SSD-70817958 – DHL LOGISTICS FACILITY (NORTH)

Environmental Impact Statement

Prepared for
DHL SUPPLY CHAIN (AUSTRALIA) PTY LTD
24 March 2025

URBIS

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

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Project Code	P0036771
Report Number	FINAL

Acknowledgement of Country

Urbis acknowledges the Traditional Custodians of the lands we operate on.

We recognise that First Nations sovereignty was never ceded and respect First Nations peoples continuing connection to these lands, waterways and ecosystems for over 60,000 years.

We pay our respects to First Nations Elders, past and present.

The river is the symbol of the Dreaming and the journey of life. The circles and lines represent people meeting and connections across time and space. When we are working in different places, we can still be connected and work towards the same goal.

Title: Sacred River Dreaming
Artist Hayley Pigram
Darug Nation
Sydney, NSW

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EIS DECLARATION

Project details				
Project name	DHL Logistics Facility, Badgerys Creek (North)			
Application number	SSD-70817958			
Address of the land in respect of which the development application is made	1953-2109 Elizabeth Drive, Badgerys Creek Part Lot 1 in Deposited Plan 1306448			
Applicant details				
Applicant name	DHL Supply Chain (Australia) Pty Ltd (**DHL**)			
Applicant address	Suite 2, Level 1, 19 Broughton Street, Kirribilli, NSW 2061			
Details of people by whom this EIS was prepared				
Names and professional qualifications	David Hoy Bachelor Urban and Regional Planning, University of New England Master of Commerce – Land Economy, University of Western Sydney	Christophe Charkos Bachelor of Town Planning, UNSW	Belinda Thomas Bachelor of Town Planning, University of New South Wales	Andrew Lee Bachelor of Town Planning, University of New South Wales
Address	Level 8, Angel Place, 123 Pitt Street, Sydney NSW 2000			
Declaration				
Name	David Hoy			
Qualification	Bachelor Urban and Regional Planning, University of New England Master of Commerce – Land Economy, University of Western Sydney			
Registration Number	4459			
Organisation registered with	Planning Institute of Australia			

The undersigned declares that this EIS:

- has been prepared in accordance with Part 8 of the *Environmental Planning and Assessment Regulation 2021*;
- contains all available information relevant to the environmental assessment of the development, activity or infrastructure to which the EIS relates;
- does not contain information that is false or misleading;
- contains the information required under the *Registered Environmental Assessment Practitioner Guidelines (note the SEARs was issued in March 2022)*;
- addresses the Planning Secretary's environmental assessment requirements (SEARs) for the project;
- identifies and addresses the relevant statutory requirements for the project, including any relevant matters for consideration in environmental planning instruments;
- has been prepared having regard to the Department's *State Significant Development Guidelines - Preparing an Environmental Impact Statement*;
- contains a simple and easy to understand summary of the project as a whole, having regard to the economic, environmental and social impacts of the project and the principles of ecologically sustainable development;

- contains a consolidated description of the project in a single chapter of the EIS;
- contains an accurate summary of the findings of any community engagement; and
- contains an accurate summary of the detailed technical assessment of the impacts of the project as a whole.

Signatures

David Hoy (REAP)

24 March 2025

EXECUTIVE SUMMARY

The Environmental Impact Statement (**EIS**) has been prepared by Urbis on behalf of DHL Supply Chain (Australia) Pty Ltd (**DHL**). The EIS is submitted to the Department of Planning, Housing and Infrastructure (**DPHI**) in support of a State Significant Development Application (SSD-70817958) (**SSDA**) for development of land within the Northern Gateway Precinct of the Western Sydney Aerotropolis (**Aerotropolis**) in Part of Lot 1 DP 1306448 at 1953-2109 Elizabeth Drive, Badgerys Creek.

The SSDA constitutes a detailed development application (**DA**) insofar that it is linked to and is consistent with concept plan (SSD- 70316465). The SSDA seeks consent for the construction and operation of two singular storey industrial buildings (Warehouse 1 and Warehouse 2), providing a total building area of 66,756m^2, for use as a warehouse and logistics facility with 24 hour/ seven day a week operation plus car parking and associated landscaping.

This SSDA represents the second of two (2) SSDAs proposed by DHL and will apply to the northern half of the DHL Masterplan site, known as “DHL Stage 2 site” (**the site**), refer to **Figure 1**. Stage 1 relates to the southern half of the DHL Masterplan site, known as the DHL Stage 1 site and is subject to separate SSDA (SSD-70818708).

The proposal has an Estimated Development Cost (**EDC**) of $95,153,000 (excluding GST) and will be operated by DHL. The proposal is classified as a State Significant Development (**SSD**) under Schedule 1, Clause 12 of the *State Environmental Planning Policy (Planning Systems) 2021* (**Planning Systems SEPP**).

Figure 1 Stage 2 of the DHL Masterplan

Source: SBA Architects

PROJECT BACKGROUND AND RELATIONSHIP WITH THE CONCEPT PLAN

The DHL Masterplan site occupies approximately 25-hectares (**ha**) of the larger 171.84ha site at 1953-2109 Elizabeth Drive, Badgerys Creek. The wider site is currently the subject of a proposed concept and stage 1 SSDA (SSD-70316465).

SSD- 70316465: 1953-2109 Elizabeth Drive ‘Burrah Park’

SSD-70316465 is an SSDA which was issued SEARs on the 22 May 2024, has been lodged with DPHI and was placed on public exhibition from 15 November 2024 to 12 December 2024.

SSD- 70316465 seeks development consent for a concept plan including future development lots and building footprints. The development also seeks consent for the Stage 1 works which will include subdivision,

bulk earthworks across the site, infrastructure delivery, road access/intersections, internal road construction, civil infrastructure and utilities, stormwater infrastructure works and the construction of three (3) warehouse buildings.

The applicant for SSD-70316465 is the trustee for Burra Park Prop Trust 1 which is a joint venture entity, with ISPT Core Fund and UniSuper each holding an equal share. DHL have an agreement to develop part of the site for a warehouse and logistics facility, the subject of this SSDA. The DHL Masterplan Site is known as Super lot 4a and 4b and is included within the concept plan.

Figure 2 illustrates the DHL Masterplan site within an extract of the concept plan proposed under SSD-70316465.

Figure 2 The DHL Masterplan Site within the Concept Plan

Source: Nettleton Tribe

In accordance with Section 4.24 of the *Environmental Planning and Assessment Act 1979* (**EP&A Act**) development applications must align with an initial concept consent. As such, the Stage 1 DHL SSDA, which is a detailed application in accordance Section 4.22 of the EP&A Act has been prepared align with the Concept Proposal by Burra Park Prop Trust 1, SSD- 70316465.

There is no expectation that the DHL proposal will be approved in advance of the concept plan and Stage 1 SSDA. However, if required, the DHL proposal can be delivered independently of the concept plan through the following methods:

- Provide a temporary access easement over an existing informal road off Elizabeth Drive which connects the southern portion of the site to Elizabeth Drive. This road would be upgraded to provide access. This access road would be subject to survey and would be designed with reference to the appropriate Australian Standards.
- Site preparation works can be undertaken with consideration of the environmental investigations, assessment and recommendations as detailed in the supporting specialist reports and **Section 6** of this EIS.

PROJECT OBJECTIVES

The project aims to integrate seamlessly with the broader Aerotropolis precinct, aligning with the vision of the Western Sydney Aerotropolis Plan (**WSAP**). This vision positions the Western Sydney Aerotropolis as Australia's next global gateway, centred around the Western Sydney International (Nancy-Bird Walton) Airport.

The Northern Gateway Precinct is identified as a major strategic centre within the Western Economic Corridor, providing significant employment and business opportunities. The proposed warehouse and logistics development is designed to leverage its proximity to the airport, fostering early activation of the Aerotropolis and creating numerous job opportunities.

The project is guided by a landscape-led approach informed by cultural design principles, ensuring a sustainable and culturally respectful development.

The key objectives of the proposal are to:

- Provide for high quality design outcomes through a design excellence process which takes advantage of key environmental characteristics to emphasise the importance of Country and the natural landscape.
- Deliver a modern and efficient warehouse and logistics facility, which meets the functional requirements for DHL operations and acts as a major economic driver directly related to the development of the Western Sydney International Airport (**WSI**) and supports the economic strength of the Aerotropolis and the Western Parkland City.
- Target a 5 Star Green Star Design and As Built Rating.
- Support the growth in employment and jobs within the Aerotropolis that can provide for a mix of higher order land uses in addition to the initial use of the site for a warehousing and logistics land uses.
- Support connectivity and staging throughout the precinct, such that the precinct can develop in a staged manner in accordance with market take up and demand.
- Protect the operations of the WSI, including 24-hour operations, with protections for the community.

The project will deliver on the objectives as follows.

Employment and Economic Impact

- **Job Creation**: The project will create 219 direct job years and 359 indirect job years (total 578) through the construction period and 693 direct jobs and 743 indirect jobs (total 1,436) for ongoing operation
- **Economic Contributions**: The project will contribute $63 Million per annum in salaries and $102 million per annum to Gross Domestic Product (**GDP**) once fully operational.

Design and Development Approach

- **Landscape-Led Design**: A landscape-led approach has been adopted, informed by design workshops with First Nations peoples, emphasizing cultural design principles.
- **High-Quality Design**: The proposal aims for high-quality design outcomes, leveraging environmental characteristics and emphasizing the importance of Country and the natural landscape.
- **Sustainable Development**: The project targets a 5 Star Green Star Design and As Built Rating, ensuring sustainability and efficiency.

Integration with Aerotropolis Vision

- **Early Activation**: The warehouse and logistics development will provide early activation of the Aerotropolis, aligning with the initial growth of the Western Sydney Airport.
- **Functional Requirements**: The facility is designed to meet the functional requirements for DHL operations, acting as a major economic driver for the Aerotropolis and the Western Parkland City.

Cultural and Environmental Considerations

- **Cultural Recognition**: The project has been guided by cultural design principles, involving local Dharug women and ensuring the recognition of Country in the place-making process.

- **Green and Biodiverse Landscape**: The development will retain a green, biodiverse landscape, informed by an indigenous lens on maintenance and land management.

FEASIBLE ALTERNATIVES

DHL has 23 sites in New South Wales totalling c500,000 sqm. Across Australia DHL has 54 sites totalling c1,100,000 sqm. DHL are currently operating at close to 100% capacity across their network which is due to a combination of factors including:

- DHL customers are holding increased inventory due to global supply chain disruptions caused by COVID. This means customers are overflowing their agreed footprints and necessitation short term storage with associated inefficiencies and costs.
- DHL new business wins resulting in a lack of space in existing facilities.
- DHL work with the Australian Government Department of Health in regard to National Medical Stockpiles and vaccine distribution has also caused pressure on warehousing space and lack of space.

Various project alternatives were considered for the proposed warehouse and distribution centre. A 'do nothing' approach would fail to deliver significant jobs and warehouse floorspace in an area planned for employment land uses. A Do-Nothing approach would thwart DHL being able to provide additional warehouse capacity to serve its customers.

Alternative locations were also considered by DHL for the warehouse and logistics centre. These options were not considered to be the preferred option given Burrah Park's strategic location adjacent to WSI and the planned regional and local road/freight transport corridors.

Other sites did not also allow for a satisfactory site layout and functional requirements for the proposed operation of the warehouse and distribution centre.

THE PROPOSAL

The SSDA seeks consent for:

- Construction and fit out of two single storey industrial buildings including Warehouse 1, (31,954m^2) and Warehouse 2 (31,954m^2) plus office space (1,932m^2) and dock offices area (916m^2) across the two buildings.
- Use as a warehouse and logistics facility with 24 hour/seven day a week operation.
- Landscaping works throughout the site including new tree planting for 481 trees.
- Associated hardstand, loading and multi-level carparking for approximately 440 cars.
- Associated vehicle crossings and drainage connection to the road drainage system.
- Business identification signage and wayfinding signage.

Note: SSD-70316465 will deliver all major estate works including earthworks, road access, services, stormwater, other infrastructure and engineered building pads for the DHL detailed application (SSD-70817958). The DHL proposal is consistent with the concept plan in terms of land use, height, bulk scale, setbacks, and layout.

A 3D perspective of the proposed office is shown in **Figure 3**:

Figure 3 3D Perspective of the offices

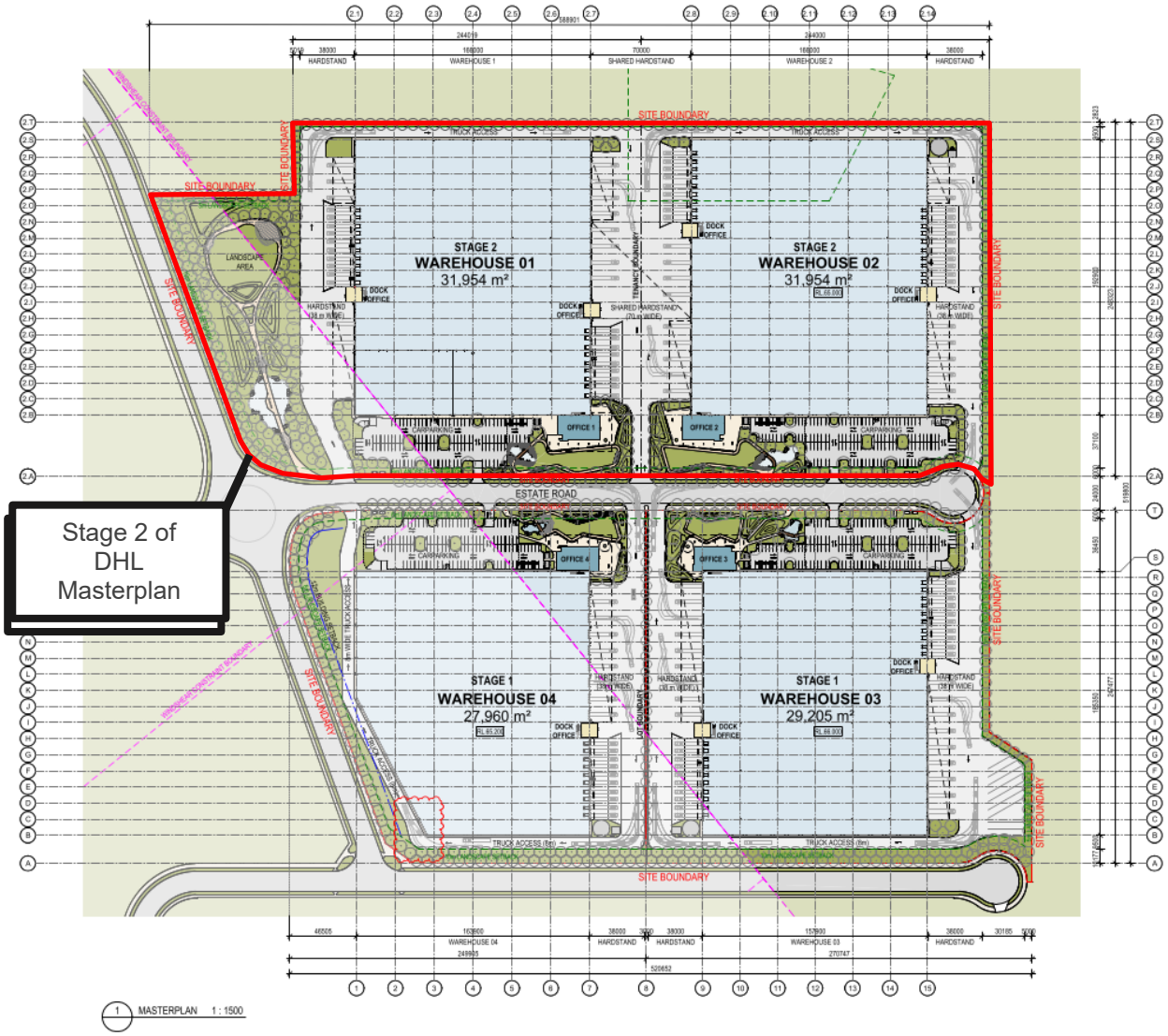
Source: SBA Architects

The site was identified as being the most suitable location to deliver the project objectives and meet the functional requirements for DHL operations including:

- Providing a 14.6m ridge height to allow seven pallet storage heights while maintaining sprinkler coverage
- Sustainable design via use of sustainable materials and products to achieve carbon neutrality
- Health and safety of DHL employees
- Separation of staff and truck maneuvering zones
- Clockwise vehicle circulation which allows ‘right hand down’ reverse procedures
- Staging distances of 26m to allow pack/unpack of pallets.
- Column free zones
- Metal lining on all awnings to maintain bird proofing and dust control
- Temperature control facilities to meet medical and pharmaceutical guidelines
- Charging points to allow for automation and unmanned forklifts

The proposal will be undertaken in accordance with the Architectural Plans prepared by SBA Architects at **Appendix B**.

