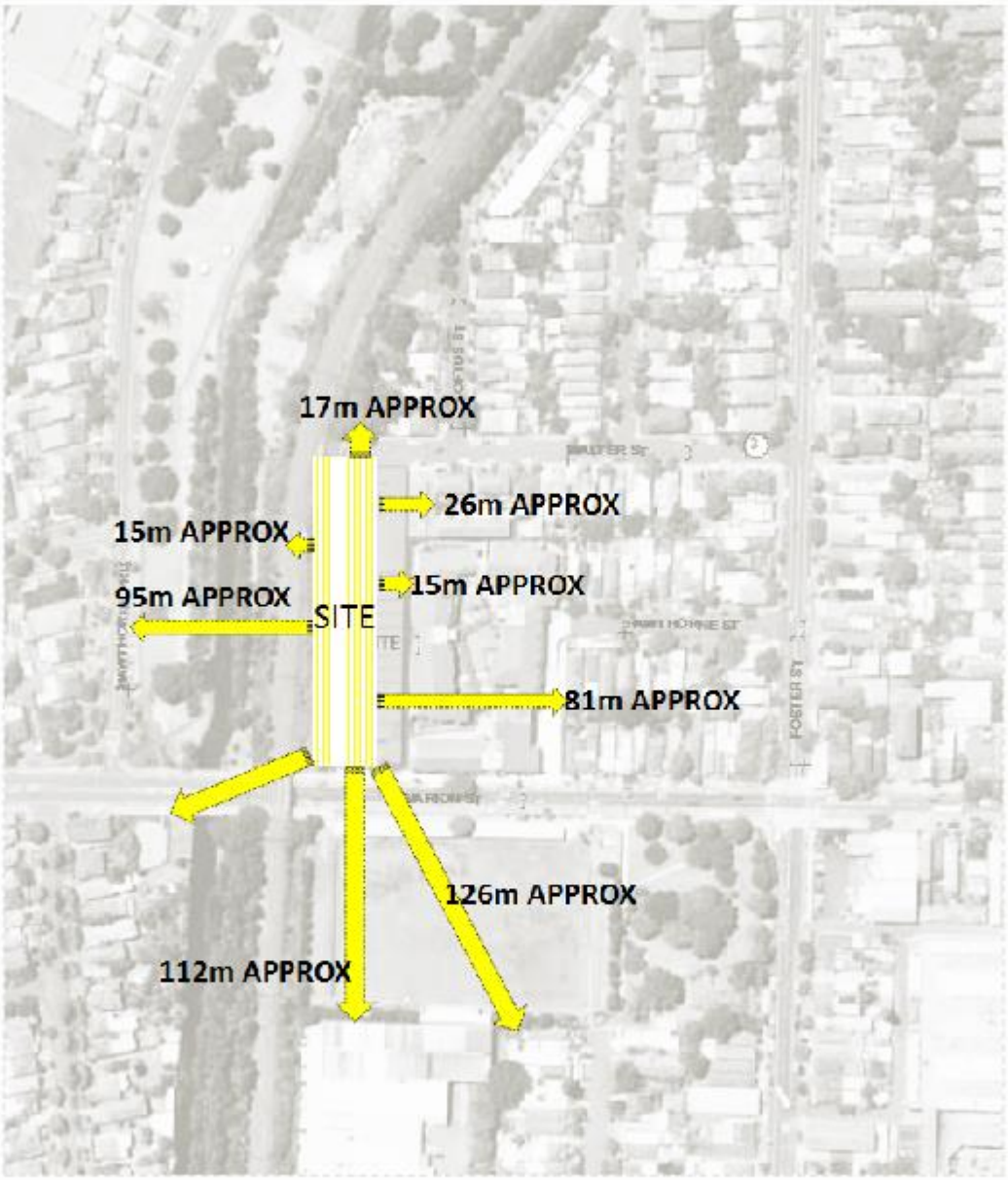


Figure 51: Approximate distances from the proposed building to the vicinities in all directions

