



IRIS Visual Planning + Design



Transport Access Program

Bexley North Station

Visual Impact Assessment

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Abbreviations

Term	Meaning
CBD	Central Business District
CCTV	Closed Circuit TV
CPTED	Crime Prevention Through Environmental Design
DSAPT	<i>Disability Standards for Accessible Public Transport (2002)</i>
OHLE	Overhead line equipment
TGSI	Tactile tiles or Tactile Ground Surface Indicators

Definitions

Term	Meaning
Concept design	The concept design is the preliminary design presented in this REF, which would be refined by the Contractor (should the Proposal proceed) to a design suitable for construction (subject to TfNSW acceptance).
Detailed design	Detailed design broadly refers to the process that the Contractor undertakes (should the Proposal proceed) to refine the concept design to a design suitable for construction (subject to TfNSW acceptance).
Disability Standards for Accessible Public Transport	The Commonwealth <i>Disability Standards for Accessible Public Transport 2002</i> (“Transport Standards”) (as amended) are a set of legally enforceable standards, authorised under the Commonwealth <i>Disability Discrimination Act 1992</i> (DDA) for the purpose of removing discrimination ‘as far as possible’ against people with disabilities. The Transport Standards cover premises, infrastructure and conveyances, and apply to public transport operators and premises providers.
Out of hours works	Defined as works outside standard construction hours (i.e. outside of 7am to 6pm Monday to Friday, 8am to 1pm Saturday and no work on Sundays/public holidays).
Overhead line equipment	A system of masts and overhead wires used to supply electricity to trains.
Rail possession	Possession is the term used by railway building/maintenance contractors to indicate that they have taken possession of the track (usually a block of track) for a specified period, so that no trains operate for a specified time. This is necessary to ensure the safety of workers and rail users.
Sensitive receivers	Land uses which are sensitive to potential noise, air and visual impacts, such as residential dwellings, schools and hospitals.
The Proposal	The construction and operation of the Bexley North Station transport access upgrade.
Zincalume	Aluminium-Zinc coated sheet steel

1.0 Introduction

IRIS Visual Planning + Design were commissioned by Transport for NSW to undertake an assessment of the visual impact of a proposed accessibility upgrade at Bexley North Station. Bexley North Station is located on the East Hills line, served by the T2 Airport Line, providing connections to the suburban Sydney Trains Network. The station is within the Bayside Council local government area (previously within Rockdale Council), about 13 kilometres southwest of the Sydney CBD. This visual impact assessment has been prepared to inform the Review of Environmental Factors (REF) for the Proposal.

Bexley North Station has been identified for inclusion in the Transport Access Program for a precinct accessibility upgrade as it currently does not accommodate mobility impaired access to rail services, or meet key requirements of the Disability Standards for Accessible Public Transport (DSAPT) or the Commonwealth *Disability Discrimination Act 1992 (DDA)*.

The proposed upgrade would include a new station entrance concourse at the Bexley Road overbridge with lift and stair access to the platform, replacing the existing stair and platform canopy. Other proposed improvements include upgrades to the Kingsgrove Avenue car park with new ramps up to existing bridge level, signage and tactile indicators, and other associated public realm improvements.

Objectives of the Transport Access Program

The Transport Access Program is an initiative to provide a better experience for public transport customers by delivering accessible, modern, secure and integrated transport infrastructure.

Key benefits include:

- Stations that are accessible to people with a disability, limited mobility and parents with prams
- Modern buildings and facilities for all modes that meet the needs of a growing population
- Modern interchanges that support an integrated network and allow seamless transfers between all modes for all customers.

2.0 Study scope

This visual impact assessment identifies the potential visual impacts of the Proposal on views to the station from surrounding areas. The study area for this Proposal extends from the Wolli Creek corridor and Illoura Reserve in the north, east to Slade Road, south Shaw Street, and to the Shaw Street Reserve in the west.

This assessment is based upon a viewpoint assessment, identifying and assessing views that represent the range of publicly accessible views to the Proposal. This assessment includes views from surrounding commercial areas, footpaths and streets, parks, and the Bexley North Railway Station.

This assessment begins with the identification of: the existing character of the station precinct; a description of the visual character of the Proposal; and an individual viewpoint assessment. The viewpoint assessment includes identifying the sensitivity of the view and the magnitude of change that is proposed. These factors are then combined to determine a level of impact.

The assessment has identified the impacts of the Proposal during the day and night, and throughout construction and operation. In particular, this assessment considers the visual impacts created by the Proposal as seen within the context of the local heritage listed buildings from a landscape character perspective. Detailed consideration of potential heritage impacts have been addressed separately as part of the REF in the *Bexley North Railway Station Statement of Heritage Impact* [AECOM, 2018].

The assessment also considers the urban design and landscape impacts of the Proposal in terms of its consistency with requirements of the Rockdale LEP, which covers issues such as tree removal, overshadowing and legibility.

This assessment is based on Concept Drawings prepared by AECOM, Bexley North Station Precinct Accessibility Upgrade Concept, Architectural plans, elevations, sections, perspectives and finishes schedule, dated 30/04/2018.

3.0 Station location and description

Bexley North Railway Station consists of a single island platform with two tracks each side. Platform 1 is the up direction (Sydney CBD bound) platform providing services to the City via Airport (T2). Platform 2 is the down direction platform (providing services to Revesby and Macarthur (T2)) (refer Figure 3-1). The Inter War Art Deco style platform building (c. 1931) is of local heritage significant, featuring a decorative red-brick façade and corrugated iron roofing.

The station platform is currently accessed by an overbridge at Bexley Road. The platform is accessed via uncovered stairs connecting to the overbridge. There is currently no lift access.

A pathway along the western side of the Bexley Road overbridge connects the station to surrounding commercial, residential and open space areas. The commuter car park north of the station in Kingsgrove Avenue is also accessed via the overbridge. To the southeast of the station, the Bexley Road, Slade Road and Shaw Street signalised intersection connects the local shopping precinct.

Mature native trees such as eucalypts, brushbox, black sheoak and silky oak, are a common landscape feature along the rail corridor.

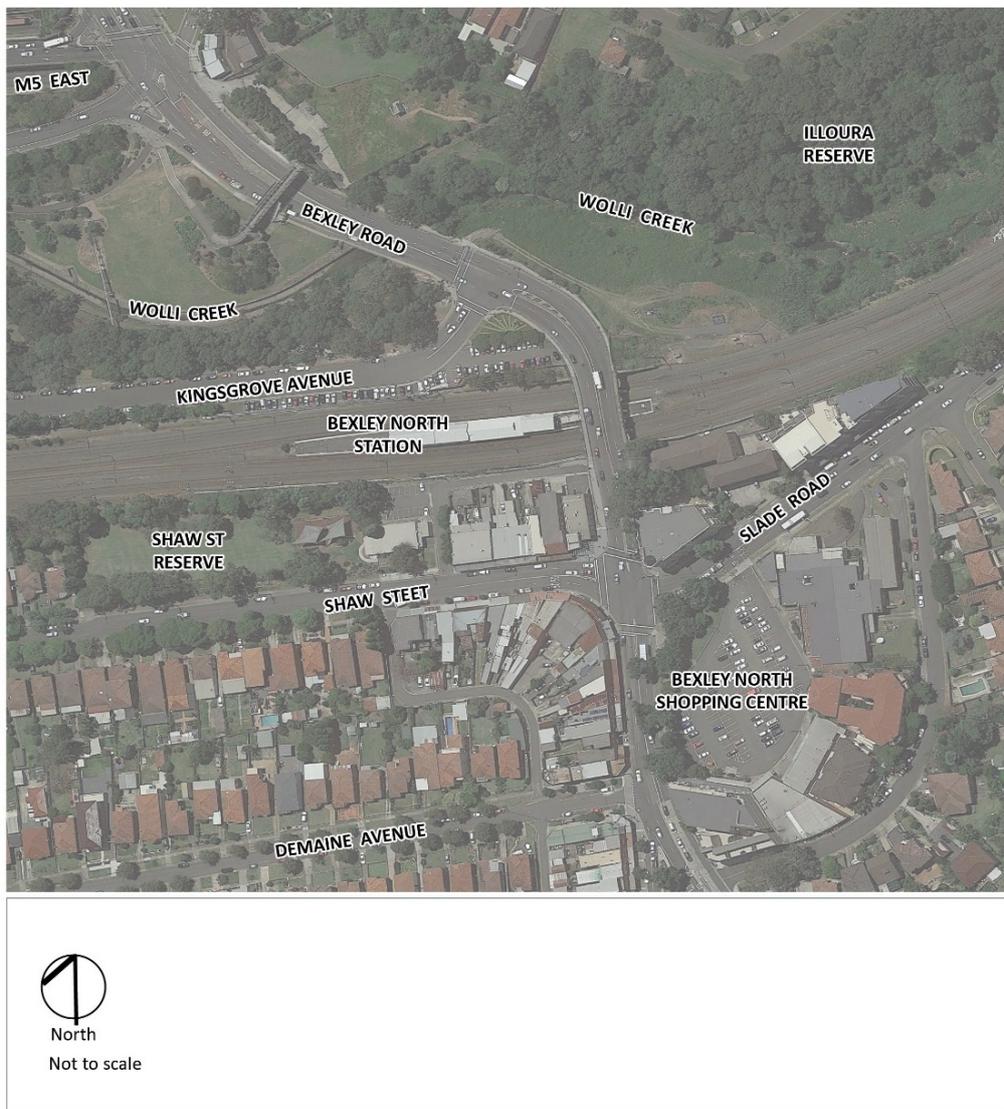


Figure 3-1 Site location

4.0 The Proposal

Proposal components

The Proposal involves an upgrade of Bexley North Station as part of the Transport Access Program which would improve accessibility and amenity for customers. The Proposal would include the following key elements:

- provision of a new station entrance from the Bexley Road overbridge. The new station entrance would include:
 - demolition of the existing stairs and the eastern platform canopy in order to accommodate the new stairs, lift and entrance landing
 - construction of a new station entrance landing area
 - construction of a new lift between Bexley Road and the station platform
 - construction of new stairs between the landing and the station platform
 - construction of a replacement stair and platform canopy
- internal station building works including:
 - construction of a new family accessible toilet in the location of the existing male toilets
 - construction of a new unisex ambulant toilet at the location of the existing female toilets
 - other minor building modifications required to accommodate new electrical equipment including a main switchboard, and new or upgraded station communications equipment
- upgrade of existing platform surfaces (re-grading/re-surfacing) at locations across platforms to provide compliant accessible paths and ramps to station amenities
- upgrade of the existing commuter carpark on Kingsgrove Avenue including:
 - reconfiguration of the existing car park to allow for 22 parking spaces, including two accessible parking spaces. Note this would result in a net loss of 11 parking spaces from the existing configuration
 - an accessible ramp from the commuter carpark to the Bexley Road overbridge
 - increased car park aisle width and turning vehicle area
- landscaping and planting works within the station precinct
- upgrade of the existing footpaths to the north and south of the station entrance along the Bexley Road overbridge, including minor re-grading of footpaths and installation of landings
- power supply upgrades including modification to the existing station 11kV padmount transformer, construction of a new containment and submain cable including an underline crossing, and connection to the new main switchboard in the station building
- ancillary works including adjustments to fencing, retaining walls, crash barriers, lighting, electrical upgrades, electronic ticketing, new seating, relocation of rubbish bins, improvement to station communications and security systems (including CCTV cameras), public address system, hearing induction loops, station passenger information, wayfinding signage and installation of tactile ground surface indicators (TGSIs).

Figure 4-1 shows the general layout of key elements for the Proposal. A photomontage is also provided in Figure 4-2. The architectural design and finishes would be refined during detail design. This would include investigating opportunities to reduce the visual bulk, lower the

height of the lift shaft, and reduce the scale of the entry if achievable and reasonable.

Construction of the proposed works is expected to be completed in 2020.

Eight mature trees would be removed to install the new access ramp and upgrade the Kingsgrove Avenue car park.

The existing gardens north of the car park, at the corner of Bexley Road and Kingsgrove Avenue, would be retained. The existing vegetation to the north of the car park at Wolli Creek corridor would not be altered.

Materials and finishes

The following materials are currently proposed for the key station elements for the Proposal. These materials would be further considered during the detailed design of the Proposal.

Station entrance concourse, lift and stairs

- lift shafts – off-form concrete with steel cladding and woven mesh anti-throw screens around the lift landing (anti-throw screens on Bexley Road to be retained)
- lift car – flooring to match adjacent public area flooring, stainless steel and glass doors
- platform stairs – concrete with stainless steel/metal handrails and brick cladding on the underside stair wall
- platform and concourse canopy – metal roof sheeting and steel flashings and capping, including:
 - skillion roof over concourse
 - canopy over the stairs
 - horizontal roof either side of the stairs, over platform waiting areas and lift entries (separated from the station building roof by over four metres)

Footbridge connection and Kingsgrove Avenue commuter car park:

- Regraded section of Bexley Road footbridge to be concrete (broom finish)
- Pedestrian pathways and ramps – new accessible ramp up to existing bridge with stainless steel handrails
- Formalised station forecourt to be concrete (broom finish) with seating, bollards and planting
- crash barriers
- Stainless steel security mesh anti-throw screens along rail corridor boundary.

Construction

A temporary construction compound would be required to accommodate a site office, amenities, laydown and storage area for materials. An area for a construction compound has been proposed in the commuter carpark on Kingsgrove Avenue and an area to the east of Bexley Road, north of the rail corridor, has also been nominated for construction site office, amenities/crib room and light vehicle parking, equipment and materials storage (refer Figure 4.3).

Shaw Lane and the associated carpark may also be used during construction e.g. during night time track possessions to install precast/prefabricated lift shaft units. Impacts associated with utilising this area have been considered in the environmental impact assessment including requirements for rehabilitation.

The construction works would be sequenced into stages, to minimise operational requirements of the station, including:

- site establishment and enabling works, including:
 - establishment of site compounds and temporary facilities
 - erect temporary hoarding
 - construction of temporary stair case to provide access to the station platform from Bexley Road
 - Bexley Road overbridge footpath upgrade

- Kingsgrove Avenue construction works, including:
 - ramp and retaining wall works
 - removal of several trees inside the rail corridor
 - car park, forecourt and landscape works
- lift, stairs and landing works, including:
 - demolish existing stairs
 - construct temporary, footpath/walkway and stair access from Bexley Road
 - concourse, stairs and lift installation
 - architectural fit-out around lift shaft including new canopy and anti-throw screens
- platform works, including regrading and asphalt resurfacing
- station building works, including reconfiguration of existing male and female toilets to provide a family accessible toilet and unisex ambulant toilet.

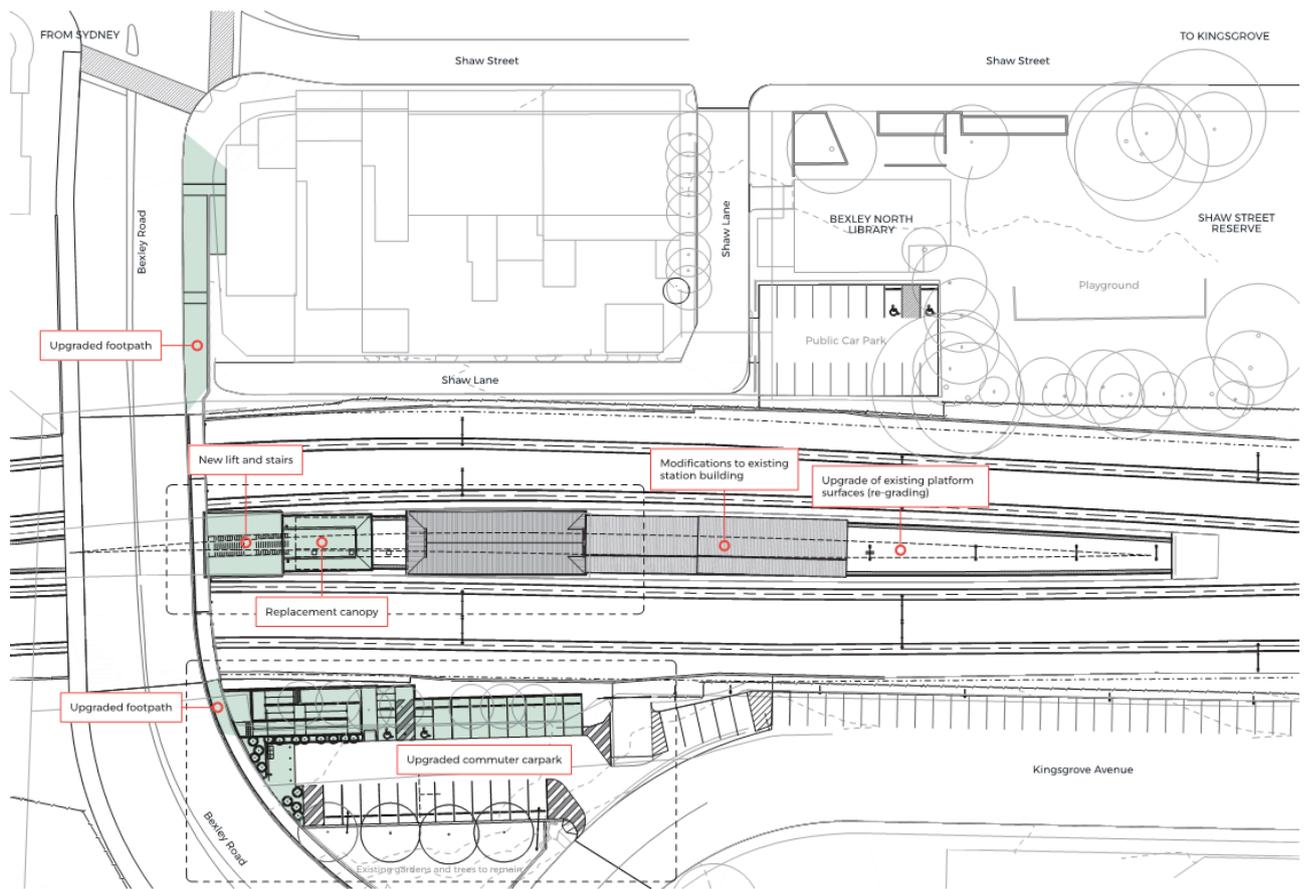


Figure 4-1 Key features of the Proposal (Indicative only, subject to detailed design)



Figure 4-2 Photomontage— view to the new concourse from south at Bexley Road overbridge (Indicative only, subject to detailed design)