Figure 4 Proposed Site Plan for DHL Stage 2



Source: SBA Architects

CONSULTATION

Extensive and ongoing dialogue has been established between the proponent, agencies, authorities, adjoining landowners and traditional custodians in relation to the development of this site.

This engagement has taken place over several years as part of the concurrent Concept DA as well as site specific considerations in respect of this proposal. This engagement has informed a detailed understanding of the key issues and requirements of all key stakeholders.

DHL has undertaken engagement (including meetings and email correspondence) with the following stakeholders:

- Traditional Custodians
- DPHI,
- Place Design and Public Spaces Group
- Environment, Energy and Science Group
- Water Group (including the Natural Resources Access Regulator).
- Penrith City Council

- Government Architect NSW
- Commonwealth Department of Infrastructure, Transport, Regional Development and Communications
- Western Sydney Airport
- Western Parkland City Authority
- Transport for NSW (TfNSW)
- Sydney Water
- Landowners and occupiers potentially impacted noise immediately surrounding the site and those on Elizabeth Drive (between Martin Road and Luddenham Road) and on the corner of Luddenham Road and Elizabeth Drive (up to lot 641-675 Luddenham Road).

Members of the public were invited to contact DHL through a phone number and email address managed by the Urbis. These contact details enabled stakeholders and the community to provide feedback on the project. At the time of writing this report, no enquiries have been summitted through the phone number and email address.

Each of the issues raised by stakeholders, including the relevant authorities, utility service providers have been addressed in detail, including refinements to the architectural drawings and recommended mitigation measures to avoid, minimise or manage potential impacts. Stakeholder consultation is addressed in **Section 5** of this EIS and at **Appendix D** & **EE**.

JUSTIFICATION OF THE PROJECT

This EIS assesses the proposal against the relevant planning instruments and policies and outlines the mitigation measures required to ensure the project does not result in unreasonable or adverse environmental impacts. Additionally, the proposal has addressed the SEARs issued for the project.

The key issues identified in the SEARs have been assessed in detail, with specialist reports underpinning the key findings and recommendations identified in the Assessment of Impacts in **Section 6** of the EIS. It has been demonstrated that for each of the likely impacts identified in the assessment of the key issues, the impact will either be positive or can be appropriately mitigated.

The proposal represents a positive development outcome for the site and surrounding area for these reasons:

- **The proposal is consistent with state and local strategic planning policies:**

  The proposal is consistent with the relevant goals and strategies contained in:

  – *Greater Sydney Region Plan: A Metropolis of Three Cities*
  – *Our Greater Sydney 2056: Western City District Plan*
  – *Western Sydney Aerotropolis Plan*
  – *Future Transport Strategy*
  – *Better Placed*
  – *Connecting to Country Framework*
  – *Cumberland Plain Conservation Plan*

- **The proposal satisfies the applicable local and state development controls:**

  The proposal is permissible with consent and meets the relevant statutory requirements of the relevant environmental planning instruments, including

  – *State Environmental Planning Policy (Planning Systems) 2021*
  – *State Environmental Planning Policy (Resilience and Hazards) 2021*
  – *State Environmental Planning Policy (Transport and Infrastructure) 2021*

- *State Environmental Planning Policy (Precincts—Western Parkland City) 2021*
- *State Environmental Planning Policy (Industry and Employment) 2021*
- *State Environmental Planning Policy (Biodiversity and Conservation) 2021*
- *State Environmental Planning Policy (Sustainable Buildings) 2022*

- **The design responds appropriately to the opportunities and constraints presented by the site:**
  - The proposal responds to the opportunity for a landscape led design and emphasise the importance of Country and the natural landscape whilst also providing for the intended land uses.
  - The design of the proposal responds to the site context whilst seeking to deliver an attractive, modern warehouse and logistics facility. The design has taken into consideration the site qualities as well as neighbouring future land uses and built forms within a future employment precinct.
  - The design delivers a modern and efficient warehouse and logistics facility, which meets the functional requirements for DHL operations and supports new jobs within an employment precinct.
  - The design and layout of the proposal is consistent with the concept plan in relation to built form and landscape layouts, principal site access and the estate road that services the DHL site.
  - The design and orientation is an appropriate response to thermal conditions and efficiently maximises the built environment potential whilst achieving a target 5 Star Green Star buildings rating.
  - The proposal delivers a built form, façade treatment and materiality that enhances the quality of the site as well as the provision of increased landscaping which has been incorporated into the ground floor with a variety of native species to enrich and soften the building.
- **The proposal is suitable for the site:**
  - The proposed warehouse land use is permissible in the Enterprise Zone. The development aligns with the zone objectives as outlined in the Precincts SEPP. The project is in line with relevant State and Local strategic and statutory policies.
  - The project has been designed with respect to the emerging local character of the Northern Gateway Precinct, the Burrah Park site and gives due consideration to the site-specific constraints and opportunities.
  - The detailed impact assessment conducted for the project demonstrates that the proposed development can proceed without any unacceptable environmental impact, provided the relevant management/mitigation measures.
- **The proposal is in the public interest:**
  - The proposal is consistent with relevant State and local strategic plans and complies with the relevant State and local planning controls. No adverse environmental, social or economic impacts will result from the proposal.
  - The proposal will provide up to 578 jobs per day during the construction phase, and up to 1,436 jobs once complete and fully operational. The proposal will stimulate local investment and contribute significant economic output and value add to the economy each year. This project is fully funded and ‘shovel ready’ for commencement of construction immediately upon grant of consent.
  - Subject to implementation of the recommended mitigation measures, no adverse, social or economic impacts will result from the proposal in terms of traffic, noise and vibration, air quality and odour or views during construction and ongoing operation of the facility. Based on the assessment of noise, air quality and traffic, the proposal will not result in any adverse cumulative impacts.
  - The issues identified during the community and stakeholder engagement have been addressed through the assessment of the impacts of the modified project.

1. INTRODUCTION

This section of the report identifies the applicant for the project and describes the site and proposal. It outlines the site history and feasible alternatives explored in the development of the proposal, including key strategies to avoid or minimise potential impacts. This Environmental Impact Statement (**EIS**) supports a State Significant Development Application (**SSDA**) (**SSD-70817958**) submitted to the NSW Department of Planning, Housing and Industry (**DPHI**) on behalf of DHL Supply Chain (Australia) Pty Ltd (**DHL**).

The SSDA constitutes a detailed development application (**DA**) insofar that it is linked to and is consistent with concept plan (**SSD-70316465**). The SSDA seeks consent for the construction and operation of two singular storey industrial buildings for use as a warehouse and logistics facility with 24 hour/ seven day a week operation plus car parking and associated landscaping within part (25 hectares) of Lot 1 in Deposited Plan 1306448 at 1953-2109 Elizabeth Drive, Badgerys Creek known as the DHL Masterplan site.

This SSDA represents the second of two (2) SSDAs proposed by DHL and will apply to the northern half of the DHL Masterplan site, known as the "DHL Stage 2 site" (**the site**). Stage 1 relates to the southern half of the DHL Masterplan site, known as the DHL Stage 1 site and is subject to separate SSDA (**SSD-70818708**).

The project vision is to:

- To develop a landscape led, world class warehouse and logistics facility which is fully integrated with its green infrastructure and Connection to Country
- To create a new global gateway which will be a regionally and nationally significant employment area by providing for warehouse and logistics land uses in a highly sought-after location adjacent to the new Western Sydney Airport.
- To provide a design that supports a cool, green new city with a landscape approach that increases urban tree canopy, provides useable open space areas throughout and restores key riparian corridors on the site.
- To provide a sustainable, orderly and transformational development in the Western Sydney Aerotropolis,
- Support the Concept Plans vision for a green, biodiverse landscape that has been informed by Country and an indigenous lens on maintenance and land management.

1.1. APPLICANT DETAILS

This EIS has been prepared by Urbis Ltd on behalf of DHL (**the Applicant**). The applicant details for the proposal are listed in the following table.

Table 1 Applicant Details

Proponent	Proponent Details
Full Name(s)	DHL Supply Chain (Australia) Pty Ltd
Postal Address	Rhodes Corporate Park, Level 4, Building C 1 Homebush Bay Drive, Rhodes, NSW 2138
ABN	85 071 798617
Nominated Contact	Adam Davies, Head of RES Development, Australia/NZ Adam.davies2@dhl.com.au 0414 995 460

1.2. PROJECT DESCRIPTION

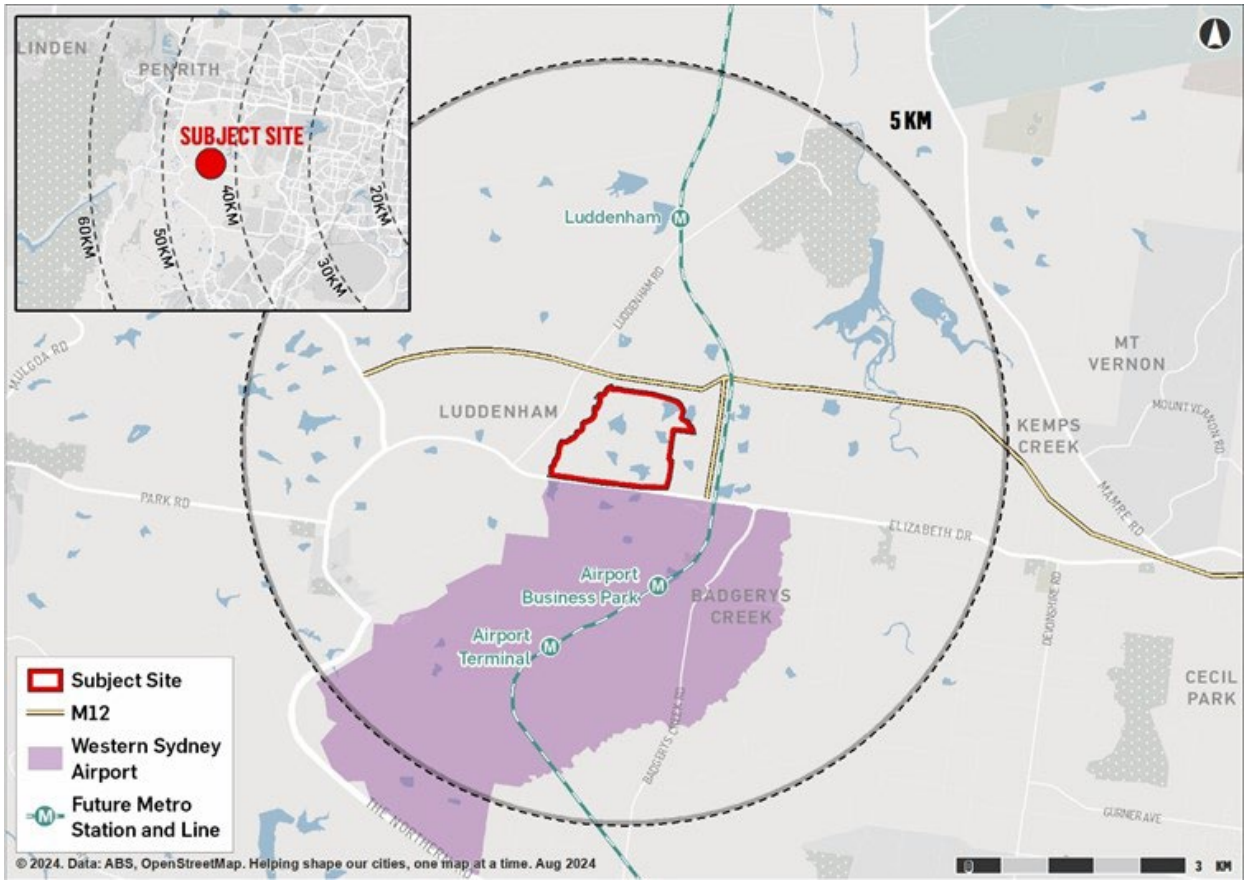
The Project seeks to construct two warehouses that will comprise purpose-built facilities that will enable DHL to provide logistics facilities that will allow variation and flexibility in operational spaces for the multiple DHL customers across the pharmaceutical, medical device and consumer health sectors as well as those in technology and fast-moving consumer goods. The proposal will complement the DHL Stage 1 site located south of the proposed development.

Specifically, the SSDA seeks consent for:

- Construction and fit out of two single storey industrial buildings including Warehouse 1, (31,954m^2) and Warehouse 2 (31,954m^2) plus office space (1,932m^2) and dock offices area (916m^2) across the two buildings.
- Use as a warehouse and logistics facility with 24 hour/seven day a week operation.
- Landscaping works throughout the site including new tree planting for 481 trees.
- Associated hardstand, loading and multi-level carparking for approximately 440 cars.
- Associated vehicle crossings and drainage connection to the road drainage system.
- Business identification signage and wayfinding signage.

A map of the 1953-2109 Elizabeth Drive, Badgerys Creek in its regional setting is provided at **Figure 5** and its aerial site context is shown at **Figure 6** below. Of note, SSD-70316465 seeks to undertake an initial paper subdivision of 1953-2109 Elizabeth Drive, Badgerys Creek into Superlots, including the Superlot for the DHL Masterplan Site. The subdivision sought under SSD-70316465 will allow the transfer of land ownership to DHL.