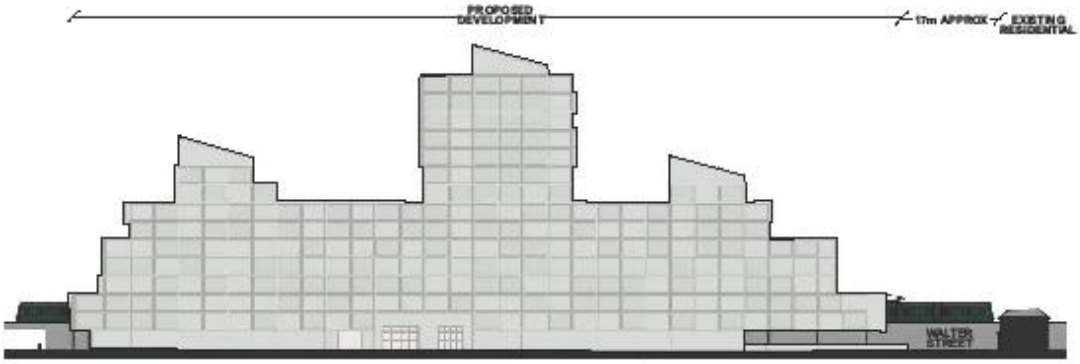


Figure 52: Space Separation Between Existing Site and Surrounds

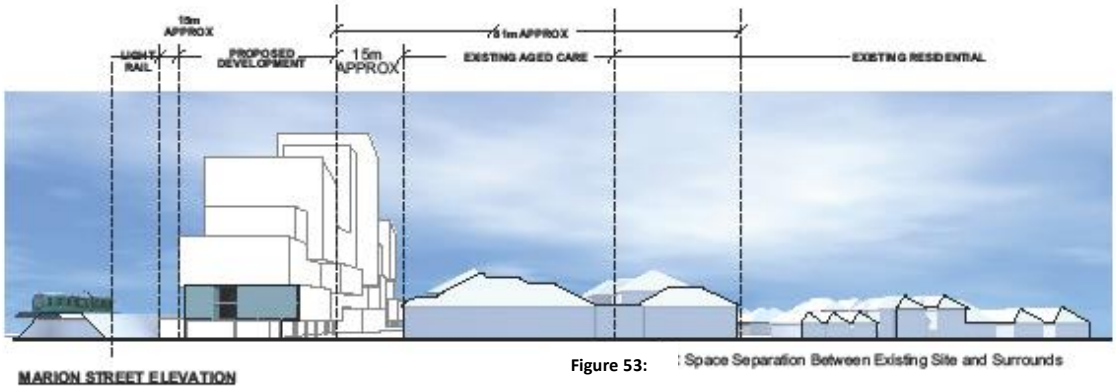


Figure 53: Space Separation Between Existing Site and Surrounds

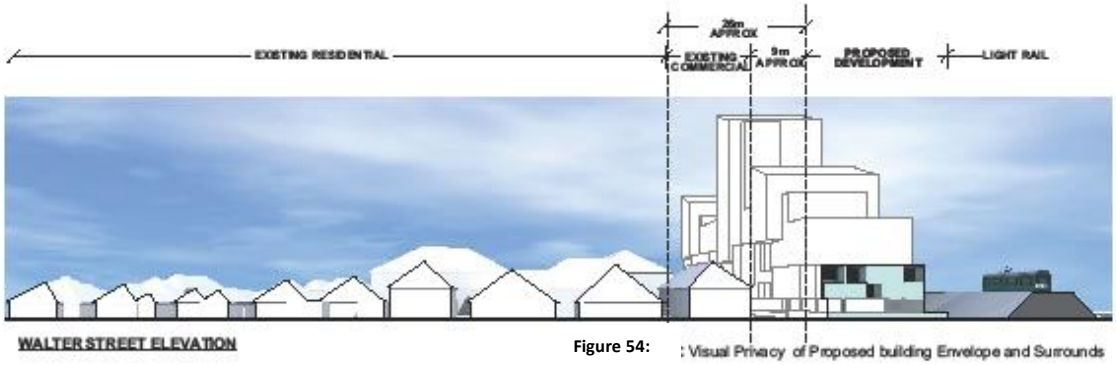
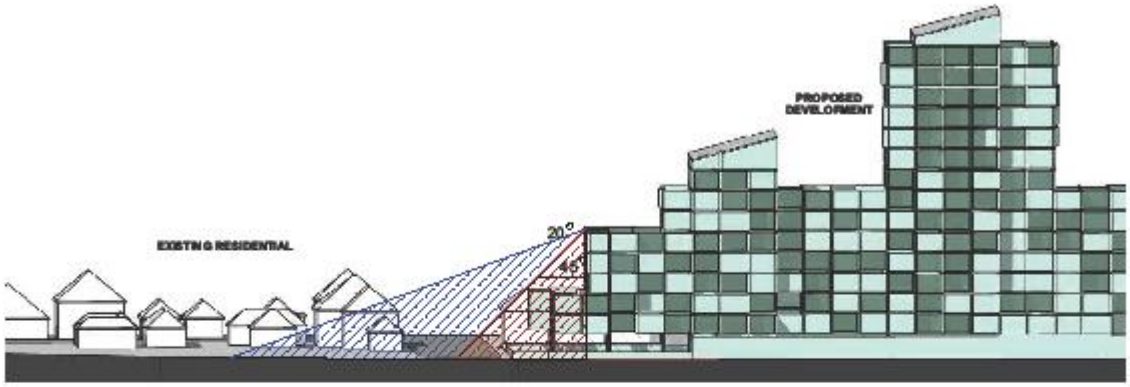
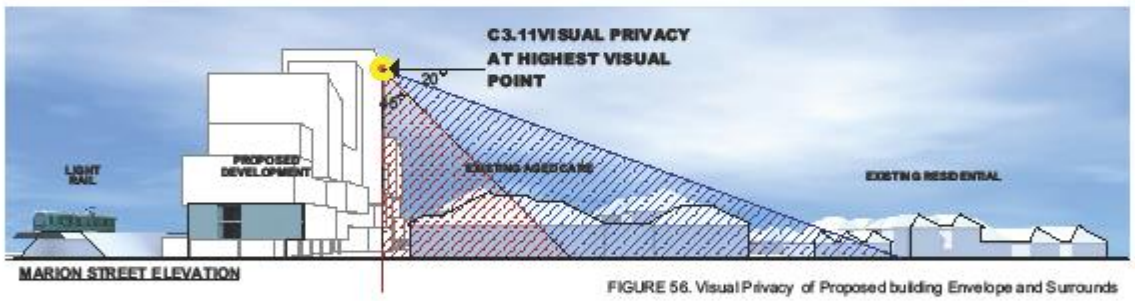


