HORNSBY JUNCTION REMODELLING
AND COMMUTER CAR PARK

VISUAL IMPACT ASSESSMENT

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1. INTRODUCTION

1.1 Overview

Transport for New South Wales (TfNSW) has proposed to build a new commuter car park at Hornsby Station, and to upgrade rail infrastructure in the area to increase the capacity of the T1 North Shore Line. The commuter car park would be delivered as part of the Transport Access Program – an initiative to provide a better experience for public transport customers by delivering accessible, modern, secure and integrated transport infrastructure where it is needed most. A concept design has been prepared for a multi-storey car park on the existing commuter car park adjacent to George Street, refer Figure 1.1.

TfNSW is the proponent of the proposal, and an environmental assessment in the form of a Review of Environmental Factors (REF) is being prepared by Jacobs in accordance with the requirements of Part 5 of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act).The following visual impact assessment (VIA) has been prepared by Spackman Mossop Michaels (SMM) as a stand alone report, which will form part of the iterative development of the JACOBS REF. The VIA assesses and documents the potential landscape and visual impacts of the proposal.

1.2 Proposal Outline

The proposed structure is a commuter car park consisting of two levels that involves excavation and removal of an existing at grade car park, with construction of an additional level above, close to existing ground level. The construction of car ramps, lifts and stairs will provide access into the car park.

The proposal is to provide approximately 230 additional parking spaces and the site is located around 150 meters from Hornsby Station. The proposed changes to the track at Hornsby Junction would occur in the rail corridor and while there would be a temporary visual impact during construction, the changes to the track and associated signalling work would not result in a change to the visual amenity for nearby sensitive receivers. The proposed development will be located on Sydney Trains land on the eastern side of Hornsby station (refer to Figure 1-1) and would provide direct access to George Street at the existing traffic lights, opposite Burdett Street.

1.3 Scope of this Assessment

This report documents the potential visual impacts assessed for the construction and operation of the proposal and informs the REF regarding potential impacts and recommended mitigation measures. The scope of assessment includes:

- Assessment of the potential visual impact as a result of the construction and operation of the commuter car park
- Assessment of the landscape character, including significance and urban design issues
- Identification of affected receivers and quantification of potential impacts to these receivers
- Identification of measures to mitigate the visual impacts.

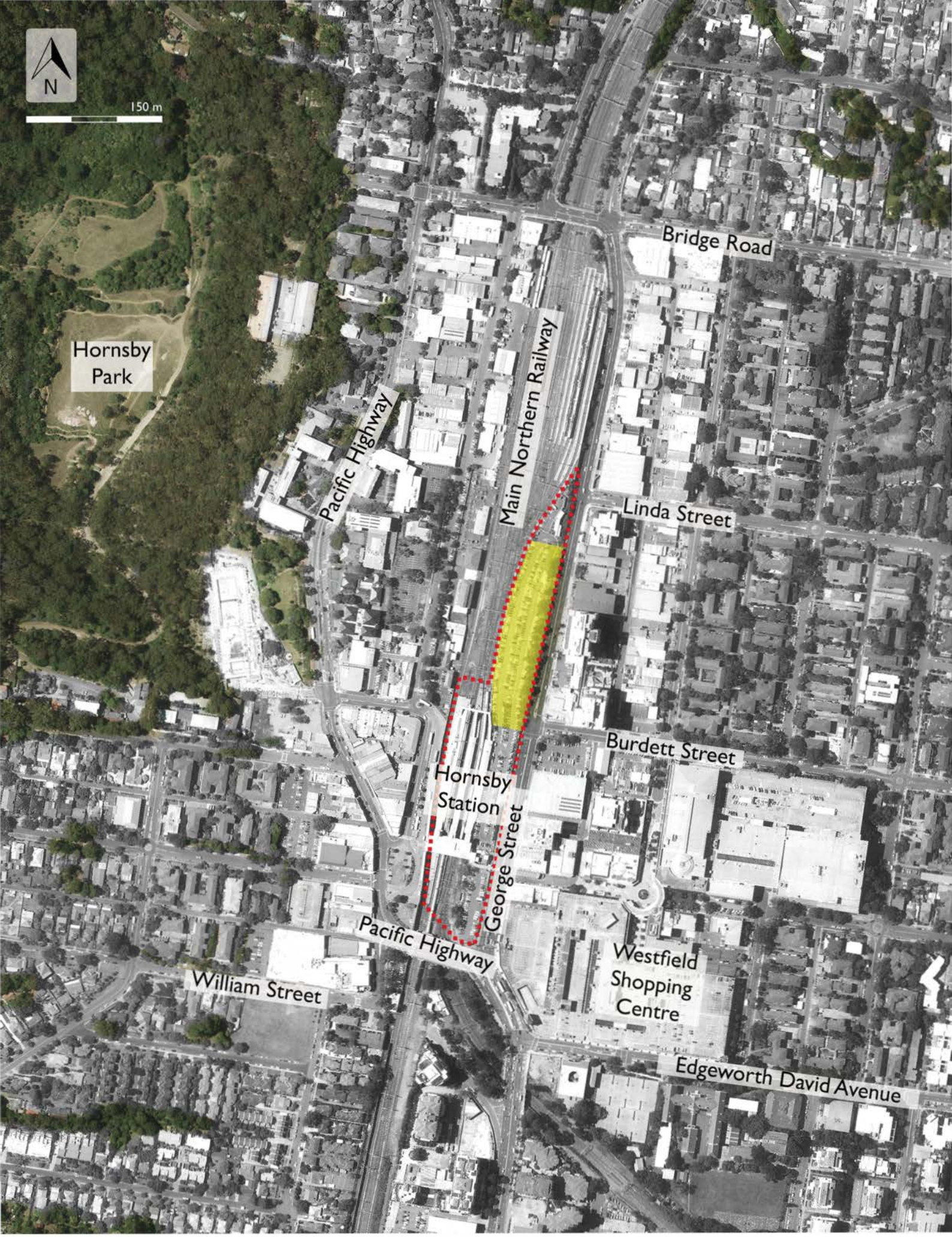

Figure 1-1: Proposal Location Proposed Car Park Hornsby Station

1.4 Assessment Methodology

The method used to undertake this study follows the *'Guideline for Landscape Character and Visual Impact Assessment'* (the Guideline) (Roads and Maritime, 2013) and is consistent with the following additional documents: *Crime prevention and the assessment of development applications* (Dept. of Urban Affairs and Planning, 2001); *Guidelines for the Development of Public Transport Interchange Facilities* (Ministry of Transport, 2008); *Integrating Land use and Transport* (Department of Urban Affairs and Planning, 2001); and *Development Near Rail Corridors and Busy Roads - Interim Guideline* (Department of Planning, 2001).

