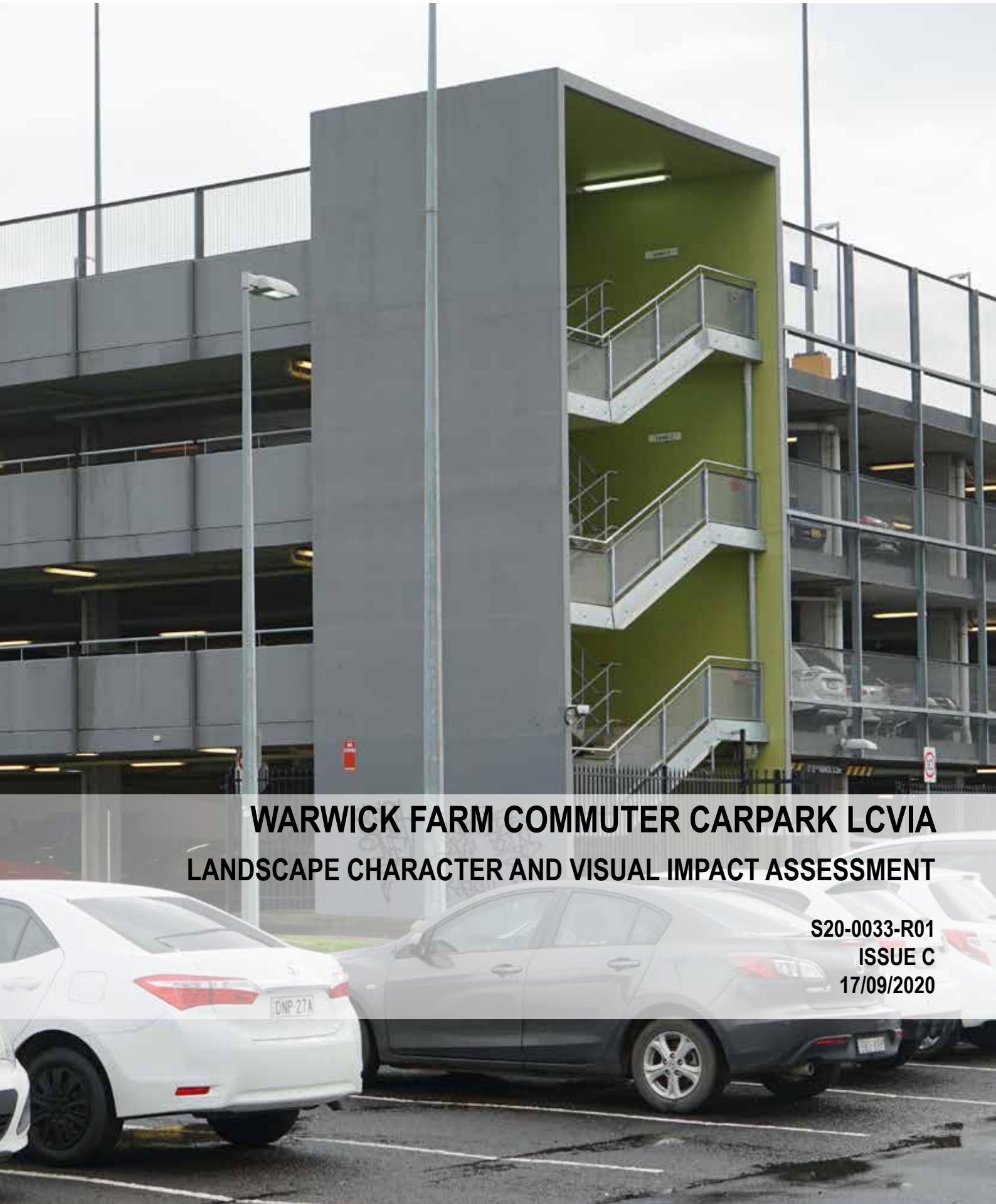




CLOUSTON associates



**WARWICK FARM COMMUTER CARPARK LCVIA
LANDSCAPE CHARACTER AND VISUAL IMPACT ASSESSMENT**

**S20-0033-R01
ISSUE C
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WARWICK FARM COMMUTER CARPARK LANDSCAPE CHARACTER AND VISUAL IMPACT ASSESSMENT



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EXECUTIVE SUMMARY

An LCVIA takes into account all effects of change and development in a visual scene that may impact visual amenity. It is concerned with how the surroundings of individuals or groups of people may be specifically affected by change in the visual scene, both quantitatively and qualitatively.

After undertaking a visual catchment assessment of the wider context of the site a number of suitable viewpoints were selected to analyse for visual impact. A range of viewpoints were selected surrounding the Proposal from public locations. The Proposal has a generally small visual catchment from most directions, which results in the viewpoints being in comparatively close proximity to the Proposal.

The selection of views for detailed evaluation later in this report has been based on the following sources:

- Visual assessment policy guidance in particular the NSW Land and Environment Court Planning Principles;
- Background documents;
- Desktop mapping;
- In field evaluation undertaken for this report.

The Proposal is to construct an additional two floors over the existing MSCP building within the Warwick Farm Station precinct to provide an additional 250 commuter car parking spaces with the total of 732 car park spaces.

Of the 8 viewpoints selected and analysed the findings are as follows:

- Three viewpoints received an impact rating of Low
- Three viewpoints received an impact rating of Moderate/Low
- One viewpoint received an impact rating of Moderate
- One viewpoint received an impact rating of High/Moderate.

A range of potential mitigation measures have been considered in order to reduce any visual impacts. After an analysis of the visual impacts the most appropriate form of mitigation to be considered would be additional tree planting in the surrounding vicinity as outlined in Chapter 8.0 - Mitigation Recommendations, however this is not considered essential for the Proposal to progress.

Given the overall limited visual impact of the Proposal to the surrounding area it is the professional opinion of the authors of this assessment that the visual impacts of the Proposal combined with the overall visual catchment are such that they would not constitute reasons to hinder planning approval on visual impact grounds.



PART A

existing conditions



1.0 Introduction



1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

CLOUSTON Associates has been commissioned to prepare the Landscape Character & Visual Impact Assessment (LCVIA) for the proposed Warwick Farm Commuter Car Park addition.

This LCVIA is one of a number of technical reports supporting the Environmental Impact Statement (EIS) for the Proposal.

1.2 VISUAL ASSESSMENT RATIONALE

An LCVIA takes into account all effects of change and development in a visual scene that may impact visual amenity. It is concerned with how the surroundings of individuals or groups of people may be specifically affected by change in the visual scene, both quantitatively and qualitatively.

Judgement as to the significance of the effects is arrived at by a process of reasoning, based upon analysis of the baseline conditions, identification of visual receptors (viewers of the scene) and assessment of their sensitivity, as well as the magnitude and nature of the changes that may result from any development.

This assessment is an independent report and is based on a professional analysis of the visual environment and the Proposal at the time of writing. The current and potential future viewers (visual receptors) have not been consulted about their perceptions. The analysis and conclusions are therefore based solely on a professional assessment of the anticipated impacts, based on a best practice methodology.

