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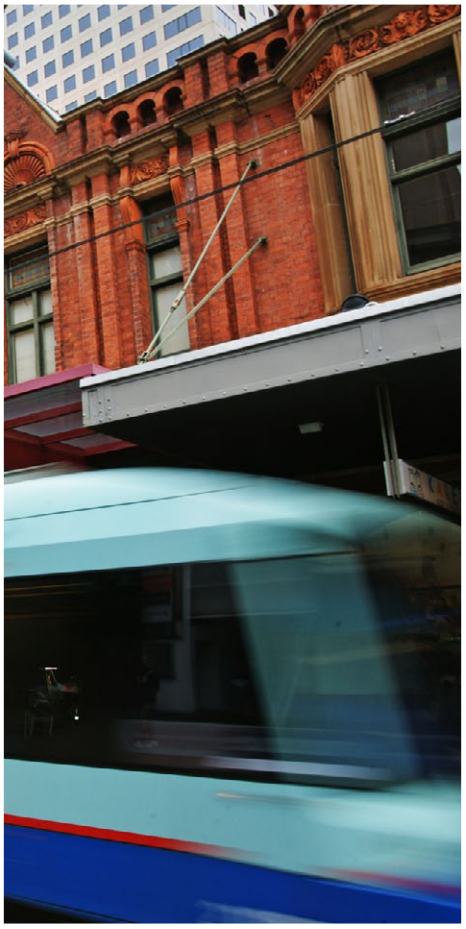

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SYDNEY LIGHT RAIL EXTENSION
STAGE 1 – INNER WEST EXTENSION
Volume 2 - Technical Reports

NSW GOVERNMENT Transport

PB 125 YEARS PARSONS BRINCKERHOFF

TECHNICAL PAPER

5

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SYDNEY LIGHT RAIL EXTENSION_ STAGE 1 VISUAL IMPACT ASSESSMENT

Prepared for Parsons Brinckerhoff
August 2010

HASSELL

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Contents

1 ___ Introduction

1.1_Introduction

HASSELL has prepared this visual assessment for Parsons Brinckerhoff to determine the visual impact of the Inner West extension of the Sydney Light Rail from Lilyfield to Dulwich Hill (as seen in Figure 1).

The Visual Assessment Methodology used in this report is described in Section 2. It utilises a well-recognised approach to visual quality assessment that is systematic, consistent, and based on professional value judgement of commonly adopted and accepted criteria. The visual impact of the proposed development is determined by evaluating the visual effect of the development in the context of the visual sensitivity of the surrounding land use areas from which the proposed development may be visible. Visual effect is a measure of the change that will be perceived between the existing and proposed landscape characters, and visual sensitivity is a measure of the importance of the visual environment to different user groups based on frequency, duration, distance and repetition of views.

An outline of the existing visual character of the disused Rozelle goods line corridor from Lilyfield to Dulwich Hill, associated landscape characteristics, and of the anticipated changes following development is provided in Section 3. These descriptions provide the basis for understanding the degree of change anticipated in the landscape. Views and viewer locations are determined and mapped based on topographical analysis and a site inspection undertaken on 11 August 2010. An assessment of visual impact is determined for each of these views and viewer locations and presented in tabular format. These are based on the potential effect that the proposed development will have on the visual environment without any ameliorative landscape treatment.

1.2_Planning Background

The objective of visual and landscape assessment is to identify scenic resources that should be protected.

In February 2010, the New South Wales (NSW) Government announced, as part of the Metropolitan Transport Plan, a $500 million commitment to extend the existing Sydney light rail system in the Inner West along the disused Rozelle goods line corridor from Lilyfield to Dulwich Hill and in the central business district (CBD) from Haymarket to Circular Quay via Barangaroo. This comprised:

_Stage 1 — an Inner West extension of 5.6 kilometres along the disused Rozelle goods line corridor from Lilyfield to Dulwich Hill (Figure 1).
_Stage 2 — a CBD western corridor extension from Haymarket to Circular Quay via Barangaroo with consideration of a future light rail option from Circular Quay to Central via George Street.

Collectively these two stages are known as the Sydney Light Rail Extensions (SLRE).
In the 2010-11 NSW Budget funding has been allocated to start construction on the SLRE Stage 1 (the Inner West extension) following the environmental assessment process, as well as to undertake pre-construction work on Stage 2.
In finalising the scope of work for the SLRE Stage 1 (the Inner West extension), the NSW Government took into account the many practical suggestions received from the community following the public release of the *Sydney Light Rail - Inner West Extension Study* (GHD 2010).
The community strongly favoured the inclusion of a walking and cycling shared path in the corridor, along with a number of bushcare sites – termed a "GreenWay" - from the Cooks River to Iron Cove. On 19 July 2010 the NSW Government announced that the GreenWay shared path would be included in the SLRE Stage 1 (the Inner West extension) project.
SLRE Stage 1 (the Inner West extension) including the GreenWay shared path forms the project and is the subject of this visual assessment.

1.3_Overview

An overview of the key features of the project are shown on Figures 1-1a to 1-1e and comprise:

_A 5.6 kilometre extension of the light rail between the existing Lilyfield light rail stop and the proposed Dulwich Hill Interchange stop. The extension would be located within the existing disused Rozelle goods line corridor.
_Nine new light rail stops — Leichhardt North, Hawthorne, Marion, Taverners Hill, Lewisham West, Waratah Mills, Arlington, Dulwich Grove and Dulwich Hill Interchange.

1 ___ Introduction

_Minor modifications to the existing Lilyfield stop and surrounding track to tie-in new track and overhead wiring infrastructure with the existing light rail.
_Modifications to the existing northern car park at Bedford Crescent to accommodate the Dulwich Hill Interchange stop.
_Raising of the existing bridge over Parramatta Road which will carry the light rail.
_Provision of the GreenWay shared path, from Iron Cove at Dobroyd Point to the northern bank of the Cooks River.
_Provision of pedestrian linkages (access pathways) to surrounding neighbourhoods to enable access to the GreenWay shared path and light rail stops.
_Modification of the existing road bridge structures to accommodate the GreenWay shared path – namely at Hercules Street, Old Canterbury Road, Constitution Road, Davis Street and Longport Street.
_New pedestrian/cycle bridge at Parramatta Road adjacent to the light rail overbridge.
_New pedestrian/cycle bridge across the Hawthorne Canal near Hawthorne stop.
_New infrastructure to ensure accessibility and connectivity between the shared path, local streets and light rail stops.
_Provision of sites for bushcare and vegetation remediation areas in order to provide for existing, and an increase in, local habitat for fauna.
_Appropriate safety fencing or separation of shared path and light rail operations, and the light rail operations and the heavy passenger rail operations at Dulwich Hill.
_Provision of overhead wiring, substation and utilities infrastructure.

1.4_Resource Information

Information for this study was collected by:
_Visiting the site and surrounding areas from nearby vantage points and identifying significant views within the site and surrounding area in August 2010;
_Reviewing topographical maps (1:25,000) and aerial photographs;
_Review of background information provided by the project team (section 6).

1 ____ Introduction

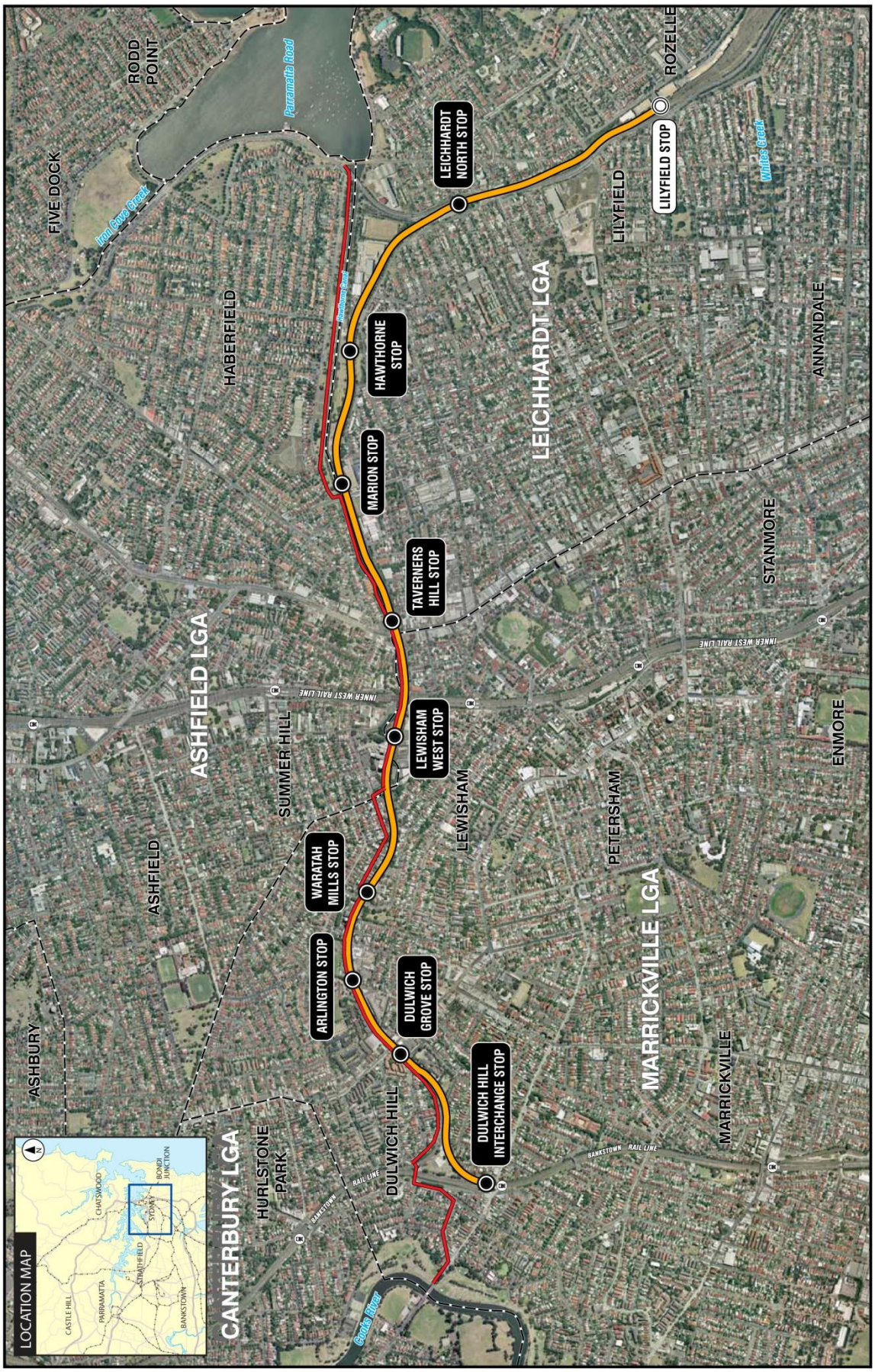

Figure 1 Overview of the Project

2 ___ Visual Assessment Methodology

2.1_Description of Visual Assessment Methodology

The objective of visual impact assessment is to identify scenic resources that should be protected because of their value to the community, including privacy to local residents.

This report uses a well-recognised approach to visual quality assessment that is systematic, consistent and based on professional value judgement of commonly adopted and accepted criteria.

The visual impact of the proposed development is determined by evaluating the visual effect of the development in the context of the visual sensitivity of the surrounding land use areas from which the proposed development may be visible. The following chart describes the visual assessment methodology undertaken for this project, which is described in more detail in the following pages.