Figure 5 Location Context Area



Source: Urbis

Figure 6 1953-2109 Elizabeth Drive, Badgerys Creek

Source: Urbis

1.3. PROJECT BACKGROUND

1.3.1. Relevant History

The DHL Masterplan site occupies 26.18ha of the larger 171.84ha-ha site at 1953-2109 Elizabeth Drive, Badgerys Creek, which is known as “Burrah Park site”. The DHL Stage 2 site (the site which consent is sought) occupies a site area of 133,678m^2. The Burrah Park site is currently the subject of an SSD for a concept plan, stage one early works, site enabling works, civil infrastructure, subdivision and detailed proposal for stage one industrial built form, identified as SSD-70316465. The proposal is a detailed, staged DA that forms part of the staged development of Burrah Park.

SSD-70316465 is an SSDA which was issued SEARs on the 22 May 2024, has been lodged with DPHI and was placed on public exhibition from 15 November 2024 to 12 December 2024.

The concept and stage 1 SSDA for Burrah Park captures the site to which this SSDA relates and will provide:

- indicative built form and landscape layouts
- principle site access and key estate roads including the access road that services the DHL Masterplan site,
- bulk earthworks, stormwater infrastructure, trunk connections, and internal reticulation of services and utilities.

This application has been prepared to be consistent with the latest version of the Burrah Park concept plan.

1.3.2. Key Strategies

The following key strategies have been adopted to avoid, minimise or off-set the impacts of the project:

- The Green Travel Plan (**Appendix M**) developed by Stantec is to be adopted to ultimately encourage increases active transport options, particularly as more infrastructure in the precinct comes online.

- A Construction Traffic Management Plan be adopted that utilises the overview of requirements within Chapter 8 of **Appendix M** to ultimately limit the overall impact of the proposal's construction on the local road network.
- All vehicles transporting loose materials will have the load covered and/or secured to prevent any items depositing onto the roadway during travel to and from the site.
- All vehicles are to enter and depart the site in a forward direction, with reverse movements to occur only within the site boundary.
- All contractor parking is to be wholly contained within the site; and Pedestrian and cycle traffic along the site frontage will be always managed appropriately.
- Avoid scabbling (roughening of concrete surfaces) if possible.
- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.
- Avoid dry sweeping of large areas.
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- Record all inspections of haul routes and any subsequent action in a site log book.
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
- Access gates to be located at least 10 m from receptors where possible.
- Communication management.
- Record or all dust and air quality complaints and exceptional incidents.
- Perform daily on-site and off-site inspections where receptors are nearby.
- Plan the site layout so machinery and dust causing activities are located away from receptors.
- Ensure all on-road vehicles comply with relevant vehicle emission standards and manage idling.

These mitigation techniques will ensure that the low risk of traffic, noise and air quality impacts are minimised.

1.4. RELATED DEVELOPMENT

1.4.1. The Concept Plan - SSD-70316465: 1953-2109 Elizabeth Drive 'Burrah Park'

The key features of the proposal are summarised below:

- **Concept Proposal**
  - Concept Masterplan for Burrah Park, a new warehouse and logistics estate, comprising forty-two (42) building envelopes, internal road network layout, building locations, GFA, car parking, concept landscaping, building heights and setbacks, design excellence strategy and Connection with Country framework and signage strategy.
  - Broad overall land uses which include warehouse and distribution premises, light industrial and commercial premises.
  - Gross developable area of 131.45ha (approx.).
  - Total GFA of 62.58ha (approx.).
- **Stage 1 – Site Preparation**

  - Demolition and removal of existing structures and vegetation.
  - Construction of roads, access infrastructure, including a signalised intersection with Elizabeth Drive.
  - Bulk earthworks, cut and fill, benching, battering and retaining walls.
  - Lead in infrastructure, utilities and servicing.
  - Stormwater infrastructure including construction of Sydney Water basins and Water Sensitive Urban Design (WSUD) elements.
  - Reinstatement of the central riparian corridor and protection of Cosgroves Creek through landscaping works.
- **Stage 1 – Development**
  - Construction and fit out of 3 warehouse buildings and ancillary office space which will operate 24 hours/day, seven days/week.
  - On-lot stormwater management, fencing and landscaping.
  - Estate-wide, street tree plantings.
  - Subdivision.
  - Estate and on lot signage.

The dam will be subject to dewatering in accordance with the broader Burrah Park proposal (SSD-70316465).

1.4.2. Relationship between the Concept Plan (SSD-70316465) and the DHL Stage 2 SSDA (SSD-70817958)

The DHL SSDA proposal is reliant on SSD-70316465 as follows:

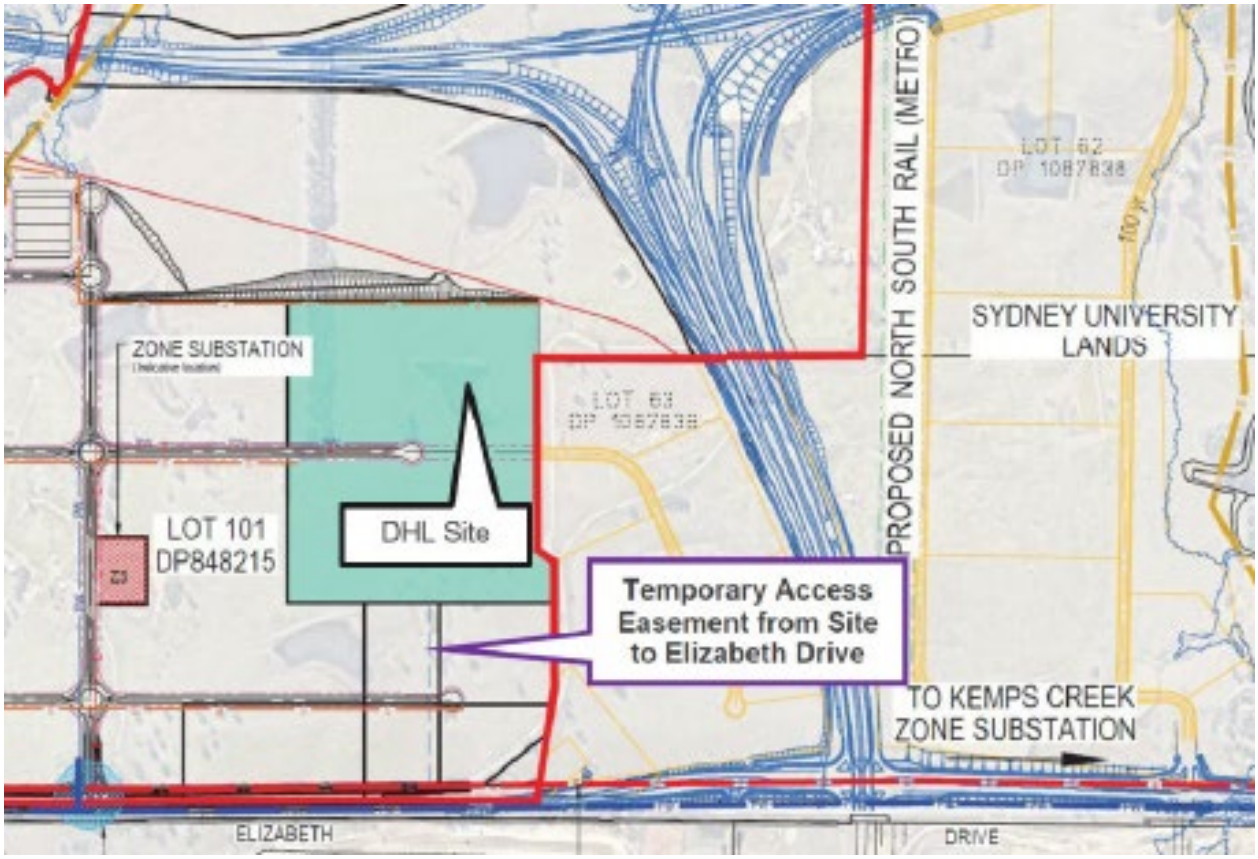
- The concept plan (**SSD-70316465**), will provide earthworks, road access, services, stormwater and other infrastructure, for the DHL detailed application (**SSD-70817958**).
- An east – west internal road within the site will connect with the proposed internal roads of the concept plan to the west of the site.
- The primary access to the site will be through the internal roads delivered by the concept plan which will merge and end at a signalised intersection along Elizabeth Drive, allowing for all movements in and out of the site.
- The proposal is a detailed, staged DA that forms part of the staged development of Burrah Park, as to be established as a concept masterplan (**SSD-70316465)**.

There is no expectation that the DHL proposal will be approved in advance of the concept plan and Stage 1 SSDA. However, if required, the DHL proposal can be delivered independently of the concept plan through the following methods:

- Provide a temporary access easement over an existing dirt road off Elizabeth Drive which connects the southern portion of the site to Elizabeth Drive. This road would be upgraded to provide access. This access road would be subject to survey and would be designed with reference to the appropriate Australian Standards.
- Site preparation works can be undertaken with consideration of the environmental investigations, assessment and recommendations as detailed in the supporting specialist reports and **Section 6** of this EIS.

The proposal would aim to deliver utilities, roads infrastructure and services in a manner that is safe, efficient and cost effective. It would also seek to ensure the staging of development and infrastructure delivery are aligned spatially and temporally with the Precinct Plan. A map of the Temporary Access Easement is provided as **Figure 7**.

Figure 7 Temporary Access Easement



Source: AT&L

1.4.3. SSD-70818708: DHL Logistics Facility, Badgerys Creek (South)

SSD-70718708 is an SSD which was issued SEARs on the 22 May 2024. This separate SSD is currently being prepared for lodgement. This SSD applies to the southern half of the DHL site which is known as "DHL Stage 1".

The application seeks consent for the following:

- Construction and fit out of two single storey industrial buildings including Warehouse 3, (29,205sqm) and Warehouse 4 (27,960m^2) plus office space (1,932m^2) and dock offices area (687m^2) across the two buildings.
- Use as a warehouse and logistics facility with 24 hour/seven day a week operation.
- Landscaping works throughout the site including new tree planting for 443 trees.
- Associated hardstand, loading and multi-level carparking for approximately 441 cars.
- Associated vehicle crossings and drainage connection to the road drainage system.
- Business identification signage and wayfinding signage.

1.5. RESTRICTIONS AND COVENANTS

There are no known restrictions or covenants that apply to the site.

2. STRATEGIC CONTEXT

This section of the EIS describes the way in which the proposal addresses the strategic planning policies relevant to the site. It identifies the key strategic issues relevant to the assessment and evaluation of the project, each of which are addressed in further detail in **Section 6** of this EIS.

2.1. KEY FEATURES OF SITE AND SURROUNDS

2.1.1. Site Description

The site is located at 1952-2109 Elizabeth Drive, Badgerys Creek, within the Penrith Local Government Area (**LGA**). The site is legally described as part of Lot 1 in Deposited Plan 1306448 and is currently owned by a trustee for Burrah Park Prop Trust 1 which is a joint venture entity, with ISPT Core Fund and UniSuper each holding an equal share.

The DHL Stage 2 site (**the site**) occupies the northern portion of the DHL Masterplan site and is the subject of this SSDA 70817958. It has a total site area of 133,678m^2. The site is located within the Burrah Park site.

An aerial photograph detailing the existing site condition as it relates to the DHL Masterplan site layout is provided at **Figure 8** and photographs of the current site condition are provided at **Figure 9.**

Figure 8 Aerial Photograph of DHL Masterplan Site

Source: Nearmap

Figure 9 Site and Locality Photographs

Picture 1 Looking north-west towards development area

Picture 2 Looking south towards the Western Sydney Airport site

Picture 3 Looking north towards development area

Picture 4 Looking north-east towards development area.

Source: Urbis, 2022

The key features of the site which have the potential to impact or be impacted by the proposal are summarised in the table below.

Table 2 Key Features of Site and Locality

Descriptor	Site Details
Land Configuration	The site area is 133,678m^2 The gradient of the site is generally flat. Topography across the broader site is influenced by drainage lines to Cosgroves Creek in the west and Badgerys Creek to the east.
Land Ownership	The site is under ownership of a trustee for Burrah Park Prop Trust 1 which is a joint venture entity, with ISPT Core Fund and UniSuper each holding an equal share.
Existing Development	At the time of preparing this EIS, the site was used for agricultural purposes (agistment) and is largely cleared of vegetation with areas of dispersed grass and scattered natural and planted tree growth. The site contains several farm dams, some disused farm buildings and primarily within the central and southern areas.
Local Context	Aside from the WSI, M12 and Metro that are under construction to the south, the surrounding locality is currently rural in nature with land uses that comprise rural properties, primary production, rural dwellings, and some recreational facilities along Luddenham Road.