2.0 Methodology



2.0 METHODOLOGY

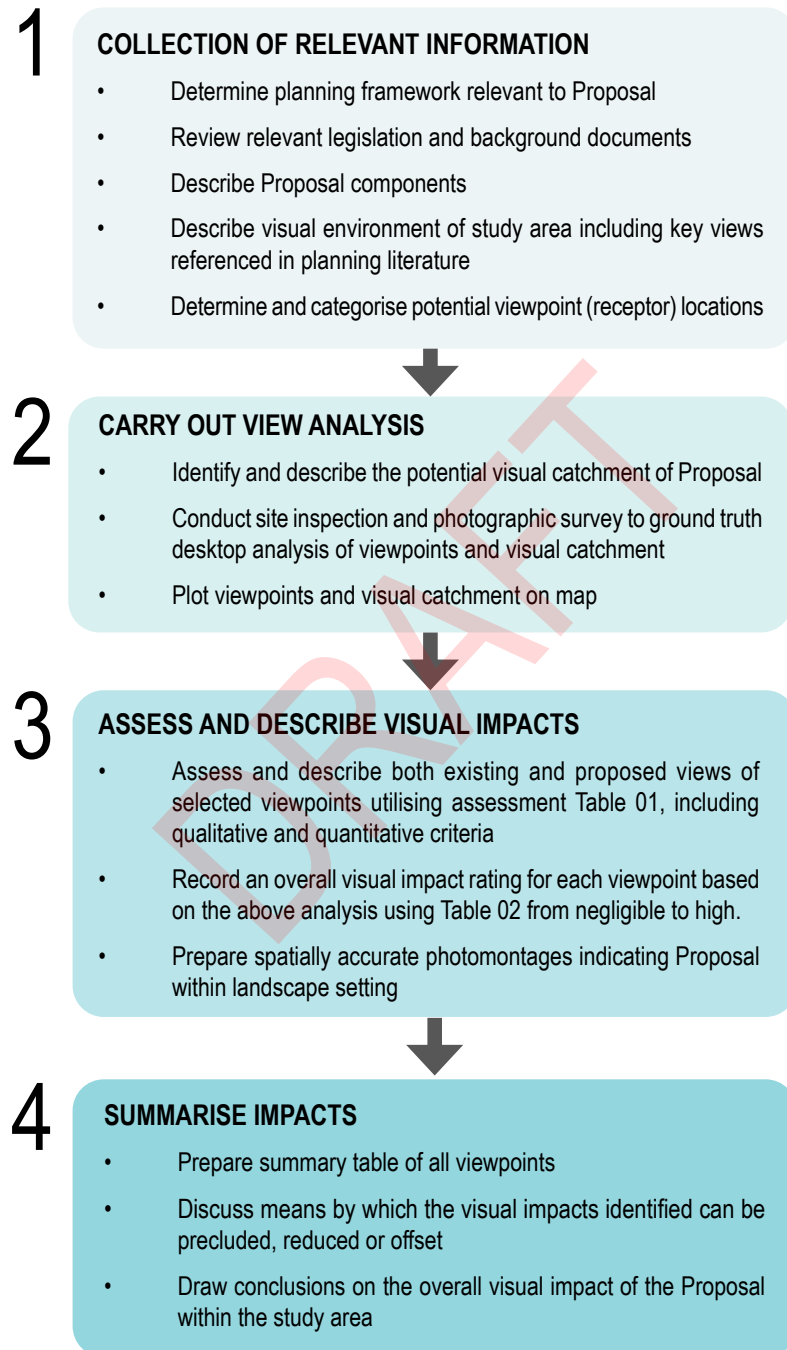


Figure 2.0 - Summary of CLOUSTON methodology.

2.0 METHODOLOGY

2.1 METHODOLOGY

Landscape Character and Visual Impact Assessment aims to ensure that all possible effects of change and development in the landscape, views and visual amenity are taken into account. It is concerned with how the surroundings of individuals or groups of people may be specifically affected by change in the landscape, both quantitatively and qualitatively.

The Commission of the NSW Land and Environment Court have developed Planning Principles that relate to visual impact assessment and have developed assessment steps to be followed:

Step 1: Identify the nature and scope of the existing views from the public domain. This identification should encompass (but is not limited to):

- the nature and extent of any existing obstruction of the view
- relevant compositional elements of the view (such as is it static or dynamic and, if dynamic, the nature and frequency of changes to the view)
- what might not be in the view – such as the absence of human structures in the outlook across a natural area
- is the change permanent or temporary
- what might be the curtilages of important elements within the view

Step 2: Identify the locations in the public domain from which the potentially interrupted view is enjoyed. (Note that the Planning Principles give primacy of views from the public domain over views from private land).

Step 3: Identify the extent of the obstruction at each relevant location.

Step 4: Identify the intensity of public use of those locations where that enjoyment will be obscured, in whole or in part, by the proposed development.

Step 5: Identify whether or not there is any document that identifies the importance of the view to be assessed. The absence of such provisions does not exclude a broad public interest consideration of impacts on public domain views. Heritage items (such as Aboriginal and environmental) should also be considered, as should direct impacts on the local community.

2.2 QUANTITATIVE AND QUALITATIVE VALUES

The visual experience of the area and its landscape setting varies depending on the viewer's standpoint within and outside the site and indeed from the viewer's personal perceptions of what they may appreciate in any given setting.

This requires an assessment to address both the quantitative characteristics of the landscape views (what elements form the scene? What features dominate? What breadth of view is offered – narrow vista or wide panorama?) and the qualitative assessment of the values ascribed to those scenes.

2.0 METHODOLOGY

The quantitative-based strategies are less debatable (can that view still be seen when the new built form is introduced? How much of that view will we lose?) than is establishing the qualitative strategies (which view is more important to retain?); the latter could be perceived differently by every viewer that sees that scene. Such variation of perception is particularly acute around the built form.

2.3 FIELD OF VIEW

The choice of lens, camera format and final presentation has a significant bearing on the understanding of site photos. There is a balance to be struck in seeking to replicate the human eye with respect to focal length, looking straight ahead and the experience of the view with its wider context, so that a project's appearance and its place within its environment can be recognised and understood.

In recognising that no photographic image can exactly replicate the view of the human eye, extensive literature has been published on the nearest equivalent combination of focal length and field of view of a camera that best emulates human vision.

Much of this literature is contradictory with a further complication to this process being the differing sensor formats of digital cameras which affect the apparent focal length and field of view.

It is important to note that the process of assigning visual impact ratings to viewpoints is undertaken during a site visit and is calculated from a human vision perspective on site. Photographic images should be considered to be representative only.

Viewpoint photos have been taken with a Sony Alpha ILCE-A7 II with the following specification:

- Body type: Compact
- Sensor size: 855.62mm² (35.80mm x 23.90mm)
- Sensor type: CMOS Full Frame
- ISO: Auto
- Focal length: 50mm

The use of a 50mm focal length and a full frame sensor is generally considered the closest achievable replication of the human eye view and is in line with the current guidelines of the Landscape Institute (UK).

2.4 ASSESSMENT METHODOLOGY

CLOUSTON Associates has developed a best practice methodology based on internationally accredited approaches and 20 years of experience in the field of visual assessment. There are several critical dimensions demonstrated through this assessment and evaluation:

- Ensuring all receptors (viewers) have been adequately identified, even at distance, with emphasis on public domain views
- Comprehensive evaluation of context to determine visual catchment of the site from these areas
- Being clear on and separately defining quantitative impacts (distance, magnitude,

2.0 METHODOLOGY

- Providing a clear rationale for how impacts are compared and contrasted
- Ensuring photomontages include views from the highest potential impact locations, identified from analysis above
- Being clear on the differing forms of mitigation options, namely avoidance, amelioration (eg design), mitigation (eg screening) and compensation (on or offsite)

2.5 ASSESSMENT PROCESS

The initial step involves the collection of relevant information regarding the Proposal, and its compatibility with the surrounding landscape. Desktop analysis is undertaken to determine the visual catchment of the Proposal and potential visual receivers through the use of mapping and topography analysis. Site visits are then undertaken to confirm the visual catchment and visual receivers.

The next step is to carry out a view analysis that identifies the potential visual catchment and areas from which the Proposal Site may be viewed. Viewpoints are analysed and defined into different categories and sensitivities in terms of their land use context and spatial relationship to the Proposal Site and the landscape in which they are located. A photographic inventory from identified key viewpoints is suggested, plotting the viewpoints on a map.

An evaluation matrix is then completed that summarises the full range of viewer situations identified, assessing the indicative contribution to potential visual impact of key factors for each selected viewpoint. The scores for these key factors are then averaged to determine a High, Moderate, Low or Negligible impact rating.

2.6 View Selection Criteria

The selection of views for detailed evaluation for the Proposal are based on the following sources:

- visual assessment policy guidance in particular the NSW Land and Environment Court Planning Principles;
- desktop mapping;
- in-field evaluation;
- SEARS requirements.

Informed by the above considerations, the selection criteria for views to be assessed in detail will include potentially impacted views from:

- the public domain (principally streets, parks and waterways)
- pedestrians and cyclists
- views and vistas identified within local planning documents
- close and direct views
- transport (private and public)
- distant and filtered views
- any impacted heritage areas or items.

2.0 METHODOLOGY

2.7 CHRONOLOGY OF ASSESSMENT

For this LC VIA the sequential assessment steps employed in determining the potential visual impact of the Proposal Site are as follows:

Stage 1:

Establishing the baseline – drawing on background documents and site investigation to document the existing landscape character and visual environment of the study area and its visual catchment. This leads to establishing the most significant views and vistas within and surrounding the Proposal Site.