Landscape Character Assessment

The Guideline provides the following definition of landscape character:

'The combined quality of built, natural and cultural aspects that make up an area and provide its unique sense of place.'

Landscape character assessment takes two main considerations into account; magnitude of change and sensitivity of the setting. Magnitude refers to the type of proposal and its compatibility with the existing landscape character. The scale of elements, as well as its location or setting, all have a bearing on the magnitude of the physical presence of the proposal.

Sensitivity refers to how sensitive the character of the setting is to the proposed change. A judgement has been made as to the quality of the landscape, its cultural and historical importance to the community, scenic quality, and overall composition of the place and its inhabitants.

Landscape character impact is the combination of the sensitivity and magnitude of change caused by the proposal in accordance with the Impact Assessment Grading Matrix in Figure 1-2.

Visual Impact Assessment

The potential visual impact of the proposal is assessed in relation to a number of key viewpoints. Locations and directions of chosen viewpoints are representative of the range of viewpoints within the visual catchment of the proposal.

Magnitude of change to existing views refers to the nature and scale of the proposal, and the extent and proximity of the view to it. Magnitude represents the contrast in scale, form and type of proposal to the location and context to which it is to be placed.

Sensitivity is the measure of the visual importance of the view and is dependent on the distance between viewer and the proposal, the category of viewer and the elements of the proposal that are visible.

Visual impact is the combination of the magnitude and sensitivity rating in accordance with the Impact Assessment Grading Matrix in Figure 1-2.

The impact assessment grading matrix sourced from the Guideline, shown in Figure 1-2, is used in both the landscape character and visual impact assessments. The matrix illustrates how magnitude and sensitivity ratings are combined to achieve an overall impact rating.

Sensitivity \ Magnitude	High	Moderate	Low	Negligible
High	High Impact	High-Moderate	Moderate	Negligible
Moderate	High-Moderate	Moderate	Moderate-Low	Negligible
Low	Moderate	Moderate-Low	Low	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

Figure 1-2: Impact Assessment Grading Matrix
Source: *Guideline for Landscape Character and Visual Impact Assessment'* (Roads and Maritime, 2013)

2. PROJECT DESCRIPTION

The Proposal comprises two components; track work remodelling and the construction of a commuter car park. The track work is being delivered to increase the capacity and reliability of the T1 North Shore Line while the commuter car park is being delivered as part of the Transport Access Program – an initiative to provide a better experience for public transport customers by delivering accessible, modern, secure and integrated transport infrastructure where it is needed most.

The key features of the Hornsby Junction Remodelling would include:

- installation, removal and reconditioning of track work between Hornsby Station and approximately 400 metres north of Bridge Road, Hornsby
- relocation of overhead wires and support structures
- installation, removal and modifications of signalling infrastructure to enable the operation of up to 16 city-bound trains per hour on the T1 North Shore line. This work would generally be limited to:
    - installing new signals and/or modifying existing signals
    - installing new field equipment including train stops, points and track circuits. Pending signal sighting outcomes, there is also potential for existing warning lights and guard indicators to be relocated or newly installed
    - running new cables within existing galvanised steel trough (GST) to connect the additional signals
- modification of track drainage, combined services routes and other rail infrastructure (such as local cable routes)
- provision of a new train driver's walkway and a train turnback facility located approximately 30 metres south of Bridge Road.

The key features of the proposed Hornsby Station commuter car park would include:

- partial demolition of the existing at-grade commuter car park, including the decommissioning and replacement of an existing on-site stormwater detention storage tank
- construction of a multi-storey car park structure
- provision for approximately 230 additional commuter parking spaces
- provision of vehicular entry and exit from the George Street/Burdett Street intersection (via reconfigured traffic signals); the existing vehicle entry and exit off George Street (south of Burdett Street) would also be retained
- provision of a new retaining wall along the eastern boundary of the commuter car park
- provision of a new retaining wall and planter along the western side of George Street (to replace the existing retaining wall structure that would be demolished to facilitate construction)

- ancillary works including stairs, a lift, perimeter fencing, power and lighting, communications, CCTV camera surveillance, drainage, utilities, line-marking and signage, urban design works and landscaping
- maintaining access to the Sydney Trains maintenance facility via the car park.

A number of other associated works would also be required as part of the proposed commuter car park, comprising:

- relocation of high voltage overhead power lines from the site of the existing commuter car park
- provision of approximately six accessible parking spaces adjacent to the eastern station entrance in accordance with the relevant requirements (to be created from existing unrestricted commuter parking at this location)
- extension of the footpath on the western side of George Street from the George Street/Burdett Street intersection, where it currently terminates, to the northern boundary of the proposed commuter car park, to provide pedestrian access between Hornsby Station and the proposed lifts in the commuter car park
- modification of the George Street/Burdett Street intersection to accommodate the proposed new commuter car park entry
- utility protection works
- vegetation removal from the existing car park site.

3. LANDSCAPE CHARACTER ANALYSIS

This chapter identifies Landscape Character Zones (LCZ) within the study area and provides a description of the attributes that make up each landscape character zone. The sensitivity of each landscape character zone is then assessed, and a rating provided in accordance with the Impact Assessment Grading Matrix (Figure 1-2).

The study area has been divided into four LCZ's as illustrated in Figure 3-1. The LCZs generally reflect the land use and urban character of the areas immediately surrounding Hornsby Station.

