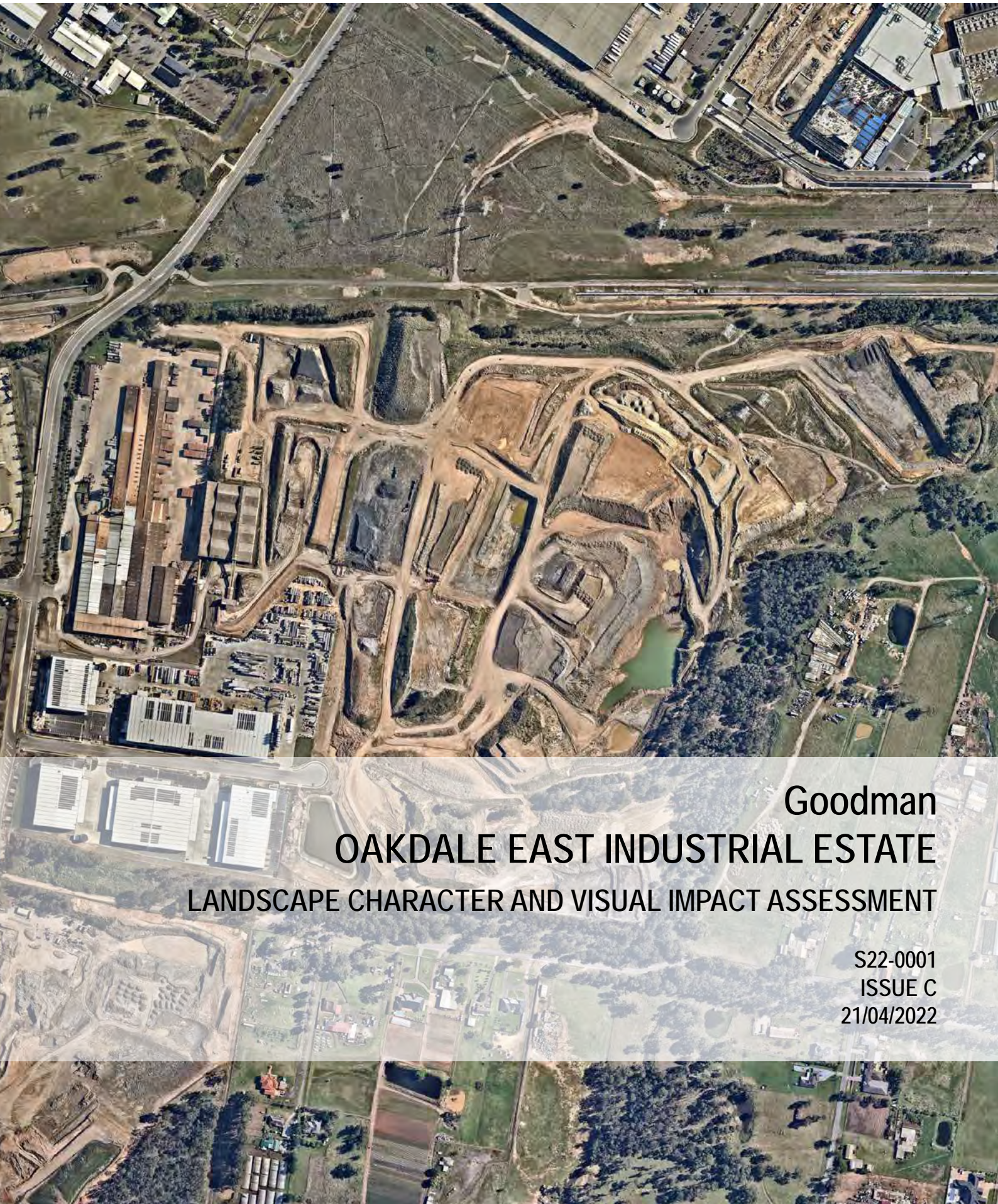




CLOUSTON associates



Goodman
OAKDALE EAST INDUSTRIAL ESTATE
LANDSCAPE CHARACTER AND VISUAL IMPACT ASSESSMENT

S22-0001
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21/04/2022

Cover Image:
Oakdale East Site Aerial.

OAKDALE EAST INDUSTRIAL ESTATE LANDSCAPE CHARACTER AND VISUAL IMPACT ASSESSMENT



FINAL

Client:
Goodman
The Hayesbery
1-11 Hayes Road
Rosebery NSW 2018



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EXECUTIVE SUMMARY

CLOUSTON Associates has been commissioned by Goodman to prepare this Landscape Character and Visual Impact Assessment (LCVIA) for the Oakdale East Industrial Estate in line with the requirements of the Department of Planning, Industry and Environment (DPIE) Secretary's Environmental Assessment Requirements (SEARs).

Oakdale East Industrial Estate is legally described as Lots 102 and 103 in DP 1268366, with an area of approximately 87.95 hectares (ha). The site is located east of Old Wallgrove Road and north of Burley Road within the City of Fairfield Local Government Area (LGA). It is approximately 35km west of the Sydney CBD, and 14km north-west of Liverpool.

The Project comprises 14 warehouse buildings of varying sizes and offices with associated services across 5 precincts. The total site area is approximately 87.95 ha, with a total developable area of 62.47 ha and total gross floor area (GFA) of 33.09 ha. A total non-developable area of approximately 25.47 ha exists on site and is comprised of a mixture of easements, estate roads and future freight corridors.

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 at varying distances.

Of the 12 viewpoints selected and analysed for the Stage 1 Works the findings are as follows:

- Two viewpoints received a Negligible impact rating;
- One viewpoint received a Low impact rating
- Six viewpoints received a Moderate-Low impact rating;
- Three viewpoints received a Moderate impact rating.

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 would be Alleviation, based around new planting, particularly to the boundaries to ensure that appropriate species selection and planting locations are selected during the detailed design phase.

The number of sensitive visual receivers is highly limited as a result of the small number of existing private residences that are located along Burley Road, with a greater number of transient viewers seeing the site while travelling along Old Wallgrove Road to access existing and under construction industrial sites, which results in a less visual sensitivity for viewers using the road as a number of existing industrial and infrastructure sites are already present along the road.

On balance it is the professional opinion of the authors of this assessment that the visual impacts combined with the overall visual catchment of the Proposal as well as its location within the Western Sydney Priority Growth Area (and restrictions of future land uses) are such that they would not constitute reasons to hinder approval on visual impact grounds.

1.0 introduction



1.0 INTRODUCTION

1.1 INTRODUCTION

Oakdale East Industrial Estate (Estate) is part of an extensive industrial estate development by Goodman Property Services (Aust) Pty Ltd (hereafter, referred to as 'Goodman'). The site is located within the City of Fairfield LGA, adjoining Old Wallgrove Road and Burley Road, and directly to the west of Reedy Creek and east of Oakdale Central. The site is located within the Western Sydney Employment Area and is formally identified as Lots 102 and 103 in DP1268366.

1.2 PURPOSE OF REPORT

CLOUSTON Associates has been commissioned by Goodman to prepare this Landscape Character and Visual Impact Assessment (LCVIA) for the Estate in line with the requirements of the Department of Planning, Industry and Environment (DPIE) Secretary's Environmental Assessment Requirements (SEARs).

1.3 REPORT CONTEXT

An LCVIA ensures that all 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 these changes both quantitatively and qualitatively.

The Landscape Institute and the Institute of Environmental Management and Assessment in the UK have prepared and republished a suite of guidelines for VIA preparation since 2002. They define landscape effects as follows:

- "Landscape effects derive from changes to the physical landscape, which may give rise to changes in its character and how it is experienced. This may in turn affect the perceived value ascribed to the landscape."
- "Visual effects relate to the changes that arise from the composition of available views as a result of changes to the landscape, to people's response to the changes, and to the overall effects with respect to visual amenity."

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 receptors and assessment of their sensitivity, as well as the magnitude and nature of the changes that may result from any development.

This LCVIA is an independent report and is based on a professional analysis of the landscape and the Project at the time of writing. While the Goodman team has held discussions with adjoining landowners, the current and potential future viewers (visual receptors) have not been consulted about their perceptions by the authors.

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

2.1 METHODOLOGY

Landscape Character and Visual Impact Assessment (LCVIA) 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 has developed Planning Principles that relate to visual impact assessment and has 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

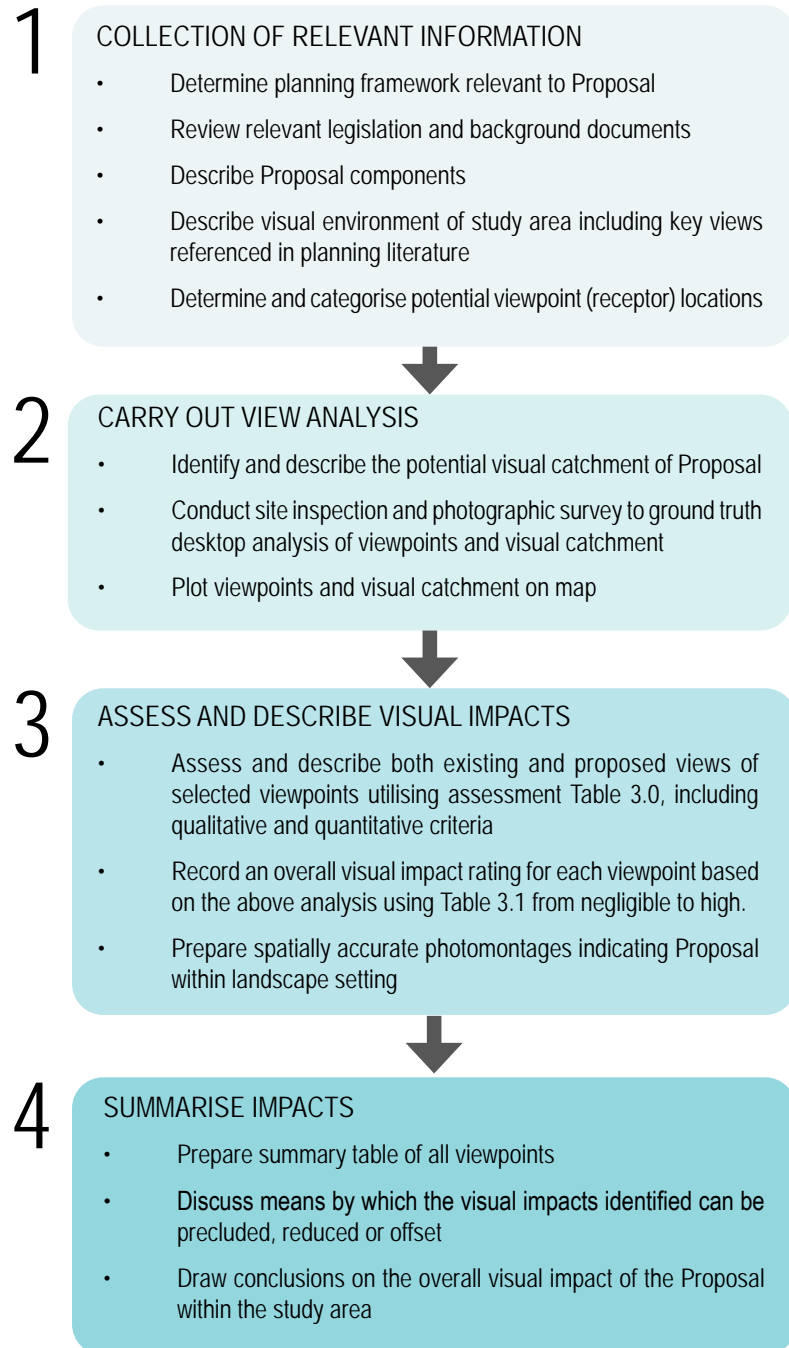


Figure 2.0 - Summary of CLOUSTON methodology

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 off-site)

2.5 ASSESSMENT PROCESS

This LCVIA adopts an assessment process as follows:

- The initial step involves the collection of relevant information regarding the proposal site, 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 or Low impact rating.