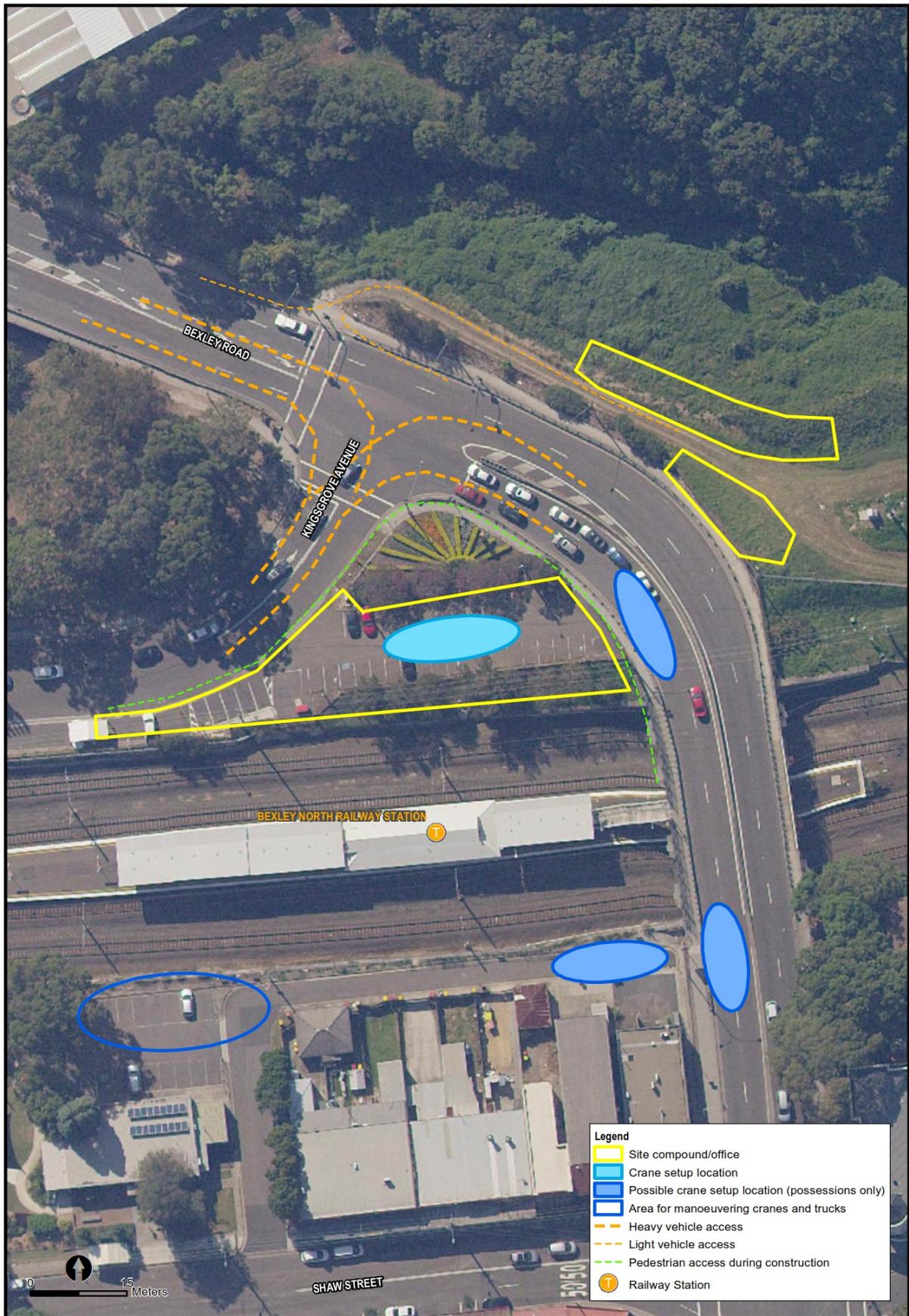


Figure 4-3 Proposed compound areas

The works would be undertaken over a program of approximately 12 months. The station would remain operational for the duration of the works (outside of scheduled track possessions), with customer accessible areas maintained around the construction works. While some footpath widths may be reduced, with the exception of scheduled track possessions, it is not expected that customer access to the station platforms would be restricted or closed during construction.

The eastern section of the Kingsgrove Avenue car park would be closed during construction. Pedestrian access between the western section of the Kingsgrove Avenue car park and station would be maintained during construction, along the southern side of Kingsgrove Avenue and western side of the Bexley Road overbridge.

The concourse work area and main construction compound would be enclosed in temporary security fencing and hoarding. The machinery and activities occurring in these areas would include excavators, cranes, heavy and light delivery vehicles, concrete trucks and pumps, and other typical construction equipment.

The majority of works required for the Proposal would be undertaken during standard (NSW) Environment Protection Authority (EPA) construction hours, which are as follows:

- 7.00 am to 6.00 pm Monday to Friday
- 8.00 am to 1.00 pm Saturdays
- no work on Sundays or public holidays.

Certain works may need to occur outside standard hours and would include night works and works during routine rail possessions which are scheduled closures that would occur regardless of the Proposal when part of the rail network is temporarily closed and trains are not operating.

5.0 Planning context

There are several state and local government planning documents which provide relevant guidance for the landscape character and visual values of the site.

State and regional government planning context

Greater Sydney Regional Plan: A Metropolis of Three Cities, 2018

This plan (NSW Greater Sydney Commission, 2018b) sets a 40-year vision (to 2056) and establishes a 20-year plan to manage growth and change for Greater Sydney in the context of social, economic and environmental matters. It divides Greater Sydney into three regions, including the *'Western Parkland City'* (including Penrith, Western Sydney Airport– Badgerys Creek Aerotropolis and Campbelltown –Macarthur), the *'Central River City'* (including Greater Parramatta) and the *'Eastern Harbour City'* around Sydney CBD (p.6).

The role of this plan is to co-ordinate a whole-of-government approach to provide the appropriate infrastructure in the right places to support the growth of three cities. The proposed Bexley North Station project is located in the Eastern City district, within the Eastern Harbour City region.

The region's *'green infrastructure'* including *'urban tree canopy, green ground cover, bushland, waterways, parks and open spaces'* (p.6) are valued assets in Greater Sydney. A target has been set to *'increase tree canopy cover to 40 per cent, up from the current 23 per cent'* (Strategy 30.1, p.164). Strategy 25.1 aims to *'protect environmentally sensitive areas of waterways'* (p.151), such as Wolli Creek and Illoura Reserve. The scenic value of landscape is also valued in the plan, including waterways, urban bushland; urban tree canopy and green ground cover; parks and open spaces, which *'create a sense of identity'*

(p.159). Strategy 28.2 aims to *'enhance and protect views of scenic and cultural landscapes from the public realm'*.

Eastern City District Plan, 2018

Greater Sydney's three cities, identified in the *Greater Sydney Regional Plan: A Metropolis of Three Cities* (NSW Greater Sydney Commission, 2018a), reach across five districts: Western City District, Central City District, Eastern City District, North District and South District. This plan is focused on the Eastern City District, covering the CBD, eastern and inner-western suburbs, Sydney Airport and Bayside West, including proposed Bexley North Station project area. It is a 20-year plan to manage growth in the context of economic, social and environmental matters to achieve the 40-year vision for Greater Sydney. It contains the planning priorities and actions for implementing the Greater Sydney Region Plan, *A Metropolis of Three Cities*, at a district level and is a bridge between regional and local planning.

Bexley North is identified as a *'local centre'* (p.41) and *'focal point'* of the neighbourhood and local community (p.48). The plan advocates a *'place-based and collaborative approach throughout planning, design, development and management, deliver great places'* including improvements to local centres, and their public realm and infrastructure (p.52).

The region's *'Green Grid'* (p.107) including the network of walking and cycling links are also recognised as important. In particular, the Wolli Creek Regional Park, located to the north of the station, is identified as a Green Grid Priority (p.7) to help connect open spaces with communities. The Wolli Creek corridor also provides a rare opportunity *'to experience and interpret the original landscape of the District and for local communities to enjoy bushland in an urban setting'* (p.105).

Transport for NSW

The NSW Government is committed to the development of a customer focused transport network to help it achieve its economic, social and environmental objectives. Good urban design can help achieve the NSW Governments aims for the rail systems of NSW. The urban design principles contained in these documents explain how it applies to specific elements of rail infrastructure and the precincts around them.

These documents include:

- *Around the Tracks: Urban Design for Heavy and Light Rail*
- *Managing Heritage: issues in rail projects guidelines*
- *Creativity Guidelines: for transport systems*
- *Commuter Car Parks: urban design guidelines*
- *Sustainable design guidelines, Version 4.0*

The *Sustainable design guidelines* refers to eight principles, drawn from the Interim version of the Urban Design best practice guideline *Around the Tracks urban design for heavy and light rail*. These principles are:

1. *Draw on a comprehensive site and context analysis to inform the design direction.*
2. *Provide value-for-money design solutions that achieve high quality low maintenance architectural and urban design outcomes that have longevity.*
3. *Provide connectivity and permeability for pedestrians.*
4. *Principle 4 Integrate the project with the surrounding area.*
5. *Maximise the amenity of the public domain.*
6. *Protect and enhance heritage features and significant trees.*
7. *Maximise positive view opportunities.*

8. *Design an efficient and functional transport solution which enhances and contributes to local amenity and prosperity.*

Projects are required to outline how they have addressed each of these principles at a minimum as part of their project UDLP.

