

VISUAL IMPACT ASSESSMENT REPORT
PROPOSED DATA CENTRE EXTENSION

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Prepared for



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1.0 PREFACE

1.1 Introduction

Geoscapes have been appointed by Macquarie Data Centres (MDC) to undertake a Visual Impact Assessment (VIA) for the proposed development of the Macquarie Park Data Centre Campus IC3 Super West site at 17-23 Talavera Road, Macquarie Park.

This VIA report serves to support the State Significant Development Application (SSDA) relating to the proposed development.

1.2 Executive Summary

This VIA has been prepared by Geoscapes on behalf of Macquarie Data Centres (MDC) C/- GIDDIS Project Management.

The following VIA has been produced to support the Environmental Impact Statement (EIS) prepared by Willowtree Planning PTY Ltd (Willowtree Planning).

The EIS has been submitted to the New South Wales (NSW) Department of Planning, Industry and Environment (DPIE), in support of an application for State Significant Development (SSD), for the construction and operation of a Data Centre, involving earth works, provision of infrastructure and expansion of an existing Data Centre at 17 – 23 Talavera Road, Macquarie Park (Lot 527 DP 752035).

The proposal represents an extension to the approved Data Centre (LDA/2018/0322) to allow for additional data storage capacity at the subject site, improving the overall operational efficiencies and provision of technology services to customers and the wider locality.

The proposal involves the construction and operation of an expansion to an existing Data Centre located at 17-23 Talavera Road, Macquarie Park (Lot 527 in DP 752035), comprising:

- a seven (7) storey building plus ground floor
- ancillary office space and staff amenities
- a back-up power system
- associated infrastructure, car parking, loading docks and landscaping

The subject site is located within the City of Ryde Local Government Area (LGA). The proposal seeks to operate 24 hours per day, seven (7) days per week.

The particulars of this proposal are summarised below:

- Minor earthworks involving cut and fill works
- Infrastructure comprising civil works and utilities servicing
- Construction of a seven (7) storey building plus ground floor extension, comprising up to:

- 15 data halls
- 20 back up generators
- Fitout of the building for use as a Data Centre (on an as-needs basis);

1.3 Site Description

The site is described as Lot 527 DP 752035, commonly known as 17 – 23 Talavera Road, Macquarie Park. The site has a total area of approximately 20,000m², with access achieved via Talavera Road.

The site forms part of the Macquarie Park Corridor, which is the strategic centre of Macquarie Park, being a health and education precinct and an important economic and employment powerhouse in Sydney's North District.

The site is described through its current commercial setting as an existing Data Centre (LDA/2018/0322), adjoining surrounding commercial premises along Talavera Road, and forming part of the wider Macquarie Park Corridor.

The site is situated approximately 12.5 km northwest of the Sydney CBD and 11.3 km northeast of Parramatta. It is within close proximity to transport infrastructure routes (predominantly the bus and rail networks), as well as sharing direct links with the wider regional road network, including Talavera Road, Lane Cove Road, Epping Road and the M2 Motorway.

These road networks provide enhanced connectivity to the subject site and wider locality. Additionally, the site is located within close proximity to active transport links, such as bicycle routes, providing an additional mode of accessible transport available to the subject site.

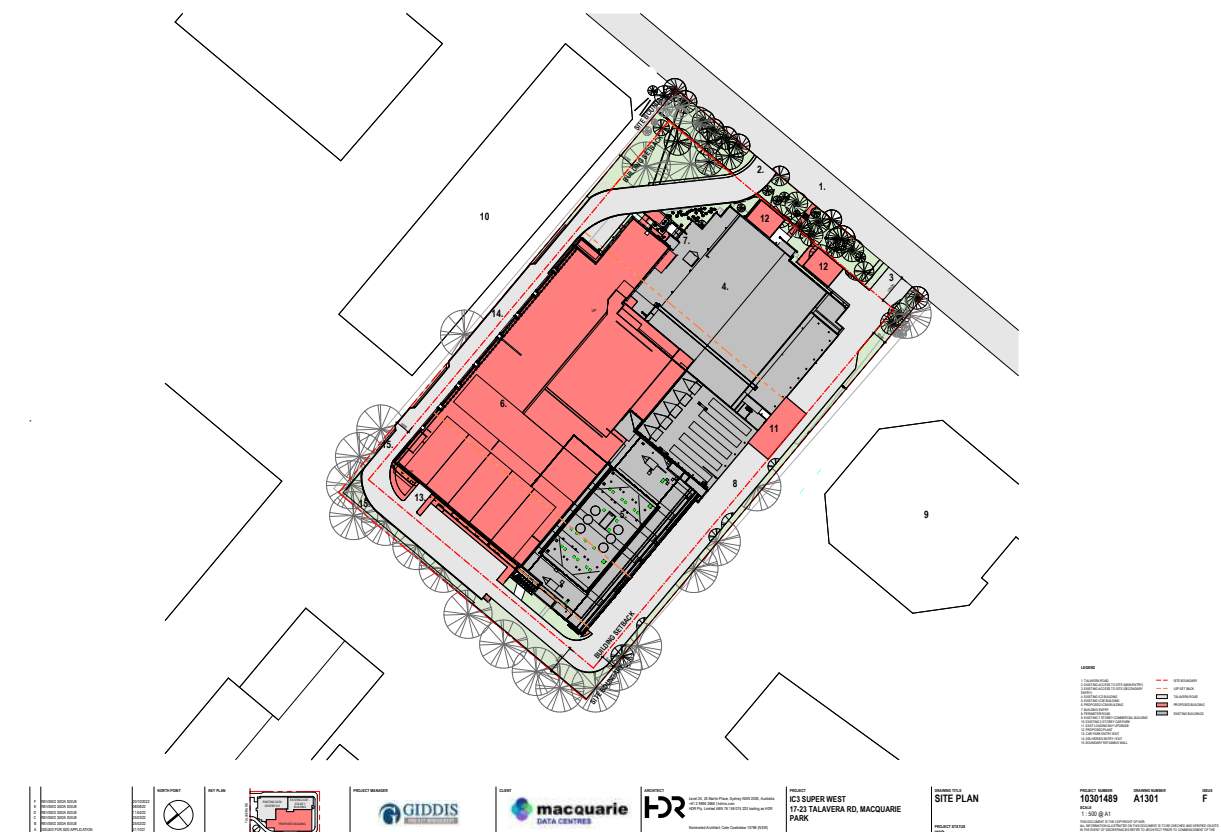


Figure 1 - Site Plan - (Source: HDR)



Figure 1a - Site Location - The Site 17 – 23 Talavera Road, Macquarie Park, being Lot 527 DP 752035. (Source: Nearmap 2021)

1.4 Secretary’s Environmental Assessment Requirements

This VIA is prepared in accordance with the Secretary’s Environmental Assessment Requirements (SEARs). The SEARs for the proposal outline Key Issues to be addressed as part of this EIS and includes the following in the table shown opposite:

Table: Summary of SEARs

SEARs Items	Secretary’s Environmental Assessment Requirements	Report Reference
Key Issues	Urban design and visual – including:	
	- demonstration of how the development will achieve design excellence in accordance with any relevant EPI provisions and the objectives for good design in Better Placed (GANSW, 2017)	Section 7.0
	- a detailed design analysis of the proposed development with reference to the building form, height, setbacks, bulk and scale in the context of the immediate locality, the wider area and the desired future character of the area, including views, vistas, open space and the public domain	This report and specifically Sections 4.0, 5.0 and 6.0
	- a visual analysis of the development from key viewpoints, including photomontages or perspectives showing the proposed development	Section 8.0
	- where the visual analysis has identified the potential for significant visual impact, preparation of a visual impact assessment that addresses the impacts of the development on the existing catchment	This report and specifically Section 8.0
	- detailed plans showing suitable landscaping which incorporates endemic species	Refer to Geoscapes landscape plans 210503_SSD_DWG SSD01 to SSD07
	- consideration of how the development would maximise opportunities for green infrastructure, consistent with Greener Places (GANSW, 2020)	Section 7.0

Geoscapes have been appointed by Macquarie Data Centres (MDC) to undertake the VIA for the proposed development of the Macquarie Park Data Centre Campus IC3 Super West site.

1.5 Author

This VIA has been written by Ben Gluszkowski (Geoscapes Director and Registered Landscape Architect) who has over 17 years’ experience in the field of Landscape Architecture. He has previously been involved in high profile LVIA’s on developments within the UK, including the M1 & M62 motorway road widening, several wind farms and energy from waste facilities (EFW).

Within Australia, Ben has completed several LVIA’s and VIA’s for some of the largest industrial developments in Sydney. These were either submitted as part of an Environmental Impact Statement (EIS) for State Significant Development (SSD) to the DPIE, or to local council. Clients have included Snackbrands Australia, Jaycar, Frasers, Altis, DCI, ESR, Charter Hall, Equinix and Airtrunk.

2.0 METHODOLOGY OF ASSESSMENT

2.1 Guidelines

LVIA or VIA does not follow prescribed methods or criteria. This assessment is based on the principles established and broad approaches recommended in the following documents:

- Guidelines for Landscape and Visual Impact Assessment (GLVIA) – Third Edition (LI/IEMA 2013)
- The Landscape Institute Advice Note 01 (2011) Photography and Photomontage in Landscape and Visual assessment.

In accordance with GLVIA3 the assessment methodology is tailored to the specific requirements of the Proposed Development, its specific landscape context and its likely significant effects. The methodology used for this assessment reflects the principal ways in which the Proposed Development is considered likely to interact with existing landscape and visual conditions as a result of:

- The permanent introduction of a Data Centre extension into the existing landscape/townscape and visual context.

Landscape assessment is concerned with changes to the physical landscape in terms of features/elements that may give rise to changes in character. Visual appraisal is concerned with the changes that arise in the composition of available views as a result of changes to the landscape, people's responses to the changes and to the overall effects on visual amenity. Changes may result in adverse (negative) or beneficial (positive) effects.

The nature of landscape and visual assessment requires both objective analysis and subjective professional judgement. Accordingly, the following assessment is based on the best practice guidance listed above, information and data analysis techniques, uses subjective professional judgement and quantifiable factors wherever possible, and is based on clearly defined terms (refer to glossary).

As stated in paragraph 1.20 of the GLVIA:

“The guidance concentrates on principles while also seeking to steer specific approaches where there is a general consensus on methods and techniques. It is not intended to be prescriptive, in that it does not follow a detailed 'recipe' that can be followed in every situation. It is always the primary responsibility of any landscape professional carrying out an assessment to ensure that the approach and methodology adopted are appropriate to the particular circumstances.”

This VIA written by Geoscapes is considered to use a methodology and approach that is appropriate to this type of industrial development.

2.2 Computer Generated Visualisations - Photomontages

It is possible that any receptor with a view towards the development, could potentially receive visual impacts with a resulting high, moderate or low impact. However, it is not feasible or practical to prepare a photomontage for each and every residential dwelling, public open space, cycleway, footpath or road within the project view-shed. Instead a selection of locations have been chosen that present an understanding of views in the surrounding context of the development.

Photography for the photomontages was undertaken by Geoscapes using a Canon 60D (DSLR) camera. A 50 mm focal length prime lens was attached to the Canon.

Photomontages have been prepared to create “simulated” views of the proposed development. Although these do not claim to exactly replicate what would be seen by the human eye, they provide a useful “tool” in analysing potential visual impacts from receptor locations.

Those viewpoints selected for photomontages, have been presented in this report as before and after images on the same sheet for ease of

comparison. The computer-generated images include a representation of landscape mitigation both immediately following installation (which have been described as year 0) and at a mature age of approximately 15-20 years. It is important to note that the year 15 images are simulations of how proposed landscaping may appear at a selected viewpoint. The final appearance of landscape mitigation will be based on many factors including growth rates, maintenance and environmental conditions. Additional A1 sized viewpoint sheets (figures 'c') have also been included for selected viewpoints in close proximity to the development, by using a larger paper size a wider angle of view can be displayed.

The assessment undertaken at year 15 assumes that such mitigation has had the opportunity to establish, mature and become effective. For the purposes of most VIA, year 15 effects are also taken to be the 'residual effects' of the development. Residual effects are those which are likely to remain on completion of the development and these are to be given the greatest weight in planning terms. The significance of visual impacts determined from viewpoint locations (which have been assessed in Section 8.0 of this report), are based on the year 15 residual effects. In certain photomontages there may be little or no difference between Year 0 or Year 15 images, this may be due to the development being partially obscured, that there is no proposed landscaping on a particular side of a development or that landscaping would be behind existing vegetation in the foreground.

The horizontal field of view (FOV) within the photomontages shown in separate A1 'a' figures, exceeds the parameters of normal human vision. While the human eye FOV is understood to be approximately 160°, the actual amount of detail in focus is much less and deteriorates towards the outer extents of the FOV. The 'Cone of Visual Attention' of the human eye is thought to be 55° however, in reality the eyes, head and body can all move and, under normal conditions, the human brain would 'see' a broad area of landscape within a panoramic view. Each of the photomontage panoramas within Section 8.0 of this report has a horizontal viewing angle of approximately 67°, viewing angles of extended 'a' figures (separate sheets to this report) vary from approximately 105° - 118°. A single photographic image from a 50mm lens has a horizontal viewing angle of 39.6°. Whilst a photomontage can provide an image that illustrates a photo-realistic representation of a development in relation to its proposed location and scale relative to the surrounding landscape, it must be acknowledged that large scale objects in the landscape can appear smaller in photomontages than in real life. This is partly due to the fact that a flat image does not allow the viewer to perceive any information relating to depth or distance. An extract taken from the Photography and Photomontage in Landscape and Visual Impact Assessment, Landscape Institute Advice Note 01/11 states that:

‘it is also important to recognise that two-dimensional photographic images and photomontages alone cannot capture or reflect the complexity underlying the visual experience and should therefore be considered an approximate of the three-dimensional visual experiences that an observer would receive in the field’.

2.3 Visual Receptor Sensitivity

People's (visual receptors) overall visual sensitivity has been assessed by combining consideration of their visual susceptibility with the value or importance that they are likely to attribute (or not) to their available views.

Factors which influence professional judgement when assessing the degree to which a particular view can accommodate change arising from a particular development, without detrimental effects would typically include:

- Judgements of value attached to views take into account recognition of the value attached to particular views e.g. heritage assets or through planning designations; and
- Judgements of susceptibility of visual receptors to change is mainly a function of the occupation or activity of people experiencing the view at particular locations; and the extent to which their attention or interest may therefore be focused on the views and the visual amenity they experience at particular locations.

Assessment of the sensitivity of visual receptors may be modified (either up or down) by consideration of whether any particular value or importance is likely to be attributed by people to their available views. For example, travelers on a highway may be considered likely to be more sensitive due to its scenic context or residents of a particular property may be considered likely to be less sensitive due to its degraded visual setting.

Typically, sensitivity of visual receptors may be judged to be very high, high, medium, low or very low. Definitions of these indicative categories as appropriate to this assessment are set out in the table opposite.

Table: Visual Receptor Sensitivity

Category	Definition
Very High	Designed view to or from a heritage / protected asset. Key protected viewpoint e.g. interpretive signs. References in literature and art/or guidebooks and tourist maps. Protected view recognised in planning policy designation [LEP, DCP, DoPE]. Views from the main living space of residential properties, state public rights of way e.g. bush trails and state designated landscape feature with public access. Visitors to heritage assets of state importance.
High	View of clear value but may not be formally recognised e.g. framed view of high scenic value from an individual private dwelling or garden. It may also be inferred that the view is likely to have value e.g. to local residents. Views from the secondary living space of residential properties and recreational receptors where there is some appreciation of the landscape e.g. golf and fishing. Local public rights of way and access land. Road and rail routes promoted in tourist guides for their scenic value.
Medium	View is not promoted or recorded in any published sources and may be typical of the views experienced from a given receptor. People engaged in outdoor sport where an appreciation of the landscape has little or no importance e.g. football and soccer. Road users on main routes (Motorway/Freeway/Highway) and passengers on trains.
Low	View of clearly lesser value than similar views experienced from nearby visual receptors that may be more accessible. Road users on minor roads. People at their place of work or views from commercial buildings where views of the surrounding landscape may have some importance.
Very Low	View affected by many landscape detractors and unlikely to be valued. People at their place of work or other locations where the views of the wider landscape have little or no importance.

For the visual receptors identified, the factors above are examined and the findings judged in accordance with the indicative categories below in the table to determine the magnitude of change.

Table: Visual Receptor Magnitude of Change Criteria

Category	Definition
Very High	There would be a substantial change to the baseline, with the proposed development creating a new focus and having a defining influence on the view. Direct views at close range with changes over a wide horizontal and vertical extent.
High	The proposed development will be clearly noticeable and the view would be fundamentally altered by its presence. Direct or oblique views at close range with changes over a noticeable horizontal and or/vertical extent.
Medium	The proposed development will form a new and recognisable element within the view which is likely to be recognised by the receptor. Direct or oblique views at medium range with a moderate horizontal and/or vertical extent of the view affected.
Low	The proposed development will form a minor constituent of the view being partially visible or at sufficient distance to be a small component. Oblique views at medium or long range with a small horizontal/vertical extent of the view affected.
Very Low	The proposed development will form a barely noticeable component of the view, and the view whilst slightly altered would be similar to the baseline situation. Long range views with a negligible part of the view affected.