Stage 2:

Visual Impact Assessment - assessment of the visual impacts of the Proposal Site set against the planning and design principles. This leads to determining any mitigation measures that may be required to reduce visual impacts from the preferred development option.

2.8 RATING SYSTEM

The overall visual impact rating of a project on any given viewpoint/visual receptor is based on themes of magnitude and sensitivity, recorded using a four band scoring system from negligible to high.

- Sensitivity: each visual receptor type has an inherent and varied sensitivity to change in the visual scene based on the personal context in which their view is being experienced (ie. At home, on the street, in a park etc). This sensitivity has a direct bearing on the perception of visual impact experienced by the receptor and qualifies the quantitative impacts
- Magnitude: a measure of the magnitude of the visual effects of the development within the landscape. A series of quantitative assessments are studied, including distance from development, quantum of view, period of view and scale of change
- Overall Impact Rating: The severity of these impacts is calculated using matrix Table 1 – based on a combination of magnitude and sensitivity.

	HIGH MAGNITUDE	MODERATE MAGNITUDE	LOW MAGNITUDE	NEGLECTIBLE MAGNITUDE
HIGH SENSITIVITY	HIGH	HIGH - MODERATE	MODERATE	NEGLECTIBLE
MODERATE SENSITIVITY	HIGH - MODERATE	MODERATE	MODERATE/ LOW	NEGLECTIBLE
LOW SENSITIVITY	MODERATE	MODERATE/LOW	LOW	NEGLECTIBLE
NEGLECTIBLE	NEGLECTIBLE	NEGLECTIBLE	NEGLECTIBLE	NEGLECTIBLE

Table 1: Visual Impact Rating as a combination of Sensitivity and Magnitude. Source: Environmental Impact Assessment Practice Note: Guideline for Landscape Character and Visual Impact Assessment (EIA-N04). Roads and Maritime Services.

2.0 METHODOLOGY

	FACTOR		NEGLECTIBLE	LOW IMPACT	MODERATE IMPACT	HIGH IMPACT
QUALITATIVE	Viewer Sensitivity	Each visual receptor type has an inherent and varied sensitivity to change in the visual scene based on the personal context in which their view is being experienced. This sensitivity has a direct bearing on the perception of visual impact experienced by the receptor and qualifies the quantitative impacts. Number of viewers also has a bearing on sensitivity. Viewpoints have a varied number of potential receivers depending on whether the viewpoint is public or private, the popularity of the viewing location and its ease of accessibility. Views from public reserves and open space are often given the highest weighting due to the increased number of viewers affected.	Vacant lot, uninhabited building, car park.	Minor roads, service providers.	Residential properties with limited views, commercial properties, scenic public roads (eg official tourist routes).	Public open space, public reserves, living areas or gardens/ balconies of residential properties with direct views of Project.
	Quantum of View	The quantum of view relates to the openness of the view and the receptor's angle of view to the scene. A development located in the direct line of sight has a higher impact than if it were located obliquely at the edge of the view. Whether the view of the Project is filtered by vegetation or built form also affects the impact, as does the nature of the view (panoramic, restricted etc.). A small element within a panoramic view has less impact than the same element within a restricted or narrow view.	Only a n insignificant part of the Project is discernible.	An oblique, highly filtered or largely obscured view of the Project or a view where the Project occupies a very small section of the view frame.	A direct view of the Project or its presence in a broader view where the Project occupies a moderate proportion of the view frame.	A direct view of the Project or its presence (sometimes in a very narrow or highly framed view), where the Project occupies the greater proportion of the view frame.
QUANTITATIVE	Distance of View	The effect the Project has on the view relating to the distance between the Project and the visual receptor. The distances are from the approximate boundary of the Project site.	Over 3000m	Viewing distance of between 1000-3000m.	Viewing distance between 100m and 1000m.	Viewing distance between 0 and 100m.
	Period of View	The length of time the visual receptor is exposed to the view. The duration of view affects the impact of the Project on the viewer - the longer the exposure the more detailed the impression of the proposed change in terms of visual impact.	Less than 1 second	1 to 10 seconds: often from a road or walking past.	1 to 5 minutes: usually from a road/ driveway entrance, walking past.	Significant part of the day: usually residential property.
	Scale of Change	Scale of change is a quantitative assessment of the change in compositional elements of the view. If the proposed development is largely similar in nature and scale to that of existing elements in the vicinity, the scale of change is low. If the development radically changes the nature or composition of the elements in the view, the scale of change is high. Distance from the development would accentuate or moderate the scale and variety of visible elements in the overall view and hence influence this rating.	Project barely discernible	Elements and composition of the view would remain largely unaltered.	Elements within the view would be at odds with existing features in the landscape	Elements within the view would greatly dominate existing features in the landscape

Table 2: Sensitivity and Magnitude Rating Criteria.

2.0 METHODOLOGY

LOCATION		• Viewpoint location
DISTANCE		• Distance to Project site boundary
RECEPTORS		• Description of viewers
NO. OF VIEWERS		• Number of viewers
EXISTING VIEW		• Description of current view
EXPECTED VISUAL IMPACT		
<div style="border: 1px solid black; height: 100px; width: 100%;"></div>		
• Description of expected view		

Receptor Type	Private	
Viewpoint Number	2	
Sensitivity rating of receptor	MODERATE	• Assessment matrix table
Magnitude - Distance	MODERATE	
Magnitude - Quantum of view	MODERATE	
Magnitude - Period of View	MODERATE	
Magnitude Scale of change	HIGH	
Overall Magnitude rating	MODERATE	
Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings)	MODERATE	• Overall visual impact rating

Table 3: Example of Assessment Format Before Mitigation Measures.

2.9 PHOTOMONTAGES

Virtual Ideas have produced spatially accurate photomontages in line with the NSW Land and Environment Court guidelines. One detailed, textured photomontage (Photomontage 1) has been produced. Photomontages 2-4 have been produced in order to show massing of the proposed extension from a number of angles and distances and are not textured or intended to be detailed. These are provided to show massing and scale only.

3.0 Planning Context



3.0 PLANNING CONTEXT

Outlined below is the planning context in relation to views and visual impact. A comprehensive overview of the planning context outside of views and visual impact can be found in the Environmental Impact Statement (EIS).

3.1 THE LAND & ENVIRONMENT COURT PLANNING PRINCIPLES

The Land and Environment Court of New South Wales was established in 1980 by the Land and Environment Court Act 1979. Relevant principles have been developed in visual assessment case judgments to guide future decision-making in development appeals. These include separate but related principles for private and public domain views.

The principles set out a process for assessing the acceptability of impact. The two most relevant cases to this site are:

- Private views - *Tenacity Consulting v Warringah Council* (2004)
- Public domain views - *Rose Bay Marina Pty Limited v Woollahra Municipal Council* (2013)

Planning Principle for Private views - *Tenacity Consulting v Warringah Council* (2004)

The key points from this principle include:

Assessment of views to be affected

- Water views are valued more highly than land views.
- Iconic views (eg of the Opera House, the Harbour Bridge or North Head) are valued more highly than views without icons.
- Whole views are valued more highly than partial views, e.g. a water view in which the interface between land and water is visible is more valuable than one in which it is obscured.

What part of the property the views are obtained

- The protection of views across side boundaries is more difficult than the protection of views from front and rear boundaries.
- Sitting views are more difficult to protect than standing views.

Extent of the impact

- The impact on views from living areas is more significant than from bedrooms or service areas.
- It is usually more useful to assess the view loss qualitatively as negligible, minor, moderate, severe or devastating.

Reasonableness of the proposal

- With a complying proposal, the question should be asked whether a more skilful design could provide the applicant with the same development potential and amenity and reduce the impact on the views of neighbours. If the answer to that question is no, then the view impact of a complying development would probably be considered acceptable and the view sharing reasonable.

3.0 PLANNING CONTEXT

Planning Principle for Public domain views - Rose Bay Marina Pty Limited v Woollahra Municipal Council (2013)

The assessment process from this principle includes:

Identification Stage

Identify the nature and scope of the existing views from the public domain:

- the nature and extent of any existing obstruction of the view
- relevant compositional elements of the view
- what might not be in the view - such as the absence of human structures in the outlook across a natural area
- is the change permanent or temporary.