The office of the NSW State Government

The office of the NSW State Government Architect has prepared a suite of documents under the title of '*Better Placed*' which aim to improve the urban design quality of places in NSW. These documents include:

- *Better Placed: An integrated design policy for the built environment of NSW, State Government Architect NSW (2018)*
- *Better Placed: Draft Good Urban Design Strategies for realising Better Placed objectives in the design of the built environment, State Government Architect NSW (2018)*
- *Better Methods: Evaluating Good Design, Implementing Better Placed design objectives into projects (2018).*

These documents are intended to inform those involved in the design, planning, and development of the built environment in NSW. The overriding policy establishes the objectives and expectations in relation to design and creating good places.

The policy includes seven distinct objectives for the design of the built environment. These objectives apply to the design of landscapes, buildings and our public domain and aims for design which is '*healthy, responsive, integrated, equitable.*'

The objectives are:

- *Better fit – contextual, local and of its place*
- *Better performance – Sustainable, adaptable and durable*

- *Better for community – Inclusive, connected, and diverse*
- *Better for people – Safe, comfortable and liveable*
- *Better working – Functional, efficient and fit for purpose*
- *Better value – Creating and adding value*
- *Better look and feel – Engaging, inviting and attractive.*

These objectives are expanded upon in the Strategy and Evaluation documents.

The ‘*Better methods*’ draft working paper lists requirements that can be used as criteria for evaluating a project. These criteria are based upon the seven design objectives from the Better Placed policy.

The principles identified in the ‘*Better Methods, Evaluating good design*’ paper have been used in this Proposal for the evaluation of the urban design impacts of the Proposal. (Refer Section 6.0 Methodology)

Local government planning context

Although the Proposal is within the Bayside Council LGA, the planning documents for the former Rockdale City Council still apply and provide some specific guidance for the site, including *Rockdale Local Environmental Plan* (Rockdale City Council, 2011b) and *Rockdale Development Control Plan* (Rockdale City Council, 2011a). Relevant clauses from these documents are summarised in the following sections.

Rockdale Local Environmental Plan, 2011

The Rockdale LEP 2011 (LEP) applies to land encompassing station upgrade works. Key relevant aims of this plan are to ‘*conserve the environmental heritage of Rockdale*’ (cl 1.2.2b), ‘*maintain and improve residential amenity*’ (cl 2.1.2c) and ‘*provide high quality open space*’ (cl 1.2.2e).

The *Rockdale LEP* includes a number of plans which offer guidance for development within the study area including land use zoning, heritage areas and maximum heights for development.

Land use zoning

The study area includes a number of land use zones including:

- SP2 – Infrastructure (Railway and Drainage)
- B4 – Mixed Use
- R2 – Low Density Residential
- RE1 – Public Recreation.

There are some objectives identified for these zones that are relevant to the visual amenity of the study area, these are listed in the following paragraphs.

Bexley North Station and the railway corridor are covered by the SP2 zone. The objectives of this zone relevant to this Proposal include:

‘To provide for infrastructure and related uses’ and ‘To prevent development that is not compatible with or that may detract from the provision of infrastructure’.

Bexley North neighbourhood centre is located to the south of the station, centred at the Bexley Road, Slade Road and Shaw Street intersection. It includes a shopping centre at Slade Road, surrounded by small-scale retail, business and community uses that serve the needs of people who live or work in the surrounding neighbourhood, such as Bexley North Library. The objectives of the B4 zone do not specifically relate to maintaining or enhancing visual amenity.

The Wolli Creek corridor is located to the north of the station, including extensive areas of bushland and open space, such as the Kingsgrove Avenue and Illoura Reserves. Shaw Street Reserve is located south of the rail corridor in Shaw Street, adjacent to the local centre. A key objective of the Public Recreation (RE1) zone is: *‘To protect and*

enhance the natural environment for recreational purposes’.

Low density residential (R2) covers remaining land surrounding the Station. This area contains no residential buildings and streetscapes on the local heritage register. The objectives for the R2 zone are also not relevant to visual amenity.

Heights of Buildings

Adjacent parcels of land to the south of the station at Bexley North town centre are permitted to reach maximum building heights of 16 metres. The surrounding low-density residential areas are permitted to reach maximum building heights of 8.5 metres, reflecting the desire to maintain the character in this area. The rail corridor and public recreation zoned areas are not subject to a building height restriction under the LEP.

Design

Although the LEP does not include specific guidance on railway or station design, clause 5.6 permits *‘variations to maximum building height standards for roof features of visual interest’* such as the proposed station concourse structure.

Although the LEP has no clause setting out general urban design objectives or guidance on railway or station design, it requires the design of developments to *“deliver the highest standard of architectural, urban and landscape design”* (clause 6.14). The local authority also considers *‘whether the development detrimentally impacts on view corridors’* (clause 6.14.4c). The authority also considers how the development would address the following relevant matters:

- (iii) heritage issues and streetscape constraints,*
- (iv) the relationship of the development with other development (existing or proposed) on the same site or on neighbouring sites in terms of separation, setbacks, amenity and urban form,*

- (v) bulk, massing and modulation of buildings,*
- (vi) street frontage heights,*
- (vii) environmental impacts such as sustainable design, overshadowing, wind and reflectivity,*
- (x) the impact on, and any proposed improvements to, the public domain,*
- (xi) achieving appropriate interfaces at ground level between the building and the public domain,*
- (xii) excellence and integration of landscape design. (clause 6.14.4e)*

Heritage

Bexley North Station is listed on Sydney Trains Section 170 Register as an item of local significance. There is no listing on the *Rockdale Local Environment Plan 2011*.

Other heritage items and heritage conservation areas in and around the Proposal include Wollie Creek Valley, a locally listed heritage landscape north of the station, *‘the only remaining natural bushland area of any significant size in this region’* (WCPS, 2018).

A key objective of the heritage conservation clause is *‘to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views’* (s.5.10).

Rockdale Development Control Plan, 2011

A Development Control Plan (DCP) has been prepared for the Rockdale local government area to support the Rockdale LEP. Key objectives of the DCP are to: ... *“Promote high quality urban design outcomes”* ... and ... *“Encourage innovative design with particular emphasis on the integration of buildings and landscaped areas that contribute to the character of neighbourhoods”* (clause 1.3).

The DCP supports the conservation of significant buildings, landscape elements, views and special places within the LGA that contribute to its heritage significance such as the remnant bushland and wetlands at Wolli Creek.

Although the DCP contains no specific clauses or requirements relating to the design of public infrastructure such as railway buildings and structures, it places importance on the appearance and compatibility of development with the surrounding context, including:

Views and vistas:

- ‘Development must consider any significant views to, from and across the site’ and ‘view corridors to landmarks and significant heritage items must be protected where possible’

There are no ‘*significant views*’ identified in or nearby Bexley North Station (cl 4.1.1).

Tree preservation:

- The aesthetic value of trees in creating a ‘*sense of place*’ and providing a distinctive character to an area whilst visually softening the built environment and screening undesirable sights. It requires that “*existing significant trees and vegetation are incorporated into proposed landscape treatment of new development*” (cl 4.1.7).

Open Space and Landscape Design:

- The DCP also promotes quality landscape design solutions that respond to significant existing trees and natural features, relate to the building scale, and provide screening for visually obtrusive land uses or building elements (cl 4.3.1).

Heritage conservation:

- ‘*Any proposed development must conserve the setting of the heritage item and the*

significant views to and from the heritage item’ (cl 4.1.2)

Car park location and design:

- “*Car parking and service/delivery areas are to be located so that they do not visually dominate either the development or the public domain*” (cl 4.6)

Building type: Industrial – Public Domain

Interface:

‘*Security fencing is to be constructed of materials that enhance the visual amenity of the area. Solid fences are avoided to discourage graffiti and enhance surveillance*’ (cl 5.5).

These requirements have been addressed in section 8 of this report, Urban Design and Landscape Character Assessment.

6.0 Methodology

Guidance for visual assessment

While there are no specific legislative requirements for the methodology of an assessment such as this in New South Wales, the industry typically refers to the guidance offered by:

- *Guidance note EIA-N04 Guidelines for Landscape Character and Visual Impact Assessment*, NSW State Government, Roads and Maritime Services (2018)
- *The Guidance Note for Landscape and Visual Assessment (GNLVA)*, Australian Institute of Landscape Architects Queensland (2018).

The methodology used for this assessment conforms generally with the direction offered by these guidelines.

This Visual Impact Assessment has identified potential visual impacts during construction and operations of the Proposal, day and night.

The process involved the identification of:

- existing visual conditions
- visual sensitivity
- magnitude of change
- visual impact
- mitigation opportunities.

The potential visual impacts have been classified according to the impact significance criteria set out in this methodology.

Identification of existing visual conditions

The key landscape features of the site have been identified, described and located on a site plan. (refer Figure 7-1).

A number of viewpoints have been selected to illustrate the visual influence of the Proposal. These views represent publicly accessible viewpoints from a range of locations and viewing situations. Particular attention was paid to views from places where viewers are expected to congregate such as the station and commercial areas, as well as views to and from heritage items.

Visual sensitivity

Visual sensitivity refers to the nature and duration of views. Locations from which a view would potentially be seen for a longer duration, where there are higher numbers of potential viewers and where visual amenity is important to viewers can be regarded as having a higher visual sensitivity. In addition, any views recognised by local, state or federal planning regulations would, by nature of their recognition in these documents, increase the sensitivity level of the view.