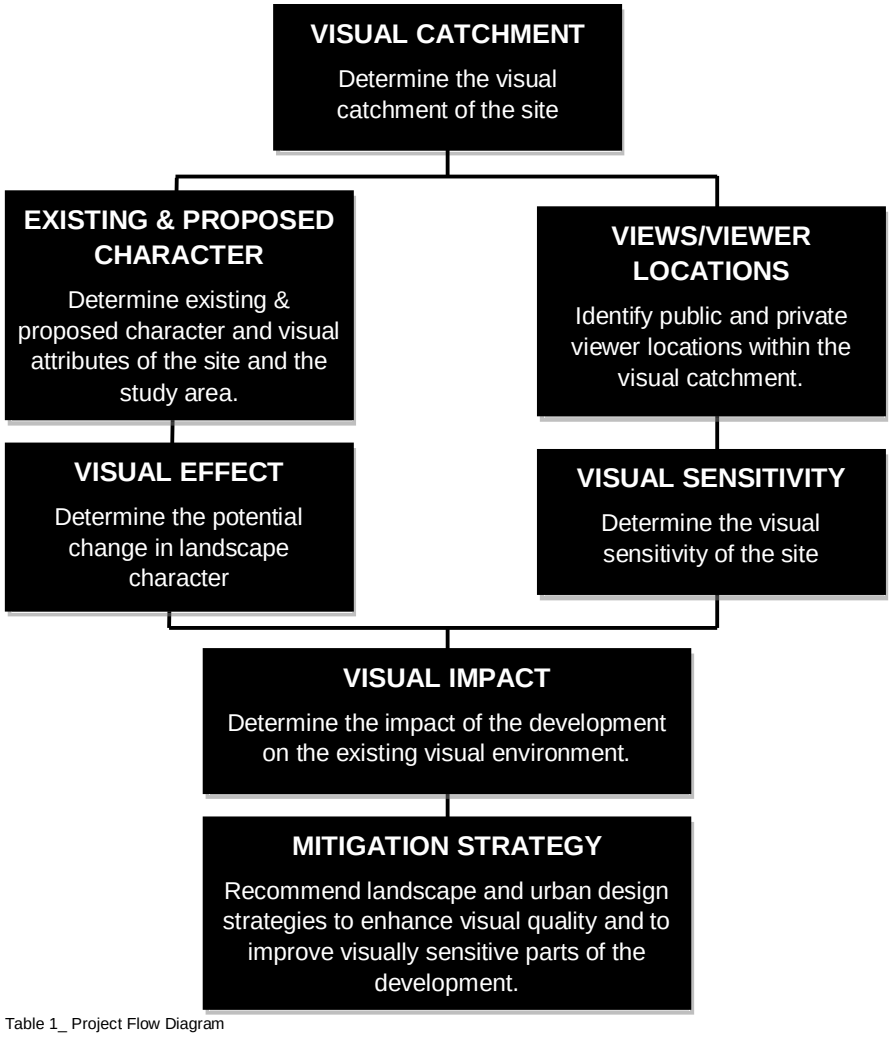

Table 1_ Project Flow Diagram

Once environmental constraints including those imposed by visual and landscape significance have been assessed, more detailed strategies for the conservation and management of these valued landscape character and elements can be developed.
These may include:
_maintenance of significant views, vistas, landmarks and other key features;
_open space;
_streetscape treatments; and
_landscaping treatments.

2.2_Visual Catchment

2 ____ Visual Assessment Methodology

The visual catchment of a site is the extent of the landscape that can be viewed from the site and likewise the extent of locations from which the site can be seen. Landscape, vegetation, land use and landform play key roles in determining the visual catchment. For example, where a development is surrounded by vegetation, the visual catchment is likely to be significantly restricted.

The visual catchment has been initially approximated by topographic analysis.

Where possible, ground truthing has been undertaken to ascertain the influences of the surrounding vegetation and land use. The extent of the visual catchment area determined by this process is shown in section 3.5.

2.3_Landscape Character

Landscape character is the recognisable pattern of elements that occurs in a particular landscape. Variations in geology and soils, landform, land use and vegetation, land use and settlement patterns and building styles, give rise to different landscapes each with its own distinctive character and unique sense of place. The landscape character of the SLRE - Stage 1 was assessed in order to determine the degree of change to the landscape character that would occur as a result of the proposed development.

2.4_Visual Effect

The visual effect of the proposed development is the expression of the change in landscape character created by the interaction between the development, and the existing environment. It can also be expressed as a level of contrast between the development and the visual setting within which it is placed. Critical issues are:
_changes to landform;
_changes to vegetation patterns; and
_the nature, density and scale of existing and proposed development.

A high visual effect would result if the development is a major element and contrasts strongly with the existing landscape. In such a situation there is little or no natural screening or integration, such as could be provided by vegetation or topography. In situations where the existing environment is heavily modified by the proposed development, for example through the large-scale removal of vegetation, a high visual effect would also result.

A moderate visual effect occurs if the proposed development is, to a certain extent, integrated with the landscape. This would occur if the surrounding vegetation and/or topography provide some measure of screening, background or other form of visual integration of the development with its setting.

A low visual effect occurs where there is minimal contrast and a high level of integration of form, line, shape, pattern, colour or texture values between the development and the environment. This can occur through integration of the development within the landscape setting or by substantial preservation of the existing visual setting.

2.5_Viewer Locations

Viewer locations are public or private places where the project can be viewed. Illegal or uncommon use of land which results in a view of the site has not been considered. Viewer locations within the visual catchment area and representative views from a particular area were marked on a topographic plan as well as the extent of the view of the site (refer Section 3.5).

2 ____ Visual Assessment Methodology

2.6_Visual Sensitivity

Visual sensitivity is a measure of the importance of the visual environment to different user groups and areas or locations. The function of each area affects the significance with which potential changes are viewed. The visual sensitivity of the development depends on a range of user-group characteristics and the authors' knowledge and experience of public perception of the quality of particular land uses and landscapes.

The characteristics considered in this study are:
_the perceived cultural value of the visual environment and elements within it;
_user groups (residents, motorists, recreation users etc);
_frequency (refers to the number of viewers that will be affected by changes in their views. If more people will be affected, the visual impact is likely to be higher);
_duration of view (refers to how long the viewers spend viewing the proposed development); and
_the distance of the proposed development from viewers.

2.6.1_Frequency

Frequency is the number of people who might view the proposed development. Three categories were determined:
_low frequency (residences where there are few inhabitants and visitors to private properties);
_medium frequency (roads, public walkways or parks that have medium usage by the general public),
_high frequency (public places and thoroughfares that have high usage).

2.6.2_Duration

Different levels of view duration at various view locations were identified and qualitative descriptions were determined:
_Short - Views from naturally vegetated (forested) areas or industrial areas that are partially obscured by topography, landscaping or structures.
_Short to moderate - Views from local roads where the duration of the view is short to moderate, many of the viewers are frequent users of the road, and their visual sensitivity is constrained because the orientation of the viewer is focussed on the road for much of the time (a viewer travelling in a vehicle only has a 20˚angle of visual either side of the centre view of the road at speeds of 100km/hr and a focusing distance of 600m, Road Traffic Authority, 1991).
_Long - Long duration views from residential and public recreational areas. Views include elements that dominate the landscape.

Long duration views from housing, or views form public places that have high visitation, would have highest visual impact. Short duration views, which are partially or largely obscured by existing topography, landscape or structures, would have the lowest visual impact.

2.6.3_Distance

Distance zones were determined around the project within the visual catchment area. The distance zones are as follows:
_Foreground zone - Areas within 0-300 metres of the viewer. Within this range the observer experiences maximum discernment of landscape details, such as shape, colour and contrast.
_Middle ground zone - Areas between 300 metres and 1 kilometre. Within this range, vegetation textures and land use patterns are visible to the observer.
_Background zone - Areas greater than 1 kilometre from the proposed development. Within the range, textures and patterns are indistinct to the observer. The viewer is unaware of individual details and discerns broader landscape units as patterns of light and dark.

Viewer locations that fall within the foreground zone are considered to be in the zone of highest visual impact because the proposed development would be part of their ground views. Changes to views in the middle ground are considered to be important, but less important than in the foreground. This is because the subject site is further from the viewer and would therefore likely occupy a lower proportion of the total views from the viewer location. It is considered that visual impact or viewer locations within the background one is of least significance, however, still worthy of consideration. In some cases, wholesale change of broad distant views in terms of colour, texture and pattern can still be significant.

2.7_Visual Impact

2 ____ Visual Assessment Methodology

Visual impact is a measure of the potential effect that the proposed development (including both natural and built elements) will have on the visual environment without any ameliorative landscape treatment, and is calculated using the formula as seen below (table 2).

Visual impact depends upon the visual catchment area (extent of visibility), visual sensitivity (the number of views and viewers affected, duration of views, and distance) and visual change (the degree of visual intrusion or obstruction that will occur). These visual impacts can be positive or negative.

Table 2 below illustrates the visual impact as a result of the relationship between visual effect and visual sensitivity.

	Visual Effect Levels			
Visual Sensitivity Levels		HIGH	MODERATE	LOW
	HIGH	High impact	High impact	Moderate impact
	MODERATE	High impact	Moderate impact	Low impact
	LOW	Moderate impact	Low impact	Low impact

Table 2_ Matrix for Determining the Visual Impact of Proposed Development

3 ___ Existing Visual Character

The following section provides an outline of the existing landform, land uses and vegetation in the vicinity of the proposed SLRE - Stage 1. These characters all contribute to the landscape and visual character of the study area.

3.1_Landform

The study area incorporates the Rozelle Goods Line corridor from Lilyfield Light Rail Stop to Dulwich Hill. The landform from the Cooks River rises gradually to New Canterbury Road and then over a low saddle and into the Hawthorne Canal catchment. The corridor runs along the centre of a reasonably flat, shallow natural valley and low dish between the Cooks River and the Parramatta River at Iron Cove (Marrickville Council 2009).
From here the landform heading east towards the existing Lilyfield Light Rail Stop is characterised by an existing rail cutting through a slight hill which rises from the Hawthorne Canal, peaks at Balmain Road, and then gradually falls towards Rozelle Bay.

3.2_Land Use

The land use is generally enclosed within the existing Rozelle Goods Line freight corridor, but does incorporate land outside the corridor for the GreenWay shared path. The study area encompasses the Leichhardt, Ashfield and Marrickville Local Government Areas. The study area is typical of Sydney metropolitan suburban areas with single detached residential developments interspersed with multi-unit residential developments. Other land uses include general and light industrial, commercial, special use and open space.

Existing light industry/commercial development within the study area is located along the eastern and western side of the railway corridor just north of Marion Street intersection, east of the Lords Road pedestrian underpass, to the east and west of the Parramatta Road intersection, between the Longport Road and Old Canterbury Road intersections on both the western and eastern edges dominated by the former Summer Hills Flour Mill, to the eastern side of the corridor north of Constitution Road, and both north and south of New Canterbury Road to the eastern edge.

The study area also features open spaces of note including Hawthorne Canal and Richard Murden Reserves, Lambert Park, Cadigal Reserve and dog park, Hoskins Park, Johnson Park, Arlington Recreational Park, Jack Shanahan Park, and the existing shared path which from Richard Murden Reserve to Parramatta Road.

Other land uses within the study area include the Canal Road Film Centre in Canal Road, Leichhardt, Sydney Buses Leichhardt Depot, various childcare centres, Dulwich Hill, Orange Grove, and Kegworth Public Schools, and Trinity Grammar campuses.

3.3_Landscape and Vegetation

The study area is generally located within the existing Rozelle Goods Line freight corridor which has been substantially developed and there are few natural features remaining, with the exception of the sandstone outcrops at the Cooks River end and along the Iron Cove shoreline. The nature of the existing corridor has encouraged the development of linear parklands in sporadic sequence, interlaced within the surrounding residential layout.

Urban landscape elements of significance include the Hawthorne Canal and Richard Murden Reserves which include existing pathways and sporting infrastructure; Cadigal Reserve and dog park; and the existing shared path which runs from Richard Murden Reserve to Parramatta Road.

Within the vicinity of the existing corridor, vegetation is characterised by urban landscape including gardens, shrubs and trees along the streets. Established vegetation located within the rail corridor provides elements of visual screening for residents, predominantly the residential dwellings that back on to or front the corridor. The vegetation adjacent to the Hawthorne Canal Reserve and vegetation running from Longport Street to Marion Street is of particular note.

3 ____ Existing Visual Character

3.4_General Descriptions of elements within the study area

3.4.1_Rail Corridor

The new SLRE Stage 1 will create a travel experience that is distinct and diverse. The SLRE is generally enclosed within the existing Rozelle Goods Line freight corridor which is characterised by the following:

_A disused railway corridor running through an inner metropolitan city area, with the associated ballast, tracks, over head wiring and stanchions.

_A series of spatial conditions along the corridor. These include enclosed sections within cuttings in the southern area and to the eastern section that attach to the existing Sydney Light Rail, compared to sections on fill batters and areas where the grade is compatible with its surrounds (GHD 2010).

_Shady conditions in a rail cutting with north – south orientation and raised sections on fill batters are often more exposed with wider and more accessible edge conditions.

Overall, the SLRE Stage 1 project will utilise a disused existing rail corridor to implement the light rail extension, with existing light industrial rail infrastructure to be utilised, altered or replaced to accommodate the new light rail extension. The implementation of the project will have a minor effect to the current visual character along the length of the rail corridor. Areas where a visual effect is noted have been included in section 4, with mitigation strategies in section 5 to be used to limit the visual impact of the proposed stop, substation, and GreenWay shared path locations.

01_

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01_ View south to New Canterbury Road overbridge, approximate location of Dulwich Grove stop (between overbridges)
02_ View south from adjacent to Loftus Street
03_ View east towards Lilyfield with the city west link on the right
04_ Waratah Mills units on the LHS of track (facing north towards Davis Street)

3 ____ Existing Visual Character

3.4.2_Vegetation in Rail Corridor

The vegetation within the rail corridor can be described as:

_Typical of a disused industrial rail line with a mixture of scattered weeds amongst ballast and track lines, dense untamed vegetation along batters in cut sections, established trees and shrubs along fill batters, and areas where the grade is similar with its surrounds.

_Established and remediated bushcare sites that are dotted throughout the rail corridor. These bushcare sites are often in protected pockets against built edge conditions. Connection with the proposed GreenWay shared path throughout the corridor will make access to these sites much easier.

_Existing vegetation provides valuable screening to the rail corridor.