Figure 54: Visual Privacy of Proposed building Envelope and Surrounds



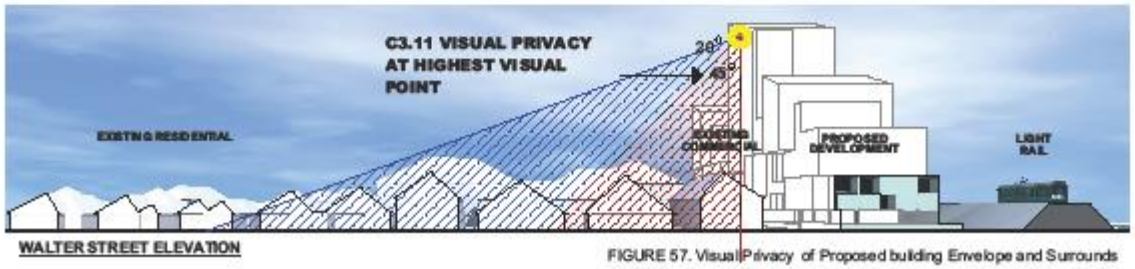
HAWTHORNE PARADE ELEVATION

6.14 FIGURE 55. Visual Privacy of Proposed building Envelope and Surrounds



MARION STREET ELEVATION

FIGURE 56. Visual Privacy of Proposed building Envelope and Surrounds



WALTER STREET ELEVATION

FIGURE 57. Visual Privacy of Proposed building Envelope and Surrounds

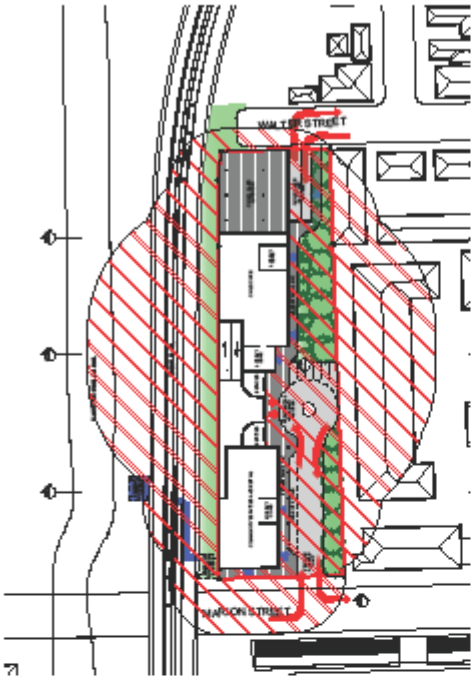


Figure 58: Outline of 45 Degrees Siteline Projection (OPTION A)

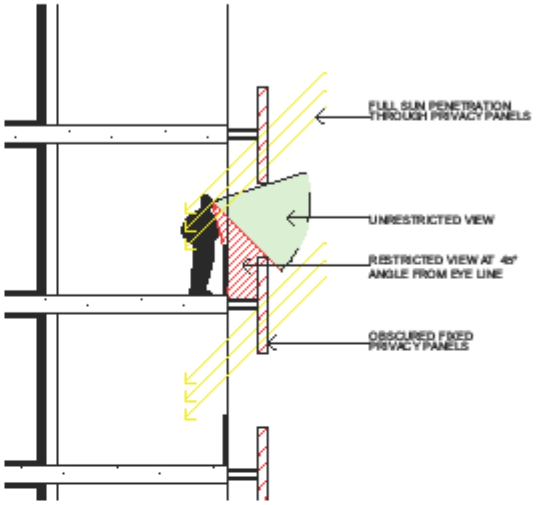


Figure 59: Typical Privacy Panel Detail with 45 Degree Siteline Projection (OPTION A)

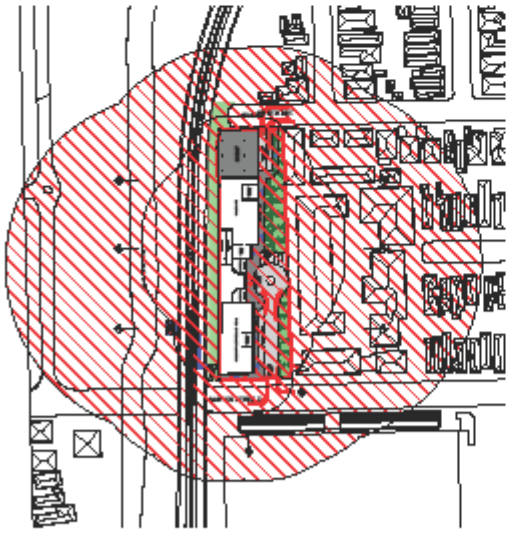


Figure 60: Outline of 20 Degrees Siteline Projection (OPTION B)

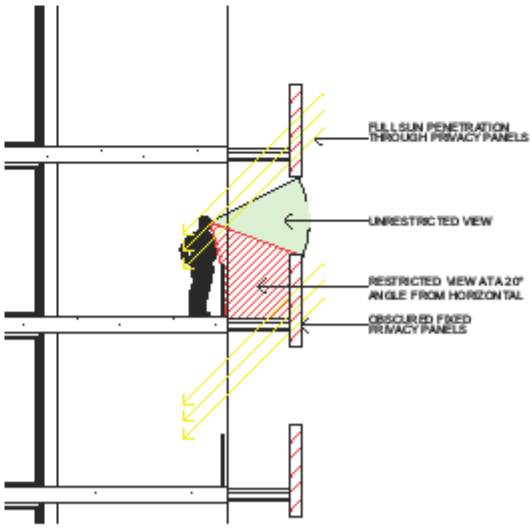


Figure 61: Typical Privacy Panel Detail with 20 Degree Siteline Projection (OPTION B)

6.15 Yield Analysis

The planning proposal nominates a yield of

- Up to 200 Residential Units
- Up to 2000 m^2 of floor space for neighbourhood shops, cafes, community uses and childcare facility.

