

# Transport Access Program 3: Waitara Station Upgrade

Landscape Character and Visual Impact Assessment

25 Mar 2022  
Waitara Station Upgrade

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## Landscape Character and Visual Impact Assessment

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## Abbreviations and definitions

Abbreviation	Meaning
<b>CBD</b>	Central Business District
<b>CCTV</b>	Closed Circuit TV
<b>CPTED</b>	Crime Prevention Through Environmental Design
<b>DDA</b>	<i>Disability Discrimination Act 1992 (Cwlth)</i>
<b>DSAPT</b>	<i>Disability Standards for Accessible Public Transport (2002)</i>
<b>GLVIA3</b>	<i>Guidelines for Landscape and Visual Impact Assessment, Third Edition</i> (Landscape Institute and Institute for Environmental Management (UK), 2013)
<b>HLEP 2013</b>	Hornsby Local Environmental Plan 2013
<b>LCVIA</b>	Landscape Character and Visual Impact Assessment
<b>LCZ</b>	Landscape Character Zones
<b>LEP</b>	Local Environmental Plan
<b>NSW</b>	New South Wales
<b>PA system</b>	Public Address system
<b>REF</b>	Review of Environmental Factors
<b>SHR</b>	State Heritage Register
<b>SoHI</b>	Statement of Heritage Impact
<b>SSE</b>	Station Services Equipment
<b>TAHE</b>	NSW Transport Asset Holding Entity
<b>TAP</b>	Transport Access Program
<b>Transport</b>	Transport for NSW

Term	Definition
<b>Concept design</b>	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 Transport for NSW acceptance).
<b>Interchange</b>	Transport interchange refers to the area/s where passengers transit between vehicles or between transport modes. It includes the pedestrian pathways and cycle facilities in and around an interchange.
<b>Kiss and ride bay</b>	A kiss and ride bays allow for quick entry and exit which helps minimise congestion and risk when used properly. These types of bays operate under the same conditions as no parking zones, which means a customer may stop to drop off or pick up others for a maximum of two minutes. They are required to remain in, or within three metres of their vehicle (Service NSW, 2016).
<b>Proposal area</b>	The area within which all the Proposal construction and operational elements will be contained within.

Term	Definition
<b>Reasonable</b>	Selecting reasonable measures from those that are feasible involves making a judgment to determine whether the overall benefits outweigh the overall adverse social, economic and environmental effects, including the cost of the measure.
<b>Sensitive receivers</b>	Land uses which are sensitive to potential noise, air and visual impacts, such as residential dwellings, schools and hospitals.
<b>Study area</b>	The area within which the impact of the Proposal on landscape character, views and visual amenity is assessed in this report.
<b>The Proposal</b>	The construction and operation of the Waitara Station Upgrade.

## Executive summary

### Introduction

The Transport Access Program (TAP) is a NSW Government initiative run by Transport for NSW (Transport) to provide accessible, modern, secure and integrated transport infrastructure across NSW. This Proposal forms part of the TAP and involves an accessibility upgrade of Waitara Station to improve accessibility and amenities for customers. The Proposal is located at Waitara Station on the T1 North Shore Line, approximately 20 kms north-west of the Sydney Central Business District (CBD).

AECOM has been engaged to prepare a Review of Environmental Factors (REF) for the Proposal, including a Landscape Character and Visual Impact Assessment (LCVIA). The purpose of this LCVIA is to:

- describe the landscape character within the study area and the visibility of the Proposal from the surrounding landscape
- identify and describe key landscape receivers and representative viewpoints from which the Proposal would be visible
- assess potential landscape character and visual effects of the Proposal
- recommend management and mitigation strategies to minimise any impacts from the Proposal.

Potential changes to landscape character and views due to the Proposal at operation have been assessed in detail. Changes during construction to views from the surrounding landscape have been broadly assessed (i.e. no detailed analysis has been made).

The Proposal would include the following key elements:

- construction of a new pedestrian underpass at the northern end of the platform to provide a new accessible station entrance
- installation of two new lifts at the new northern station entrance including a lift from the commuter car park to the underpass and a lift from the underpass to the platform, including associated landings, canopies and support structures
- construction of new platform stairs and associated canopy to provide access from the new pedestrian underpass to the station platform
- construction of a new northern station entrance including a lift and entrance stairs from the commuter car park off Waitara Avenue, and an eastern entrance from Alexandria Parade
- construction of an accessible pedestrian footpath on Alexandria Parade connecting to a new pedestrian crossing on Alexandria Parade
- provision of seating and wheelchair spaces at the two boarding assistance zones and installation of one canopy on the station platform
- modifications to the station building to provide additional Station Services Equipment
- reconfiguration of the existing toilet facilities in the station building to provide a new family accessible toilet and new unisex ambulant toilet
- modifications to the commuter car park including relocation of the turning circle, relocation of two accessible parking spaces and provision of kiss and ride bays
- modifications to the parking on Alexandria Parade to provide a new station entrance including provision of two new accessible parking spaces adjacent to the new station entrance
- ancillary work including platform stabilisation and regrading, station power supply upgrade, protection and relocation of existing services and utilities, installation of new services and utilities, new or reinstatement of Tactile Ground Surface Indicators (tactiles) where required, handrails and fencing, new ticketing facilities including additional Opal card readers, improvement to station communication systems (including CCTV cameras) and wayfinding signage.

A study area comprising a 750 metre radius from the Proposal was selected. This was considered conservative given the relatively flat topography, the low elevation of the station and the visual screening provided by vegetation within the rail corridor and adjacent built form.

The methodology is described in Chapter 2.0 of this report.

## Existing environment

The Proposal is located at Waitara Station, which is located on the T1 North Shore Line approximately 20km from the Sydney CBD (refer Figure 4.1). Hornsby Station is the closest major rail interchange (approximately 900 metres, north-west of Waitara Station), where the T1 North Shore Line intersects with the T9 Northern Line and the Central Coast and Newcastle regional line.

Waitara Station is a small suburban station, comprising one station platform positioned between the north and south bound tracks. The platform has one station building positioned roughly in the middle of the platform. Entry to the station is via a pedestrian underpass at southern end of the platform, with a tiered roof protecting the stairs. The station and tracks are almost level with the southern side of the rail corridor, but at a higher elevation to the northern side (Alexandria Parade). A steep, vegetated batter mitigates the level change between Alexandria Parade and the station.

The topography within the study area includes two ridgelines: one to the south running in a north-south direction; the other roughly following the Pacific Highway and running from the north to south. Waitara Station is located on the north-south ridgeline, with the landscape falling to the east away from the rail corridor. There are no waterways within the study area.

The area surrounding Waitara Station is predominantly high-density residential development to the north and B6 Enterprise Corridor (comprising light industrial development) to the west. There are several large transport corridors zoned SP2 comprising the T1 North Shore Line and T9 Northern Line rail corridors, the Pacific Highway and Edgeworth David Avenue. Fringing these large transport corridors are R4 High Density Residential, B4 Mixed Use and B6 Enterprise Corridor, with B3 Commercial Core located at Hornsby adjacent to Hornsby Station. Towards the edges of the study area (away from the Pacific Highway and T1 North Shore Line rail corridors) are R2 Low Density Residential. Pockets of recreational land zoned RE1 and RE2 occur within the study area, as well as several schools, which are typically zoned R2.

There are several heritage items within the study area, including local and state listed items and Heritage Conservation Areas (HCAs). While there are HCAs within the study area none of them lie directly adjacent to Waitara Station or the Proposal. The station is also listed on the NSW Transport Asset Holding Entity (TAHE) Section 170 Heritage and Conservation Register. A separate Statement of Heritage Impact has been prepared as part of this REF package to assess any impacts to heritage.

## Landscape character impact assessment

Eight Landscape Character Zones (LCZs, refer Figure 4.8 in Section 4.5) have been identified within the study area, however, changes that would result from the Proposal would only occur within one LCZ and lie within close proximity of two additional LCZs. A summary of the assessment of the Proposal on landscape character is shown in Table i.

Table i Summary of landscape character impact assessment ratings

LCZ	Sensitivity	Magnitude	Overall rating
LCZ 1: Rail Corridor	Moderate	Moderate	Moderate
LCZ 2: Major Road Corridor	No Change		
LCZ 3: Education	No Change		
LCZ 4: Town Centre / Retail	No Change		
LCZ 5: Recreation	No Change		
LCZ 6: High Density Residential	No Change		
LCZ 7: Medium to Low Density Residential	No Change		

LCZ	Sensitivity	Magnitude	Overall rating
<b>LCZ 8: Mixed Use / Light Industrial</b>			No Change

The Proposal would result in a Moderate change to LCZ 1: Rail Corridor. The proposed changes predominantly include the addition of three additional structures (the proposed lifts and stairway canopy) and the entry to the proposed pedestrian underpass on Alexandria Parade. The additions to the station platform and underpass infrastructure would not result in a change to the character of LCZ 1, however the new lifts would result in a moderate change in station character.

The development of detailed design would ensure that design elements and materiality reference the heritage character of the LCZ, yet would also maintain the visual quality of a 'new' piece of infrastructure rather than replicating heritage items.

## Visual impact assessment

### Construction

Construction activity for the Proposal would occur within the immediate surrounds of Waitara Station (which would include a construction compound) and at two ancillary sites approximately 450 metres north-west of the station platform within the rail corridor.

The most sensitive visual receptors at Waitara Station would be residents in Alexandria Parade near the station, but most of these receptors would be viewing the construction activity from a reasonable distance or would be partly screened by tree canopies. While these visual impacts would be visually prominent, they would be in keeping with similar temporary construction work and would be transitory over a period of up to 18 months until completion of the Proposal.

The most sensitive visual receptors at the ancillary facilities 450 metres north of Waitara Station would be residents living on the northern and eastern sides of a residential apartment block on Hornsby Street, Hornsby. These residents would see the construction activity from close proximity from their balconies and from some rooms inside their apartments, with some views partially screened by a tree canopy at the end of the road. While material storage and general activity would increase within these sites during the construction phase, the use of these areas for storage would not be completely new as the sites are currently used for some storage purposes at present. The ancillary facilities would be visually prominent within the view from the balconies, but less visibly prominent from within the apartments, particularly those fronting Hornsby Street. The work would be transitory over a period of up to 18 months until completion of the Proposal.

With the adoption of suggested mitigation measures (refer Section 8.1.2) these impacts are not considered to be significant.

### Operation

The most visible changes due to the Proposal would include the addition of two proposed lifts, a stairway canopy above the station platform and the entrance to the new pedestrian underpass. Other proposed changes, while noticeable, would result in the replacement or upgrade of existing elements such as resurfacing of pavement, replacement of handrails, tactiles, ticketing facilities, bathrooms and would comprise the upgrade of existing rail infrastructure rather than the addition or removal of elements within a view.

Five viewpoints have been chosen to represent the change in views from publicly accessible areas that would result from the Proposal. The assessment of change in views from these locations are summarised in Table ii.

Table ii Summary of visual impact assessment ratings

Viewpoint	Sensitivity	Magnitude	Overall rating	Qualitative assessment		
				Adverse	Neutral	Beneficial
<b>Viewpoint 1: Magpies Waitara</b>	Low	Low	<b>Low</b>		x	
<b>Viewpoint 2: Intersection of Orara Street and Alexandria Parade, Waitara</b>	Low	High	<b>Moderate</b>		x	
<b>Viewpoint 3: Alexandria Parade Overbridge, Waitara</b>	Low	Low	<b>Low</b>		x	
<b>Viewpoint 4: Intersection of Pattinson Avenue and Romsey Street, Waitara</b>	Low	Low	<b>Low</b>		x	
<b>Viewpoint 5: Waitara Station commuter car park, Waitara</b>	Low	Low	<b>Low</b>		x	

The highest impact rating would occur at Viewpoint 2, which returned a Moderate (Neutral) rating. The proposed changes include additions to the existing rail platform with the changes (particularly the proposed lift and stairway canopy within the rail corridor) comprising modern additions to the rail precinct. These changes are considered appropriate given the proportional scale of the proposed lifts in relation to the existing station building. The design of new station elements would be sympathetic to the existing architectural language within the station. The sensitivity of the visual receptors surrounding the station is Low and this rating is influenced by the utilitarian character of many of the surrounding areas, and the presence of screening vegetation along the rail corridor edge.

The assessment resulted in a 'Neutral' qualitative rating from all the viewpoints. This is due to:

- the visually recessive nature of most of the changes within the greater view from most viewpoints
- the addition of rail infrastructure within an existing rail corridor
- the distance of viewing of the additional infrastructure from most viewpoints.

The removal of vegetation along the rail corridor on Alexandria Parade and the pedestrian underpass, particularly the concrete entry structure and retaining walls, would be potentially be adverse elements within the view from Alexandria Parade. Potential mitigation of this impact is listed in Section 8.1.1.

Overall, the visual impact of the Proposal on visual receptors has been assessed as Low (Neutral).

## Conclusion

The effects of the Proposal on landscape character range between No change and Moderate, and on views and visual amenity are typically Low (Neutral). As such, this report finds that there is unlikely to be a significant effect on either landscape character or on views and visual amenity arising from the Proposal (i.e. there were no ratings of High (Adverse), or Moderate–High (Adverse)).

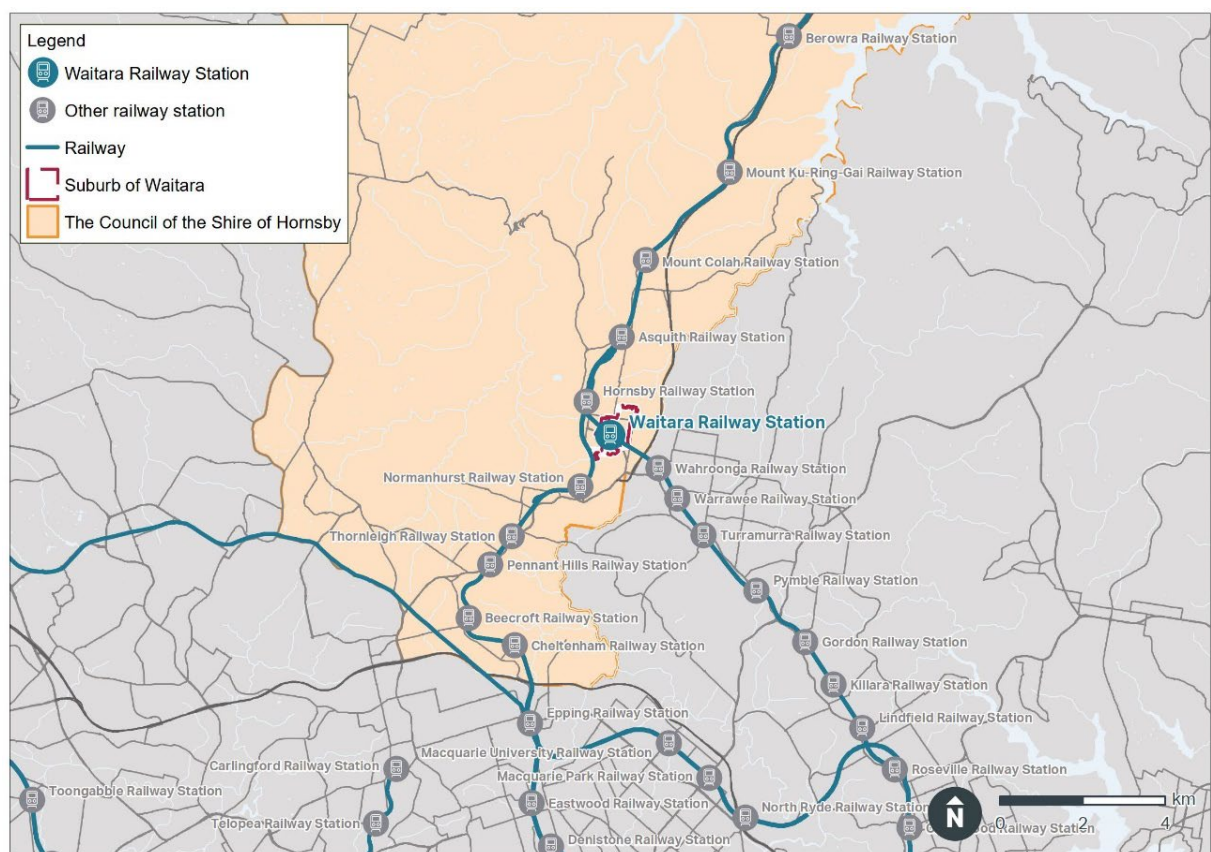


## 1.0 Introduction

## 1.1 Background

The Transport Access Program (TAP) is an NSW Government initiative delivered by Transport for NSW (Transport) to provide accessible, modern, secure and integrated transport infrastructure across NSW. This Proposal forms part of the TAP and involves an accessibility upgrade of Waitara Station to improve accessibility and amenities for customers.

The Proposal is located at Waitara Station on the T1 North Shore Line, approximately 20km north-west of the Sydney Central Business District (CBD) (refer Figure 1.1). The Proposal area is shown in Figure 1.2.