Regional Context	The site is approximately 20km south east of Penrith and 8km north west of Liverpool. The WSI and the future M12 Motorway are within 1km to the south and east of the site respectively.
Infrastructure	The Burrah Park site fronts Elizabeth Drive, a State arterial road aligned in an east-west direction along the southern boundary. Elizabeth Drive is the main-east-west corridor between Liverpool and surrounding suburbs. Elizabeth Drive, from the M7 Motorway to Badgerys Creek is approximately 14-km in length and predominantly a two-lane undivided road, with no footpaths, no median, and a speed limit of 80-km/hr. Luddenham Road on the Burrah Park site's western side is a State arterial road aligned in a north-south direction. It is a two-way road configured with one-lane in each direction with an undivided carriageway. It is a key road in south-west Sydney, connecting Elizabeth Drive to Mamre Road to the south of St Marys.
Site Access	Vehicular access to the site is from Elizabeth Drive through the Burrah Park estate. Given the rural nature of the site, there is no current parking except informal areas associated with farm buildings.
Services	All existing utility services within the site shall be demolished and removed as these are not appropriate for the proposed development.
Geology	Most of the site is underlain by the Bringelly Shale Formation.
Soils	The site includes two soil landscape groups, including Blacktown Soils and South Creek soil landscapes.
Flora and Fauna	The entirety of the site has been certified as urban capable under the Cumberland Plain Conservation Plan. That said, a detailed Biodiversity Assessment Report (**BAR**) has been undertaken to assess impacts to vegetation and biodiversity. The BAR notes that the site is located within a highly modified and largely cleared landscape with patches of natural vegetated areas containing long tracts of alluvial woodland associated with creek lines, patches of grassy woodlands, windrows, and sporadic trees of planted native and exotic species.
Public Transport	Given the site's location in a mostly rural landscape, the existing environment has limited public transport services operating in the locality. The site is serviced by a single bus service operating between Badgerys Creek and Liverpool which operates with limited services throughout the day, typically once per hour. The closest bus stop to the site is located on Badgerys Creek Road south of Elizabeth Drive.
Stormwater and Flooding	The site is located within the South Creek Catchment, a tributary of the Hawkesbury River in Western Sydney extending from Narellan in the south to its confluence with the Hawkesbury near Windsor. The wider site intersects two minor tributaries of South Creek – Cosgroves Creek and Badgerys Creek, which are located to the west and east of the site, respectively. The local catchment area is located predominantly on open grassland and farming areas, with sections of existing road and creek crossings. Both systems drain north to South Creek, which flows down towards the Hawkesbury River 34-km north of the site.
Flooding	As per the flood impact assessment undertaken by Arcadis for the wider site confirms that the 1:100 ARI extends along the main creek lines of Cosgrove's and Badgerys creek.
Dam	One farm dam is located in the DHL Stage 2 site. No native vegetation was identified in relation to the dam.
Riparian Corridors	The Burrah Park site contains ten unnamed first order watercourses within the study area, two second order watercourses, one third order watercourse and two named fourth order

	watercourses (Cosgroves Creek and Badgerys Creek). These watercourses are tributaries of South Creek, within the Hawkesbury Nepean catchment.
Surface Water & Groundwater	The nearest surface water bodies are Oaky Creek and Badgerys Creek located next to the western and eastern site boundaries respectively. There are thirteen farm dams located on the wider site of which twelve appear to drain towards the north-east into Badgerys Creek. Based on review of surface drainage it is anticipated that groundwater would primarily flow towards the north-west, with some localised variation in the north-eastern portion of the site which would likely drain north-east. A search of the NSW DPIE groundwater bore database indicated that there are no registered groundwater bores on the site. Twelve groundwater bores are located within 1.5-km of the site and towards the east on the SUEZ Recycling & Resource Recovery Facility (SSD-8908).
Bushfire	The site is classified as bushfire prone land. The predominant bushfire threat potentially posed to the development is unmanaged grassland in all directions. This hazard is considered temporary in nature and will be removed as the broader precinct is activated and further development occurs.
Aboriginal Heritage	The ACHAR and addendum prepared for the concept plan located a number of Aboriginal sites as a result of survey and test excavation. Two Aboriginal sites of low archaeological significance were located near the southern boundary of the DHL Masterplan site. These two sites would be collected a part of the required management measures for the concept plan and are expected to be a condition of approval for the concept plan.
European Heritage	In terms of European heritage, the Statement of Heritage Impact notes that the site does not contain any State or locally significant heritage items. The site does form part of the former CSIRO McMaster Field Station which was established as an experimental enterprise in the 1930's. The site also adjacent to the McGarvie Smith Farm which is identified as a local Heritage Item under the Western Parkland City SEPP.

2.2. CUMULATIVE IMPACTS WITH FUTURE PROJECTS

The site is located within the Northern Gateway Precinct of the Aerotropolis with approved and likely future developments including:

- The Western Sydney Airport.
- Western Sydney Freight Line.
- M12 Motorway (SSI-9364).
- Sydney Metro – Western Sydney Airport (SSI-10051).
- The Northern Road Upgrade (SSI-72127).
- 1953-2109 Elizabeth Drive (SSD-70316465) - 1953-2109 Elizabeth Drive, Badgerys Creek.
- Elizabeth Drive Enterprise Precinct (SSD-19618251) – 1669-1723 Elizabeth Drive, Badgerys Creek.
- Western Sydney Resource Recovery Facility (SSD-8908) – 1725-1743 Elizabeth Drive, Badgerys Creek.

The potential cumulative impacts of the project including noise, air quality and traffic are addressed below in **Section 6** of the EIS and also in **Appendix M, N** and **X** in accordance with the DPE's *Assessing Cumulative Impacts* guidelines.

2.3. AGREEMENTS WITH OTHER PARTIES

The applicant is not seeking to enter into an agreement with other parties.

2.4. FEASIBLE ALTERNATIVES

Clause192 (c) of the *Environmental Planning and Assessment Regulation 2021* (**the Regulation**) requires an analysis of any feasible alternatives to the proposal, including the consequences of not carrying out the development.

DHL has 23 sites in New South Wales totalling c500,000 sqm. Across Australia DHL has 54 sites totalling c1,100,000 sqm. DHL are currently operating at close to 100% capacity across their network which is due to a combination of factors including:

- DHL customers are holding increased inventory due to global supply chain disruptions caused by COVID. This means customers are overflowing their agreed footprints and necessitation short term storage with associated inefficiencies and costs.
- DHL new business wins resulting in a lack of space in existing facilities.
- DHL work with the Australian government Department of Health in regard to National Medical Stockpiles and vaccine distribution has also caused pressure on warehousing space and lack of space.

DHL identified several project alternatives which were considered in respect to the identified need for the proposed warehouse and logistics facility. Each of these options is listed and discussed in the following table.

Table 3 Project Alternatives

Option	Discussion
Option 1 Do Nothing	A 'do-nothing' approach was considered, however identified as a non-viable option as it would be contrary to the overall objectives of the proposal, resulting in an underutilised industrial site that is inconsistent with the land use objectives of Chapter 4 of the Western Parkland City SEPP. Additionally, if the proposal was not to proceed, it would not create 219 direct job years and 359 indirect job years (total 578) through the construction period and 693 direct jobs and 743 indirect jobs (total 1,436). $63 Million per annum in salaries and $102 million per annum to GDP once fully operational. DHL customers have increased demands with commodities such as fast-moving consumer goods which have a short shelf life due to high consumer demand (e.g., soft drinks and confections) or because they are perishable (e.g., meat, dairy products, and baked goods). The "do nothing" approach would mean DHL could not service their customers as DHL has reached the storage capacity of existing warehouses and new temperature-controlled warehouse floor space is required to accommodate these types of items.
Option 2 - Alternative Location	The site was strategically selected within a proposed warehouse and logistics estate that benefited from direct access to both the future WSI and several planned transport infrastructure projects. The specific part of the site that is the subject of this SSDA is to be serviced and have enabling works undertaken within the concept plan, which creates an ideal industrial lot for the proposal subject to this SSDA. The site is located far from residential accommodation. It also benefits from excellent access to the motorway network, existing and planned utility services infrastructure, and other employment generating uses of a similar scale and character are planned to surround the site. Similarly, all potential environmental impacts concerning the proposal can be suitably mitigated, in particular noise, air quality and traffic through management techniques outlined in **Section 6**. Furthermore, the proposal is based upon a standardised proprietary design. This design has been prepared with a view to the construction of a similar layout building in geographically distinct locations. The advantages of this approach are a reduction in design costs, site familiarity for staff from other locations, and the ability to take advantage of economies of scale though the procurement of standardised equipment specific to DHL facilities.

Option	Discussion
	While other arrangements and designs for the proposal are possible, the proposed arrangement is deemed optimal for this location based upon functionality, long term financial viability, off-site amenity impacts and architectural merit.
Option 3 - Alternative Design	The final siting and design of the proposed facility was resolved through a comprehensive analysis of the site opportunities and constraints, including taking into consideration planned development and the overarching strategic vision for the precinct. A range of options were explored for the site access and building layout. Following feedback from the State Design Review Panel (meeting held on 2nd June 2022), a multi-level carpark including a ground and mezzanine level on the northern side of the warehouses was incorporated into the proposal. The ground level parking is partially screened by a mesh screen and planting. Whilst the mezzanine level provides breaks in the slab for the tree canopy to punch through to the top level and planter boxes on the side elevations. The design evolution consolidated car parking and increased opportunities for landscaping, for shade and for light to the level below, improving the overall appearance of the design and green objectives on the site. As a result, the proposed building layout can optimise the site area appropriately, while providing adequate amount of landscaping, is within proximity to the future WSI and significant transport infrastructure, and benefits from good site access. The Project is justified on the basis that it is compatible with the locality in which it is proposed, resulting is significant socio-economic benefits and can achieve the overall Project objectives, whilst managing and mitigating environmental impacts.

2.5. STRATEGIC PLANNING ALIGNMENT

The proposed development is aligned with the State, district and local strategic plans and policies applying to the site as outlined in **Table 4** below.

Table 4 Strategic Planning Consistency

Plan	Detail
Greater Sydney Region Plan – A Metropolis of Three Cities	The Greater Sydney Region Plan (**Regional Plan**) is the overarching strategic plan that seeks to shape future development for the Sydney metropolitan area over the next 40 years. Under the Region Plan, the site is located within the Western District, which forms as part of the Western River City. The project is consistent with the Regional Plan for these reasons: ▪ *Objective 14 – Integrated land use and transport creates walkable 30-minute cities* The Project will deliver 578 jobs per day during the construction phase, and up to 1,436 jobs during the operation phase, in line with the vision and objectives of the Northern Gateway Precinct to directly cater for the anticipated 7.5-million Western Sydney residents by 2056 as projected within the Region Plan. Similarly, the proposal can leverage off the planned transport infrastructure projects surrounding the Burrah Park site including the Sydney Metro – WSI, M12 Motorway and future Outer Sydney Orbital to directly connect the site to the wider Sydney Motorway and Freight Network. The project will be consistent with planned access networks within the Northern Gateway facilitating progressive improvements in active and passive transport networks as the development of the Aerotropolis progresses over many years into the future. For instance, it is expected that public bus services will be expanded to service the broader Burrah Park industrial subdivision as more lots are developed and demand increases. ▪ *Objective 15 – The Eastern, GPOP and Western Economic Corridors are better connected and more competitive* The Project will play a key role in delivering the Western Economic Corridor which will see an agglomeration of activities in response to the WSI for the Western Parkland City. The site is situated within the Western Economic Corridor extends from the Western Sydney Employment Area in the north into the South West Growth Area to the south. The proposal will contribute to the job growth within a planned economic corridor which is well positioned to leverage off the benefits unlocked by the WSI. ▪ *Objective 20 – Western Sydney Airport and Badgerys Creek Aerotropolis are economic catalyst for the Western Parkland City* The Project reinforces the role played by the WSI and Aerotropolis, providing the critical employment growth to support the of the Western Parkland City. The growth of industrial industries will be bolstered by the investment in transport initiatives which would also benefit the site. ▪ *Objective 23 – Industrial and urban services land is planned, retained, and managed* In facilitating jobs and skills for the city, the Region Plan identifies retaining, managing, and planning for industrial and urban services land as a key priority. The Western Parkland City will be a resource for Greater Sydney in providing additional land for future industrial activity, particularly in areas recently zoned for industrial uses which will support the logistics and warehousing opportunities created by the WSI. The proposal responds to the industrial land shortfall identified in the Region Plan by delivering additional industrial warehouse floorspace within the Employment Zone.
Our Greater Sydney 2056: Western City District Plan	The Western City District Plan is a 20-year blueprint managing growth in relation to economic, social, and environmental factors, implementing the objectives of the Greater Sydney Region Plan. The project aligns with the Western City District Plan planning priorities and actions as follows: ▪ *Planning Priority W7 – Establishing the land use and transport structure to deliver a liveable, productive, and sustainable Western Parkland City.* The Project achieves the principles of integrated land use and transport planning through the coordination of employment growth in a location well-served by planned transport infrastructure. ▪ *Planning Priority W8 – Leveraging industry opportunities from the Western Sydney Airport and Badgerys Creek Aerotropolis.* The Project will enable the location of essential industry required to support the operations of the WSI, in a location with a direct interface to the WSI. It will support the growth of existing and emerging industries envisaged as part of the future Aerotropolis vision, attracting greater investment to support the Western Parkland City. Industries such as

Plan	Detail
	aerospace and defence, advanced manufacturing, agricultural processing, and export are well suited to employment lands near the WSI which can accelerate the upskilling of the local population within the Western Parkland City. The site is in a strategic location to maximise the industry opportunities unlocked by the WSI. ▪ *Planning Priority W10 – Maximising freight and logistics opportunities and planning and managing industrial and urban services land.* The Project will provide additional employment generating land in a strategic location, well-served by the future transport infrastructure. The connectivity afforded by the site's proximity to these corridors allows it to maximise the opportunities for freight and logistics in proximity to the WSI. The proposal responds to the increasing demands for urban local services by providing well-connected, serviced, and viable land for industrial growth.
Western Sydney Aerotropolis Plan	The Western Sydney Aerotropolis Plan (**WSAP**) was finalised in September 2020 and has been developed by the Western Sydney Planning Partnership (**WSPP**). The WSAP sets the planning framework for the WSI and the ten precincts that comprise the Western Sydney Aerotropolis. The Northern Gateway Precinct is an initial precinct which was brought forward to create early employment opportunities and better coordinate infrastructure planning. Clause 275C of the Regulations requires that all development applications within the Aerotropolis undertake an 'assessment of consistency' with the WSAP. This consistency assessment has been undertaken and is included in the statutory compliance assessment tables within **Appendix C**. The WSAP identifies the planning pathway for Northern Gateway Precinct which was zoned for Enterprise uses in 2020 under the Aerotropolis SEPP (now Western Parkland City SEPP) to facilitate the growth of employment and business uses compatible with the WSI and Aerotropolis. The Structure Plan identifies land within the Northern Gateway Precinct to be redeveloped for flexible employment with intended land uses being industrial, warehousing and logistics. Part 5 of the WSAP outlines measures to protect the 24-hour operations of the WSI. Key initiatives include: ▪ Preventing the encroachment of noise-sensitive land uses into areas affected by aircraft noise and operational airspace. ▪ Locating buildings to avoid wind shear and turbulence. ▪ Managing wildlife attraction. ▪ Locating wind turbines appropriately. ▪ Ensuring lighting does not distract/confuse pilots. ▪ Maintain an obstacle free operational space. ▪ Ensuring off-airport development does not impact the communication, navigation and surveillance (CNS) equipment. ▪ Managing land uses in public safety areas. The proposal does not impact the future airports operations. Further information on airport safety measures is outlined in **Section 6.1.8**.
Penrith Local Strategic Planning Statement	The Penrith Local Strategic Planning Statement (**LSPS**) is a 20-year plan and land use vision that seeks to appropriately develop jobs, homes, and infrastructure in conjunction with the identified priorities of the community. The intent of the strategy is to inform planning controls and infrastructure contribution plans to achieve a liveable, sustainable and productive future. A key planning priority for Penrith City Council is to support the planning of the Western Sydney Aerotropolis. There is also a significant emphasis on the enhancement and growth of the economic triangle which is identified as a nationally significant economic corridor of the future, earmarked for employment growth. The economic triangle is defined by the strategic centres of Penrith, St Marys and the WSI. The site is situated in a prominent location within the economic triangle, with direct access to several movement corridors and is identified as forming part of an indicative emerging centre. The planning priorities likely to have implications for the proposal are listed and discussed below: ▪ *Planning Priority 1 – Align development, growth and infrastructure* As noted in Section 2.1.8, the site is identified as a first priority area in the development sequencing plan in the Precinct Plan. One of the key aims of this sequencing is to ensure that development proceeds in an orderly and efficient sequence, aligned with the efficient delivery of infrastructure. This will also help enable the rate of development to keep pace with demand for jobs, housing and services within the Aerotropolis. The proposal is consistent with this development sequencing.