In some cases, there may be no magnitude of change and the baseline view will be unaffected by the development (e.g development would be fully screened existing bushland). In this case a category of 'no change' will be used.

2.4 Significance of the Visual Impact

For each receptor type, the sensitivity of the location is combined with the predicted magnitude of change to determine the level of effect on any particular receptor. Having taken such a wide range of factors into account when assessing sensitivity and magnitude at each receptor, the level of effect can be derived by combining the sensitivity and magnitude in accordance with the matrix in the table below:

Table: Visual Receptor Magnitude of Change Criteria

Receptor for Sensitivity	Magnitude of Change					
		Very High	High	Medium	Low	Very Low
	Very High	Substantial	Major	Major/Moderate	Moderate	Moderate/Minor
	High	Major	Major/Moderate	Moderate	Moderate/Minor	Minor
	Medium	Major/Moderate	Moderate	Moderate/Minor	Minor	Minor Negligible
	Low	Moderate	Moderate/Minor	Minor	Minor Negligible	Negligible
	Very Low	Moderate/Minor	Minor	Minor Negligible	Negligible	Negligible/None

In all cases, where overall effects are predicted to be moderate or higher (shaded grey), this will result in a prediction of a significant effect in impact terms. All other effects are considered to be not significant. If a view from a receptor is judged to be 'no change' in the category of Magnitude of Change, then the significance of impact will automatically be none.

In certain cases, where additional factors may arise, a further degree of professional judgement may be applied when determining whether the overall change in the view or effect upon landscape receptor will be significant or not and, where this occurs, it is explained in the assessment.

Visual effects are more subjective as people's perception of development varies through the spectrum of negative, neutral and positive attitudes. In the assessment of visual effects, Geoscapes will exercise objective professional judgement in assessing the significance of effects and will assume, unless otherwise stated, that all effects are adverse, thus representing the worst-case scenario. The significance of visual impacts are assessed against the proposed development in isolation only.

2.5 Site Visit and Analysis of Zone of Visibility

A site visit was conducted on the 25th of June by Geoscapes. The consultant team carried out a site inspection to verify the results of a desktop study and to evaluate the existing visual character of the area. Analysis from inside of the site boundary was undertaken to approximate the Zone of Visibility. Photographs taken at eye level from the site would be limiting and only allow a partial judgement on which properties/locations in the immediate vicinity may see the development from ground level to the top of the Data Centre. This is due to the presence of existing buildings and vegetation and therefore, it is not possible to gain a complete understanding of visibility without the additional use of drone photography.

A drone was used to take panoramic photographs looking north, south, east and west, at two separate locations within the site boundary (refer to Figure 2). For two of the locations, a height was flown by the drone to approximately represent the approximate maximum RL of the Data Centre (max 45m AGL, RL97.060m is the max height of the roof screening), refer to Figures 3 to 10. Photographs taken at 45m AGL therefore approximately represent the maximum zone of visibility of the Data Centre. The flight was performed on the 25th of June 2021 by Pixel Media Productions. These photographs allow a judgement to be made on which receptors in the wider context, will be able to see the top of the Data Centre. Not all public open space/offices or residential dwellings able to see the development are highlighted on figures 3 to 10, as due to the resolution of the imagery, it was sometimes difficult to ascertain an exact property address or locations at greater distances from the drone camera. In other cases some

properties are simply obscured by existing vegetation. However, the properties or publicly accessible locations that have been shown, will provide an indication of receptors within the surrounding context, that the development will be most visible to. It is important to note that it is simply unfeasible to photograph every single possible view corridor to and from the site. It may also not be deemed relevant to provide visual impact assessment for a particular receptor due to other overriding factors such as planning designations or specific land zoning (refer to section 3.0 for details on viewpoint selection).

2.6 Photographic Recording

From desktop study, site visits and photography, locations were identified that would potentially be subject to visual impacts from the proposal.

A sample of viewpoints were selected and single photographs were taken by Geoscapes Landscape Architects using a Canon 60D DSLR Camera and a 50mm lens. Photographs were stitched together using an automated software process to create panoramic images, however, no perspective fixing was used. GPS recordings were taken and locations mapped using NEARMAP. This information was later used to create the photomontages.

In Figures 3 to 14 drone photography has also been stitched together to increase the field of view. As the drone uses a wide-angle lens, in some images there is quite distinct distortion where two images join in the foreground. However, as these images are used only for analysis and identifying potential visual receptors, this does not affect the validity of their use within this report.

2.7 Visualisation of the Development

HDR Architecture provided two 3D models to Morphmedia with both the Approved DA IC3W Scheme and Proposed SSD IC3W Scheme supplied. Morphmedia then prepared the model for VIA using Autodesk 3Ds Max. The Proposed SSD IC3W model included all aspects of the development combined with the landscape design proposed by Geoscapes.

Views were generated from the model that matched the camera positions of photographs taken from selected viewpoints. These were then combined with the photographs to create simulated views of the proposal.

Within the Year 15 images the recently approved 'Athena' Data Centre has been indicated as a ghosted white massing box. This is so that at the end of the individual viewpoint assessment a consideration of Athena can be provided and how it might affect the significance of the visual impact upon the receptor.

Photomontages are intended to be printed at A3 or 'c' figures at A1 and are to be held at a comfortable distance by the viewer, this is generally accepted by current guidelines to be anywhere from 300mm to 500mm away from the eyes and held in a flat projection.

3.0 JUSTIFICATION OF VIEWPOINTS SELECTED

3.1 Receptor Selections and Reasoning

The visual impacts generated by the proposal development have been assessed based on the criteria described in Section 2.4. The following list of visual receptors have been selected:

- Talavera Road (North), Macquarie Park (VP1)
- Talavera Road (East), Macquarie Park (VP2)
- Macquarie Gardens, 1-15 Fontenoy road, Macquarie Park (VP3)
- Waterloo Road, Macquarie Park (VP4)
- 54 Waterloo Rd (Novartis), Macquarie Park (VP5)
- Natura Apartments, 82 Waterloo Road, Macquarie Park (VP6)
- 8 Khartoum Rd, Macquarie Park (VP7)

In total 7 viewpoint locations have been selected for photomontage and visual impact assessment, refer to Figure 2a for viewpoint locations. As identified in the site 45m AGL drone photography in figures 3 to 10, it is clear that there are currently a number of other properties or open space in the surrounding vicinity that would experience views of the proposed development. A sample of these would include the following:

- 'Destination' Meriton - 1km northwest of the site boundary
- Christie Park - 1.2km northwest of the site boundary
- 66 Talavera Road, Macquarie Park - 420m northwest of the site boundary
- 26 Talavera Road, Macquarie Park - 90m north of the site boundary
- 12-24 Talavera Road, Macquarie Park - 60m east of the site boundary
- 'The Glasshouse' - 170m south of the site boundary
- Pinnacle Office Park, Macquarie Park - 550m south of the site boundary
- Residential properties in Ryde/North Ryde - 1km+ to the southwest of the site boundary
- Residential properties in Marsfield - 1.5km+ to the west of the site boundary
- 'Nueu' Apartments - 1km to the west of the site boundary
- 'Park One' Apartments - 520m to the west of the site boundary
- 'Prime', Macquarie Park - 550m to the west of the site boundary

(Note: all of the above distances are taken from the location to the closest site boundary)

There are a number of new residential towers to the west of the site, however access to take photographs from these properties was not possible. Access to the roof was possible at Natura Apartments, 82 Waterloo Road, Macquarie Park (VP7) as this building is still under construction. Viewpoint 7 is intended to representational of the type of view that could be experienced from any of the listed residential apartments above and therefore visual impacts predicted are expected to be similar.

The suburbs of Ryde, North Ryde and Marsfield contain low density housing at higher elevations that may experience views of the proposed development and these can be seen within the drone photography figures 5, 6, 9 and 10. However, due to the distance, surrounding vegetation and the fact that the Data Centre is set against the backdrop of the Macquarie Park commercial and business cores, any visual impacts generated by the Proposed IC3W Scheme are expected to be negligible.

There are a number of office buildings in close proximity to the development site on and close to Talavera Road, again access was not possible to a number of these properties or it was felt that the view would not be significantly altered due to the viewing angle.

It should also be noted that the proposed development does include a landscape plan, this is intended to supplement the site with further planting along all of the site boundaries. Following maturity this will provide a small amount of additional screening particular to those receptors located to the south.

3.2 Viewpoint Map

The symbols and numbering in Figure 2a on page 9, indicates the viewpoints and photomontages that have been selected for a Visual Impact Assessment (VIA). A sample of receptors which are closest in proximity to the proposed development and those with higher vantage points have been selected. From viewpoint locations, photomontages have been generated to represent as closely as possible views of the Approved Scheme and the Proposed Scheme following construction at year 0 and at year 15. Year 15 photomontages are used to simulate proposed landscape mitigation at maturity and also include a massing of the recently Approved Athena Data Centre to the northwest.

Refer to the visual impact assessment at Section 8.0 of this report and the corresponding viewpoints 1 to 7.



Legend

- Main Proposed Extension Building
- 1 Drone Position 1 - 45m AGL
-33.781111, 151.126694
- 2 Drone Position 2 - 45m AGL & 100m AGL
-33.780806, 151.127306