2.6 VIEW SELECTION CRITERIA

The selection of views for detailed evaluation for the Proposal is 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 includes 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 LCVIA 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 for the construction and operation stages, 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 Proposal 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	NEGLIGIBLE MAGNITUDE
HIGH SENSITIVITY	HIGH	HIGH-MODERATE	MODERATE	NEGLIGIBLE
MODERATE SENSITIVITY	HIGH-MODERATE	MODERATE	MODERATE/LOW	NEGLIGIBLE
LOW SENSITIVITY	MODERATE	MODERATE/LOW	LOW	NEGLIGIBLE
NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE	NEGLIGIBLE

Table 2.0 - 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 Proposal 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 an insignificant part of the Proposal is discernible.	An oblique, highly filtered or largely obscured view of the Proposal or a view where the Proposal occupies a very small section of the view frame.	A direct view of the Proposal or its presence in a broader view where the Proposal occupies a moderate proportion of the view frame.	A direct view of the Proposal or its presence (sometimes in a very narrow or highly framed view), where the Proposal occupies the greater proportion of the view frame.
QUANTITATIVE	Distance of View	The effect the Proposal has on the view relating to the distance between the Proposal and the visual receptor. The distances are from the approximate boundary of the Proposal 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 Proposal 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.	Proposal 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 3.0 - Sensitivity and Magnitude Rating Criteria.

2.0 METHODOLOGY

LOCATION		• Viewpoint location
DISTANCE		• Distance to Proposal site boundary
RECEPTORS		• Description of viewers
NO. OF VIEWERS		• Number of viewers
EXISTING VIEW		• Description of current view

EXPECTED VISUAL IMPACT		
		• Description of expected view

Receptor Type	Public	
Viewpoint Number	13	
Sensitivity rating of receptor	LOW	
Magnitude - Distance	MODERATE	• Assessment matrix table
Magnitude - Quantum of view	HIGH	
Magnitude - Period of View	LOW	
Magnitude Scale of change	HIGH	
Overall Magnitude rating	MODERATE	
Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings)	MODERATE/LOW	• Overall visual impact rating

Table 3.1 - Example of Assessment Format Before Mitigation Measures.

2.9 PHOTOMONTAGE PRODUCTION

Virtual Ideas has produced photomontages for this report for Viewpoints 1, 2, 3, 4, 6 & 10 in order to give a representative view of how the Project upon completion will appear in terms of bulk and scale and its relationship to its surroundings when viewed from these viewpoints.

The Report Methodology on the production of the photomontages can be found in Section 11.0 - Appendix.



3.0 PLANNING CONTEXT

3.1 LEGISLATIVE POLICY AND CONTEXT

The key legislative and planning instruments that have a bearing on the visual and amenity assessment and implications for the proposed development include;

- A. Environmental Planning and Assessment Act, 1979 (NSW)
- B. The Land and Environment Court's Planning Principles (for assessing views)
- C. Western Sydney Employment Area, 2015
- D. Western City District Plan, 2018

3.2 Environmental Planning and Assessment Act, 1979 (NSW)

The EP&A Act provides the statutory basis for planning and environmental assessment in NSW. Assessment and approvals may be carried out under various parts of the Act, depending on the requirements of environmental planning instruments, and the scale and nature of impacts of the upgrade work.

3.3 The Land and 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 relevant cases 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.

3.0 PLANNING CONTEXT

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.

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.

3.0 PLANNING CONTEXT

- 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 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.

3.4 Western Sydney Employment Area

The New South Wales Government established the Western Sydney Employment Area to provide business in the region with land for industry and employment, including transport and logistics, warehousing and office spaces- refer to Figure 3.1.

3.5 Western City District Plan (WCDP) 2018

The WCDP is a 20-year plan to manage growth in the context of economic, social and environmental matters to achieve the 40-year vision for Greater Sydney. The WCDP informs local environmental plans, the assessment of planning proposals as well as community strategic plans and policies. The WCDP identifies a number of planning priorities through key initiatives, with 'a strong emphasis on jobs, leveraging off the Western Sydney Airport' being identified.



3.0 PLANNING CONTEXT

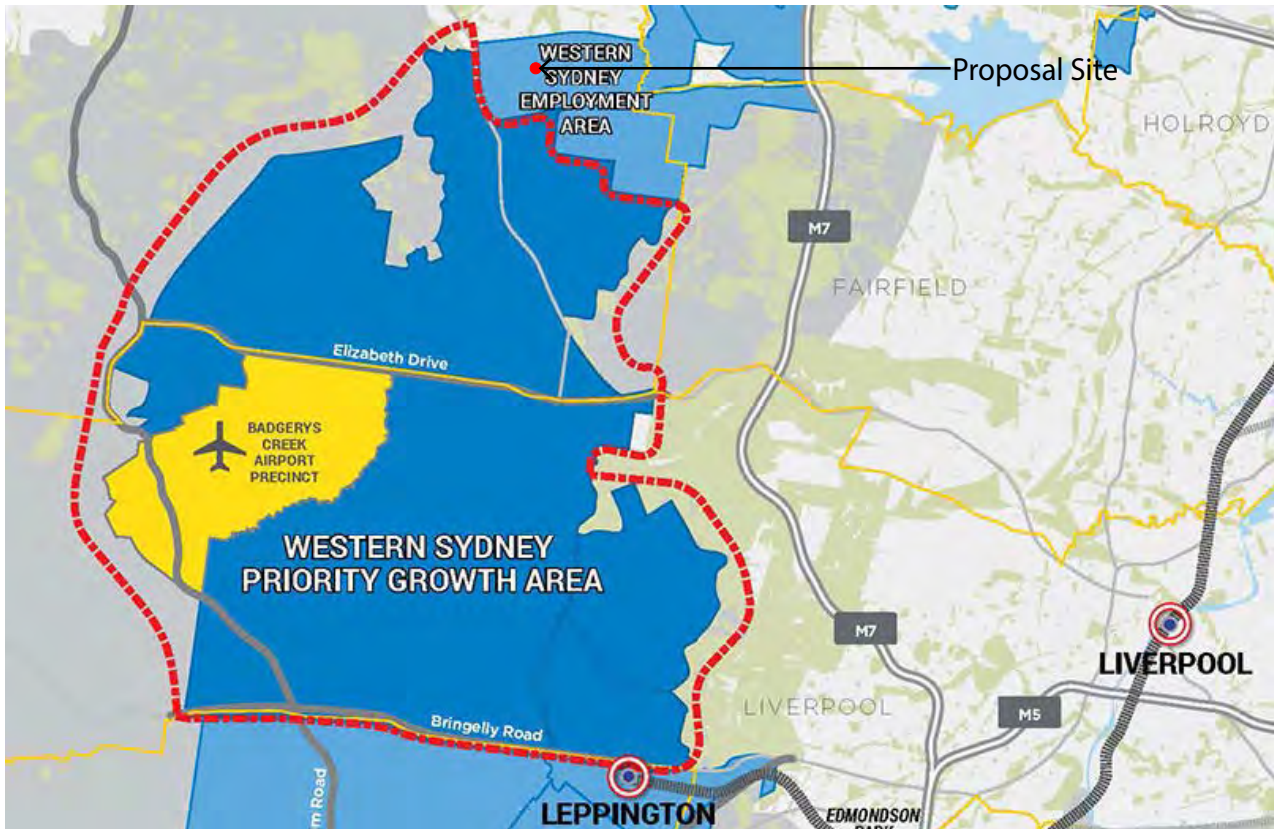


Figure 3.1 - Western Sydney Priority Growth Area. Source: DPIE

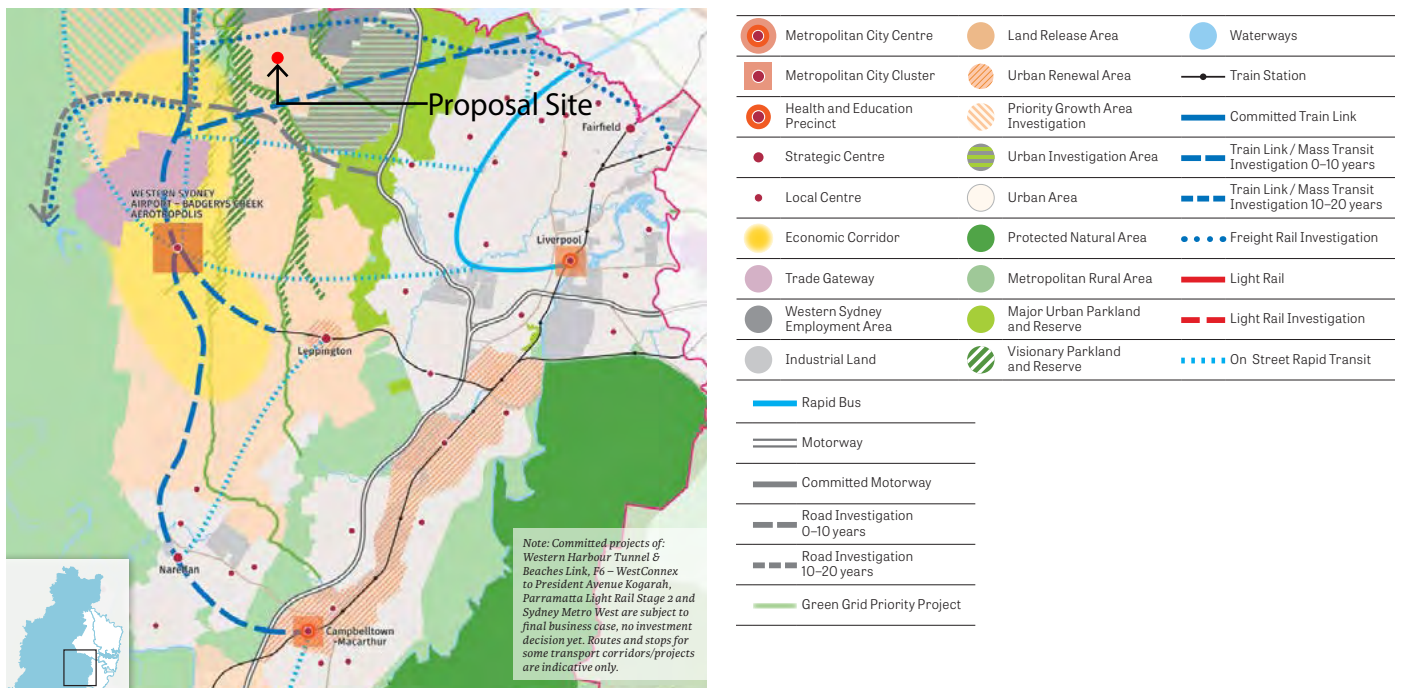


Figure 3.2 - Western City District Structure Plan – Urban Area South. Source: Greater Sydney Commission