Plan	Detail
	The proposal will also provide employment growth in a strategic location in the context of proposed transport investment. The site has a direct interface with the WSI to the south, and the OSO, M12 Motorway and North South Rail Link to the north and east. These major connections make the site a highly accessible location within the Western Parkland City, which in turn can attract greater investment opportunities. ▪ *Planning Priority 11 – Support the planning of the Western Sydney Aerotropolis* The proposal will provide critical employment use and industrial space to support the WSI and the Aerotropolis. The proposal will provide a compatible land use on a site with a direct interface with the WSI to maximise the benefits of proximity, as well as minimising the negative impacts. The Aerotropolis is expected to provide over 200,000 jobs, of which the proposal will play key role in its delivery. ▪ *Planning Priority 12 – Enhance and growth Penrith's economic triangle* The proposal will support the growth of Penrith's economic triangle by providing greater employment opportunities within the LGA with the site itself forming part of the economic corridors which define the triangle. The site, together with Sydney Science Park to the north, form part of the north-south economic corridor which links the WSI to St Marys and provide critical space for employment growth to occur.
Future Transport Strategy	The NSW Future Transport Strategy is a long-term blueprint for transforming New South Wales's transportation landscape. It aims to establish a modern, efficient, and customer centric transport system that can adapt to emerging technologies and meet the evolving needs of a growing population. The Transport Strategy acknowledges the role of the Western Sydney Aerotropolis in anchoring the new Western Parkland City and has flagged the following rail and road corridors to integrate the aerotropolis with the wider transport network in Greater Sydney. In the Western Parkland City, transport networks will be developed to support sustainability outcomes and jobs growth within the district. The Future Transport Strategy 2056 has identified and committed to the following infrastructure projects which will ultimately benefit the site. ▪ Committed Initiative (0-10years) – M4 Smart Motorway; WSI. ▪ Initiatives for Investment (0-10 years) – Infrastructure to support rapid and regular bus connections between the WSI – Badgerys Creek Aerotropolis, Penrith, Liverpool, Blacktown, and Campbelltown – Macarthur; M12 Motorway. ▪ Initiatives for Investigation (10-20 years) – Western Sydney Freight Line; Western Sydney Outer Orbital. The M12 Motorway has commenced construction and is anticipated to be completed in mid-2026. Given the location and scale of the site, all the above infrastructure projects will benefit the proposed warehouse and logistics estate not only in terms of accessibility for future clients and staff but improve opportunities for product outputs and overall increase operational and freight capacity. It also proposes a land use and development type that will ultimately complement the overall objectives of a number of these projects, as well as the wider Aerotropolis.
Better Placed	The Better Placed policy, an integrated design blueprint by the NSW Government Architect, is dedicated to enriching the lives of New South Wales residents through the promotion of superior design in the planning, construction, and design of buildings, landscapes, spaces, and neighbourhoods. The built form of the proposal has been designed to respond to the seven objectives for good design identified in Better Placed. Refer to discussion provided in the Urban Design Report at **Appendix K.**
Connecting to Country Framework	The "Connecting to Country" framework by the NSW Government Architect is an initiative that weaves Aboriginal cultural knowledge into the fabric of planning, design, and development of the built environment. It champions a profound respect and understanding of the Aboriginal connection to Country, advocating its acknowledgment and celebration in modern design and planning. This framework serves as a compass, guiding the creation of spaces that are culturally inclusive, sustainable, and echo Australia's rich Aboriginal heritage.

Plan	Detail
	▪ It starts with Country and these Guidelines form a pivotal role to support the overarching aim of the WSAP, to Recognise Country, Acknowledge Traditional Custodians and provide opportunities to Connect with Country, Design for Country and Care for Country when planning for the Aerotropolis. ▪ Yerrabingin note in their Connecting with Country Framework **Appendix H** that Country is our mother, our teacher, our library, our kin it sustains inspires and surrounds us. The experience of Country is both individual and collective, both new and familiar. ▪ The proposal has responded to the Guidelines and evolved via a series of steps such as Wanngani Dhayar, Listen to Country with meaningful engagement with the Aboriginal community (Traditional Owners -Dharug Women) which helped Yerrabingin form elements of Country to help shape the project. Further details of the Recognising Country Strategy are provided in **Appendix H.**
Cumberland Plain Conservation Plan	The Cumberland Plain Conservation Plan (**CPCP**), finalised by DPHI in August 2022, outlines a comprehensive conservation strategy for Western Sydney through to 2056. It pinpoints strategically significant biodiversity areas within the Cumberland subregion and aligns with the Greater Sydney Region Plan and the Western City District Plan. The development site is situated within the CPCP area and is entirely located on certified land. The CPCP stipulates that certified land does not necessitate further assessment under Part 8 of the BC Act or the EPBC Act, nevertheless a Biodiversity Assessment Report has been prepared to support the SSDA, refer to **Appendix O**.

3. PROJECT DESCRIPTION

The following section of the EIS summarises the key numeric components of the proposed development and describe the demolition, site preparation, construction and operational phases in further detail.

3.1. PROJECT OVERVIEW

The key components of the proposal are summarised in **Table 5**. Also, Architectural Plans (**Appendix B**) and the Design Report (**Appendix K**) have been prepared by SBA Architects, which provide greater detail on the Project and how the proposal has responded to the opportunities and constraints of the site.

Table 5 Project Details

Project Element	Summary
Project Area	The site area is 133,678m^2.
Proposed uses	Part Lot 1 in Deposited Plan 1287712
Project Description	The project comprises the construction and operation of two proposed single storey warehouse buildings for use as a logistic facility, with the proposal to be operated on 24-hour/seven days a week. Plus, associated landscaping, parking and signage.
Gross Floor Area (GFA)	Total GFA of 66,756m², broken down as follows: ▪ Warehouse 1: – Warehouse GFA – 31,954m^2 – Office GFA – 966m^2 – Dock Office GFA – 458m^2 ▪ Warehouse 2: – Warehouse GFA – 31,954m^2 – Office GFA – 966m^2 ▪ Dock Office GFA – 458m^2
Landscaped Area	▪ Proposed Trees: 481 trees ▪ Tree Canopy Cover for Stage 2: 16% (22,138m^2) ▪ Landscape Area for Stage 2: 18.1% (24,195m^2)
Maximum height	Warehouse 1 and 2: RL 80.6 metres (14.6m)
Utility Redundancy	All existing utility services within the site shall be demolished and removed as these are not appropriate for the proposed development.
Site Access	A total of five vehicle accesses are proposed to be provided from the broad estate road along the southern boundary of the two warehouses, with three vehicles accesses for each warehouse. This includes a separated heavy vehicle entry, heavy vehicle exit and light vehicle access driveways for each warehouse. It is noted the internal estate road is proposed as part of the Concept Plan for SSD-70316465. If required, the DHL proposal can be delivered independently of the concept plan with site access provided via a temporary access easement over an existing dirt road off Elizabeth Drive which connects the southern portion of the site to Elizabeth Drive. This road would be upgraded to provide access. This access road would be subject to survey and would be designed with reference to the appropriate Australian Standards.
Parking Spaces	Warehouse 1 – 216 carparking spaces (4 disabled) Warehouse 2 – 224 carparking spaces (4 disabled)

Project Element	Summary
Loading Facilities	Warehouse 1: ▪ 34 docks for vehicles up to 20-metre articulated vehicles. Warehouse 2: ▪ 38 docks for vehicles up to 20-metre articulated vehicles.
Cycle Parking	Warehouse 1 – 33 bicycle parking spaces (4 electric charging station) Warehouse 2 – 33 bicycle parking spaces (4 electric charging station)
End of Trip	Warehouse 1: ▪ 33 lockers. ▪ 4 shower and change cubicle. Warehouse 2: ▪ 33 lockers. ▪ 4 shower and change cubicle.
Jobs	578 construction jobs (219 direct, 359 indirect) 1,436 operational jobs (693 direct, 743 indirect from flow-on effects)
Estimated Development Cost	$95,153,000 (excluding GST). The EDC includes the design and construction design and construction of buildings, structures, associated infrastructure and plant and equipment.

3.2. DETAILED DESCRIPTION

3.2.1. Project Area

The extent of the proposed works applies to all of the land within the site at Part Lot 1 in Deposited Plan 1306448 at 1952-2109 Elizabeth Drive, Badgerys Creek, to accommodate the proposal and the frontage along the east west estate road for street tree planting and vehicle access driveways.

3.2.2. Physical Layout and Design

3.2.2.1. Site Layout

The proposed site layout and building design is largely driven by the functional and sustainability requirements of DHL:

- height requirements to allow for seven pallet seven pallet storage heights while maintaining sprinkler coverage,
- column free warehouses,
- energy efficiency, and
- temperature control for storage of certain medical products and access requirements.

The development site is rectangular in shape, allowing for the two proposed warehouse buildings to utilise an efficient square design that are accessed by an internal road and private driveways/loading bays for each warehouse. The siting of the facility within the lot promotes security, efficiency and safety of vehicular access, and simplifies operational requirements, including deliveries and maintenance.

As shown in **Figure 10**, the proposal will involve:

- Construction and fit out of two single storey industrial buildings including Warehouse 1, (31,954m^2) and Warehouse 2 (31,954m^2) plus office space (1,932m^2) and dock offices area (916m^2) across the two buildings.

- Use as a warehouse and logistics facility with 24 hour/seven day a week operation.
- Landscaping works throughout the site including new tree planting for 481 trees.
- Associated hardstand, loading and multi-level carparking for approximately 440 cars.
- Associated vehicle crossings and drainage connection to the road drainage system.
- Business identification signage and wayfinding signage.

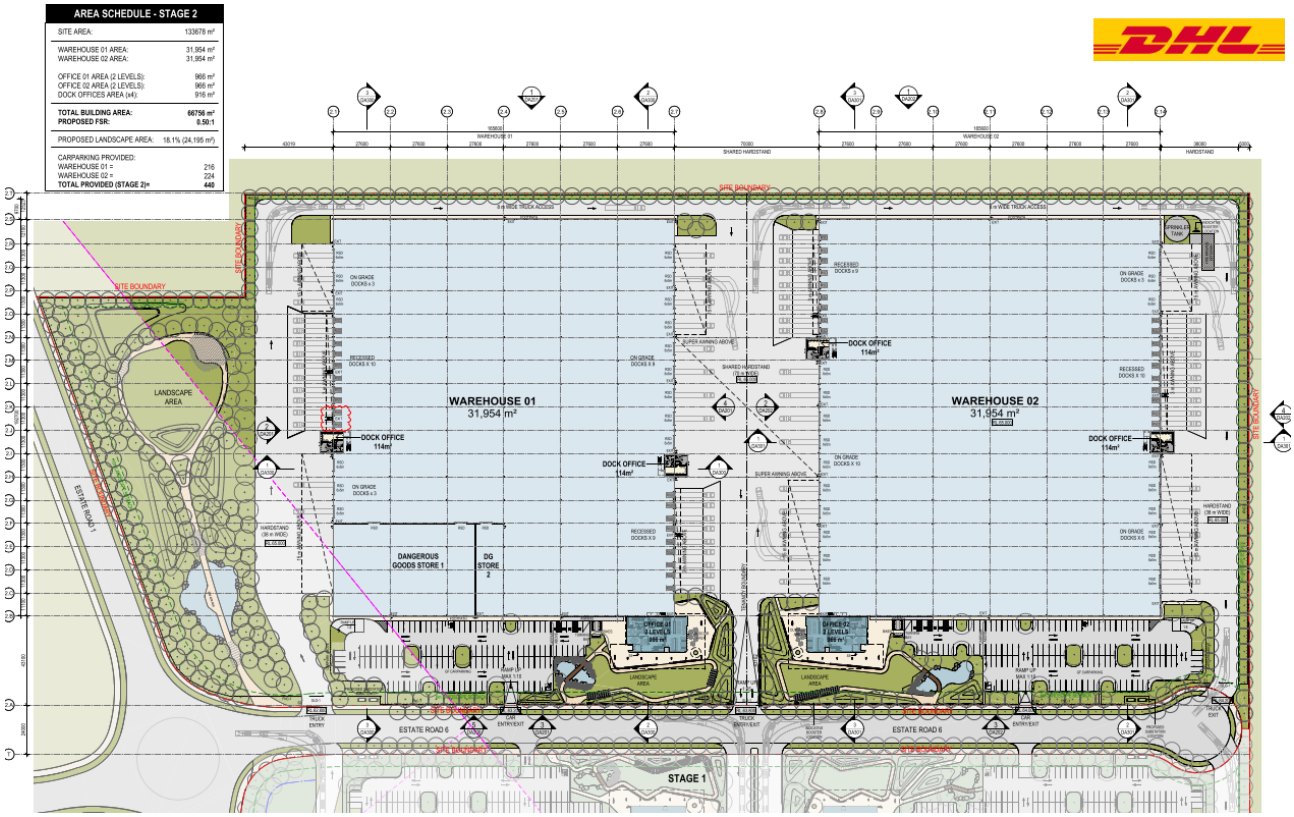
Specifically at Warehouse 1, Dangerous Goods storage areas are proposed to be located at the south-west corner of the building. The warehouse is being developed as a speculative warehouse to cater toward potential customers that require large quantities of DGs to be stored. The dangerous goods stored at the warehouse are for various customers and may fluctuate with customer requirements. The DGs will be separated into two (2) bunkers purpose built for the product suite to be stored within in accordance with the relevant Australian Standards. The proposed DG bunkers are able to store the following dangerous goods types and quantities:

Table 6 Dangerous Goods Proposed to be Stored at Warehouse 1

Storage Location	Class	Description	PG	Quantity (kg)
DG Bunker 1	2.1	Flammable gases (aerosols)	n/a	100,000 / 25,000*
	2.2	Non-toxic, non-flammable gases	n/a	200,000
	3	Flammable liquids	II & III	1,000,000
	4.1	Flammable solids	II & III	100,000
	C1/C2	Combustible Liquids	n/a	10,000
DG Bunker 2	5.1	Oxidising agents	II & III	40,000
	8	Corrosive substances	II	20,000
			III	
	9	Miscellaneous DGs	III	10,000
Cabinet	6.1	Toxic substances	II	10

The relevant assessment in accordance with the SEARs is provided in this EIS at **Section 6.2.5** and **Appendix Z (Hazardous Material Report).**

Figure 10 Proposed Site Plan



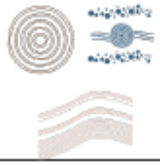
Source: SBA Architects

3.2.2.2. Design and Built Form

Building materials have been carefully considered to deliver a corporate-grade warehouse development that presents aesthetically to street frontages and neighbouring properties, whilst also having consideration of the wider design framework, including Connecting to Country. The proposed office design has been inspired by the form and shape of a tree to inform, creating an architectural feature on the warehouse which represents and celebrates the Elements of Country.