This is followed by identifying the locations in the public domain from which the potentially interrupted view is enjoyed and the extent of obstruction at each relevant location. The intensity of use of this locations is also to be recorded. Finally, the existence of any documents that identifies the importance of the view - ie. international, national, state or local heritage recognition is ascertained.

Analysis of impacts

- The analysis required of a particular development proposal's public domain view impact is both quantitative as well as qualitative.
- A quantitative evaluation of a view requires an assessment of the extent of the present view, the compositional elements within it and the extent to which the view will be obstructed by or have new elements inserted into it by the proposed development.
- In the absence of any planning document objective/aim, the fundamental quantitative question is whether the view that will remain after the development (if permitted) is still sufficient to understand and appreciate the nature of and attractive or significant elements within the presently unobstructed or partially obstructed view. If the view remaining (if the development were to be approved) will be sufficient to understand and appreciate the nature of the existing view, the fundamental quantitative question is likely to be satisfied.
- The outcome of a qualitative assessment will necessarily be subjective. However, although beauty is inevitably in the eye of the beholder, the framework for how an assessment is undertaken must be clearly articulated. Any qualitative assessment must set out the factors taken into account and the weight attached to them. Whilst minds may differ on outcomes of such an assessment, there should not be issues arising concerning the rigour of the process.
- As with Tenacity, a high value is to be placed on what may be regarded as iconic views (major landmarks or physical features such as land/water interfaces).

Other factors to be considered in undertaking a qualitative assessment of a public domain view impact include:

- Is any significance attached to the view likely to be altered?
- If so, who or what organisation has attributed that significance and why have they done so?
- Is the present view regarded as desirable and would the change make it less

3.0 PLANNING CONTEXT

so (and why)?

- Should any change to whether the view is a static or dynamic one be regarded as positive or negative and why?
- If the present view attracts the public to specific locations, why and how will that attraction be impacted?
- Is any present obstruction of the view so extensive as to render preservation of the existing view merely tokenistic?
- However, on the other hand, if the present obstruction of the view is extensive, does that which remains nonetheless warrant preservation (it may retain all or part of an iconic feature, for example)?
- If the change to the view is its alteration by the insertion of some new element(s), how does that alter the nature of the present view?

The principles established by the Court from both cases have been integrated into the approach adopted for this evaluation.

4.0 Landscape Character and Visual Environment



4.0 LANDSCAPE CHARACTER AND VISUAL ENVIRONMENT

Landscape character is a combination of distinctive qualities of a certain area including readily identifiable elements such as landform, vegetation cover, built-form and architecture, as well as history, seasonal changes, human culture, urban grain, wildlife and land use. Together these elements produce a distinctive character that influences how the landscape is perceived and valued by the community.

4.1 WIDER SURROUNDING LANDSCAPE

The suburb of Warwick Farm is located within the Liverpool local government area (LGA), approximately 30km west of Sydney CBD. Warwick Farm is bounded by Cabramatta to the north, Liverpool to the west, Moorebank to the south and Chipping Norton to the east.

The Liverpool City Council area is one of the largest Local Government Areas in metropolitan Sydney and encompasses a total land area of 305 square kilometres and 42 suburbs, with a population of 223,304.

4.2 CLIMATE

The Liverpool LGA (and Western Sydney as a whole) has a climate which varies from the rest of the Sydney Metropolitan Region and is generally a few degrees warmer than the Sydney CBD.

4.3 TOPOGRAPHY

The topography of the Liverpool LGA is predominantly flat, with the exception being Georges River which separates the urban areas of Liverpool and Moorebank and bounds the suburbs of Hammondville, Voyager Point, Chipping Norton, Casula and Pleasure Point. Vistas can be viewed from elevated open space in Miller, West Hoxton, Lurnea, and Cecil Hills towards Sydney CBD.

4.4 COMMERCIAL AND INDUSTRIAL LAND USE

To the south and south-west of the site is Liverpool town centre as well as general industrial land. The main shopping area is centred on Macquarie Street, with Westfield Liverpool at the northern end anchoring the major shopping area.

The southern end of the city is zoned for high density commercial developments. Liverpool has a large teaching hospital, two technical colleges and many shopping centres and office buildings.

4.5 RESIDENTIAL HOUSING

A mixture of housing densities surround the site, with low density to the east, medium density to the north and north-east and high density to the west. The high density housing directly opposite the site on Hart Street is comprised of 4 level brick buildings which continue southwards down the street, with a few buildings of plaster facade located near the end of the street.

4.6 HERITAGE

Remembrance Avenue and Hart Street (directly surrounding the existing MSCP) and Drummond Street (two blocks to the west) form part of the early town centre grid layout and are listed as local heritage items.

Berryman Reserve to the north of the site is listed as a local landscape heritage item with a number of stone monuments with commemorative bronze engraved plaques at the northwestern extent of the reserve.

4.0 LANDSCAPE CHARACTER AND VISUAL ENVIRONMENT



Figure 4.0: Land Use & Built Form. Commuter Car Park Program Urban Design Warwick Farm



Figure 4.1: General Industrial to the South-East of the Proposal Site.

4.0 LANDSCAPE CHARACTER AND VISUAL ENVIRONMENT



Figure 4.2: Low Density Residential to the East of the Proposal Site.



Figure 4.3: Open Recreational Space.



Figure 4.4: High Density Residential to the West of the Proposal Site.

5.0 Visual Catchment Analysis and Viewpoint Selection



5.0 VISUAL CATCHMENT ANALYSIS AND VIEWPOINT SELECTION

EXISTING VISUAL CATCHMENT

This desktop topography study is sourced from Google Earth and is limited to an estimated viewshed based on topography only, without taking into account vegetation or building heights. This analysis has been used as a guide only, while significant ground studies have been conducted in and around the site to ascertain the key locations from which the proposal would potentially be visible.

BASIS OF SELECTION

The selection of views for detailed evaluation later in this report has been based on the following sources:

- Visual assessment policy guidance in particular the NSW Land and Environment Court Planning Principles;
- Background documents;
- Desktop mapping;
- In field evaluation undertaken for this report.



Figure 5.0 - Surrounding viewshed.

■ Potential viewshed based on topography only.

□ Proposal site.



5.0 VISUAL CATCHMENT ANALYSIS AND VIEWPOINT SELECTION

Based on the foregoing selection criteria this section maps 8 views of the site from a variety of close and more distant viewpoints.



Figure 5.1 - Viewpoint Locations.