The scheme depicted in the massing diagrams contained in this study would contain a Gross Floor area of 17,150 m^2 approx.

The apartment mix and apartment size would be adjusted to suit market demands but generally falling within the following categories:

- One bedroom and Studio apartments — Min 25%
- Two bedroom apartments — Max 75%
- Three or more bedroom apartments — max 30%

Typical configurations would be:

Configuration A

• Commercial community and child care		2,000 m^2
• One Bed and Studio apartments	100 x 60 GFA	6,000 m^2
• Two bed apartments	80 x 85 GFA	6,880 m^2
• Three or more bed apartments	20 x 115 GFA	2,300 m^2
Total	200 apartments	17,100 m^2 GFA

Configuration B

• Commercial community and child care		1,500 m^2
• One bed and Studio apartments	75 x 60 GFA	4,500 m^2
• Two Bed apartments	96 x 85 GFA	8,160 m^2
• Three or more bed apartments	25 x 120 GFA	3,000 m^2
Total	196 apartments	17,160 m^2 GFA

It is expected that ultimately, the floor space mix, the apartments mix and the apartment size range will be similar to the examples scheduled above.

6.16 Internal Amenity

NOISE AND VISUAL PRIVACY

There are site related factors that have the potential to affect amenity within the apartments. These factors are nominally:

- Noise and vibration from light rail
- Noise from Marion Street
- Noise from possible Child Care facility
- Privacy from Light rail
- Privacy from opposing towers within the development
- Light intrusion from light rail.

Each of these factors can be managed in the design phase of the project and assessed at the Development Application stage.

Measures to be used in addressing these factors are discussed as follows:

NOISE AND VIBRATION

- Measures used in buildings adjacent to heavy rail include;
  - Vibration isolations of structure
  - Dense building materials as sound barriers
  - Double glazing and or multi laminate glazing
  - Solid balustrades
  - Allocations of spaces within apartment layouts
- It is noted that noise and vibrations emanating from the Light Rail will not be as severe as heavy rail and thus the measures could be used with prevalence.
- Given the dimensions of the site, the format of a building development will logically follow the patterns of the model shows in this study. Such a format will allow cross–over apartments to this bunch of podium with aspects to East and West. These apartments will therefore not be reliant on the Western aspect for ventilation and therefore can protect themselves from noise emanating from the Light Rail. (Refer figure 62 for installation of cross-over units)
- Within the apartment towers of the model illustrated in this study, the configuration would yield 6 apartments per floor. One of the 6 apartments per floor would be reliant on the Western aspect. It is noted however that at tower level there would be sufficient height separation to ameliorate noise emanating from the Light Rail on Marion Street.
- Noise from the Child Care facility could be ameliorated by means of sound barriers and sound absorbent applications.

PRIVACY AND LIGHT INTRUSION

- Section 6.14 of this study looks at the means of addressing overlooking of adjacent properties.
- It is conceivable that similar measures, screens and louvers could be applied to the façade in order to control sight lines between adjacent towers
- By control of sight lines privacy intrusions and light intrusions can be minimised.
- These measures can be considered in detail at the Design stage and assessed at Development Application stage.

SUNLIGHT ACCESS AND VENTILATION

The site is ideally oriented for maximum solar access and minimum potential over shadowing light. Being long and narrow along a North/South axis the site has approximately 137m of morning light and 137m of afternoon light.

A development such as the building envelop depicted in this study presents a long façade to the East and West and a relatively narrow façade casting a shadow to the South. In this configuration, the Eastern half of the building can enjoy morning sun access and the Western half can enjoy afternoon sun access.

The relatively narrow building format will also promote cross ventilation by means of “Cross-over” apartments within the podium sections.

More particularly, sunlight access and cross ventilation potential are illustrated in the following diagrams;

SUNLIGHT ACCESS

Refer Figure 62

- The diagram reveals the availability of sun penetration to the Eastern façade from 9.00 am to 12.00 noon on the winter.
- As discussed earlier in this study, the Southern edges of the towers and podiums receive no direct sunlight in this period but the dwellings in these locations would also have Eastern or Western facades.
- The diagram also shows the 9.00 am shadow and some intrusions into residential properties South West of the site. The intrusion however would be of short duration.

Refer Figure 63

- The diagram shows the approximate sun access at noon on the Winter Solstice.
- All North facing aspects of the towers accept sunlight all day on the Winter Solstice.
- The shadow cast by the narrow building is minimal.

Refer Figure 64

- The diagram shows the availability of sun penetration to the Western façade from 12.00 noon to 3.00 pm during Winter Solstice.
- Again, the Southern edges of the towers and podium could contain dwellings that have both Southern and Western exposure, thus receiving sunlight from noon onward.
- The diagram also shows the 3.00 pm shadow which by now covers part of the adjacent development and Lambert Park.
- The shadow is not considered extreme for 3.00 pm on the Winter Solstice.

CROSS VENTILATION

Refer Figure 65

- The diagram shows the Vertical configuration of “cross-over” apartments which could be used in the podium section of the building envelope illustrated in this study.
- The cross-over apartments would have access to Eastern and Western aspects thus allowing cross ventilation.
- The towers could be configured with 6 apartments per level and thus the 4 corner units could receive cross ventilation.
- The two inside units could be designed with plan cut-outs to make provision for cross ventilation and natural ventilation to the lift lobby.