01_

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01_ View west from rail corridor at the Waratah Mills site showing the current weed infested vegetation batter

02_ View looking east adjacent to the City West Link showing opportunistic vegetation establishment within a disused industrial setting

03_ View north of New Canterbury Road showing the dense, overgrown vegetation on the deep cutting within the corridor

04_ View looking south opposite the Waratah Mills site with current established bushcare site

3 ____ Existing Visual Character

3.4.3_Hawthorne Canal

The Hawthorne Canal starts at Iron Cove and extends both above and below ground south towards Hoskins Park on Davis Street in Dulwich Hill. It was originally a natural waterway known as Long Cove Creek that has been artificially straightened in a concrete channel for most of its length. The Canal has the following characteristics;

_A substantial width of approximately 10 metres and shallow banks running from the estuary where the canal meets Iron Cove heading south towards Marion Street, compared with higher banks and a restricted width of approximately 5 – 6 metres heading towards Parramatta Road. The canal then tapers into a deeper drain with a compromised width of 1 – 2 metres at Cadigal Reserve continuing both above and below ground towards Hoskins Park in Dulwich Hill.

_Four pedestrian crossings including Dobroyd Parade, north of the City West Link, a pedestrian bridge at the southern end of Richard Murden Reserve linking to Hawthorne Canal Park, the Lords Road pedestrian bridge and a crossing at Cadigal Reserve.

_Six major road and rail crossings over the canal, including the City West Link, Marion Street, Parramatta Road, Longport Street (including the City Rail Western and Bankstown rail line overpass and the heritage listed double track whipple trusses section), Old Canterbury Road, and Davis Street bridge.

_Conditions along the canal include an open and exposed condition along the linear parklands adjacent to the rail corridor dissecting Richard Murden Reserve and Hawthorne Canal Reserve; and an enclosed canal starting at Marion Street running south towards Parramatta Road and onwards, which is characterised by dense adjacent vegetation and the back of residential housing lots.

_Primarily north – south orientation, with the northern section often more exposed with wider and more accessible edge conditions including parklands, lawn areas, narrow sporting fields and pathways, and the southern section more shaded, densely vegetated, and less accessible edge conditions.

01_

02_

03_

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01_ View south from Richard Murden Reserve over the Hawthorne Canal into Hawthorne Canal Reserve
02_ View south looking towards Marion Street Bridge
03_ View south from the Lords Road, Haberfield pedestrian crossing
04_ View from Parramatta road looking north

3 ____ Existing Visual Character

3.4.4_Urban Landscape

The urban landscape along the study area is characterised by;

_Urban landscapes including gardens, shrubs and trees along residential streets, typical of inner-west metropolitan housing of Sydney.

_Light and heavy industry interspersed within the residential grain. Generally: The Canal Road Film Studios in Canal Road, the Leichhardt Council depot north of Marion Street, the industrial section encompassing the former Mungo Scott Mills between Longport Street and Old Canterbury Road, and light industry in and around Marion Street, Parramatta Road, Davis Street, New Canterbury Road and opposite the rail corridor at Johnson Park.

_Urban landscape elements of note include the open space corridor of Richard Murden Reserve and the Hawthorne Canal Reserve at the northern end of the corridor, Cadigal Reserve and dog park north of Longport Street, the existing shared path which runs from Richard Murden Reserve to Parramatta Road; and Hoskins Park, Johnson Park and Jack Shanahan Park, which all lie adjacent to the rail corridor and sit at strategic positions along the proposed Light Rail line.

Established vegetation located within the rail corridor provides elements of visual screening for residents, predominantly residential dwellings that back on to or front the corridor. The vegetation adjacent to the Hawthorne Canal Reserve and vegetation running from Longport Street north to Marion Street is of particular note.

01_

02_

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01_ View south from Marion Street looking featuring the existing pedestrian path adjacent to the Hawthorne Canal

02_ View south from Richard Murden Reserve showing the typical nature of the linear park

03_ View south along Weston Street, Dulwich Hill showing a typical streetscape which backs onto the Hawthorne Canal

04_ View looking east along New Canterbury Road, Dulwich Hill, showing a typical highly trafficked arterial road interface

3 ___ Existing Visual Character

3.5_Viewing Location and Sensitive Receptors

Viewer locations are public or private places where full or screened views of the project can be viewed and there is human activity being undertaken. This activity may include residential, industrial, business, schooling or recreation. Illegal or uncommon use of land which results in a view of the site has not been considered. The significant viewpoints that have been identified and assessed in this report are:

01_ Lilyfield
02_ Balmain Road Bridge
03_ Leichhardt North Stop
04_ Hawthorne Stop
05_ Hawthorne Parade
06_ Richard Murden Reserve (North) GreenWay shared path
07_ Marion Stop
08_ Taverners Hill Stop
09_ Lewisham West Stop
10_ Weston Street on street cycle path
11_ Waratah Mills Stop
12_ Arlington Stop
13_ Dulwich Grove Stop
14_ Jack Shanahan Park
15_ Dulwich Hill Interchange Stop
16_ Jack Shanahan Park to Cooks River GreenWay shared path
17_ Rail Corridor

The overall viewing locations are shown on Figure 2
The viewer locations are shown on Figures 3-7

3 ____ Existing Visual Character

Figure 1 Visual Impact assessment Viewer Locations

3 ____ Existing Visual Character

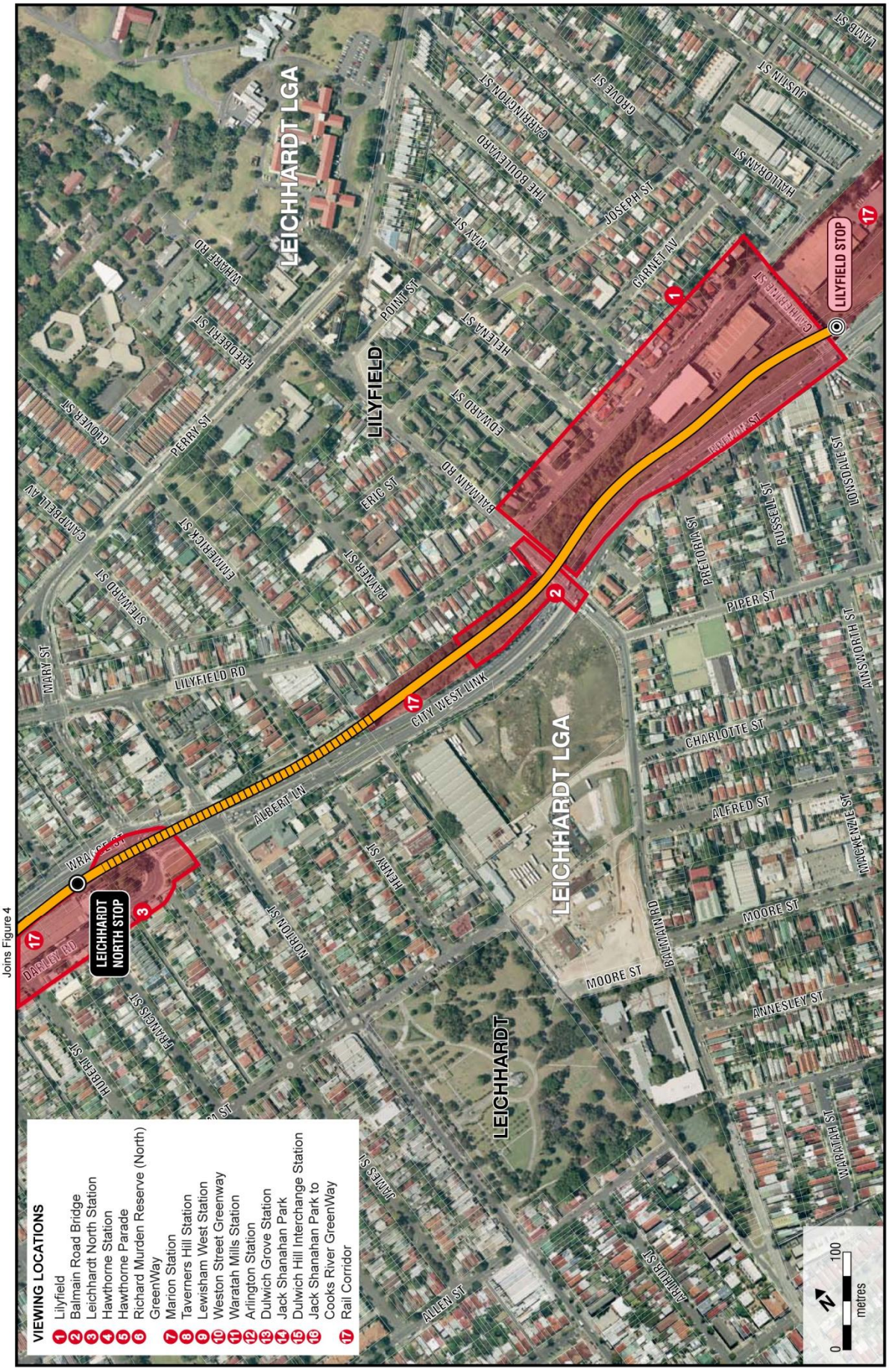


Figure 3 Viewing Locations

3 ____ Existing Visual Character

Figure 4 Viewing Locations

3 ____ Existing Visual Character

Figure 5 Viewing Locations

3 ____ Existing Visual Character

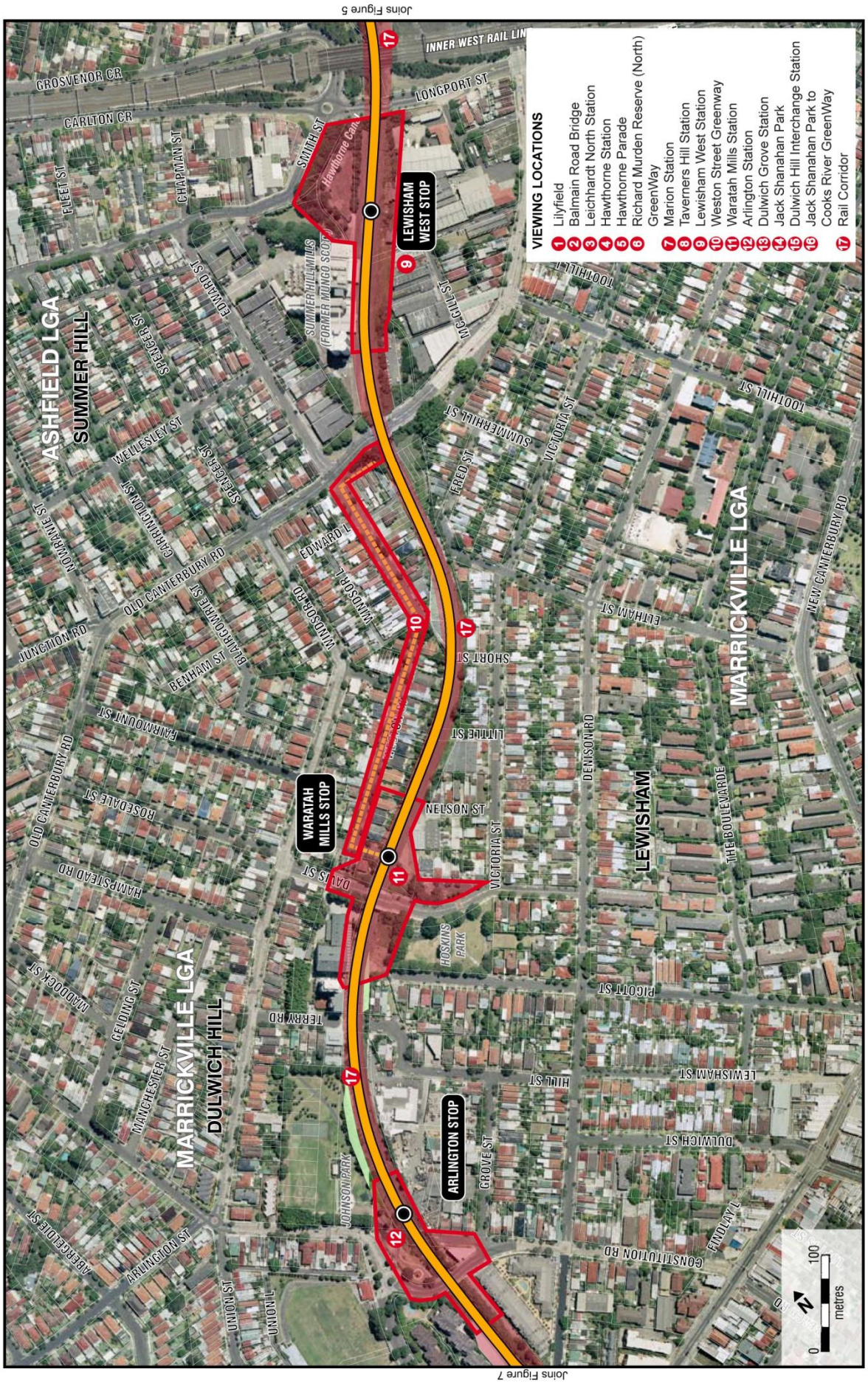


Figure 6 Viewing Locations

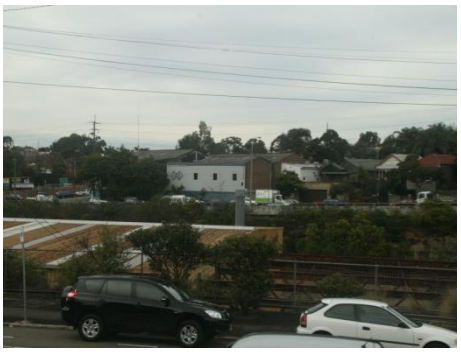
3 ____ Existing Visual Character

Figure 7 Viewing Locations

3 ____ Existing Visual Character

3.5.1_Viewing Location 1 – Lilyfield

Lilyfield Road is located at the north-eastern edge of the study area. The rail corridor and adjacent industrial warehouses sit within a cutting below the level of the road. Catherine St crosses over the rail corridor at the existing light rail stop. The City West Link runs adjacent to the corridor.