PART B

visual impact assessment

xxxxxxx



6.0 The Site



XXXXX

6.0 THE SITE

6.1 SITE CHARACTERISTICS

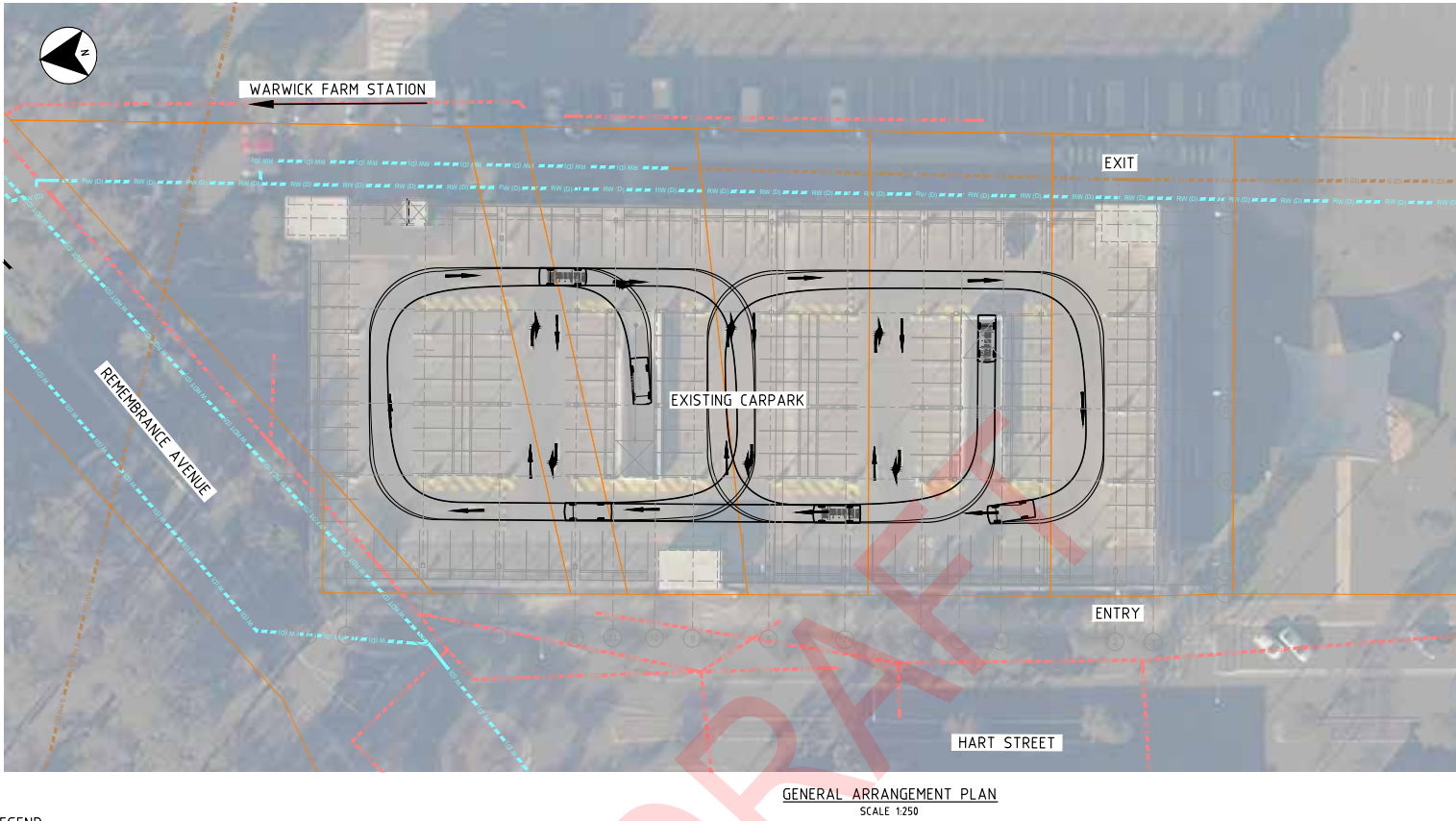
The existing multi-storey car park site at Warwick Farm is located within a RE1 Public Recreation zone, with the sites around the station and car park consisting of R2 Low Density, R3 Medium Density and R4 High Density Residential zones. IN1 General Industrial and B5 Business Development zones are also located to the north-east and south-east of the station.

There currently is a substantial number of on-street parking spaces along streets parallel to the station. The existing multi-storey car park was completed in 2011 and sits south-west of the station.

To the north and south of the existing car park is open space consisting of Berryman Reserve (north) and Hart Park (south) which has public exercise equipment and a playground in the northern end of the park.

Mature trees are located on the western and northern edge of the car park which filter views of the existing structure. The eastern edge of the existing structure has only one large tree near the northern end resulting in the eastern facade being more visible.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



- LEGEND
- PROPERTY BOUNDARY
 - VEHICLE AND TURN PATH CONTROL LINE
 - EXISTING UG WATER (QUALITY 'D')
 - EXISTING UG LP GAS (QUALITY 'D')
 - EXISTING UG ELECTRICAL HV (QUALITY 'D')
 - EXISTING UG ELECTRICAL (QUALITY 'D')
 - EXISTING UG COMMS (QUALITY 'D')
 - EXISTING UG SEWER (QUALITY 'D')
 - EXISTING UG STORMWATER (QUALITY 'D')
 - EXISTING PIT UTILITIES ASSET LABEL - REFER TO DESIGN REPORT FOR FURTHER INFORMATION
 - SWXX

Figure 7.0: General Arrangement Plan.

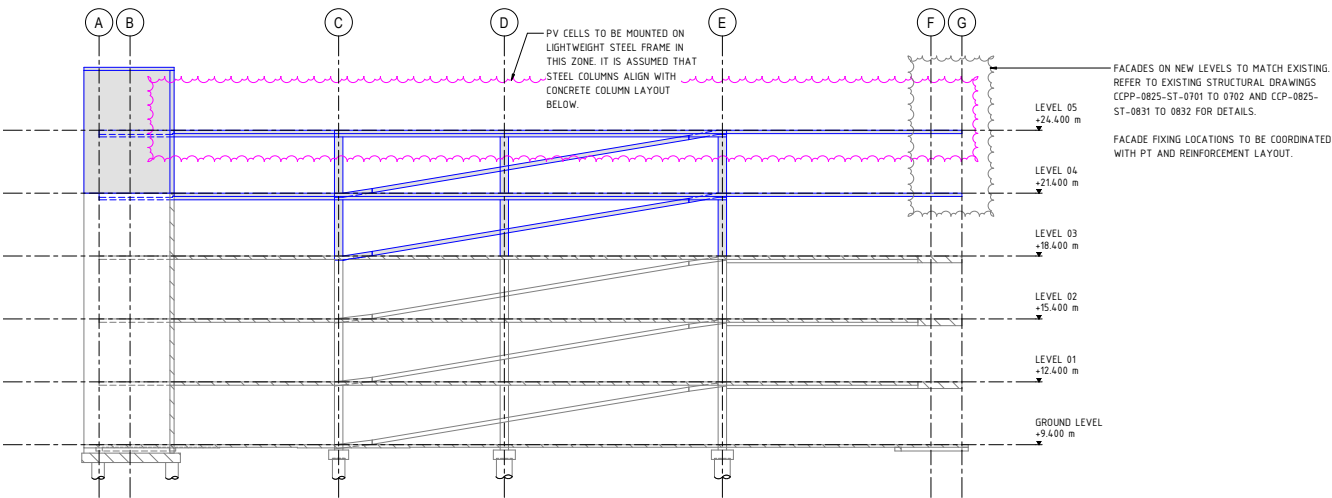


Figure 7.1: Section A.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS

7.1 PROJECT SUMMARY

The NSW Government has committed to the provision of up to an additional 250 commuter car spaces at Warwick Farm. TfNSW and FutureRail have investigated a long-list of site alternatives by utilising a Site Evaluation Framework to develop, evaluate and identify preferred CCP sites.

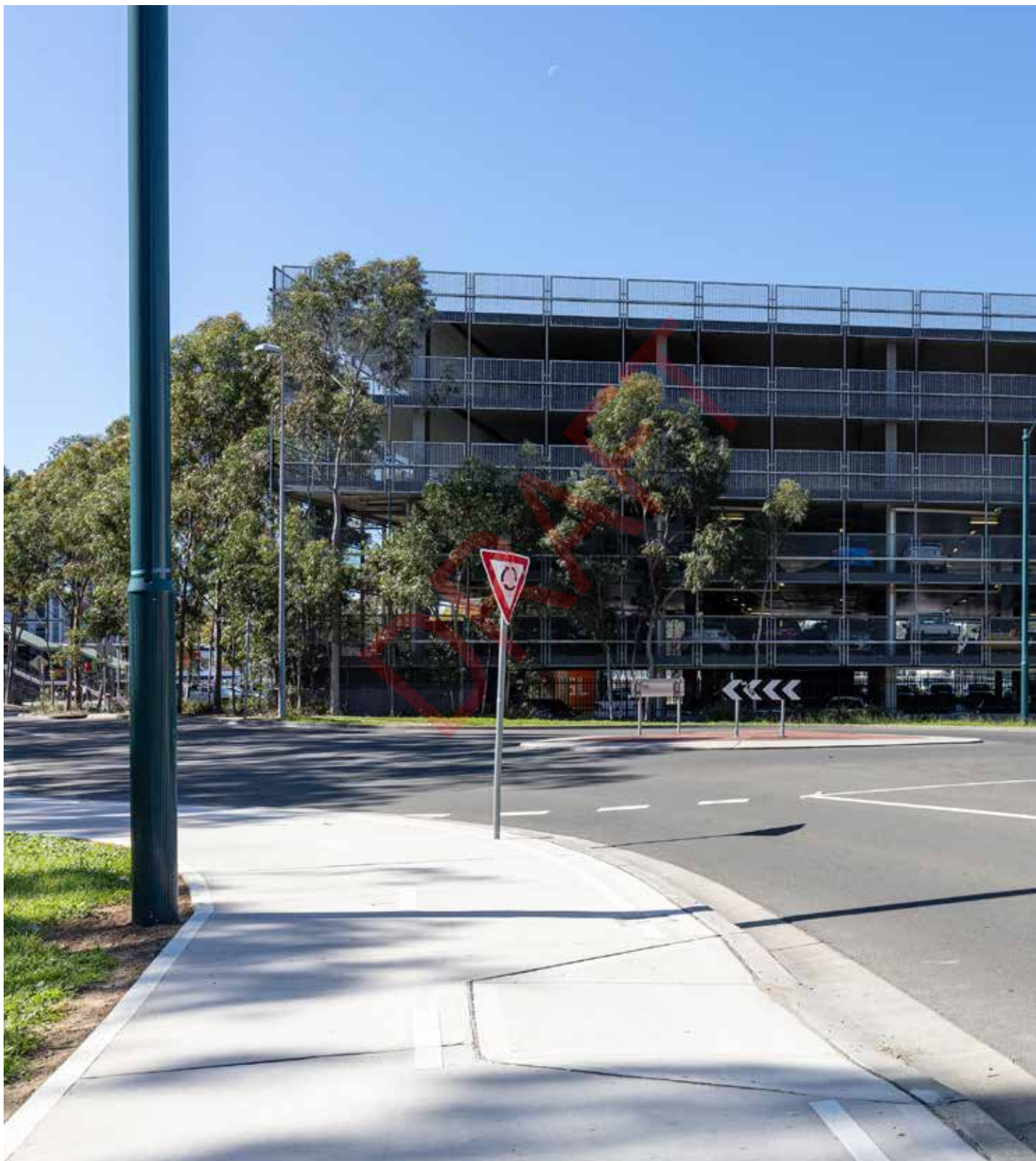
TfNSW investigated two alternate sites at Warwick Farm, and this was carried forward to the Multi-criteria Analysis (MCA). The preferred site at Warwick Farm is the existing multi-storey commuter car park to the west of the station.