The identification of the zones allows for a more detailed discussion of the character of each zone. Within Hornsby Junction itself, a number of areas have been identified which generally correlate with the character zones.

The four Landscape Character Zone areas include:

1. Commercial/Residential (High Density)
2. Residential (Low to Medium Density)
3. Hornsby Town Centre
4. Infrastructure - Road and Rail

This chapter also discusses the sensitivity for each LCZ. Sensitivity refers to how sensitive the character of the setting is to the proposed change. A judgement has been made as to the quality of the landscape, its cultural and historical importance to the community, scenic quality, and overall composition of the place and its inhabitants. The following sensitivity judgements have been used as the basis for this assessment:

- Places with high social, recreational, and historical significance to local residents have higher sensitivity
- A pristine environment would have greater sensitivity with less ability to absorb new elements in the landscape than modified landscapes or those areas with contrast and variety of landscape types.

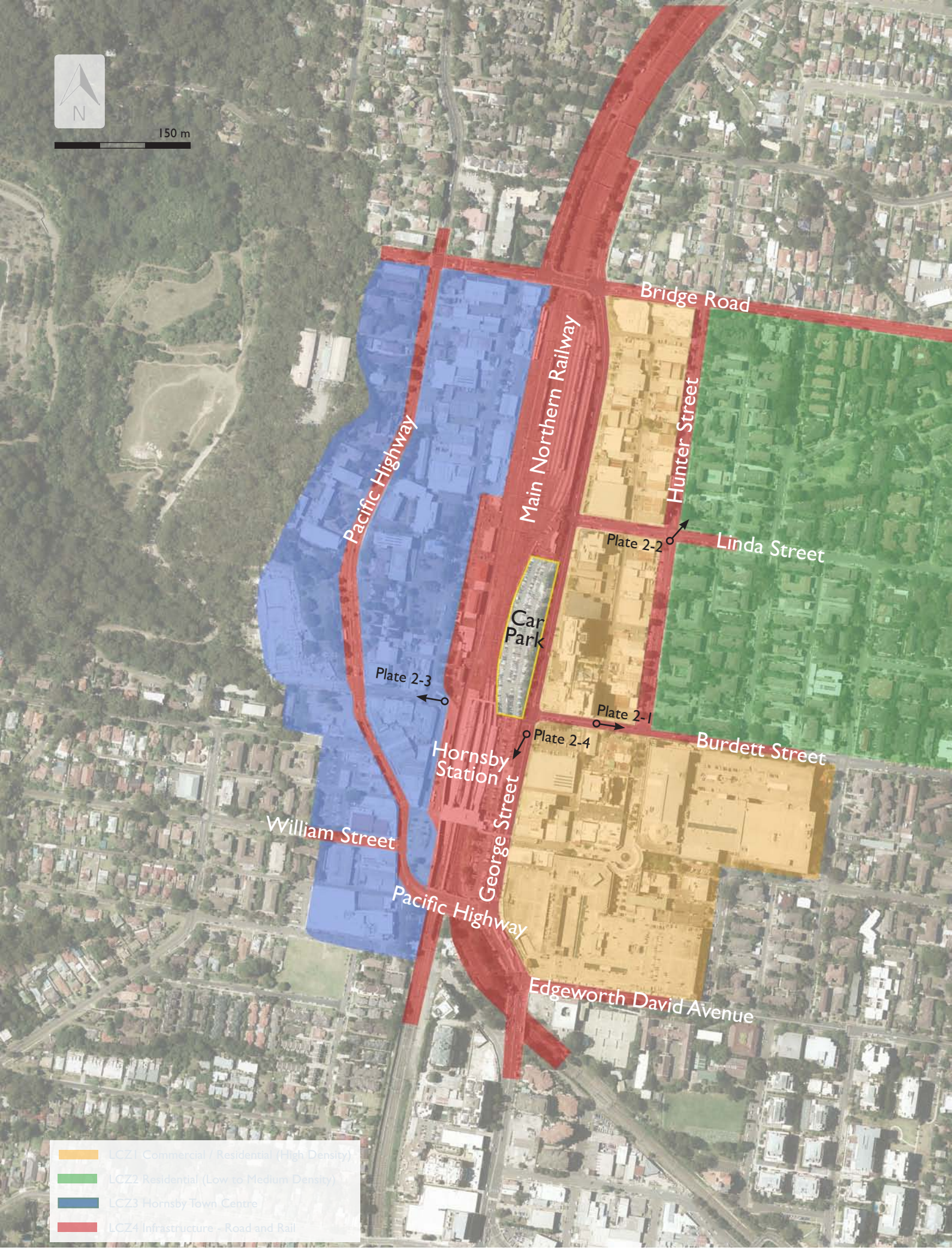

Figure 3-1: Landscape Character Zones

Source: SMM

Plate 3-1: Commercial/Residential Zone

3.1 Landscape Character Zones

LCZ 1 - Commercial/Residential (High Density) Zone

Existing landscape character

On the east side of the railway line lies the most visually prominent landscape character zone in Hornsby. This is seen through the scale and building form which is greater than the adjoining LCZ's. LCZ 1 is a busy commercial centre, dominated by Westfield Hornsby, which contains over 300 stores, including a large cinema and almost 4000 parking spaces. A pedestrian mall leads into the shopping centre and links the Hornsby Library. A series of light industrial stores, workshops and garages lie between Bridge Road and Burdett Street to the north of Westfield. There are three residential apartment blocks also found in this LCZ which are up to 13 stories high. All three apartment blocks will have views on to the proposal, however not all floors will be able to see it.

Multi-level office buildings are found amongst the built form, adding to the commercial nature of the zone. The area is fed directly via a pedestrian foot bridge descending from Hornsby Station, which accentuates the sense of movement of workers, shoppers and vehicles throughout the area.

Minimal vegetation exists as surfaces are predominantly hard wearing and water impervious. Scattered planter beds and some small street trees are found located throughout the zone.

Landscape character sensitivity

Due to the homogenous urban character and dominance of commercial land uses, the zone will have **LOW** sensitivity to the changes caused by the proposed car park.