Figure 2: Drone Panoramic Photograph Positions



Figure 2a: Viewpoint Locations



Figure 3: Drone at Position 1 - 45m AGL - Looking North

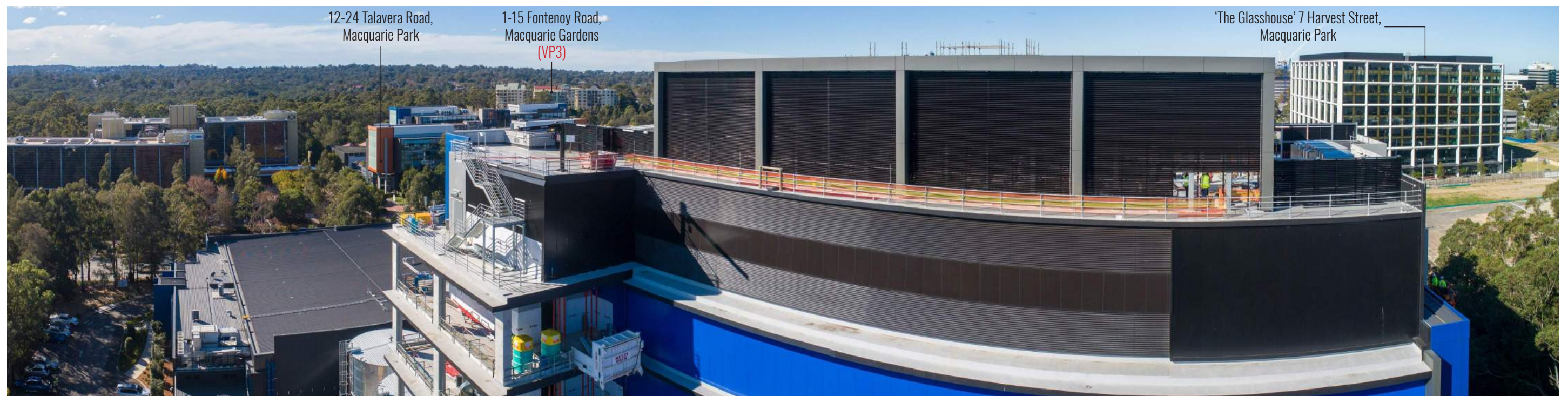


Figure 4: Drone at Position 1 - 45m AGL - Looking East

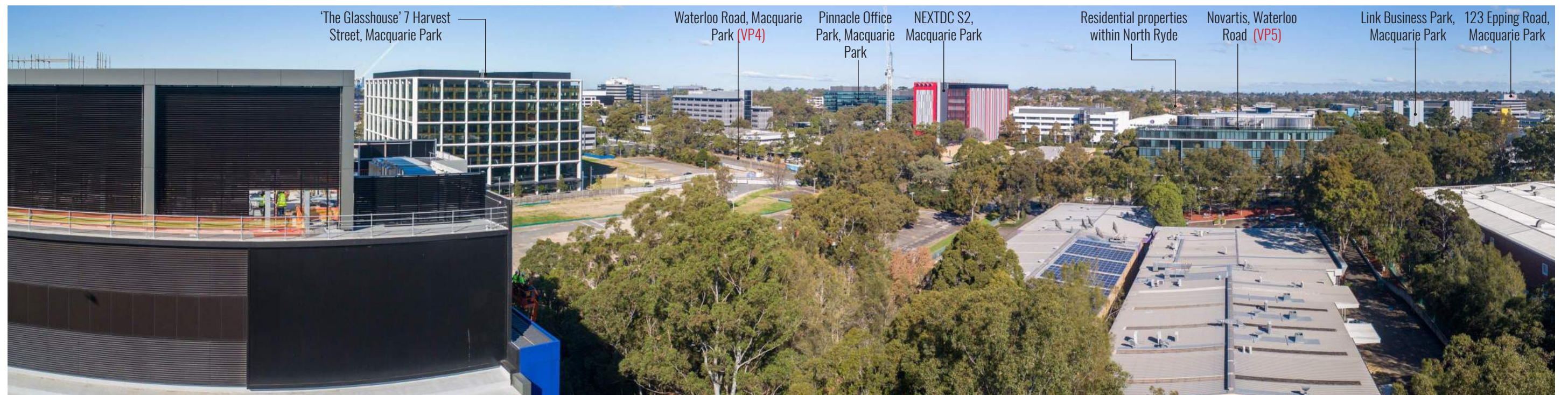


Figure 5: Drone at Position 1 - 45m AGL - Looking South

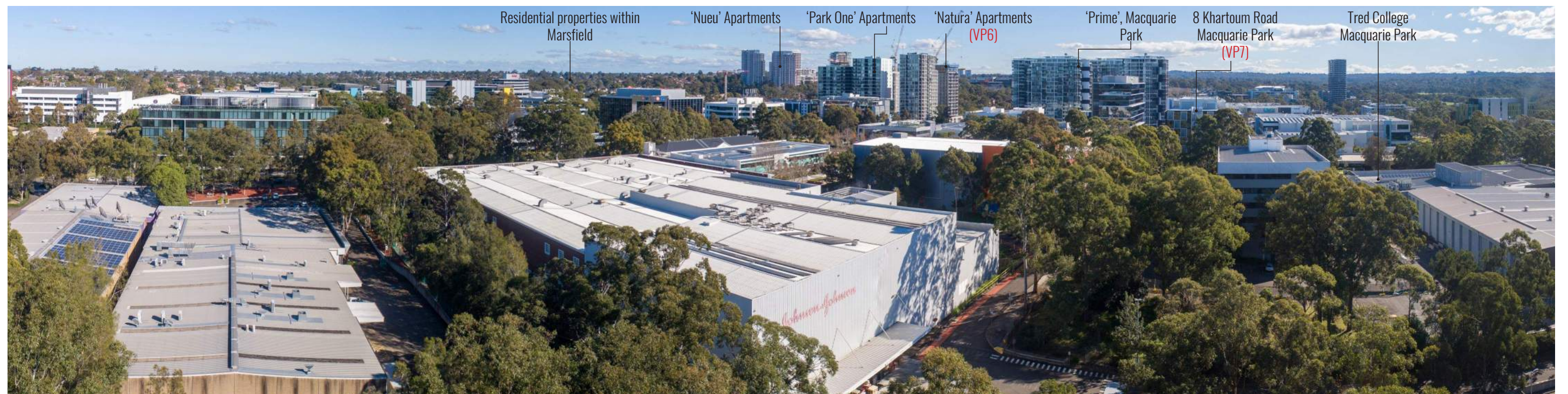


Figure 6: Drone at Position 1 - 45m AGL - Looking West

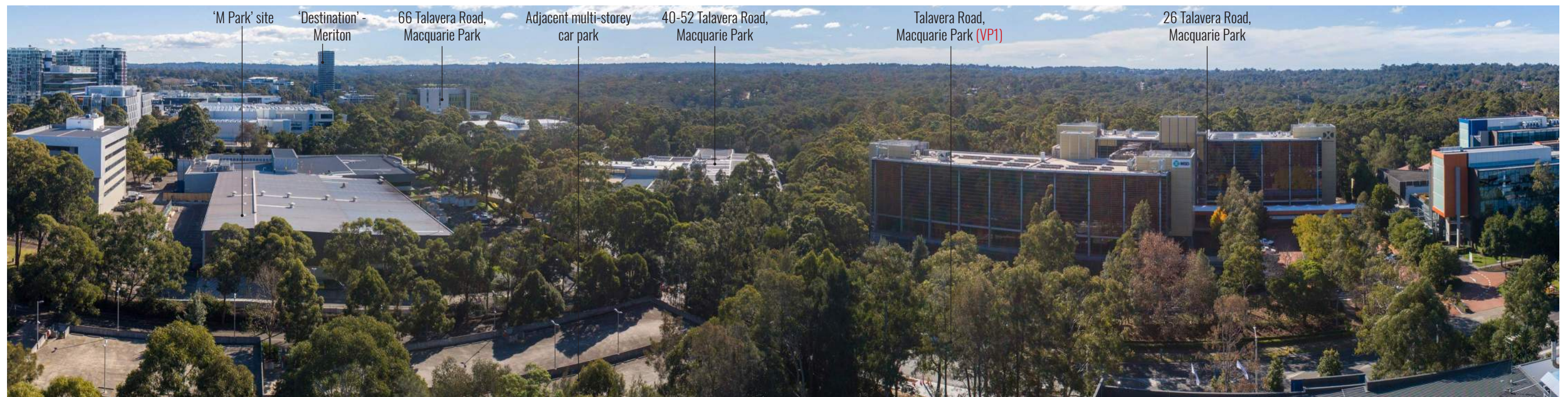


Figure 7: Drone at Position 2 - 45m AGL - Looking North

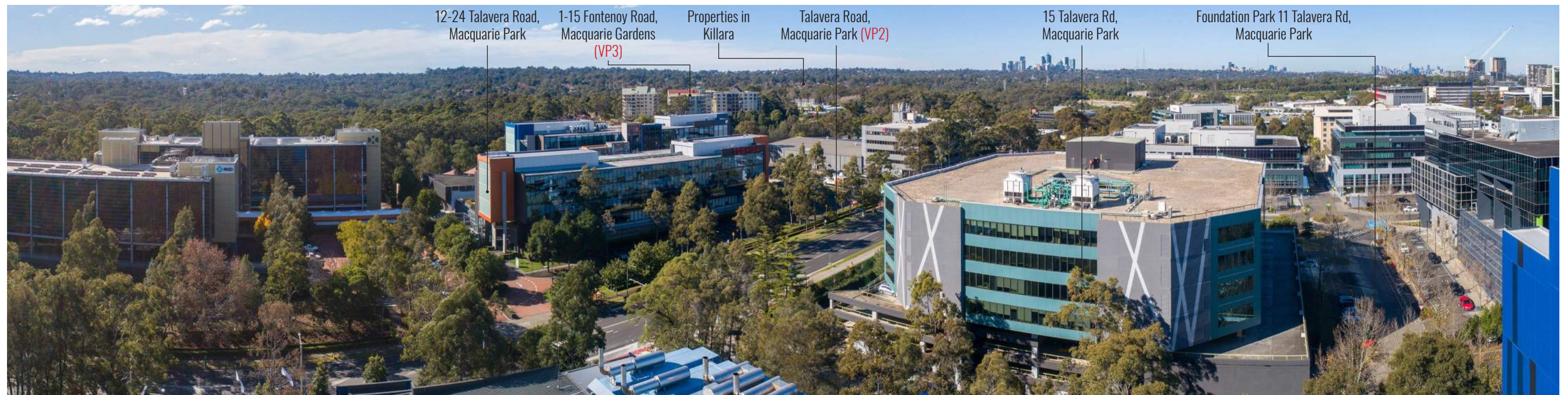


Figure 8: Drone at Position 2 - 45m AGL - Looking East

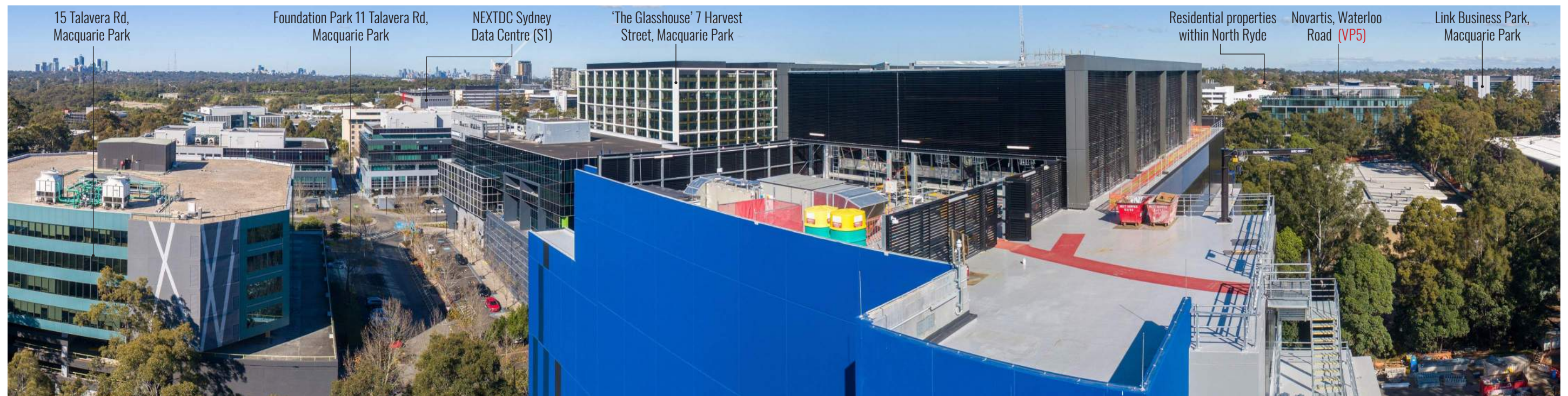


Figure 9: Drone at Position 2 - 45m AGL - Looking South

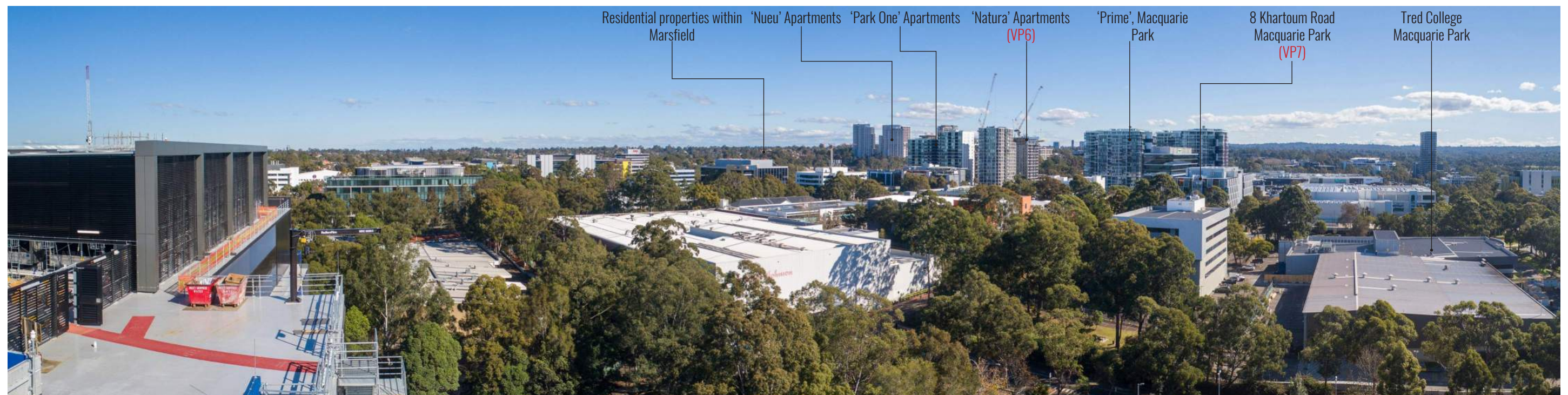


Figure 10: Drone at Position 2 - 45m AGL - Looking West



Figure 11: Drone at Position 2 - 100m AGL looking North



Figure 12: Drone at Position 2 - 100m AGL looking East



Figure 13: Drone at Position 2 - 100m AGL looking South

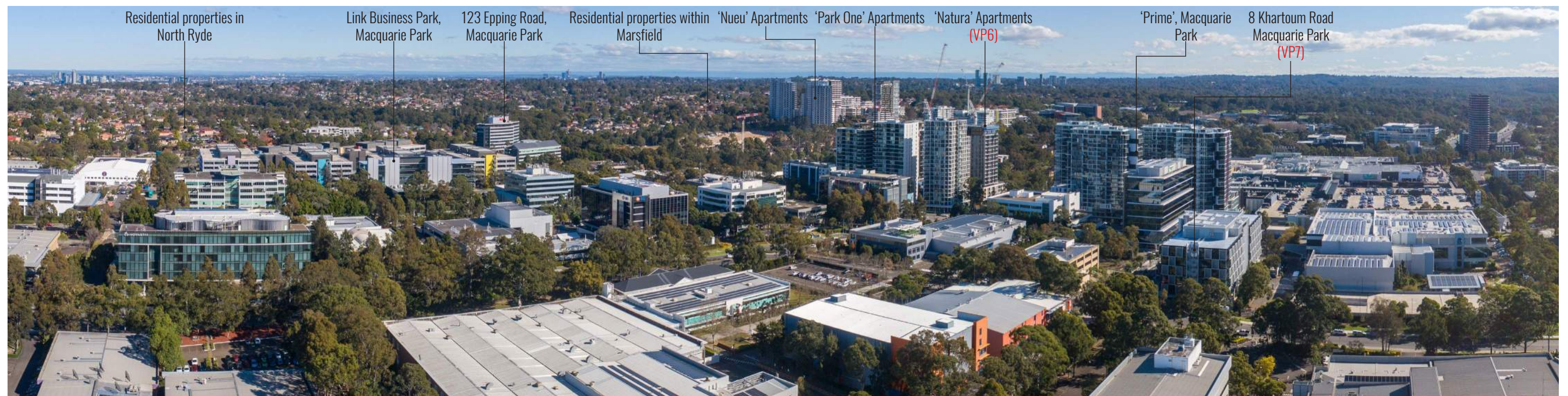


Figure 14: Drone at Position 2 - 100m AGL looking West

4.0 THE SITE AND ENVIRONS

4.1 Context

Figure 16 provides the immediate site context, Figure 17 provides the site's location in regards to its distance from Sydney CBD.

The site is located within the business district of Macquarie Park on south side of Talavera Road and falls under the City of Ryde Local Government Area (LGA). It is adjacent to similar types of commercial and office buildings commonly found within this area. Located 12 kilometres' northwest of Sydney's CBD, it is 250m from the M2 Motorway.

The site is surrounded by the following specific land uses:

- To the north on the other side of Talavera Road are a number of commercial offices including Toshiba and DXC. Further beyond is the M2 motorway Fontenoy Park, Lane Cove River and the suburb of West Pymble.
- To the south are commercial buildings and offices within the 'Commercial Core' zoning. Further south is Epping Road and North Ryde.
- To the east are commercial buildings and offices, further east is Ryde Road, Lane Cover River and the Suburb of Killara
- To the west are commercial buildings and office, further west is Waterloo Road and the suburb of Marsfield.

As described above the site is surrounded largely by a commercial core and within a large business park. Most visual receptors of the development are likely to be those within other office buildings or residential/public locations with higher vantage points at longer distance.

4.2 Aerial Photography

During the Drone photography that was carried out within the site boundary on the 28th June 2021, (refer to section 2.6 and figures 11-14) aerial shots were also taken at an AGL of 100m. These prove useful in the following ways:

- Demonstrating the site context in which the development sits and highlighting key features of the surrounding landscape;
- Analysing the existing landscape character and confirming locations of potential individual receptors.

5.0 BASELINE DESCRIPTION

5.1 Planning Context

The following current local planning controls and policies have been considered in the preparation of this Report:

Ryde Local Environmental Plan 2014 (LEP)
Ryde Development Control Plan 2010 (DCP)

The site is zoned B7 Business Park as shown in the Ryde LEP refer to Figure 18 on page 19. The development site is within the southeast area of the B7 zone and is highlighted in red. This is located adjacent to the B3 commercial core to the south and B4 mixed use to the west and results in development being surrounded by other commercial use/office buildings in the immediate context. Therefore, visual receptors are predominately workers or motorists, however there are a number of residential tower blocks to the east of the M2 and also to the west within the B4 zone which will receive views at higher elevations.

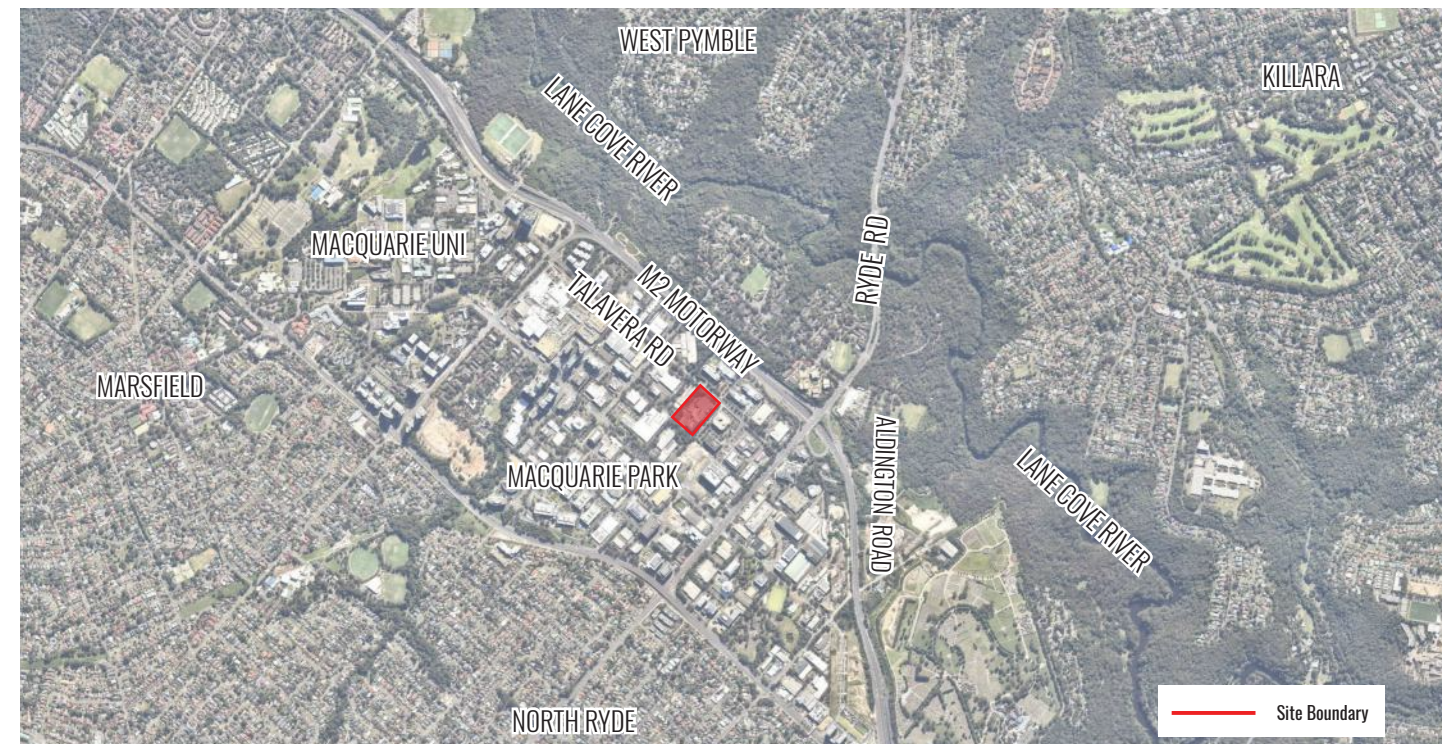


Figure 15: Site Context (Source: Nearmap 2021)

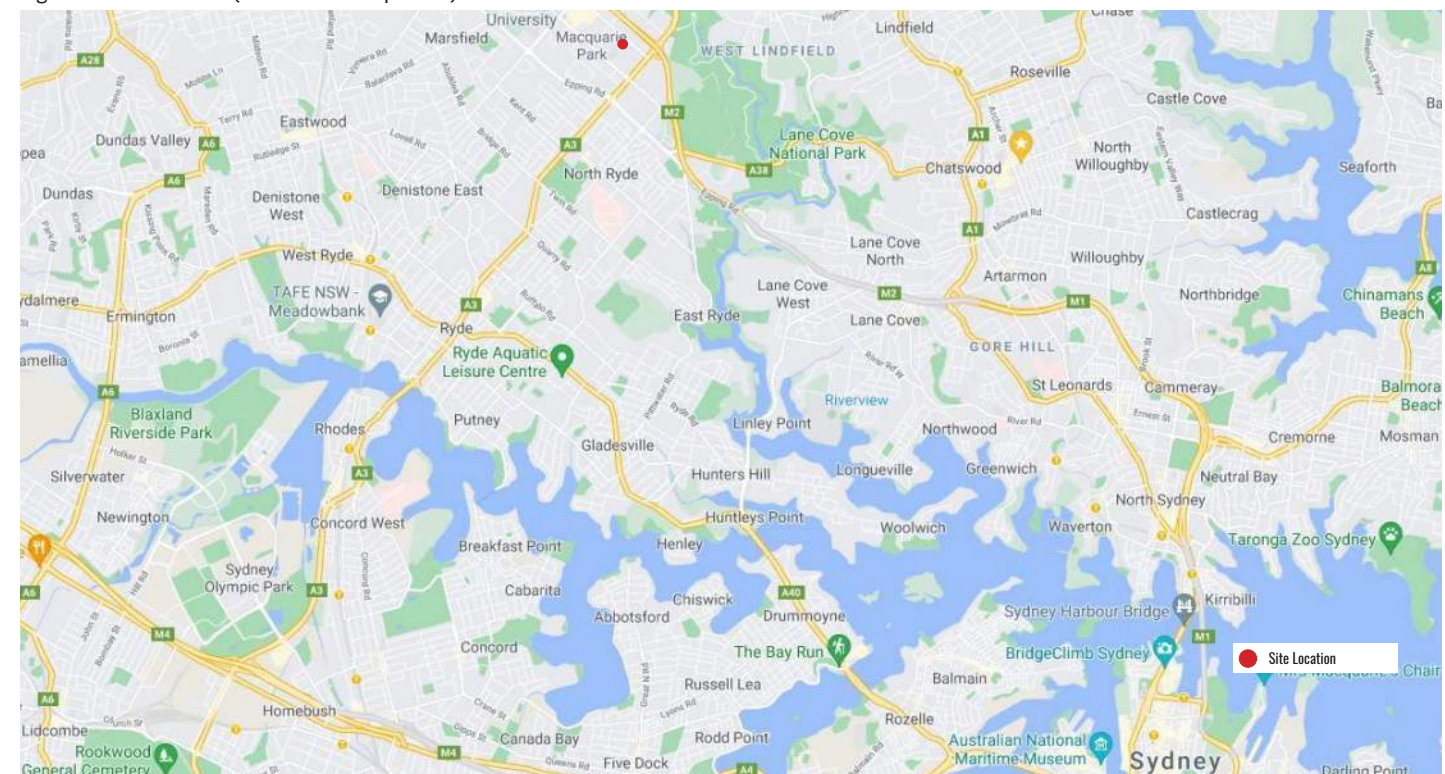


Figure 16: Wider Area Map (Source: Google Maps)

5.2 DA Approved MDC IC3W Development

As described in Section 1.0 a current approval has been granted for IC3W, based on a smaller building footprint. Figures 18a to 18d show plans, staging and elevations of the approved scheme. Stage 2 known as IC3 East was completed early in 2021 and is currently undergoing an internal fit-out. The figures within section 8.0 show photographs of the existing facility and the IC3E extension, they also show a rendered image of the DA approved IC3W scheme which now forms the baseline image on which the visual impact assessment is judged against. Any visual impacts predicted are those that are judged to be additional when **comparing the DA Approved IC3W Scheme against the Proposed IC3W Scheme**.