The Proposal is to construct an additional two floors over the existing MSCP building within the Warwick Farm Station precinct to provide an additional 250 commuter car parking spaces with the total of 732 car park spaces.

In order to construct the additional levels a number of trees on the western and northern boundaries would be trimmed or removed to enable scaffolding to be erected. These will be offset elsewhere (determined during detailed design).

DRAFT

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Photomontage 1 Textured Model (corresponds to Viewpoint 1).



7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Photomontage 2 Massing Model (corresponds to Viewpoint 2).



7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Photomontage 3 Massing Model (corresponds to Viewpoint 3).



7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Photomontage 4 Massing Model (corresponds to Viewpoint 4).



7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS

VIEWPOINT 1

LOCATION	Footpath adjacent to Berryman Reserve
DISTANCE	30m
RECEPTORS	Public
NO. OF VIEWERS	Moderate
EXISTING VIEW	The existing multi-storey car park dominates the view from this location. Mature tree planting can be seen surrounding the car park filtering elements of the car park, however the overall structure remains highly visible. The foreground and mid-ground of the view is comprised of Remembrance Ave and Hart Street, with a roundabout linking the two visible.

EXPECTED VISUAL IMPACT
The addition of two further levels of parking will be highly visible from this location given the length of the facade. This will result in a portion of open sky views above the current structure being replaced by the multi-storey car park which will correspondingly increase the level of built-form perception from this location.
Although not an insignificant increase in vertical height, the extension is comprised of elements already present within the visual scene (car park levels) which visual receivers in the area are already familiar with which help lessen the visual impact as opposed to an entirely new structure being proposed.

Receptor Type	Public
Viewpoint Number	6
Sensitivity rating of receptor	MODERATE
Magnitude - Distance	HIGH
Magnitude - Quantum of view	HIGH
Magnitude - Period of View	LOW
Magnitude Scale of change	MODERATE
Overall Magnitude rating	MODERATE
Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings)	MODERATE



Viewpoint Location.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Existing View.



Massing Photomontage View of Proposal.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS

VIEWPOINT 2

LOCATION	Hart Park Playground
DISTANCE	60m
RECEPTORS	Park Users
NO. OF VIEWERS	Moderate
EXISTING VIEW	The immediate foreground is comprised of open grass areas of Hart Park with sporadic tree planting throughout. In the centre can be seen the northern exercise area in close proximity to the existing multi-storey car park. The existing car park forms a solid visual barrier obstructing any long distance views.

EXPECTED VISUAL IMPACT
The addition of two further levels will significantly increase the level of built form in the view from this location as a result of its proximity to the multi-storey car park. Some open sky views will be replaced by built-form, which may slightly increase shading around the recreational open space immediately to the south of the car park (where the exercise area is visible) during certain parts of the day. Although users of Hart Park would be familiar with the existing car park structure, increasing the height of the structure would have more of a visual impact from this location as it is a local recreational open space.

Receptor Type	Public
Viewpoint Number	2
Sensitivity rating of receptor	HIGH
Magnitude - Distance	HIGH
Magnitude - Quantum of view	MODERATE
Magnitude - Period of View	MODERATE
Magnitude Scale of change	MODERATE
Overall Magnitude rating	MODERATE
Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings)	HIGH/MODERATE



Viewpoint Location.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Existing View.



Massing Photomontage View of Proposal.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS

VIEWPOINT 3

LOCATION	Footpath outside of 5 Hart St
DISTANCE	70m
RECEPTORS	Footpath and road users
NO. OF VIEWERS	Moderate
EXISTING VIEW	The majority of the view is dominated by built elements such as the existing multi-storey car park and Hart Street, with limited mature vegetation in the form of individual median strip tree planting. To the left of the view can be seen a small area of grass within Hart Park. The existing multi-storey car park prevents any long distance views from this location.

EXPECTED VISUAL IMPACT
A noticeable vertical extension to the existing multi-storey car park will be possible from this location. Largely open sky views currently visible above the car park will be replaced by a further two levels of parking, resulting in an increase in the perception of built-form in the area. Although not an insignificant increase in vertical height, the extension is comprised of elements already present within the visual scene (car park levels) which visual receivers in the area are already familiar with which help lessen the visual impact as opposed to an entirely new structure being proposed.

Receptor Type	Public
Viewpoint Number	3
Sensitivity rating of receptor	LOW
Magnitude - Distance	HIGH
Magnitude - Quantum of view	MODERATE
Magnitude - Period of View	LOW
Magnitude Scale of change	MODERATE
Overall Magnitude rating	MODERATE
Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings)	MODERATE/LOW



Viewpoint Location.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Existing View.



Massing Photomontage View of Proposal.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS

VIEWPOINT 4

LOCATION	Pedestrian footpath - Hume Highway
DISTANCE	205m
RECEPTORS	Footpath users
NO. OF VIEWERS	High
EXISTING VIEW	The existing view is almost completely comprised of elements related to the train station, including the station itself and rail line to the left of the view, at grade parking in the centre and the existing multi-storey car park partially visible in the distance. The grouping of trees at the car park entrance largely obscure the multi-storey car park from this location, however it does become more visible as it recedes into the distance. To the right of the view can be seen a grassed area and vegetation within Berryman Reserve.

EXPECTED VISUAL IMPACT

Views of the extension will be largely obstructed primarily as a result of the grouping of mature trees at the northern car park entrance, however the upper levels will be partially visible through gaps within this vegetation. The vertical extension will be more visible towards the southern end of the site as a result of no significant trees providing filtered views in this area, however given the oblique angle of the view from this location the view is limited.

Receptor Type	Public
Viewpoint Number	7
Sensitivity rating of receptor	LOW
Magnitude - Distance	MODERATE
Magnitude - Quantum of view	LOW
Magnitude - Period of View	LOW
Magnitude Scale of change	LOW
Overall Magnitude rating	LOW
Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings)	LOW



Viewpoint Location.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Existing View.



Massing Photomontage View of Proposal.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS

VIEWPOINT 5

LOCATION	Footpath on 13 Hart St
DISTANCE	155m
RECEPTORS	Footpath users
NO. OF VIEWERS	Moderate
EXISTING VIEW	The most dominant element of the visual scene is the on street parking on both sides of Hart Street. Mature vegetation on the western side of Hart Street as well as in the median strip create highly filtered views of the existing multi-storey car park, with the majority of it obscured from this location.