Source: Google Street View

Plate 3-2: Residential Zone

LCZ 2 - Residential (Low to Medium Density) Zone

Existing landscape character

The second landscape character zone is also on the east side of the rail line and includes varying types of residential built forms.

Medium sized apartment blocks and detached houses are set back from their front boundaries on tree lined streets creating a suburban setting. Grassed verges and layers of shrubbery on the property boundaries and beneath mature street trees, create a more suburban character away from the city centre. LCZ2 is adjacent to LCZ1 and most views to the proposed car park are screened by the buildings in LCZ1.

Landscape character sensitivity

Due to the residential nature of the LCZ the sensitivity of change to the car park will be **MODERATE**.

Source: SMM

Plate 3-3: Hornsby Town Centre Zone

LCZ 3 - Hornsby Town Centre Zone

Existing landscape character

The western side of the rail line differs greatly in landscape character to that of the eastern side. It consists of a traditional shopping village which lines either side of the Old Pacific Highway. Antique lampposts are preserved along a small section of the highway and alfresco dining sits beneath established, mature trees. On street parking slows traffic through the space and allows ease of pedestrian access to the variety of stores.

The police station, court house and Hornsby Shire Council Chambers reflect architecture dating back to 1915, and add to the historic sense of place of the area. Hornsby Park, Hornsby Aquatic Centre and Hornsby TAFE also contribute to the character of the zone and reflect the slowed, leisurely feel on the eastern side of the rail. Immediately outside the station entrance lies a small park and war memorial which also serves as a meeting place or drop off/pick up area.

Views from the eastern side of the station across the rail line to the car park are mostly screened by the current station layout, overhead wiring and Sydney Trains fences.

Landscape character sensitivity

Due to the heritage aspects and quieter nature of this mostly commercial zone, the sensitivity to the proposal would be **MODERATE**.

Source: SMM

Plate 3-4: Infrastructure Road and Rail Zone

LCZ 4 - Infrastructure Road and Rail Zone

Existing landscape character

Zone 4 includes the transport network that bisects the other three character zones. The infrastructure zone is evident from all areas of Hornsby Junction and includes; Hornsby Station; the rail lines, the commuter car park, the bus stops; the taxi rank and; road network. These components all contribute to the busy and transitory character of the zone.

The materiality of LCZ 4 is predominantly functional, consisting of hard wearing materials such as asphalt, concrete and steel. Overhead wires occupy the airspace immediately above the car park and railway and feed into the stabling yard and large railway workshop at the northern end.

Pedestrian movement around the zone is regimented and desire lines are restricted by fences and signalised intersections. The existing car park fits within the current character of the zone and has an informal layout.

A large area of mixed vegetation exists on the eastern car park batter slope which meets ground level on George Street, adjacent to the northbound travel lane. Tall trees and dense shrubs occur amidst a variety of groundcover. The green edge provides a softening feature to an otherwise stark urban environment.

Landscape character sensitivity

The proposal will align with the already functional urban feel of the zone. Therefore the sensitivity level for LCZ 4 is **LOW**.

4. LANDSCAPE CHARACTER ASSESSMENT

4.1 Overview

The study area has been divided into four LCZs as discussed in Chapter 2 and as illustrated in Figure 3-1. The sensitivity of each zone was assessed and a summary of the ratings are presented in Table 4-1.

This chapter describes the magnitude of the impact of the proposal for each LCZ and the resulting landscape character impact is outlined for each zone.

For the landscape character assessment, magnitude refers to the type of proposal and its compatibility with the character of the existing landscape. All anticipated elements of the proposal both during construction and operation, including the car park structure, planting, lighting are considered. The scale of elements (height, length), as well as its location or setting all have a bearing on the magnitude of the physical presence of the proposal.

A high magnitude results if the proposal is a major development or piece of infrastructure and contrasts highly with the surrounding landscape, or entails heavy modification of the existing landscape. A moderate magnitude rating would result if the proposal is moderately integrated into the landscape. A low magnitude rating would occur if the proposal is of a small scale and integrates well into the landscape.

The magnitude impact rating also considers whether the proposal has a positive or negative impact on the landscape character of the zone. For example, a proposal may be of a large scale but may provide beneficial outcomes such as increased open space, enhancement of the areas 'sense of place', better connectivity and a safer road environment.

Impact is the combination of the magnitude and sensitivity rating in accordance with the Impact Assessment Grading Matrix, refer Figure 1-2.

Table 4-1: LCZs sensitivity ratings

	Landscape Character Zone	Sensitivity
LCZ 1	Commercial / Residential High Density	Low
LCZ 2	Residential Low to Medium Density	Moderate
LCZ 3	Hornsby Town Centre	Moderate
LCZ 4	Infrastructure Road and Rail	Low

4.2 Landscape Character Impact

Operational impacts of the proposal on LCZ 1 - Commercial / Residential High Density

The proposal would have a visual impact within this zone, although the formalization of the car park will reflect the predominantly built character of the commercial zone and potentially enhance the efficiency with which users of the car park move through the space. Congestion would potentially be alleviated and customer attitudes to visiting the busy rail interchange and shopping district would be enhanced as a result of the proposal.

The commercial zone's eastern edge looks directly onto the existing car park development and will be exposed to the change in formation, particularly the shops and light industry to the northern end.

Although no viewpoints were taken from the apartment blocks located on George Street, Burdett Street and Hunter Lane, it is evident that due to the height of the three buildings, views onto the car park will be affected by the proposal. The formalization of the car park will provide a better integrated design along George Street that fits with the urban character of the area and can potentially provide an improved view from the apartments. Any reduction in overhead electrical wiring will also add to the improved view. The finish to the wall of the car park may however have the potential to reflect glare and heat from the morning sun into the resident's apartments.

The green edge which screens the existing car park, provides a softening function of the existing car park to the edge of LCZ1 and LCZ4, and would mitigate the visual impacts on the residents of the apartment blocks. The removal of the existing vegetation will alter the view from this zone and will need to be reinstated in some capacity. Facade treatments for the proposal should align with the desire to produce an appeasing finish to the structure. This will involve reinstating vegetation in front of the facade.