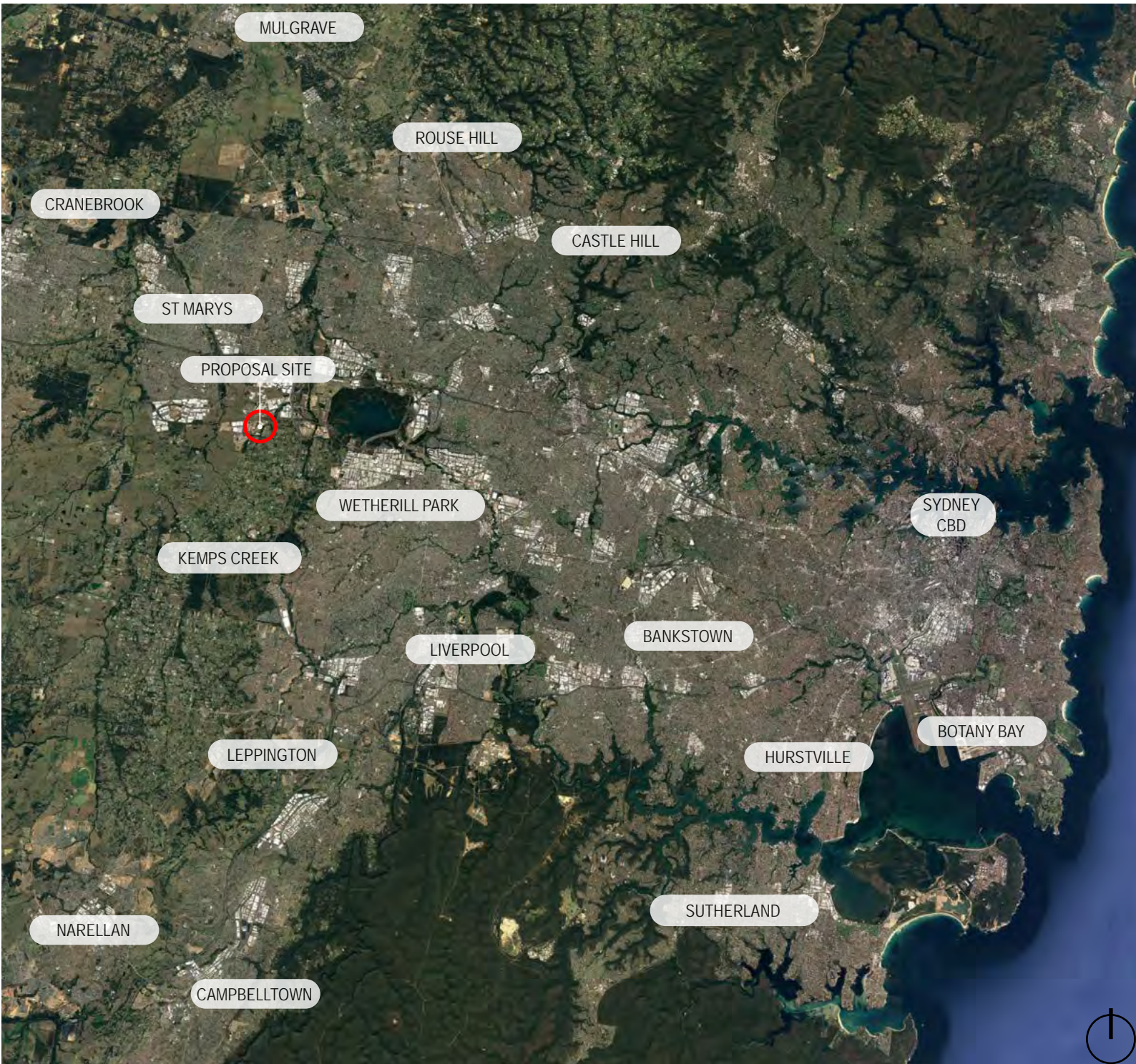


Figure 4.1 - Project location Source: Google Earth

4.0 THE SITE

Estate is legally described as DP 1268366, with an area of approximately 87.95 hectares (ha). The site is located east of Old Wallgrove Road and north of Burley Road within the City of Fairfield Local Government Area (LGA). It is approximately 35km west of the Sydney CBD, and 14km north-west of Liverpool.

The south west of the site (Precinct 1) is currently comprised of 6 warehouses as well as hardstands, boundary and internal landscaping and an estate road (Latitude Road) which allows access to the warehouses from Old Wallgrove Road.

To the north of Precinct 1 is the Austral Bricks (Plant 3) manufacturing warehouse and associated structures such as kilns and hardstands. Within the east and north-eastern areas of the site is a large quarry which includes a number of stockpiles and settling ponds, with the side walls of the quarry being battered between approximately 30-45 degrees throughout the site.

The site is part of the Broader Western Sydney Employment Area, and is currently zoned IN1 General Industrial under the State Environmental Planning Policy (Western Sydney Employment Area) 2009 (See Figure 4.2).

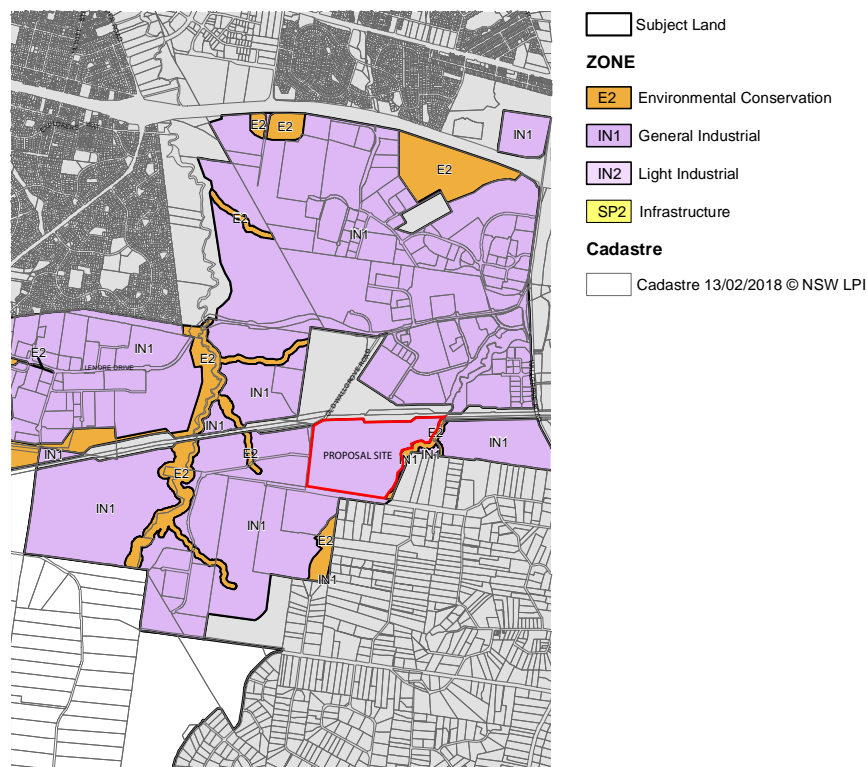


Figure 4.2 - Extract of Western Sydney Employment Area Map



5.0 The Project

Figure 5.1 - Precinct 1 Existing Landscape Setback.

5.0 THE PROJECT

5.1 THE MASTER PLAN

The Project comprises 14 warehouse buildings of varying sizes and offices with associated services across 5 precincts. The total site area is approximately 87.95 ha, with a total developable area of 62.47 ha and total gross floor area (GFA) of 33.09 ha. A total non-developable area of approximately 25.47 ha exists on site and is comprised of a mixture of easements, estate roads and future freight corridors.

The project forms a new employment area with associated service areas, public domain and landscape.

5.1.1 Anticipated Land Uses

The master plan offers a range of large flexible building footprints. These buildings offer flexibility for employment uses consistent with the objectives for the Western Sydney Employment Lands and IN1 industrial zoning. High quality industrial, warehouse and distribution uses will be included.

5.1.2 Site Layout

The Concept Masterplan (Figure 5.2) shows the proposed site layout, and indicative building footprints. Figure 5.3 shows the Stage 2 Building Works (Proposed under SSD).

5.1.3 Landscaping

The 3.75m landscape setback running parallel to Old Wallgrove Road to the west of Precinct 1 (Figure 5.1) is proposed to be continued along the western site boundary. The landscaping consists of a mixture of tree, shrub, grass and groundcover planting within an embankment separating Old Wallgrove Road and the pad levels of the Project.

Once mature, the landscaping will assist in breaking up the building facades visible to the road, with the trees particularly contributing to this once they reach maturity.

5.0 THE PROJECT



Figure 5.2 - Concept Masterplan.

5.0 THE PROJECT

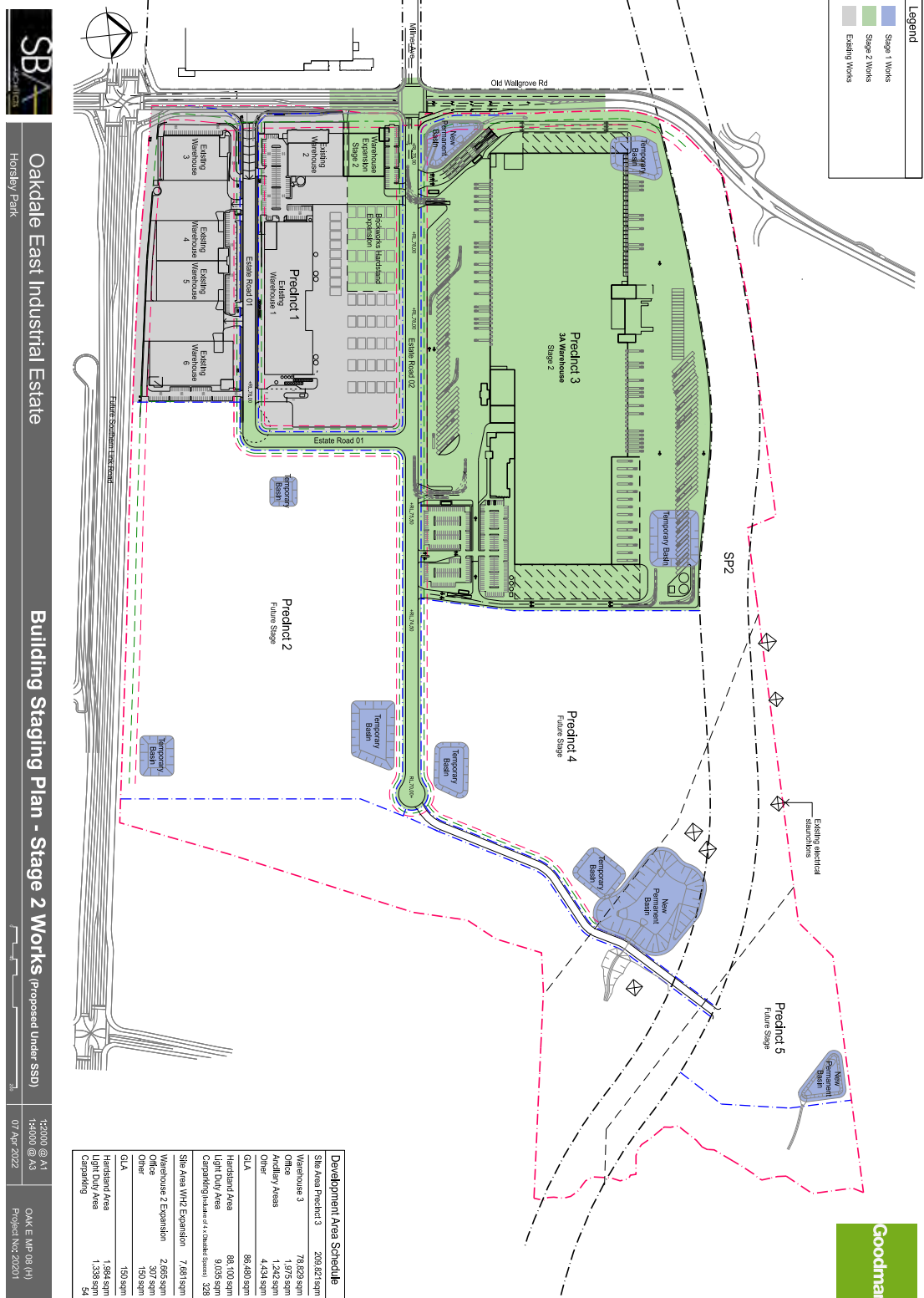


Figure 5.3 - Building Staging Plan - Stage 2 Works (proposed under SSD).

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Photomontage 4 Massing Model (corresponds to Viewpoint 4).



4.0 Landscape Character & Visual Environment



6.0 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 RURAL LIVING

To the south and south-east of the site is RU4 Primary Production Small Lots land. Rural living is noticeable in it's difference from urban living in that it generally has a far more open nature and is comprised of a number of elements that may be absent or in small quantities within an urban environment. These include natural areas of vegetation, streams and creeks, market gardening, sheds and warehouses, modified landscapes for agricultural purposes and often rolling hills which often allow for longer distance views.