EXPECTED VISUAL IMPACT
As a result of the level of vegetation to the left of the view and from within the median strip of Hart Street, the addition of two further levels of parking will be highly filtered from this location. The centre of the view above the current structure will be replaced by built-form resulting in a reduction of sky views, however as a result of the mature vegetation this will be highly filtered, limiting its visual impact.

Receptor Type	Public
Viewpoint Number	4
Sensitivity rating of receptor	LOW
Magnitude - Distance	MODERATE
Magnitude - Quantum of view	LOW
Magnitude - Period of View	LOW
Magnitude Scale of change	LOW
Overall Magnitude rating	LOW
Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings)	LOW



Viewpoint Location.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Existing View.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS

VIEWPOINT 6

LOCATION	Footpath intersection at Lachlan St and Hart St
DISTANCE	220m
RECEPTORS	Footpath users
NO. OF VIEWERS	Moderate
EXISTING VIEW	Mature trees within the median strip form a largely consistent 'green band' within the view. This is further reinforced by trees on the western side of Hart Street. Highly filtered views of the existing multi-storey car park can be seen in the distance, however the majority of the car park is obscured. On street parking on both sides of Hart Street can be seen in the centre of the view.

EXPECTED VISUAL IMPACT

The addition of two further levels of parking will be highly filtered from this location as a result of tree planting within the median strip of Hart Street. Although an increase in vertical height will be perceptible, this is mitigated to a degree by a combination of distance and the filtering effect of the vegetation.

Receptor Type	Public
Viewpoint Number	5
Sensitivity rating of receptor	LOW
Magnitude - Distance	MODERATE
Magnitude - Quantum of view	LOW
Magnitude - Period of View	LOW
Magnitude Scale of change	LOW
Overall Magnitude rating	LOW
Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings)	LOW



Viewpoint Location.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Existing View.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS

VIEWPOINT 7

LOCATION	Pedestrian crossing in eastern at grade car park
DISTANCE	40m
RECEPTORS	Car park users
NO. OF VIEWERS	Moderate
EXISTING VIEW	The view is dominated by built elements, most noticeable of which is the existing multi-storey car park. In the foreground can be seen at grade parking located on the eastern side of the multi-storey car park. To the left of the view can be seen the open grass area of Hart Park.

EXPECTED VISUAL IMPACT
The addition of two further levels of parking will form a noticeable addition to the existing structure and significantly increase the level of built-form visible from this location. As a result, a significant portion of visible open sky will be lost. However, given that the additional parking is an extension of the existing structure as opposed to a new car park, people from this viewpoint (and surrounding area) would already be familiar with, and used to the multi-storey car park which helps to mitigate the vertical extension of the car park to a certain degree as it is not out of place with existing elements of the view scene.

Receptor Type	Public
Viewpoint Number	1
Sensitivity rating of receptor	LOW
Magnitude - Distance	HIGH
Magnitude - Quantum of view	HIGH
Magnitude - Period of View	LOW
Magnitude Scale of change	MODERATE
Overall Magnitude rating	MODERATE
Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings)	MODERATE/LOW



Viewpoint Location.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Existing View.

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7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS

VIEWPOINT 8

LOCATION	Warwick St Car Park
DISTANCE	80m
RECEPTORS	Car park users
NO. OF VIEWERS	Moderate
EXISTING VIEW	The foreground of the view is comprised of the at grade car park on the eastern side of the rail line. Fencing separates the parking from the rail line and the elevated platforms of Warwick Farm Station. Beyond this can be seen the upper levels of the existing multi-storey car park.

EXPECTED VISUAL IMPACT

The addition of two further levels of parking from this location will be noticeable even though much of the existing view is comprised of built elements of the station which largely obstruct or highly filter views of the current car park. The additional levels will be visible above the station infrastructure which will result in a new band of built-form replacing relatively open sky views. Although not an insignificant addition of built-form to the view, much of the existing view is occupied by the station and car park to a lesser degree in the distance, meaning that users of the car park are already highly familiar with built-form elements associated with the station.

Receptor Type	Public
Viewpoint Number	8
Sensitivity rating of receptor	LOW
Magnitude - Distance	HIGH
Magnitude - Quantum of view	MODERATE
Magnitude - Period of View	LOW
Magnitude Scale of change	MODERATE
Overall Magnitude rating	MODERATE
Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings)	MODERATE/LOW



Viewpoint Location.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Existing View.



7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS

VIEWPOINT LOCATIONS	RECEPTOR SENSITIVITY	MAGNITUDE					IMPACT RATING
		DISTANCE	QUANTUM OF VIEW	PERIOD OF VIEW	SCALE OF CHANGE	OVERALL MAGNITUDE RATING	
1. Footpath adjacent to Berryman Reserve	M	H	H	L	M	M	MODERATE
2. Hart Park Playground	H	H	M	M	M	M	HIGH/MODERATE
3. Footpath outside of 5 Hart Street	L	H	M	L	M	M	MODERATE/LOW
4. Pedestrian footpath - Hume Highway	L	M	L	L	L	L	LOW
5. Footpath on 13 Hart St	L	M	L	L	L	L	LOW
6. Footpath intersection at Lachlan St and Hart St	L	M	L	L	L	L	LOW
7. Pedestrian crossing in eastern at grade car park	L	H	H	L	M	M	MODERATE/LOW
8. Warwick Street Car Park	L	H	M	L	M	M	MODERATE/LOW

Table 7.0: Summary of visual impacts of the Project across the study area.

7.1 VISUAL IMPACT SUMMARY

The visual impacts of the Proposal on the studied viewpoints range from Low to High/Moderate.

- Three viewpoints received an impact rating of Low
- Three viewpoints received an impact rating of Moderate/Low
- One viewpoint received an impact rating of Moderate
- One viewpoint received an impact rating of High/Moderate

8.0 Mitigation recommendations



8.0 MITIGATION RECOMMENDATIONS

8.1 APPROACHES TO MITIGATION

There are typically five broad approaches to mitigating the visual impacts of any change to a scene that entails built form development. These are through:

- **Avoidance** – where the visual impact of the proposal is deemed of a scale that cannot be mitigated by any of the approaches outlined below, this approach implies relocating the proposal elsewhere on the site with lesser visual impacts or not proceeding with the proposal on the site at all
- **Reduction** – typically this approach seeks to mitigate impacts through the reduction of some part of the proposed structure or development (ie. reduced height or omission of parts of the built structure/s)
- **Alleviation** – this approach entails design refinements to the proposal to mitigate visual impacts. These refinements might typically include built form articulation, choice of material and colours and/or planting design
- **Off-site Compensation** – where none of the above approaches will provide adequate visual impact mitigation for off site visual receptors, this approach entails off site works on the land from which the viewpoint is experienced (eg screening close to the viewpoint), usually carried out with the agreement of the affected landowner.
- **Management** – in this approach the mitigation response typically entails an operational or management action such as construction management.

Set out below are the relevant responses to these approaches with respect to the Proposal.

8.2 RECOMMENDED MITIGATION

Avoidance

Given the nature of the Proposal (an extension to the existing multi-storey car park structure) 'Avoidance' is not considered an option. If a new parking structure was provided within the vicinity of the station it would be anticipated that this would most likely have more of a significant visual impact on the surrounding area than the Proposal.

Reduction

Two additional levels of parking have been proposed for the existing multi-storey car park. A reduction in proposed levels would have an impact on the visual impact effects caused by the vertical extension of the car park, however any reduction in levels would have a corresponding impact on parking spaces provided. This would lead to whether the Proposal as a whole was achieving desired outcomes in terms of providing additional parking to service greater demand. As a result 'Reduction' is not considered an appropriate form of mitigation due to the impact it would have on delivering the Proposals aims.

Alleviation

Mature trees are present on the western and northern edges of the existing parking structure, however on the southern and particularly eastern edges is limited. Opportunities to increase planting within Hart Park and on the eastern edge of the car park could help to filter views of the car park once additional planting reaches maturity, however this is



8.0 MITIGATION RECOMMENDATIONS

not considered necessary and would have only a limited impact of the visual accessibility of the proposal.

Similarly, the addition of further tree planting to the median strip of Hart Street and footpath verge on the western edge of the street could further help to filter views of the car park within the immediate vicinity but is not considered necessary for the Proposal. 'Alleviation' is considered the most appropriate form of mitigation for the Proposal only if residents in the immediate vicinity specifically request mitigation options to further filter views of the car park.