Summary

- A building envelope such as the model illustrated in this report could be at least 3 hours of direct sunlight to at least 70% of the apartments receive between 9.00 am and 3.00 pm in mid-winter.
- The building envelope illustrated could provide for at least 70% of its apartments having cross ventilation.

THIS DIAGRAM SHOWS THE SUN CONSISTENCY BETWEEN THE THE HOURS OF 9AM AND 12 MIDDAY WINTER SOLSTICE AT THE EAST AND NORTHERN POINT OF THE PROPOSED DEVELOPMENT.

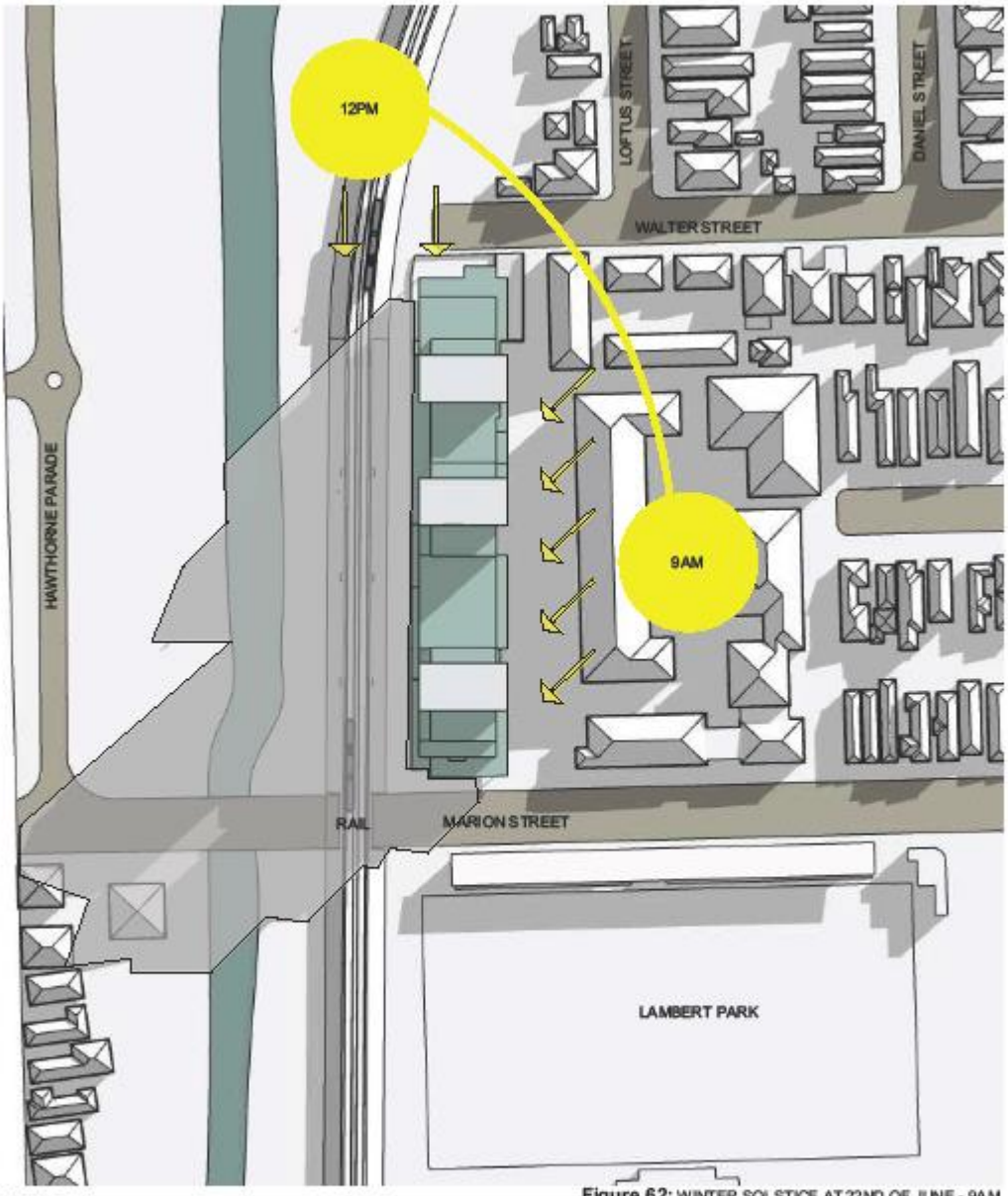


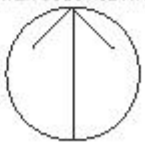
Figure 62: WINTER SOLSTICE AT 22ND OF JUNE - 9AM

LEGEND

WINTER SOLSTICE AT 22ND OF JUNE - 9AM SHADOW CASTED BY PROPOSED BUILDING

WINTER SOLSTICE AT 22ND OF JUNE - 9AM SHADOW CASTED BY EXISTIING BUILDINGS

WINTER SOLSTICE AT 22ND OF JUNE - 9AM SUN DIRECTION



THIS DIAGRAM SHOWS THE SUN CONSISTENCY AT 12 MIDDAY WINTER SOLSTICE AT THE NORTH FACING POINT OF THE PROPOSED DEVELOPMENT.