4.2 INDUSTRIAL LAND

Surrounding the site is a number of industrial estates within IN1 General Industrial zoned land. These areas provide a wide range of general industrial and warehouse land uses and are easily identifiable through the large warehouses that define the character of these area. Further reinforcing the industrial nature of the industrial land is the general lack of business and retail uses within these areas in order to prevent competition for industrial land in order to be consistent with directions issued by the NSW State Government.

4.3 SURROUNDING INFRASTRUCTURE

To the north of the site is two significant infrastructure elements, the TransGrid Sydney West 330/132KV Substation & Switchyard and the Warragamba Pipelines. The substation forms a highly noticeable element in the visual scene when approaching the site, and a number of overhead lines connecting to electrical pylons throughout the surrounding landscape can be seen overhead. South of the substation and directly west of the site can be seen the Warragamba Pipelines on an east-west axis.

4.4 LOW DENSITY RESIDENTIAL

To the north-west of the site is low density residential living at Erskine Park, approximately 1.85 kilometres from site. This is characterised by a mixture of single and double story dwellings of varying ages and architectural styles, with a number of facilities and services such as schools, community retail hubs, parks and reserves and infrastructure.

While these areas are less open in nature compared to the rural lots to the south of the site, they are significantly less dense than larger urban and CBD areas and retain their neighbourhood and suburban feel.

4.0 LANDSCAPE CHARACTER AND VISUAL ENVIRONMENT



Figure 4.1: Rural Living (RU4 Primary Production Small Lots).



Figure 4.2: IN1 General Industrial Land.

Note: the above images are representative examples of the landscape character types and are not related to the assessment

4.0 LANDSCAPE CHARACTER AND VISUAL ENVIRONMENT



Figure 4.3: SP2 Infrastructure.



Figure 4.4: R2 Low Density Residential.

Note: the above images are representative examples of the landscape character types and are not related to the assessment

5.0 Visual Catchment Analysis and Viewpoint Selection



7.0 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 5.1 - Surrounding viewshed.

■ Potential viewshed based on topography only.

□ Proposal site.



Figure 8.1 - Viewpoint Locations.

8.0 VISUAL IMPACT ASSESSMENT

8.4.1 Visual analysis

The following section assesses the visual impact of the Project on each of the selected viewpoints. This includes a description of the current view from each viewpoint followed by a discussion of the potential visual impacts of the Project on that view. Each viewpoint is accompanied by a location map and photograph of the current view.

For residential receptors, access was not always possible to the property itself by the authors so a photograph was taken at the closest publicly accessible point. (see Figure 8.1)

For a detailed description of the assessment factors and impact ratings used, see Methodology.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS

VIEWPOINT 1

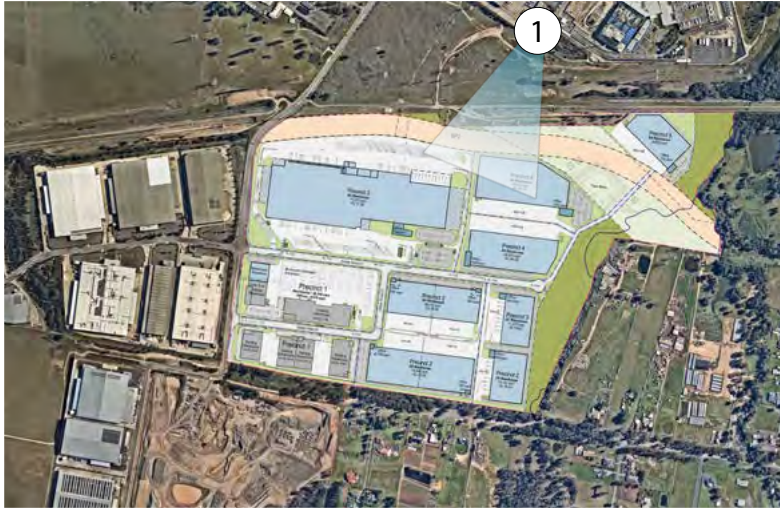


Existing View.



Massing Photomontage View of Proposal.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Viewpoint Location.

LOCATION	Roberts Road
DISTANCE	240m
RECEPTORS	Vehicles accessing GHPL Industrial Warehouse
NO. OF VIEWERS	Low
EXISTING VIEW	In the foreground can be seen a chain-link fence separating Roberts Road from the IN1 General Industrial Zone land beyond. A number of electricity pylons can be seen in the mid-ground amongst a range of vegetation types consisting of mature trees, shrubs and grasslands. To the left of the view in the distance can be seen evidence of the existing quarry use with evidence of stockpiling and excavation noticeable amongst the predominantly vegetated view.

EXPECTED VISUAL IMPACT

Within the centre of the view Warehouse 4B within Precinct 4 will be visible from this location beyond the electricity pylons. To the right of the view where the existing grassed stockpiling is visible, more long distance views of Warehouse 3A will result. As a result of the bulk earthworks in order to create level pads for the precincts, the difference in levels on site from quarry works (such as stockpiling and excavation) will be replaced with a more level ground plane, across large sections of the site, with variation in levels between different precincts. Views of Warehouse 4B and 3A will introduce a noticeable level of new built-form to the visual scene, however the foreground and mid-ground will remain unaltered.

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

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS

VIEWPOINT 2



Existing View.



Massing Photomontage View of Proposal.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Viewpoint Location.

LOCATION	Old Wallgrove Road
DISTANCE	170m
RECEPTORS	Vehicles & Pedestrians
NO. OF VIEWERS	High
EXISTING VIEW	The foreground is occupied by Old Wallgrove Road receding south-west towards Oakdale Central. To the right of the view can be seen a pedestrian and cycle path, as well as emergency stopping bay. To the left of the visual scene open grassland allows views towards the site, where a nearly consistent line of mature trees along the site boundary is clearly visible, with a small break in the trees to the centre right allowing more distant views.

EXPECTED VISUAL IMPACT

Filtered views of Warehouse 3A will be possible from this location. As a result of the difference in levels between the proposed site level of Warehouse 3A and the road, Warehouse 3A will be in an elevated position which will increase visibility while using both the road and pedestrian/cycle path. As a result of the break in the tree line to the centre right of the view, a small portion of the northern facade of the warehouse is visible, with the rest of the facade being filtered by the mature trees.

Receptor Type	Public
Viewpoint Number	2
Sensitivity rating of receptor	LOW
Magnitude - Distance	MODERATE
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

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS

VIEWPOINT 3

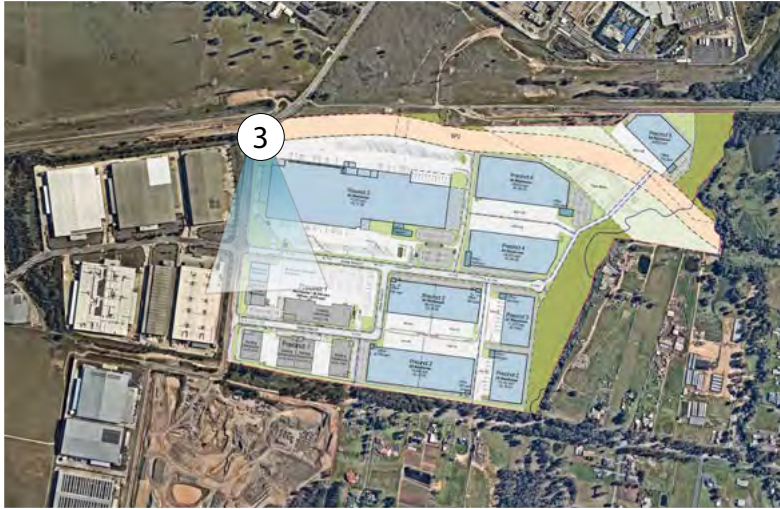


Existing View.



Massing Photomontage View of Proposal.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Viewpoint Location.

LOCATION	Pedestrian and Cycleway on Old Wallgrove Road
DISTANCE	20m
RECEPTORS	Vehicles & Pedestrians
NO. OF VIEWERS	High
EXISTING VIEW	The foreground is dominated by the four lane Old Wallgrove Road. Beyond this can be seen the site boundary with a chain-link fence. Beyond this a number of sporadic tree groupings can be seen running adjacent to the fence. While the tree groupings screen portions of the site, the existing warehouse and associated buildings are clearly visible through gaps in the vegetation receding into the distance.

EXPECTED VISUAL IMPACT

Warehouse 3A is clearly visible from this location running parallel to Old Wallgrove Road. While the existing trees on the boundary of the site will be lost, the proposed landscape buffer will be visible, and upon maturity will help to return vegetated elements to the view and filter elements of the warehouse. As a result of the level difference between the road and the pad level on site, combined with the loss of existing vegetation, built-form elements will constitute a larger proportion of the visual scene than currently exists.

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

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS

VIEWPOINT 4

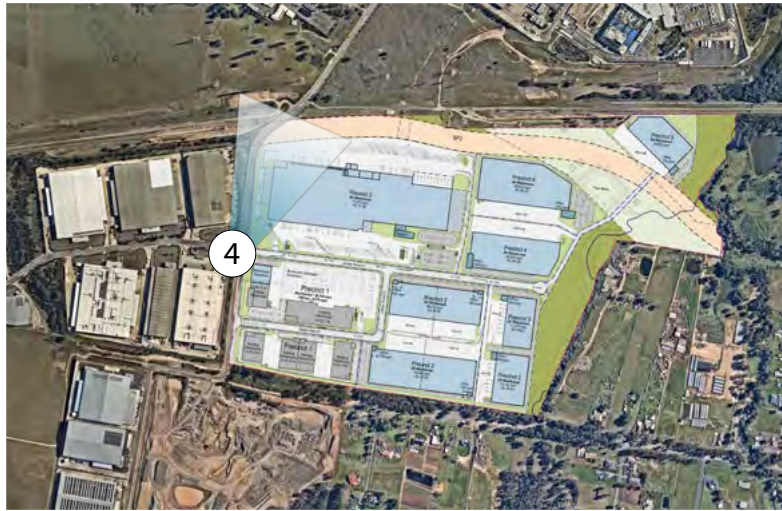


Existing View.



Massing Photomontage View of Proposal.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Viewpoint Location.

LOCATION	Intersection of Old Wallgrove Road & Millner Avenue
DISTANCE	20m
RECEPTORS	Vehicles & Pedestrians
NO. OF VIEWERS	High
EXISTING VIEW	Old Wallgrove Road occupies the foreground and can be seen receding into the distance towards the TransGrid Sydney West 330/132KV Substation & Switchyard. To the left of the view running parallel to the road can be seen the pedestrian and cycleway, trees bordering the Oakdale Central Estate. To the right of the view can be seen the Austral Bricks 3 site, with low level vegetation along the site boundary obscuring a portion of the site in the distance, but allowing views of the roof and chimneys on site.

EXPECTED VISUAL IMPACT

The landscape buffer on the south-western corner of Precinct 3 is clearly visible from this location and recedes into the distance parallel to Old Wallgrove Road. Beyond the buffer, Warehouse 3A is clearly visible. While the Austral Bricks 3 warehouse is currently visible, the visibility of built-form will increase as a result of the new warehouse combined with the new proposed RL of +77.8 This will result in the landform becoming more elevated, and therefore visible when traveling along Old Wallgrove Road.

Receptor Type	Public
Viewpoint Number	4
Sensitivity rating of receptor	LOW
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)	MODERATE-LOW

VIEWPOINT 5



Existing View.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Viewpoint Location.