Construction impacts

In addition to the proposal's operational impacts, there would be short term indirect impacts during construction related to site establishment which would likely involve the placement of temporary concrete safety barriers and fencing to create a safe work zone. Following construction, or progressively during the works where possible, this infrastructure would be dismantled and restored to its completed state.

Overall, the magnitude of change within this landscape character zone is assessed to be **Moderate**, due to the relatively moderate nature of the works. Combining with the **Low** sensitivity rating, the landscape character rating will be **Moderate to Low**.

Table 4-2: Landscape character assessment (LCZ1)

Landscape Character Assessment	
Sensitivity	Low
Magnitude	Moderate
Landscape Character Impact	**MODERATE TO LOW**

Operational impacts of the proposal on LCZ 2 - Residential (Low to Medium)

The majority of LCZ2 will experience negligible impact as a result of the car park development. The residential zone will be unaffected by the proposal due to the screening effect of the buildings in LCZ1, which are located between this zone and the proposed car park.

Construction impacts

As LCZ2 is almost entirely separated by the buildings in LCZ1, any construction activities will be highly unlikely to be experienced by residents.

The magnitude of operational and construction impacts on Hornsby Town Centre will be **Low.** Combining the **Moderate** sensitivity rating, the landscape character impact will be **Moderate to Low**.

Table 4-3: Landscape character assessment (LCZ2)

Landscape Character Assessment	
Sensitivity	Moderate
Magnitude	Low
Landscape Character Impact	**MODERATE TO LOW**

Operational impacts of the proposal on LCZ 3 - Hornsby Town Centre

The proposal has negligible impact in this zone. The top floor of the proposal in the concept design report, sits marginally above the existing car park level. The vehicle barrier, top of stairwell and elevator housing sit approximately 2.5 meters above the 1st floor, and although they may potentially be visible from LCZ3, the series of cables, fencing and rail components spread across the rail infrastructure will make it difficult to view from Hornsby Town Centre.

The removal of the existing vegetation on the site will have a minor visual impact from LCZ3. The canopy of some of the larger trees can be seen from the bus terminal and Railway Hotel on Station Street. From ground level these changes will be barely noticeable.

Construction impacts

As LCZ3 is separated from the proposal by the railway, construction activities are unlikely to present a potential visual impact.

The magnitude of operational and construction impacts on Hornsby Town Centre will be **Low**. Combined with the **Moderate** degree of sensitivity, the landscape character impact as shown in Table 4-4 is **Moderate to Low**.

Table 4-4: Landscape character assessment (LCZ3)

Landscape Character Assessment	
Sensitivity	Moderate
Magnitude	Low
Landscape Character Impact	**MODERATE TO LOW**

Operational impacts of the proposal on LCZ 4 - Infrastructure - Road and Rail

The current car park design appears at capacity with vehicles tightly aligned and parking in every available space. The proposal will provide for additional space and allow for an ease of entry and exit on to George Street. Phasing the traffic lights at Burdett Street with vehicle entry and exit from the car park will allow a more efficient and safe transition onto the road.

The proposed design will give the car park a definitive edge, where it will meet street level and frame the extent of Railcorp land. Opportunities exist to return the existing vegetation to George Street and soften the impervious, functional zone.

Construction impacts

LCZ4 is the zone where all construction works will take place. George Street is an arterial road which will provide the key access route for construction traffic, allowing for minimal impact on local roads.

The magnitude of operational and construction impacts on LCZ 4 will be **Moderate**. Combined with the Low sensitivity, the landscape character impact will be **Moderate to Low.**

Table 4-5: Landscape character assessment (LCZ4)

Landscape Character Assessment	
Sensitivity	Low
Magnitude	Moderate
Landscape Character Impact	**MODERATE TO LOW**

4.3 Summary of Landscape Character Impact

The landscape character impact assessment of the proposal described above, represents a qualitative assessment based on the four LCZs. The results of these assessments all conclude with a MODERATE - LOW outcome, and are tabulated below in Table 4-6.

Table 4-6: LCZs Impact Assessment Summary

LCZ		Sensitivity	Magnitude	Impact
LCZ 1	Commercial/Resi High Density	Low	Moderate	**MODERATE to LOW**
LCZ 2	Residential Low Density	Moderate	Low	**MODERATE to LOW**
LCZ 3	Hornsby Town Centre	Moderate	Low	**MODERATE to LOW**
LCZ 4	Infrastructure - Road and Rail	Low	Moderate	**MODERATE to LOW**

The greatest impacts caused by the proposal on the landscape character, generally occur where the sensitivity to change is greatest. In this situation, this occurs in LCZ 2 and 3, however the sensitivity is still only moderate and the magnitude is low due to the distance from the proposed car park and the screening effects of the intervening buildings and other structures.

The magnitude of the impacts of the proposed works on landscape character are moderate to low, as the proposal is an upgrade to the current structure which aligns with the infrastructure zone.

Out of the four LCZs, the range of landscape character impact ratings were determined as all four LCZ's would experience a Moderate to Low impact on their landscape character.

5. VISUAL IMPACT

5.1 Visual Impact Methodology

Visual Catchment

The extent from which the proposal would be visible from adjoining areas varies across the study area. It is influenced by topography, vegetation, land uses (residential, commercial, infrastructure) and associated buildings. A detailed field and desktop assessment was undertaken to determine the area from where the proposal would be visible, defined as the Visual Envelope Map (VEM), as illustrated in Figure 5-1.

Views to the proposal are generally constrained by the immediate built form surrounding the car park, and are subsequently hindered as the distance increases.

The visual receivers of the proposal include residents, shoppers, workers, pedestrians, cyclists and motorists.

Viewpoint Locations

Within the VEM, key viewpoints have been identified along George Street, Burdett Street, the pedestrian bridge leading from the station and at various places within each LCZ. Locations and directions of chosen viewpoints are representative of the range of vision within the public domain, surrounding the proposal and are indicated in Figure 5-1. Due to access limitations, no viewpoints were identified from private property such as in the residential apartment buildings on George Street, although these apartments are likely to experience visual impacts as a result of the proposal.