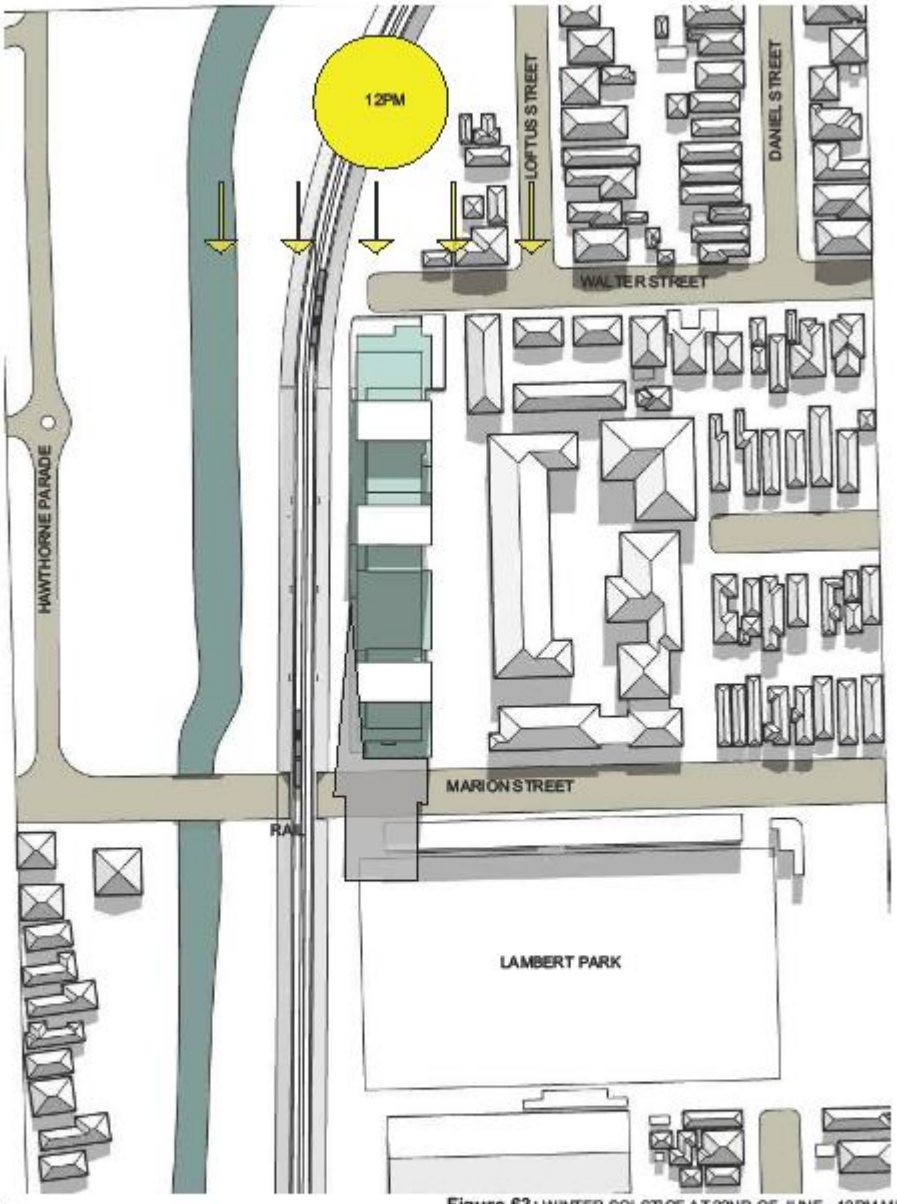


Figure 63: WINTER SOLSTICE AT 22ND OF JUNE - 12PM MIDDAY

LEGEND

WINTER SOLSTICE AT 22ND OF JUNE - 9AM SHADOW CASTED BY PROPOSED BUILDING

WINTER SOLSTICE AT 22ND OF JUNE - 9AM SHADOW CASTED BY EXISTIING BUILDINGS

WINTER SOLSTICE AT 22ND OF JUNE - 12PM SUN DIRECTION

THIS DIAGRAM SHOWS THE SUN CONSISTENCY BETWEEN THE THE HOURS OF 12 MIDDAY AND 3PM WINTER SOLSTICE AT NORTH AND WESTERLY POINT OF THE PROPOSED DEVELOPMENT.