5.3 Landscape Character

The subject site is situated within a highly urbanised area close to the commercial core of Macquarie Park. Talvera Road is home to a number of commercial offices, Data Centres and educational facilities. Typically these include onsite parking and landscaping.

Development has increased significantly over the last decade, this includes the Chatswood to Epping Rail line in 2009 and more recently in 2019 the Sydney Metro Northwest Line currently running between Chatswood and Tallowong.

The surrounding area is characterised by commercial buildings and land uses consistent with the character of Macquarie Park as a business precinct. Large multi-storey commercial buildings within landscaped grounds are typical of the area, with on site parking provided.

Vegetation cover is typified by native and exotic canopy trees to streets and individual lots fronting roads. These are usually underplanted with a mono

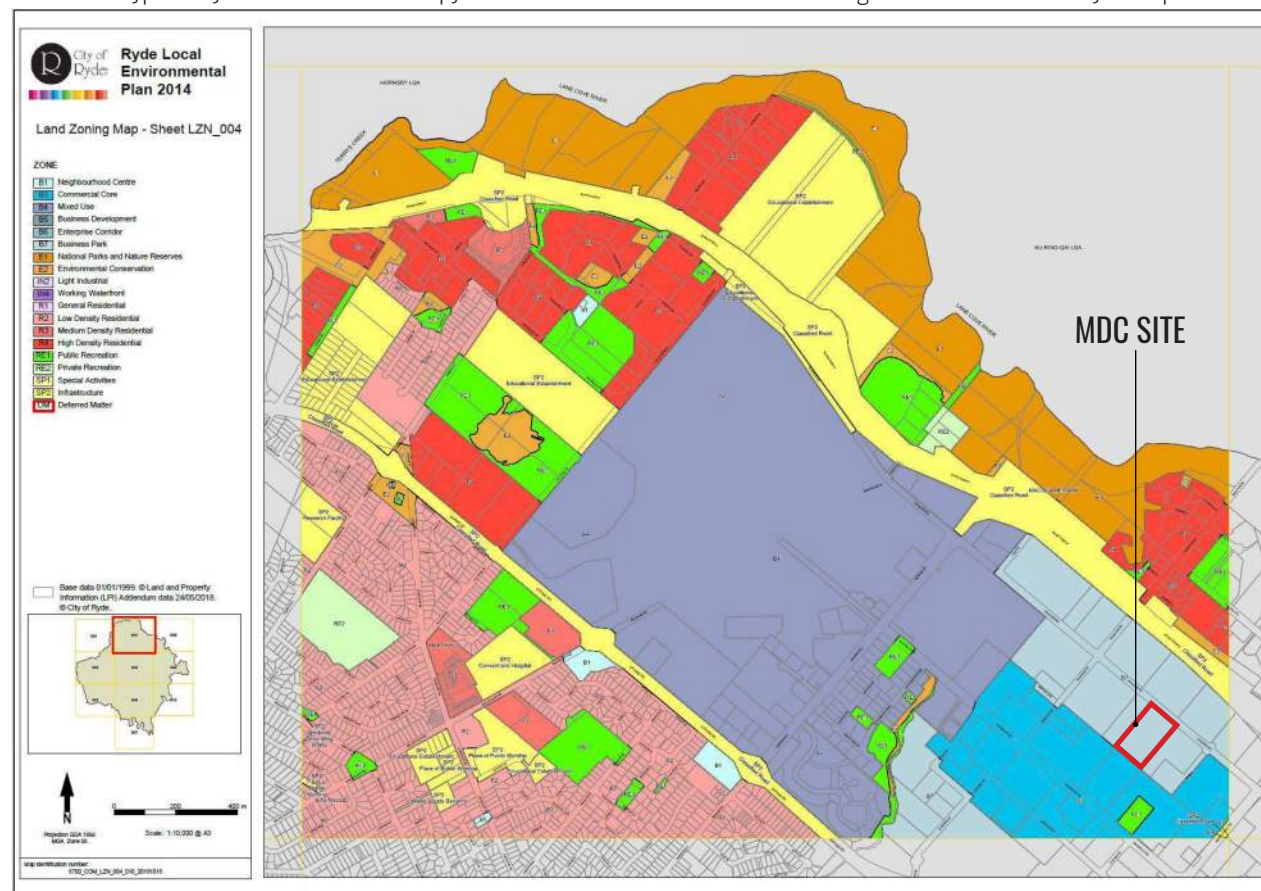


Figure 17: Land Zoning Map (Source: Ryde Local Environmental Plan 2014)

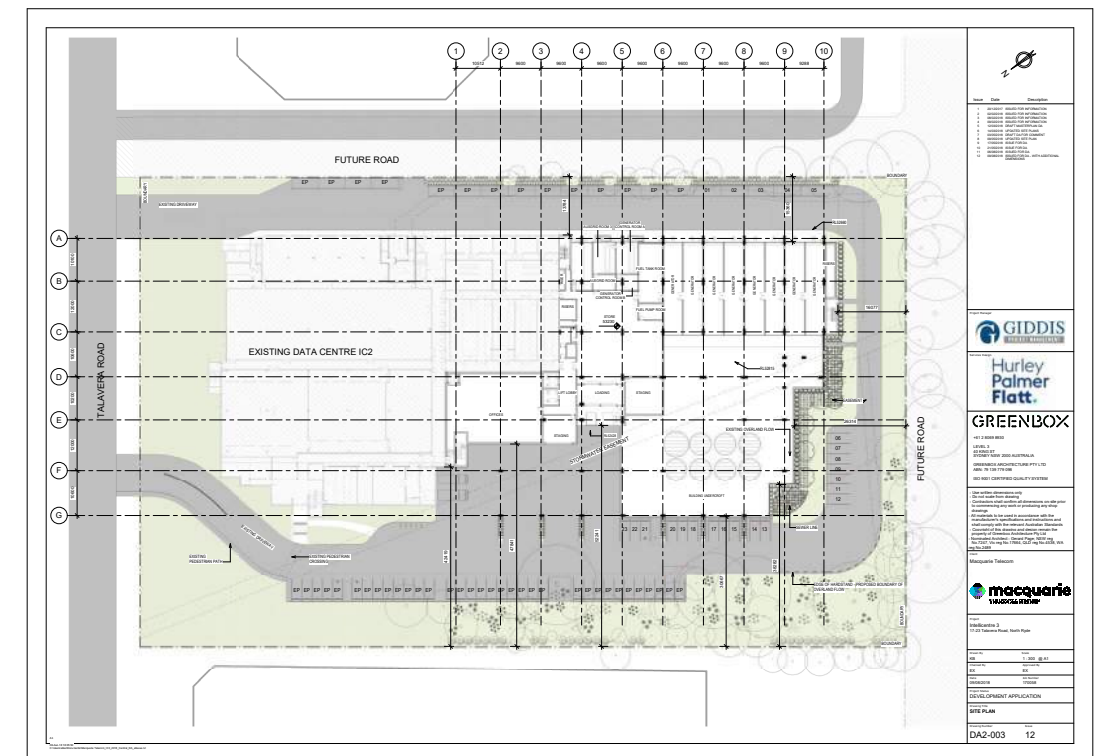


Figure 18a: DA Approved IC3W - Site Plan (Source: Greenbox)

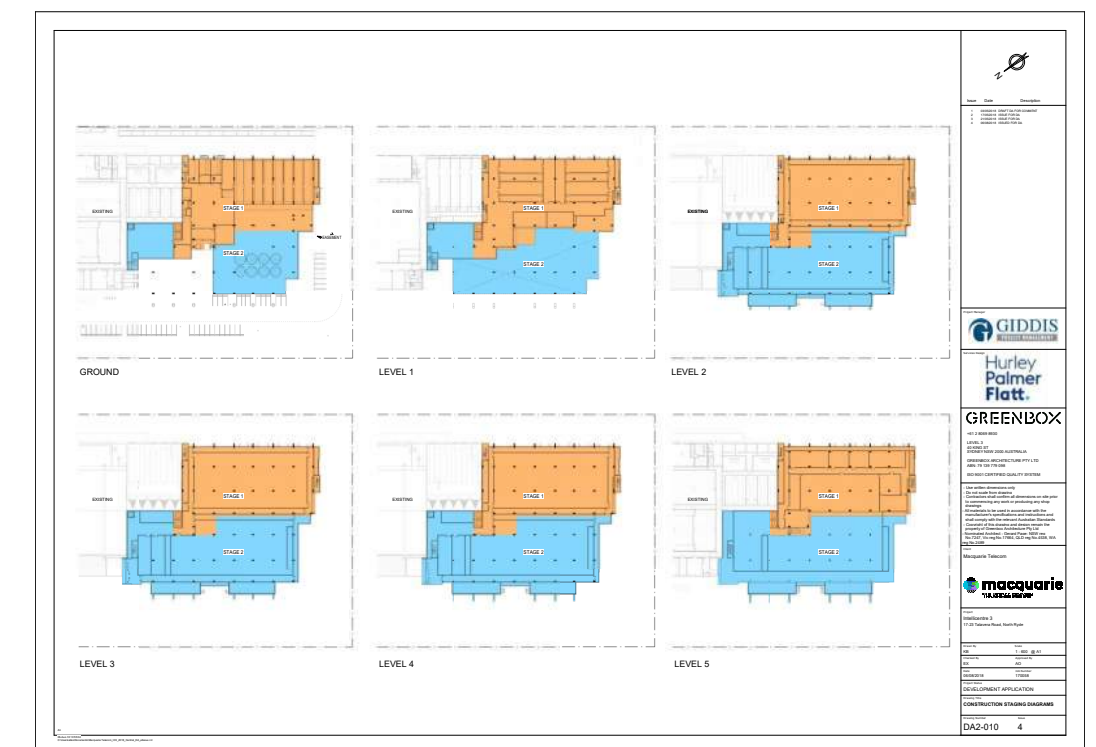


Figure 18b: DA Approved IC3W - Construction Staging Diagrams (Source: GreenBox)

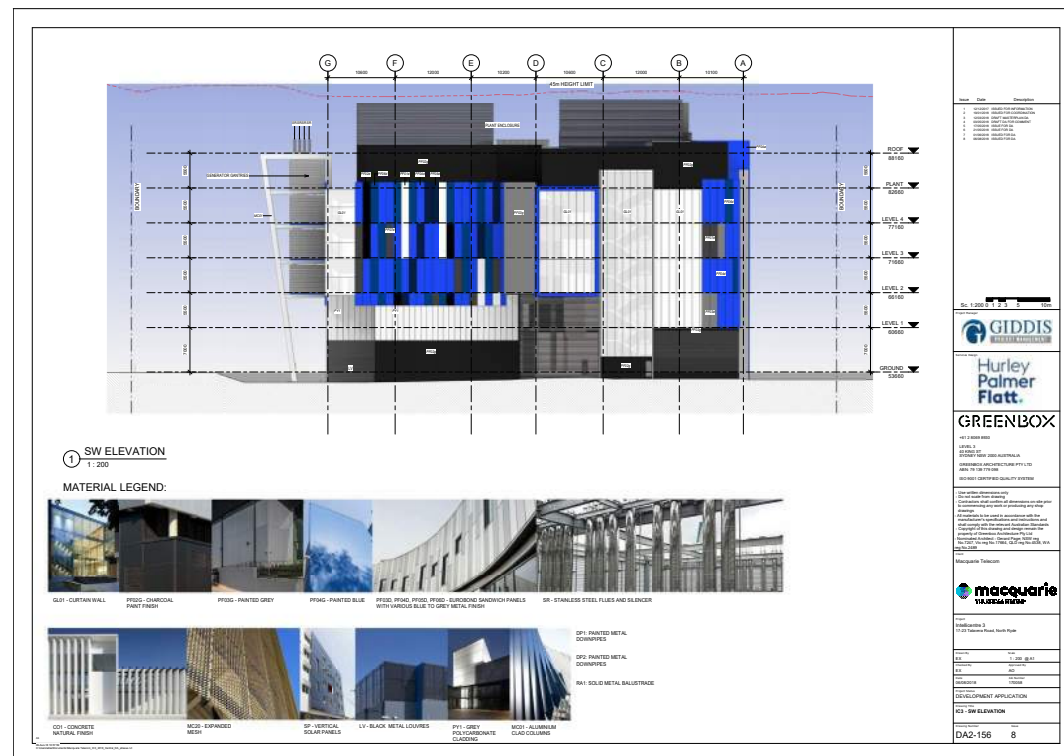


Figure 18c: DA Approved IC3W - SW Elevation (Source: Greenbox)

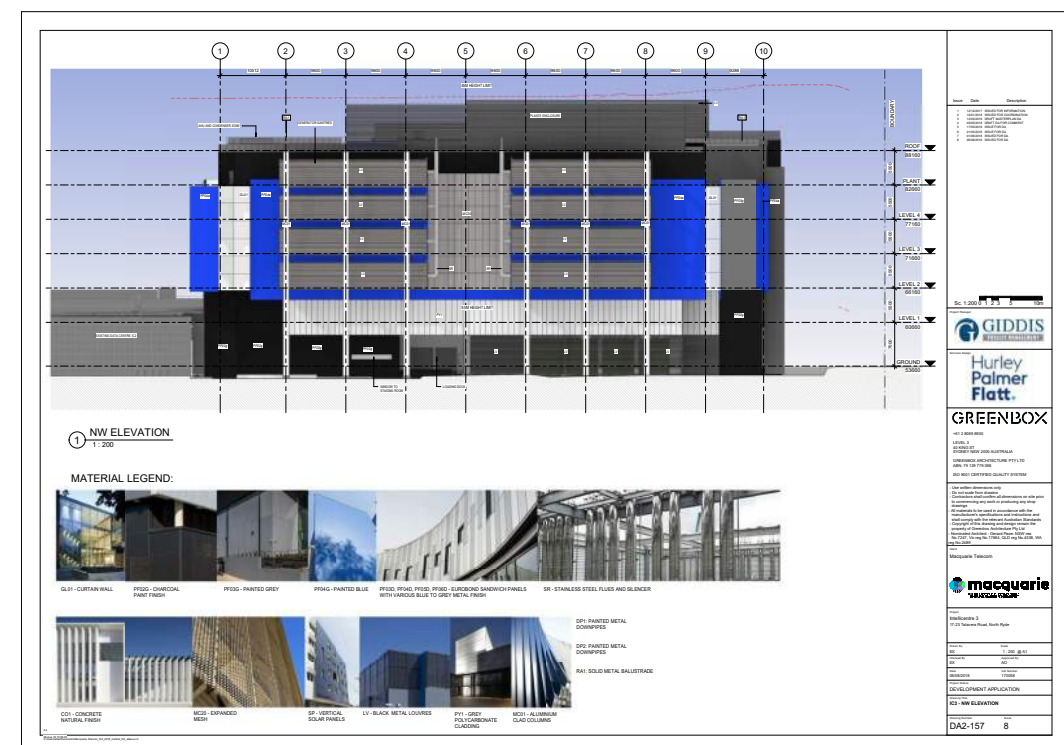


Figure 18d: DA Approved IC3W - NW Elevation (Source: GreenBox)

culture of native grasses and clipped shrubs such as Lomandra and Japanese Box. Some lots as seen in aerial maps contain open lawn or car park areas with large trees, shrubs and groundcovers surrounding the open spaces.