Visual Impact Assessment

The magnitude of change to existing views and the sensitivity of the viewer has been assessed for each of the chosen viewpoints.

Magnitude

Magnitude of change to existing views refers to the nature and scale of the proposal, and the extent and proximity of the view to it. Magnitude represents the contrast in scale, form and type of proposal to the location and context to which it is to be placed.

A high magnitude results if the proposal is of a major scale and is considered out of scale or uncharacteristic of the existing visual character, or if there is considerable modification to the existing landscape. A moderate magnitude would result if the proposal is prominent but not considered to be substantially uncharacteristic with the existing visual character. A low magnitude results if there is minimal alteration to the existing view and the proposal is of a scale and nature that is consistent with the existing visual character.

Sensitivity

Sensitivity is the measure of the visual importance of the view and is dependent on:

- Distance between viewer and the proposal
- The category of viewer, for example, resident, worker, shopper, open space user
- The elements of the proposal that are visible
- Importance of the view, for example, identified in tourist guides, static or moving viewpoint, do people deliberately seek the view.

Visual sensitivity includes the consideration of the perceived cultural and historical values of the visual environment and the elements within it.

Generally, viewers with the highest sensitivity include:

- Residents who have existing attractive views that will be affected by the proposal
- Users of public open space where their attention is focused on the visual landscape, for example, lookouts or other scenic natural areas
- Communities that place high cultural and historical significance on the visual landscape.

Viewers with the lowest sensitivity are most likely to be:

- Employees focused on their work
- Motorists whose attention is focused on driving.

Impact

Impact is the combination of the magnitude and sensitivity rating in accordance with the Impact Assessment Grading Matrix (refer Figure 1-2).

The following pages contain an assessment quantifying the visual impact at each viewpoint. The impact ratings are measured on their impact relative to each other within the scope of the proposal rather than to an absolute scale covering all potential forms of impact.

Key viewpoints

A total of 8 viewpoints have been identified on the basis of the criteria outlined above. Each viewpoint is comprised of the following summary information:

- Location
- Viewpoint selection rationale
- Proposal elements visible
- Visual impact based on assessment of magnitude of change and sensitivity
- Mitigation measures that have been incorporated into the landscape and engineering designs.

The viewpoints are as indicated in Figure 5-1 and are listed from east to west.

Figure 5-1: Viewpoint Location Plan and Visual Envelope Map (VEM)

5.2 Visual Impact Assessment

Viewpoint 1

Location:

108 George Street

Source: SMM

Plate 5-1: Viewpoint 1

Viewer:

Pedestrians, cyclists and motorists

Distance to the proposal:

15 metres across George street

View type:

Foreground view

Elements of the proposal potentially visible:

- Entrance and exit into car park
- View of new traffic lights
- Car park facade wall and stair towers
- Removal of street trees.

Sensitivity	Magnitude	**Impact**
Low	Moderate	**Moderate to Low**
The sensitivity of the view is low for all types of viewers. From this direction, viewers travelling towards Hornsby Station will be viewing the proposal from an obliqiue angle. The view, although close to the viewer, is experienced only in a transitory way and in the context of a busy street.	The proposal will be prominent from this view, yet will sit within the current context of the zone. The car park is characteristic of land use close to a train station and is simply an upgrade of the existing car park. Replacement planting along verge next to the proposal would mitigate the magnitude of the works as they mature over time. It is unlikely that site establishment infrastructure or construction machinery will be of high magnitude.	

Viewpoint 2

Location:

Burdett and Hunter Street Intersection

Plate 5-2: Viewpoint 2

Viewer:

Workers, residents, motorists, pedestrians

Distance to the proposal:

100 metres at the intersection of Burdett and George Streets.

View type:

Mid distance view

Elements of the proposal potentially visible:

- Entrance and exit into car park
- Possible view of new traffic lights
- Slight change in height of car park top level
- Removal of street trees.

Sensitivity	Magnitude	**Impact**
Low	Low	**Low**
Residents on Burdett Street unlikely to have a full view of proposal, as street runs perpendicular. Motorists travelling along Burdett Street will view car park entrance at intersection.	As the site will remain as a car park, the magnitude of change on the current form will be low. Limited clearing of vegetation will take place from this view. New entrance/exit from car park will be seen.	

Viewpoint 3

Location:

Corner of George and Burdett Streets

Plate 5-3: Viewpoint 3

Viewer:

Motorists, pedestrians, cyclists

Distance to the proposal:

15 metres across George Street.

View type:

Foreground view

Elements of the proposal potentially visible:

- Eastern facade of proposal wall.
- Removal of all vegetation.
- Removal of overhead wiring.
- Construction of new pedestrian footpath.
- Re-configuring of traffic signals.
- View of elevator shafts and stairwells.

Sensitivity	Magnitude	**Impact**
Low	Moderate	**Moderate - Low**
Motorists would see the level of change when driving north along George Street. The proposal would result in a change from a dense green edge to a concrete wall with some street side planting. Views from this angle however, are transitory by both motorists and pedestrians.	A substantial change to the current form would take place if vegetation is not replaced. Replacement planting would mitigate the magnitude of the works, as they mature over time. During construction the temporary concrete safety barriers and fencing to create a safe work zone will be visible.	

Viewpoint 4

Location:

Pedestrian Footbridge

Plate 5-4: Viewpoint 4

Viewer:

Pedestrians

Distance to the proposal:

200 metres

View type:

Long distance view

Elements of the proposal potentially visible:

- Change in height of the car park
- Removal of all vegetation
- Temporary site compound area
- Removal of overhead wires
- Elevator shafts, stairwells and car park entrance
- Car park wall along George Street.

Sensitivity	Magnitude	**Impact**
Moderate	Moderate	**Moderate**
The sensitivity of the pedestrians would be considered moderate, even though the distance from the proposal is quite far (200m). The vegetation that will be removed currently acts as a visual indicator towards the natural landscape north of Hornsby.	Although at some distance from the viewer, the elements of the proposal listed above would be visible from this view as the vegetation along George Street would be removed. However, replacement planting would mitigate the magnitude of the works as they mature over time. Temporary fencing and storage facilities, stockpile areas, site buildings and other facilities may be visible.	