LOCATION	Old Wallgrove Road
DISTANCE	15m
RECEPTORS	Vehicles
NO. OF VIEWERS	High
EXISTING VIEW	Old Wallgrove Road occupies the foreground of the view. Beyond this to the centre-right of the view can be seen the north-western edge of the existing warehouse within Precinct 1, as well as landscaping running parallel to the road that is still in a juvenile stage. To the centre-left of the view portions of the Austral Bricks 3 site is visible, including warehouse and chimneys.

EXPECTED VISUAL IMPACT

The expansion of Warehouse 1 is clearly visible from this location and will result in the loss of a considerable portion of open sky views. While this will introduce new built-form to the mid-ground, this is not largely at odds with the existing elements of the visual scene, as the upper levels of the warehouses' on the Austral Bricks site is currently visible. The continuation of the landscape buffer currently visible to the right of the view will help to balance the addition of new built-form, and will arguably be a positive addition to the visual scene

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

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS

VIEWPOINT 6

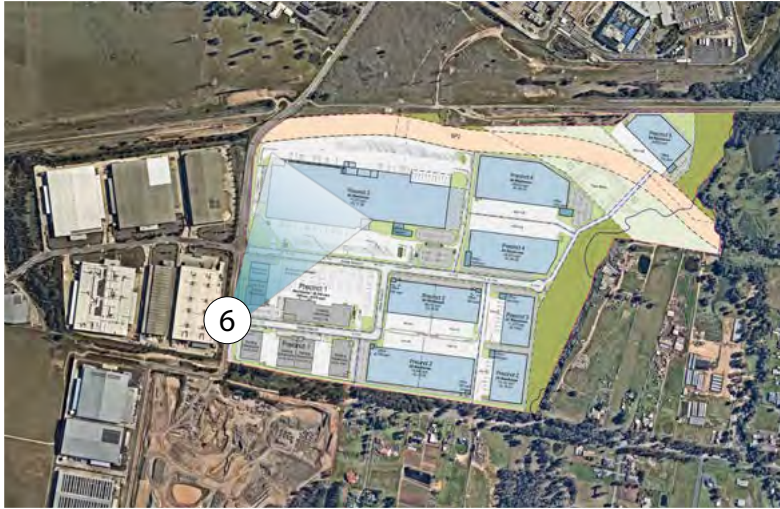


Existing View.



Massing Photomontage View of Proposal.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Viewpoint Location.

LOCATION	Intersection of Old Wallgrove Road & Latitude Drive
DISTANCE	20m
RECEPTORS	Vehicles
NO. OF VIEWERS	High
EXISTING VIEW	Old Wallgrove Road occupies the foreground and can be seen receding into the distance. To the right of the view can be seen the existing Warehouse and landscaping within Precinct 1. As a result of the level difference between the road and the Austral Bricks 3 site, only views of the chimneys on site are noticeable from this location.

EXPECTED VISUAL IMPACT

The expansion of Warehouse 1 is clearly visible from this location to the centre-left of the view, as is the extension of the landscape buffer that is visible on the mid-ground of the view. In the far distance a small portion of Warehouse 3A is visible, however at a highly oblique view. The expansion of Warehouse 1 and oblique views of Warehouse 3A will add a noticeable amount of new built-form to the view, however this will be balanced to a degree by the addition of the landscape buffer, which as it matures, will help to filter views of the warehouses' and will arguably become positive additions to the visual scene.

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

VIEWPOINT 7



Existing View.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Viewpoint Location.

LOCATION	Intersection of Burley Road & Johnston Crescent
DISTANCE	45m
RECEPTORS	Vehicles
NO. OF VIEWERS	Low - Moderate
EXISTING VIEW	Old Wallgrove Road is visible within the centre of the view, with Oakdale East Precinct 1 visible to the right, and Oakdale Central visible to the left, with a noticeable difference in levels to either side of the road. From this location long distance views towards the TransGrid Sydney West 330/132KV Substation & Switchyard occur.

EXPECTED VISUAL IMPACT

Views of the expansion of Warehouse 1, as well as Warehouse 3A will be visible to the right of Old Wallgrove Road at a highly oblique angle and will obstruct a small amount of open sky in the distance. Although the addition of the new warehouses will contribute new built-form elements to the visual scene, these will form a minor addition to the view as a result of existing warehouses in Precinct 1 of Oakdale East and a warehouse and parking area within Oakdale Central being visible.

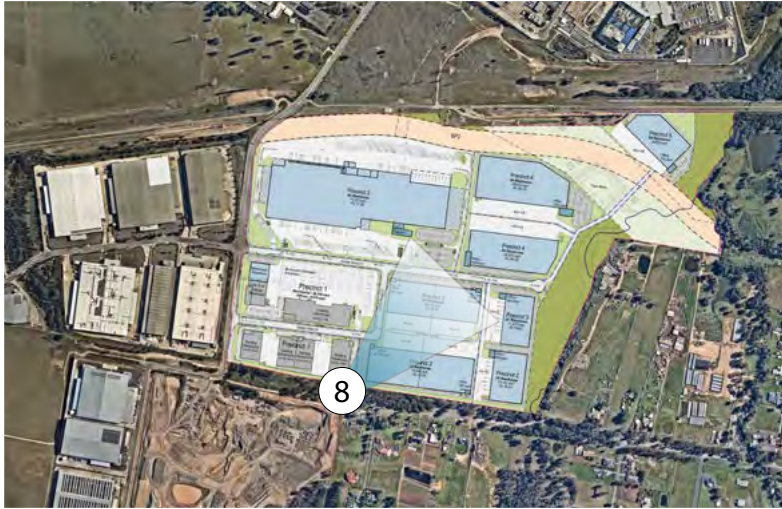
Receptor Type	Public
Viewpoint Number	7
Sensitivity rating of receptor	LOW
Magnitude - Distance	HIGH
Magnitude - Quantum of view	LOW
Magnitude - Period of View	LOW
Magnitude Scale of change	MODERATE
Overall Magnitude rating	MODERATE
Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude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

VIEWPOINT 8



Existing View.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Viewpoint Location.

LOCATION	Burley Road
DISTANCE	60m
RECEPTORS	Vehicles
NO. OF VIEWERS	Low
EXISTING VIEW	The existing foreground view is dominated by existing mature trees, shrubs and grassland. To the left of the view can be seen a portion of the south-eastern warehouse within Precinct 1. Through the trees in the foreground can be seen the quarry, with evidence of stockpiling and excavation. Long distance views from this location are highly limited.

EXPECTED VISUAL IMPACT

A highly filtered view of Precinct 2 will be possible from this location, with the southern and western facades of Warehouse 2B being most visible. The addition of the proposed warehouse will add a noticeable new addition of built-form to the view and result in a loss of the highly filtered views of the existing quarry and limited long distance views.

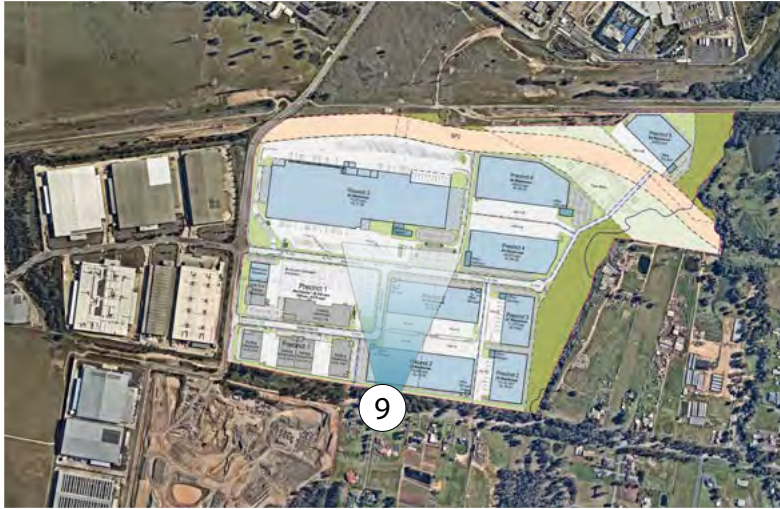
Receptor Type	Public
Viewpoint Number	8
Sensitivity rating of receptor	LOW
Magnitude - Distance	HIGH
Magnitude - Quantum of view	LOW
Magnitude - Period of View	LOW
Magnitude Scale of change	LOW
Overall Magnitude rating	LOW
Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings)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

VIEWPOINT 9



Existing View.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Viewpoint Location.

LOCATION	287-299 Burley Road
DISTANCE	50m
RECEPTORS	Residents accessing private dwellings
NO. OF VIEWERS	Low
EXISTING VIEW	The view is almost entirely dominated by vegetation. A mixture of mature trees and grasslands result in a highly filtered view towards the site. Evidence of a change in levels between the viewpoint and the site as a result of the quarry works is evident through the trees, however no built-form elements are currently visible from this location.

EXPECTED VISUAL IMPACT

Highly filtered views of warehouse 2B will be possible from this location. As a result of no built-form currently visible within the visual scene, the addition of the warehouse, however highly filtered, will still be perceptible to viewers.

Receptor Type	Public
Viewpoint Number	9
Sensitivity rating of receptor	MODERATE
Magnitude - Distance	HIGH
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)	MODERATE-LOW

VIEWPOINT 10



Existing View.



7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Viewpoint Location.

LOCATION	251 Burley Road
DISTANCE	55m
RECEPTORS	Residents accessing private dwelling along Burley Road
NO. OF VIEWERS	Low
EXISTING VIEW	Mature trees between Burley Road and the site form the most noticeable element of the visual scene and results in a highly filtered view towards the site. A difference in levels between Burley Road and the site is visible, with an embankment on site preventing any long distance views.

EXPECTED VISUAL IMPACT

A highly filtered view of Warehouse 2B can be seen from this location. The addition of the warehouse results in a loss of sky views beyond the line of trees and will add a noticeable new built-form addition to the visual scene.

Receptor Type	Public
Viewpoint Number	10
Sensitivity rating of receptor	MODERATE
Magnitude - Distance	HIGH
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)	MODERATE-LOW

VIEWPOINT 11



Existing View.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Viewpoint Location.

LOCATION	Burley Road
DISTANCE	60m
RECEPTORS	Vehicles accessing private dwellings along Burley Road
NO. OF VIEWERS	Low
EXISTING VIEW	The view is almost entirely comprised of mature trees of varying species surrounding Burley Road and Reedy Creek. This vegetation obstructs any long distance views.

EXPECTED VISUAL IMPACT

As a result of existing mature vegetation, views to Precinct 2 are almost completely obstructed and would result in no noticeable change to the visual scene.

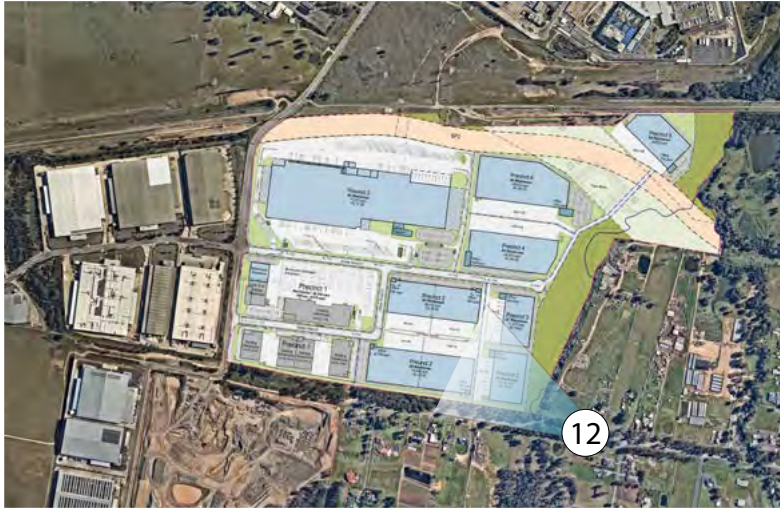
Receptor Type	Public
Viewpoint Number	11
Sensitivity rating of receptor	LOW
Magnitude - Distance	HIGH
Magnitude - Quantum of view	NEGLIGIBLE
Magnitude - Period of View	NEGLIGIBLE
Magnitude Scale of change	NEGLIGIBLE
Overall Magnitude rating	NEGLIGIBLE
Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings)	NEGLIGIBLE

VIEWPOINT 12



Existing View.