In order to ensure the assessment of impact is reasonable, the sensitivity of a viewpoint is considered in the broadest context of possible views, from those of national importance through to those considered to have a neighbourhood visual importance. For this reason, the following terminology is used to describe the level of visual sensitivity, see Table 6-1.

Table 6-1 Visual sensitivity levels

Visual sensitivity	Description
National	Heavily experienced view to a national icon, e.g. view to Sydney Opera House from Circular Quay or Lady Macquarie's Chair, view to Parliament House Canberra along Anzac Parade.
State	Heavily experienced view to a feature or landscape that is iconic to the State, e.g. view along the main avenue in Hyde Park.
Regional	Heavily experienced view to a feature or landscape that is iconic to a major portion of a city or a non-metropolitan region, or an important view from an area of regional open space, e.g. an identified view corridor to a state heritage listed item.
Local	High quality view experienced by concentrations of residents and/or local recreational users, local commercial areas, and/or large numbers of road or rail users, e.g. view to a local heritage listed item such as the views to Wollie Creek corridor.
Neighbourhood	Views where visual amenity is not particularly valued by the wider community such as views from local streets, pocket parks and small groups of residences.

Magnitude of change

Magnitude describes the extent of change resulting from the Proposal and the compatibility of these new elements with the surrounding landscape. There are some general principles which determine the magnitude of change; these include elements relating to the view itself such as distance, landform, backdrop, and contrast. There are also characteristics of the development itself which are: scale, form and line/alignment. Change can result in an improvement or reduction in visual amenity.

A high magnitude of change would result if the development contrasts strongly with the existing landscape. A low magnitude of change occurs if there is minimal visual contrast and a high level of integration of form, line, shape, pattern, colour or texture values between the development and the environment in which it is located.

In some circumstances, there may be a visible change to a view which does not alter the amenity of the view, this would be due to the visual absorption capacity of the surrounding landscape and / or the compatibility of the Proposal with the surrounding visual context. Table 6-2 lists the categories used to describe the magnitude of change.

Table 6-2 Magnitude levels

Magnitude	Description
Considerable reduction or improvement in visual amenity.	Substantial part of the view is altered. The Proposal contrasts substantially with surrounding landscape.
Minor reduction or improvement in visual amenity.	Alteration to the view is clearly visible. The Proposal contrasts with surrounding landscape.
No perceived reduction or improvement in visual amenity.	Either the view is unchanged or if it is, the change in the view is generally unlikely to be perceived by viewers. The Proposal does not contrast with the surrounding landscape.

Identifying night time visual impacts

The assessment of night time impacts has been undertaken with a similar methodology to the daytime assessment. However, rather than assessing particular viewpoints or landscape features, this assessment draws upon the guidance of the Institution of Lighting Engineers (UK), and their 'Guidance for the reduction of obtrusive light' (2011). This guidance note

identifies environmental zones, useful for the categorising of night time landscape settings.

These zones are:

- E0 / E1: Dark / Intrinsically dark landscapes – national parks, state forests etc.
- E2: Low district brightness areas – rural, small village, or relatively dark urban locations
- E3: Medium district brightness areas – small town centres or urban locations
- E4: High district brightness areas – town/city centres with high levels of night time activity.

Specific features of the lit landscape can be described in terms of:

- sky glow – the brightening of the night sky
- glare – the uncomfortable brightness of a light source when viewed against a dark background
- light intrusion ('trespass') – the spilling of light beyond the boundary of the property or area being lit.

The level of impact on the precinct has been described according to the impact levels that are identified in Table 6-4. The precinct is considered to be an area of medium district brightness, as the Bexley North Station and local centre are used at night and are brightly lit, surrounded by lights from residences, street lighting and vehicle headlights.

Assigning impact levels

An assessment of visual impact has been made on a range of representative viewpoints. An impact visual impact level has been determined by combining the sensitivity and magnitude level. The following criteria have been used, refer to Table 6-3.

Similarly, for the assessment of visual impacts at night, the following criteria has been applied. (Table 6-4).

Table 6-3 Visual impact levels

		Sensitivity				
		National sensitivity	State Sensitivity	Regional sensitivity	Local sensitivity	Neighbourhood sensitivity
Magnitude	Considerable reduction	Very high adverse	Very high adverse	High adverse	Moderate adverse	Minor adverse
	Minor reduction	Very high adverse	High adverse	Moderate adverse	Minor adverse	Negligible
	No perceived change	Negligible	Negligible	Negligible	Negligible	Negligible
	Minor improvement	Very high benefit	High benefit	Moderate benefit	Minor benefit	Negligible
	Considerable improvement	Very high benefit	Very high benefit	High benefit	Moderate benefit	Minor benefit

Table 6-4 Night time visual impact levels

		Sensitivity			
		E0/E1: Dark/ Intrinsically dark landscapes	E2: Low district brightness	E3: Medium district brightness	E4: High district brightness
Magnitude	Considerable reduction	Very high adverse	High adverse	Moderate adverse	Minor adverse
	Minor reduction	High adverse	Moderate adverse	Minor adverse	Negligible
	No perceived change	Negligible	Negligible	Negligible	Negligible
	Minor improvement	High beneficial	Moderate beneficial	Minor beneficial	Negligible
	Considerable improvement	Very high beneficial	High beneficial	Moderate beneficial	Minor beneficial

Mitigation measures

Following the identification of potential landscape and visual impacts opportunities for mitigation were identified. Measures include opportunities to avoid, reduce and manage potential adverse impacts during construction and operation of the Proposal.

Photomontages

A photomontage has been prepared to illustrate the massing and scale of the Proposal. This combines the architectural 3D model with photo editing to create a photorealistic impression of the Proposal.

The photomontage location was selected in consultation with TfNSW to illustrate a typical viewpoint toward the Proposal. The photomontage location was selected from an accessible section of the surrounding road corridor looking towards the station precinct.

Assessment of Urban Design and Landscape Character Impacts

Whilst the requirements of the LEP and DCP are not directly relevant to this approval, for the purposes of this assessment, impacts on urban design and landscape character have been undertaken with reference to the guidance provided in these documents. Specifically, the urban design and landscape character impacts will be assessed against the strategies identified in the *Rockdale LEP (2011)*.

These requirements consider tree removal, landscape design, legibility, compatibility of the design with adjacent uses, streetscape scale, overshadowing etc.

7.0 Assessment of visual impacts

Existing conditions

The landform encompassing the station and surround generally falls from south to north. The station sits somewhat level with Kingsgrove Avenue, including the commuter car park, north of the station. North of the car park, the landform descends towards Wolli Creek valley, which meanders parallel to the rail corridor. The dense tracts of vegetation along Wolli Creek provide a sense of visual enclosure to the station and screen northerly views to residential areas of Earlwood and the M5 motorway.

To the south of the station, as the landform rises, the railway line is in cutting, with a retaining wall located along the southern boundary of the corridor. The station sits slightly below Shaw Street Reserve and adjacent commercial area along Shaw Street. The Bexley Road overbridge provides north-south connectivity over the railway line and elevated views to the station.

Bexley North Station, particularly the platform and platform building, is a local landmark. The platform building (c. 1931) is characterised by the distinctive single storey Inter War Art Deco style platform building, featuring a decorative red-brick façade and a gabled roof with hipped awnings at either end of the building.

The platform entry stairs to station are located at the centre of the Bexley Road overbridge, on the western side. Although the brick piers (c.1929) have been retained, the overbridge and stairs are predominantly modern concrete structures, located at the eastern end of the platform. These stairs provide access to the platform from Bexley Road and surrounding retails, commercial and residential areas.



Heritage station platform building and overbridge



Kingsgrove Avenue commuter car park



View from Bexley Road overbridge to Wolli Creek



View west over station from Bexley Road overbridge

The boundary of the railway corridor is partially vegetated, particularly where the corridor adjoins Kingsgrove Avenue and the Shaw Street Reserve, creating a strong north south visual boundary, enclosing views between the station and adjacent recreational and residential areas. Mature native trees such as eucalypts, brushbox, black sheoak and silky oak, are a common landscape feature along the rail corridor. The row of mature black sheoak trees along the rail corridor, to the north of the station, filter views between the station and car park.



Mature black sheoak trees alongside Kingsgrove Avenue car park

There is however, very little vegetation beside Shaw Lane (south of the station) and beside the 90-degree angle parking along Kingsgrove Avenue, allowing open views to and from the car park and rear service area of the commercial buildings and Library on Shaw Road. The landscape and visual conditions of the study area are illustrated in Figure 7-1.

The corridor includes numerous overhead poles and wires, and corridor security fencing which create some visual clutter particularly to the north of the station, where there is little planting to filter views between the station and adjacent rear services areas of building along Shaw Lane.

To the east of the station, Bexley Road runs perpendicular to the railway corridor and is the main street of the Bexley North local centre. The centre is focused at the Shaw Street and Slade Road intersection and is characterised by early twentieth century two-storey commercial

terrace buildings with retail and offices at street level. The centre has little visual connectivity with the station due to intervening built form and landform.

Further to the east, medium rise residential apartment blocks adjoin the rail corridor, along Slade Road. North-facing properties in these apartment blocks overlook the rail corridor, towards Wolli Creek and Illoura Park.