**Figure 1.1 Regional context of the Proposal (Source: AECOM)**

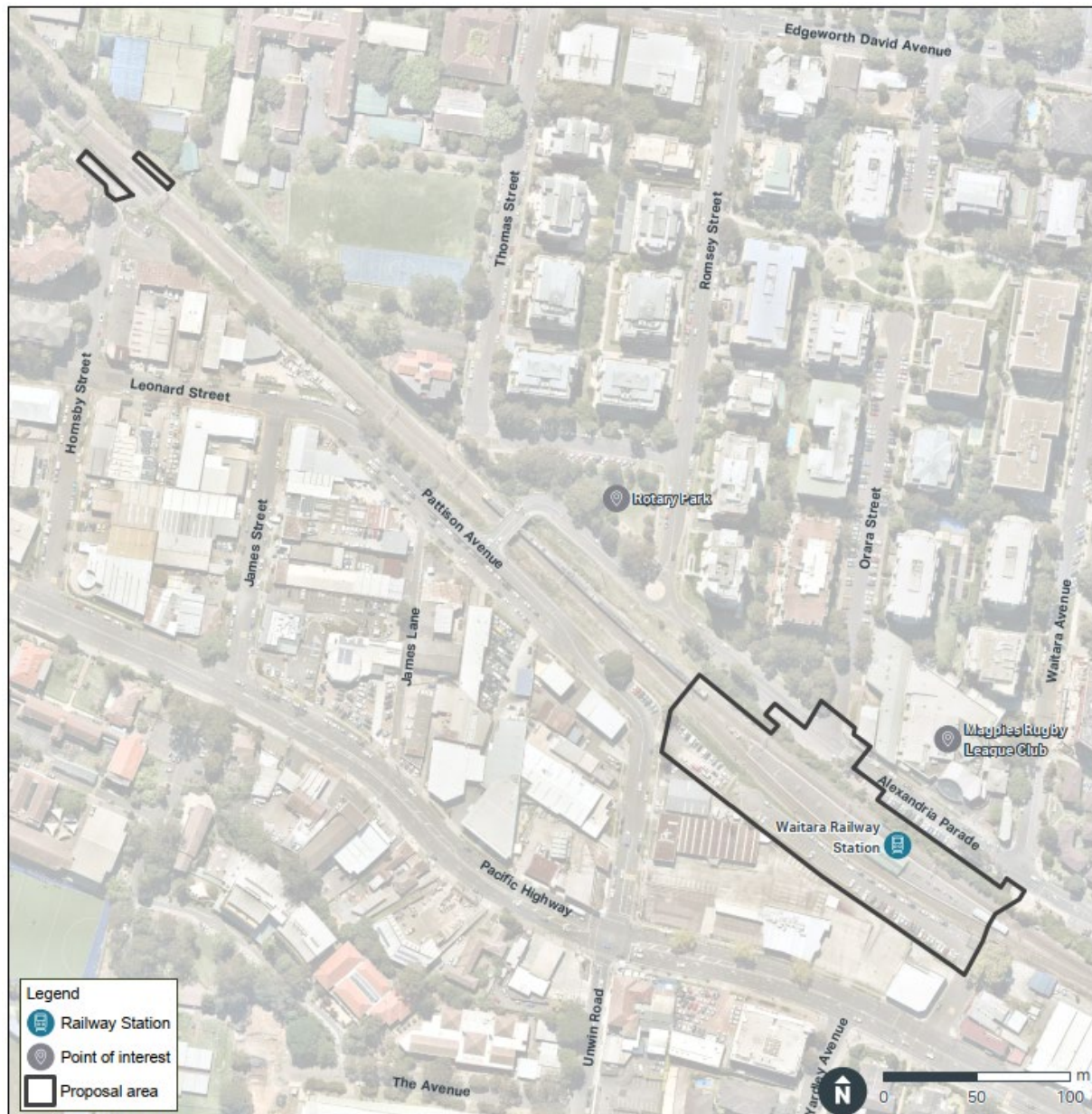


Figure 1.2 Proposal area (Source: AECOM)

## 1.2 Purpose of Technical Report

AECOM has been engaged to prepare a Review of Environmental Factors (REF) for the Proposal, including a Landscape Character and Visual Impact Assessment (LCVIA). The purpose of this LCVIA is to:

- describe the existing landscape character of the Proposal study area and the visibility of the proposed work from the surrounding landscape
- describe the site context and relevant aspects of the Proposal
- identify and describe key existing landscape receivers and representative viewpoints from which the Proposal would be visible
- assess landscape character effects of the Proposal
- assess visual effects of the Proposal

- recommend management and mitigation strategies to minimise any impacts from the Proposal.

Potential changes to landscape character that would be generated by the Proposal at operation have been assessed in detail. Changes to views from the surrounding landscape that would occur during construction have been broadly assessed (i.e. no detailed analysis).

For the purposes of this assessment the study area is defined in Section 1.4.

### 1.3 Proposal overview

The Proposal would include the following key elements:

- construction of a new pedestrian underpass at the northern end of the platform to provide a new accessible station entrance
- installation of two new lifts at the new northern station entrance and a lift from the commuter car park to the underpass and a lift from the underpass to the platform, including associated landings, canopies and support structures
- construction of new platform stairs and associated canopy to provide access from the new pedestrian underpass to the station platform
- construction of a new northern station entrance including a lift entrance and entrance stairs from the commuter car park off Waitara Avenue, and an eastern entrance from Alexandria Parade
- construction of an accessible pedestrian footpath on Alexandria Parade connecting to a new pedestrian crossing on Alexandria Parade
- provision of seating and wheelchair spaces at the two boarding assistance zones (BAZ) and installation of a canopy on the station platform
- modifications to the station building to provide additional Station Services Equipment (SSE)
- reconfiguration of the existing toilet facilities in the station building to provide a new family accessible toilet and new unisex ambulant toilet
- modifications to the commuter car park including relocation of the turning circle, relocation of two accessible parking spaces and provision of kiss and ride bays
- modifications to the parking on Alexandria Parade to provide a new station entrance including provision of two new accessible parking spaces adjacent to the new station entrance
- ancillary work including platform stabilisation and regrading, station power supply upgrade, protection and relocation of existing services and utilities, installation of new services and utilities, new or reinstatement of Tactile Ground Surface Indicators (tactiles) where required, handrails and fencing, new ticketing facilities including additional Opal card readers, improvement to station communication systems (including CCTV cameras) and wayfinding signage.

Figure 1.3 shows the general layout of key elements for the Proposal.

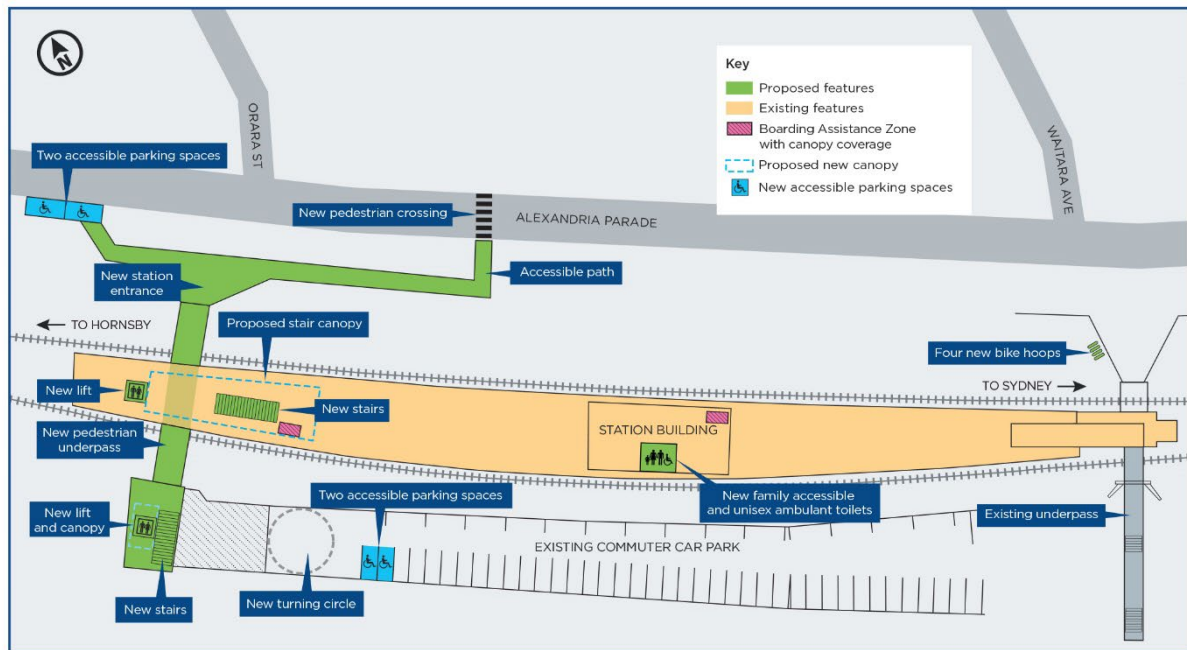


Figure 1.3 Key features of the Proposal (Source: Transport)

## 1.4 Study area

The study area is determined based on several factors, including:

- topography of the surrounding landscape
- the number and complexity of landscape character zones surrounding the Proposal
- the visual containment of the Proposal due to the scale of the Proposal in comparison to surrounding built form, landform and vegetation.

A study area comprising a 750 metre radius from the Proposal was selected (refer Figure 1.4). This was considered conservative given the relatively flat topography, the modest built form of the station and the visual screening provided by vegetation within the rail corridor and adjacent built form, particularly to the south west of the rail corridor between the Pacific Highway and the rail corridor.



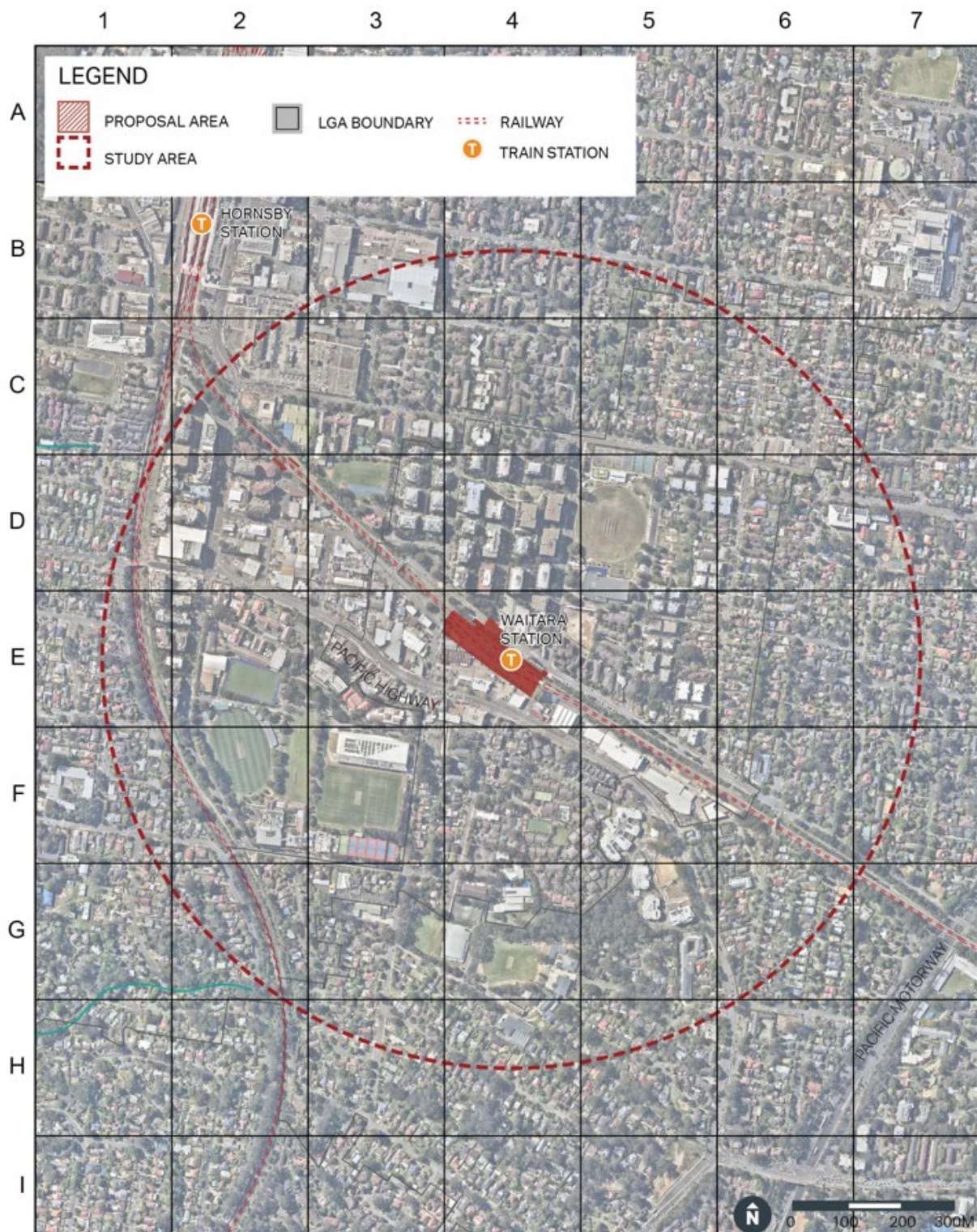


Figure 1.4 Study area and Proposal area (Source: AECOM)

## 2.0 Methodology

LCVIA is a tool used to identify and assess the significance of and the effects of change resulting from development on both the landscape as an environmental resource in its own right, and on people's views and visual amenity.

This LCVIA has been undertaken in accordance with the *Environmental Impact Assessment Practice Note – Guideline for Landscape Character and Visual Impact Assessment EIA-N04* (Transport, 2020), with more detailed guidance taken from *Guidelines for Landscape and Visual Impact Assessment, Third Edition* (2013), developed by the Landscape Institute and Institute for Environmental Management, UK (GLVIA3). GLVIA3 is widely recognised as comprising an example of 'best practice' in this field. This report has undertaken an assessment of the Proposal at operation using the methodology described below, and during construction a brief discussion of changes has been provided.

In accordance with these guidelines, key steps in the assessment of landscape character and visual impact includes:

- **Contextual analysis** (refer Section 2.1) - An analysis of the regional and local context in which the Proposal is located. This includes a desktop assessment to inform the site visit and a description of the existing environment, including the identification of Landscape Character Zones (LCZs)
- **Landscape character impact assessment** (refer Section 2.2.1) - An evaluation of the impact of the Proposal on the LCZs within the study area
- **Visual impact assessment** (refer Section 2.2.2) - An evaluation of the existing views and visual amenity surrounding the Proposal to identify and assess possible impacts placed on the community by the proposed work
- **Mitigation of impact** (refer Section 8.1) – A list of mitigation measures to reduce adverse impacts that the Proposal may impose within the study area.

The following sections outline the detailed methodology undertaken for the preparation of this LCVIA report.

### 2.1 Existing environment

The existing environment section includes a broad description of the landscape within which the Proposal is located which is used for identification of elements and features relevant to assessment of the Proposal, including site setting, topography, land use, landscape and heritage values. This section was compiled using the following methodology:

#### 2.1.1 Desktop analysis of proposal landscape and visual resources

Existing data was gathered and reviewed, including:

- available information on sensitive visual receptors, Proposal design, and photos of similar examples of key infrastructure elements proposed
- GIS mapping, including visual envelope mapping, zoning and land use, topography and heritage information (zoning and heritage mapping sourced from Hornsby Local Environmental Plan, 2013, mapping produced using ArcMap version 10.8)
- Waitara Station Upgrade Preliminary Environmental Assessment, October 2018
- Google Earth and Google Street View.

Using this data, a preliminary assessment of the landscape and visual resource was undertaken and used to inform a subsequent site inspection.

#### 2.1.2 Site inspection

Site inspections were undertaken by AECOM team members on Thursday the 15th October 2020 and Monday the 7th February, 2022. The purpose of the inspections were to:

- identify views from sensitive visual receptors within publicly accessible locations

- assess landscape character
- undertake site photography to record key views and landscape character.

### 2.1.3 Landscape Character Zones

- Drawing from the above, a landscape character assessment was undertaken. This identifies what makes a place distinctive, without necessarily assigning a value to it. It considers the way different components of the environment - both natural (the influences of topography, geology, soils, climate, flora and fauna), and cultural (the historical and current impact of land use, settlement, enclosure and other human interventions) - interact together and are perceived to form a distinct pattern, which gives its particular sense of place.

To provide a framework for more clearly describing the area and assessing how the Proposal would affect the elements that make up the landscape (including the aesthetic and perceptual aspects of the landscape and its distinctive character), distinct parts of the overall landscape have been separately defined and mapped as 'Landscape Character Zones' (LCZs).

## 2.2 Impact assessment

### 2.2.1 Landscape effects

Assessment of landscape effects considers the effect of change and development on landscape as a resource in its own right. Landscape effects are assessed at operation of the Proposal.