7.0 THE PROPOSAL & VISUAL IMPACT ANALYSIS



Viewpoint Location.

LOCATION	Burley Road
DISTANCE	180m
RECEPTORS	Vehicles accessing private dwellings along Burley Road
NO. OF VIEWERS	Low
EXISTING VIEW	The entrance to Burley Road is almost entirely dominated by mature trees. The road reserve and setbacks of the properties on either side of the road results in a highly rural visual scene. As a result of the maturity and density of the vegetation, long distance views are obstructed.

EXPECTED VISUAL IMPACT

As a result of existing mature vegetation, views to Precinct 2 are completely obstructed and would result in no change to the visual scene.

Receptor Type	Public
Viewpoint Number	12
Sensitivity rating of receptor	LOW
Magnitude - Distance	MODERATE
Magnitude - Quantum of view	NEGLIGIBLE
Magnitude - Period of View	NEGLIGIBLE
Magnitude Scale of change	NEGLIGIBLE
Overall Magnitude rating	NEGLIGIBLE
Overall VISUAL IMPACT RATING (combination of sensitivity and magnitude ratings)	NEGLIGIBLE



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. Roberts Road	L	M	M	N	M	M	MODERATE-LOW
2. Old Wallgrove Road	L	M	M	L	M	M	MODERATE-LOW
3. Old Wallgrove Road	L	H	H	M	H	H	MODERATE
4. Intersection of Old Wallgrove Road & Millner Avenue	L	H	M	M	M	M	MODERATE-LOW
5. Old Wallgrove Road	L	H	H	M	H	H	MODERATE
6. Intersection of Old Wallgrove Road & Latitude Drive	L	H	H	M	M	H	MODERATE
7. Intersection of Burley Road & Johnston Crescent	L	H	L	L	M	M	MODERATE-LOW
8. Burley Road	L	H	L	L	L	L	LOW
9. 287-299 Burley Road	M	H	L	L	L	L	MODERATE-LOW
10. 251 Burley Road	M	H	L	L	L	L	MODERATE-LOW
11. Burley Road	L	H	N	N	N	N	NEGLIGIBLE
12. Burley Road	L	M	N	N	N	N	NEGLIGIBLE

Table 7.0: Visual Impact Ratings.

7.1 VISUAL IMPACT SUMMARY

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

- Two viewpoints received an impact rating of Negligible
- One viewpoint received an impact rating of Low
- Six viewpoints received an impact rating of Moderate/Low
- Three viewpoints received an impact rating of Moderate.



9.0 MITIGATION

9.1 TYPE OF 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.

9.1.1 Avoidance

The proposed location for the development is key to the functioning of the proposed land for industrial development (e.g. proximity to major transport intersections) and the land is specifically zoned for this use; consequently avoidance measures have not been considered applicable in this assessment.

9.1.2 Reduction

The principal forms of reduction are associated with refinements and modifications that address the siting and scale of built form. Measures typically considered include forms of the buildings, building footprint, orientation of the buildings and site layout and building relationships.

Throughout the development of the design layout of the site, various measures of reduction have been undertaken including re-orientation of buildings and their spatial relationships to reduce visual impacts. Further reduction measures (e.g. Building heights and massing) are not likely to be viable from an operational perspective.

9.1.3 Alleviation

A number of planting strategies have been deployed throughout the Proposal Site which include Frontage and Boundary Planting, Riparian Zone Planting and Streetscape Planting. Proposed Frontage and Boundary Planting will play a significant part in mitigating the visual impacts of the Proposal, particularly to the west of the site along Old Wallgrove Road.



9.0 MITIGATION

Planting will help to filter views of the earthworks and warehouses, which will help limit the impact of new significant built form, as well as mitigate the required removal of any vegetation on site (although it is noted that existing vegetation on site is limited as a result of the quarry operations). The effectiveness of the proposed planting will increase over time as the planting matures, particularly proposed trees which will be more effective after 10-15 years of growth. Further exploration during the detailed design phase should be undertaken to ensure appropriate species selection and planting location to maximise the effectiveness of the landscaping.

9.1.4 Off-site compensation

The number of highly sensitive visual receivers to the Proposal is limited and is restricted to the south of the site along Burley Road where a small number of private dwellings are located. As a result of significant mature vegetation between Burley Road and the site, views of the existing warehouses and proposed future warehouses are highly filtered and have a minimal visual impact. As a result, the use of off-site compensation through the use of strategic planting would be limited and is not considered to be warranted.

9.1.5 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.

Out of the aforementioned mitigation techniques, **Alleviation** would appear to be the most suitable. This will be primarily achieved through the proposed planting which will help lessen the impacts of built-form on the surrounding area.

9.1.6 CONSTRUCTION IMPACTS

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

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

During the construction period, all 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. These visual impacts will be of a temporary nature and will reduce for all viewpoints once the proposal is complete.

10.0 Conclusion



10.0 CONCLUSION

10.1 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 quantitate 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.

10.2 SUMMARY OF FINDINGS

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

- the site sits within a generally highly industrialised area, with Oakdale Central Estate directly to the west, a number of warehouses to the north, as well as infrastructure (pipelines and substations) to the north of the site, and as a result the Project is surrounded by a number of similar sites and land uses;
- Old Wallgrove Road provides the most visual access to the site given that it runs parallel to the western boundary and is publicly accessible, and as a result records the highest overall visual impacts (moderate rating);
- the number of private residential visual receivers is highly limited and primarily restricted to properties off Burley Road;
- vegetation plays a significant part in limiting the visual catchment of the site, and obscures or highly filters views for the residential visual receivers to the south;
- proposed earthworks will modify the current topography in order to create flat pads for the warehouses and estate roads, but it is noted that the site is already highly modified as a result of quarry operations, as is the general surrounding landscape that has been modified for both agricultural and industrial purposes;
- the site (and surrounding area) has been identified as a priority growth area, with most of the surrounding land undergoing rezoning;
- the highest visual sensitivity ratings have been recorded for viewpoints 9 and 10 as these are from residential driveways, however the overall rating for these viewpoints is recorded as moderate-low as a result of distance, existing mature vegetation, and proposed earthworks highly filtering views of the site

10.3 CONCLUSIONS

This LCVA 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.

It is recognised that the number of sensitive visual receivers is highly limited as a result of the small number of existing private residences that are located along Burley Road, with a greater number of transient viewers seeing the site while travelling along Old Wallgrove Road to access existing and under construction industrial sites, which results in a less visual sensitivity for viewers using the road as a number of existing industrial and infrastructure sites are already present along the road.

It is further noted that although the viewpoints in immediate proximity to the western boundary of the site rate the highest in terms of impacts (changes to the current visual scene), the proposed landscaping will introduce new levels of planting in terms of numbers and species diversity at these locations (frontage planting) which, upon maturity, can arguably be said to be contributory to the visual scene.

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



11.0 Appendix

Oakdale East Industrial Estate

Visual impact photomontage and methodology report

April 2022

VIRTUAL IDEAS

1. INTRODUCTION

This document was prepared by Virtual Ideas to demonstrate the visual impact of the proposed developments at this site with respect to the existing built form and existing site conditions.

We understand that the purpose of the report will be for DA submission.

2. OUR EXPERTISE

Virtual Ideas is an architectural visualisation company that has over 15 years experience in preparing visual impact assessment content and reports on projects of major significance that meet the requirements for relevant local and state planning authorities.

Our reports have been submitted as evidence in proceedings in both the Land and Environment Court and the Supreme Court of NSW. Our director, Grant Kolln, has been an expert witness in the field of visual impact assessment in the Supreme Court of NSW.

Virtual Ideas' methodologies and outcomes have been inspected by various court appointed experts in relation to previous visual impact assessment submissions, and have always been found to be accurate and acceptable.

3. PHOTOMONTAGE METHODOLOGY

The following describes the process that we undertake to create the photomontage renderings that form the basis of this report.

3.1 DIGITAL 3D SCENE CREATION

The first step in our process is the creation of an accurate, real world scale digital 3D scene that is positioned at a common reference point using MGA 56 coordinates system (GDA2020).

We use a variety of data from various sources to create the 3D scene, most commonly survey data from registered surveyors, 3D photogrammetric models of cities and building 3D models supplied by Architects. In some cases where 3D data does not exist we are required to create 3D models from 2D cad data. A detailed description of the various data sources used in this report can be found in Appendix A.

All data is imported into the 3D scene at real world scale and positioned to a common reference point. This common reference point is established by using the MGA-56 coordinates system (GDA2020). When we receive data sources that are not positioned to MGA-56 coordinates, we use common points in the data sources that can be aligned to points in other data sources that are positioned at MGA-56. This can be data such as site boundaries and building outlines. Descriptions of how we have aligned each data source can also be found in Appendix A.

Once the various data sources have been imported and positioned with reference to each other, we then create digital 3D cameras in the 3D scene. The camera locations selected for the photomontages in this report were proposed by Clouston Associates in order to meet the DCP requirements.

3.2 SITE PHOTOGRAPHY

Using the 3D scene digital camera locations as our reference, we then capture site photography from locations as close as possible to the digital camera locations. In some cases we may need to modify the location due to site conditions that were not visible prior to conducting the photo shoot.

Camera lenses for each photograph are selected taking a variety of factors into consideration including the distance from the site, the size of the proposed development with respect to existing built form and landscape and any specific planning authority requirements.

In some cases a specific lens requirement set by planning authorities may not produce a photomontage that is effective for visual impact assessment. In the cases where we are required to satisfy a specific lens stipulation, and we consider that this is not effective for assessment of visual impact, we will either outline the extent of the longer lens.

Full metadata of the photographs are recorded during the site photography. The critical data we extract is date, time and lens width or field of view.

3.3 SITE AND PHOTOGRAPHY LOCATION SURVEY

To correctly adjust the digital cameras in our 3D scenes to match the positions of the site photography, we engage a registered surveyor to survey all camera locations and reference this survey to MGA 56 (GDA2020) coordinates.

In addition to the camera location, we also instruct the surveyor to survey select features that are visible in the photographs from each individual location. This might include building corners, kerb lines, posts etc.

This survey data can be found in Appendix B.

3.4 ALIGNMENT OF 3D SCENE TO PHOTOGRAPHY

To align the 3D scene to the photograph we first import the site and photography location survey data into the 3D scene. We then load the photograph into the background of the corresponding 3D scene camera view, ensuring that the aspect ratio and lens setting match. The 3D scene camera is moved to the surveyed position and rotated so that the surveyed feature locations match the same features in the photograph. Additional surveyed data can be used to verify alignment such as existing site surveys (Appendix C) and photogrammetric 3D models.

3.5 RENDERING AND PHOTOMONTAGE CREATION

After the camera alignment we add lighting to the 3D scene.

A digital daylight systems is added into the 3D scene to match the lighting direction of the sun in the photograph. This is done using the software's daylight system that matches the sun angles using location data and time and date information. This data is extracted from the metadata of the site photographs.

Images are then rendered from the software and layered over the photograph.