The proposed warehouse form has been informed by the following design principles, informed by the community driven design principles for connecting with country:

Figure 11 Architectural Design Principles

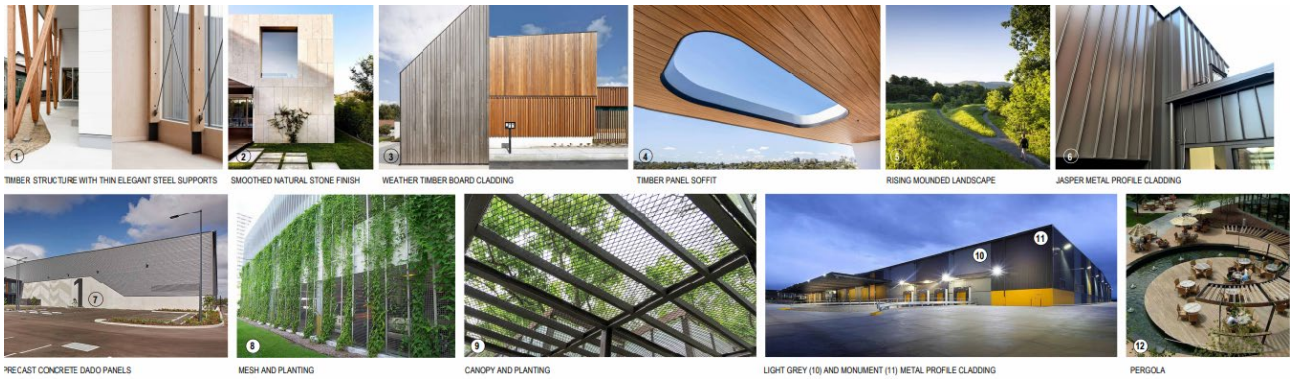
Design Principles	Relationship to Elements of Country	SBA Principle Images
Solid Anchor The solid anchors support the structure and sit at the base of the columns. These are grounded on Country and should reflect the local geology of the site. This can be achieved through an eco-tonal colour palette or using the actual geology that are local to this area		
Elegant Connections Elegant connections begins to look at the building columns. These could reference tree trunks by using natural timbers found on the site. The textures and patterns on trees vary immensely and all showcase unique forms and colours. Each column could be different and unique.		
Floating Canopy To emphasise the floating nature of the canopy, design interventions such as shadow play, reflection and art can be utilised.		
Filtered Light The filtered light which comes through the canopy should give the same experience as someone who is standing below a group of trees with dancing shadows on the ground plane. The shadows created by the structures should also dance on the ground below creating interest and an ever changing space; changing throughout the day as the sun moves.		
Dynamic Form The dynamic forms on the ground plane reflect people's movement; fluid and organic. This contrasts with the sharp edges of the warehouses and creates a more human scale enjoyable space for people to move through. The fluidity of water and the movement of wind could inspire these shapes.		

Source: Yerrabingin

The building form and design addresses the functional requirements of DHL to respond to its intended use. Conceptually, the form and external appearance of the proposed logistics buildings provides a striking, dynamic, and interesting façade that is intended to improve the quality and amenity of the public domain by drawing inspiration from elements of the site such as the undulating topography, the layers in the earth, and the organic form of the local flora, refer to **Figure 12.**

Figure 12 Proposed Warehouse Design & Built Form

Picture 5 Typical Elevation



Picture 6 Proposed Materials & Finishes

Source: SBA Architects

The proposed external finishes are considered durable, high-quality, low maintenance materials that comply with applicable standards whilst maintaining a high degree of visual and design appeal. The final form and design of the warehouses would remain sympathetic to the surrounding and evolving development within Burrah Park.

The proposed warehouse buildings include a high level of amenity and ESD initiatives, including end of trip facilities, secure bike parking, electric bike charging, and landscaped open space. These will contribute to reduction in the energy required for the development on the site both within the construction and operational phases.

Two ancillary, two-storey offices are proposed, one for each warehouse at the north-western (Warehouse 1) and north-eastern (Warehouse 2) corners respectively. The ancillary offices incorporate a lobby, open office area, lunchroom, female and male facilities, end of trip facilities, and secure bicycle parking. The materials for the offices include a smooth natural stoned finish, weather timber board cladding, a timber panel sofit and timber structure with steel supports. A pergola and awning adjacent to the offices will provide sun shading, for improved comfort and energy efficiency for the staff and visitors. These elements provide for an enhanced employee experience and encourage active modes of transport.

Perspective views of the proposed ancillary offices are provided in **Figure 13.**

Figure 13 Ancillary Office Perspective Views

Picture 7 Office Perspective View 1

Source: SBA Architects

Picture 8 Office Perspective View 2

Source: SBA Architects

Picture 9 Office Perspective View 3

Source: SBA Architects

Picture 10 Office Perspective View 4

Source: SBA Architects

3.2.2.3. Landscaping

Landscaping will be undertaken in accordance with the Landscape Plan prepared by Site Image, provided at **Appendix II**.

Elements of Country have been both embedded and driven the landscape design. This includes the following design elements:

- **Open Space**

  Open green space provides opportunity for various activities to occur. Being open and exposed will also allow for direct access to the sky; the sun and night sky. The vast openness also would provide opportunity for events to occur on site for staff and visitors, such as NAIDOC week and/or cultural activities.

- **Water Sensitive Urban Design**

  Design needs to be water conscious and implementing WSUD systems will enable these process to occur. Water moves with the land and pools at site depressions. This creates habitat for some of our non-human kin and provides a space for water to be naturally cleaned before entering the creek system.

- **Circulation and Breakout Spaces**

  These designed spaces are for people to interact with their environment. They are for individuals or groups to sit and enjoy the space. There are opportunities for these spaces to be inspired by Country, through materials, organic shapes and uses.

- **Boundary Interfaces / Tree Canopy**

  There is great opportunity for vast canopy of trees along the boundary of the lots. Being endemic species, they will create habitat for non human kin and contribute to the wider site context. Celebration of wind will also occur as these wind tunnels between lots will create swaying and movement in the trees.

- **Streetscape / Planting Strategy**

  Understorey planting is just as important as the canopy. This provides shelter for smaller creatures as well as providing opportunity for foraging resource and bush tucker species.

- **Material Strategy**

  Materials used across the design should consider Country. Use of local materials in pathways, seating design, garden bed edging, walls and landscape features. Large site boulders could be used as informal seating also. The colours of the geology adds to the connection to Country and could inspire eco tonal colour palettes outside of the landscape.

The landscape response comprises a mix of native and endemic plant species, shrubs, trees, and grasses which will help to improve the aesthetic for workers and visitors, as well as exhibit an appropriate landscaping treatment for road users traversing the central north-south estate road within Burrah Park. The proposal provides landscaping to 18.1% of the site which includes generous area of softscape to facilitate the growth of a healthy tree canopy. Refer to the Landscape Plan at **Figure 14.**

Figure 14 Landscape Plan

Source: Site Image

The proposal will result in the removal of the existing scattered trees on the site to accommodate the development; however, the proposal includes 481 new trees such as Tulipwood, Blackwood, Red Ash, Kurrajong and Weeping Lilly Pilly Trees, providing a tree canopy cover of 16.% which contributes to the overall concept plan tree canopy target of 15% (On-Lot) and 60% (Open Space). The tree canopy coverage will be planted adjacent to the estate road, boundary and within the parking lots and will contribute to shade over hardstand areas to help reduce the heat island effect. Refer to **Figure 15** for the Landscape Plan for the Warehouse 1 Office and the Warehouse 2 Office area.

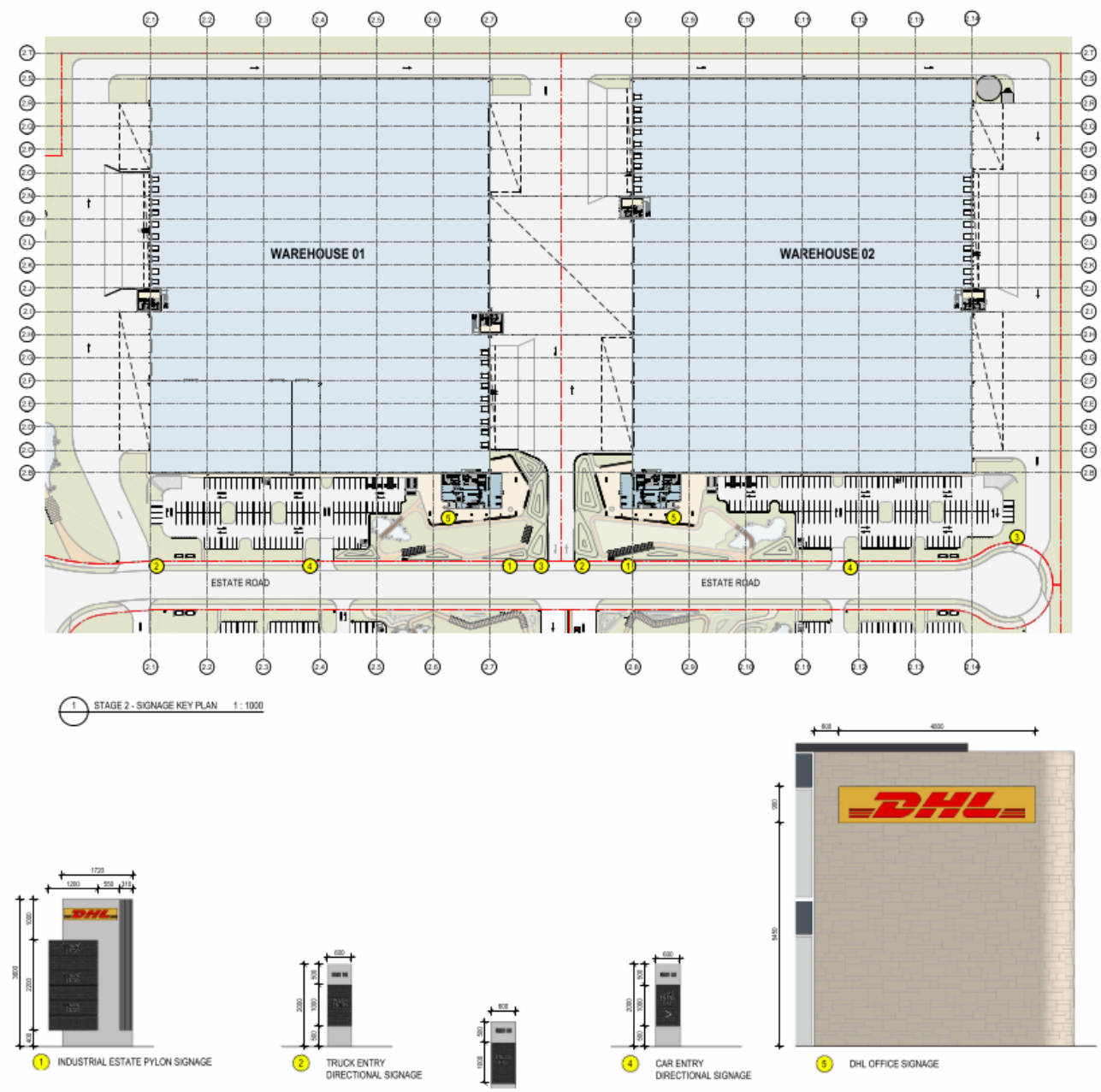
Figure 15 Warehouse 1 (Top) & 2 (Bottom) Landscape Plan

Source: SBA

3.2.2.4. Signage

Building identification and wayfinding signage is proposed to be located across the northern end of the site. The location, design and size of the proposed signage is demonstrated in **Figure 16**. The signage types proposed are consistent with the signage types proposed to be established under the Concept Plan.

Figure 16 Proposed Signage Plan



Source: SBA Architects

3.2.2.5. Demolition and Earthworks

Bulk earthworks are being delivered by under SSD- 70316465 and are expected to form level pads for Lots 4.3 and 4.4 suitable for large-scale industrial warehouse development. Additional earthworks, site trimming and detailed excavations will be undertaken by DHL's appointed contractor to prepare the site for construction.

The following bulk earthworks pad levels are proposed for Lots 4.1 and 4.2.

- Lot 4.3 (WH01) = RL64.40m.
- Lot 4.4 (WH02) = RL64.40m.

3.2.2.6. Dam Dewatering

The existing dam at the site will be subject to dewatering in accordance with the broader Burrah Park proposal (SSD-70316465). No dam dewatering works are proposed as part of this proposal.

3.2.2.7. Geotechnical and Contamination

Subject to the site assessment conducted by Douglas Partners, including the Detailed Site Investigation (**Appendix V**) and the Supplementary Contamination Investigation (**Appendix HH**) remediation works are proposed across the following areas:

- Remediation at the 'Area of Concern' (**AEC**) 36, including the soil in vicinity of the existing power pole (PP33).
- Asbestos-Containing Material (**ACM**) pipe network to be removed with ACM fragments on the surface (AEC 15 & 16).

Further details of the strategy and methodology of the proposed remediation is provided at the attached Remediation Action Plan (**Appendix U**).

3.2.2.8. Stormwater and Water Quality Management

A piped, stormwater drainage is proposed to safely convey major and minor flows prior to discharging into the external road drainage system which then drains into the estate regional stormwater basins. The proposed site stormwater drainage systems are provided at the Civil drawings **Appendix J**. Additionally Ocean Protect OceanSave OS-3300-450-OT GPT (or approved equivalent) gross pollutant traps are proposed at Lot 4.3 and Lot 4.4.

3.2.2.9. Utility Services

The estate developer shall provide access and connection points to all utility services at each lot's main street frontage on Estate Road 4 including the following:

- Potable water (Sydney Water Corporation)
- Sewer (Sydney Water Corporation)
- Recycled water (Sydney Water Corporation)
- Electrical (Endeavour Energy)
- Telecommunications (Telstra / NBN)
- Gas (Jemena), if required

All existing utility services within the site shall be demolished and removed as these are not appropriate for the proposed development. It is expected that all relevant estate infrastructure works including the intersections with Elizabeth Drive, Road 1, the estate road and the associated utility services lead ins and reticulation delivered under the concept plan shall be in place and operational prior to completion of the DHL development.

3.2.2.10. Sediment and Erosion Control

Site works are proposed to be taken in accordance with the erosion and sediment control plan detailed in **Appendix FF**.

3.2.2.11. Construction Management

All construction vehicles will access the site via Elizabeth Drive and through the Burrah Park site. Given the limited available public transport services currently in the area, construction worker parking will be provided on site.