The consideration of potential impacts on landscape character is determined based on the existing landscape's sensitivity to change, and the magnitude of change that is likely to occur. The sensitivity of a landscape is judged on the extent to which it can accept change of a particular type and scale without adverse effects on existing landscape character. The magnitude of change to landscape character depends on the nature, scale and duration of the change that is expected to occur.

The sensitivity and magnitude of landscape effects address the following specific criteria:

- sensitivity of landscape to proposed change, based on:
  - susceptibility to change - this means the ability of the landscape receptor (whether it be the overall character or quality/condition of a particular LCZ, or an individual element and/or feature, or a particular aesthetic and perceptual aspect) to accommodate the Proposal without undue consequences for the maintenance of the existing situation, and/or the achievement of landscape planning policies and strategies
  - value of landscape
- magnitude of landscape effect, based on:
  - size or scale of change
  - geographical extent of effects
  - duration and reversibility of effects.

Using the criteria listed above, the extent of sensitivity and magnitude are each assessed and graded as being High, Moderate, Low or Negligible. The Landscape Character and Visual Impact Grading Matrix is then used to combine the ratings for sensitivity and magnitude (refer Table 2.1) to determine an overall 'Significance of Landscape Effects' finding of High, High to Moderate, Moderate, Moderate to Low, Low or Negligible in relation to the existing environment. Overall impact ratings of High and High to Moderate are considered to be significant.



**Table 2.1 Landscape Character and Visual Impact Grading Matrix (Source: GLVIA3 and Transport *Environmental Impacts Assessment Practice Note – Guideline for Landscape Character and Visual Impact Assessment EIA-N04* (2020))**

		Magnitude			
		High	Moderate	Low	Negligible
Sensitivity	High	High	High to Moderate	Moderate	Negligible
	Moderate	High to Moderate	Moderate	Moderate to Low	Negligible
	Low	Moderate	Moderate to Low	Low	Negligible
	Negligible	Negligible	Negligible	Negligible	Negligible

## 2.2.2 Visual effects

### 2.2.2.1 Zone of Theoretical Visibility

The likely visibility of the Proposal, once operational, from surrounding areas has been broadly mapped to define a Zone of Theoretical Visibility (ZTV). This provides an indication of which parts of the Proposal are likely to be viewed from surrounding areas. The mapping typically shows 'worst case', i.e. some receptors may only see a small portion of the Proposal, while other receptors may view a more substantial part of the Proposal.

#### 2.2.2.2 Representative visual receptors and viewpoints

Potential visual receptors were identified within the ZTV. These were then used to identify a series of viewpoints from which to assess the visual effects due to the Proposal. Factors such as proximity to the changes, number of visual receptors at each location, and the type of visual receptors were taken into account to select the viewpoints. Viewpoints were chosen to assess the changes from publicly accessible locations, although some viewpoints were used to approximate the changes seen from private locations such as residences or community facilities.

#### 2.2.2.3 Visual impact assessment

The assessment of visual impacts addresses the effects of change and development on the views available to people and their visual amenity. It assesses how the surroundings of individuals or groups of people may be specifically affected by changes in the context and character of views as a result of the change or loss of existing elements of the landscape and/or the introduction of new elements. Visual effects of the Proposal have been assessed at operation using the following method.

The evaluation of potential effects on visual amenity is based on the sensitivity of the viewpoint (and the visual receptors it represents) to change, and the magnitude of change arising from the Proposal that is likely to occur.

The sensitivity of each viewpoint is mainly a function of:

- the occupation or activity of the people experiencing the view at particular locations
- the extent to which their attention or interest may therefore be focused on the views and the visual amenity they experience at particular locations, for example:
  - people who are engaged in outdoor recreation where their attention or interest is likely to be focused on views and the visual amenity they experience are likely to be more sensitive to a proposed change in that view, rather than
  - people at their place of work whose attention may be focused on their work, not on their surroundings, and where the setting is not important to the quality of working life
- value attached to the view experienced, for example:
  - value in relation to heritage assets or through planning designations
  - indicators of value attached to views, e.g. through appearing on tourist maps, or provision of facilities for their enjoyment (such as parking places, sign boards and interpretative material).



The magnitude of change to views and visual amenity depends on:

- size or scale of change in the view with regard to the:
  - loss or addition of features in the view and changes in its composition
  - degree of contrast or integration of any new features with the existing landscape in terms of form, scale and mass, line, height, colour and texture
  - nature of the view of the Proposal in terms of amount of time it would be experienced, and whether the views would be full, partial or glimpses
- geographical extent of the visual effect with different viewpoints including the:
  - angle of view in relation to the main activity of the receptor
  - distance of the viewpoint from the Proposal
  - extent of area over which the changes would be visible
- duration and reversibility of visual effects, for example:
  - duration in terms of short term (0-5 years), medium term (6-15 years) or long term (16-30+ years)
  - reversibility with regard to the prospects and practicality of a proposed change being reversed in a generation, e.g. housing can be considered permanent, but wind energy developments for example are often argued to be reversible since they have a limited life, and could eventually be removed and the land reinstated (GLVIA3, 2013).

Using the criteria listed above, the extent of sensitivity and magnitude for visual effects are measured, with each assessed and graded as being High, Moderate, Low or Negligible. The Landscape and Visual Impact Grading Matrix is then used to combine the ratings for sensitivity and magnitude (refer Table 2.1) to determine an overall 'Significance of Visual Effects'. Overall impact ratings of High and High to Moderate are considered to be significant.

A qualitative assessment rating further assigns a rating to the change in the views seen by receptors. This qualitative assessment is a professional judgement as to whether the visual effects are deemed 'Adverse', 'Neutral' or 'Beneficial' from each viewpoint. This judgement is based on whether the changes would affect the quality of the visual experience of visual receptors, given the nature of the existing views. Importantly, the qualitative assessment rating is secondary to the overall impact rating, thereby a low change in views from a viewpoint with an adverse rating, for example, still remains a minor change but with a slightly adverse outcome.

In addition to assessing the visual impact of the Proposal at operation, a high level commentary has been provided around likely construction effects of the Proposal. Visual receptors have been considered in terms of the views they are likely to obtain from locations within proximity of the Proposal, including consideration of any key vantage points, e.g. lookouts where there is particular interest in the view.

### 2.2.3 Photomontage

Photographs of the view from each viewpoint were used to assist in providing a baseline from which to assess changes arising from the Proposal.

Photomontages were produced to illustrate the proposed changes from key viewpoints, selected during the desktop assessment as viewpoints from which the largest visual effects would potentially be seen. These were prepared by overlaying a 3D model of the Proposal over an existing photograph, removing any structures to be replaced using graphic software.

## 2.3 Mitigation and management measures

Following on from the assessment of impact on the landscape and visual resource, a set of mitigation measures have been developed aimed at reducing or avoiding adverse impacts of the Proposal on identified sensitive receptors. Mitigation measures typically comprise a range of techniques including,

but not limited to, appropriate lighting design, staging or construction method, material and colour selection, and landscape planting.

## 3.0 Project description

### 3.1 Station upgrade

Details of the proposed work to take place at the station to improve accessibility and customer experience are provided below:

- construction of a new pedestrian underpass at the northern end of the platform to provide a new station entrance including excavation underneath the existing railway track beneath the station platform
- construction of new station entrances and installation of two new lifts (and lift landings) at the northern end of the station including:
  - new entrance stairs and installation of a lift to provide access from the commuter car park off Waitara Avenue to the new pedestrian underpass
  - construction of a new station entrance including an accessible pedestrian footpath on Alexandria Parade connecting to a new pedestrian crossing on Alexandria Parade
  - installation of a new lift to provide access from the new pedestrian underpass to the station platform
  - installation of weather protection canopies at the lift landings.
- construction of new platform stairs at the northern end of the station including:
  - excavation of the station platform
  - installation of new platform stairs to provide access from the new pedestrian underpass to the station platform
  - installation of an associated canopy, provision of handrails, tactiles and non-slip stair edging.
- provision of seating and wheelchair spaces at the two BAZs and installation of a canopy on the platform
- modifications to the station building to provide additional SSE.
- reconfiguration of the existing female toilets into one unisex ambulant toilet including widening of the door to meet accessibility requirements
- reconfiguration of the existing male toilets into one new unisex family accessible toilet including:
  - lowering the floor to the family accessible toilet to allow for level access
  - relocating an internal wall
  - removing the existing door and provision of a new door to achieve the required clearances
- regrading the platform as required to achieve compliant gradients for accessible pathways.

### 3.2 Interchange facilities

Interchange upgrade work to improve connectivity within the station precinct would include:

- upgrades to the interchange facilities at the new northern entrance on Alexandria Parade including:
  - provision of a new pedestrian crossing
  - provision of an accessible footpath from the new station entrance to the new pedestrian crossing
  - provision of two accessible parking spaces near the new station entrance
- upgrades to the interchange facilities at the new northern entrance in the commuter car park including:

- relocation of the turning circle located at the end of the commuter car park to accommodate the new station entrance
- relocation of the two existing accessible parking spaces closer to the new entrance
- provision of kiss and ride bays
- provision of an accessible footpath from the accessible parking spaces to the new lift.
- provision of four new bike hoops at the existing station entrance.

### 3.3 Materials and finishes

Materials and finishes for the Proposal have been selected based on the criteria of durability, low maintenance and cost-effectiveness, to accord with heritage requirements, to minimise visual impacts, and to be aesthetically pleasing. Subject to detailed design, the Proposal would include the following:

- pedestrian underpass walls – high quality finishes
- new station entrance walls – high quality finishes, including consideration of opportunities for public art or Aboriginal heritage interpretation
- lift shafts – lower lift shaft concrete, upper lift shaft steel frame with glass infill panels
- lift doors – stainless steel
- lift glass – clear
- lift canopy – consistent with the existing station entrance canopy
- lift ventilation – powder coated steel
- lift roof – steel frame with roof sheeting
- platform – asphalt
- footpath – concrete
- canopy – steel frame with roof sheeting and glass panels as required.

### 3.4 Construction activities

Subject to approval, construction would be expected to commence in mid 2022 and take up to 18 months to complete. The construction methodology would be further developed during the detailed design of the Proposal by the nominated Contractor in consultation with Transport.

The proposed construction activities for the Proposal are identified in Table 3.1. This staging is indicative and is based on the current concept design and may change during the finalisation of the detailed design methodology. The staging is also dependent on the Contractor's preferred methodology, program and sequencing of work.

**Table 3.1 Indicative construction staging for key activities**

Stage	Activities
Site establishment and enabling work	<ul style="list-style-type: none"> <li>• survey investigations</li> <li>• temporary relocation of services</li> <li>• establishment of a site compound (i.e. erect fencing, site offices, amenities and plant/material storage areas)</li> <li>• establishment of temporary facilities as required (e.g. hoarding, scaffolding, formwork, establishing crane and piling pads, temporary toilets)</li> </ul>
New pedestrian underpass	<ul style="list-style-type: none"> <li>• vegetation removal where required</li> </ul>

Stage	Activities
	<ul style="list-style-type: none"> <li>• installation of piling on the platform as well as under and between the railway track for the new pedestrian underpass</li> <li>• removal of railway tracks and sleepers and excavation of platform and railway tracks to provide for the new pedestrian underpass</li> <li>• installation of retaining headwalls and roof slabs</li> <li>• underpass excavation from both sides of the station using a small excavator and bobcat to loosen the material and progressively remove spoil offsite</li> <li>• installation of structural walls progressively during pedestrian underpass excavation</li> <li>• structural and waterproofing work</li> <li>• pedestrian underpass finishing (including installation of the ceiling, wall finishes, floor tiling and installation of services within the retaining walls)</li> </ul>
New northern station entrances	<ul style="list-style-type: none"> <li>• construction of new entrance stairs and lift access area from the commuter car park</li> <li>• construction of a new accessible pedestrian footpath on Alexandria Parade</li> <li>• pavement regrading and kerb landing and treatments around the new lift and entrance stairs from the commuter car park and the new footpath on Alexandria Parade</li> </ul>
New lifts and platform upgrades	<ul style="list-style-type: none"> <li>• excavation and installation of piling on the platform for the new platform stairs</li> <li>• removal of excavated material through the new pedestrian underpass during rail shutdowns</li> <li>• installation of formwork and shotcrete roofing to cover the excavated area</li> <li>• construction and installation of lifts, including shaft foundations, the roof, louvres and screens</li> <li>• construction of new platform stairs, including walls, non-slip stair edging, handrails and screens</li> <li>• platform regrading to achieve compliant gradients</li> <li>• construction of weather protection canopies at the lift landings, including drainage downpipes connecting to the commuter car park drainage</li> <li>• installation of BAZ seating and wheelchair spaces and an additional canopy</li> <li>• installation of fixtures, tactiles as required, lighting, signage and CCTV cameras</li> </ul>
Station building reconfiguration work	<ul style="list-style-type: none"> <li>• reconfiguration of the existing station building to provide a family accessible toilet and a unisex ambulant toilet</li> <li>• modifications to the station building to provide additional SSE</li> </ul>
Interchange work	<ul style="list-style-type: none"> <li>• construction of a new accessible pedestrian footpath between the new pedestrian crossing on Alexandria Parade and the new station entrance</li> <li>• construction of a new pedestrian crossing on Alexandria Parade</li> <li>• reconfiguration of existing parking spaces to provide two accessible parking spaces on Alexandria Parade</li> </ul>

Stage	Activities
	<ul style="list-style-type: none"><li>• reconfiguration of car parking spaces to provide two accessible parking spaces and two kiss and ride bays in the commuter car park</li><li>• relocation of the current turning circle in the commuter car park</li><li>• line-marking and signage for the reconfigured accessible parking spaces and kiss and ride bays on both sides of the station</li><li>• provision of new bike hoops at the existing station entrance on Alexandria Parade</li><li>• installation of wayfinding signage and other statutory/regulatory signage</li><li>• fencing adjustments</li></ul>
Service and utilities upgrade work	<ul style="list-style-type: none"><li>• installation of the new substation, transformer and new IMSB room</li><li>• installation of two new underground to overhead poles</li><li>• diversion of the existing 11kV overhead cables via the new poles to the new substation</li><li>• installation of electrical services beneath the railway track via underbore</li><li>• installation of new drainage infrastructure on the eastern side of the railway track to connect to a new drainage system</li></ul>
Demobilisation, testing and commissioning	<ul style="list-style-type: none"><li>• dismantling of existing site compound/hoarding areas</li><li>• testing electrical, communications and signalling components</li></ul>



Figure 3.1 Proposal construction elements (Source: AECOM)

### 3.4.1 Ancillary facilities

A temporary construction compound would be required to accommodate site offices, amenities, and a storage area for materials. A construction support site would also be required to facilitate the construction of the new pedestrian underpass. Other construction ancillary sites would also be required for materials storage, laydown and construction areas for the new pedestrian underpass. The construction compound location and ancillary sites are shown in Figure 3.1.



## 4.0 Existing environment

### 4.1 Site context

The Proposal is located at Waitara Station, which is located on the T1 North Shore Line approximately 20km north-west of the Sydney CBD (refer Figure 4.1). Hornsby Station is the closest major rail interchange (approximately 900 metres, north-west of Waitara Station), where the T1 North Shore Line intersects with the T9 Northern Line and the Central Coast and Newcastle regional line.

Waitara Station is a suburban station, comprising one station platform positioned between the north and south bound tracks. The platform has one station building positioned roughly in the middle of the platform (refer Figure 4.2). Entry to the station is via a pedestrian underpass at eastern end of the platform, with a tiered, pitched roof protecting the stairs. The station and tracks are almost level with the southern side of the rail corridor, but at a higher elevation to the northern side (Alexandria Parade). A steep, vegetated batter mitigates the level change between Alexandria Parade and the station.

A study area comprising a 750 metre radius (refer Figure 4.1) from the Proposal was selected. This was considered conservative given the relatively flat topography, the low elevation of the station and the visual screening provided by vegetation within the rail corridor and adjacent built form.