Viewpoint 5

Location:

Hornsby Town Centre, Western Side of Railway.

Plate 5-5: Viewpoint 5

Viewer:

Pedestrians, park users, motorists, bus and taxi patrons.

Distance to the proposal:

200 metres

View type:

Long distance view

Elements of the proposal potentially visible:

- Potential view of elevator shafts
- Removal of vegetation.

Sensitivity	Magnitude	**Impact**
Moderate	Negligible	Low
As Hornsby town centre is within a moderately sensitive landscape character zone, changes to the views from the area will result in an altered sense of place.	The proposal will have a negligible effect on the magnitude of change from this viewpoint. Only the elevator shafts and stairwells will potentially be visible.	

Viewpoint 6

Location:

Station Street outside Railway Hotel.

Plate 5-6: Viewpoint 6

Viewer:

Pedestrians, workers, Railway Hotel and cafe patrons.

Distance to the proposal:

150 metres

View type:

Mid-long distance view

Elements of the proposal potentially visible:

- Stairwell
- Elevator shaft
- Removal of overhead wires.

Sensitivity	Magnitude	**Impact**
Moderate	Low	**Moderate to Low**
The view from The Railway Hotel and cafe will be observed by patrons who have time to sit and look across the railway, particularly from the level one balcony of the hotel.	The current view from The Railway Hotel and cafe is of the railway and commuter car park. The proposal is synonymous with the existing land use and will only slightly differ in height, causing a low magnitude rating.	

Viewpoint 7

Location:

Hornsby Station, Eastern Side of Railway, Platform 1 Stairway Landing

Source: SMM

Plate 5-7: Viewpoint 7

Viewer:

Sydney Trains customers

Distance to the proposal:

10 metres

View type:

Foreground view

Elements of the proposal potentially visible:

- Removal of vegetation
- Construction of car park
- Removal of overhead wires
- Elevator shafts and stairwells.

Sensitivity	Magnitude	**Impact**
Low	Moderate	**Low to Moderate**
The sensitivity would be low as the viewers would be patrons using the train station to commute to and from Hornsby. Their view of the proposal would be of a passing nature.	The change in car park form would be evident from this view, however the appearance of the car park would be very similar to the existing view. The new formalized arrangement of vehicles and removal of overhead wiring within the car park would have a positive outcome.	

Viewpoint 8

Location:

Jersey Street, west side of railway

Source: SMM

Plate 5-8: Viewpoint 8

Viewer:

Pedestrians

Distance to the proposal:

80m across railway

View type:

Long distance view

Elements of the proposal potentially visible:

- Elevator shaft
- Vegetation removal.

Sensitivity	Magnitude	**Impact**
Low	Negligible	**Low**
The sensitivity of pedestrians within the Hornsby Town Centre would be low. The pedestrians are passing through the area and are over 80m from the proposal, which has views obscured by fencing and rail yard buildings.	The magnitude of change to the current view would be negligible. Construction of the proposal would result in the removal of vegetation only sighted from the viewpoint through gaps in fencing and buildings.	

5.3 Visual Impact Summary

A total of 8 viewpoints form the basis of the visual impact assessment. The viewpoints are focused across the range of anticipated magnitudes and sensitivities including residents, pedestrians, workers and motorists, providing a more even ratings outcome. A summary of the assessment results are presented Table 5-1.

Out of the 8 selected viewpoints, the range of visual impact ratings were determined as follows:

- No viewpoints would have High visual impact
- No viewpoints would have High to Moderate visual impact
- One viewpoint would have Moderate visual impact
- Four viewpoints would have Moderate to Low visual impact
- Two viewpoints would have Low visual impact
- One viewpoint would have Low to Negligible visual impact.

The Moderate, Moderate to Low, Low and Low to Negligible ratings are the most common and reflect the generally low change of magnitude of the proposal to the area.

Landscape and urban design mitigation strategies have been developed from the outcomes of the landscape character and visual assessments, as a way of mitigating the potential impacts. These mitigation measures, as well as those to be further considered in the detailed design stage of the project are discussed in the following Chapter 7.

Table 5-1: Visual Impact Summary

Viewpoint	View type	Sensitivity	Magnitude	Impact
VP 1	Foreground view	Low	Moderate	**Moderate to Low**
VP 2	Mid distance view	Low	Low	**Low**
VP 3	Foreground view	Low	Moderate	**Moderate to Low**
VP 4	Long distance view	Moderate	Moderate	**Moderate**
VP 5	Long distance view	Moderate	Negligible	**Low**
VP 6	Mid-Long distance view	Moderate	Low	**Moderate to Low**
VP 7	Foreground view	Low	Moderate	**Moderate to Low**
VP 8	Long distance view	Low	Negligible	**Low to Negligible**

The following two photomontages have been prepared to provide a visual representation of the proposed car park upgrade from two viewpoints on George Street.

Plate 5-9: Photo of the existing view from pedestrian footbridge looking north

Plate 5-10: Visualisation of the proposal from pedestrian footbridge looking north

Plate 5-11: Photo of the existing view from 108 George Street looking south towards Hornsby Station

Plate 5-12: Visualisation of the proposal from 108 George Street looking south towards Hornsby Station

6. MITIGATION STRATEGY

6.1 Mitigation Incorporated in the Concept Design

The integration of the architectural, engineering and performance objectives with urban and landscape design objectives for the proposal aims to produce a design outcome that fits sensitively with the existing qualities and characteristics of Hornsby Junction.

In order to achieve this, a range of mitigation measures have been incorporated into the proposal for progression of the concept design. These measures combine to develop a solution that seeks to protect and enhance the existing visual character of Hornsby Junction and its surrounds, where possible. Mitigation strategies that assist in assimilating the proposal with existing character are as follows:

- Replacement of vegetation through a well conceived landscape plan
- Provision of shade on George Street Western side
- Selection of finishes to building façade and hard surfaces to add interest and amenity to proposal
- Maximising width of garden beds to provide denser vegetation
- Removal of overhead electrical wires
- Narrowing and shortening of the pedestrian path along western side of George Street to increase the area for planting.