01_

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01_ The typical visual character as viewed from Lilyfield Road looking south
02_ The typical visual character as viewed from Lilyfield Road looking west

Lilyfield	
Landform	Cutting 5 to 8 metres below level of road and residential housing, with existing rail corridor and industry below.
Vegetation	Existing vegetation within the rail corridor, street planting, and associated urban landscape act as a visual screen between the rail corridor and the residential properties along Lilyfield Road.
Land Use	Land use along Lilyfield Road is predominantly detached housing with a multi-storey residential unit development of approximately 7-storeys at the intersection of Lilyfield Road and Catherine Street. A 3-storey development sits at the intersection of Lilyfield Road and Balmain Road. Lilyfield Road features a small cafe at road level. The City West Link runs adjacent to the rail line for much of its length and views into the rail corridor are obscured by a sound wall.
Visual Context	The rail corridor within the cutting is a dominant feature of the visual landscape for residential housing and units located on Lilyfield Road. Most of the residential housing have windows or front landings that have direct views over the cutting, units within multi-storey developments have a greater visual scope of the cutting and associated infrastructure. The visual prominence of the rail corridor and infrastructure is greatly diminished by the existing vegetation along Lilyfield road and the industrial buildings located within the rail corridor which limits views of the rail infrastructure.
Views from Viewpoint	Views from the viewpoint are experienced by: _residents overlooking the rail corridor. Existing fencing and vegetation provides some screening of the views; _residents of unit developments with prolonged views over the rail corridor. Existing vegetation within the rail corridor, street planting, and associated urban landscape offers screening of the views from the lower levels of the unit buildings but unrestricted views are available to upper level units. _visitors to the residential properties; and _motorists along Lilyfield Rd, Catherine Street and the City West Link.

3 ____ Existing Visual Character

3.5.2_Viewing Location 2 – Balmain Road Bridge

Balmain Road Bridge is located on north-eastern edge of the study area, overpassing the disused Rozelle Goods Line adjacent to the City West Link.

01_

02_

01_ The typical visual character as viewed from Balmain Road Bridge
02_ Visual character of residential housing that backs onto the rail corridor

Balmain Road Bridge

Landform	Bridge spans a cutting, with rail infrastructure sitting 8-10 metres below the level of the road.
Vegetation	Existing vegetation on the steep banks of the rail corridor and at street level acts as a dense visual screen between the rail corridor, City West Link and residential properties that back onto the rail corridor.
Land Use	Land use along the section of Balmain Road is predominantly detached housing to the north and adjacent to the rail corridor.
Visual Context	The rail corridor within the cutting is not a dominant feature of the visual landscape for residential housing within the vicinity of Balmain Road. Existing vegetation acts as a dense visual screen between the two land uses. Some residential housing has windows with direct views over the cutting. The visual prominence of the rail corridor and infrastructure is greatly diminished by the vegetation screen adjacent to the rail corridor.
Views from Viewpoint	Views from the viewpoint are experienced by: _small numbers of residents overlooking the rail corridor. Existing fencing and vegetation provides mostly dense screening of the views; _residents of housing with prolonged views over the rail corridor. Existing vegetation within the rail corridor, street planting, and associated urban landscape offers screening of the view; and _motorists on Balmain Road.

3 ____ Existing Visual Character

3.5.3_Viewing Location 3 – Leichhardt North Stop

Leichhardt North Stop is located below the City West Link at the intersection of Darley Road and Francis Street. The primary access will be aligned with Francis Street.

01_

02_

01_ View from corner of City West Link and Darley Road, looking west over the rail corridor.
02_ View from Darley Road opposite Francis Street, looking towards the proposed stop.

Leichhardt North Stop

Landform	City West Link to the north is elevated above the level of the track lines and proposed stop.
Vegetation	Existing vegetation quality is poor along the edges with the occasional mature tree. Existing urban landscape treatment at the intersection of the City West Link and Darley Road forms a screen between pedestrians and traffic to rail corridor below. A large mature Eucalypt at intersection of City West Link and Darley road provides a strong visual reference for the proposed stop.
Land Use	An existing disused and rundown industrial building is located at the site of the proposed stop. Land uses within the vicinity of the stop are predominantly detached residential housing with a 2 storey multi-unit development along Francis Street.
Visual Context	The visual prominence of the rail corridor and infrastructure is diminished by the existing abandoned industrial building, as well as the existing vegetation screen at the intersection of Darley Road and City West Link. The visual prominence of the rail corridor and infrastructure is also diminished by the existing vegetation screen south along Darley Road where the grade of the rail corridor rises to the Charles Street overbridge.
Views from Viewpoint	Views of Leichhardt North Stop are experienced by: _residents of the residential housing at the same grade as the rail corridor. Existing industrial building, fencing and vegetation provides reasonable screening of the views; _visitors to the residential properties; and _motorists and residents on Darley Road, James Street, Francis Street, Hubert Street and Charles Street.

3 ____ Existing Visual Character

3.5.4_Viewing Location 4 – Hawthorne Stop

Hawthorne Stop is located in the northern zone of the proposed Light Rail extension. The stop lies opposite Lyall Street, adjacent to Darley Road. A new pedestrian footbridge across the Hawthorne Canal will form a link across to Turner Avenue in Haberfield.

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01_ The typical visual character as viewed from intersection of Lyall Street and Darley Road.
02_ Visual character of residential housing adjacent to Darley Road, and along Lyall Street.

Hawthorne Stop

Landform	Predominantly flat with an approximate 1.5 metre raised batter through the rail corridor.
Vegetation	Existing vegetation within the rail corridor, street planting, and associated urban landscape act as a visual screen between the rail corridor and the residential properties along Darley Road.
Land Use	Land uses in the vicinity of Darley Road and Lyall Street are a mix of detached residential housing with some 2 storey multi-unit developments. There are also some supporting public amenities including a playground and park on Darley Road.
Visual Context	The visual prominence of the rail corridor and infrastructure from Darley Road and Lyall Street is moderately diminished by the existing park vegetation and distance from the proposed stop location. The visual prominence of the rail corridor and infrastructure is also diminished by the existing vegetation screen within the corridor itself. The majority of residential properties that are located adjacent to Darley Road are two storeys in height and most have fencing or vegetation screening views to the west, towards the rail corridor. Views along Lyall Street towards the rail corridor are more significant, however generally windows are orientated away from the rail corridor.
Views from Viewpoint	Views are experienced by: _residents of housing overlooking the rail corridor. Existing fencing and vegetation provides some screening of the views. _residents of unit developments with prolonged views over the rail corridor. Existing vegetation within the rail corridor, street planting, and associated urban landscape offers screening of the views from the lower levels of the unit buildings but unrestricted views are available to some upper level units; _visitors to the residential properties; _pedestrians walking along Lyall Street; _motorists along Darley Road; and _users of Hawthorne Canal Reserve.

3 ____ Existing Visual Character

3.5.5_Viewing Location 5 – Hawthorne Parade

Hawthorne Parade is situated adjacent to Richard Murden Reserve, which lies to the west of the Hawthorne Canal at the northern edge of the proposed Hawthorne Stop Light Rail extension. The stop lies opposite the intersection of Hawthorne Parade and Turner Avenue, and will form a link across the Hawthorne Canal to Darley Road at Lyall Street.

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01_ The typical visual character as viewed along Turner Avenue from Hawthorne Parade.
02_ Visual character of Richard Murden Reserve, looking east towards the proposed Hawthorne Light Rail Stop.

Hawthorne Parade

Landform	Predominantly flat across Hawthorne Parade, Richard Murden Reserve and Hawthorne Canal, with an approximate 1.5 metre raised batter through the rail corridor.
Vegetation	Existing vegetation within the rail corridor, street planting, and associated urban landscape act as a visual screen between the rail corridor and the residential properties along Hawthorne Parade.
Land Use	Land uses in the vicinity of Hawthorne Parade are predominantly detached residential housing. There are also some supporting public amenities including the playground and sporting infrastructure including tennis, basketball and netball courts which all sit within Richard Murden Reserve, adjacent to both Hawthorne Parade and the Hawthorne Canal.
Visual Context	The visual prominence of the rail corridor and infrastructure from Hawthorne Parade is greatly diminished by the existing park vegetation and distance from the proposed stop location. The visual prominence of the rail corridor and infrastructure is also diminished by the existing vegetation screen within the corridor itself. The majority of residential properties that are located adjacent to Hawthorne Parade and Turner Avenue are single storey and most have fencing or street trees screening views to the east, towards the rail corridor.
Views from Viewpoint	Views from the viewpoint are experienced by: _residents of the residential housing looking towards the rail corridor. Existing fencing and vegetation provides some screening of the views; _visitors to the residential properties; _visitors using Richard Murden Reserve; and _motorists on Hawthorne Parade.

3 ____ Existing Visual Character

3.5.6_Viewing Location 6 – Richard Murden Reserve (North) GreenWay shared path

Richard Murden Reserve is situated between Hawthorne Parade, Haberfield and the Hawthorne Canal, stretching north and then north east from Marion Street to the City West Link. The reserve features children's play areas (junior and senior), two basketball courts, four tennis courts, six netball courts, picnic areas, fitness course and supporting public amenities. The reserve is almost 15.5 acres in total.

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01_ View looking north east along Richard Murden Reserve and the Hawthorne Canal towards the City West Link
02_ Typical visual character looking north west across the Hawthorne Canal toward Richard Murden Reserve

Richard Murden Reserve (North) GreenWay shared path

Landform	Generally flat.
Vegetation	The northern section of the reserve features existing street planting along Hawthorne Parade, established linear tree planting adjacent to Hawthorne Parade, and a densely vegetated northern section of the reserve which provides almost total screening of the Hawthorne Canal from Hawthorne Parade.
Land Use	The reserve features open parkland, children's play areas (junior and senior), two basketball courts, four tennis courts, six netball courts, picnic areas, fitness course and supporting public amenities.
Visual Context	The majority of residential properties adjacent to Hawthorne Parade are single storey, with the majority of houses having front facing views of the reserve. Some housing has fencing or vegetation screening of the reserve. The visual prominence of the City West Link and Hawthorne Canal is considerably diminished by the existing park vegetation, particularly within the northern section of the reserve. Outlook over the rail corridor is not possible from this location.
Views from Viewpoint	Views from the viewpoint are experienced by: _residents of the residential housing looking towards the reserve. Existing fencing and vegetation provides some screening of the views; _vehicles using the City West Link, passing over the Hawthorne Canal; _visitors using Richard Murden Reserve; and _motorists on Hawthorne Parade.

3 ____ Existing Visual Character

3.5.7_Viewing Location 7 – Marion Stop

Marion Stop is located immediately north of Marion Street. The location of the proposed stop within the existing rail corridor is adjacent to the Hawthorne Canal on the western edge and an existing industrial land use on the eastern edge.

The new stop will be configured with staggered platforms with a stair and lift access from the western side (between the Hawthorne Canal and the existing rail corridor). A stair will also be provided on the eastern side of the corridor from Marion Street.

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01_ View from the eastern side of the rail corridor, looking north west across Marion Street towards the raised rail corridor
02_ View from the western side of the rail corridor, looking north east across Marion Street towards the location of the proposed lift and stair for Marion Stop.

Marion Stop	
Landform	The existing rail corridor is elevated 2-3 metres above the level of Marion Street, whilst the Hawthorne Canal passes under Marion Street on the western side of the existing rail bridge.
Vegetation	Existing vegetation within the rail corridor, planting within Richard Murden Reserve, and associated urban landscape act as a visual screen between the rail corridor and the residential properties along Hawthorne Parade.
Land Use	Land directly to the east of the proposed stop is used for industrial purposes, open space (Lambert Park), and a childcare centre. The surrounding area is dominated by medium density residential development. An existing shared pedestrian path runs north from Marion Street between the Hawthorne Canal and the entrance road and the existing Leichhardt Council depot, adjacent to the rail corridor. Further to the west is the residential area along Hawthorne Parade.
Visual Context	The existing raised rail corridor is a strong feature in area surrounding the proposed light rail stop. Views from Hawthorne Parade are significantly obscured by existing vegetation within Richard Murden Reserve and the rail corridor. Proposed construction changes may affect the degree of screening that current vegetation offers.
Views from Viewpoint	Views from the viewpoint are experienced by: _residents of the residential housing looking towards the rail corridor. Existing vegetation provides significant screening of views; _visitors to the residential properties; _visitors using Richard Murden Reserve; and _motorists Marion Street and Hawthorne Parade.