Other similar types of large scale, multi-level developments are located in the immediate context of the site including NEXT DC S1 and S2. It is clear from site and aerial analysis that the proposed extension to the facility is not out of character for the site or the surrounding area.

5.4 Comparable Existing Development within the Surrounding Area

To the southeast of the MDC Data Centre is the NEXTDC Sydney Data Centre (S1) located at 4 Eden Drive, Macquarie Park. This was approved in 2011 (LDA2011/0413) and completed in 2013. It contains seven data halls within a five-storey building over a development area of 18,000m². This building is seen in drone photography figures 9 and 13.

Shown in Figure 19 on page 21, the NEXTDC Sydney Data Centre (S2) is located to the south of the site at 6-8 Giffnock Avenue, Macquarie Park. This was recently completed in 2019 and contains eight data halls within an eight-storey building. The upper limit of the building is RL101.9m which sits just below the DCP 45m height limit with some small roof elements protruding through it. The Data Centre is highly prominent within the immediate area and can be seen within the drone photographs figures 5 and 13.

5.5 Comparable Future Development in the Surrounding Area

In close proximity to the north at 11-17 Khartoum Road and 33-39 Talavera Road is the Stockland 'M_Park' site. This Concept Development (LDA 2017/0547) received approval from Sydney North Planning Panel in December of 2019. A recent SSD was approved in May 2021, which proposed a Data Centre to the southern portion of the M_Park site. The development known as Macquarie Park Data Centre (SSD-10467) is a five-storey building with a roof level RL of 93.6m, the parapet wall and lift overrun extend beyond this height, but the building still falls under the height limit of 45m. The M_Park masterplan is now undergoing an amendment to incorporate changes required to accommodate the approved Data Centre. See Figure 20 for visualisations of the scheme. Following construction this development and other development within the M Park site will likely block views of the MDC Data Centre for receptors within a viewing arc between due north and west of the development.

6.0 DEVELOPMENT PROPOSALS

6.1 General

The following description with regards to visual analysis is based on the Data Centre plans, elevations and sections shown in Figures 21a to 21d. The application proposes a revised larger footprint to the DA approved scheme. This now pushes the development area further towards the north and west boundaries, as a result there is a reduction in landscaping along the western boundary and a reconfiguration to on-site parking. Access remains unchanged from Talavera Road, however access around the perimeter of the building has changed to accommodate the larger footprint. Existing landscaping to the site will be retained where possible and new planting will be introduced to accommodate any loss.

6.2 Height / Scale

The project proposal will be the same height as the recently completed 'IC3east' extension and will tie into the existing building. This results in a building that is approximately 44m tall (RL97.060) from ground floor slab level. The overall footprint of the development will also be increased with the GFA of IC3 west adding 16142m².

6.3 Colour / Materials & Finishes

Shown in figures 21c and 21d are elevations with material finishes of the extension, these are essentially the same as is found on the existing development and IC3east. They are also the same as the DA approved IC3west scheme. A combination of blue, light greys and dark grey paint

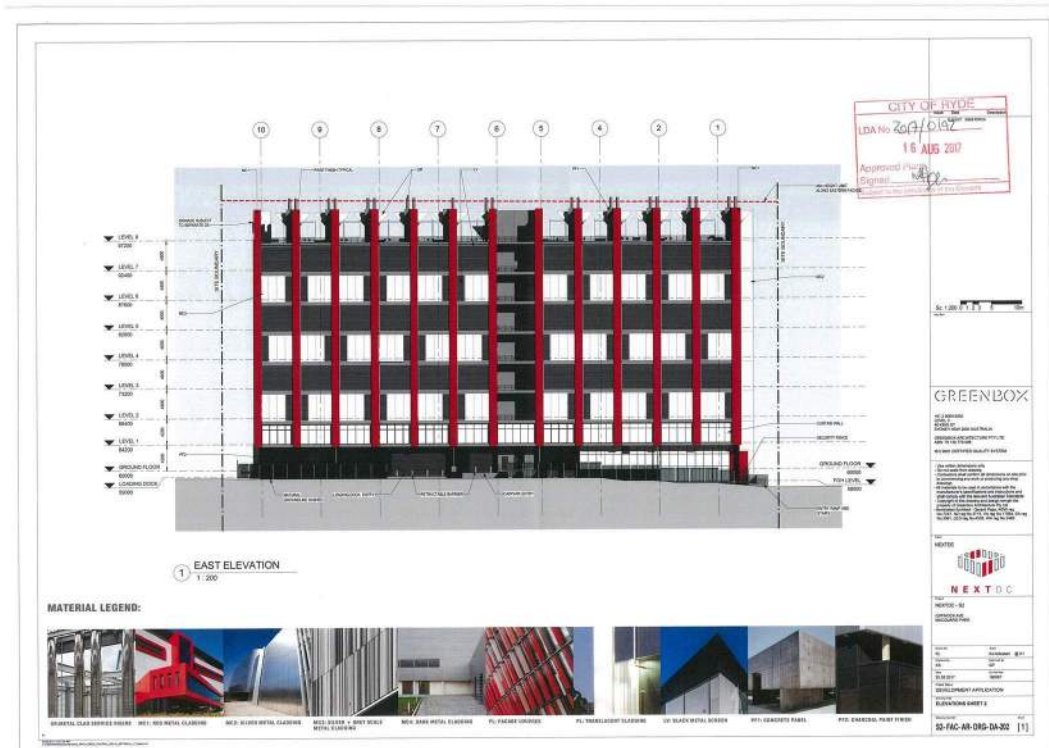


Figure 19: NEXT DC2 - East Elevation (Source: GIPA)



Figure 20: Athena Visualisation (Source: DPIE)

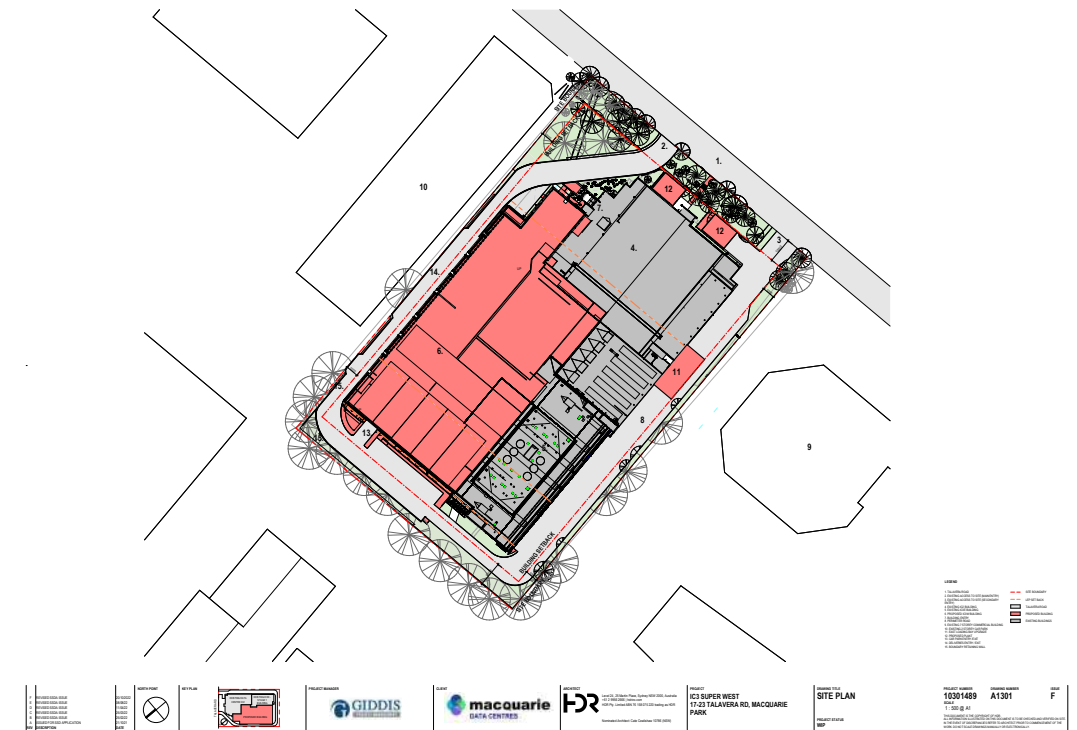


Figure 21a: Proposed SSD IC3W - Site Plan (Source: HDR)

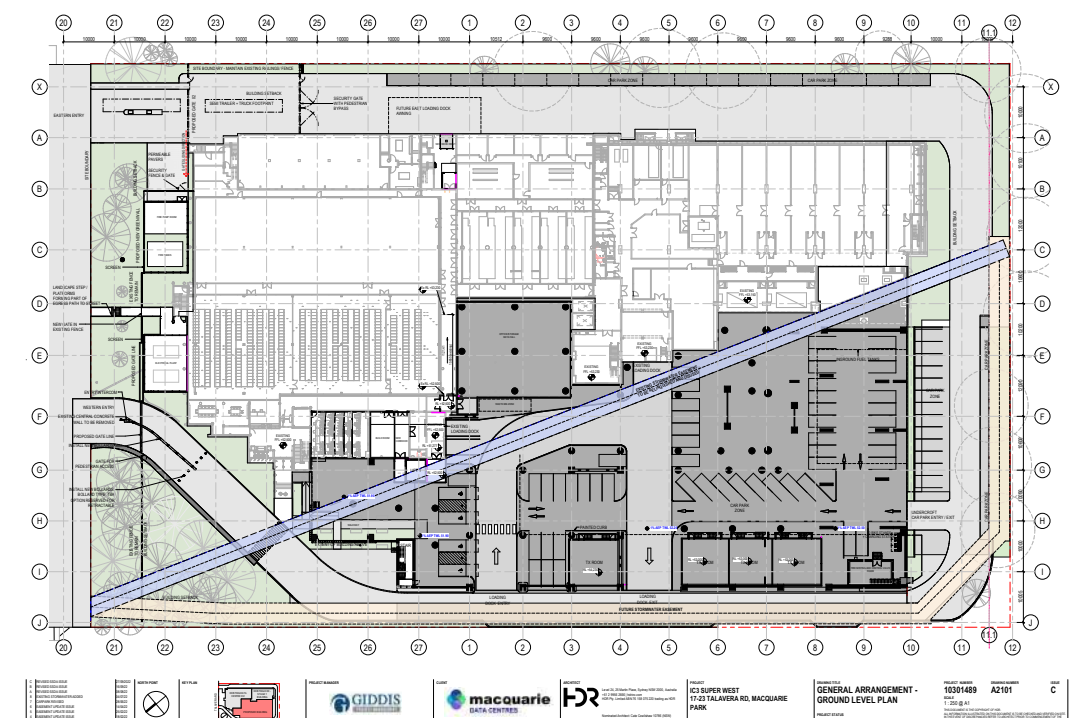


Figure 21b: Proposed SSD IC3W - General Arrangement Ground Floor (Source: HDR)

finishes are used combined with metal meshes, metal louvers, aluminum cladding and polycarbonate panels. Palisade fencing to Talavera Road has been repositioned to be adjacent to the footpath.

6.4 Summary

The revised development extension scheme is below the 45m height limit for the site and uses materials and finishes that are already used within the existing development or within the previously approved DA drawings. Due to the site being well enclosed by vegetation and other development, it is not believed that the additional expansion of the building when compared to the DA approved scheme will cause significant detrimental effects for nearby visual receivers. Refer to Section 8.0 and 9.0 for further details.

7.0 LANDSCAPE STRATEGY, DESIGN AND MITIGATION

7.1 Strategy and Mitigation

Figures 22a to 22c shows a sample of the proposed landscape SSD plans and sections produced by Geoscapes Landscape Architects. These follow previously approved landscape plans for the site with the use of endemic and native species.

Proposed landscaping for the IC3W expansion aims to offset loss of vegetation by replanting 47 endemic/native trees, approximately 170 shrubs and 5600 groundcovers. This will enhance existing areas of landscaping within the site especially those to the east and adjacent to the street. By adding additional tree planting to Talavera Road, not only will the canopy cover be increased within the public domain, but also views from the street will be further screened providing visual mitigation.

Presentation to the building main entry will also be enhanced with a proposal to remove the existing monoculture and replace it with a more varied visually inviting landscape.

7.2 Landscape Area

The proposed expansion of the Data Centre will result in a landscape area of 14.8% of the total site area. While this does not meet the Ryde DCP (Part: 4.5 Macquarie Park Corridor 8.2a) minimum 20% deep soil percentage requirement, this is still a high percentage when comparing to other recently approved developments including the Athena Data Centre to the northwest within the Stockland site (refer to Section 5.5). On an individual lot area basis, the Athena Data Centre also does not meet this requirement as shown in the AECOM development compliance tables (Source: DPIE). Part: 4.5 Macquarie Park Corridor 8.2c, also states that for the purpose of calculating deep soil areas, only areas of a minimum dimension of 20m x 10m may be included, again although this is not achieved within this proposal it is strongly believed that the areas provided for deep soil are sufficient to support canopy trees of significant size and therefore adding to the urban tree canopy objectives discussed in the Section 7.3 below.

7.3 Design Excellence and Meeting the Objectives of 'Better Placed' & Consideration of Greener Places

Landscaping has been designed to consider the objectives for design excellence as in accordance with relevant planning provisions and good design as per the Government Architect NSW 2017, 'Better Placed' and 'Greener Places' documents. This has been achieved in the following ways:

Objective 1. Better Fit –

- By understanding the vegetation endemic to the surrounding area, trees, shrubs and groundcovers from these communities have been proposed to replace existing vegetation removed. This also helps in the mitigation of visual impacts for some visual receivers.

Objective 2. Better Performance –

- Utilising native and endemic species to respond to the Secretary's Requirements while also proving low water-use landscape zones. This reduces the need for permanent irrigation to these areas.

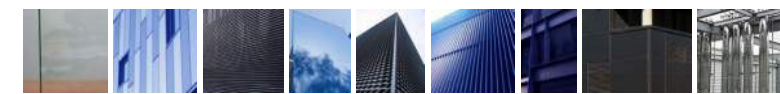
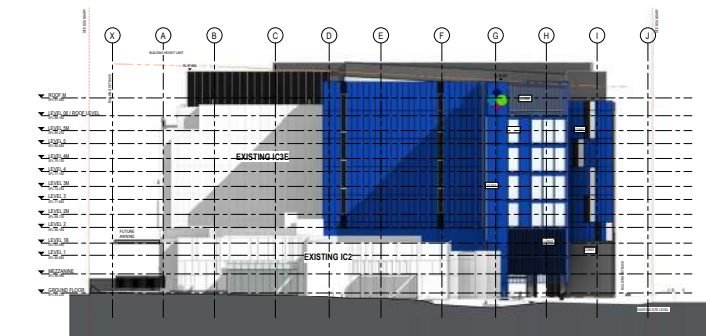


Figure 21c: Proposed SSD IC3W - North Elevation (Source: HDR)

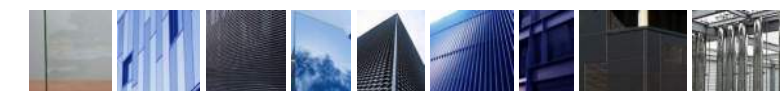


Figure 21d: Proposed SSD IC3W - West Elevation (Source: HDR)