These mitigation measures listed above have been developed to apply with the concept design study supplied by ARUP.

Building and wall finishes

The building facade which borders George Street should be finished with vertical, irregular spaced aluminium sheets as shown in the visualisations. This varying pattern of lines will assist in breaking up the monotonous form of the proposal and help soften its edge by allowing air and light through the structure.

These vertical panels will be framed by a ground level wall of varying height, reaching up to 2.5 metres and an upper parapet of 1.2 metres. As the ground level wall will be at eye level for both pedestrians and motorists, it is recommended that its finish be of a textured pattern, or tactile appearance. This can be achieved through either an exposed aggregate or tiled cladding which will not only provide some variety to the viewer but also reduce the possibility of graffiti and align with crime prevention within the design.

The upper parapet can be concrete finish, concrete with an added oxide, or painted concrete. It's consistency of finish will provide a look of formalised capping to the proposal. As the surface of this wall can be accessed from the upper level of the car park, it is recommended that it be sprayed with an anti graffiti coating. The parapet should be finished with a double rail which spans the length of the building. This galvanized rail will have the effect of reducing the apparent height of the structure as well as prevent the public from walking along the top of the wall.

Landscape

Due to the substantial removal of existing vegetation, the site will benefit from a well designed landscape plan with appropriate species selection. As little pervious surface exists within the site and runoff from car parks is high in contaminants, it is best practice to allow storm water to be collected off the structure and directed into planting areas to water the plants and improve their performance.

Opportunity exists along the eastern edge of the proposal to reinstate vegetation in a layered arrangement. Utilising varying scales of planting along this edge will:

- Provide visual amenity for the road user, pedestrian and resident;
- Provide shade; and
- Mitigate the hard surface character brought about by the proposal's built form.

Maximising the size of garden bed along this edge can be achieved through restricting the width of the pedestrian path to 2.5 metres. This will also allow for medium height trees to be used for shade along the footpath for pedestrians and also in providing some shade for parked cars on the top level of the proposal. The trees will also assist in reducing the scale of the proposal and providing visual amenity for both workers and residents along George Street.

Overhead electrical lines

The removal of overhead electrical wires from the car park site will provide a degree of improved visual amenity and align with the formalisation of the car park. Additionally, the removal of George Street wires further enhance this amenity and allow for the true habit of the street trees to form and would remove the need for pruning of trees around the wires.

Narrowing and shortening of the pedestrian path along George Street

An option exists to enhance the planting area within the proposal. A redundant area of footpath at the northern end of the car park on George Street, from the stair shaft to the extent of works boundary, provides no function for pedestrian access. Approximately 80 square metres can be redesigned to allow for replacement of vegetation in this area and the mitigation of the visual impact of the structure.

6.2 Mitigation during construction

The following mitigation measures would be implemented during construction:

- Detailed design and documentation drawings would define the extent of all construction activity including temporary works in order to protect the area of vegetation immediately adjacent during construction
- Construction facilities should be contained within the construction works zone boundary and occupy the minimum area practicable for their intended use
- Provide suitable barriers to screen views from adjacent areas during construction
- Once construction is complete, or progressively throughout the works where possible, return these sites to at least their pre-construction state
- Where identified, existing trees are to be retained within construction zones and should be protected and maintained
- Temporary lighting should be shielded or angled to reduce unnecessary light spill
- Heritage items should be protected.

7. CONCLUSION

The remodelling of Hornsby Junction involves a number of changes to the site. The most substantial visual change is the construction of the commuter car park, which includes the following features:

- Partial demolition of the existing at grade car park
- Construction of a two-level car park with an additional 230 spaces
- Re-configured traffic signals to include the new car par entry and exit at George and Burdett Street intersection
- Provision of new continuous retaining wall along western side of George Street
- Ancillary works such as stairs, elevator, perimeter fencing, power and lighting, camera surveillance and landscaping
- Extension of the footpath along the western side of George Street
- Existing vegetation removal.

Understanding the built, natural and cultural character surrounding Hornsby Junction, identifying opportunities and articulating urban design objectives and principles have been integral components when assessing the visual impact of the proposal. This iterative approach has been adapted to:

- Achieve a design that fits sensitively with the existing qualities and characteristics of the surrounding landscape
- Maintain the qualities of the suburb and the sense of place of within the urban setting
- Recommend strategies to achieve an integrated design form that blends with adjoining areas
- Suggest a simple and unified palette of roadside elements and finishes that are both attractive and easily maintained.

The visual impact assessment of the proposal represents a qualitative assessment of its impact on the four Landscape Character Zones. These are summarised below:

- LCZ1 Commercial/Residential High Density: Moderate to Low
- LCZ2 Residential Low Density: Moderate to Low
- LCZ3 Hornsby Town Centre: Moderate to Low
- LCZ4 Infrastructure Road and Rail: Moderate to Low.

The impacts on landscape character are all Moderate to Low and combine ratings of Moderate and Low for sensitivity and magnitude.

The magnitude of change to existing views and the sensitivity of the viewer was assessed for 8 viewpoints. These were selected to represent a range of anticipated magnitudes and sensitivities including residents, pedestrians, workers, shoppers and motorists. Of the 8 selected viewpoints, the range of visual impact ratings were determined as follows:

- No viewpoints would have High visual impact
- No viewpoints would have High to Moderate visual impact
- One viewpoint would have Moderate visual impact
- Four viewpoints would have Moderate to Low visual impact
- Two viewpoints would have Low visual impact
- One viewpoint would have Low to Negligible visual impact.

The overall character of the proposal within the existing urban environment would remain largely intact. Due to the homogenous building typology of the junction, and the positioning of the proposal within landscape character zone 4, its development will align with the identity of the infrastructure zone.

Development of the proposal within the future, needs to consider the key mitigation strategies outlined in this report to ensure integration of the works into the surrounds, and most importantly to provide the most acceptable form to key stakeholders and viewers within Hornsby Junction.