Off-site compensation

As previously mentioned, while providing off-site compensation through additional planting within Hart Street could provide filtered views of the Proposal for a limited number of receivers, it is not considered necessary and should only be explored in detailed design if residents within the immediate surrounding area specifically requested the exploration of mitigation measures to further filter views.

Management

An appropriate Construction Environmental Management Plan (CEMP) should be prepared for the construction phase of the Proposal by the responsible construction contractor which outlines management measures for environmental impacts including impacts on sensitive receivers.

8.3 CONSTRUCTION IMPACTS

The Proposal will involve a construction phase with associated additional temporary visual impacts. The following activities are likely to occur:

- clearing of vegetation
- setting up of site compounds
- stockpiling
- site fencing
- increased site traffic including heavy vehicles

During the construction period, many viewpoints studied within this report are likely to have increased visual impacts. Views of site compounds, storage areas and increased site traffic (including trucks) will lead to a reduction in visual amenity.

Impacts will reduce as viewing distance and screening vegetation increase. Furthermore these visual impacts will be of a temporary nature and will reduce for all viewpoints once the Proposal is complete and the construction areas made good.

9.0 Conclusion



9.0 CONCLUSION

9.1 FINDINGS

A comprehensive visual impact assessment of the Proposal on the surrounding area has been conducted.

The study has identified and evaluated the existing visual environment, key views and view types before progressing to an assessment of quantitative and qualitative criteria using best practice methodology. A number of mitigation measures have also been proposed to reduce visual impacts of the Proposal to the surrounding area.

9.2 SUMMARY OF FINDINGS

Overall, the following conclusions can be drawn on the Proposal's impacts to visual amenity within the study area:

- the visual catchment of the Proposal is highly limited, and is generally restricted to the immediate area surrounding the existing car park structure;
- mature trees (particularly to the west and north of the existing car park) filter views of the existing car park and help break up what would be a continuous built facade if not present, and will play a similar role in helping to mitigate the proposed addition to the car park;
- the Proposal will be visually accessible from two public recreation spaces in close proximity to the existing car park (Berryman Reserve & Hart Park) which have recorded the highest visual impacts (High/Moderate) as a result of viewer sensitivity within recreational spaces;
- the Proposal is an extension of the existing multi-storey car park as opposed to an entirely new structure which helps to mitigate the impact of the Proposal given peoples familiarity with the existing structure

9.3 CONCLUSIONS

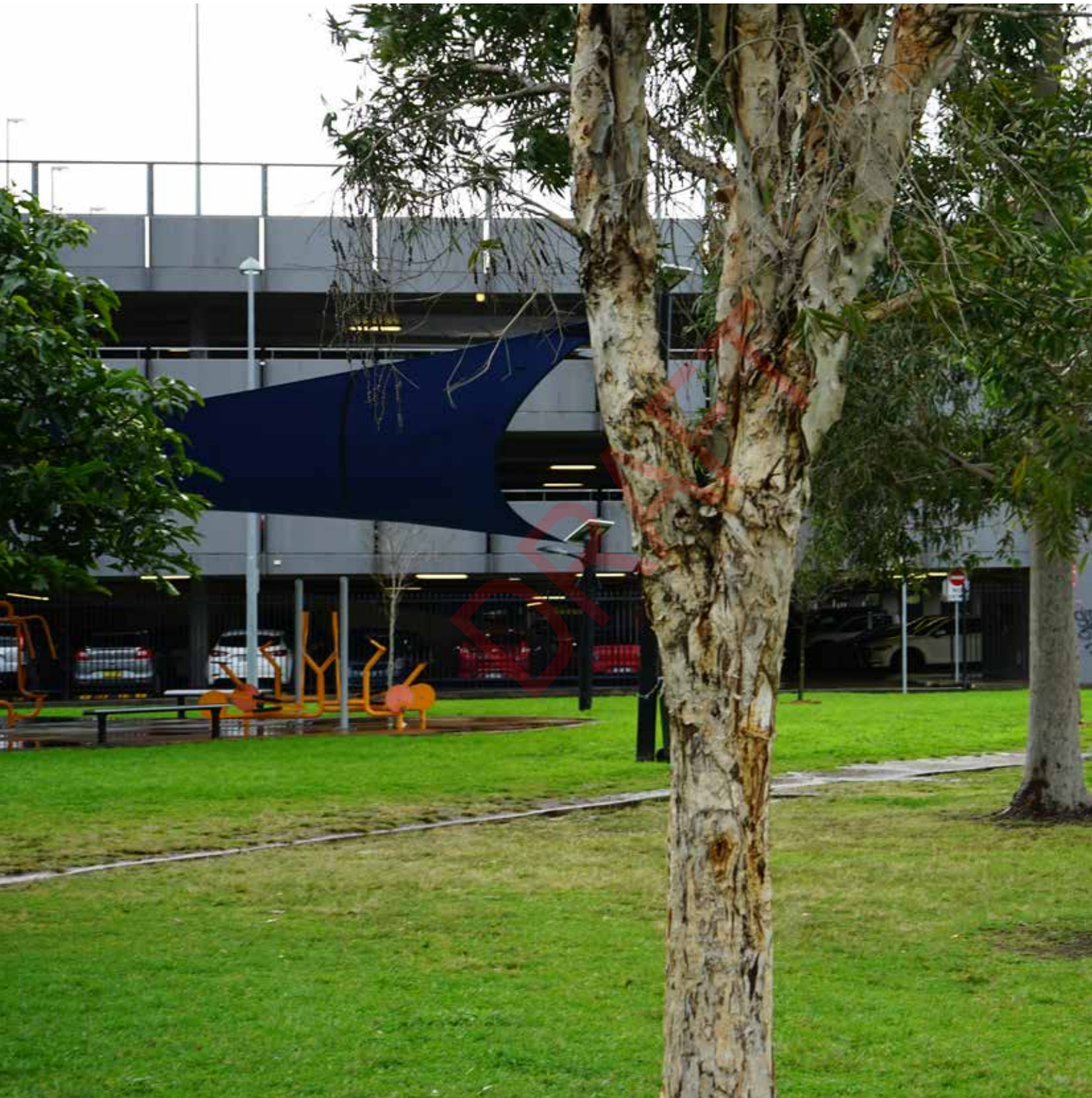
This LCVIA employs a rigorous, best practice methodology to identify levels of visual impacts and potential mitigation measures, based on a professional evaluation.

Whilst it is acknowledged that the perceived visual impact of the Proposal will vary from viewer to viewer, the methodology used to evaluate visual impact in this instance is informed by internationally accredited approaches and the author's 20 years of experience in the field of visual impact.

This methodology takes into consideration the local context and references both international standards and local legislations, policy and Land and Environment Court principles.

Of the 8 viewpoints selected and analysed the findings are as follows:

- Three viewpoints have a **low** rating;
- Three viewpoints have a **moderate/low** viewpoint rating;
- One viewpoint has a **moderate** rating;
- One viewpoint has a **high/moderate** rating.



9.0 CONCLUSION

The visual catchment of the site is highly limited as a result of vegetation to the north (both at the entrance of the existing parking structure and within Berryman Reserve) and high-density housing to the east substantially reducing views from this direction.

Similarly, as a result of medium and low density housing to the east of the station (and their orientation) the views of the multi-storey car park are limited, with the residential dwellings immediately to the east of the station obstructing views for residents further east.

The highest visual impacts recorded have been High/Moderate and have occurred within the public recreation areas (Berryman Reserve & Hart Street) as a result of viewer sensitivities being highest from public open space and are further increased as a result of both open spaces being in immediate proximity to the site.

Although the Proposal will introduce further built-form to the site, this is an extension of the existing multi-storey car park structure as opposed to an entirely new structure. As a result of the current parking structure having been completed and in operation from 2011, both residents within the surrounding area and commuters using the station are already familiar with, and arguably used to, the sight of a multi-storey car park. While a vertical extension of this structure will have a corresponding visual impact, this is mitigated to a certain degree as a result of it being an extension and not an entirely new parking building.

On balance it is the professional opinion of the authors of this assessment that the visual impacts of the Proposal combined with the overall visual catchment are such that they would not constitute reasons for the project not to proceed.



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