Bexley North local centre, Bexley Road



Residential apartment blocks in Slade Street, overlooking the rail corridor



 North Not to scale	 Existing trees	 Heritage platform (s170)
	 Tree to be removed	 Heritage platform building (s170)
	 Pedestrian circulation	

Figure 7-1 Landscape and visual features of the site

Assessment of Representative Viewpoints

The following viewpoints were selected as representative of the range of views to the site and the proposed development:

1. View north west from eastern side of Bexley Road overbridge
2. View south from Bexley Road
3. View south east from Kingsgrove Avenue
4. View east from Station platform
5. View east from Station platform

5. View northeast from Bexley North library car park

The location of these viewpoints is shown on Figure 7-2 and an assessment of each viewpoint is been summarised on the following pages.

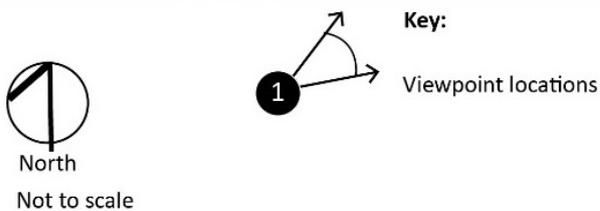


Figure 7-2 Viewpoint location plan

Viewpoint 1: View north west from eastern side of Bexley Road overbridge



Figure 7-3 Viewpoint 1: View north west from eastern side of Bexley Road overbridge – existing view



Figure 7-4 Viewpoint 1: View north west from eastern side of Bexley Road overbridge – photomontage

Existing view: The Bexley Road overbridge is visible in the foreground of view, perpendicular to the rail corridor, providing north-south connections between Earlwood and Bexley North local centre. The station entrance is visible on the western (left) side of the bridge, with stairs providing access to the island platform. The station is set below street level, leaving only the corrugated steel rooftop of the heritage listed platform building visible, including the decorative brick parapets on the east facing gable. The steel balustrades and existing anti-throw screens along the bridge, and overhead wires and associated equipment along the rail corridor clutters this view.

In the background of the view, the dense mature vegetation along Wolli Creek can be seen rising above the station platforms building and awnings.

Visual sensitivity: This view is of **local** visual sensitivity as it is located on a local arterial route and adjacent to the railway station entrance, which is a gathering place for large groups of people. The station also has a local heritage listing (Section 170 Register) which recognises its value to the community.

Visual impact during construction: Demolition of the existing station concourse would be seen in the centre of view, including the existing stairs, entry signage, lighting, fencing and balustrades along the overbridge. Hoarding would be erected along the western side of the overbridge and pedestrian traffic would be temporary diverted at times, particularly during the re-grading works to the footpaths between Shaw Street and the overbridge. Lane closure may also be visible along Bexley Road (where these are required for certain activities).

Construction of the new station entry concourse and lifts would be visible, including installation of the lift structure, cladding, roofing, canopy and anti-throw screens. Construction of the temporary access system between the overbridge and platform would also be seen in the centre of view.

As the station is located below street level, the station platform building works and platform re-grading would typically not be seen from this location. Similarly, the construction works at the Kingsgrove Avenue car park works and stairs and ramp would be screened from this location.

The character of this construction activity would not contrast greatly with this busy arterial route, resulting in a minor reduction in the amenity of this view, and a **minor adverse visual impact** during construction.

Visual impact during operation: From this location, the new station entry concourse would be the focus of view, including a new lift shaft and landing area, new stairs between the landing and station platform, and canopy structure. The lift shaft would rise approximately five metres above the footbridge, providing a new skyline element. The visual impact of the lift would be reduced by the proposed simple form and material palette of off-form concrete with steel cladding.

The proposed anti-throw screens around the lift landing and access stairs would also be expected to provide some transparency and lightness to the structure. This simple palette of materials and finishes would create a visually consistent entrance.

The existing footpaths to the north and south of the station entrance along the Bexley Road overbridge, would be upgraded to meet DDA compliance.

Overall, the station would have an increased visual prominence in this view and be more legible to customers accessing the station. The proposed station additions would constitute a minor improvement in the amenity of this view. They would be in character with the developed nature of the station, and the dense vegetation along Wolli Creek would remain as an important visual feature in northerly views along Bexley Road. This would result in a **minor beneficial visual impact** during operation.

Viewpoint 2: View south from Bexley Road



Figure 7-5 Viewpoint 2: View south from Bexley Road

Existing view: This view across Bexley Road includes the Kingsgrove Avenue commuter car park in the middle ground of the view. The ornamental gardens at the junction of Kingsgrove Avenue conceals views to the eastern section of the car park, including formal hedges and a row of mature trees, which form part of the entry statement to Bexley North local centre on Bexley Road.

The station is located in a cutting, slightly below the car park. The row of sheoak trees along the rail corridor further obstructs views to the station, leaving only the western end of the heritage listed platform building and awnings visible through the rail corridor fencing. This includes the corrugated steel rooftop and decorative brick parapet on the west facing gable. There is a background of urban development within the Bexley North local centre, including the library. Some mature trees to the south of the corridor can be seen, alongside Shaw Street Reserve (right of view).

The view includes several vertical elements, including lighting poles, fences and overhead wiring and associated equipment along the rail corridor. The upper part of commuter trains are also visible travelling across this view, entering and departing the station from the west (right of view).

The Bexley Road overbridge ascends to the south (left of view), perpendicular to the rail corridor, linking to Bexley North local centre.

Visual sensitivity: This view is of **local** visual sensitivity as it is located on a local arterial route and adjacent to the railway station commuter car park, which is used by large groups of people accessing the station.

Visual impact during construction: A construction compound would be established in the middle ground of the view, at the Kingsgrove Avenue commuter car park. The car park would be used as a worksite and compound during construction,

including for materials delivery and laydown. Trucks and construction vehicles would be seen travelling along Bexley Road, between the main construction compound and lift work area.

The ornamental gardens and trees in the middle ground of this view would be retained, and screen much of this compound.

The row of seven mature sheoak trees alongside the rail corridor would be removed, to make room for the ramp construction. The removal of these trees would also be largely screened by the retained gardens and trees on the corner.

Upgrade works to the commuter car park would be visible, to the south of the retained gardens and trees. Cranes would also be seen rising above the compound and worksite at the station.

The retained gardens and trees, and any visible elements within the compound, would obstruct the glimpsed view to the station heritage building works and some of the proposed construction activity at the new concourse.

The character of this construction activity would create a minor reduction in the visual amenity of this view, and result in a **minor adverse visual impact** during construction.

Visual impact during operation: During operation, the main construction compound would be converted into an upgraded commuter car park, including reconfiguration of the parking spaces, a new access ramp, lighting, signage and a waiting area with new landscaping. The ornamental gardens and mature trees would be retained, therefore maintaining the entry statement to Bexley North local centre. This garden would continue to filter views to the commuter car park and station. The new lift shaft and stairs would be largely screened by this vegetation.

Overall, the new works would comprise a small part of this view, as the gardens and trees on the corner would be retained. This would result in no perceived change in visual amenity of this view, and a **negligible visual impact** during operation.

Viewpoint 3: View south east from Kingsgrove Avenue



Figure 7-6 Viewpoint 3: View south east from Kingsgrove Avenue

Existing view: The Kingsgrove Avenue commuter car park is the focal point of this view, located at the intersection of Bexley Road. The ornamental gardens provide an entry statement to Bexley North local centre on Bexley Road.

The station is located in a small cutting, slightly below the car park. A row of mature sheoak trees between the car park and rail corridor can be seen, screening views to the station, leaving only glimpses to the platform building rooftop, awnings and access stairs from Bexley Road overbridge. The view includes several vertical elements cluttering the view, including lighting poles, fences, power poles and overhead wires. Commuter trains are regularly seen to the far right of view, entering and departing the station. Views to the overhead wiring and associated equipment along the rail corridor are filtered by vegetation.

The dense vegetation associated by Wolli Creek corridor is seen in the background of view (left of

view), beyond Bexley Road, forming a vegetated backdrop to the view.

Visual sensitivity: This view is of **local** visual sensitivity as it is located at the Kingsgrove commuter car park, which is used by large groups of people accessing the station.

Visual impact during construction: The Kingsgrove Avenue car park would be closed and converted into a worksite and compound during construction. Kingsgrove Avenue would remain open and construction traffic would be seen travelling between the compound and new station concourse worksite at the Bexley Road overbridge.

The ornamental gardens and trees would be retained. However, the row of seven mature sheoak trees between the car park and rail corridor would be removed, opening up views to the station platform works and new concourse construction, including demolition of the access

stairs and installation of the new lift shaft. Platform regrading works and the station platform building upgrade would also be visible (right of view). Site fencing and hoarding would be erected along the compound and worksite boundaries, and construction equipment and machinery would be visible rising above the hoarding.

The character of this construction activity would contrast with the leafy character of the station. This would result in a minor reduction in the amenity of this view, and a **minor adverse visual impact** during construction.

Visual impact during operation: The upgraded Kingsgrove Avenue car park would be the focus of this view, including 22 car spaces, a new ramp extending between the car park and overbridge, and a new forecourt. The ornamental gardens and trees would be retained, therefore maintaining the entry statement to Bexley North local centre. These gardens would be complemented by additional planting at the car park, within the forecourt and along Bexley Road. This planting would help soften and visually integrate the new ramp.

Due to the removal of vegetation along the rail corridor boundary, the new station entry concourse would be visible in the background of this view, with the lift shaft and canopy structure rising above the overbridge. The station platform canopy structure and new access stairs would also be seen in this view.