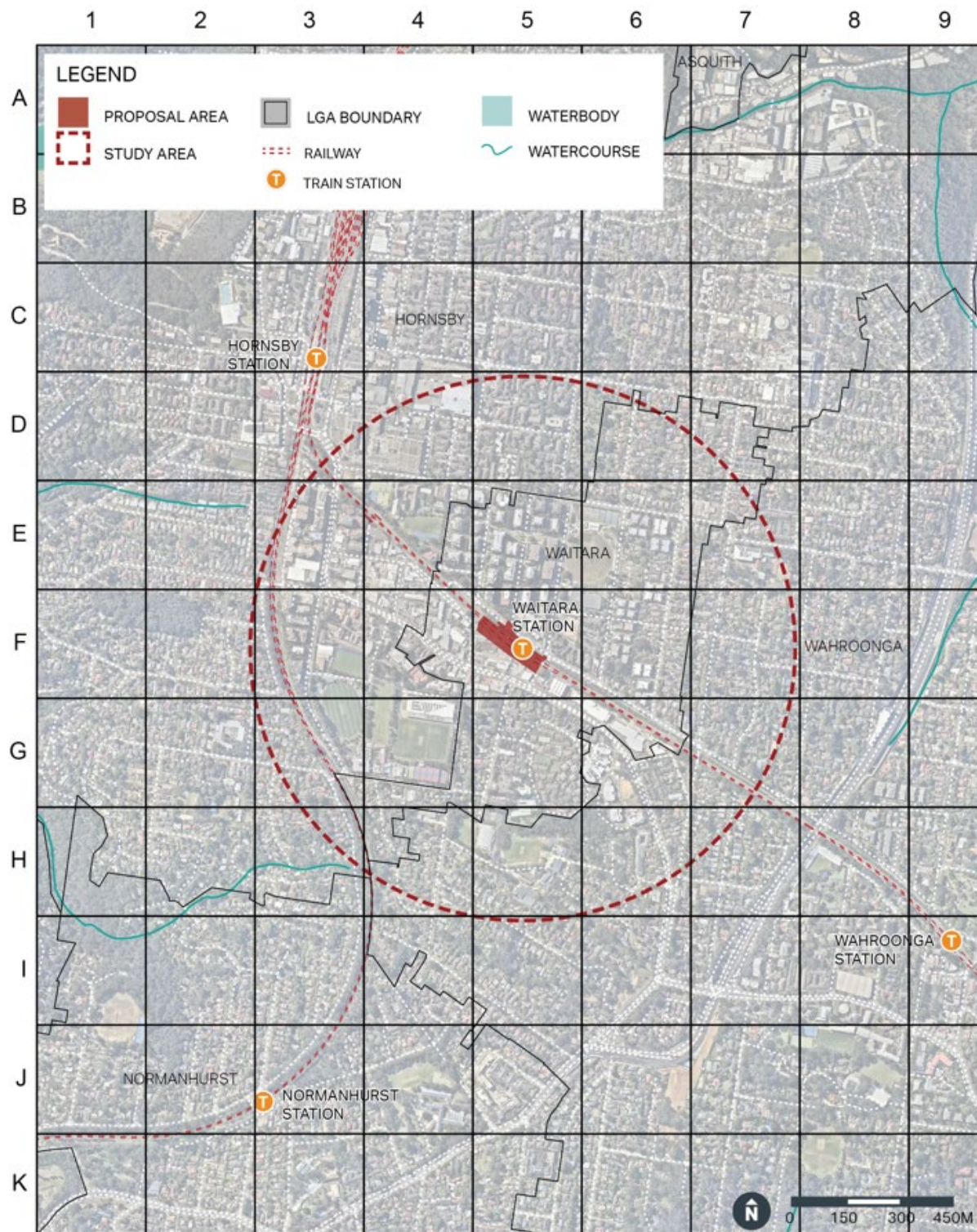


Figure 4.1 Site context and study area (Source: AECOM)



**Figure 4.2 Waitara Station Platform, looking west along the tracks and to the station building roughly positioned in the middle of the platform (Source: AECOM)**

## 4.2 Topography and hydrology

Figure 4.3 shows topography and hydrology within the study area.

The topography within the study area includes two ridgelines: one to the south-east running in a north-south direction; the other roughly following the Pacific Highway and running from the north-west to south-east. Waitara Station is located on the north-west / south-east ridgeline, with the landscape falling to the north away from the rail corridor.

There are no waterways (creeks and rivers) within the study area. To the north, the landscape drains to Cockle Creek, which lies outside of the study area. To the south-west the landscape drains to Waitara Creek, which is shown just outside the study area boundary in Figure 4.3. The waterway in C1 of Figure 4.3 is the start of Jimmy Bancks Creek, which joins Waitara Creek downstream.



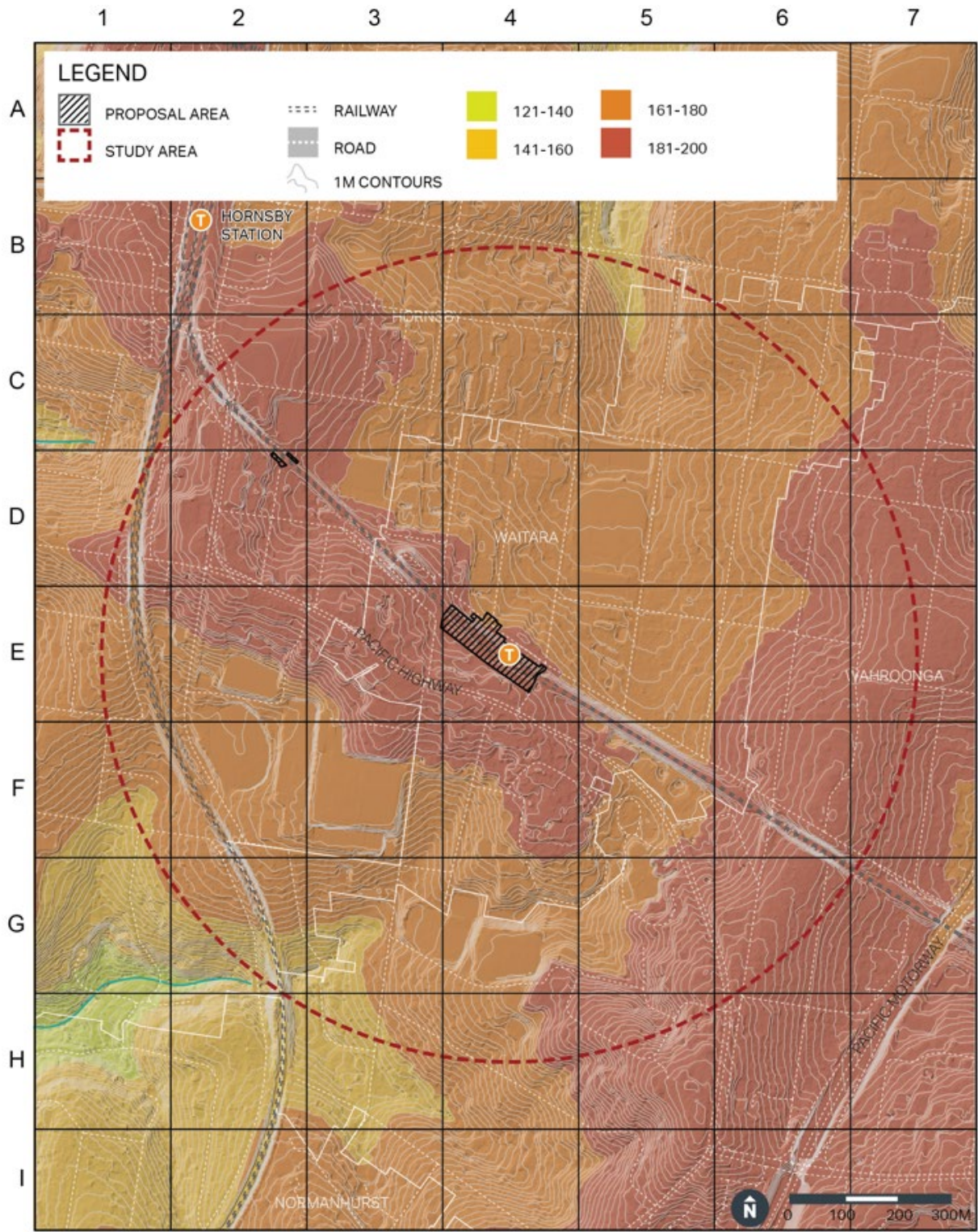


Figure 4.3 Topography within the study area (Source: AECOM)



The position of Waitara Station located on a ridge which falls from east to west and has resulted in some views available from the station platform to the north, although vegetation on the batter between the tracks and the adjoining road (Alexandria Parade) limit these views. Tall apartments built within the R4 High Density Residential zoned land to the north also limit district views from the station (refer Figure 4.4).



Figure 4.4 Waitara Station lies on a ridgeline which falls to the north-east

### 4.3 Land use

The area surrounding Waitara Station (where the Proposal is located) is predominantly high-density residential development to the north and B6 Enterprise Corridor (comprising light industrial development) to the south (refer Figure 4.5).



Figure 4.5 Typical example of development in R4 High Density Residential (left image) and B6 Enterprise Corridor (right image) (Source: AECOM)

Figure 4.6 shows land zoning as described in the *Hornsby Local Environmental Plan 2013* (HLEP 2013) within the study area.

There are several large transport corridors zoned SP2 Infrastructure comprising the T1 North Shore Line and T9 Northern Line rail corridors, the Pacific Highway and Edgeworth David Avenue. Fringing these large transport corridors are R4 High Density Residential, B4 Mixed Use and B6 Enterprise Corridor, with B3 Commercial Core located at Hornsby adjacent to Hornsby Station. Towards the edges of the study area (away from the Pacific Highway and T1 North Shore Line rail corridors) are R2 Low Density Residential. Pockets of recreational land zoned RE1 and RE2 occur within the study area, as well as a number of schools, which are typically zoned R2.

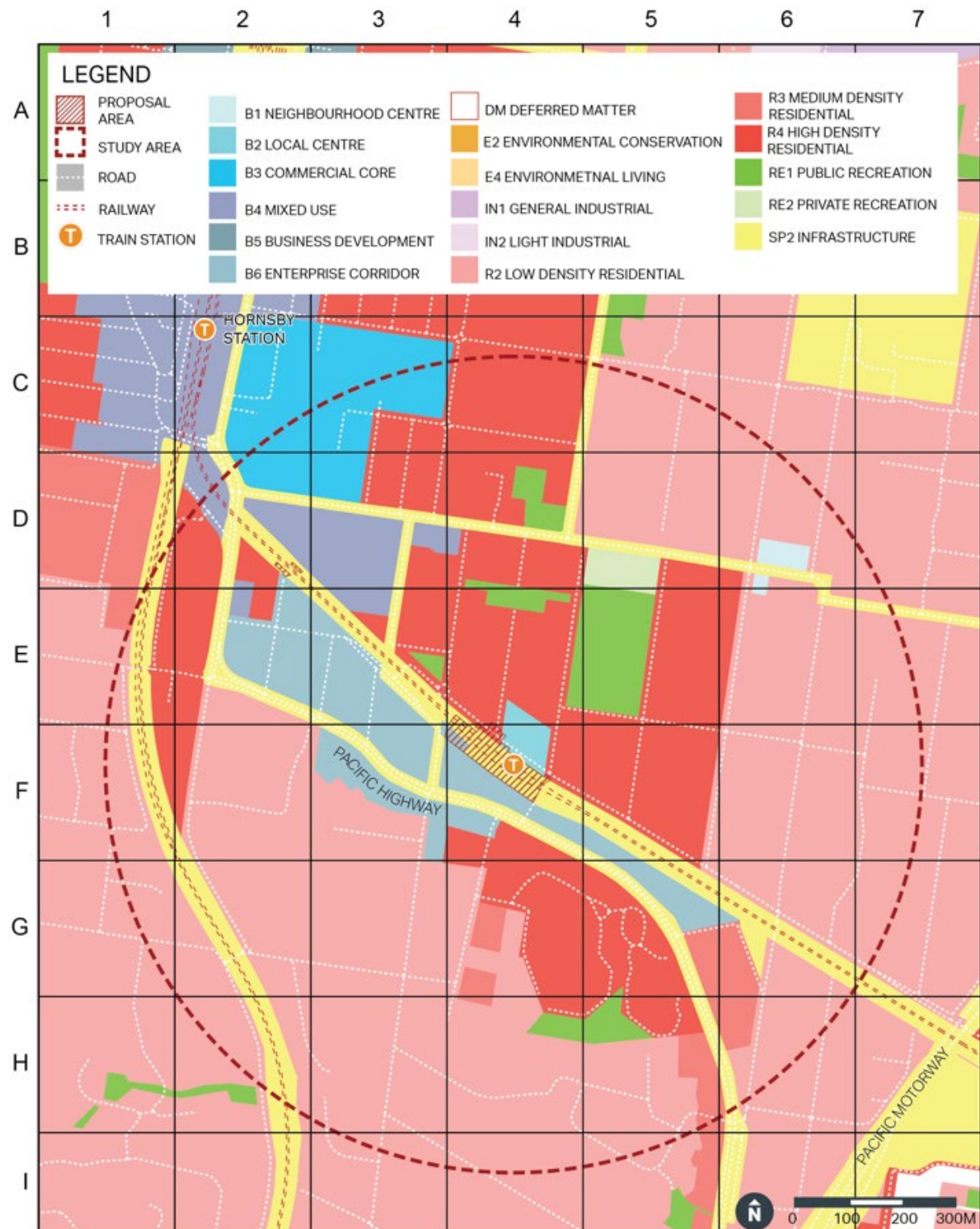


Figure 4.6 HLEP 2013 land zoning within the study area (Source: AECOM)

#### 4.4 Non-Indigenous heritage

Waitara Station has been identified by Sydney Trains as holding local significance and is listed on TAHE's Section 170 Heritage and Conservation Register. In addition, the register search was extended to 100 metres from the curtilage of Waitara Station to establish if there were surrounding registered items or conservation areas that may be affected by the Proposal.

There are several local heritage items located within 100 metres of Waitara Station. The items are listed are shown on Figure 4.7 and include:

1. Street Trees, Alexandria Parade (#772)
2. Curiosity Shop, 37 Alexandria Parade, Waitara (#773)
3. Waitara Park (#783)
4. Barker College Heritage Conservation Area
5. Barker College Centenary Design Centre, McCaskill Music Centre and Development Office (#782)
6. Shop (#773).

Further information on other heritage items and their significance, along with potential impacts and mitigations measures, is provided in the Waitara Station Upgrade Statement of Heritage Impact (AECOM, 2022).



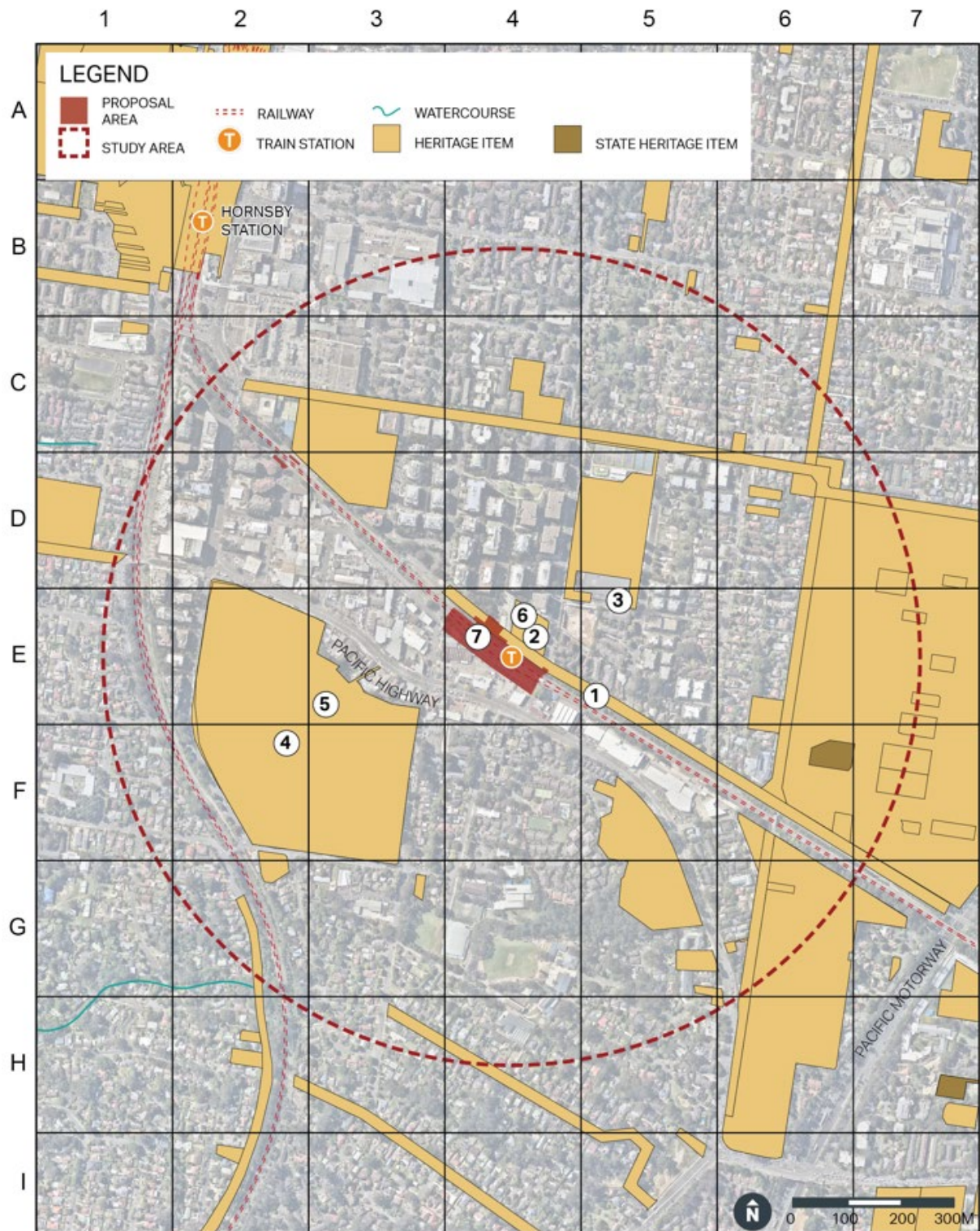


Figure 4.7 HLEP 2013 listed heritage items within the study area (Source: AECOM)



## 4.5 Landscape Character Zones

Eight LCZs have been identified within the study area (refer Figure 4.8):

- LCZ 1: Rail Corridor
- LCZ 2: Major Road Corridor
- LCZ 3: Education
- LCZ 4: Town Centre / Retail
- LCZ 5: Recreation
- LCZ 6: High Density Residential
- LCZ 7: Medium to Low Density Residential
- LCZ 8: Mixed Use / Light Industrial.