3 ____ Existing Visual Character

3.5.8_Viewing Location 8 – Taverners Hill Stop

The proposed Taverners Hill stop is located to the north and above the existing Parramatta Road bridge, running parallel with the Hawthorne Canal on the west side and adjacent to Brown Street on the eastern side of the rail corridor.

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01_ View from Parramatta Road looking towards the location of the for Taverners Hill stop.
02_ View looking north across Brown Street towards the proposed stop location.

Taverners Hill Stop

Landform	The existing rail corridor is elevated 2-3 metres above the level of Parramatta Road, the Hawthorne Canal passes under Parramatta Road, and the historic 'Battle Bridge' is on the western side of the existing rail bridge. The level change is to 6-7 metres for residents of Brown and Hathern Streets.
Vegetation	Existing vegetation within the rail corridor and associated urban landscape adjacent to the rail corridor on the western edge acts as a dense visual screen between the rail corridor and the residential properties along Hawthorne Parade. Residential properties along Brown and Hathern Streets have a dense visual screen along the steep battered edge of the existing rail corridor.
Land Use	Neighbouring land uses are dominated by residential dwellings. Significant industrial uses are located to the east of the stop along Parramatta Road. A strip of businesses/commercial units are located along Parramatta Road to the west of the proposed stop. A shared pedestrian path also located along the eastern bank of the Hawthorne Canal, north of Parramatta Road, and adjacent to the existing rail corridor.
Visual Context	The existing raised rail corridor is a strong feature in the visual landscape surrounding the proposed light rail stop. Views from Hawthorne Parade are significantly obscured by existing vegetation within the Hawthorne Canal and the rail corridor. Residential properties along Brown and Hathern Streets have a dense visual screen along the steep battered edge of the existing rail corridor. Proposed construction changes may affect the degree of screening that current vegetation offers.
Views from Viewpoint	Views from the viewpoint are experienced by: _residents of the residences looking towards the rail corridor. Existing vegetation provides significant screening of views; _users of the shared pedestrian path; and _motorists using Parramatta Road and Brown Street.

3 ____ Existing Visual Character

3.5.9_Viewing Location 9 – Lewisham West Stop

The proposed Lewisham West stop is located between Longport Street and Old Canterbury Road, positioned between the adjoining Summer Hill Flour Mills to the West and north of Hudson Street to the east.

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01_ Typical view looking west along Hudson Street towards the proposed location of Lewisham West stop.
02_ View looking north west across the rail corridor to the proposed Lewisham West stop.

Lewisham West Stop

Landform	Generally flat.
Vegetation	Existing landscape within the rail corridor, in particular the dense vegetation adjacent to Smith Street provides a visual screen between the rail corridor and the residential properties.
Land Use	Neighbouring land uses are dominated by industrial uses, although there are residential properties located to the south east and north east of the proposed stop location. Land directly to the north of the proposed stop is used for the CityRail network. New residential and commercial land uses are anticipated in the Summer Hills Flour Mill Site. Parts of the industrial area located to the south of the stop bordered by Longport Street, Old Canterbury Road, Hudson Street and backing on to the freight line are subject to a development proposal for redevelopment into a mixed use site, with significant residential components.
Visual Context	Some residential dwellings are located within the vicinity of the stop however these would have very limited views of the stop due to its location within an industrial setting and existing vegetation screening.
Views from Viewpoint	Views from the viewpoint are experienced by: _workers in surrounding industrial buildings; _pedestrians passing through the area; and _motorists using Longport Street and Old Canterbury Road.

3 ____ Existing Visual Character

3.5.10_Viewing Location 10 – Weston Street on street cycle path

Weston Street, Dulwich Hill runs parallel with the existing rail corridor between Old Canterbury Road and Windsor Road, with properties on the eastern side of the road backing onto the existing rail corridor. The GreenWay shared path continues within the rail corridor through a new subway under Old Canterbury Road. The GreenWay cycleway then continues along the existing Weston Street carrigeway to the west of the Light Rail corridor, reconnecting with the shared path at the southern end of Weston Street.

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01_The typical visual character as viewed from the intersection of Weston Street south, looking north east along Weston Street.
02_The typical visual character as viewed from the intersection of Windsor Lane and Weston Street, looking north along Weston Street towards Old Canterbury Road.

Weston Street on street cycle path

Landform	Generally flat with a slight grade fall south towards the intersection of Weston Street and Windsor Lane, before a gentle incline heading south west towards the southern end of Weston Street.
Vegetation	Urban landscape includes gardens, and trees along Weston Street which is typical of inner-west metropolitan housing.
Land Use	Residential development, being predominantly detached houses, with some new 2 storey residential properties located in the southern end of Weston Street.
Visual Context	The residential properties fronting Weston Street will overlook the proposed shared pedestrian path. Minor screening of these views is provided by street tree planting along Weston Street.
Views from Viewpoint	Views from the viewpoint are experienced by: _residents of the residential housing looking towards Weston Street. Existing vegetation provides minimal screening of views; _pedestrians and motorists on Weston Street.

3 ____ Existing Visual Character

3.5.11_Viewing Location 11 – Waratah Mills Stop

The Waratah Mills stop will be located just north of the cul-de-sac section of Davis Street, and will provide a pedestrian link across the rail corridor to Weston Street.

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01_View from the southern end of Weston Street, looking south across the rail corridor to an existing bushcare site and Davis Street beyond.
02_View from the Davis Street overpass looking north towards the proposed Waratah Mills stop, with the existing bushcare site to the right.

Waratah Mills Stop

Landform	Location of proposed Waratah Mills stop at grade across the rail corridor, whilst the Davis Street overbridge is elevated 3-4 metres above grade to the south of the proposed stop.
Vegetation	Existing vegetation within the rail corridor, street planting, and the associated urban landscape acts as a moderate visual screen between the rail corridor and the residential properties on Weston Street, and Davis Street. Hoskins Park to the south east of the site, also screens views of the rail corridor for surrounding residential properties. The existing native bushcare site (approx 70m x 40m) bounded by the rail corridor, Hawthorne Canal, and the cul-de-sac section of Davis Street was established in 2006 by the Inner West Environment Group.
Land Use	Neighbouring land uses are dominated by detached residential developments, the Waratah Mills multi-unit development located to the south of the Davis Street overbridge. There are also some industrial uses located along the cul-de-sac section of Davis Street that back onto the rail corridor. The Hawthorne Canal sits adjacent to the rail lines to the east. The canal tapers into a deep drain with a compromised width of 1 – 2 metres, and continues above and below ground south towards Hoskins Park.
Visual Context	Views of the proposed stop would generally be from residential houses backing onto the rail corridor north of the Davis Street overbridge. Views from Weston Street, the cul-de-sac section of Davis Street, and the Waratah Mills unit development are significantly obscured by existing vegetation adjacent to and within the rail corridor. Proposed changes may result in removal of some of this vegetation.
Views from Viewpoint	Views from the viewpoint are experienced by: _residents of the residential housing looking towards the rail corridor. Existing vegetation provides some screening of views; _visitors to the residential properties; _pedestrians and motorists using Weston Street and Davis Street.

3 ____ Existing Visual Character

3.5.12_Viewing Location 12 – Arlington Stop

The proposed Arlington Stop will be located north of the Constitution Road overbridge as it diverts up and over the existing rail corridor, in a cutting below the grade of Johnson Park and the Constitution Road cul-de-sac.

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01_View from Constitution Road overbridge looking north towards the proposed stop location.
02_The typical visual character as viewed from Johnson Park looking north adjacent to the rail corridor.

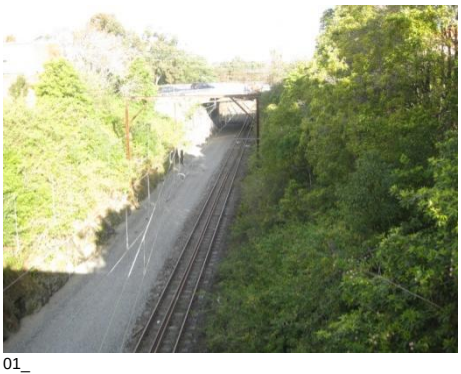
Arlington Stop

Landform	The proposed Arlington stop will sit within an existing cutting 2-3 metres below the grade of Johnson Park, and some 5-6 metres below the level of the Constitution Road overbridge.
Vegetation	Existing vegetation along the battered edges of the rail corridor, street planting, the associated urban landscape, and established Johnson Park vegetation provide a dense visual screen between the rail corridor and the residential properties along Constitution Road.
Land Use	Neighbouring land uses are dominated by industrial uses to the north east of the site, detached residential dwellings to the east and west of the rail corridor, green open space to the north west and west. High density multi-unit developments located both east and west of the rail corridor dominate land use south of the Constitution Road overbridge.
Visual Context	Views of the proposed stop would be limited due to its positioning within the cutting and would be significantly obscured by existing vegetation adjacent to and within the rail corridor. Views of the stop could be possible from the top levels of the high density residential units located to the south of the Constitution Road overbridge, adjacent to both sides of the corridor.
Views from Viewpoint	Views from the viewpoint are experienced by: _residents of the residential housing looking towards the rail corridor. Existing vegetation provides significant screening of views; _visitors to the residential properties; _pedestrians and motorists using Constitution Road.

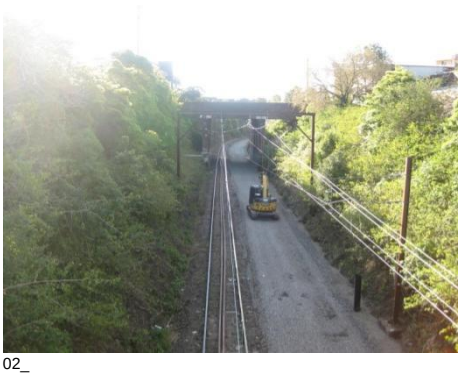
3 ____ Existing Visual Character

3.5.13_Viewing Location 13 – Dulwich Grove Stop

The proposed Dulwich Grove stop would be situated within a deep cutting between the New Canterbury Road and Hercules Street overbridges.



01_



02_

01_ View from New Canterbury Road overbridge, looking south towards Hercules Street overbridge.
02_ View from Hercules Street overbridge, looking north towards New Canterbury Road overbridge.

Dulwich Grove Stop

Landform	The proposed Dulwich Grove stop will sit within a deep existing cutting 5-6 metres below the level of New Canterbury Road and Hercules Street.
Vegetation	Existing vegetation along the steep battered edges of the rail corridor provides a dense visual screen between the rail corridor and the high density residential properties to the west of the rail corridor.
Land Use	Land use to the western side of the corridor in the vicinity of the proposed stop is dominated by residential dwellings. Land uses to the east of the corridor are mixed with industrial uses adjacent to the proposed stop and the Dulwich Hill Primary School located to the south of Hercules Street. Business and commercial uses are located to the east of the proposed stop, associated with the commercial strip along New Canterbury Road. Residential uses are spread throughout the eastern side of the corridor among the business and commercial land uses.
Visual Context	Views of the proposed stop would be limited due to its positioning in a cutting and due to screening by existing vegetation within the cutting. Views of the stop would be possible from the upper levels of the residential units located to the west of the rail corridor. Construction of the GreenWay shared path within the corridor may affect the extent of existing vegetation
Views from Viewpoint	Views from the viewpoint are experienced by: _residents of unit developments with prolonged views over the rail corridor. Existing vegetation within the rail corridor offers screening of the views from the lower levels of the unit buildings but views are available to upper level units; _visitors to the residential properties; _pedestrians and motorists using New Canterbury Road and Hercules Street.

3 ____ Existing Visual Character

3.5.14_Viewing Location 14 – Jack Shanahan Park

Jack Shanahan Park is located within a disused fork of the existing rail corridor, bordered by the CityRail Bankstown line to the south and extends perpendicularly northwards within the disused fork of the Rozelle Goods Line. The park features a skate park, tennis court, basketball court, children's play area and supporting public amenities. The park is currently accessed from the west by Terrace Road, with limited car parking options.

As part of the GreenWay proposal, the shared path will rise along the existing rail embankment and cross the disused track lines on a new shared path at grade. The path extends into Jack Shanahan Park and will further activate this otherwise isolated public park.

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01_ Jack Shanahan Park as viewed from the corner of Macarthur Parade and Bedford Crescent, lookingwest across the existing rail corridor.
02_ The northern edge of Jack Shanahan Park as viewed from the fork of the Rozelle Goods Line, looking south west along the existing rail corridor.