Whilst there would be more built form in this view, the visual bulk of the lift would be reduced by its simple form. The brick base to the access stairs, at platform level, reflect the character of the existing heritage buildings and would recede somewhat in this view. The heritage platform building, which was previously screen by vegetation, would be more visually prominent in this view.

Whilst the station works would be more visually prominent in this view, due to the scale of the changes and capacity of the character of the station setting to absorb the changes, there

would be no perceived reduction in the amenity of this view. This would result in a **negligible visual impact** during operation.

Viewpoint 4: View east from Station platform



Figure 7-7 Viewpoint 4: View east from Station platform

Existing view: This view shows the topographic setting of the station. The station is located in a small cutting, with retaining walls to the north and south of the track. The island platform is seen in the foreground of view, extending east towards Bexley Road. The heritage listed platform building can be seen beyond the platform awning structures, including the gabled roof with hipped awnings and decorative red brickwork on the western façade. The Bexley Road overbridge can be seen in the background, a modern concrete structure to the east of the platform building. Views to the platform access stairs from the overbridge are blocked by intervening buildings and structures.

This view is framed by trees to the north and south of the rail corridor, including mature sheoak trees beside the Kingsgrove Avenue commuter car park and native vegetation along Wolli Creek (left of view), and trees to the south of the overbridge (right of view) and within Shaw Street

Reserve (to the south, out of view). The view includes various vertical elements, creating some visual clutter, including a telecommunication tower in the background, power poles and overhead wires, lighting, fences, overhead wiring and associated equipment along the rail corridor. Commuter trains are regularly seen, entering and departing the station.

Visual sensitivity: This view is of **local** visual sensitivity as it is located at the railway station, which is a gathering place for large groups of people. This station has a local heritage listing (Section 170 Register), reflecting its value to the community.

Visual impact during construction: Construction works at the station platform would be seen in the middle ground of view, including platform resurface works and upgrade of the station platform building. The platform awnings in the view foreground would be retained. Construction

activity at the new station concourse would be seen in the background of this view, beyond the heritage platform building. Installation of the lift shaft would also be visible, rising above the station platform building.

The entire construction worksite and compound at Kingsgrove Avenue would be seen from this location, including a temporary crane pad (when required). Although the existing concrete retaining wall along the rail corridor would be retained, the existing black corridor fencing and mature sheoak trees would be removed to make room for the reconfigured commuter car park and accessible pedestrian ramp between the carpark and overbridge.

The character of this construction activity would contrast somewhat with the heritage and leafy character of the station, resulting in a minor reduction in the amenity of this view. This would result in a **minor adverse visual impact** during construction.

Visual impact during operation: The upgraded Kingsgrove Avenue car park would be clearly seen from this angle. The removal of vegetation along the rail corridor would open-up views to the car park and new accessible ramp, linking to the overbridge. The ramp structure would be a prominent built element alongside the rail corridor, however, new planting would assist to visually integrate and soften the car park and ramp, complementing the entry statement planting at the corner of Bexley Road and Kingsgrove Avenue.

The upgrade to the heritage platform building would be absorbed into the character of the station. The new station entry concourse lift shaft and access stairs would be located in the background of this view, behind the platform building, introducing a new skyline element in this view. Although the concourse roofline would rise approximately five metres above the overbridge, the simple form and palette of materials would assist in visually integrating it with the station setting. The character of these structures would

be visually distinct from the highly ornate heritage architecture.

There would be a brick base to the access stairs at platform level, a reference the existing material palette of the heritage platform building.

Overall, due to the scale of built form, setback from the station platform building, and ability of the station to absorb changes such as the new ramp structure, there would be a minor reduction in the amenity of the view. This would result in a **minor adverse visual impact** during operation.

Viewpoint 5: View northeast from Bexley North library car park



Figure 7-8 Viewpoint 5: View northeast from Bexley North library car park

Existing view: This view, from the Bexley North library car park, includes the station in the middle ground and is elevated slightly above the station platform. The rail corridor is located in a small cutting, with retaining walls and fencing along the rail corridor boundaries.

The heritage listed platform building is visible in the centre of the view, including the corrugated steel roof and decorative brickwork parapet at the western gable. A series of platform awnings adjoin the platform building, extending west, obstructing views to the Kingsgrove Avenue commuter car park. The Bexley Road overbridge and platform access stairs are visible in the background of view, beyond the station platform building.

The view includes various vertical elements, including signage, lighting, fences and overhead wiring and associated equipment. Mature trees along Kingsgrove Avenue and Wolli Creek form a leafy backdrop to the view.

Visual sensitivity: This view is of **local** visual sensitivity as it is located beside the library and Shaw Street Reserve playground, within Bexley North local centre, which is a gathering place for people.

Visual impact during construction: The car park and fencing along the edge of the rail corridor would be unchanged. Construction works at the station platform and Bexley Road overbridge, including the new station entry concourse, would be visible in the middle and background of the view. The station would remain open during construction, therefore trains would continue to be seen entering and departing the station. The awnings extending west of the platform building would also be retained.

Surface upgrades to the platform would be seen in the middle ground of the view, as would the upgrade of the heritage platform building. Beyond the platform building,

demolition of the access stairs would be visible, along with construction of the temporary access system between the platform and overbridge. Works to construct the lift and concourse would be visible, rising above the overbridge. Construction activity at the Kingsgrove Avenue commuter car park would be mostly screened by the platform buildings and hoarding.

The works would extend across a large portion of this view but be set back in the middle to background of the view. The character of this construction activity would contrast somewhat with the heritage and leafy character of the station.

This would result in a minor reduction in the amenity of this view, resulting in a **minor adverse visual impact** during construction.

Visual impact during operation: The new station entry concourse and lift shaft would be visible in background of this view, introducing a new skyline element in this view. The lift structure and concourse roofline would rise about five metres above the overbridge level.

The lifts would transform this view, becoming a prominent new feature in the middle to background of this view.

The proposed anti-throw screens used on the concourse and access stairs would create some transparency and visual lightness, reducing the visual bulk of the structures. The view to the heritage station platform building would be unobstructed by new built form, and the new lift and stair would be set back from the station platform building by approximately four metres.

Overall, the new station buildings would be visually consistent with the character of the station and be largely absorbed into this view. This would result in no perceived change in the amenity of this view, and a **negligible visual impact** during operation.

Summary of daytime impacts

The following table, Table 7 1, summarises the impacts identified in the viewpoint assessment.

Table 7-1 Summary of Visual Assessment

Viewpoint number and location		Sensitivity	Construction		Operation	
			Magnitude	Visual Impact	Magnitude	Visual Impact
1	View north west from eastern side of Bexley Road overbridge	Local	Minor reduction	Minor adverse	Minor improvement	Minor benefit
2	View south from Bexley Road	Local	Minor reduction	Minor adverse	No perceived change	Negligible
3	View south east from Kingsgrove Avenue	Local	Minor reduction	Minor adverse	No perceived change	Negligible
4	View east from Station platform	Local	Minor reduction	Minor adverse	Minor reduction	Minor adverse
5	View northeast from Bexley North library car park	Local	Minor reduction	Minor adverse	No perceived change	Negligible

The following summarises the findings of this viewpoint assessment.

Views from the east

There are views to the east from the Bexley Road bridge, footpaths, and the medium density residential properties to the east of Bexley Road. In these views the roof of the station heritage platform can be seen set below the road bridge. (refer to viewpoint 1).

The residential properties to the east of Bexley Road are oriented north, and away from this busy roadway. There are smaller windows oriented towards the road, and mature trees along the road corridor which would screen and filter views to the station and Proposal.

During construction, there would be a **minor adverse visual impact** in views from the west, as the station is viewed across the heavily trafficked Bexley Road.

During operation, the new lift structure and stairs would be seen in the middle ground of these views and seen within the context of a busy road and existing railway station infrastructure. Whilst the new station entrance would have a greater visual prominence in the view, the Proposal would result in a **minor beneficial visual impact** during operations.

View from the north

The ornamental gardens and trees on the corner of Kingsgrove Avenue and Bexley Roads are a prominent feature in views from the north. This includes views from Bexley Road and Kingsgrove Avenue. (refer to viewpoint 2 and 3).

During construction, in views from the north, the works to construct the Proposal would be partly screened and visually enclosed by these gardens and trees, which would be retained. Whilst there would be works seen in locations where the existing commuter carpark can be seen, and potentially cranes rising above the intervening vegetation, this would result in a

minor adverse visual impact in views from the north during construction.

During operation, the ramp, new stairs and lift structure would largely be hidden behind the retained ornamental gardens and trees.

Views from the platform

The heritage platform building is the feature of views from the station platform. (refer to viewpoint 4).

During construction, the removal of trees, establishment of a compound site and works to construct the ramp to the north of the site would be most prominent. There would also be some works associated with the upgrading of the platform building toilets and platform regrading visible adjacent to the heritage platform building. Overall, this would result in a **minor adverse visual impact** during construction.

During operation, the new lift would be mostly screened by the existing station buildings. However, the upgraded Kingsgrove Avenue carpark. Overall, due to the scale of built form, setback from the station platform building, and ability of the station character to absorb changes such as the new ramp structure, there would be a **minor adverse visual impact** during operation.

Views from the south

There are views along the station to the station platform building and proposed stair and lift structure on Bexley Road. There are similar views from Shaw Lane and the rear of commercial properties along Shaw Street, including a funeral chapel and reception centre. (refer to viewpoint 5).