While these eight LCZs have been identified, changes due to the Proposal:

- only occur within one LCZ (namely LCZ 1)
- lie within close proximity of two additional LCZs (LCZs 6 and LCZ 8).

The Proposal would result in no changes to LCZ 2, LCZ 3, LCZ 4, LCZ 5 and LCZ 7 due to their distance from the Proposal and/or screening by built form, topography and vegetation. Therefore these, while identified, have not been described in detail or assessed.

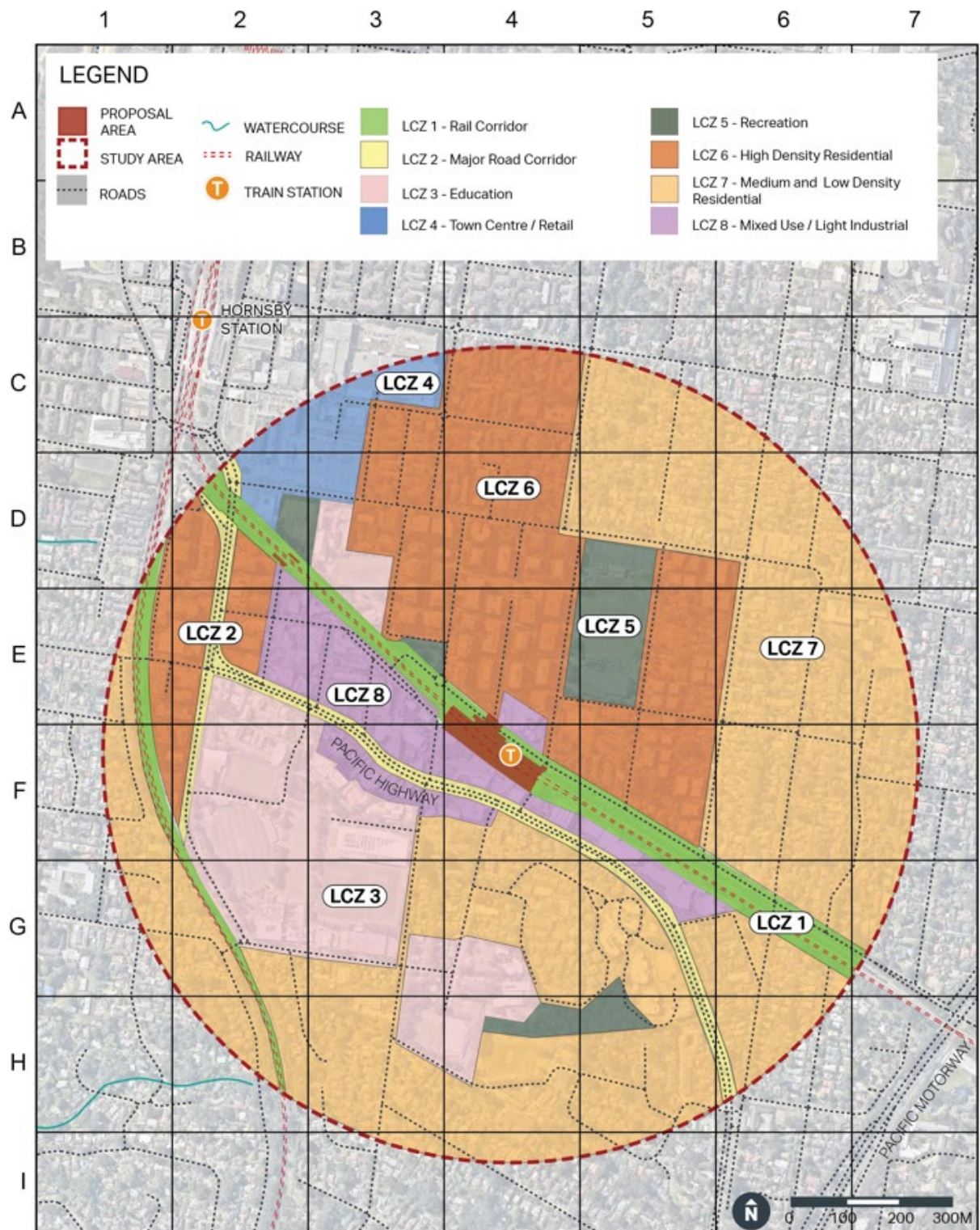


Figure 4.8 Landscape Character Zones within the study area (Source: AECOM)



#### 4.5.1 LCZ 1: Rail Corridor

LCZ 1 generally comprises a linear functional rail corridor, widening at station precincts. Other than at the station precincts, the corridor effectively contains only essential infrastructure such as the rail lines, electrical infrastructure (including overhead wires, gantries, substations and switching sheds), intermittent sheds and limited storage of materials such as stockpiles of rail ballast. The rail corridor is fenced along its entirety.

The tracks are relatively flat with a gentle, even grade. The land on either side of the corridor often lies above or below the level of the tracks, with the edges of the rail corridor steeply battered to mitigate the level difference. In some places the tracks lie approximately at grade with the surrounding environment.

Typically, the tracks are screened from the surrounding environment outside the rail corridor with dense, often weedy vegetation (refer Figure 4.9). While the tracks are often screened from view from outside the corridor, rail infrastructure such as overhead wiring and gantries can often be seen. In a few areas there is little to no screening along the corridor edge, for example north of Waitara Station, as shown in Figure 4.10, where the vegetation is low and the tracks are at a similar level to the surrounding environment.



Figure 4.9 The view looking east along Alexandria Parade with the steeply battered, weedy rail corridor seen behind the row of parked cars (Source: AECOM)



Figure 4.10 View looking east along the rail corridor towards Waitara Station from the Alexandria Parade overbridge (Source: AECOM)



At stations, the corridor typically widens to include platforms, station buildings and other infrastructure. Access is provided to the station itself, including stairs, occasional lifts, and means for crossing the rail corridor, including pedestrian underpass and bridges (refer Figure 4.11). Stations vary greatly in size depending on hierarchy and surrounding development; Waitara comprises a small, suburban station. Development surrounding stations typically includes community facilities, retail and higher density residential development, the extent of which relating to the size of the rail hub. The landscape adjacent to the stations include infrastructure to support the stations such as car parking, signage, and other small constructed elements.



**Figure 4.11 Pedestrian underpass providing access to the station platform and a crossing under the rail corridor**

This LCZ contains heritage items, notably the Waitara Railway Station Group. The Waitara Railway Station Group is listed on the TAHE Section 170 register and has significance at a local level of a station that represents a good example of early twentieth century station design. The platform building, island platform and pedestrian underpass are particularly representative of structures built between 1909 and 1917.



**Figure 4.12 Waitara station building**



#### 4.5.2 LCZ 6: High Density Residential

This LCZ comprises areas of high-density residential apartment buildings typically zoned R4 High Density Residential and is located predominantly north of the rail corridor within the study area.

Typically, wide streets are fringed with a mix of new and older apartment buildings of between five and ten storeys. Newer apartment buildings tend to be taller and have larger footprints within the lots, with built form positioned close to the road corridor (refer Figure 4.13). Some landscaping lies within the front setbacks of these apartment blocks.



**Figure 4.13 Newer medium to high density apartment buildings on Romsey Street, Waitara (Source: AECOM)**

Older residences are typically three to five storey buildings of red and yellow brick construction, set back from the road corridor and surrounded by landscaped gardens (refer Figure 4.14). Areas within this LCZ that contain older developments also typically have a larger number of mature street trees.

Some community facilities are positioned within this LCZ, including churches (refer Figure 4.15) and community halls and hubs.





Figure 4.14 Older brick apartment blocks on Alexandria Parade, opposite Waitara Station



Figure 4.15 Waitara Seventh Day Adventist Church, Alexandria Parade, Waitara

#### 4.5.3 LCZ 8: Mixed Use / Light Industrial

Within the study area this LCZ is positioned predominantly between the Pacific Highway and the rail corridor and is zoned B6 Enterprise Corridor. It comprises a mix of commercial enterprises including car yards, warehouses and retail. Large warehouse style buildings are built on large lots, with little or no landscaping and often open, hard paved car parking areas (refer Figure 4.16).





**Figure 4.16 Typical development in LCZ 8, with large warehouse style buildings and limited trees / landscaping positioned within the road corridors rather than within private lots (Source: Google Earth 2020)**

Along main roads, retail businesses comprise either free standing, low rise built form (such as the car yards on the Pacific Highway, (refer Figure 4.17), or attached shop-top terraces (refer Figure 4.18). One heritage item lies within this LCZ, comprising a commercial building on the northern side of the rail corridor at the corner of Alexandria Parade and Waitara Avenue (north). It comprises a brick terrace shop with sandstone base and is currently used as a showroom for a retirement development.



**Figure 4.17 Light industrial land use along Pacific Highway. Looking west towards Waitara Avenue (south) (Source: Google, 2020)**



Figure 4.18 Mixed use retail along Waitara Avenue (south) (Source: AECOM)



## 5.0 Landscape character impact assessment

This section provides an assessment of landscape character impacts for each LCZ at operation of the Proposal.

### 5.1 LCZ 1: Rail Corridor

The potential effects of change on LCZ 1 are described in Table 5.1.

**Table 5.1 LCZ 1: Rail Corridor - Landscape Character Impact Assessment**

<b>LCZ 1 Rail Corridor</b>
<p><b>Anticipated change</b></p> <p>Key changes due to the Proposal would include:</p> <ul style="list-style-type: none"> <li>• construction of a new pedestrian underpass at the northern end of the platform to provide a new accessible station entrance</li> <li>• the installation of two new lifts at the new northern station entrance including a lift from the commuter car park to the underpass and a lift from the underpass to the platform, including associated landings, canopies and support structures</li> <li>• construction of new platform stairs and associated canopy to provide access from the new pedestrian underpass to the station platform</li> <li>• construction of a new northern station entrance including a lift entrance and entrance stairs from the commuter car park off Waitara Avenue, and an eastern entrance from Alexandria Parade</li> <li>• construction of an accessible pedestrian footpath on Alexandria Parade connecting to a new pedestrian crossing on Alexandria Parade</li> <li>• provision of seating and wheelchair spaces at the two BAZ and installation of a canopy on the station platform</li> <li>• modifications to the station building to provide additional SSE</li> <li>• reconfiguration of the existing toilet facilities in the station building to provide a new family accessible toilet and new unisex ambulant toilet</li> <li>• modifications to the commuter car park including relocation of the turning circle, relocation of two accessible parking spaces and provision of kiss and ride bays</li> <li>• modifications to the parking on Alexandria Parade including the provision of two new accessible parking spaces adjacent to the new station entrance</li> <li>• removal of vegetation where required</li> <li>• ancillary work including platform stabilisation and regrading, station power supply upgrade, protection and relocation of existing services and utilities, installation of new services and utilities, new or reinstatement of facilities where required, handrails and fencing, new ticketing facilities, improvement to station communication systems and wayfinding signage.</li> </ul>
<p><b>Sensitivity to change</b></p> <p>The susceptibility to change of LCZ 1 is influenced as follows:</p> <ul style="list-style-type: none"> <li>• the most visible proposed changes would be the addition of the pedestrian underpass and associated station entrances, two new lifts and stairway canopy structures. These entrances would also have visible minor changes such as the construction of accessible pathways and pedestrian crossing.</li> <li>• other changes are considered to be visually minor as they comprise the upgrade of existing rail infrastructure, e.g. tactile upgrades, signage, handrails and adjustments to car parking spaces</li> <li>• the dense vegetation on the embankment to the north of the station platform would assist in visually reducing the visibility of the larger aspects of the proposed changes from Alexandria Parade. However, some vegetation will need to be removed where necessary for the construction of the pedestrian underpass entry point.</li> </ul> <p>The value of landscape is influenced by the following:</p> <ul style="list-style-type: none"> <li>• the heritage importance of items within Waitara Station</li> </ul>

<b>LCZ 1 Rail Corridor</b>
<ul style="list-style-type: none"> <li>the early 20<sup>th</sup> century rail character of the station buildings and existing pedestrian underpass</li> <li>vegetation within the rail corridor, which is typically valued in urban areas</li> <li>the apparent level of care with which the station precinct is maintained.</li> </ul> <p>Given the above, the sensitivity of LCZ 1 is considered to be Moderate.</p>
<p><b>Magnitude of change</b></p> <p>The magnitude of change for LCZ 1 is influenced by:</p> <ul style="list-style-type: none"> <li>the scale of the proposed changes would be similar to the existing infrastructure at the station, with the lifts and stairway canopy resulting in structures of a similar height to the station building</li> <li>the materials proposed would differ from those existing within the station and would visually appear as new elements. However, upgrade of lifts at stations along the rail corridor are similar in materiality, which would visually tie these stations together as part of a unified rail 'language' and integrate them into the greater visual language of the LCZ</li> <li>the changes would be limited to the station and immediate surrounds, with the geographical extent of the area over which the effects of the larger elements of the Proposal may have an influence, within about 50 metres from the proposed structures</li> <li>only a small proportion of the LCZ would be affected by the Proposal</li> <li>the proposed changes (particularly the pedestrian underpass entry, stairway canopy and two proposed lifts) would differ from the established predominant architectural style within the station, however, there have been recent additions to the station precinct, including modernisation and upgrade of facilities</li> <li>the duration of the Proposal would be long-term, with low potential for reversibility.</li> </ul> <p>Given the above, the magnitude of anticipated change is considered to be Moderate.</p>
<p><b>Significance of landscape character effect</b></p> <p>Using the landscape character grading matrix (refer to Table 2.1), the rating of the impact on landscape character would be Moderate. The proposed changes predominantly include the addition of rail associated infrastructure, including a pedestrian underpass with station entrances, a stairway with canopy and two larger structures (the lifts). The rail infrastructure additions would not in themselves result in a change to the character of the LCZ, while the inclusion of the more modern lifts and architectural elements would result in a moderate change in station character.</p> <p>It is noted that the materiality of the lifts and stairway canopy has been selected with regard to visual amenity. Detailed design would aim to ensure that design elements would be sympathetic to the heritage character of the LCZ, however, maintain the visual quality of a 'new' piece of infrastructure rather than replicating heritage items.</p>

## 5.2 LCZ 6: High Density Residential

The potential effects of change on LCZ 6 are described in Table 5.2.

**Table 5.2 LCZ 6: High Density Residential - Landscape Character Impact Assessment**

<b>LCZ 6 High Density Residential</b>
<p><b>Anticipated change</b></p> <p>The proposed changes would include the entrance to the pedestrian underpass and associated northern entryway, pathways and pedestrian crossing and would lie adjacent to a small portion of the LCZ at the northern end of the station on Alexandria Parade. The majority of the LCZ lies to the north-east and west of the Proposal. The changes adjacent to the LCZ at Alexandria Parade would not alter the character within the LCZ. It is concluded that the Proposal would not affect the character of LCZ 6 High Density Residential.</p>
<p><b>Significance of landscape character effect</b></p> <p>There would be no change in landscape character of LCZ 6 as a result of the Proposal.</p>

### 5.3 LCZ 8: Mixed Use / Light Industrial

The potential effects of change on LCZ 8 are described in Table 5.3.

**Table 5.3 LCZ 8: Mixed Use / Light Industrial Landscape Character Impact Assessment**

<b>LCZ 8 Mixed Use / Light Industrial</b>
<b>Anticipated change</b>  No changes due to the Proposal would occur within this LCZ, however, the entry points of the new pedestrian underpass would lie adjacent to the LCZ at the northern end of the station, which would disperse foot traffic between the southern and northern entry points. The proposed work would also result in the addition of lift structures, and a stairway with canopy within LCZ 1- Rail Corridor which would be visible from LCZ 8, however, are consistent with the character of the existing station elements and would have no impact on the character of LCZ 8: Mixed Use/Light Industrial.
<b>Significance of landscape character effect</b>  There would be no change in landscape character of LCZ 8 as a result of the Proposal.