Jack Shanahan Park

Landform	The park sits within a shallow dish inside the surrounding rail infrastructure that gently slopes down towards Terrace Road, while the western finger of the Rozelle Goods Line and the CityRail Bankstown Line meet on an elevated batter above Terrace Road.
Vegetation	The park is bordered by existing vegetation within the rail corridor. The park itself is dominated by grass with a sporadic, established tree border interspersed with select few trees throughout the park.
Land Use	The park features a skate park, tennis court, basketball court and small children's play area and supporting public amenities. The park is currently accessed from the west by Terrace Road, with a small car park at the entrance.
Visual Context	Views of the park would generally be from residential houses backing onto the rail corridor along Bedford Crescent, Macarthur Parade, and Hercules Street. Views from all residential housing within the vicinity of the park are significantly obscured by existing vegetation adjacent to, within the rail corridor, and within the park itself. Views from surrounding roads including Ewart Street, Terrace Road, and Hercules Street are generally obscured by the raised batter of the western finger of the Rozelle Goods Line and the CityRail Bankstown Line, and thus are in the main not impacted by development within Jack Shanahan Park.
Views from Viewpoint	Views from the viewpoint are experienced by: _visitors to the park; _pedestrians passing through the area; _rail passengers travelling along the CityRail Bankstown Line; and _select residents along Bedford Crescent, Macarthur Parade, and Hercules Street.

3.5.15_Viewing Location 15 – Dulwich Hill Interchange Stop

The Dulwich Hill Interchange stop forms the southern end of the Light Rail extension and would be located adjacent to and below the intersection of Bedford Crescent and Wardell Road, opposite the existing Dulwich Hill CityRail Stop at grade.

3 ____ Existing Visual Character

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01_ View looking east along Bedford Crescent towards Wardell Street, adjacent to the existing rail corridor on the right.
02_ View looking south from Bedford Crescent across the existing rail corridor, including the Dulwich Hill CityRail station, towards multi-unit residential developments along Ewart Lane.

Dulwich Hill Interchange Stop

Landform	The proposed stop would sit at grade, opposite the current Dulwich Hill CityRail stop, adjacent to Bedford Crescent along a cutting some 5-6 metres below the road level above.
Vegetation	Existing vegetation along the rail corridor embankments, street planting, and associated urban landscape provide substantial visual screening between the rail corridor and the residential properties along Bedford Crescent. Established vegetation along the border of Jack Shanahan Park offers substantial screening of the proposed stop for users of the park.
Land Use	Land use in the area surrounding the proposed stop is dominated by residential uses. Small areas of business and commercial uses are located on either side of the Dulwich Hill CityRail stop along Wardell Road.
Visual Context	Views of the proposed stop would be limited for residential properties along Bedford Crescent due to its positioning within and adjacent to the cutting and screening offered by urban landscape at road level. Views from Jack Shanahan Park would also be limited as vegetation along the border offers substantial screening of the proposed stop. Views from upper levels of multi-unit residential developments along Ewart Lane would have prolonged views over the rail corridor, although the grade and vegetation would offer substantially screened views from the lower levels of the unit buildings.
Views from Viewpoint	Views from the viewpoint are experienced by: _residents of multi-unit developments along Bedford Crescent and Ewart Lane, with prolonged views over the rail corridor. Existing vegetation within the rail corridor offers screening of the views from the lower levels of the unit buildings but views are available to upper level units; _visitors to the residential properties; _pedestrians and motorists using Bedford Crescent, Wardell Road and Ewart Lane.

3.5.16_Viewing Location 16 – Jack Shanahan Park to Cooks River GreenWay Shared Path

The proposed GreenWay shared path extends from Jack Shanahan Park, continuing under the existing CityRail Bankstown Line rail bridge, via a proposed on street bicycle shoulder lane. The new 3 metre shared bicycle lane commences at Terrace Road, extending along Ewart Street, crossing and continuing along Riverside Crescent and Wardell Road to the northern edge of the Cooks River Bridge.

3 ____ Existing Visual Character

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01_ The typical visual character looking east along Ewart Street.
02_ View from the intersection of Riverside Crescent and Wardell Road, looking south west towards the Cooks River.

Jack Shanahan Park to Cooks River GreenWay shared path

Landform	Generally at grade along Ewart Street, then a gradual decline along Riverside Crescent and Wardell Road towards the Cooks River Bridge.
Vegetation	Urban Landscape including gardens, shrubs and trees along Ewart Street, Riverside Crescent and Wardell Road, which is typical of inner-west metropolitan housing of Sydney
Land Use	Land use is predominantlyresidential development, being primarily detached housing, interspersed with 2 storey and multi unit developments. The study are also features a CityRail commuter carpark adjacent to the north side of Ewart Street, as well as a service station at the corner or Riverside Crescent and Wardell Road.
Visual Context	The residential properties fronting Terrace Road, Ewart Street, Riverside Crescent, and Wardell Road will overlook the proposed shared pedestrian path, although there are minor screening of views due to associated urban landscape along the streets in question.
Views from Viewpoint	Views from the viewpoint are experienced by: _residents of the residential housing looking towards Terrace Road, Ewart Street, Riverside Crescent, and Wardell Road. Existing vegetation provides minimal screening of views; _pedestrians passing through the area; and _motorists passing through the area.

3 ____ Existing Visual Character

3.5.17_Viewing Location 17 – Rail Corridor

The rail corridor for the SLRE Stage 1 follows a 5.6 kilometre section of the existing disused Rozelle goods line corridor. The corridor runs between the existing Lilyfield light rail stop and the proposed Dulwich Hill Interchange stop, adjacent to the existing CityRail Dulwich Hill Station.
The SLRE Stage 1 project will utilise a disused existing rail corridor to implement the light rail extension, with existing light industrial rail infrastructure to be utilised, altered or replaced to accommodate the new light rail extension.

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01_ View from intersection of City West Link and Darley Road looking west
02_ Typical view of the existing rail corridor within the residential grain, as seen from Walter Street looking west.

Rail Corridor	
Landform	Enclosed sections within cuttings in the southern zone of the study area and to the eastern section that attach to the existing Sydney Light Rail, compared to sections on fill batters and areas where the grade is compatible with its surrounds.
Vegetation	Typical of a disused industrial rail line with a mixture of scattered weeds amongst ballast and track lines, dense opportunistic vegetation along batters in cut sections, established trees and shrubs along fill batters. Established and remediated bushcare sites are dotted throughout the rail corridor, often in protected pockets against built edge conditions.
Land Use	A disused railway corridor running through an inner metropolitan city area, with the associated ballast, tracks, over head wiring, and stanchions.
Visual Context	Generally, the implementation of the project will have a minor effect to the current visual character along the length of the rail corridor, as a current rail corridor with associated rail infrastructure already exists. Existing established vegetation provides valuable screening to and from within the rail corridor.
Views from Viewpoint	Views from the viewpoint are experienced by: _residents of the residential housing looking towards the rail corridor. Existing vegetation provides some screening of views; _users of the proposed light rail extension; _pedestrians passing through the area; and _motorists passing through the area.

4 ___ Visual Impact Assessment

4.1_Project Description and Visual Elements

The project is located along the disused Rozelle Goods Line from the existing Lilyfield Light Rail Stop to the Dulwich Hill State Rail Station. The project scope also incorporates the proposed GreenWay shared path, which will link green space between the Cooks River and the Parramatta River at Iron Cove. The visible project elements both during construction and operation are:

_Light Rail Stops would be configured based on the dimensions of 3.0m width and 30m length. These dimensions are consistent with the platforms for the existing Light Rail Stops.
_A minimum of 1 wheelchair waiting space is required at each platform. Each wheelchair waiting area is to have minimum unobstructed internal dimensions of 1300mm (length) x 800mm (width). Each wheelchair waiting space will be located on a level area and sheltered.
_An unobstructed, level circulation area with minimum internal dimensions of 2070mm x 1540mm is required adjacent to wheelchair waiting areas.
_Paving for platforms and paths will be predominantly asphaltic concrete with contrasting concrete edging and incorporation of tactile requirements.
_Each crossing will have a minimum clear width of 4m throughout to allow two wheelchair users to pass each other simultaneously whilst travelling in the opposite direction.
_Each crossing will be continuously level throughout.
_Shelters will be approximately twelve metres long with glazed panels and roofed to provide weather protection on each platform. The shelter will provide for both standing and seating space including space for wheelchairs and prams.
_Furniture for the Stops would include two seats within the shelter, one general waste rubbish bin and one recycling rubbish bin.
_Bicycle parking facilities are to be installed at each Stop. The preferred location for bicycle parking is below stairs, where stairs are provided at Stops. For Stops that do not have stairs, convenient bicycle parking facilities will be provided near platforms and/or edges of approach paths.
_Closed Circuit Television Cameras (CCTV) – As per the existing Light Rail Stops from Lilyfield to Central Station, each Stop will have CCTV provisions for passenger security. CCTV will provide a direct link between each Stop and the Operations Control Centre.
_An appropriate level of light will be provided to enable the operation of CCTV.
_A lift will be necessary where new stops occur in a cutting or in a raised embankment.

4 ____ Visual Impact Assessment

4.1.1_GreenWay Shared Path

The Cooks River to Iron Cove GreenWay shared path vision is for, a 'recognisable environmental, cultural and non – motorised transport corridor linking the sub-catchments of two of Sydney's most important waterways' (Marrickville Council 2009).

The GreenWay is a community led initiative to achieve a sustainable environmental, cultural and non-motorised corridor that links the Cooks River to Iron Cove, passing through four local government areas, following the line of the disused Rozelle Goods Line rail corridor incorporating much of the Hawthorne Canal. The project will integrate different modes of transport within the GreenWay shared path catchment, as seen in Figure 8. The GreenWay shared path will be a 5 kilometre shared cycling and walking path, incorporating important bushcare sites, which the NSW Government has indicated will be included in the scope of the Inner West Light Rail extension - Stage 1. A Master Plan and Co-ordination strategy for the GreenWay shared path initiative has been prepared by the GreenWay Steering Committee.

An integral component of the GreenWay vision is the re-establishment of local provenance native vegetation in order to provide a continuous vegetation and habitat corridor. The open space associated with these features provides the basis for a GreenWay shared path between the Cooks River and Iron Cove (Ashfield Council 2010).

The GreenWay shared path associated with the Lilyfield to Dulwich Hill Light Rail Extension incorporates:

_A shared pathway of minimum 3.0m width predominantly on the western side of the existing rail corridor where there is more room and greater ability to link in with the existing open space fabric.
_New on street shared pathway, predominantly along a section of Weston Street where continuous GreenWay integration through the existing rail corridor is not possible, and a new integrated shared pathway from Jack Shanahan Park to the Cooks River through the existing street network.
_Provision of pedestrian linkages (access pathways) to surrounding neighbourhoods to enable access to the GreenWay shared path and light rail stops.
_Modification of the existing road bridge structures to accommodate the GreenWay shared path – namely at Hercules Street, Old Canterbury Road, Constitution Road, Davis Street and Longport Street.
_New pedestrian/cycle bridge at Parramatta Road adjacent to the light rail overbridge.
_New pedestrian/cycle bridge across the Hawthorne Canal near Hawthorne stop.
_New infrastructure to ensure accessibility and connectivity between the shared path, local streets and light rail stops.
_Provision of sites for bushcare and vegetation remediation areas
_A green streets or "trellis" network of quiet cycling and pedestrian friendly streets progressively implemented to complement and link to the GreenWay Trail "spine" and the Lilyfield to Dulwich Hill Light Rail Extension.
_Bushcare and vegetation remediation areas where possible within the operational requirements of the Lilyfield to Dulwich Hill Light Rail Extension, in order to provide for existing, and an increase in, local habitat for fauna.
_Expansion of the 'Bush Link' corridor that enhances biodiversity and provides habitat and protection for the Long Nosed Bandicoot
_An integrated public art & interpretation strategy through visibility, education or other means to enhance the experience of living, working, visiting, and travelling along the corridor.
_Weston Street GreenWay is assumed to be within road carriageway.