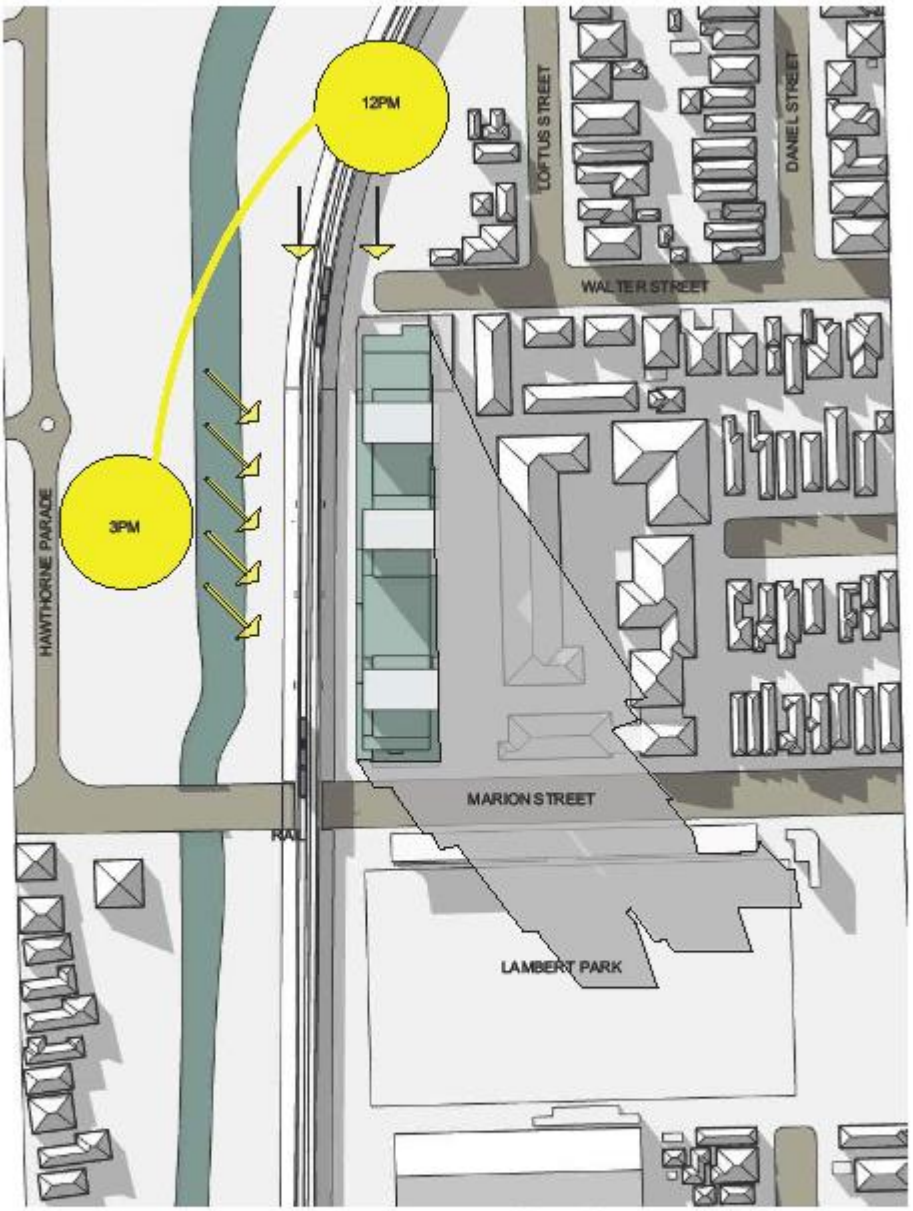


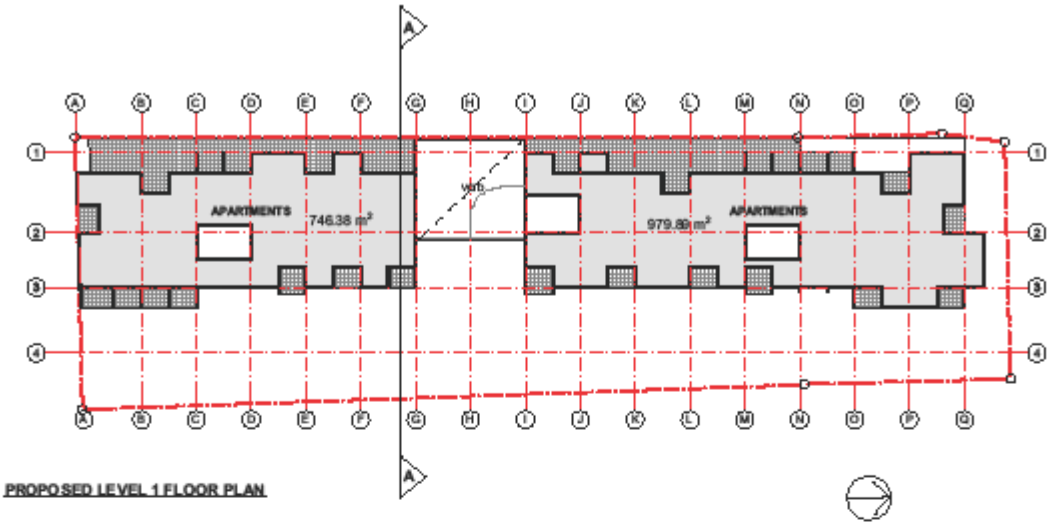
Figure 64: WINTER SOLSTICE AT 22ND OF JUNE - 3PM