The standard construction hours are summarised in **Table 7.**

Table 7 Standard construction hours

Day of Week	Proposed Hours

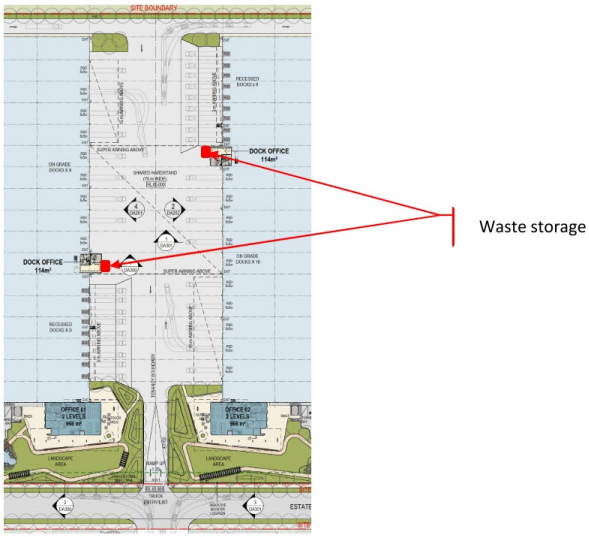
Monday to Friday	7am to 6pm
Saturday	8am to 3pm
Sunday and Public Holidays	No work

3.2.2.12. Waste Management

Waste management areas are proposed to accommodate two general waste bins and two recycling bins. A further 8m^2 storage area for bulky waste is provided for each warehouse.

Waste collection vehicles will enter the site, drive through the hardstand area and onto the bins in their positions. The operator will empty the bins reverse back from the bins and then leaving the site in a forward direction. The location of the external waste storage areas for Warehouses 1 & 2 are demonstrated at **Figure 17**.

Figure 17 Proposed Waste Storage Areas



Source: SLR

3.2.2.13. Access and Parking

Construction

Construction vehicles generated by the site would generally include vehicle up to 12.5 metre heavy rigid vehicles, 18.1 metre truck and dog combinations and 19 metre articulated vehicles. Preliminary construction traffic volume estimates based on other similar sized developments suggests that up to 80 vehicles per day could be expected or on average around 10 vehicles per hour.

It is anticipated construction vehicle routes to/ from the site, which specifically involves use of the M7 Motorway and Elizabeth Drive to access the site. Truck drivers will be advised of the designated truck routes to/ from the site.

Operation

Separate access points are provided for heavy and light vehicles, and cars. The heavy and light vehicle entry/exit points are separated by the length of the warehouse to minimise impact between the egress and ingress points, and both provide direct entry to the hardstand loading dock. The car park entry and exit are located immediately central of each warehouse, away from the truck entry with a direct connection to the warehouse offices.

All access points and internal driveways, service and circulation areas are designed to be compliant with AS 2890.1 and 2890.2 and accommodate the turning paths of B-Double vehicles in accordance with Australian Standards. Access and loading arrangements are outlined below.

- Service and loading access from the southern estate road.
- Separate car parking access from the southern estate road.

- Internal hardstand designed for one-way circulation with ingress and egress available at separate access points; and
- The site layout allows for larger 30-metre B-Doubles to pull up adjacent to each warehouse to be loaded/ unloaded from the side using forklifts.
- Access requirements as per Table 7.4a of *Planning for Bushfire Protection 2019* can be achieved to provide adequate access for firefighting and emergency vehicles.

Construction Parking

Parking for construction vehicles will be provided on site.

Operational Parking

The proposal includes a multi-level carparking including a ground and mezzanine level on the southern side of the warehouses. The ground level parking is partially screened by a mesh screen and planting. The mezzanine level is accessed by a ramp and includes areas for the tree canopy to punch through to the top level and planter boxes on the side elevations, to provide shade and increase light to the level below.

A total 440 car parking spaces are proposed, with 216 spaces for Warehouse 1 and 224 spaces for Warehouse 2. Two percent of on-site parking spaces would be provided as accessible parking spaces as such, four accessible spaces are provided for both Warehouse 1 and Warehouse 2.

3.2.3. Development Staging

The Project will be constructed in a single stage which will take approximately 18 months, with individual phases as summarised below:

- Construction of the main buildings and ancillary site works including car parking, landscaping, etc.
- Progressive fit-out and occupation of the warehouses to facilitate delivery of the required programme (refer below).

To achieve the above programme, it is requested the conditions of consent be appropriately worded to facilitate the release of Construction Certificates and Occupation Certificates for distinct phases of work. This should provide for completion of the main building structure and the staged installation and occupation of the simulators and other emergency procedures equipment within the facility.

4. STATUTORY CONTEXT

This section of the report provides an overview of the key statutory requirements relevant to the site and the project, including:

- *Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (***EPBC Act***).*
- *Commonwealth Airports Act 1996 (***CA Act***).*
- *NSW Biodiversity Conservation Act 2016* (**BC Act**).
- *Environmental Planning and Assessment Act 1979* (**EP&A Act**).
- *Environmental Planning Assessment Regulation 2021* (**the Regulations**).
- *State Environmental Planning Policy (Planning Systems) 2021* (**Planning Systems SEPP**).
- *State Environmental Planning Policy (Resilience and Hazards) 2021* (**R&H SEPP**).
- *State Environmental Planning Policy (Transport and Infrastructure) 2021*(**T&I SEPP**).
- *State Environmental Planning Policy (Precincts—Western Parkland City) 2021* (**WPC SEPP**).
- *State Environmental Planning Policy (Industry and Employment) 2021* (**I&E SEPP**).
- *State Environmental Planning Policy (Biodiversity and Conservation) 2021 (***B&C SEPP**).
- *State Environmental Planning Policy (Sustainable Buildings) 2022 (***SB SEPP**).

Consideration is also required to be given to the following matters:

- Western Sydney Aerotropolis Precinct Plan 2022 (**Precinct Plan**).
- Western Sydney Aerotropolis Development Control Plan 2022 (**DCP**).
- Cumberland Plain Conservation Plan (**CPCP**).
- Aerotropolis Special Infrastructure Contribution (**SIC**).
- Penrith Aerotropolis Local Contributions Plan.
- Connection with Country Framework for the Aerotropolis.
- Aviation Safeguarding Guidelines for the Aerotropolis.

4.1. STATUTORY REQUIREMENTS

Table 8 outlines the key statutory requirements in accordance with DPHI's *State Significant Development Guidelines*. A detailed statutory compliance table for the project is provided at **Appendix C**.

Table 8 Identification of Statutory Requirements for the Project

Statutory Relevance	Action
Power to grant approval	The EP&A Act establishes the framework for the assessment and approval of development and activities in NSW. The EP&A Act also facilitates the making of environmental planning instruments which guide the way in which development should occur across the State. This is inclusive of State environmental planning policies and local environmental plans. Section 4.36 of the EP&A Act provides for a process where development can be declared SSD either by a SEPP or Ministerial order published in the Government Gazette. Section 4.37 of the EP&A Act provides that the Minister is the consent authority for SSD. Part 4, Division 4.7 of the EP&A Act sets out the provisions which

Statutory Relevance	Action
	apply to the assessment and determination of development applications for SSD. The proposal is subject to section 4.38 Consent for State Significant Development. The proposal is appropriately categorised as SSD under Schedule 1, clause 12 of the Planning Systems SEPP, as it is a *"warehouse or distribution centres"* development that: *Development that has an Estimated Development Cost of more than the relevant amount for the purpose of warehouse or distribution centres (including container storage facilities) at one location and related to the same operation.* *relevant amount means –* *(a) for development in relation to which the relevant environmental assessment requirements are notified under the Act on or before 31 May 2023—$30 million, or* *(b) for any other development—$50 million.* As detailed earlier, the proposal has an EDC that exceeds $50 million and both warehouses will be operated as a logistics facility by the one operator, DHL, thereby satisfying this precondition to grant approval.
Permissibility	The site is zoned Enterprise (**ENT**) under the Western Parkland City SEPP which is the principal EPI which applies to the land. A warehouse or distribution facility is defined in the Dictionary of the Principal Standard Local Environmental Plan as: ***warehouse or distribution centre** means a building or place used mainly or exclusively for storing or handling items (whether goods or materials) pending their sale, but from which no retail sales are made, but does not include local distribution premises.* A *warehouse or distribution centres* is permissible within the Enterprise Zone.

Other Approvals
The following Acts were considered in the assessment of the concept plan, but by virtue of the application being SSD and the nature of the proposal, no further approval is required under the following:

- *NSW National Parks & Wildlife Act 1974*
- *NSW Heritage Act 1977*
- *NSW Roads Act 1973*
- *NSW Water Management Act 2000*
- *NSW Rural Fire Service Act 1997*
- *NSW Protection of the Environment Operations Act 1997*
- *Pipelines Act 1967*

4.2. CONSISTENCY WITH THE CONCEPT PLAN (SSD-70316456)

SSD-70316465 sets out the relevant planning parameters to guide the detailed design and construction of the DHL proposal. The proposal is required to be consistent with the concept plan pursuant to section 4.24 of the EP&A Act, which states that

> *"while any consent granted on the determination of a concept development application for a site remains in force, the determination of any further development application in respect of the site cannot be inconsistent with the consent for the concept proposals for the development of the site"*

Whilst the concept plan has not been determined at the time of writing this EIS, the conditions of consent for SSD 70316465, once approved, will set out the conditions which must be met in all future detailed design applications at the site. It is noted that the concept and stage 1 SSDA and the DHL SSDA's will be assessed concurrently by the DPHI.

The DHL proposal is consistent with the concept plan in that the proposed built form is wholly contained within the building envelopes established by the concept plan including height, bulk scale, layout and setbacks. The designing with country, built form, design excellence, traffic, ecologically sustainable development, noise vibration soil, flooding risk, social impact inputs are consistent with the concept plan. **Figure 18** shows the Burrah Park concept plan.

Figure 18 SSD-70316465 Proposed Concept Plan

Source: NettletonTribe

Table 9 below provides a numerical comparison of the Concept Plan and the proposed development and **Figure 19** provides a visual comparison. This demonstrates that the proposal is generally consistent with the Concept Plan with these minor adjustments to some detailed elements.

Table 9 Numerical Comparison of Concept Plan and Proposal

Element	SSD-70316465	Proposed Development
Lot 1 / Warehouse 1		
Warehouse GFA	31,954m^2	31,954m^2
Office GFA	1,367m^2	1,424m^2 (+57m^2)
Levels	Civil Drawings: FFL65.00 Concept Masterplan: N/A	Civil Drawings: FFL64.70 (-0.3m)
Lot 1 / Warehouse 2		
Warehouse GFA	31,954m^2	31,954m^2
Office GFA	1,367m^2	1,424m^2 (+57m^2)

Pad levels	Civil Drawings: FFL65.00 Concept Masterplan: N/A	Civil Drawings: FFL64.70 (-0.3m)

Note: SSD-70818708 will result in a decrease to office GFA of 115m^2. As such, the entire DHL Masterplan Site will result in a net reduction of 1m^2 of office GFA compared to the Concept Plan

Figure 19 Comparison of Concept Plan and DHL Masterplan

Picture 11 Concept Plan (SSD-70316465)

Source: NettletonTribe

Picture 12 Proposed DHL Masterplan

Source: SBA Architects

4.3. PRE-CONDITIONS TO GRANTING CONSENT

Table 10 outlines the pre-conditions to exercising the power to grant approval which are relevant to the project and the section where these matters are addressed within the EIS.

Table 10 Pre-Conditions

Statutory Reference	Pre-Condition	Relevance	Section in the EIS
Environmental Planning & Assessment Regulation 2021			
Clause 35 - Additional requirements for development applications in certain areas of Sydney	A person cannot apply to a consent authority for consent to carry out development on land in the Western Sydney Aerotropolis under *State Environmental Planning Policy (Precincts – Western Parkland City) 2021* unless the application is accompanied by an assessment of the consistency of the development with— the Western Sydney Aerotropolis Plan as defined in that Policy, and any Precinct Plan that applies to the land under that Policy.	Consistency with the WSAP and Precinct Plan is required.	**Section 2** **Appendix C**
Clause 66 Contributions plans for certain areas in Sydney – the Act, s 4.16(1)	Development must not be determined by the consent authority unless a contributions plan has been approved for the land. A contribution is not required if the applicant has entered into a planning agreement with a planning authority under Part 7 of the Act for the matters that may be the subject of a contributions plan.	The Western Sydney Growth Areas Special Infrastructure Contribution (SIC) collects contributions to deliver state infrastructure. The Penrith Aerotropolis Development Contributions Plan (CP) collects contributions from developers in accordance with this plan to deliver local infrastructure.	
State Environmental Planning Policy (Precincts – Western Parkland City) 2021			
Clause 4.17 Aircraft noise	Development consent must not be granted to noise sensitive development listed in clause 4.17(5) if the development is to be located on land that is an ANEF or ANEC contour of 20 or greater.	Parts of the development site are within ANEF/ANEC 20 or greater. However, no noise sensitive development is proposed.	**Section 6.1.8** **Appendix C**
Clause 4.18 Building wind shear and turbulence	Development consent must not be granted to development shown on the Lighting and Wind Shear Map or development	Parts of the Project are shown affected by the Lighting Intensity and Wind Shear Map.	**Appendix S**

Statutory Reference	Pre-Condition	Relevance	Section in the EIS
	that penetrates the 1:35 surface unless the consent authority has consulted with the Commonwealth Body.		
Clause 4.19 Wildlife hazards	Development consent must not be granted to relevant development on land in the 13km buffer unless the consent authority has: ▪ has consulted with relevant Commonwealth body, and ▪ has considered a written assessment of the wildlife that is likely to be present on the land and the risk of the wildlife to the operation of the WSI provided by the applicant, and ▪ is satisfied that the development will mitigate the risk of wildlife to the operation of the WSI ▪ Development for the following purposes is prohibited in the 3-km wildlife buffer zone– ▪ livestock processing industries, turf farming, waste or resource management facilities that consist of outdoor processing, storage or handling of organic or putrescible waste.	The project land is within the 13-km and 3-km buffer zone. Whilst not relevant to this development an assessment of wildlife that is likely to be present has been prepared.	
Clause 4.21 Lighting	Development consent must not be granted to development for identified development purposes and for installation and operation of external lighting in connection with construction works that is likely to be obtrusive or create light spill outside the land on which the construction works are carried out.	Parts of the project land is shown as affected by the Lighting Intensity and Wind Shear Map. Whilst not identified development, external lighting associated with construction works may require consultation.	
Clause 4.22 Airspace operations	The consent authority must consult with the relevant Commonwealth body who must advise that the development will penetrate the prescribed airspace but does not object to the development or the development will not penetrate the prescribed airspace. The consent authority must not grant consent if the relevant Commonwealth body advises that the development will penetrate the prescribed airspace and should not be carried out.	Project land is shown to be affected by the OLS. An aviation report has been prepared that notes that the proposal, assumes cranes up to 15 m above the building, the maximum height will be up to 94.6 m AHD (310.4 ft AMSL) and does not infringe the OLS of aerodrome.	