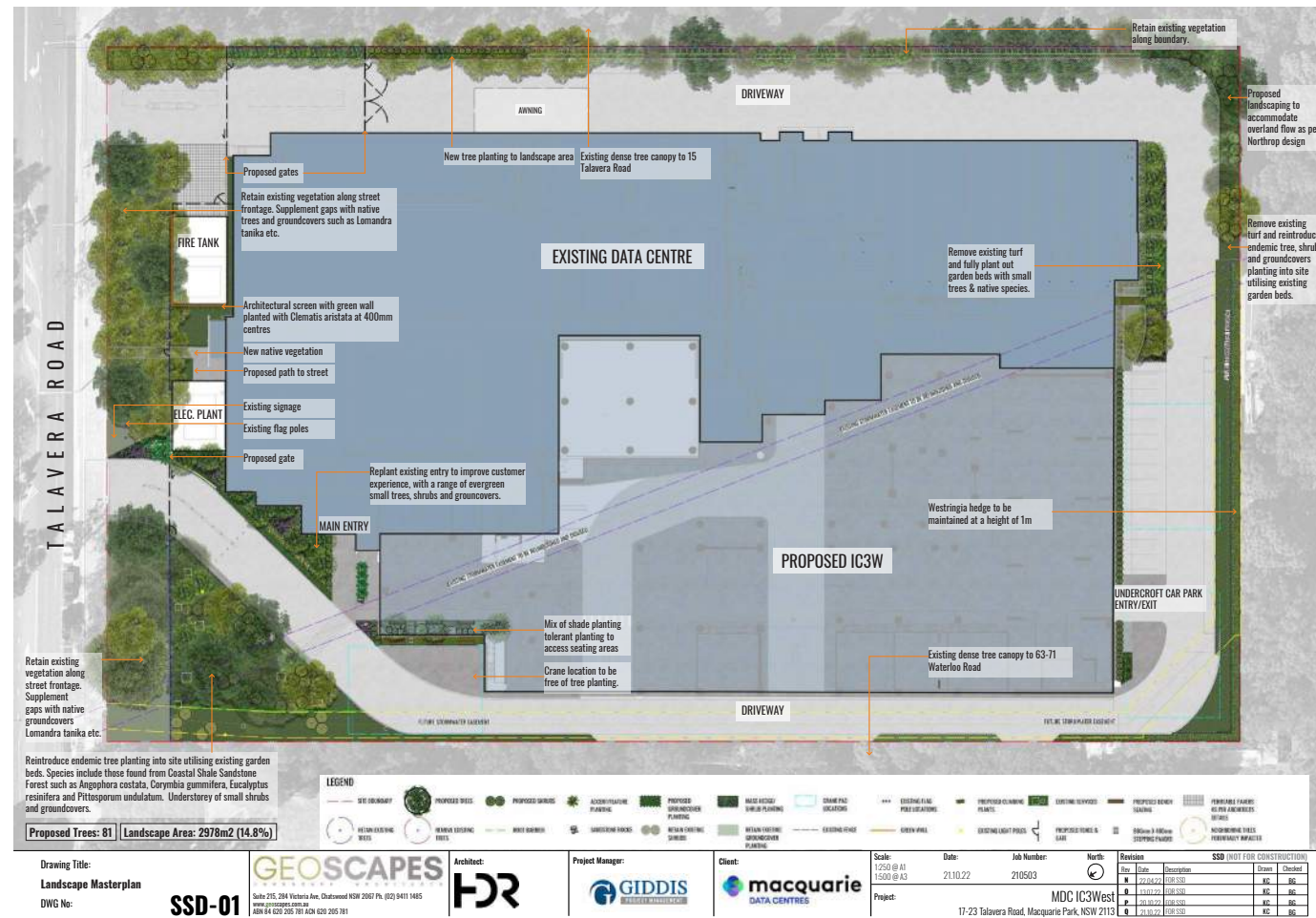


Figure 22a: Landscape Masterplan - (Source: Geoscapes)

- Provide urban tree canopy cover to combat heat island effects by replacing removed trees where possible. Further tree planting has also been proposed along the Talavera Road frontage which will increase shade to the public domain.

Objective 5. Better Working –

- By adopting a high-quality landscape setting around the development, an aesthetically pleasing outlook will be created especially on approach to the main entry.

Objective 7. Better Look and Feel –

- Creating an identifiable entry with evergreen trees and layered planting.
- Creating a sense of place and identity for the Data Centre by planting a mix of native and exotic species. This will provide seasonal interest with the use of trees, flowering shrubs and groundcovers.

7.4 Detailed Landscape Plans

Please refer to landscape design documentation prepared by Geoscapes (210503_SSD_DWG_SSD-00 to SSD-06), for detailed landscape proposals.

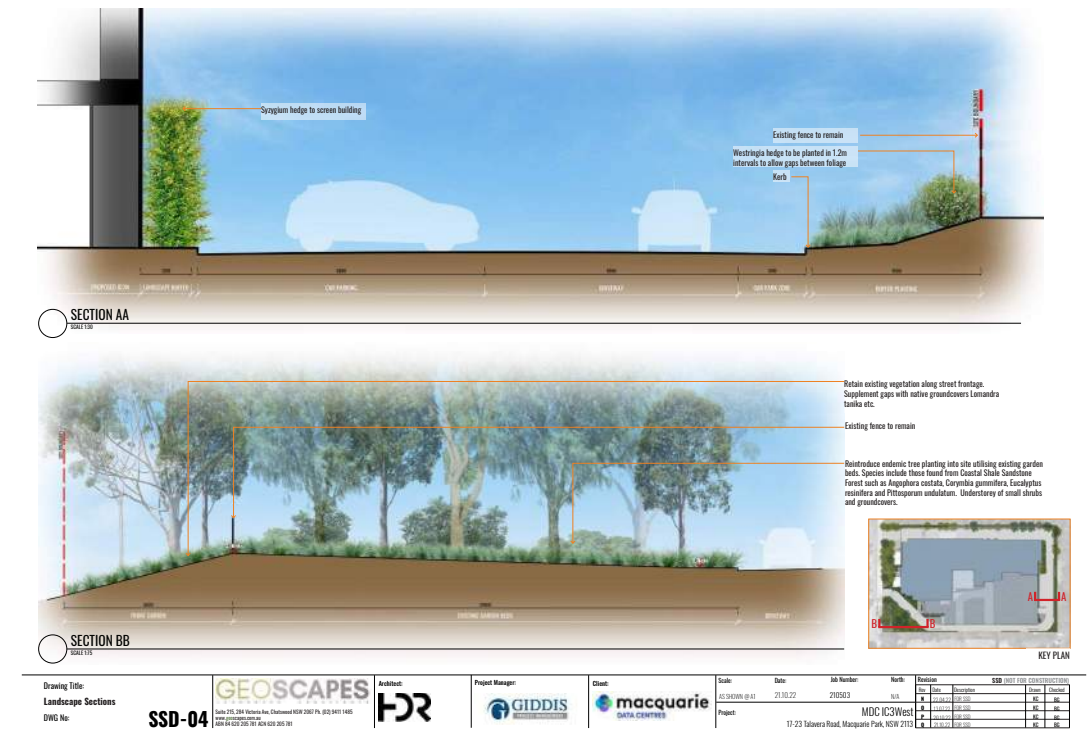


Figure 22b: Landscape Sections Sheet 1 - (Source: Geoscapes)

PLANTING SCHEDULE

Code	Botanical Name	Common Name	Height	Spread	Spacing	Plant Size	Qty
PL101	Angophora costata	Smooth Bark Apple	10-15m	✓	As Spec	150	8
PL102	Allocasuarina distachya	Black She Oak	8-12m	✓	As Spec	150	8
PL103	Corymbia gummifera	Red Gum	10-15m	✓	As Spec	150	4
PL104	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	30
PL105	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL106	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL107	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL108	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL109	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL110	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL111	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL112	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL113	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL114	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL115	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL116	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL117	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL118	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL119	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL120	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL121	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL122	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL123	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL124	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL125	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL126	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL127	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL128	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL129	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL130	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL131	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL132	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL133	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL134	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL135	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL136	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL137	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL138	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL139	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL140	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL141	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL142	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL143	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL144	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL145	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL146	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL147	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL148	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL149	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4
PL150	Leptospermum laevis	Sheathbark	4-6m	✓	As Spec	150	4

PLANT IMAGES



A. Angophora costata B. Allocasuarina distachya C. Corymbia gummifera D. Leptospermum laevis E. Leptospermum laevis F. Leptospermum laevis G. Leptospermum laevis H. Leptospermum laevis I. Leptospermum laevis J. Leptospermum laevis K. Leptospermum laevis L. Leptospermum laevis M. Leptospermum laevis N. Leptospermum laevis O. Leptospermum laevis P. Leptospermum laevis



Figure 22c: Planting Schedule & Imagery - (Source: Geoscapes)

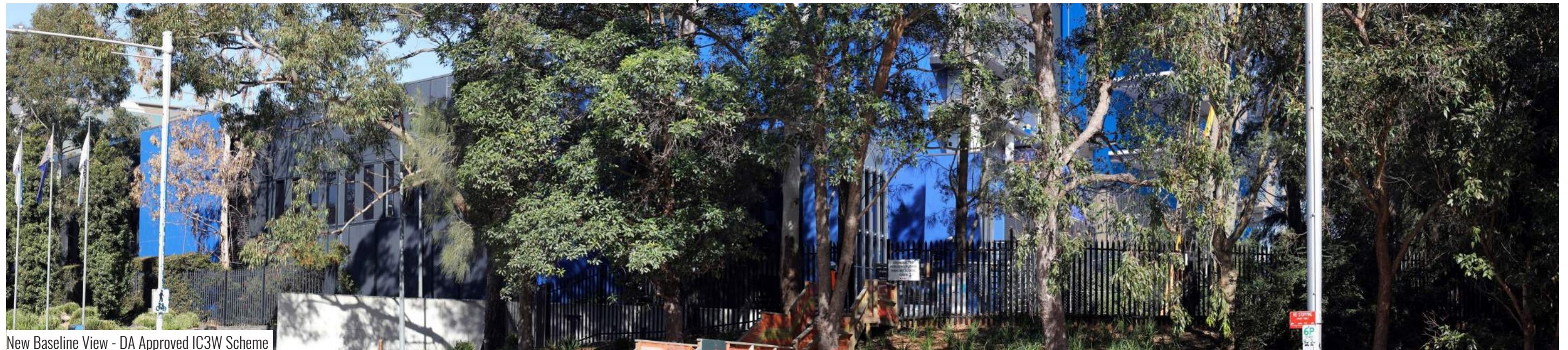
8.0 VISUAL IMPACT ASSESSMENT

8.1 Viewpoint 1

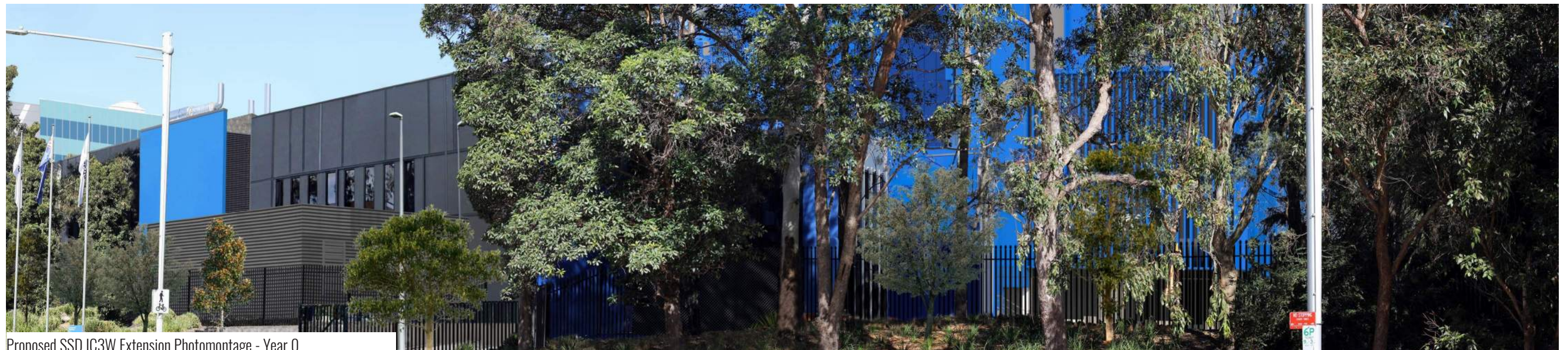
Viewing Location	Talavera Road (North), Macquarie Park - Looking South
GPS	33°46'47"S, 151°7'40"E
Elevation (Eye-level)	50.4m
Date and Time	6th July 2021 - 11.59am
Existing View & Photomontage Figures	Figures 23a, 23b and 23c (23c is a Photomontage Extended Angle of View - Refer to Section 11.0 Appendix)
Visual Description	
Approx. Viewing Distance from Lot Development Boundary	30m
View description & prominence of the development	This view was taken on the northern side of Talavera Road from the public footpath looking back towards the entry of the development. The extended angle of view Figure 23c shows the MDC site adjacent to the public domain streetscape which includes a cycleway on the south side, street lights and managed landscaping. The proposed IC3W extension is situated behind existing tree planting to the right of the shot.
Visual Receptor Sensitivity	Views looking south as shown in the existing view will generally be experienced by motorists or pedestrians on foot. As this is not a residential area, pedestrians are likely to be commuters walking to work. Views are therefore, likely to be transient and experienced for a short time period only and are unlikely to be of primary focus or importance for these types of receptor. Therefore, the sensitivity has been judged to be medium .
Proposed IC3W SSD Magnitude of Change against the Approved IC3W DA Scheme	As can be seen in the photomontages from this location the proposed SSD IC3W Scheme presents an extremely similar view to that of the Approved DA Scheme. Existing vegetation within the development site is already effective at screening the building and reducing the visual impact. Therefore, it is judged that the residual magnitude of change is low .
Significance of Visual Impact of the Proposed IC3W SSD against the Approved IC3W DA Scheme	The significance of the visual impact at this location is judged to be minor .

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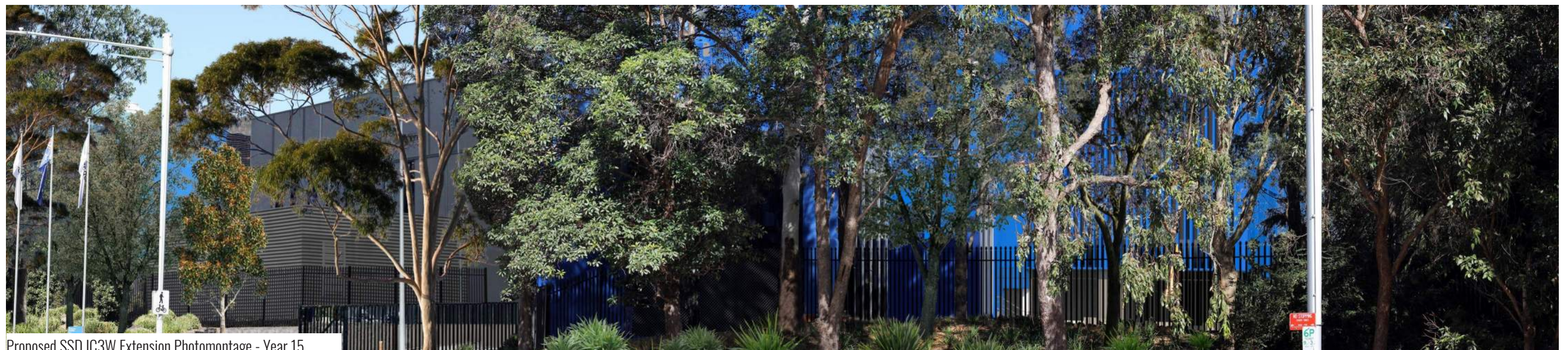




New Baseline View - DA Approved IC3W Scheme



Proposed SSD IC3W Extension Photomontage - Year 0



Proposed SSD IC3W Extension Photomontage - Year 15

Figure 23b: Viewpoint 1 - Talavera Road (North), Macquarie Park - Looking South (Proposed SSD IC3W Photomontage)

Approx Angle of View - 67°

8.2 Viewpoint 2

Viewing Location	Talavera Road (East), Macquarie Park - Looking West
GPS	33°46'51"S, 151°7'45"E
Elevation (Eye-level)	59.1m
Date and Time	6th July 2021 - 11.51am
Existing View & Photomontage Figures	Figures 24a, 24b and 24c (24c is a Photomontage Extended Angle of View - Refer to Section 11.0 Appendix)
Visual Description	
Approx. Viewing Distance from Lot Development Boundary	80m
View description & prominence of the development	Similar to Viewpoint 1, this view was also taken along Talavera Road but further to the southeast and at a higher elevation. This allows a view looking west towards the site and along Talavera Road. The extended angle of view photomontage shows a streetscape that is fairly typical of those within the business park with tree lined streets and office buildings. No. 15 Talavera Road adjacent to the development site is highly prominent in the view with office windows and a multistory car park facing the street.
Visual Receptor Sensitivity	Views will be transient and for a short time period only, similarly to Viewpoint 1 it will be seen by the same types of receptor groups. The baseline view has also slightly changed with the introduction of the DA approved scheme making the Data Centre more visible in the vertical extent of the view. Therefore, the visual sensitivity has been judged to be medium .
Proposed IC3W SSD Magnitude of Change against the Approved IC3W DA Scheme	The proposed development will form a new and recognisable element within the view which is likely to be recognised by the receptor however, the IC3W proposed scheme is coherent with the existing development in unifying materials and finishes. Therefore, it is judged that the residual magnitude of change is medium .
Significance of Visual Impact of the Proposed IC3W SSD against the Approved IC3W DA Scheme	The significance of the visual impact at this location is judged to be moderate/minor .*

***NOTE :** The 'Athena' (SSD-10467) has been represented as an opaque massing model in the Year 15 image. The above significance of visual impact has been determined on the MDC development in isolation only, however once Athena has been constructed the sensitivity from this location is likely to decrease due to another large scale development within the view and in close proximity. This in turn is likely to lower the significance of visual impact.