4 ___ Visual Impact Assessment

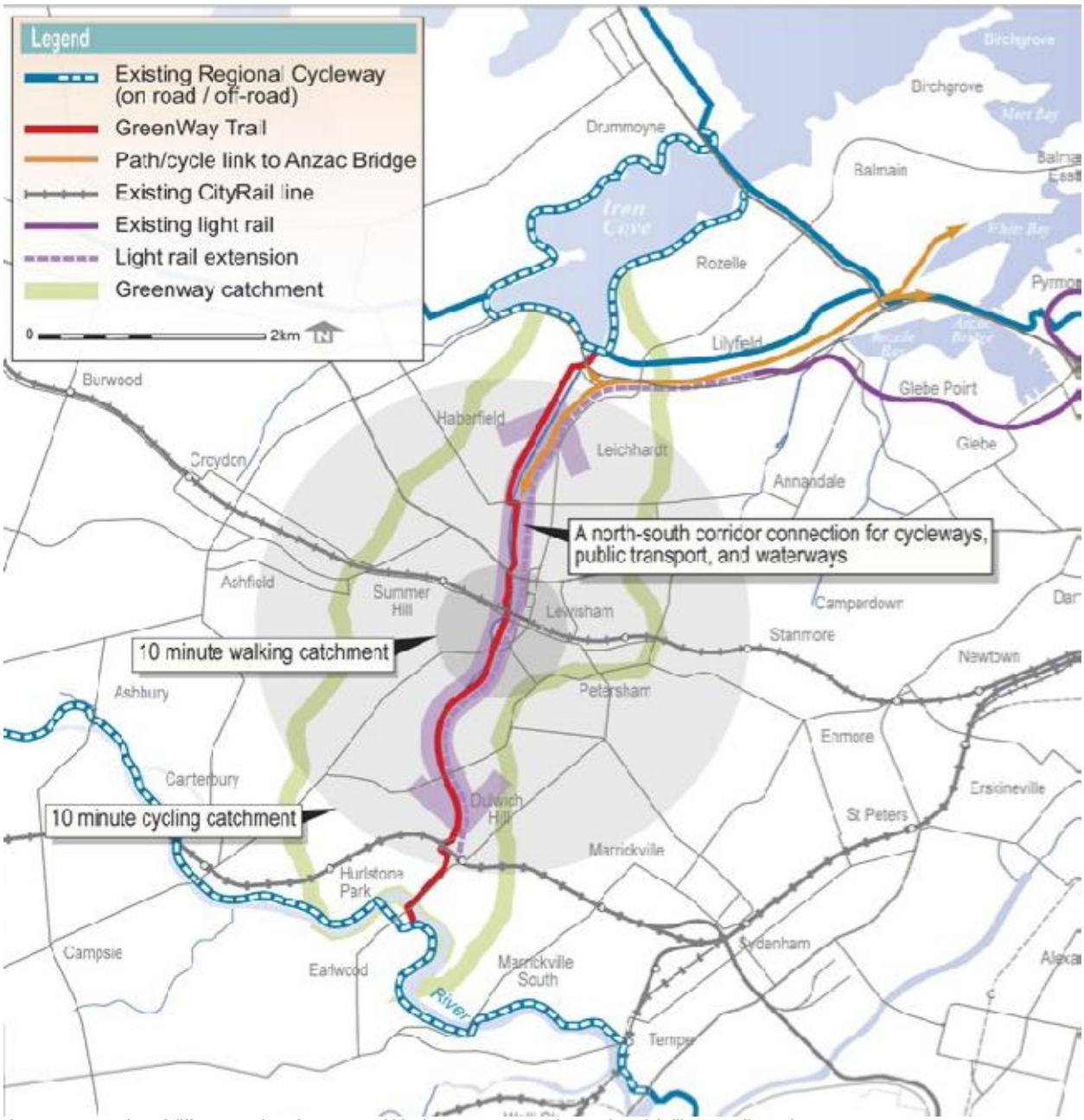

Figure 8_ Integration of different modes of transport within the GreenWay catchment (Marrickville Council 2009).

4 ___ Visual Impact Assessment

4.1.2_Construction and Compounds

Construction compound locations are outlined in figures 7.1 a-f

Activities at compounds are assumed to include:
_site offices;
_cribbing and staff facilities;
_staff parking (Only at Rozelle Goods Yard);
_plant and equipment storage;
_laydown area;
_materials delivery;
_maintenance sheds;
_lighting for possible night works;
_chemical/fuel stores; and
_stockpile areas;

4 ____ Visual Impact Assessment

4.2_Assessment of Landscape and Visual Elements

01_ View from Catherine Street overbridge looking west.

02_ View from Balmain Road overbridge looking east.

4 ____ Visual Impact Assessment

Visual Effect	Visual Sensitivity	Visual Impact	Mitigation Strategy
01_ Lilyfield			
Low visual effect. *Visible Elements: Construction* A construction compound is proposed at the termination of the existing rail corridor. This will be located east of the Catherine St. bridge. *Visible Elements: Operation* Insertion of overhead wiring within an existing industrial rail environment. Inclusion of an electrical substation next to the existing industrial buildings. Minor amendments to existing Lilyfield Stop. Increased volume of light rail traffic.	**Moderate** visual sensitivity. Views are experienced by residents of the top levels of residential flat dwellings. These views are a small part of the whole view and the degree of change will be small. Views are also experienced by pedestrians along Catherine Street. View change from top of residential units with windows and balconies facing the corridor is in foreground for long duration, contributing to moderate visual sensitivity.	**Low** visual impact. While views into the rail corridor are experienced by residents of nearby residential flat buildings, there will be little change to the existing experience. The quality of the landscape within the rail corridor has the opportunity to be improved. Proposed changes are similar in nature and scale to existing infrastructure, with minor adjustment to existing character.	N/A
02_ Balmain Road			
Low visual effect. *Visible Elements: Construction* Construction of the overhead services structure. *Visible Elements: Operation* As the rail corridor is in deep cutting or tunnel, there is minimal visual change. Visible elements of the project will be the insertion of overhead wiring. Significant existing vegetation screens the rail corridor from most view points.	**Low** visual sensitivity. Pedestrians on Balmain Road Bridge. Potential for some views from rear of adjacent properties west of Balmain Road.	**Low** visual impact. The visual impact of the project will have minimal impact on the area around Balmain Road.	N/A

4 ____ Visual Impact Assessment

03_ View from Darley Road.

04_ View from Darley Road looking towards rail corridor.

4 ___ Visual Impact Assessment

Visual Effect	Visual Sensitivity	Visual Impact	Mitigation Strategy
03_ Leichhardt North Stop			
Low visual effect. *Visible Elements: Construction* The area between the stop and the Charles Street bridge is nominated as a construction site. Short term visual impact during construction phase. *Visible Elements: Operation* The stop infrastructure (lifts and stairs) would be visible for motorists at the intersection of the City West Link and James Street as well as for pedestrians and motorists along Darley Road. The demolition of the industrial building and proposed footpath works provide the opportunity to improve the streetscape of Darley Road.	**Moderate** visual sensitivity. Residential dwellings along adjoining streets. Motorists along Darley Road Pedestrians along Darley Road, and surrounding streets. Light rail stop is located below the City West Link and is screened to motorists and residents by an existing sound wall structure.	**Low** visual impact. While there will be a degree of change particularly in the built form, these will create an improvement to the existing streetscape.	Demolition of the industrial building is appropriate for light rail and residential context.
04_ Hawthorne stop			
Moderate visual effect. *Visible Elements: Construction* Construction of stop infrastructure. rewiring of overhead services.Construction of pedestrian bridge over Hawthorne Canal. Construction compound to the west of the proposed stop location *Visible Elements: Operation* Stop infrastructure will be visible from Daley Road as well as for users of Hawthorne Canal Reserve and the playground on Darley Road. The stop will be accessed by gently graded paths. The stop will be on a small embankment. Light weight stop structures will have a visual effect but will not dominate. New pedestrian bridge structure over Hawthorne Canal.	**Moderate** visual sensitivity. Residential dwellings along Darley Road and Lyall Streets for long durations, with greater distance of housing from corridor. Users of Hawthorne Canal. Reserve and the existing playground on Darley Road.	**Moderate** visual impact. Retained vegetation creates a visual consistency between the current situation the future stop, as well as providing screening to works.	Detail design to address location of vegetation to provide screen for stop infrastructure.

4 ___ Visual Impact Assessment

05_ View Turner Avenue looking east across Richard Murden reserve

06_ View from Richard Murden Reserve, opposite Turner Avenue, looking north

4 ____ Visual Impact Assessment

Visual Effect	Visual Sensitivity	Visual Impact	Mitigation Strategy
05_ Hawthorne Parade			
Low visual effect. *Visible Elements: Construction* GreenWay shared path construction *Visible Elements: Operation* New GreenWay shared path along Hawthorne Canal. Substantial parkland vegetation provides screening of new rail infrastructure. Increase in pedestrian and cycle numbers along the GreenWay shared path. New elements are consistent with existing park elements and infrastructure.	**Low** visual sensitivity. Pedestrians and users of Hawthorne parade and Hawthorne Canal Reserve. Residents on Hawthorne Parade. Substantial street and park planting provides screening to detached homes.	**Low** visual impact.	Detail design of GreenWay shared path to address location of pathway, existing mature vegetation and the location of additional planting.
06_ Richard Murden Reserve North GreenWay Shared Path			
Low visual effect. *Visible Elements: Construction* Upgrade works and install GreenWay shared path aligned with the Hawthorne Canal. Construction compound will be within Richard Murden Reserve *Visible Elements: Operation* Upgrade of parts of the existing pedestrian and cycle path to 3m GreenWay. New elements are consistent with existing park elements and infrastructure.	**Low** visual sensitivity. Users of the reserve, motorists along Hawthorne Parade and Marion Street. Residents on Hawthorne Parade. Existing mature vegetation within reserve.	**Low** visual impact. GreenWay and upgrade will have a low visual impact on Richard Murden Reserve.	Detail design of GreenWay shared path to address location of pathway, existing mature vegetation and the location of additional planting.

4 ___ Visual Impact Assessment

07_ View from Marion Street looking east towards the rail overbridge

08_ View from Parramatta Road looking east towards the rail overbridge

4 ____ Visual Impact Assessment

Visual Effect	Visual Sensitivity	Visual Impact	Mitigation Strategy
07_ Marion Stop			
Moderate visual effect. *Visible Elements: Construction* Visual effect of removal of trackside vegetation particularly on the western side of the tracks will have a visual effect on Richard Murden Reserve. Construction of lift and stair access on western side of rail bridge on north side of Marion Street. Construction of electrical substation. Construction compound near proposed stop location. *Visible Elements: Operation* Signalised pedestrian crossing on Marion Street. Path and stair within reserve east of the rail line. General improvement to public domain of Marion Street. Location of electrical substation east of the rail line, north of Marion Street.	**Moderate** visual sensitivity. Motorists travelling east on Marion street, sustained mid-ground views of new stair and lift structure. Cyclists and pedestrians on the existing cycle path. Users of Richard Murden Reserve – removal of vegetation along embankment will make stop more visible.	**Moderate** visual impact. The project could improve the general urban design quality of Marion Street.	Detail design of Marion to include reinstatement of trackside vegetation. Ensure that the change in grade between the rail corridor and Hawthorne Canal will enable establishment of vegetative screen. Detail design to include appropriate urban design elements where the stair and lift structure is located on Marion Street.
08_ Taverners Hill Stop			
Moderate visual effect. *Visible Elements: Construction* Construction works on rail bridge over Parramatta Road (raising of bridge). Construction of new GreenWay shared path bridge including lifts and stairs attached to western side of the Brown Street Bridge Removal of trackside vegetation for construction of GreenWay shared path along western side of track. Construction compound near proposed stop location *Visible Elements: Operation* Greenway shared path bridge and lift and stair structures on either side of Parramatta Road. Stop infrastructure Path and stairs access from end Hathern Street.	**Moderate** visual sensitivity. Motorists on Parramatta Road, short, fleeting views. Residents of Hawthorne Parade, views east from rear yards. Existing vegetation along Canal will enable screening. Pedestrians and cyclists on existing cycleway.	**Moderate** visual impact. Current bridge structure has little appeal and the attachment of the pathway to the rail bridge would have the potential to provide some urban design continuity.	Endeavour to protect vegetation outside rail corridor during construction. Detail design to provide for the reinstatement of trackside vegetation following construction works. Detail design needs to address the heritage implications of Battle Bridge.

4 ____ Visual Impact Assessment

09_ View from Hudson Street looking west across the rail corridor towards the Summer Hill Mill site

10_ View along Weston Street looking south west

4 ____ Visual Impact Assessment

Visual Effect	Visual Sensitivity	Visual Impact	Mitigation Strategy
09_ Lewisham West Stop			
Moderate visual effect. *Visible Elements: Construction* Located within the future urban development area between Summer Hill Mill site and industrial area to the south of the rail corridor. Major change will be the inclusion of stop infrastructure and the GreenWay next to the rail line. Construction compound would be near proposed stop location, along western side of rail corridor and under Old Canterbury Road overbridge. Construction compound is proposed next to Inner West Rail Line on Railway Terrace. *Visible Elements: Operation* Construction and site office location proposed adjacent to the Inner West Rail Line on Railway Terrace. Location of GreenWay along the rail corridor with associated planting. Electrical substation east of the rail line near the end of Hudson Street. *Future Context:* Parts of the industrial area are subject to a development proposal for redevelopment into a mixed use site, with significant residential components. This will alter the visual effect.	**Low** visual sensitivity. Limited views from existing users. Mungo Scott is currently under design for future development. The adjacent park is currently in poor condition and will be upgraded in the future.	**Low** visual impact. Activation of the street frontage along Hudson and McGill Streets will improve access legibility.	Detail design to address incorporation of lighting along Hudson street and signage on Old Canterbury Road.
10_ Weston Street Greenway			
Low visual effect. *Visible Elements: Construction* Implementation of road marking. *Visible Elements: Operation* Visibility of road markings and increase in volume of cycle and pedestrian traffic. Assumes no tree removal.	**Moderate** visual sensitivity. Residential dwellings on Weston Street for prolonged periods will see an increase in pedestrian and cycle traffic.	**Low** visual impact. The impact of the GreenWay on Weston Street will be an increased in cycle and pedestrian traffic within a quiet residential street.	