LEGEND

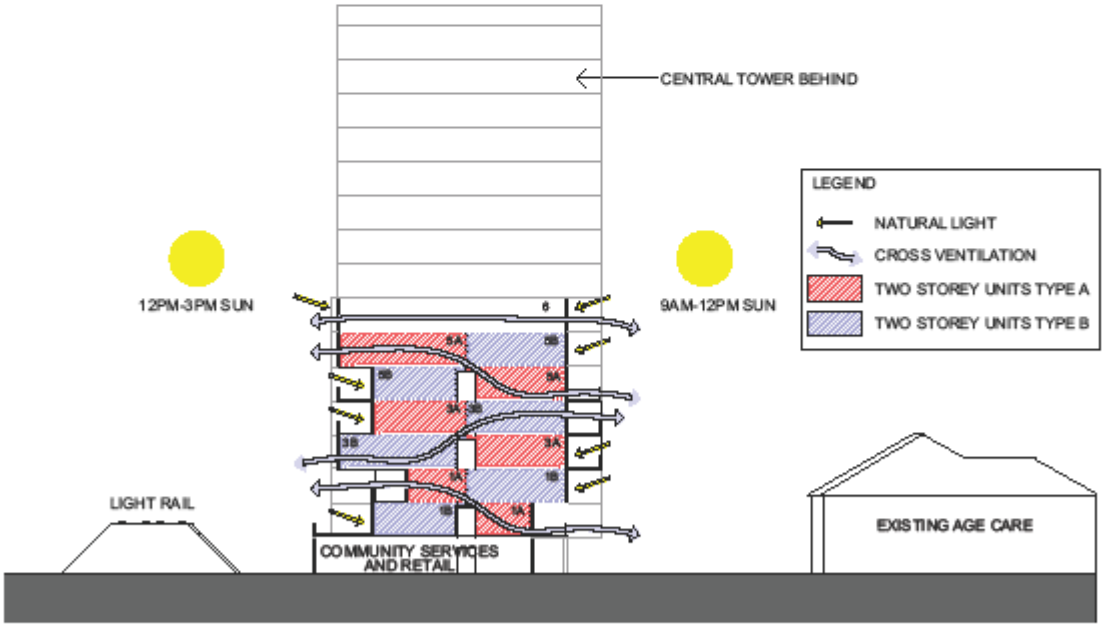
WINTER SOLSTICE AT 22ND OF JUNE - 9AM SHADOW CASTED BY PROPOSED BUILDING

WINTER SOLSTICE AT 22ND OF JUNE - 9AM SHADOW CASTED BY EXISTING BUILDINGS

WINTER SOLSTICE AT 22ND OF JUNE - 3PM SUN DIRECTION



PROPOSED LEVEL 1 FLOOR PLAN



SECTION A-A

Figure 65: SUN AND CROSS VENTILATION DIAGRAM

7.0 URBAN DESIGN RESPONSE OF THE CONCEPT DESIGN

The Concept Design to support the Planning Proposal for rezoning of the site for higher density land uses provides a preliminary design that complies with sound urban design principles in the siting and design of the development as follows:

Urban Design Principles	Concept Design Intent
A. Design for variety/ mixed use and forms	▪ A variety of compatible uses of residential, convenient retail, community, proposed at ground level will activate the street and pedestrian network, and contribute to passive surveillance of the public domain.
B. Create Places for People	▪ Quality landscaped public domain, with high pedestrian amenity at ground and street level, and at entries to the building and its facilities. ▪ A public domain of pedestrian walkways and vehicle driveways (kiss-and-ride and associated turning areas for the light rail station).
C. Enrich the Existing	▪ Legible connections between Marion and Walter Streets – through its public walkways at ground level to the light rail station. ▪ Alternative residential typologies of apartments for all age groups of various sizes will be provided for an affordable and seniors market. ▪ Building forms designed with setbacks and graduating building heights to integrate sensitively with the surrounding streetscape of lower density residences. ▪ A development that respects the residential amenity (visual, privacy, acoustic and solar access) of surrounding properties. ▪ Convenient retail and community facilities at the development's ground/ street level.
D. Encourage Permeability	▪ Legible, direct, sheltered and visible connections between Marion and Walter Streets from neighbouring streets to the light rail station, through the site. ▪ Universally accessible public domain and pedestrian pathways. ▪ Pedestrian paths sited adjacent to active frontages.
E. Create Legibility	▪ An architectural building expression that will create an identity to the light rail station as well as a "gateway" entry to Leichhardt.
F. Design for Robustness	▪ The proposed design will incorporate: – Quality and energy efficient design; – Design that is compliant with SEPP 65: *Design quality for residential flat development*; – Design for optimum residential amenity; – Design for residential liveability and affordability; – Design for landscaped setbacks for residential amenity and pedestrian amenity with quality public domain areas.
G. Design for Economic Feasibility	▪ The development will address housing market demands with economically viable density appropriate to its inner city location. ▪ New housing typologies to ease the demand for traditional housing stock and contribute to housing affordability.

8.0 CONCLUSION

The Planning Proposal is for a future development on the site that will regenerate the site and improve public amenity, accessibility and facilities to and around the light rail node.

Development on the site will be designed in accordance with sound urban design principles outlined in this Urban Design Study, and to meet the key urban design criteria for the urban renewal and regeneration of the site.

The Concept Design prepared to support the Planning Proposal illustrates a design that meets the key design criteria for quality design to achieve:

- A landmark/ gateway development, architecturally attractive to highlight this transport mode;
- Quality and energy efficient design;
- High building standards;
- Attention to noise attenuation;
- Minimise visual impacts;
- Access to open space;
- Connectivity to its surrounding neighbourhood;
- Urban design measures that respect and contribute to its existing streetscape future neighbourhood character, local heritage and environmental constraints;
- Public domain benefits and improvements to the precinct around the future Marion Street Light Rail Station;
- A legible and permeable public domain at street level that connects to the surrounding neighbourhood and the light rail transport node; and
- An attractive and engaging public domain with high pedestrian amenity of quality spaces, landscape features, universal accessible and sheltered pathways and safety in design.

The Concept Design illustrates a development with a:

- FSR of 3.3:1;
- Median height of 8 storeys with 10-15 storey towers; and
- 3 storey building heights to Marion and Walter Streets;
- Greater setbacks to upper levels from Walter Street – to minimise the scale of the development fronting the lower density residential neighbourhood;

That reflects a new urban form within this traditional low density residential neighbourhood.

The built form of the Concept Design does not have unacceptable impacts of views, solar access, visual and acoustic privacy on surrounding residential properties and open space areas. The Concept Design illustrates the ability of a development of the proposed density and heights to maintain good solar amenity in providing more than 4 hours of sunlight in mid-winter to surrounding residences and public open spaces.

A future development on the site will be designed, within the urban design guidelines of this Urban Design Study – to respect and integrate with the existing neighbourhood through setbacks, stepped forms and articulation of building forms. Residential amenity will be achieved within the proposed building's siting, massing, forms and heights. Quality architectural design and amenity will be implemented in accordance with SEPP 65: *Design Quality of Residential Flat Development*.