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Existing View



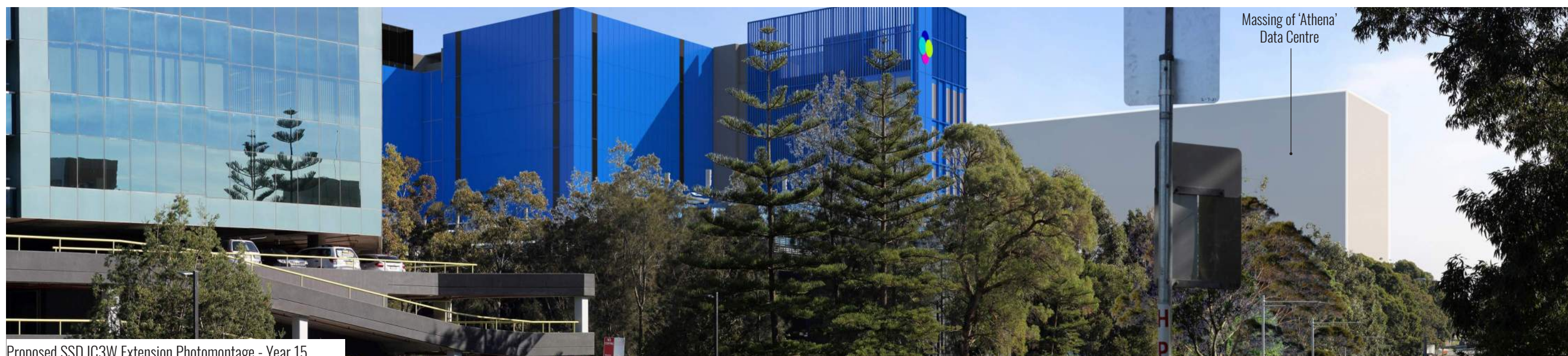
Photomontage - DA Approved IC3W Scheme



New Baseline View - DA Approved IC3W Scheme



Proposed SSD IC3W Extension Photomontage - Year 0



Proposed SSD IC3W Extension Photomontage - Year 15

8.3 Viewpoint 3

Viewing Location	Macquarie Gardens, 1-15 Fontenoy road, Macquarie Park - Looking West
GPS	33°46'47.7"S, 151°07'54.9"E
Elevation (Eye-level)	85.8m
Date and Time	14th July 2021 - 7.35am
Existing View & Photomontage Figures	Figures 25a and 25b

Visual Description

Approx. Viewing Distance from Lot Development Boundary	350m
View description & prominence of the development	<p>Macquarie Gardens is a group of residential apartment blocks to the east of the M2 which has elevated views towards the site. Not all apartments would be able to see the development as is apparent in the drone photographs within figures 4 and 8. Only those apartments on higher levels and those with windows/balconies facing west would experience views.</p> <p>The photograph shown within the existing view was taken from the Block B rooftop at an estimated elevation of RL86m, this is to represent the worse case scenario as all apartments are located below this level.</p> <p>Views are expansive over Macquarie Park and beyond, however the general focus of the view is centered on the many office buildings, apartment blocks and the existing Data Centre.</p>

Visual Receptor Sensitivity	Residential receptors are often more critical of their views and generally more sensitive however, the existing view contains many elements which focus the attention either to office buildings or other residential towers. An example 'The Glasshouse' at 7 Harvest Street, is a new element within the view which is highly visible. Longer distance views are possible but these are either to the right or left of this main core. Therefore, it is judged that the sensitivity of this visual receptor to the development is medium .
Proposed IC3W SSD Magnitude of Change against the Approved IC3W DA Scheme	The proposed development will form a new and recognisable element within the view which is likely to be recognised by the receptor. The baseline view will be changed slightly further in the horizontal and vertical extent, however the IC3W proposed scheme is coherent with the existing development in unifying materials and finishes. Therefore, it is judged that the residual magnitude of change is medium .
Significance of Visual Impact of the Proposed IC3W SSD against the Approved IC3W DA Scheme	The significance of the visual impact at this location is judged to be moderate/minor .*

*NOTE : The 'Athena' (SSD-10467) has been represented as an opaque massing model in the Year 15 image. The above significance of visual impact has been determined on the MDC development in isolation only, however once Athena has been constructed the sensitivity from this location is likely to decrease due to another large scale development within the view and in close proximity. This in turn is likely to lower the significance of visual impact.

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Existing View



Photomontage - DA Approved IC3W Scheme



New Baseline View - DA Approved IC3W Scheme



Proposed SSD IC3W Extension Photomontage - Year 0



Proposed SSD IC3W Extension Photomontage - Year 15

8.4 Viewpoint 4

Viewing Location	Waterloo Road, Macquarie Park - Looking North
GPS	33°47'3"S, 151°7'37"E
Elevation (Eye-level)	75.8m
Date and Time	6th July 2021 - 11.20am
Existing View & Photomontage Figures	Figures 26a, 26b and 26c (26c is a Photomontage Extended Angle of View - Refer to Section 11.0 Appendix)

Visual Description

Approx. Viewing Distance from Lot Development Boundary	280m
View description & prominence of the development	<p>This view was taken on the southern side of Waterloo Road approximately 100m northwest of Macquarie Park Station. It would be experienced by motorists and pedestrians traveling in a northwesterly direction. Pedestrian visual receptors are those likely to be those walking to work, the university or the station. The existing MDC Data Centre is prominent within the view behind existing vegetation in the foreground.</p> <p>Macquarie Square is due to be developed in the near future and hording for the site can be seen within the center of the view on the northern side of Waterloo Road.</p>

Visual Receptor Sensitivity	Similarly to Viewpoints 1 & 2 views will be transient and for a short time period only and will be seen by the same types of receptor groups. The baseline view has also slightly changed with the introduction of the DA approved scheme making the Data Centre slightly more apparent. Therefore, the visual sensitivity has been judged to be medium .
Proposed IC3W SSD Magnitude of Change against the Approved IC3W DA Scheme	The proposed development will form a new element within the view, however the addition of the IC3W proposed scheme is somewhat screened by existing vegetation and this will be further strengthened at Year 15 with the maturity of tall canopy tree planting. IC3W will be coherent with the existing development in unifying materials and finishes. Therefore, it is judged that the residual magnitude of change is low .
Significance of Visual Impact of the Proposed IC3W SSD against the Approved IC3W DA Scheme	The significance of the visual impact at this location is judged to be minor .*

***NOTE : This visual receptor is located adjacent to the Macquarie Square development at 45-61 Waterloo Road. Following construction of Macquarie Square the MDC Data Centre would likely be no longer visible at this location and further northwest along Waterloo Road. Therefore any visual impacts assessed may not be relevant in the near future.**

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Approximate Extent of DA Approved IC3W Extension



Existing View



Photomontage - DA Approved IC3W Scheme

Approximate Extent of Proposed SSD IC3W Extension



New Baseline View - DA Approved IC3W Scheme



Proposed SSD IC3W Extension Photomontage - Year 0



Proposed SSD IC3W Extension Photomontage - Year 15

Figure 26b: Viewpoint 4 - Waterloo Road, Macquarie Park - Looking North (Proposed SSD IC3W Photomontage)

Approx Angle of View - 67°

8.5 Viewpoint 5

Viewing Location	54 Waterloo Rd (Novartis), Macquarie Park - Looking Northeast
GPS	33°46'59"S, 151°7'30"E
Elevation (Eye-level)	82.5m
Date and Time	8th July 2021 - 11.40am
Existing View & Photomontage Figures	Figures 27a, 27b and 27c (27c is a Photomontage Extended Angle of View - Refer to Section 11.0 Appendix)

Visual Description	
Approx. Viewing Distance from Lot Development Boundary	220m
View description & prominence of the development	This viewpoint was taken from the Level 5 communal rooftop at 54 Waterloo Road, the office building is currently home to Novartis and Sandoz. As is evident in the existing view the MDC building is prominent within the view together with 'The Glasshouse' development to the right of the shot seen in figure 27c.

Visual Receptor Sensitivity	The communal space and windows facing Waterloo Road at higher levels would experience a view as shown in Figure 27a. As this receptor is representative of people at their place of work, the view may hold some value to them however, it is unlikely to be of prime importance. The MDC development is screened at lower levels the existing tree line and some longer distance views are possible. Therefore, it is judged that the sensitivity of this visual receptor is medium .
Proposed IC3W SSD Magnitude of Change against the Approved IC3W DA Scheme	The proposed development will form a new and recognisable element within the view which is likely to be recognised by the receptor. The baseline view will be changed slightly further in the horizontal and vertical extent, however the IC3W proposed scheme is coherent with the existing development in unifying materials and finishes. Therefore, it is judged that the residual magnitude of change is medium .
Significance of Visual Impact of the Proposed IC3W SSD against the Approved IC3W DA Scheme	The significance of the visual impact at this location is judged to be moderate/minor .*

***NOTE : The 'Athena' (SSD-10467) has been represented as an opaque massing model in the Year 15 image. The above significance of visual impact has been determined on the MDC development in isolation only, however once Athena has been constructed the sensitivity from this location is likely to decrease due to another large scale development within the view and in close proximity. This in turn is likely to lower the significance of visual impact.**

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Approximate Extent of DA Approved IC3W Extension



Existing View



Photomontage - DA Approved IC3W Scheme



New Baseline View - DA Approved IC3W Scheme



Proposed SSD IC3W Extension Photomontage - Year 0



Proposed SSD IC3W Extension Photomontage - Year 15

8.6 Viewpoint 6

Viewing Location	Natura Apartments, 82 Waterloo Road, Macquarie Park - Looking East
GPS	33°46'47"S, 151°7'14"E
Elevation (Eye-level)	110.3m
Date and Time	6th July 2021 - 12.40am
Existing View & Photomontage Figures	Figures 28a and 28b
Visual Description	
Approx. Viewing Distance from Lot Development Boundary	570m
View description & prominence of the development	This photograph was taken from the roof of a new apartment block currently under construction. It would be assumed that only windows facing east would experience views of the development and the amount visible will decrease at lower elevations. The rooftop therefore represents the most open views possible at this location, the view presented is a mix of residential and office developments scattered through tree lined streets. Chatswood CBD is seen on the horizon beyond Lane Cove National Park.
Visual Receptor Sensitivity	
	Views of the development are expected from within residential living spaces and residential receptors are often more critical of their views. The introduction of the Approved Scheme does make the Data Centre more prominent within the view which already contains many built forms and elements within the immediate context. Therefore, it is judged that the sensitivity of this visual receptor is medium .
Proposed IC3W SSD Magnitude of Change against the Approved IC3W DA Scheme	The proposed IC3W SSD development will appear similar in scale to the Approved Scheme with a slight increase in the horizontal plane. This will form a minor constituent being at sufficient distance to be a small component. Therefore, it is judged that the magnitude of change is low .
Significance of Visual Impact of the Proposed IC3W SSD against the Approved IC3W DA Scheme	The significance of the visual impact at this location is judged to be minor* .

***NOTE :** The 'Athena' (SSD-10467) has been represented as an opaque massing model in the Year 15 image. Once Athena has been completed it is likely to restrict views from this location towards to MDC site. The Athena development will also become a much more dominant element within the view than the proposed MDC expansion, this statement would be true at many visual receptor locations to the east at viewing similar angles.

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Approximate Extent of DA Approved IC3W Extension



Existing View



Photomontage - DA Approved IC3W Scheme

Approximate Extent of Proposed SSD IC3W Extension

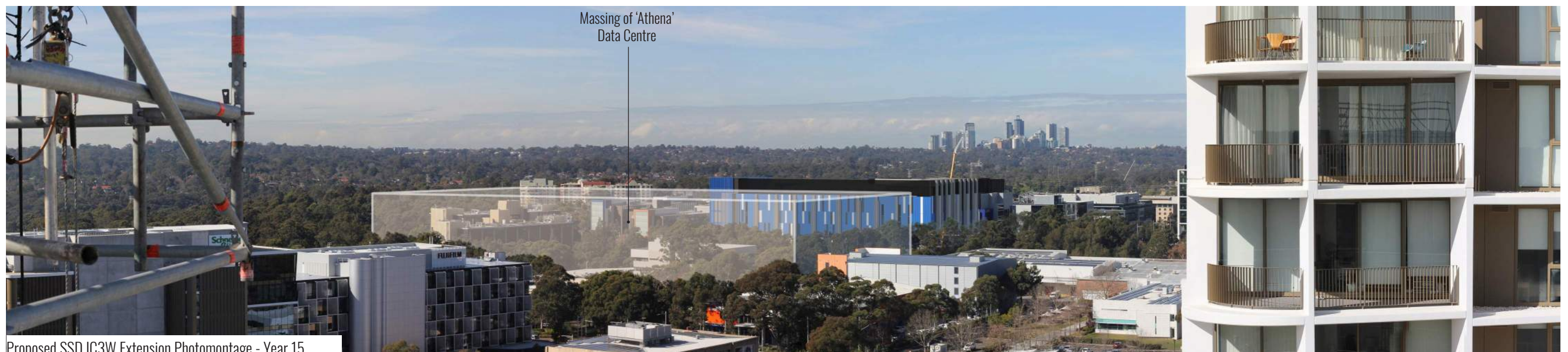
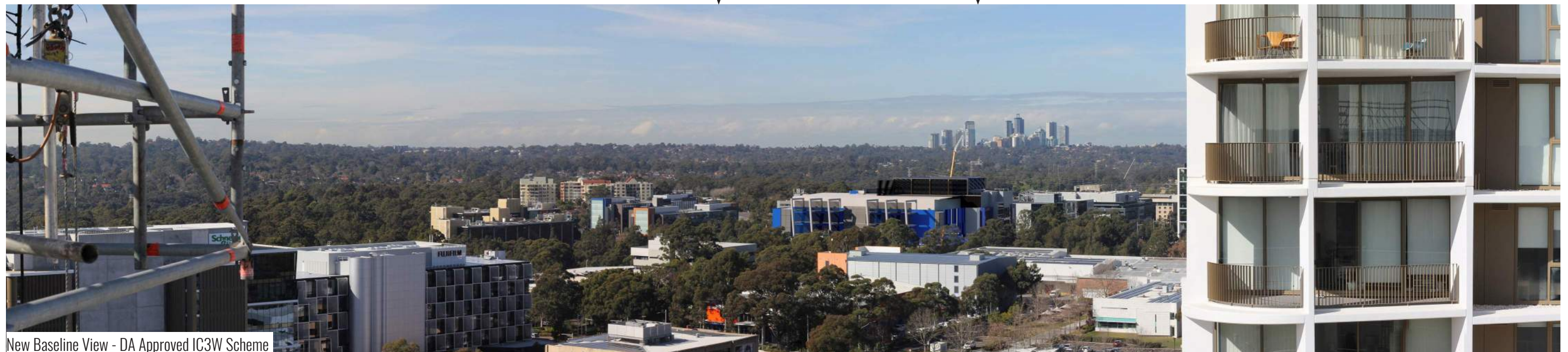


Figure 28b: Viewpoint 6 - Natura Apartments, 82 Waterloo Road, Macquarie Park - Looking East (Proposed SSD IC3W Photomontage)

Approx Angle of View - 67°

8.7 Viewpoint 7

Viewing Location	8 Khartoum Rd, Macquarie Park - Looking Southeast
GPS	33°46'46"S, 151°7'28"E
Elevation (Eye-level)	79.5m
Date and Time	8th July 2021 - 11.14am
Existing View & Photomontage Figures	Figures 29a, 29b and 29c (29c is a Photomontage Extended Angle of View - Refer to Section 11.0 Appendix)
Visual Description	
Approx. Viewing Distance from Lot Development Boundary	250m
View description & prominence of the development	<p>Viewpoint 7 is located northwest of the MDC site in a new office development at 8 Khartoum Road. This receptor was determined through drone photography as a recently constructed development that will receive views of the proposal from windows facing this aspect (refer to Figure 6).</p> <p>The photograph was taken on a fire escape adjacent to Level 5 and would closely represent what might be seen from inside the building. The existing MDC Data Centre is presently partially hidden behind tree canopies.</p>
Visual Receptor Sensitivity	Windows facing Khartoum Road at higher level would experience a view as shown in Figure 29a. The MDC development is screened at lower levels by the existing tree line and some longer distance views are possible. As this receptor is representative of people at their place of work the view may hold some value to them however, there are many other types of development within the view. Therefore, it is judged that the sensitivity for this receptor to the proposed IC3W expansion would be low .
Proposed IC3W SSD Magnitude of Change against the Approved IC3W DA Scheme	The proposed development will form a new and recognisable element within the view which is likely to be recognised by the receptor. The baseline view will be changed slightly further in the horizontal and vertical extent however, the IC3W proposed scheme is coherent with the existing development in unifying materials and finishes. Therefore, it is judged that the residual magnitude of change is medium .
Significance of Visual Impact of the Proposed IC3W SSD against the Approved IC3W DA Scheme	The significance of the visual impact at this location is judged to be minor .*

*NOTE : The 'Athena' (SSD-10467) has been represented as an opaque massing model in the Year 15 image. Once Athena has been completed it is expected to completely block any views from this location towards the MDC site.