## 6.0 Visual impact assessment

### 6.1 Visibility of the Proposal

The Zone of Theoretical Visibility (ZTV) is shown in Figure 6.1. The most visible changes resulting from the Proposal would include:

- a new pedestrian underpass at the northern end of the platform
- new station entrances and installation of two new lifts (and lift landings) at the northern end of the station including:
  - a new station entrance including new entrance stairs and new lift in the commuter car park off Waitara Avenue linking to the new pedestrian underpass
  - a new station entrance including an accessible pedestrian footpath on Alexandria Parade connecting to a new pedestrian crossing on Alexandria Parade
  - a new lift to provide access from the new pedestrian underpass to the station platform
  - installation of weather protection canopies at the lift landings.
- new platform stairs at the northern end of the station including a new canopy, provision of handrails, tactiles and non-slip stair edging.
- provision of seating and wheelchair spaces at the two BAZs and installation of a canopy on the platform
- regrading the platform as required to achieve compliant gradients for accessible pathways
  - upgrades to the interchange facilities at the new northern entrance on Alexandria Parade including provision of a new pedestrian crossing, an accessible footpath from the new station entrance to the new pedestrian crossing, two accessible parking spaces near the new station entrance
- upgrades to the interchange facilities at the new northern entrance in the commuter car park including:
  - relocation of the turning circle located at the end of the commuter car park to accommodate the new station entrance
  - relocation of the two existing accessible parking spaces closer to the new entrance
  - provision of kiss and ride bays
  - provision of an accessible footpath from the accessible parking spaces to the new lift.
- provision of four new bike hoops at the existing station entrance.

Other proposed changes, while noticeable, would result in the replacement or upgrade of existing elements, such as resurfacing of pavement, replacement of handrails, tactiles, ticketing and toilet facilities.

Waitara Station is located on the northern edge of a ridgeline, with the landscape falling to the east away from the rail corridor. This position results in the rail corridor (including the platform and station buildings) lying roughly at grade with the southern side of the rail corridor, but at a higher level to the landscape to the north. While some views are available from the station platform to the north-east (and the station platform and buildings being visible from the north), vegetation on the batter between the tracks and the adjoining road to the north (Alexandria Parade) limit these views. Tall apartments built within the R4 High Density Residential zoned land to the north-east also limit distant views to and from the station (refer Figure 4.13).

South of the rail corridor, the station platform and rail corridor are visible only from locations directly adjacent to the corridor, including the car park and a limited number of light industrial/mixed use buildings. Buildings adjacent to the rail corridor to the south prevent any distant views to and from the station.



The station precinct is therefore visually insulated, with views to and from limited by these factors. Tall vegetation within the rail corridor to the south of the station further restrict views to the Proposal.

## **6.2 Visual receptors**

Visual effects of the Proposal are assessed for the following key visual receptors:

- rail commuters accessing or passing through Waitara Station
- workers or visitors to the nearby business enterprises
- residents in surrounding taller residential apartment buildings near to the station.

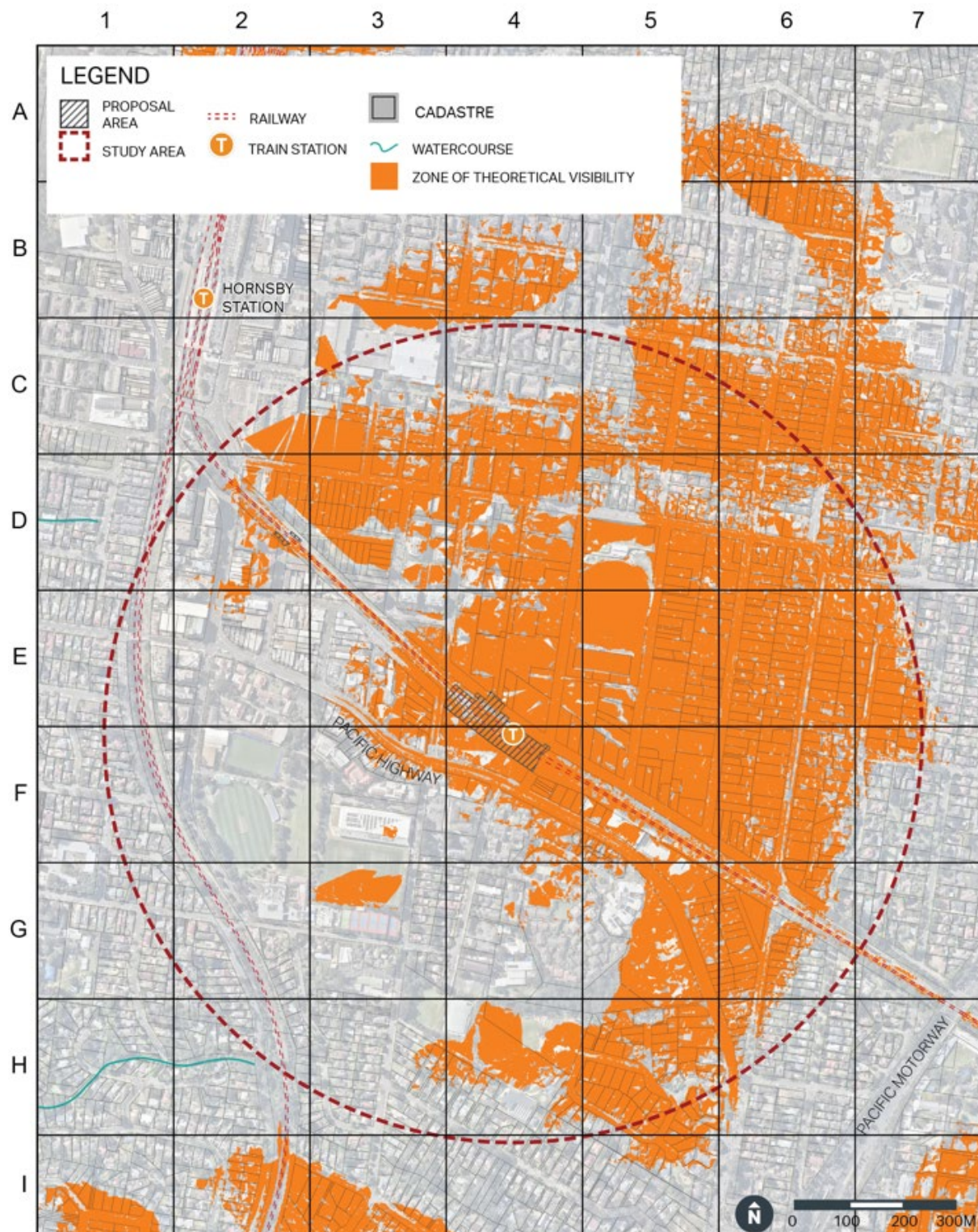


Figure 6.1 Zone of Theoretical Visibility map (Source: AECOM)

### 6.3 Assessment of construction activity

Construction would commence in mid 2022 and take up to 18 months to complete. Construction activity for the Proposal would occur within the immediate surrounds of Waitara Station (which would include a construction compound) and at two ancillary sites approximately 450 metres north-west of the station platform within the rail corridor. The construction compound location and ancillary sites are shown in Figure 1.1.

Within the Waitara Station precinct during construction, visible construction elements would be expected to typically include a range of site sheds, hoardings, plant (including for bulk excavation underneath the station and railway track, excavation of lift wells and platform stairs), a crane to install the lifts, and heavy vehicles delivering and unloading materials. The temporary construction compound would be positioned between the end of the station carpark to the south of the rail corridor and Romsey Street and would accommodate a site office, amenities, laydown and storage area for materials. This compound would be accessed from Romsey Street, however, construction vehicle movements through the commuter car park would be required at times to allow through movement of large vehicles.

Construction access would also be required off Alexandria Parade for the construction of the underpass and new station entrance. Traffic control measures would be undertaken to manage construction access and continued operation of customer parking at both sides of the station. Access to the station would be maintained via existing station entrances and cross-corridor access would also be maintained.

At the station the construction activity would predominantly be seen by those using the station and pedestrian underpass, residents and businesses to the north and south of the station precinct, and passers-by on Alexandria Parade. The most sensitive of these receptors would be residents in Alexandria Parade near the station (including residents in high rise residential apartments on the corner of Orara Street), but most of these receptors would be viewing the construction activity from a reasonable distance or would be partly screened by tree canopies. While these visual impacts would be visually prominent, they would be in keeping with similar temporary construction work and would be transitory over a period of up to 18 months until completion of the Proposal.

The ancillary facilities 450 metres north of the station would be used for storage of materials (general and possession storage). These sites lie on either side of the tracks within the rail corridor on two open areas, with some material storage already occurring within these sites for general rail usage. The most sensitive visual receptors would be residents living on the northern and eastern sides of a residential apartment block on Hornsby Street, Hornsby. These residents would see the construction activity from close proximity from their balconies and from some rooms inside their apartments, with some views partially screened by a tree canopy at the end of the road.

While construction activity (including trucks accessing these sites and the storage of materials and equipment) would increase, the use of these areas for storage would not be completely new as the sites are currently used for some storage purposes at present. The ancillary facilities would be visually prominent within the view from the balconies, but less visibly prominent from within the apartments, particularly those fronting Hornsby Street. The work would be transitory over a period of up to 18 months until completion of the Proposal.

With the adoption of suggested mitigation measures (refer Section 8.1.2) these impacts are not considered to be significant.

### 6.4 Assessment of Proposal at operation

#### 6.4.1 Representative viewpoints

Five viewpoints have been chosen to represent the change in views from publicly accessible areas that would result from the Proposal. These are shown in Figure 6.2. The rationale for choice of viewpoints is as follows:

- **Viewpoint 1: Magpies Waitara**  
This viewpoint was selected to assess the changes seen from the public domain and from Magpies Waitara Rugby League Club at 11-37 Alexandria Parade
- **Viewpoint 2: Intersection of Orara Street and Alexandria Parade, Waitara**  
This viewpoint was selected to assess the changes seen from the intersection at this location,

which is near a private park space provided for one of the high density residential apartments. A small set of shops are positioned on the south eastern corner of Alexandria Parade and Orara Street

- **Viewpoint 3: Alexandria Parade Overbridge, Waitara**  
This viewpoint was selected to assess the changes as seen from the overbridge, which would be the point at which all changes due to the Proposal would most likely be seen at one time
- **Viewpoint 4: Intersection of Pattinson Avenue and Romsey Street, Waitara**  
This viewpoint was selected to assess the changes seen from Romsey Street looking towards the station, where the entrance to the new underpass and lift facilities will be visible to passing traffic
- **Viewpoint 5: Waitara Station commuter car park, Waitara**  
This viewpoint was selected to assess the changes seen from the southern side of the station as commuters enter the station from the commuter car park.



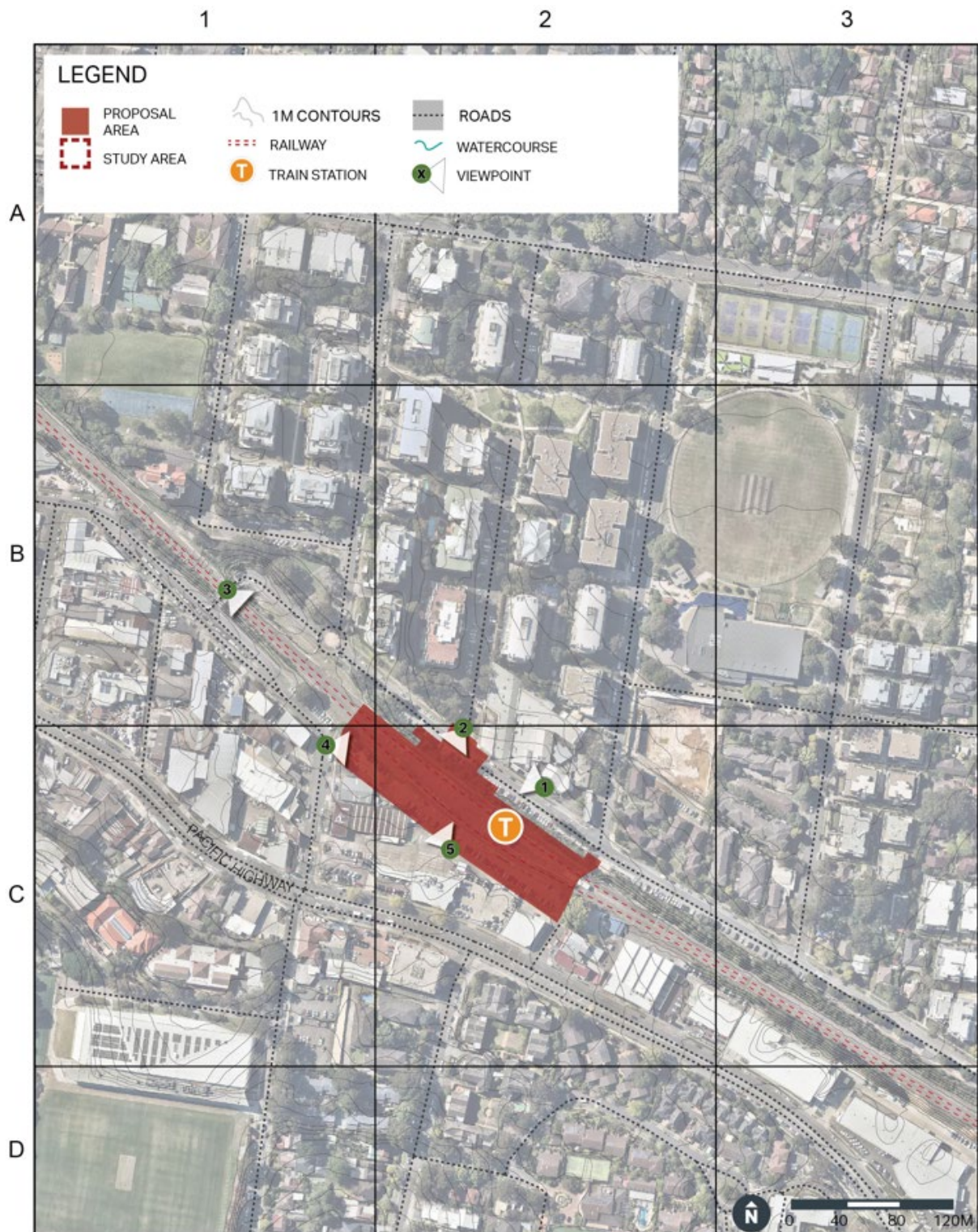


Figure 6.2 Representative viewpoints for visual impact assessment and nearby building height (Source: AECOM)

## 6.4.2 Assessment of viewpoints

### 6.4.2.1 Viewpoint 1: Magpies Waitara Rugby League Club

This viewpoint was selected to assess the changes seen from the public domain and from Magpies Waitara Rugby League Club at 11-37 Alexandria Parade and the visual impact assessment from this viewpoint is in Table 6.1.

**Table 6.1 Viewpoint 1 - Visual Impact Assessment**

<b>Viewpoint 1 Magpies Waitara</b>
<p><b>Receptors</b></p> <p>Receptors at this location include:</p> <ul style="list-style-type: none"> <li>workers and visitors at Magpies Waitara Rugby League Club on Alexandria Parade</li> <li>commuters and passers-by (pedestrians, cyclists, motorists) on Alexandria Parade.</li> </ul>
<p><b>Existing view</b></p> <p>This view is taken from the northern verge at 11-37 Alexandria Parade looking west towards the rail corridor (refer to Figure 6.3). Key elements of the existing view comprise:</p> <ul style="list-style-type: none"> <li>Alexandria Parade road reserve, comprising two lanes of traffic, a footpath and turfed verge on the northern side of the road in the foreground of the view, and parallel parking spaces on the southern side of the road in the middle ground of the view.</li> <li>the rail corridor is seen in the middle to background of the view, including: <ul style="list-style-type: none"> <li>a band of predominantly weedy vegetation (large shrubs, grasses and some trees) growing on the embankment between the road and the tracks within the rail corridor and some mature trees to the left of the frame</li> <li>pedestrian fencing and timber retaining walls, with landscaped garden beds with native grasses and shrubs and some callistemon trees</li> <li>overhead rail wires and stanchions are visible in the background above vegetation within the rail corridor</li> </ul> </li> <li>the station is partly visible, with the roof of the station building visible through the vegetation.</li> </ul>
<p><b>Anticipated change in view</b></p> <p>The key changes to the view due to the Proposal would comprise (refer Figure 6.4 and Figure 6.5):</p> <ul style="list-style-type: none"> <li>the new pedestrian underpass entrance at the northern end of the platform on Alexandria Parade</li> <li>an accessible pedestrian footpath on Alexandria Parade connecting to a new pedestrian crossing on Alexandria Parade</li> <li>removal of some vegetation and existing car parking along Alexandria Parade to allow for the proposed underpass and station entry</li> <li>the proposed stairway canopy and glass and steel lift shafts would be visible but partially screened by existing vegetation.</li> </ul>
<p><b>Sensitivity</b></p> <p>Factors contributing to the sensitivity of receptors from this location would include:</p> <ul style="list-style-type: none"> <li>the nature of the visual receptors who would experience this view of the Proposal, comprising: <ul style="list-style-type: none"> <li>workers and visitors at Magpies Waitara Rugby League Club are unlikely to see the changes from within the centre as the building has only a small number of darkened glass windows facing the street, however, they would see the changes from outside the club as they arrive or leave on Alexandria Parade</li> <li>pedestrians and commuters on Alexandria Parade, including cyclists and motorists, who would have a casual interest in the views as they move along the street</li> </ul> </li> <li>the extent to which the attention or interest of receptors would be focused on the view: <ul style="list-style-type: none"> <li>workers and visitors at Magpies Waitara Rugby League Club are likely to be focussed on their visit to the entertainment centre, which provides services such as restaurants, bars, gambling, live music, and other 'indoor' activities</li> </ul> </li> </ul>



**Viewpoint 1 Magpies Waitara**

- receptors travelling along the road would be focused on their view within the road corridor at street level as they travelled along the street. It is unlikely they would see changes within the rail corridor due to the elevation of the tracks and platform and the screening vegetation at the edge of the rail corridor.