During construction, works at the station platform and Bexley Road overbridge would be visible in the middle and background of the view. The works would extend across a large portion of this view and have a character which would contrast with the heritage and leafy

character of the adjacent library and parkland. This would result in a **minor adverse visual impact** during construction.

This new built form would be set back from the heritage platform building. It would have a simple form in views from the south, with the materials and colours aiming to reduce the visual scale of the structures. This would result in a **minor adverse visual impact** in views from the south during operation.

Views at night

At night, the Proposal would be in an area of **moderate district brightness**, with the existing commercial centre, heavily trafficked roads, station and railway corridor creating a moderately well-lit at environment night.

During construction, the work areas and adjacent main construction compound would be lit for security. However, it is unlikely that these areas would be used on an ongoing basis for construction activity during evening hours (other than for specific activities or where works are undertaken during possession periods).

Generally, the character of the construction works at the lift work area and main construction compound at night would be visually absorbed into the surrounding brightly lit environment, particularly with the bright lights of Bexley Road along the east of the site. The works would create a minor reduction in amenity and result in **negligible adverse visual impact** during construction.

During operations, the upgraded station would continue to be brightly lit for security and safe use at night. The new platform lift and upgraded commuter carpark at Kingsgrove Avenue would be seen in the context of the existing station lighting, commercial buildings and street lights along Bexley Road.

The station would be likely to create minor additional sky glow above the site due to the removal of some trees and additional built form.

There is not expected to be any additional direct light spill (trespass) onto private property as all neighbouring residential properties are separated from the station by the rail corridor and roads.

Generally, the character of the proposed station upgrade at night would be visually absorbed into the surrounding brightly lit environment and the legibility of the precinct would be improved. Overall, this would result in no perceived change in the amenity of views at night, resulting in a **negligible visual impact** at night during operation.

8.0 Urban design and landscape character assessment

The Proposal is generally consistent with the intent and strategies identified in the Rockdale LEP (2011). Whilst the requirements of the LEP are not directly relevant to this approval, the following assessment uses the requirements of these planning instruments as a guide.

The Rockdale Local Environmental Plan requires consideration of:

- (iii) *heritage issues and streetscape constraints,*
- (iv) *the relationship of the development with other development (existing or proposed) on the same site or on neighbouring sites in terms of separation, setbacks, amenity and urban form,*

- (v) *bulk, massing and modulation of buildings,*
- (vi) *street frontage heights,*
- (vii) *environmental impacts such as sustainable design, overshadowing, wind and reflectivity,*
- (x) *the impact on, and any proposed improvements to, the public domain,*
- (xi) *achieving appropriate interfaces at ground level between the building and the public domain,*
- (xii) *excellence and integration of landscape design.* (clause 6.14.4e)

The following table provides a summary of how the Proposal has responded to these requirements.

Table 8-1 Urban Design and Landscape Character Assessment

Urban design requirement	Response
(iii) <i>heritage issues and streetscape constraints</i>	<p>The lift would have a simple form and material palette so that it does not visually compete with the heritage station platform building. It would incorporate brick at the base of the structure, to reflect the materials and colour palette of the heritage platform building.</p> <p>Existing views to the heritage station platform building are limited from surrounding areas. However, the Proposal would open-up a view from Kingsgrove Avenue, and the upgraded commuter carpark.</p>
(iv) <i>the relationship of the development with other development (existing or proposed) on the same site or on neighbouring sites in terms of separation, setbacks, amenity and urban form,</i>	<p>Although the lift would be taller than the existing station elements, the surrounding context includes two storey commercial buildings along Shaw Street in the south, and to the southeast there are several medium density residential buildings.</p> <p>The station buildings are set back from adjacent development by the commuter carpark and Kingsgrove Avenue to the north, Bexley Road to the east, Shaw Lane and library car parking area to the south.</p>
(v) <i>bulk, massing and modulation of buildings,</i>	<p>The bulk and massing of the building is consistent with the surrounding commercial buildings to the south, and existing station buildings. The sloped roof and physical separation between the heritage platform building and the new stair and lift structure reduces the bulk and</p>

Urban design requirement	Response
	massing of the building in relation to the heritage platform building. This also creates some modulation of the rooflines of the station.
<i>(vii) environmental impacts such as sustainable design, overshadowing, wind and reflectivity,</i>	<p>Overshadowing of adjacent properties would be limited to the winter months, due to:</p> <ul style="list-style-type: none"> • The separation of the station and Proposal from neighbouring commercial areas by the commuter carpark and Kingsgrove Avenue to the north, Bexley Road to the east, Shaw Lane and the library car parking area to the south • The distance between the station and nearby residential properties.
<i>(x) the impact on, and any proposed improvements to, the public domain,</i>	<p>The Proposal would provide improvements to the public domain by providing accessible access to the station.</p> <p>It would also provide improved public realm areas around with the commuter carpark upgrades on Kingsgrove Avenue.</p>
<i>(xi) achieving appropriate interfaces at ground level between the building and the public domain,</i>	<p>During construction, there would be some adjustments to station access and legibility as the works are undertaken near rail customers. However, during operation, station access and legibility would be substantially improved by the Proposal. The increased visibility of the station entry from Bexley Road would improve legibility of the station by marking the entry to the station. Whilst the introduction of a lift, the ramp to the commuter carpark, and improvements to the surrounding footpaths and kerbside facilities would provide compliant access to the station for all users.</p>
<i>(xii) excellence and integration of landscape design.</i>	<p>Whilst the existing gardens and trees on the corner of Kingsgrove Avenue and Bexley Road would be retained, seven mature trees along the rail corridor would be removed to install the new access ramp and upgrade the Kingsgrove Avenue car park.</p> <p>These trees would not be replaced within the precinct; however, additional garden areas would be installed in the vicinity of the Kingsgrove Avenue commuter carpark upon completion of the construction works.</p>

Due to the potential reduction in station accessibility and legibility during construction, and the removal of eight trees, there would be a temporary minor reduction in the urban design functionality of the station precinct and a **minor adverse urban design and landscape impact** during construction.

During operation, there would be substantial improvements to accessibility created by the introduction of a lift, the ramp to the commuter carpark, improvements to the surrounding footpaths, and improved legibility of the station. This would result in a minor improvement in the urban design functionality of the station precinct and a **minor beneficial urban design and landscape impact** during operation.

9.0 Mitigation of impacts

The following mitigation measures would be implemented to reduce the visual impacts of the Proposal:

- an Urban Design Plan (UDP) would be prepared by the Contractor, in consultation with the relevant council, and submitted to TfNSW for endorsement by the Sustainability and Precincts and Urban Design team, prior to finalisation of the detailed design. The UDP, at a minimum, would address the following:
 - the appropriateness of the proposed design with respect to the existing surrounding landscape, built form, behaviours and use-patterns (including consideration of Crime Prevention Through Environmental Design principles). This is to include but not be limited to:
 - connectivity with surrounding local and regional movement networks including street networks, other transport modes and active transport networks. Existing and proposed paths of travel for pedestrians and bicycles should be shown
 - integration with surrounding local and regional open space and or landscape networks. Existing and proposed open space infrastructure/landscape elements should be shown
 - integration with surrounding streetscape including street wall height, active frontages, awnings, street trees, entries, vehicle cross overs etc
 - integration with surrounding built form (existing or desired future) including building height, scale, bulk, massing and land-use
 - design detail that is sensitive to the amenity and character of heritage items located within or adjacent to the Proposal site.
- a Public Domain Plan (PDP) would be prepared by the Contractor, in consultation with the relevant council, and submitted to TfNSW for endorsement by the Sustainability and Precincts and Urban Design team, prior to finalisation of the detailed design. The PDP, at a minimum, would address the following:
 - materials, finishes, colour schemes and maintenance procedures including graffiti control for new walls, barriers and fences
 - location and design of pedestrian and bicycle pathways, street furniture including relocated bus and taxi facilities, bicycle storage (where relevant), telephones and lighting equipment
 - landscape treatments and street tree planting to integrate with surrounding streetscape
- opportunities for public art created by local artists to be incorporated, where considered appropriate, into the Proposal
- total water management principles to be integrated into the design where considered appropriate
- design measures included to meet TfNSW's NSW Sustainable Design Guidelines -Version 4.0 (TfNSW, 2017) and any relevant *Infrastructure Sustainability Rating Scheme - Version 2.0* (ISCA, 2018) requirements
- identification of design and landscaping aspects that will be open for stakeholder input, as required

- all permanent lighting would be designed and installed in accordance with the requirements of standards relevant to AS 1158 Road Lighting and AS 4282 *Controlling the Obtrusive Effects of Outdoor Lighting*
- the detailed design of the Proposal would comply with Crime Prevention Through Environmental Design principles
- worksite compounds would be screened with shade cloth (or similar material, where necessary) to minimise visual impacts from key viewing locations
- temporary hoardings, barriers, traffic management and signage would be removed when no longer required
- during construction, graffiti would be removed in accordance with TfNSW's Standard Requirements

In addition, the following mitigation measures should be considered:

During construction:

- all trees to be retained should be protected prior to the commencement of construction in accordance with AS4970 the Australian Standard for Protection of Trees on Development Sites and Adjoining Properties
- temporary access arrangements should be well signed and provide a visually legible route for pedestrians
- consolidate site equipment and facilities to maximise the area of useable public realm and maintain pedestrian permeability.
- select a colour palette which is complementary to the heritage character of the station.

10.0 References

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