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Existing View



Photomontage - DA Approved IC3W Scheme



New Baseline View - DA Approved IC3W Scheme



Proposed SSD IC3W Extension Photomontage - Year 0



Proposed SSD IC3W Extension Photomontage - Year 15

9.0 CONCLUSIONS

The purpose of this Visual Impact Assessment (VIA) is to support a State Significant Development application for the Macquarie Park Data Centre Campus IC3 Super West Expansion located at 17-23 Talavera Road, Macquarie Park. This report relies on desktop study, on-site analysis, drone photography and photomontages of the proposal. Potential visual impacts have been assessed for a number of locations that are either in close proximity to the proposed development or at elevated vantage points.

A previous DA approval for the IC3W was granted by the City of Ryde in October of 2019 for a smaller extension. This VIA report now compares the visual impact of the new 'SSD IC3W Proposed Scheme' against that of the 'DA Approved Scheme'. Photomontages of the DA Approved Scheme are presented within this report and these become the baseline image in which any further impacts generated by the new Proposed Scheme are assessed against.

It is concluded that the proposed development will create visual impacts for receptors in close proximity to the site. However, of the locations assessed none of the impacts are considered to be of high significance. This is due to the fact that predominately the type of visual receptor within the immediate area generally has a lower sensitivity rating or the baseline view already contains other highly visible developments. Also a number of the viewpoint locations the difference between the DA Approved Scheme and the SSD Proposed Scheme is relatively small.

Further development in and around the MDC Data Centre could also prevent or restrict views of the IC3W Proposed Scheme in the future, this would be true of 'Macquarie Square' along Waterloo Road and the 'Athena' Data Centre at 11-17 Khartoum Road and 33-39 Talavera Road. The Athena Date Centre has been represented as a massing model in the Year 15 images and it is clear that it will be a very dominant visual element within the view. This further strengthens the argument that the MDC IC3W expansion would not be out of scale with approved development within the immediate surrounding context.

The conclusions of potential visual impacts have been determined by site visits, desktop study, photographic and photomontage visual analysis.

Through analysis conducted within this report, of the receptors assessed, the following locations are judged to receive **moderate/minor** visual impacts from the proposed development:

- Talavera Road (East), Macquarie Park (VP2)
- Macquarie Gardens, 1-15 Fontenoy road, Macquarie Park (VP3)
- 54 Waterloo Rd (Novartis), Macquarie Park (VP5)

The following locations are judged to receive **minor** visual impacts from the proposed development:

- Talavera Road (North), Macquarie Park (VP1)
- Waterloo Road, Macquarie Park (VP4)
- Natura Apartments, 82 Waterloo Road, Macquarie Park (VP6)
- 8 Khartoum Rd, Macquarie Park (VP7)

From analysis of aerial drone photography, it is evident that a number of other office buildings or residential tower blocks from within the study area will receive views of the development. However, as previously mentioned within the report it would be impractical to provide viewpoints and photomontages for every possible visual receptor.

The report also demonstrates that from a select number of locations proposed additional landscape planting at the development site can help in reducing visual impacts not only for the Proposed Scheme but also the existing Data Centre. This will be most effective after 15 years and for those receptors who experience direct views at close to medium range.

10.0 GLOSSARY OF TERMS

Term	Definition
DA Approved IC3W	Refers the existing approval LDA/2018/0322
GLVIA	Guidelines for Landscape and Visual Impact Assessment (UK Landscape Institute)
LVIA	Landscape and Visual Impact Assessment
VIA	Visual Impact Assessment
DPIE	Department of Planning Industry and Environment
LEP	Local Environment Plan
DCP	Development Control Plan
AGL	Above Existing Ground Level
Baseline	The existing current condition / character of the landscape or view combined with the DA Approved Scheme
Visual Receptor	A group or user experiencing views of the development from a particular location
Visual Sensitivity	The degree to which a particular view can accommodate change arising from a particular development, without detrimental effects.
Viewing Distance	The distance from the point of projection to the image plane to reproduce correct linear perspective.
Magnitude of Change	The magnitude of the change to a landscape receptor or visual receptor
Significance of Impact	How significant an impact is for a landscape or visual receptor

11.0 APPENDIX



Existing View

New Baseline View / Photomontage - DA Approved IC3W Scheme

Proposed SSD IC3W Extension Photomontage - Year 0

Proposed SSD IC3W Extension Photomontage - Year 15

Figure 23c: Viewpoint 1 - Talavera Road (North), Macquarie Park - Looking South (DA Approved & Proposed SSD IC3W Photomontage Extended Angle of View)

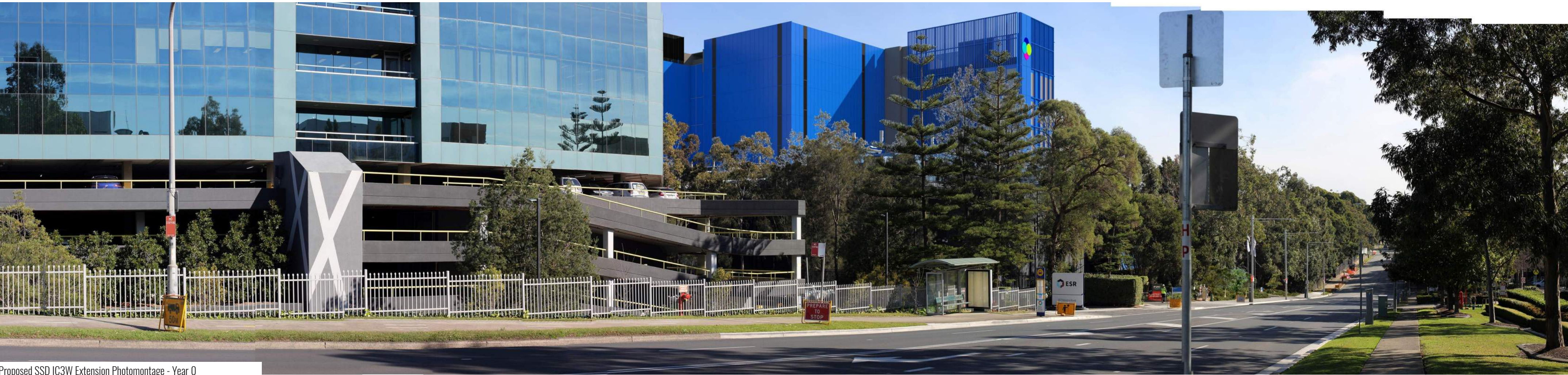
Approx Angle of View - 106° - Sheet Print Size A1



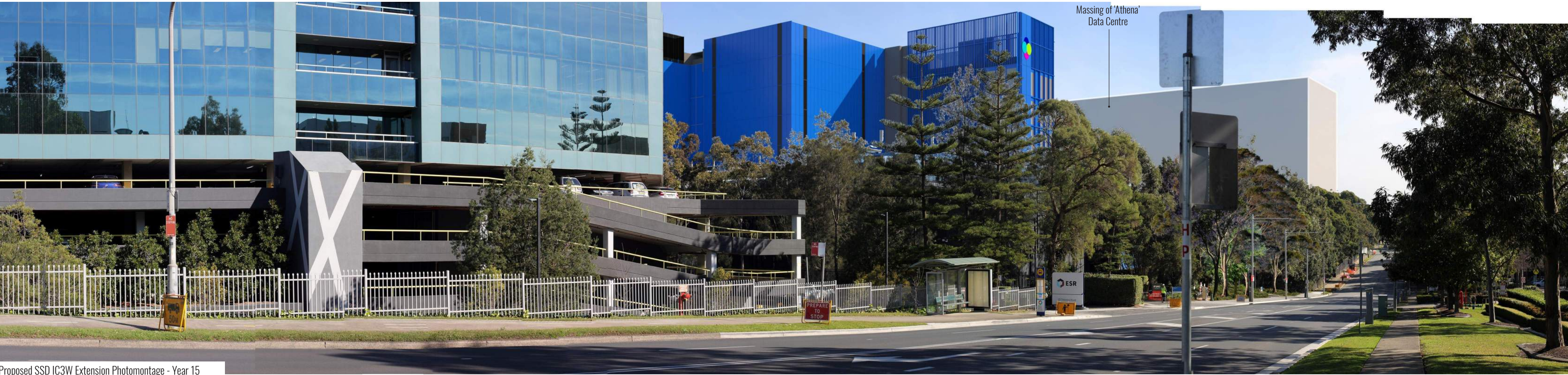
Existing View



New Baseline View / Photomontage - DA Approved IC3W Scheme



Proposed SSD IC3W Extension Photomontage - Year 0



Proposed SSD IC3W Extension Photomontage - Year 15

Figure 24c : Viewpoint 2 - Talavera Road (East), Macquarie Park - Looking West (DA Approved & Proposed SSD IC3W Photomontage Extended Angle of View)

Approx Angle of View - 105° - Sheet Print Size A1

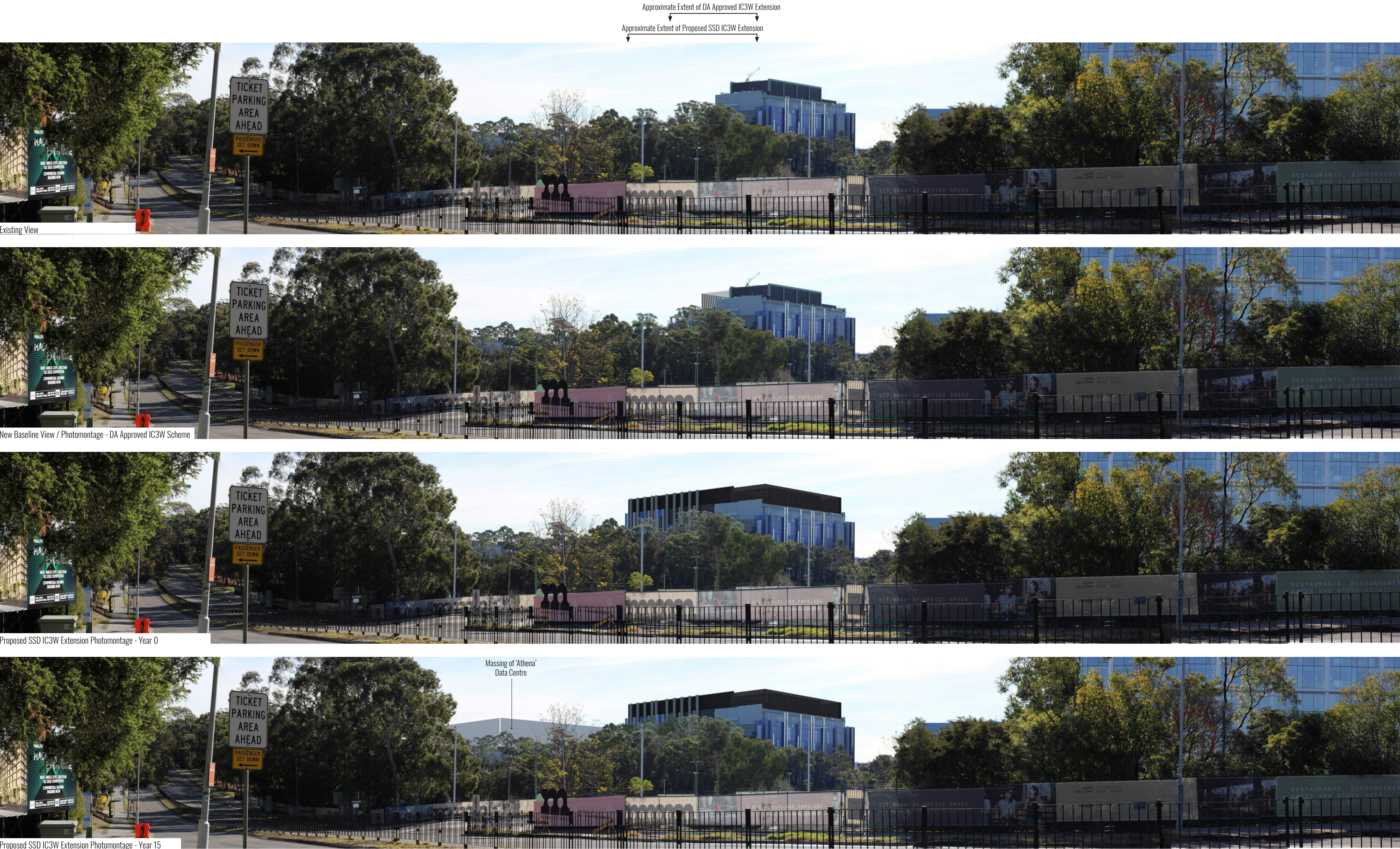


Figure 26c: Viewpoint 4 - Waterloo Road, Macquarie Park - Looking North (DA Approved & Proposed SSD IC3W Photomontage Extended Angle of View)

Approx Angle of View - 111° - Sheet Print Size A1



Figure 27c: Viewpoint 5 - 54 Waterloo Rd (Novartis), Macquarie Park - Looking Northeast (DA Approved & Proposed SSD IC3W Photomontage Extended Angle of View)

Approx Angle of View - 118° - Sheet Print Size A1

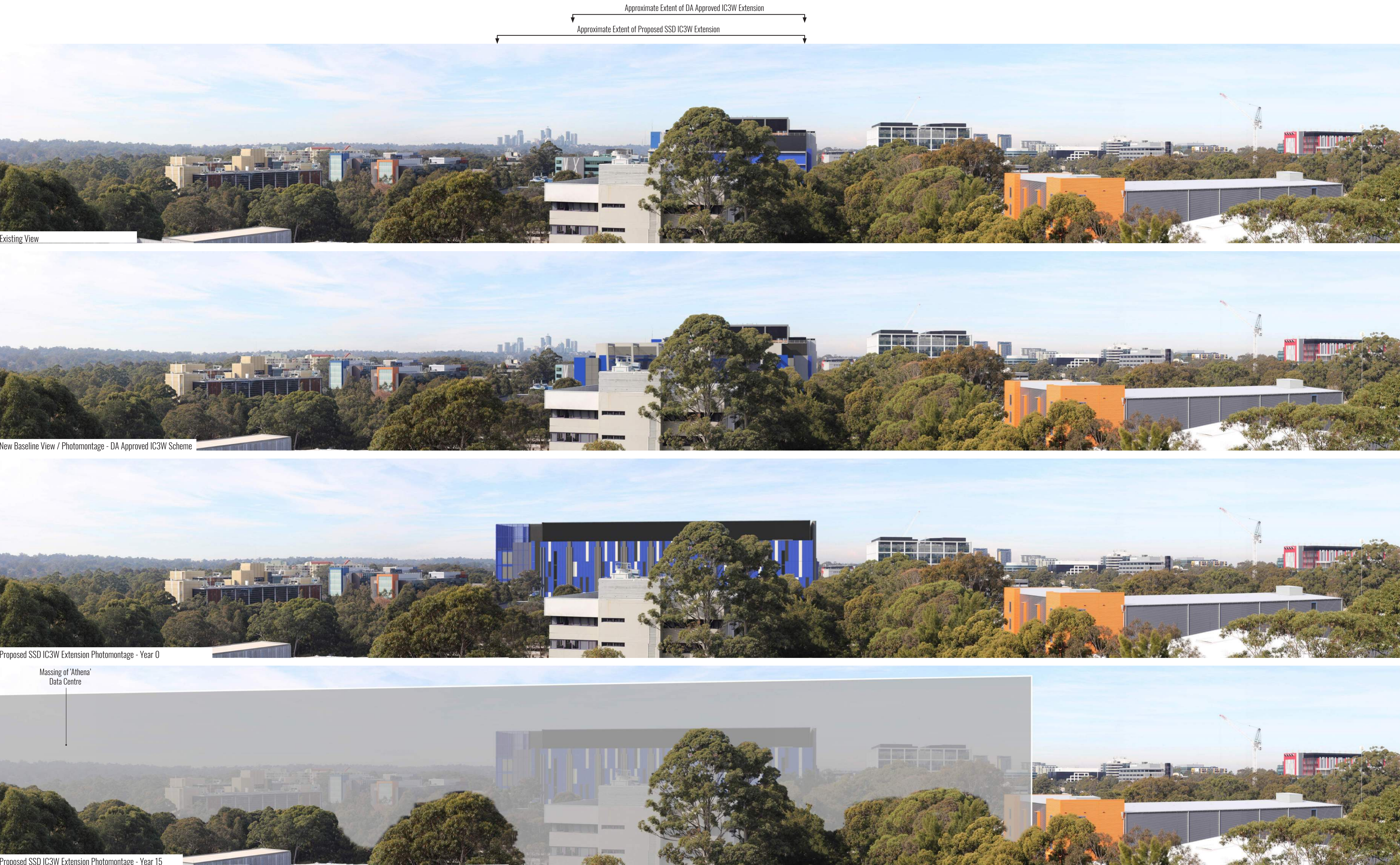


Figure 29c: Viewpoint 7 - 8 Khartoum Rd, Macquarie Park - Looking Southeast (DA Approved & Proposed SSD IC3W Photomontage Extended Angle of View)

Approx Angle of View - 110° - Sheet Print Size A1