The value of the view as seen by receptors is influenced by:

- views to greenery, which are typically valued within city areas; however:
  - the rail corridor is utilitarian, with weedy vegetation on the perimeter and rail infrastructure seen above the vegetation
  - passers-by, particularly pedestrians, would only see views for short periods of time on their journey.

For the reasons outlined above the sensitivity of visual receptors to the proposed change in this view are assessed to be Low.

**Magnitude of change**

From this viewpoint, contributing factors to the magnitude of change arising from the Proposal would include:

- the proposed station entrance on Alexandria Parade would comprise a new entry point to the station visible from this viewpoint but in keeping with existing rail infrastructure along the edge of the rail corridor
- additions to the northern section of the platform, including the stairway canopy and lift structures, would be a similar scale to that of the other rail buildings within the corridor and would match the roofline of existing buildings
- the lift structures and stairway canopy would also be somewhat visually recessive as they would be positioned above street level and within the rail corridor which is partially obscured by vegetation
- the changes due to the proposal would only occupy a small proportion of the view and would be seen from a moderate distance away, at an oblique viewing angle
- the duration of the changes would be long-term with no chance of reversibility.

Due to the above, the magnitude of change for this viewpoint has been assessed as Low.

**Overall rating**

Overall, the change in the view that would be seen by receptors from this viewpoint has been assessed as Low (neutral). The proposed changes would be an additional entry point to an existing station, with the changes (particularly the proposed lift within the rail corridor) comprising a modern, yet visually recessive addition to the rail precinct. These changes are considered appropriate given the proportional scale of the proposed lift in relation to the existing station building and how they respond to the existing architectural language. The sensitivity of the visual receptors at this location would be mitigated by vegetation along the rail corridor edge, and the lack of view seen from within the building.

The 'neutral' qualitative rating is due to the visually recessive nature of the change within the greater view and the addition of rail infrastructure within an existing rail corridor. The changes neither add nor subtract from the quality of the existing view from this viewpoint.



Figure 6.3 Existing view of Waitara Station looking west from Viewpoint 1 (Source: AECOM)



Figure 6.4 Photomontage showing proposed changes seen from Viewpoint 1 (Source: AECOM) – Indicative only, subject to detailed design



Figure 6.5 Detail of proposed station entry from the Figure 6.4 photomontage (Source: AECOM) – Indicative only, subject to detailed design

#### 6.4.2.2 Viewpoint 2: Intersection of Orara Street and Alexandria Parade, Waitara

This viewpoint was selected to assess the changes that would be seen from the northern verge of Alexandria Parade. Refer to Table 6.2 for the visual impact assessment of this viewpoint.

Table 6.2 Viewpoint 2 - Visual Impact Assessment

<b>Viewpoint 2 Intersection of Orara Street and Alexandria Parade, Waitara</b>
<p><b>Receptors</b></p> <p>Receptors at this location include:</p> <ul style="list-style-type: none"> <li>• recreational visitors to a nearby park adjacent to high rise apartments</li> <li>• residents in adjacent high rise apartments</li> <li>• Visitors to a small number of shops on the south eastern corner of Alexandria Parade and Orara Street</li> <li>• commuters and passers-by (pedestrians, cyclists, motorists) on Alexandria Parade.</li> </ul>
<p><b>Existing view</b></p> <p>This view is taken from the northern verge of Alexandria Parade adjacent to a private open space looking south (refer Figure 6.6). Key elements of the existing view comprise:</p> <ul style="list-style-type: none"> <li>• Alexandria Parade road reserve, comprising two lanes of traffic, a footpath and turfed verge on the northern side of the road in the foreground of the view, and parallel parking spaces on the southern side of the road in the middle ground of the view.</li> <li>• the rail corridor is seen in the middle to background of the view, including: <ul style="list-style-type: none"> <li>- a band of predominantly weedy vegetation (large shrubs, grasses and some trees) growing on the embankment between the road and the tracks within the rail corridor, separated from the road by a chain wire fence</li> <li>- the station platform can be seen in breaks in the vegetation, with signage and communications towers seen on the platform. If people were standing on the platform they would be seen in the gaps between shrubs and trees as well</li> <li>- overhead rail wires and stanchions are visible in the background above vegetation within the rail corridor.</li> </ul> </li> </ul>
<p><b>Anticipated change in view</b></p> <p>The key changes to the view due to the Proposal would comprise (refer Figure 6.7):</p> <ul style="list-style-type: none"> <li>• the new pedestrian underpass entrance, including concrete retaining walls and fencing, at the northern end of the platform on Alexandria Parade</li> <li>• an accessible pedestrian footpath on Alexandria Parade connecting to a new pedestrian crossing on Alexandria Parade</li> <li>• removal of some vegetation and existing car parking along Alexandria Parade to allow for the proposed underpass and station entry</li> <li>• the proposed stairway canopy and glass and steel lift shafts would be visible but partially screened by existing vegetation</li> </ul>
<p><b>Sensitivity</b></p> <p>Factors contributing to the sensitivity of receptors from this location would include:</p> <ul style="list-style-type: none"> <li>• the nature of the visual receptors who would experience this view of the Proposal, comprising: <ul style="list-style-type: none"> <li>- residents in residential apartments as well as workers and visitors to retail stores on Alexandria Parade</li> <li>- pedestrians and commuters on Alexandria Parade, including cyclists and motorists, who would have a casual interest in the views as they move along the street</li> </ul> </li> <li>• the extent to which the attention or interest of receptors would be focused on the view: <ul style="list-style-type: none"> <li>- residents would be moderately focused on the view as they entered and left their premises. Residents would be more focussed on views seen from living areas within their apartments and from apartments on upper storeys which would have elevated views to the surrounding landscape (there are three-storey apartment buildings fronting Alexandria Parade). Properties closest to the Proposal are set back with landscaped front gardens, which potentially partially obscure views to the Proposal.</li> <li>- receptors travelling along the road would be focused on their view within the road corridor at street level as they travel along the street. It is unlikely they would see changes within the rail corridor due to the lower elevation of the tracks and platform and the screening vegetation at the edge of the rail corridor. However, the proposed station entrance and</li> </ul> </li> </ul>



**Viewpoint 2 Intersection of Orara Street and Alexandria Parade, Waitara**

adjacent pedestrian crossing would alter the appearance of the street somewhat and may have a minor impact on the movement of motorists.

The value of the view as seen by receptors is influenced by:

- the high value residents generally place on views from their homes
- views to greenery, which are typically valued within city areas; however:
  - the rail corridor is utilitarian, with weedy vegetation on the perimeter and rail infrastructure seen above the vegetation
  - passers-by, particularly pedestrians, would only see views for short periods of their journey.

For the reasons outlined above the sensitivity of visual receptors to the proposed change in this view are assessed to be Low.

**Magnitude of change**

From this viewpoint, contributing factors to the magnitude of change arising from the Proposal would include:

- the proposed northern station entrance and associated pathways and pedestrian crossing on Alexandria Parade would be visually prominent from this viewpoint
- additions to the northern section of the platform, including the stairway canopy and lift structures, would be a similar scale to that of the other rail buildings within the corridor, however, would be seen in relief against the sky
- the proposal would be seen directly in front of the receptor and from close proximity and would be seen over a large proportion of the overall view
- the duration of the changes would be long-term with no chance of reversibility.

Due to the above, the magnitude of change for this viewpoint has been assessed as High.

**Overall rating**

Overall, the change in the view seen by receptors from this viewpoint has been assessed as Moderate (Neutral). The changes would comprise additional station infrastructure to allow for the entrance to the proposed underpass and pedestrian access to the station. Changes to the station platform (including the stairway canopy and lift structures) would be seen in relief against the sky.

In regard to the 'Neutral' qualitative rating, the changes to the view include both positive and negative aspects due to the Proposal. The removal of parallel parking along the road is a positive change within the streetscape, while the large expanse of concrete block wall at the entrance of the proposed pedestrian underpass and the associated retaining wall is a negative element.

Removal of weedy vegetation within the rail corridor offers the possibility of new, native plantings which would be an improvement in visual amenity. Planting of the batter above and either side of the proposed underpass as shown in the photomontage (refer Figure 6.7) entry would also visually soften the architecture of the proposal at ground level. A decorative finish applied to the proposed underpass entry and retaining wall (or public art / a mural) may either reduce the visual prominence of the structures or create a landmark feature, potentially resulting in a positive addition to the streetscape.





Figure 6.6 Existing view of Waitara Station looking south from Viewpoint 2 (Source: AECOM)



Figure 6.7 Photomontage showing proposed changes seen from Viewpoint 2 (Source: AECOM) – Indicative only, subject to detailed design

#### 6.4.2.3 Viewpoint 3: Alexandria Parade Overbridge, Waitara

This viewpoint was selected to assess the changes as seen from the overbridge, which would be the point at which all changes due to the Proposal would be observed at once. Refer Table 6.3 for the visual impact assessment of this viewpoint.

Table 6.3 Viewpoint 3 - Alexandria Parade Overbridge, Waitara Visual Impact Assessment

Viewpoint 3 Alexandria Parade Overbridge, Waitara
<p><b>Receptors</b></p> <p>Receptors at this location include passers-by, including pedestrians, cyclists and motorists on Alexandria Parade.</p>
<p><b>Existing view</b></p> <p>This view is taken from the footpath on the Alexandria Parade overbridge looking towards Waitara Station (refer to Figure 6.8). The slightly elevated view is divided into three zones, with the rail corridor in the centre, high density residential to the east (left of the rail corridor), and mixed use / industrial development to the west (right of the rail corridor). Key elements of the existing view would comprise:</p> <ul style="list-style-type: none"> <li>the rail corridor: <ul style="list-style-type: none"> <li>the rail corridor is central to the view, with the fore, middle and background comprising the linear view along the corridor</li> <li>cyclone fencing demarks the edge of the rail corridor, fringed with intermittent vegetation</li> <li>Waitara Station is seen in the middle ground, where the rail corridor becomes approximately level with the surrounding landscape to the west, but a batter mitigates the level change to the north east. The station building is viewed along its narrowest end</li> </ul> </li> </ul>

**Viewpoint 3 Alexandria Parade Overbridge, Waitara**

- behind the station buildings a white mass is seen, comprising an industrial building behind the rail corridor. This mass visually absorbs the southern built form of the station, including the stair roof at the southern end of the station
- services including powerlines, power poles, stanchions and overhead wires are visible running along the length of the corridor
- to the left of the rail corridor:
  - the two-lane road reserve of Alexandria Parade lies adjacent to the rail corridor
  - streetscape vegetation and tall apartment blocks partially screened by trees. The edge of the shop fronts is visible on the corner of Orara Street also partially screened by vegetation
- to the right of the rail corridor:
  - large format commercial buildings lie in the middle to background of the view
  - commuter car parking can be seen partially obscured by a large Lophostemon tree
  - the two-lane road reserve of Pattison Avenue sits between the mixed / industrial buildings and the rail corridor.
- vegetation on the ridge line of Berowra Valley National Park is seen as a distant backdrop on the horizon.

**Anticipated change in view**

The key changes to the view would comprise:

- the proposed canopy positioned centrally above the northern end of the platform with platform stair entry below
- the proposed glass and steel lift shafts
- removal of vegetation as required from along Alexandria Parade to allow for the entry to the underpass.

While changes to ancillary elements such as relocation of services and utilities, new or reinstatement of tactiles, new ticketing facilities including additional Opal card readers and wayfinding signage would occur within the view, it is unlikely that these would be seen due to the viewing distance.

**Sensitivity**

Factors contributing to the sensitivity of receptors from this location would include:

- commuters would typically have a low interest in views to the rail corridor, given the utilitarian nature of the rail corridor and visual containment of views within the corridor
- pedestrians, cyclists and motorist receptors are likely to only get very short, glimpse views of the changes as they pass the overbridge. Many of these receptors are likely to be local and have a low sensitivity to changes within the corridor given their regular experience of it and within the context of daily work commutes.

At this viewpoint the value of the view as seen by receptors is influenced by:

- the utilitarian character of the rail corridor
- the heritage listing of the Waitara Railway Station Group, noting that the station buildings are located in the background (and therefore not visually prominent) within the view.

For the reasons outlined above, the sensitivity of visual receptors to the proposed change in this view, are assessed to be Low.

**Magnitude of change**

From this viewpoint, contributing factors to the magnitude of change arising from the Proposal would include:

- changes visible on the station platform and within the commuter car park would be visible, with these elements comprising a similar scale to existing station infrastructure such as the station building
- the visible elements of the Proposal occupy only a small portion of the view and are in keeping with the function of the rail corridor

**Viewpoint 3 Alexandria Parade Overbridge, Waitara**

- changes in the view would be seen framed within the rail corridor but partially screened by rail infrastructure and trees, and from a significant distance
  - the duration of the changes would be long-term with no chance of reversibility.
- Due to the above, the magnitude of change for this viewpoint has been assessed as Low.

**Overall rating**

Overall, the change in the view that would be seen by receptors from this viewpoint has been assessed as Low (Neutral). Although many of the Proposal changes would be visible, the changes are in keeping with the character of the rail corridor, its function and the scale of existing elements within it. Changes are mostly viewed at a distance and comprise a small portion of the view.

The 'Neutral' qualitative rating is due to the visually recessive nature of the change within the greater view, the distance of viewing and the addition of rail infrastructure within an existing rail corridor. The changes neither add nor subtract from the quality of the existing view from this viewpoint.



Figure 6.8 Existing view of Waitara Station from Viewpoint 3 (Source: AECOM)

**6.4.2.4 Viewpoint 4: Intersection of Pattinson Avenue and Romsey Street, Waitara**

This viewpoint was selected to assess the changes visible from Pattinson Avenue and Romsey Street, from which the entrance to the new pedestrian underpass and lift facilities would be visible. The visual impact assessment of this viewpoint is in Table 6.4.



**Table 6.4 Viewpoint 4 - Visual Impact Assessment**

<b>Viewpoint 4 Intersection of Pattinson Avenue and Romsey Street, Waitara</b>
<p><b>Receptors</b></p> <p>Receptors at this location include:</p> <ul style="list-style-type: none"> <li>workers and visitors to the businesses on Pattinson Avenue and Romsey Street surrounding the intersection</li> <li>commuters (pedestrians and cyclists) entering or leaving the station via a pedestrian walkway that runs between the rail corridor and neighbouring properties</li> <li>pedestrians, cyclists and motorists passing by.</li> </ul>
<p><b>Existing view</b></p> <p>The view looking toward Waitara Station comprises the following:</p> <ul style="list-style-type: none"> <li>a fenced compound with some parked cars and a pedestrian pathway linking to the rail commuter car park in the foreground. A large street tree also lies in the foreground of the view</li> <li>the rail corridor, comprising tracks, passing trains and vegetation on the northern side of the tracks is seen in the middleground, through the chain link mesh fencing of the compound in the foreground</li> <li>high rise apartment buildings and tree canopies are seen in the background and against the horizon</li> <li>the rear edges of light industrial buildings, along with associated fenced car parking areas associated with these properties are seen to the south of the viewpoint, partly screened by the street tree.</li> </ul>
<p><b>Anticipated change in view</b></p> <p>Changes to the view due to the Proposal would include:</p> <ul style="list-style-type: none"> <li>two proposed glass and steel lift shafts as well as the addition of a stair canopy to the northern end of the station platform</li> <li>a new northern station entrance including a lift entrance and entrance stairs into the pedestrian underpass from the commuter car park off Waitara Avenue</li> <li>removal of vegetation in the background of the view to allow for the northern entry to the underpass.</li> </ul>
<p><b>Sensitivity</b></p> <p>Factors contributing to the sensitivity of receptors from this location would include:</p> <ul style="list-style-type: none"> <li>the nature of the visual receptors who would experience this view of the Proposal, comprising: <ul style="list-style-type: none"> <li>employees of or visitors to the businesses on Pattinson Avenue and Romsey Street surrounding the intersection including those visiting the tyre franchise, automotive repair shop and other office spaces. Within these businesses, receptors would be focussed on tasks within the building rather than the external landscape</li> <li>passers-by, either travelling along the street or commuters (pedestrians, cyclists) using the pathway to access the station or car park.</li> </ul> </li> <li>the value of the view as seen by receptors is influenced by: <ul style="list-style-type: none"> <li>the unadorned streetscape, with wire fencing enclosing two adjacent car parks and a footpath running between the fence lines</li> <li>the utilitarian character of the rail corridor adjacent to the car park</li> <li>the heritage listing of the Waitara Railway Station Group, noting that the station building is the only heritage listed element located within the view.</li> </ul> </li> </ul> <p>For the reasons outlined above, the sensitivity of visual receptors to the proposed change in this view, are assessed to be Low.</p>



Viewpoint 4 Intersection of Pattinson Avenue and Romsey Street, Waitara
<p><b>Magnitude of change</b></p> <p>From this viewpoint, contributing factors to the magnitude of change arising from the Proposal would include:</p> <ul style="list-style-type: none"><li>the addition of two built forms (the lift shafts) within the view, each a similar size and scale to existing lifts but with the platform building retaining visual dominance within the station precinct</li><li>the two lift shafts and addition of stair canopy on the station platform would be clearly seen, however, would occupy only a small portion of the middle to background of the view, would be seen through chain mesh fencing, and are in keeping with the function of the rail corridor</li><li>the duration of the changes would be long-term with no chance of reversibility.</li></ul> <p>Due to the above, the magnitude of change for this viewpoint has been assessed as Low.</p>
<p><b>Overall rating</b></p> <p>Overall, the change in the view that would be seen by receptors from this viewpoint has been assessed as Low (Neutral). The changes comprise an addition of station infrastructure within the station precinct, with proposed lift structures and stairway canopy more modern in character than existing built form within the station. However, none of the significant heritage elements of the station are prominent elements within the view, and the lift shafts, fencing and canopy over the stairs onto the platform would be low profile and visually recessive.</p> <p>While the changes within the view are seen from reasonably close proximity, the qualitative rating of the changes have been assessed as ‘Neutral’. This is due to low profile of the additional structures, the visually recessive colours and materiality of the structures, and that the changes comprise the addition and modernisation of rail infrastructure within an existing station precinct. The changes neither add nor subtract from the quality of the existing view from this viewpoint.</p>



Figure 6.9 Existing view of Waitara Station from Viewpoint 4 (Source: AECOM)

6.4.2.5 Viewpoint 5: Waitara Station Commuter Car Park

This viewpoint was selected to assess the changes seen by commuters entering the station from the commuter car park. The visual impact assessment of this viewpoint is in Table 6.4.