4 ___ Visual Impact Assessment

11_ View from Davis Street overbridge looking south west past the Waratah Mills Residential Development

12_ View form Constitution Road overbridge looking north west towards Johnson Park

4 ____ Visual Impact Assessment

Visual Effect	Visual Sensitivity	Visual Impact	Mitigation Strategy
11_ Waratah Mills Stop			
Low visual effect. *Visible Elements: Construction* Removal of vegetation adjacent to the Waratah Mills residential development. Vehicle access route at Weston Street. Insertion of new underpass to Davis Street bridge: removal of vegetation. Construction compound near Davis Street overbridge. *Visible Elements: Operation* New stop infrastructure. GreenWay within the rail corridor. New underpass through Davis Street overbridge to accommodate GreenWay shared path.	**Moderate** visual sensitivity. Long duration views from residents in Waratah Mills development, from rear of houses on Weston Street. Limited residential views from south of the rail corridor.	**Low** visual impact.	Detail design of GreenWay adjacent to Waratah Mills residential development will need to address issues of privacy. Reinstatement of vegetative screening between GreenWay and residences. Retention of vegetation on southern side of rail corridor. Bush regeneration works post construction to same quality as that existing at Davis Street.
12_ Arlington Stop			
Moderate visual effect. *Visible Elements: Construction* Construction of stop infrastructure. Construction of compound near proposed stop and Constitution Road overbridge. *Visible Elements: Operation* Location of lift and stair structure within Johnson Park inserts a structure into a park setting. GreenWay between Johnson Park and rail corridor – creates substantial change in grade. Removal of existing trackside vegetation.	**Moderate** visual sensitivity. Users of Johnson Park. Limited residential views to Arlington Stop. Motorists on constitution Road. Generally industrial land use in immediate vicinity.	**Moderate** visual impact. Changes within Johnson Park have a small viewer catchment and can be integrated into the park configuration through design and vegetation.	Detail design will need to address urban design principles to ensure the new lift and stair structure is integrated within the existing Johnson Park. Reinstatement of trackside vegetation.

4 ___ Visual Impact Assessment

13_ View from New Canterbury Road looking south along the rail corridor/residential edge

14_ View from the corner of Macarthur Parade and Bedford Crescent looking south west across the existing rail corridor into Jack Shanahan Park.

4 ____ Visual Impact Assessment

Visual Effect	Visual Sensitivity	Visual Impact	Mitigation Strategy
13_ Dulwich Grove Stop			
Moderate visual effect. *Visible Elements: Construction* Removal of existing vegetation within rail corridor for the GreenWay. Excavation and construction of new stop infrastructure. Construction compound near proposed stop and New Canterbury Road overbridge and Hercules Street overbridge. *Visible Elements: Operation* Stop located within cutting. New lift and stair structure on New Canterbury Road. Upgrade of existing rail access track into 2.5m path link along upper western side of stop connecting New Canterbury Road and Hercules Street. Stair link between path and stop within cutting. Improved public domain.	**Moderate** visual sensitivity. Residential dwellings located to the west of the stop: top floor dwellings will have views into the rail corridor, these form part of the foreground view. Residents have wider district views and replacement vegetation will screen rail views. Pedestrians and motorists on the New Canterbury Road and Hercules Street bridges. High construction sensitivity for residents west of the stop.	**Moderate** visual impact.	Detail design to address landscape treatment and re-introduction of substantial vegetative screen between residential dwellings and the rail corridor. Detail design of lift and stair structure on New Canterbury Road to address urban design issues of lighting, paving, access, safety and integration with existing streetscape. Retaining wall and terracing needs detail design to maximise potential for vegetation, and avoidance of smaller staggered vegetation beds within the steep battered edges of the corridor.
14_ Jack Shanahan Park (GreenWay)			
Low visual effect. *Visible Elements: Construction* Location of construction compound sites at the rear of Hercules Street dwellings. Construction vehicle access point from Hercules Street. *Visible Elements: Operation* New bush care planting adjacent to the rail corridor following completion of construction works. New GreenWay. Improved access to Jack Shanahan Park across disused rail tracks.	**Moderate** visual sensitivity. Residential dwellings along Hercules Street will have views of the worksite during construction. The width of the rail corridor will enable substantial screen planting between the rear of the Hercules Street dwellings and the GreenWay. Users of Jack Shanahan Reserve.	**Low** visual impact. During construction there will be an impact on residents of Hercules St however following reinstatement of vegetation there will be an improvement to existing conditions. Clearer access to Jack Shanahan Park will activate the park and increase safety.	Reinstatement of any vegetation removed during construction to address privacy.

4 ___ Visual Impact Assessment

15_ View from the southern end of the Rozelle Goods Line, looking along the eastern finger of the tracks leading towards the CityRail Dulwich Hill Station

16_ View from Ness Avenue looking north towards where the GreenWay will follow Terrace Road, before turning east along Ewart Street

4 ____ Visual Impact Assessment

Visual Effect	Visual Sensitivity	Visual Impact	Mitigation Strategy
15_ Dulwich Hill Interchange Stop			
Moderate visual effect. *Visible Elements: Construction* Construction of new stop within cutting adjacent to existing Dulwich Hill train station. Vehicle access point and route along Bedford Crescent. *Visible Elements: Operation* Changes to parking layout and vegetation along Bedford Cres. New lift and stair structure at the corner of Wardell Street and Bedford Cres. New edge of escarpment.	**Moderate** visual sensitivity. Residents of Bedford Crescent. Motorists along Wardell Road and Ewart Lane will see new lift and stair structure. Views to changes to the escarpment will be mostly limited to within the existing heavy rail corridor.	**Moderate** visual impact. Changes to the escarpment between Bedford Cres. and the Dulwich Hill Interchange Stop will have a large visual impact. Changes to Bedford Street will affect local residents and users of Dulwich Hill rail station.	Reinstatement of any vegetation removed during construction will reduce visual impact. Detail design of Bedford Crescent to address street trees, pedestrian connections and car parking and general amenity.. Potential for improvement to streetscape along Wardell Road
16_ Jack Shanahan Park to Cooks River GreenWay			
Low visual effect. *Visible Elements: Construction* Road marking, minor road infrastructure upgrades. *Visible Elements: Operation* On-road cycle link between Hercules Street underpass and Cooks River. Increase volume of pedestrian and cycle traffic.	**Moderate** visual sensitivity. Residents of Riverside Crescent and Ewart Street. Motorists on Riverside Crescent, Ewart Street and Wardell Road.	**Low** visual impact. Increased volumes of pedestrian and cycle traffic. Road markings.	

4 ___ Visual Impact Assessment

17_ View from below Hercules Street, within the rail corridor looking south

17_ View from Longport Street overbridge looking south along the rail corridor

4 ____ Visual Impact Assessment

Visual Effect	Visual Sensitivity	Visual Impact	Mitigation Strategy
17_ Rail Corridor			
Low visual effect. *Visible Elements: Construction* Construction equipment and activities. *Visible Elements: Operation* Nine new stops along the rail corridor. Increased light rail, pedestrian and cycle traffic. Improvement to vegetation along the corridor, improvement to overall amenity of the corridor. Upgrade of an existing unused industrial rail corridor into a multi-use transport corridor with associated upgrades to infrastructure.	**Low** visual sensitivity. Viewers of the rail corridor in areas other than those outlined in locations 1-16 will be limited to users of the new rail and GreenWay shared path, viewers from some bridges and other areas outside of the rail corridor.	**Low** visual impact.	General rail corridor design to include an assessment of vegetation along the corridor and a concept for the establishment of a corridor wide vegetation strategy.

5 ___ Mitigation Strategies

A number of mitigation strategies are identified to reduce and manage adverse visual and landscape impacts of the construction and operation of the light rail extension. These are noted specifically at each of the identified viewpoints in the Visual Assessment Table and have been developed as a response to the potential impacts anticipated.

A summary of strategies recommended for the SLRE – Stage 1development are as follows.

Construction Phase
Minimise vegetation removal within the rail corridor and adjacent reserves for wherever possible. Protect significant and individual trees prior to construction works particularly where these provide screening to adjacent properties. All areas to be restored with new planting once construction is completed.

Retaining Walls
It is understood that retaining walls may be required at some point between Waratah Mills Stop and Dulwich Hill Interchange. Any use of retaining walls should be subject to detail design to maximise potential for integration with surrounding vegetation and materials and to minimise visual impact. Design should aim for a minimum use of retaining walls, unless absolutely necessary due to vertical alignment and surrounding land uses. Where necessary, retaining walls should be unobtrusive, simple, and refined without unnecessary embellishments. Retaining walls should be screened where possible by vegetation.

Shotcrete: It is anticipated that the use of shotcrete may be required at some point in the rail corridor. Any use of shotcrete needs to be considered carefully and alternatives investigated. Generally shotcrete has a high ongoing maintenance cost, precludes establishment of vegetation and is visually intrusive.

Use of shotcrete should be avoided. Where use is unavoidable, its use should be minimised and the appearance of shotcrete improved. The final appearance of shotcrete needs to be addressed in the detail design. Avoid Shotcrete left in raw state. Consider colour matching to surrounding rock face, use of vegetation to obscure, painting to integrate with surroundings, and adding texture and form to minimise visual impact (Roads and Traffic Authority, 2005).

Stops
Lift and stair structures: where lift and stair structures are required at stops, detail design needs to address urban design objectives to integrate with surrounding urban context: residential, parkland, industrial.

A consistent architectural expression to create a unique identity, innovative design, spatial arrangements and material selection to optimise cost effectiveness and environmental benefits, and the design of memorable spaces which are accessible, robust and provide public amenity and safety.

Revegetation
Where the establishment of planting works does not directly impact on construction, it is proposed that work be carried out prior to construction to allow maximum time for establishment of new plantings.
Where new bush care sites are proposed, the quality and species selection should integrate with existing bush care sites. Species selection should reference local government species lists.

Lighting
Lighting within the rail corridor needs to address both safety and environmental considerations. Detail design of a lighting strategy will need to consider light spill to adjoining properties, especially where these are residential properties.

The lighting design should utilise fixtures that prevent light within the rail corridor from spilling upwards and / or beyond the required area to be lit and into adjacent residences or sensitive environmental areas.

Consider options to reduce light spill including the use of lower wattage bulbs and 'spot' lighting or directional lights, in favour of 'wash' lighting such as streetlights.

Crime Prevention Through Environmental Design (CPTED)
All proposed Urban Design measures, including bridge underpasses must comply with relevant CPTED requirements.

Any underpasses must provide for a clear and unobstructed view into and out of the underpass. A safe, comfortable experience must be provided, through the creation of a wide void under the bridges, and, where necessary, allowance for lighting of the structures.

5 ___ Mitigation Strategies

GreenWay Shared Path
Detail design needs to avoid the removal of existing vegetation. Where the GreenWay shared path is located close to residential dwellings, detail design needs to make provisions for the creation or retention of privacy for those residents who may be disadvantaged by the implementation of the GreenWay shared path.

Electrical Substations
Three electrical substations are scheduled to be placed within the rail corridor as part of the SLRE development. They are to be located in the following locations:
_within the existing rail corridor cutting north-west of the existing Lilyfield Light Rail Stop, between Pretoria and Helena Streets.
_opposite Lambert Park, adjacent to Marion Street.
_opposite the former Summer Hills Mill Site, at the northern end of Hudson Street.

Where the electrical substations are located detail design will need to make provisions for the creation or retention of vegetation screens for those residents and business owners who may be disadvantaged by their placement.

6 ___ List of Documents Reviewed and Referenced

_Ashfield Council, June 2010, *Cooks River to Iron Cove GreenWay - Flora and Fauna Literature Review*, Ashfield Council, Ashfield.

_GHD, 2010, *Sydney Light Rail Inner West Extension - Light Rail Stops & GreenWay Preliminary Concept Report*, GHD, Sydney.

_GHD, July 2010, *Sydney Light Rail Inner West Extension Study - Final Report*, GHD, Sydney.

_Marrickville Council, October 2009, *Cooks River to Iron Cove GreenWay Master Plan and Coordination Strategy*, Marrickville Council (as lead Council), Petersham.

_Roads and Traffic Authority, June 2005, *Shotcrete Design Guidelines – Design Guidelines to avoid, minimise and improve the appearance of shotcrete,* Roads and Traffic Authority, Surry Hills, Sydney.

_The Environment Works (for Friends of the GreenWay), April 2010, *Integrated Concepts for GreenWay Trail and Dual-Track Light Rail Extension*, The Environment Works Pty Ltd.

_Transport NSW, July 2010, *Sydney Light Rail Extension - Stage 1, Inner West Extension Preliminary Environmental Assessment*, Transport NSW, Chippendale.

_Transport NSW, July 2010, *SLRE - Stage 1, Inner West Extension Product Definition Report*, Transport NSW, Chippendale.

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