4.1 OVERVIEW OF PHOTOGRAPHY LOCATIONS



- Camera 01 - Roberts Road
- Camera 02 - Old Wallgrove Road
- Camera 03 - Old Wallgrove Road
- Camera 04 - Old Wallgrove Road and Millner Avenue
- Camera 06 - Old Wallgrove Road
- Camera 10 - Burley Road

5.1 CAMERA 01 - Roberts Road

ORIGINAL PHOTOGRAPH



PHOTOMONTAGE INCLUDING PROPOSED DEVELOPMENT



ORIGINAL PHOTOGRAPH INCLUDING SURVEYED ALIGNMENT DATA



PHOTOGRAPH DETAILS

Photo Date:	23 February 2022
Camera Used:	Sony ILCE-7RM3
Camera Lens:	24mm f/3.5
Focal length in 35mm Film:	24mm

5.2 CAMERA 01 - Roberts Road

ORIGINAL PHOTOGRAPH



5.3 CAMERA 01 - Roberts Road

PHOTOMONTAGE INCLUDING PROPOSED DEVELOPMENT



5.4 CAMERA 01 - Roberts Road

ORIGINAL PHOTOGRAPH INCLUDING SURVEYED ALIGNMENT DATA



6.1 CAMERA 02 - Old Wallgrove Road

ORIGINAL PHOTOGRAPH



PHOTOMONTAGE INCLUDING PROPOSED DEVELOPMENT



ORIGINAL PHOTOGRAPH INCLUDING SURVEYED ALIGNMENT DATA



PHOTOGRAPH DETAILS

Photo Date:	23 February 2022
Camera Used:	Sony ILCE-7RM3
Camera Lens:	24mm f/3.5
Focal length in 35mm Film:	24mm

6.2 CAMERA 02 - Old Wallgrove Road

ORIGINAL PHOTOGRAPH



6.3 CAMERA 02 - Old Wallgrove Road

PHOTOMONTAGE INCLUDING PROPOSED DEVELOPMENT



6.4 CAMERA 02 - Old Wallgrove Road

ORIGINAL PHOTOGRAPH INCLUDING SURVEYED ALIGNMENT DATA



7.1 CAMERA 03 - Old Wallgrove Road

ORIGINAL PHOTOGRAPH



PHOTOMONTAGE INCLUDING PROPOSED DEVELOPMENT



ORIGINAL PHOTOGRAPH INCLUDING SURVEYED ALIGNMENT DATA



PHOTOGRAPH DETAILS

Photo Date:	23 February 2022
Camera Used:	Sony ILCE-7RM3
Camera Lens:	24mm f/3.5
Focal length in 35mm Film:	24mm

7.2 CAMERA 03 - Old Wallgrove Road

ORIGINAL PHOTOGRAPH



7.3 CAMERA 03 - Old Wallgrove Road

PHOTOMONTAGE INCLUDING PROPOSED DEVELOPMENT



7.4 CAMERA 03 - Old Wallgrove Road

ORIGINAL PHOTOGRAPH INCLUDING SURVEYED ALIGNMENT DATA



8.1 CAMERA 04 - Old Wallgrove Road and Millner Avenue

ORIGINAL PHOTOGRAPH



PHOTOMONTAGE INCLUDING PROPOSED DEVELOPMENT



ORIGINAL PHOTOGRAPH INCLUDING SURVEYED ALIGNMENT DATA



PHOTOGRAPH DETAILS

Photo Date:	23 February 2022
Camera Used:	Sony ILCE-7RM3
Camera Lens:	24mm f/3.5
Focal length in 35mm Film:	24mm

8.2 CAMERA 04 - Old Wallgrove Road and Millner Avenue

ORIGINAL PHOTOGRAPH



8.3 CAMERA 04 - Old Wallgrove Road and Millner Avenue

PHOTOMONTAGE INCLUDING PROPOSED DEVELOPMENT



8.4 CAMERA 04 - Old Wallgrove Road and Millner Avenue

ORIGINAL PHOTOGRAPH INCLUDING SURVEYED ALIGNMENT DATA



9.1 CAMERA 06 - Old Wallgrove Road

ORIGINAL PHOTOGRAPH



PHOTOMONTAGE INCLUDING PROPOSED DEVELOPMENT



ORIGINAL PHOTOGRAPH INCLUDING SURVEYED ALIGNMENT DATA



PHOTOGRAPH DETAILS

Photo Date:	23 February 2022
Camera Used:	Sony ILCE-7RM3
Camera Lens:	24mm f/3.5
Focal length in 35mm Film:	24mm

9.2 CAMERA 06 - Old Wallgrove Road

ORIGINAL PHOTOGRAPH



9.3 CAMERA 06 - Old Wallgrove Road

PHOTOMONTAGE INCLUDING PROPOSED DEVELOPMENT



9.4 CAMERA 06 - Old Wallgrove Road

ORIGINAL PHOTOGRAPH INCLUDING SURVEYED ALIGNMENT DATA



10.1 CAMERA 10 - Burley Road

ORIGINAL PHOTOGRAPH



PHOTOMONTAGE INCLUDING PROPOSED DEVELOPMENT



ORIGINAL PHOTOGRAPH INCLUDING SURVEYED ALIGNMENT DATA



PHOTOGRAPH DETAILS

Photo Date:	23 February 2022
Camera Used:	Sony ILCE-7RM3
Camera Lens:	24mm f/3.5
Focal length in 35mm Film:	24mm

10.2 CAMERA 10 - Burley Road

ORIGINAL PHOTOGRAPH



10.3 CAMERA 10 - Burley Road

PHOTOMONTAGE INCLUDING PROPOSED DEVELOPMENT



10.4 CAMERA 10 - Burley Road

ORIGINAL PHOTOGRAPH INCLUDING SURVEYED ALIGNMENT DATA



APPENDIX A: 3D SCENE DATA SOURCES

A.1 - 3D Model of proposed development

The 3D model of the proposed development was created by Clouston Associates.

- 22103_OAKDALE EAST_MASONARY_OPTION 4_R19_.rvt
- 21144_project Sagittarius_DA-GA_V2_220406.rvt

A.2 - Camera location and alignment point surveyed data

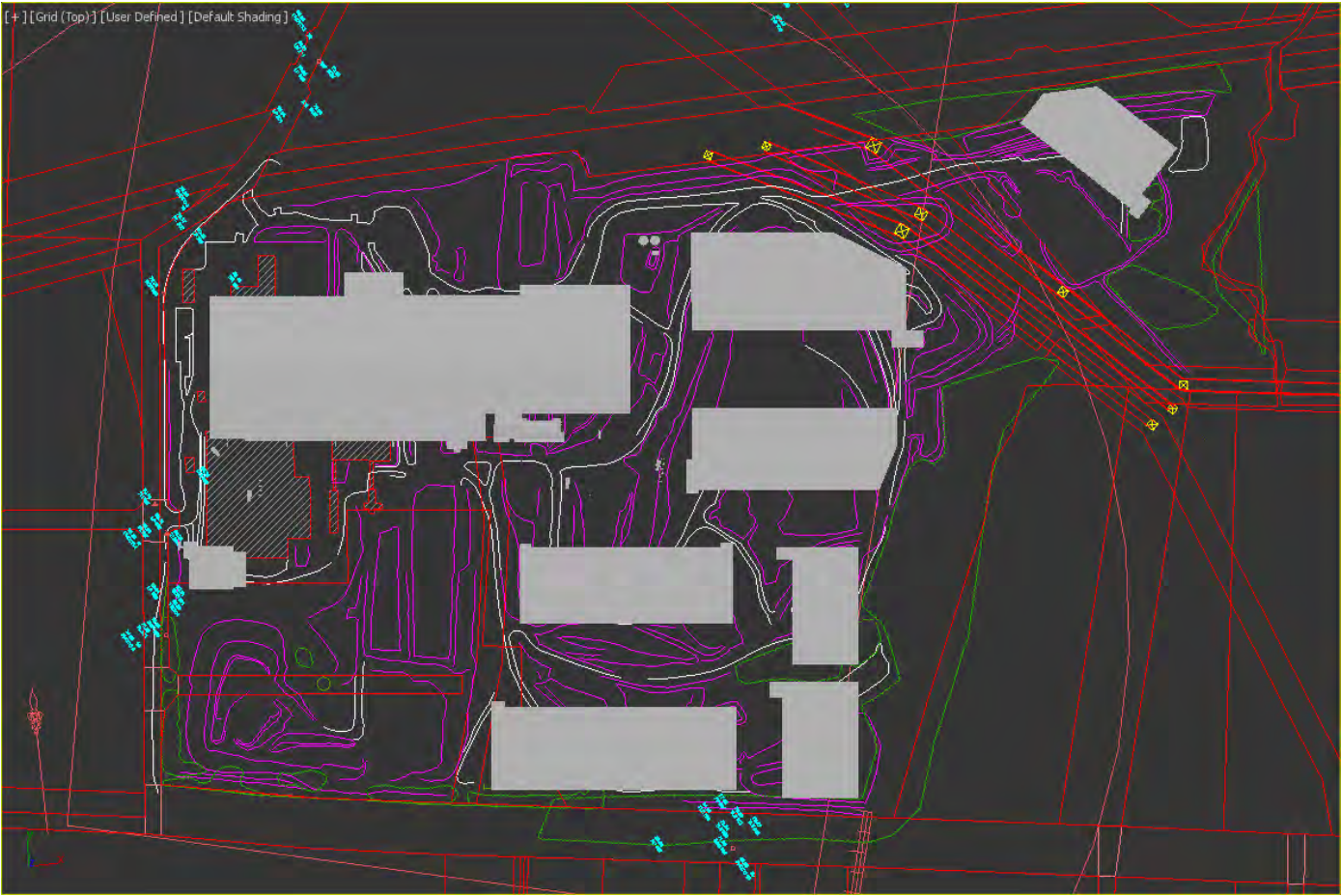
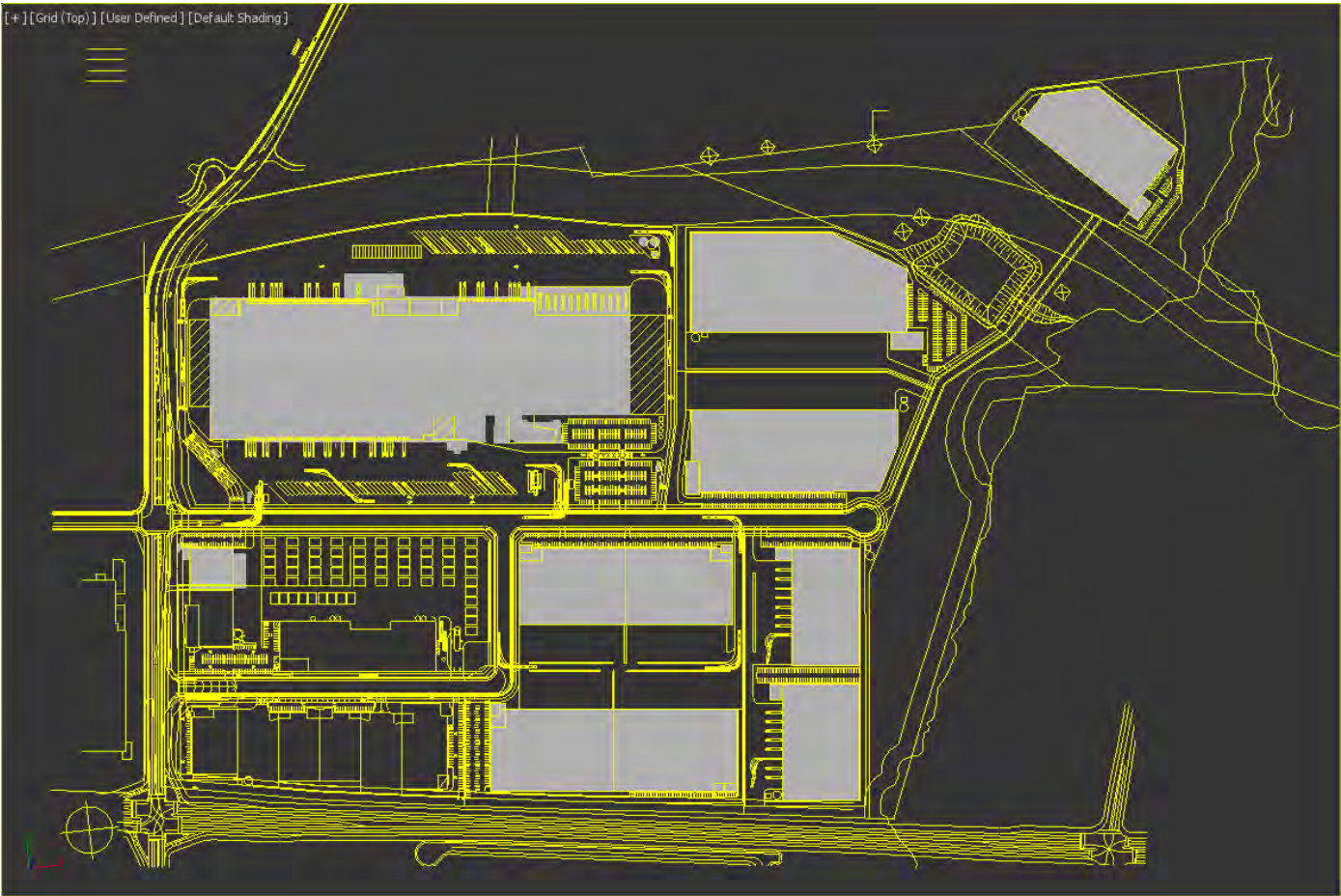
The 3D cameras were positioned and aligned in the scene using the survey data supplied by CMS Surveyors Pty Ltd.