**Table 6.5 Viewpoint 5 - Visual Impact Assessment**

<b>Viewpoint 5 Waitara Station Commuter Car Park</b>
<p><b>Receptors</b></p> <p>Receptors at this location include:</p> <ul style="list-style-type: none"> <li>• commuters (pedestrians, cyclists, motorists) utilising the commuter car park</li> <li>• workers and patrons of the car repair and car display yards adjacent to the commuter car park</li> </ul>
<p><b>Existing view</b></p> <p>This view is taken from the centre of the commuter car park looking towards the northern end of the station platform. The foreground of the view comprises the commuter car park, with the middle ground of the view including the adjacent rail corridor and high density residential buildings in the background.</p> <p>Key elements of the existing view comprise:</p> <ul style="list-style-type: none"> <li>• the commuter car park, including around 75 parking spaces immediately in the foreground of the view lined parallel to the rail corridor, and black security fencing at the boundary between the car park and rail</li> <li>• the rail corridor, including: <ul style="list-style-type: none"> <li>- Waitara Station which is visible in the middle ground, where the rail corridor is around level with the commuter car park. The station platform is viewed from its southern edge with signage and seating within the central area of the platform</li> <li>- services including powerlines, power poles, stanchions and overhead wires are visible running along the length of the corridor</li> <li>- the Alexandria Parade overbridge is visible to the west of the station platform</li> </ul> </li> <li>• light industrial / commercial buildings and associated car parks to the left of frame on the southern side of the rail corridor</li> <li>• vegetation including: <ul style="list-style-type: none"> <li>- a row of vegetation lining the batter to the north of the rail corridor which comprises of shrubs and small trees</li> <li>- larger trees are visible behind the smaller vegetation with tall apartment blocks, partially screened by the trees in the background</li> </ul> </li> </ul>
<p><b>Anticipated change in view</b></p> <p>The key changes to the view would comprise:</p> <ul style="list-style-type: none"> <li>• two new lifts at the new northern station entrance to the left of the view including a lift from the commuter car park to the underpass and a lift from the underpass to the platform, including associated landings, canopies and support structures</li> <li>• the proposed stairway canopy visible within the centre of the view</li> <li>• a new northern station entrance including a lift entrance and entrance stairs at the western end of the commuter car park</li> <li>• provision of seating and wheelchair spaces at the two BAZs and installation of a canopy on the station platform</li> <li>• modifications to the western end of the commuter car park including relocation of the turning circle.</li> </ul>
<p><b>Sensitivity</b></p> <p>Factors contributing to the sensitivity of receptors from this location would include:</p> <ul style="list-style-type: none"> <li>• the nature of the visual receptors who would experience this view of the Proposal, comprising: <ul style="list-style-type: none"> <li>- employees of or visitors to the car repair and sale yard on Waitara Avenue (south), who would not be anticipated to be focussed on the view as they enter and leave the businesses. Within these display and repair yards, receptors would be focussed on tasks within the extent of business' grounds rather than the external landscape</li> <li>- commuters (pedestrians, cyclists, motorists) utilising the car park facilities at the end of Waitara Avenue or pedestrians passing by who would have a casual interest in the views as they move through the car park</li> </ul> </li> <li>• the value of the view as seen by receptors is influenced by:</li> </ul>

### Viewpoint 5 Waitara Station Commuter Car Park

- the utilitarian character of the car park and adjacent rail corridor as seen through black fencing with no vegetation in the immediate surrounds.

For the reasons outlined above, the sensitivity of visual receptors to the proposed change in this view, are assessed to be Low.

### Magnitude of change

From this viewpoint, contributing factors to the magnitude of change arising from the Proposal would include:

- the two lift shafts and stair canopy in the station would be clearly seen but visually aligned to the existing surrounding urban character and hardscape in the view related to surrounding LCZ8 – Mixed Use/ Light Industrial and LCZ 6 – High Density Residential structures, as well as the car park and railway infrastructure
- the changes would be seen in the middle to background of the view and comprise a small proportion of the overall view
- the duration of the changes would be long-term with no chance of reversibility.

Due to the above, the magnitude of change for this viewpoint has been assessed as Low.

### Overall rating

Overall, the change in the view that would be seen by receptors from this viewpoint has been assessed as Low (Neutral). The changes would comprise the addition of station infrastructure within the station precinct, with proposed lift structures more modern in character than existing built form within the station.

The 'Neutral' qualitative rating is due to the low profile of the additional structures, the visually recessive colours and materiality of the structures, and that the changes comprise the addition and modernisation of rail infrastructure within an existing station precinct. The changes neither add nor subtract from the quality of the existing view from this viewpoint.



**Figure 6.10 Existing view of Waitara Station from Viewpoint 4 (Source: AECOM)**





**Figure 6.11 Photomontage showing proposed changes seen from Viewpoint 4 (Source: AECOM) – Indicative only, subject to detailed design**



**Figure 6.12 Detail of proposed station entry from the Figure 6.11 photomontage (Source: AECOM) – Indicative only, subject to detailed design**



## 7.0 Summary

### 7.1 Summary of landscape character impact

Eight Landscape Character Zones (LCZs) have been identified within the study area (refer Figure 4.8 in section 4.5), however, changes as a result of the Proposal:

- only occur within LCZ 1
- lie within close proximity of two additional LCZs (LCZ 6 and LCZ 8).

The Proposal would result in no changes to LCZs 2, 3, 4, 5 or 7 due to their distance from the Proposal and/or screening by built form, topography and vegetation, therefore these, while identified, have not been described in detail or assessed. A summary of the assessment of the Proposal on landscape character is shown in Table 7.1.

**Table 7.1 Summary of landscape character impact assessment ratings**

LCZ	Sensitivity	Magnitude	Overall rating
<b>LCZ 1: Rail Corridor</b>	Moderate	Moderate	Moderate
<b>LCZ 2: Major Road Corridor</b>	No Change		
<b>LCZ 3: Education</b>	No Change		
<b>LCZ 4: Town Centre / Retail</b>	No Change		
<b>LCZ 5: Recreation</b>	No Change		
<b>LCZ 6: High Density Residential</b>	No Change		
<b>LCZ 7: Medium to Low Density Residential</b>	No Change		
<b>LCZ 8: Mixed Use / Light Industrial</b>	No Change		

The impact rating of the Proposal on LCZ 1: Rail Corridor was rated Moderate. The proposed changes would predominantly include the addition of three additional structures (the proposed lifts and stairway canopy) and the entry to the proposed pedestrian underpass on Alexandria Parade. The additions to the station platform and underpass infrastructure would not result in a change to the character of the LCZ, while the addition of the more modern lifts would result in a moderate change in station character.

Detailed design would aim to ensure that design elements and materiality reference the heritage character of the LCZ, however, maintain the visual quality of a 'new' piece of infrastructure rather than replicating heritage items.

## **7.2 Summary of visual impact**

### **7.2.1 Construction**

Construction would commence in mid 2022 and take up to 18 months to complete. Construction activity for the Proposal would occur within the immediate surrounds of Waitara Station (which would include a construction compound) and at two ancillary sites approximately 450 metres north-west of the station platform within the rail corridor.

The most sensitive visual receptors at Waitara Station would be residents in Alexandria Parade near the station, but most of these receptors would be viewing the construction activity from a reasonable distance or would be partly screened by tree canopies. While these visual impacts would be visually prominent, they would be in keeping with similar temporary construction work and would be transitory over a period of up to 18 months until completion of the Proposal.

The most sensitive visual receptors at the ancillary facilities 450 metres north of Waitara Station would be residents living on the northern and eastern sides of a residential apartment block on Hornsby Street, Hornsby. These residents would see the construction activity from close proximity from their balconies and from some rooms inside their apartments, with some views partially screened by a tree canopy at the end of the road. While material storage and general activity would increase within these sites during the construction phase, the use of these areas for storage would not be completely new as the sites are currently used for some storage purposes at present. The ancillary facilities would be visually prominent within the view from the balconies, but less visibly prominent from within the apartments, particularly those fronting Hornsby Street. The work would be transitory over a period of up to 18 months until completion of the Proposal.

With the adoption of suggested mitigation measures (refer Section 8.1.2) these impacts are not considered to be significant.

### **7.2.2 Operation**

The most visible changes due to the Proposal would include the addition of two proposed lifts, a stairway canopy above the station platform and the entry portal to the additional pedestrian underpass with associated pedestrian pathways. Other proposed changes, while noticeable, would result in the replacement or upgrade of existing elements such as resurfacing of pavement, replacement of handrails, tactiles, ticketing facilities and bathrooms and would visually result in the upgrade of existing rail infrastructure rather than the addition or removal of elements within a view.

Waitara Station is located on the northern edge of a ridgeline, with the landscape falling to the north-east away from the rail corridor. This position results in the rail corridor (including the platform and station buildings) lying roughly at grade with the southern side of the corridor, but at a higher level to the landscape to the north. While some views are available from the station platform to the north-east (and the station platform and buildings being visible from the north), vegetation on the batter between the tracks and the adjoining road to the north (Alexandria Parade) limit these views. Tall apartments built within the R4 High Density Residential zoned land to the north-east also limit distant views back to and from the station.

South of the rail corridor, the rail corridor and station platform are visible only from directly adjacent to the corridor, including the car park and a limited number of light industrial / mixed-use buildings. Buildings adjacent to the rail corridor to the south prevent any distant views to and from the station.

The station precinct is therefore visually insulated, with views to and from limited by these factors. Tall and dense vegetation within the rail corridor to the south of the station further restrict views to the Proposal.

Five viewpoints have been chosen to represent the change in views from publicly accessible areas due to the Proposal. The assessment of change in views from these locations are summarised in Table 7.2.

Table 7.2 Summary of visual impact assessment ratings

Viewpoint	Sensitivity	Magnitude	Overall rating	Qualitative assessment
<b>Viewpoint 1: Magpies Waitara</b>	Low	Low	<b>Low</b>	Neutral
<b>Viewpoint 2: Intersection of Orara Street and Alexandria Parade, Waitara</b>	Low	High	<b>Moderate</b>	Neutral
<b>Viewpoint 3: Alexandria Parade Overbridge, Waitara</b>	Low	Low	<b>Low</b>	Neutral
<b>Viewpoint 4: Intersection of Pattinson Avenue and Romsey Street, Waitara</b>	Low	Low	<b>Low</b>	Neutral
<b>Viewpoint 5: Waitara Station commuter car park, Waitara</b>	Low	Low	<b>Low</b>	Neutral

Overall, the visual impact of the Proposal on visual receptors has been assessed as Low (Neutral). The highest impact rating occurred at Viewpoint 2, which returned a Moderate (Neutral) rating. The proposed changes would include additions to the existing rail platform with the changes (particularly the proposed lift and stairway canopy within the rail corridor) comprising modern additions to the rail precinct. These changes are considered appropriate given the proportional scale of the proposed lifts in relation to the existing station building and how they respond to the existing architectural language within the station precinct. The sensitivity of the visual receptors surrounding the station is Low given the utilitarian character of many of the surrounding areas, and the presence of screening vegetation along the rail corridor edge.

The assessment resulted in a 'Neutral' qualitative rating from all the viewpoints. This is due to:

- the visually recessive nature of most of the changes within the greater view from most viewpoints
- the addition of rail infrastructure within an existing rail corridor
- the distance of viewing of the additional infrastructure from most viewpoints.

The removal of vegetation along the rail corridor on Alexandria Parade and the construction of the pedestrian underpass, particularly the concrete entry structure and retaining walls, would be the only potentially adverse elements within the view from Alexandria Parade. Potential mitigation of this impact is listed in Section 8.1.1.

Overall the changes neither added nor subtracted from the quality of the existing views from any of the viewpoints.



## 8.0 Mitigation of impact and conclusion

### 8.1 Mitigation measures

This section outlined the mitigation measures that would be implemented to minimise the level of visual impact during the design development, construction and operation phases of the Proposal.

#### 8.1.1 Design development

The following mitigation measures will be considered as part of detailed design to minimise visual impacts of the Proposal:

- the use of materials with heritage significance (such as brick) within the design of the station landscaping, particularly new planted beds and retaining walls, to reference the existing brick used in landscape elements and assist in visually 'bedding down' new elements into the landscape
- retaining and reusing materials that are removed due to the Proposal
- use of design elements and materiality of structures to compliment the heritage character of the rail corridor and station, however, new built structures would maintain the visual quality of a new piece of infrastructure rather than replicating heritage items
- a finish to the proposed pedestrian underpass entrance on Alexandria Parade and retaining walls, including consideration of opportunities for a public artwork or Aboriginal heritage interpretation. Commercial advertising would be considered an adverse visual impact on these surfaces
- landscaping on the batters to the rail corridor comprising native vegetation of varying heights to reduce the visual prominence of the new infrastructure
- consider opportunities for the replacement trees to be provided to offset tree removal to visually screen the Proposal
- placement of lighting to minimise the upward spread of light at the northern end of the station where the station is elevated above the adjacent road corridor and tall residential apartments buildings are in the surrounding landscape. Care would be taken when selecting lighting to ensure that light spill and glare are kept to a minimum
- disturbance of vegetation kept to the minimum amount necessary to construct the Proposal
- inclusion of measures to limit or deter graffiti on proposed structures.

#### 8.1.2 Construction

The following mitigation measures are recommended to minimise visual impacts as a result of construction:

- establish TPZs around trees to be retained. Tree protection would be undertaken in keeping with AS 4970-2009 Protection of Trees on Development Sites and would include exclusion fencing of TPZs
- provide well-presented and maintained construction hoarding and site fencing with shade cloth (or similar material, where necessary) to minimise visual impacts at the construction compound and ancillary facilities during construction. Hoardings and site fencing would be removed following construction completion
- provide cut-off or directed lighting within and outside of the construction site, with lighting location and direction considered to ensure glare and light spill is minimised. It is recommended that the ancillary facilities remain unlit due to the close proximity of residential apartment blocks overlooking the sites
- keep construction areas clean and tidy and place refuse in appropriate receptacles
- implement measures to ensure no tracking of dirt and mud into public roads and other public spaces from construction activities and vehicle movements.

### 8.1.3 Operation

The following mitigation measures are recommended to minimise visual impacts during operation:

- ongoing maintenance and repair of constructed elements
- removal of graffiti in accordance with Transport / Sydney Trains maintenance requirements.

## 8.2 Conclusion

The effects that the Proposal would have on landscape character range between No change and Moderate, and on views and visual amenity are typically Low (Neutral). As such, this report finds that there was no significant effect on either landscape character or on views and visual amenity that would arise from the Proposal (i.e. there were no ratings of High (Adverse), or Moderate–High (Adverse)).

## 9.0 References

AECOM, 2022, *Waitara Station Upgrade Statement of Heritage Impact*

*Hornsby Local Environmental Plan 2013*

Landscape Institute and Institute for Environmental Management (UK), 2013, *Guidelines for Landscape and Visual Impact Assessment*, Third Edition (2013)

*Waitara Station Upgrade Preliminary Environmental Assessment*, October 2018