Author: CMS Surveyors Pty Ltd
Format: pdf, xlsx and dwg files.
Alignment: Supplied referenced to MGA 56 (GDA2020) (Appendix B)

A.3 - Alignment of the 3D model to survey data

The 3D model was positioned in the scene using the supplied site survey drawing created by LTS positioned to MGA 56 (GDA2020).

- 50404 001DT.dwg



APPENDIX B: PHOTOGRAPHY SURVEY

CMS Surveyors Pty Limited
A.B.N. 79 096 240 201
LAND SURVEYING, PLANNING & DEVELOPMENT CONSULTANTS



Date: 25-02-2022
Our Ref: 21132 Photo Locations

Studio 71/61 Marlborough Street
Surry Hills
NSW 2010

Dear Reena Dhupar,

RE: PHOTO LOCATIONS – Oakley East, Horsley Park

As requested, we have attended site and measured the Co-ordinates and Elevation of the photo locations for Oakley East, Horsley Park.

Co-ordinates are MGA 56 (GDA 2020) and elevation to Australian Height datum (AHD).

Measurements were taken using theodolite measurement and GNSS measurements.

DWG of locations has also been supplied.2

Point Number	Easting	Northing	Reduced Level (RL)	Photo Point
102	299648.171	6255806.2760	75.204	PHOTO 1
29	299040.843	6255749.685	68.298	PHOTO 2
13	298869.577	6255561.645	70.394	PHOTO 3
17	298774.508	6255165.919	76.353	PHOTO 4
15	298760.832	6255043.815	74.993	PHOTO 6
20	299448.856	6254719.271	69.926	PHOTO 10
103	299703.207	6255723.239	97.475	Top of Electricity wire
109	299626.897	6255726.216	84.582	Top of Power Pole
106	299612.311	6255741.614	88.309	Top of Power Pole
111	299650.063	6255802.753	77.375	Top of fence
105	299618.764	6255702.876	101.472	Top of Electricity wire
211	299041.459	6255739.575	68.212	Road Line marking
207	299046.959	6255726.912	70.957	Top of Sign
204	299001.487	6255664.046	79.838	Top of Light pole
208	299026.245	6255685.625	70.042	Top of Guard Rail
203	299032.646	6255710.729	78.859	Top of Light pole
305	298867.327	6255551.292	70.169	Road Reflector
303	298828.961	6255466.812	72.044	Top of Sign
304	298927.521	6255463.958	82.483	Roof ridge
300	298878.760	6255544.804	80.376	Top of Light pole

Point Number	Easting	Northing	Reduced Level (RL)	Photo Point
607	298780.283	6255169.817	76.342	Road Reflector
600	298798.428	6255179.979	86.309	Top of Light Pole
605	298789.491	6255214.328	79.763	Top of Traffic Light
602	298800.229	6255177.016	80.263	Top of Traffic Light
609	298863.622	6255231.699	85.300	Top of Chimney
500	298787.837	6255099.447	88.442	Top of Light Pole
503	298767.031	6255049.483	75.262	Road Reflector
501	298815.647	6255084.789	92.61	Top of Guard Rail
504	298811.250	6255076.097	86.815	Top of Wall
505	298785.202	6255053.184	78.277	Top of Sign
698	299442.530	6254719.854	71.645	Top of Sign
699	299363.249	6254726.098	83.821	Top of Power Pole
695	299445.948	6254736.721	74.040	Tree Branch
702	299453.854	6254741.560	75.086	Tree Branch
696	299465.934	6254739.128	70.875	Tree Branch
691	299444.149	6254764.775	77.590	Top of Power Pole
700	299423.319	6254753.483	74.176	Tree Branch

Note: R.L. shown on the report for photo locations are ground levels. Camera height should be added to the supplied RL of each corresponding photo location.

Yours faithfully,
CMS Surveyors Pty Limited

Damon Roach



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Email: info@cmsurveyors.com.au
Web: www.cmsurveyors.com.au

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(Roseville)
MBS GREEN & ASSOCIATES
(Mona Vale)

COOTAMUNDRA
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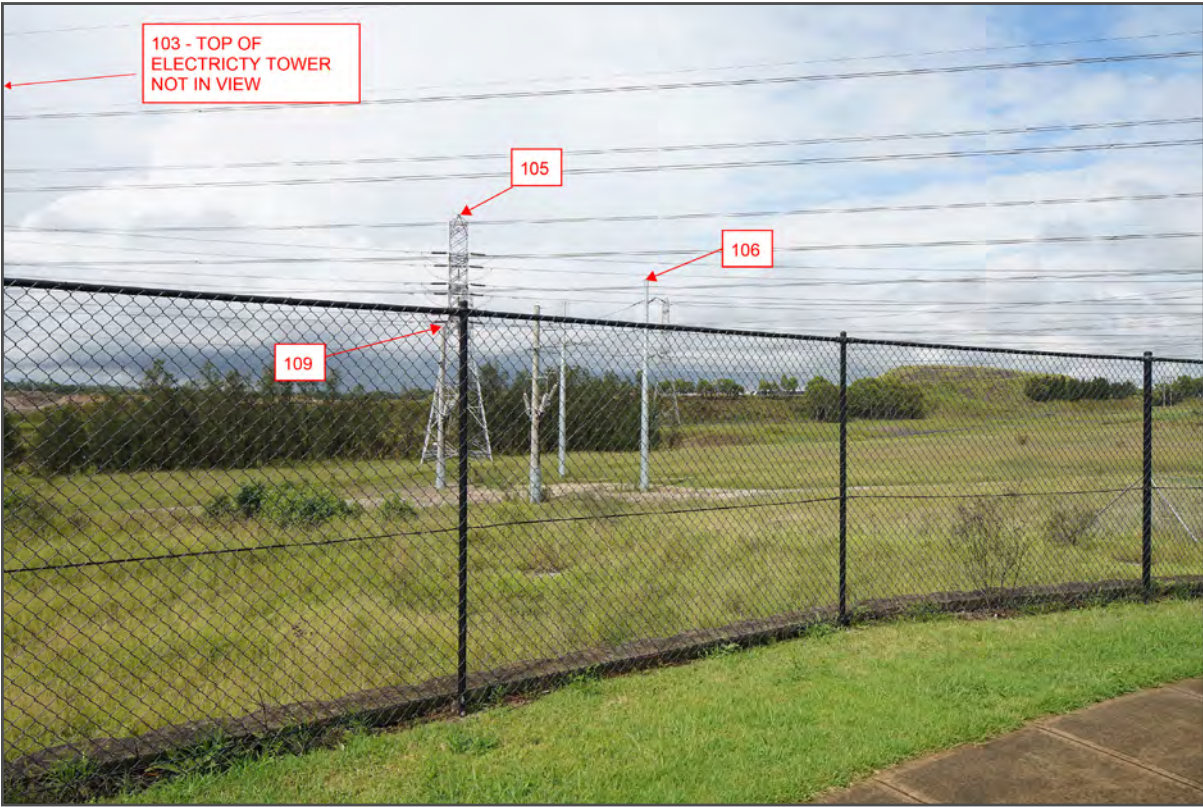
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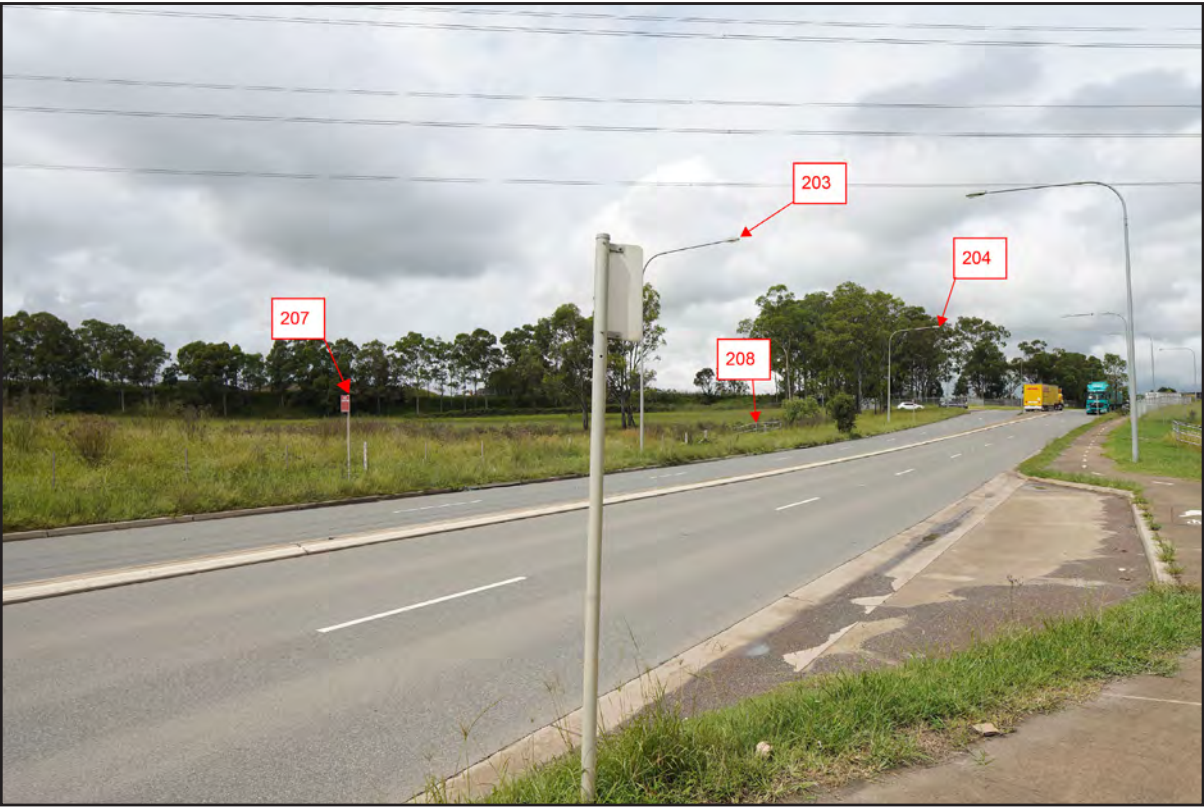


APPENDIX B: PHOTOGRAPHY SURVEY

CAMERA 01 - SURVEYED PHOTO POINTS



CAMERA 02 - SURVEYED PHOTO POINTS



CAMERA 03 - SURVEYED PHOTO POINTS



CAMERA 04 - SURVEYED PHOTO POINTS



APPENDIX B: PHOTOGRAPHY SURVEY

CAMERA 06 - SURVEYED PHOTO POINTS



CAMERA 10 - SURVEYED PHOTO POINTS



APPENDIX C: SITE SURVEY