Statutory Reference	Pre-Condition	Relevance	Section in the EIS
Clause 4.23 Public Safety	The consent authority must consider a written assessment of the risk of the development to persons provided by the applicant and is satisfied that the development within a public safety area will adequately mitigate the risks to persons on the land including by limiting the number of people or vehicles.	The site is outside the public safety area of the Western Sydney Airport.	
Clause 4.24 Flood planning	The consent authority must consider whether the development demonstrates that it meets the relevant requirements of the clause. Development consent may be granted to development on land below the flood planning level only if the development does not involve earthworks that will affect flood storage capacity or flood behaviour and is not located on a floodway area or flood storage area.	Parts of the project land are affected by a flood planning area.	**Section 6.2.4 Appendix T (Flood Impact)**
Clause 4.25 Preservation of trees and vegetation in Environment and Recreation Zone and Cumberland Plain	The consent authority must be satisfied that, in relation to the disturbance of native vegetation caused by the clearing— ▪ there is no reasonable alternative available to the disturbance of the native vegetation, and ▪ any impact of the proposed clearing on biodiversity values is avoided or minimised, and ▪ the disturbance of the native vegetation will not increase salinity, and ▪ native vegetation inadvertently disturbed for the purposes of construction will be re-instated where possible on completion of construction, and ▪ the loss of remnant native vegetation caused by the disturbance will be compensated by revegetation on	The site has been certified under the CPCP.	**Section 6.1.9 Appendix O (Biodiversity Report)**

Statutory Reference	Pre-Condition	Relevance	Section in the EIS
	or near the land to avoid a net loss of remnant native vegetation, and the clearing of the vegetation is unlikely to cause or increase soil erosion, salination, land slip, flooding, pollution or other adverse land or water impacts.		
Clause 4.26 Heritage conservation	**European Heritage** The consent authority may before granting consent require a heritage management document to be prepared that assesses the effect on the heritage significance of items in the vicinity. **Aboriginal Archaeology** The consent authority must consider the effect of the proposal on the heritage significance of the place and an Aboriginal object known or reasonably likely to be located at the place by means of an adequate investigation and assessment (which may involve consideration of a heritage impact statement), and notify the local Aboriginal communities, in writing or other appropriate manner, about the application and take into consideration a response received within 28 days after the notice is sent.	The SEARs require an assessment of both European and Aboriginal cultural heritage any items of heritage would be subject to this clause.	**Appendix Q** **Section 6.2.1** **Section 6.2.2**
Clause 4.27 Transport Corridors	The consent authority must obtain concurrence from Transport for NSW for development on transport corridor land with a CIV greater than $200,0000 and/or development that penetrates the ground to a depth of at least 2 metres below ground level (existing) on land within 25 metres (measured horizontally) of transport corridor land.	N/A	**N/A**
Clause 4.33 Design Excellence	The consent authority must have regard to	The SEARs require an assessment of design excellence and would be subject to this clause.	**Section 6.1.2** **Appendix B and K**

Statutory Reference	Pre-Condition	Relevance	Section in the EIS
	▪ whether the development responds to the physical and cultural connection of the local Aboriginal community to the land, ▪ whether a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved, ▪ whether the form and external appearance of the development will improve the quality and amenity of the public domain, ▪ whether the development detrimentally impacts on view corridors. The consent authority must also have regard to how the development addresses ▪ the suitability of the land for development, ▪ the existing and proposed uses and use mix, ▪ Aboriginal heritage, ▪ the relationship of the development with other buildings (existing or proposed) on the same site or neighbouring sites in terms of separation, setbacks, amenity and urban form, ▪ the bulk, massing and modulation of buildings, ▪ street frontage heights, ▪ environmental performance and amenity standards, such as sustainable design, overshadowing and solar access, visual and acoustic privacy, noise, wind and reflectivity, ▪ the achievement of the principles of ecologically sustainable development,		

Statutory Reference	Pre-Condition	Relevance	Section in the EIS
	▪ pedestrian, cycle, vehicular and service access and circulation requirements, including the permeability of pedestrian networks, ▪ the impact on, and proposed improvements to, the public domain, ▪ the impact on special character areas, ▪ achieving appropriate interfaces at ground level between the building and the public domain, architectural diversity where the development is to consist of more than 2 buildings		
Clause 4.48 Concurrence of Planning Secretary	Development consent to development to which Division 4 applies must not be granted unless the consent authority has obtained the concurrence of the Planning Secretary. In deciding whether to grant concurrence, the Planning Secretary must also consult the public authorities that the Planning Secretary considers relevant to the development. This clause does not apply to development if all or part of the land on which the development is to be carried out is in a special contributions area to which a determination under section 7.23 of the Act applies.	N/A	**Appendix C**
4.49 Public utility infrastructure	The consent authority must be is satisfied that public utility infrastructure that is essential for the development is available, or the public utility infrastructure will be available when required.	Division applies to the development	**Appendix C**
State Environmental Planning Policy (Transport and Infrastructure) 2021			
Clause 2.121 Traffic-generating development	The consent authority must refer development for Warehouse and Distribution centres with a site area / GFA	The site and GFA exceeds the relevant size or capacity. Referral to TfNSW will be required.	**Section 6.1.3** **Appendix M**

Statutory Reference	Pre-Condition	Relevance	Section in the EIS
	greater that 8000-sqm with access to any road to Transport for NSW.		
State Environmental Planning Policy (Resilience and Hazards) 2021			
Clause 4.6 Contamination and remediation to be considered in determining development application	A consent authority must be satisfied that the land is suitable in its contaminated state - or will be suitable, after remediation - for the purpose for which the development is proposed to be carried out.	Parts of the project land are contaminated, and/or the land requires remediation before it is used for the project.	**Section 6.2.5** **Appendix U**
State Environmental Planning Policy (Sustainable Buildings) 2022			
3.2 Development consent for non-residential development	(1) In deciding whether to grant development consent to non-residential development, the consent authority must consider whether the development is designed to enable the following— (a) the minimisation of waste from associated demolition and construction, including by the choice and reuse of building materials, (b) a reduction in peak demand for electricity, including through the use of energy efficient technology, (c) a reduction in the reliance on artificial lighting and mechanical heating and cooling through passive design, (d) the generation and storage of renewable energy, (e) the metering and monitoring of energy consumption, (f) the minimisation of the consumption of potable water. (2) Development consent must not be granted to non-residential development unless the consent authority is satisfied the embodied emissions attributable to the development have been quantified	The project has been prepared with a supporting embodied emissions materials form and responds to the sustainable design measures requirements, as detailed.	**Section 6.1.4** **Appendix JJ**
3.3 Other considerations for large commercial development	(1) In deciding whether to grant development consent to large commercial development, the consent authority must consider whether the development minimises the use of on-site fossil fuels, as part of the goal of achieving net zero emissions in New South Wales by 2050. (2) Development consent must not be granted to large commercial development unless the consent authority is satisfied the development is capable of achieving the standards for energy and water use specified in Schedule 3. (3) For the purposes of subsection (2), development is capable of achieving a standard specified in Schedule 3 if	The development comprises over 1,000 m2 of cumulative office space. A Net Zero Statement and NABERS Agreement has also been prepared.	**Appendix CC** **Appendix MM**

Statutory Reference	Pre-Condition	Relevance	Section in the EIS
	there is a NABERS commitment agreement in place to achieve the standard. (4) Subsection (2), to the extent it relates to energy use, does not apply to large commercial development on land to which the following local environmental plans apply— (a) Sydney Local Environmental Plan 2012, (b) Sydney Local Environmental Plan (Green Square Town Centre) 2013, (c) Sydney Local Environmental Plan (Green Square Town Centre—Stage 2) 2013. (5) Despite subsection (4), subsection (2) applies to large commercial development to the extent that the development relates to prescribed serviced apartments.		

4.4. MANDATORY CONSIDERATIONS

Table 11 outlines the relevant mandatory considerations to exercising the power to grant approval.

Table 11 Mandatory Consideration

Statutory Reference	Mandatory Consideration	Section in EIS
Consideration under the EP&A Act and Regulations		
Section 1.3	Relevant objects of the EP&A Act	**Appendix C**
Section 4.15	All relevant EPIs include; ▪ WPC SEPP ▪ R&H SEPP – Hazardous and Offensive Development ▪ R&H SEPP – Remediation of Land ▪ Planning Systems SEPP ▪ Transport & Infrastructure SEPP ▪ I&E SEPP ▪ SB SEPP	**Appendix C**
	Relevant planning agreement or draft planning agreement: Voluntary Planning Agreement for the site entered into between the applicant and another party	**Section 6.2.11**
	Development control plans Western Sydney Aerotropolis Development Control Plan (**DCP**) 2022	**Section 2.1.9** **Appendix C**
	The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality.	**Section 6**
	The suitability of the site for the development	**Section 7.6**
	The public interest	**Section 7.7**
Section 4.24	Concept Approval DA, determination pending.	**Section 4.2**
Mandatory relevant considerations under EPIs		
Western Parkland City SEPP Chapter 4, Part 4.2	▪ Objectives and land uses for the ENT Zone ▪ Clause 4.14 Subdivision	**Appendix C**
Western Parkland City SEPP Chapter 4, Part 4.3	▪ Clause 4.17 Aircraft noise ▪ Clause 4.18 Building wind shear and turbulence ▪ Clause 4.19 Wildlife hazards ▪ Clause 4.20 Wind turbines ▪ Clause 4.21 Lighting ▪ Clause 4.22 Airspace Operations ▪ Clause 4.23 Public safety	**Appendix C**
Western Parkland City SEPP Chapter 4, Part 4.4	▪ Clause 4.24 Flood planning ▪ Clause 4.25 Preservation of trees and vegetation in Environment and Recreation Zone and Cumberland Plain ▪ Clause 4.26 Heritage conservation ▪ Clause 4.27 Transport corridors	**Appendix C**
Western Parkland City SEPP Chapter 4, Part 4.5	▪ Clause 4.31 Design review panel ▪ Clause 4.32 Architectural design competition ▪ Clause 4.33 Consideration of design excellence	**Appendix C**

Statutory Reference	Mandatory Consideration	Section in EIS
Western Parkland City SEPP Chapter 4, Division 1	Clause 4.39 Development must be consistent with precinct plan	**Appendix C**
Western Parkland City SEPP Chapter 4, Division 4	▪ Clause 4.47 Development to which Division applies ▪ Clause 4.48 Concurrence of Planning Secretary ▪ Clause 4.49 Public utility infrastructure	**Appendix C**
Resilience & Hazards SEPP Chapter 3	Chapter 3 of the Resilience & Hazards SEPP requires the consent authority to consider whether an industrial proposal is a potentially hazardous or a potentially offensive industry. In doing so, the consent authority must give careful consideration to the specific characteristics and circumstances of the development, its location and the way in which the proposed activity is to be carried out. Any application to carry out potentially hazardous development must be supported by a preliminary hazards analysis (**PHA**). The proposal is for a master planned industrial or warehouse and distribution complex which is intended to have a freight and logistics focus. The proposal itself is not potentially hazardous or potentially offensive development. Should an operator seek development consent for any purposes that would be classified as potentially offensive or hazardous, a PHA would be required to be prepared and submitted with a further application for assessment and approval.	**Appendix C**
Resilience & Hazards SEPP Clause 4.6	As the application will result in a change of use on land on which a purpose referred to in **Table 1** to the contaminated land planning guidelines is being or known to have carried out, the consent authority must consider a report specifying the findings of a preliminary investigation of the land concerned carried out in accordance with the contaminated land planning guidelines.	**Appendix C**
Industry & Employment SEPP Schedule 5	All signage will be required to consider the Schedule 5 criteria under the Industry & Employment SEPP.	**Appendix C**
Considerations under other legislation		
Biodiversity Conservation Act 2016 (BC Act) – section 7.14	The likely impact of the proposal on biodiversity values as assessed in the Biodiversity Assessment Report (**BAR**). The Minister for Planning may (but is not required to) further consider under that BC Act the likely impact of the proposal on biodiversity values	**Section 6.1.9 Appendix O**
Commonwealth Airports Act 1996	▪ Part 12 – Protection of airspace around airports including activities that result in intrusions into prescribed airspace and controlled activities that may require approval under section 182 of the Airports Act. ▪ Civil Aviation Safety Regulation (**CASR**) Part 139 Manual of Standards – Aerodromes. ▪ Aeronautical Information Publication (**AIP**). ▪ Air services Australia's Airways Engineering Instruction – Navigation Aid Building Restricted Areas and Siting Guidance (**BRA**). ▪ International Civil Aviation Organisation (**ICAO**) DOC 8168 Procedures for Air Navigation – Aircraft Operations **(PANS OPS**). ▪ Western Sydney Airport – Airport Plan 2016. ▪ Air services Australia – Western Sydney Airport Preliminary Airspace Management Analysis – 10 April 2015.	**Section 6.1.8** and **Appendix S**
Rural Fires Act 1997	▪ Planning for Bushfire Protection (NSW Rural Fire Service 2006) ▪ Planning for Bushfire Protection (NSW Rural Fire Service 2018)	**Section 6.2.7** and **Appendix W**

Statutory Reference	Mandatory Consideration	Section in EIS
Roads Act 1993	▪ Section 138 regulates works and structures in, on or over a public road including requirements for concurrence from TfNSW. ▪ Guide for Traffic Generating Developments	**Section 6.1.3** and **Appendix M**
Development Control Plans		
Western Sydney Aerotropolis Development Control Plan 2022	Clause 2.10 of the State Environmental Planning Policy (Planning Systems) 2021 states that development control plans (whether made before or after the commencement of this Policy) do not apply to SSD. As such, there is no requirement for assessment of the proposal against the Western Sydney Aerotropolis Development Control Plan 2022 for this SSD. Notwithstanding this, consideration has been given to the DCP.	**Appendix C**
Additional Matters for Consideration		
Aerotropolis Precinct Plan	Consistency of project with the Precinct Plan	**Appendix C**
Cumberland Plain Conservation Plan	The Cumberland Plain Conservation Plan (**CPCP**) identifies categories of land under the plan as follows: ▪ Certified – urban capable land ▪ Non-certified land ▪ Avoided land (riparian corridors) Non-certified land (Western Sydney Aerotropolis) – land affected by the 1% annual exceedance probability flood.	**Section 6.1.9** **Appendix O**

5. COMMUNITY ENGAGEMENT

The following sections of the report describe the engagement activities that have been undertaken during the preparation of the EIS and the community engagement which will be carried out if the project is approved.

5.1. ENGAGEMENT CARRIED OUT

Community and stakeholder engagement has been undertaken by the Project Team in the preparation of the SSDA. This included direct engagement and consultation with:

- The Department of Planning and Environment Central (Western) team,
- Place Design and Public Spaces Group
- Environment, Energy and Science Group
- Water Group (including the Natural Resources Access Regulator).
- Penrith City Council
- Government Architect NSW
- Commonwealth Department of Infrastructure, Transport, Regional Development and Communications
- Western Sydney Airport
- Western Parkland City Authority
- Transport for NSW (TfNSW)
- Sydney Water.
- Landowners and occupiers potentially impacted noise immediately surrounding the site and those on Elizabeth Drive (between Martin Road and Luddenham Road) and on the corner of Luddenham Road and Elizabeth Drive (up to lot 641-675 Luddenham Road).
- Traditional custodians.

The following actions were taken to inform the community regarding the project and seek feedback regarding the proposal:

- Direct email consultation
- Virtual meeting (project briefing)
- Community newsletter
- 1800 number
- Engagement email
- Connecting with Country site walk / walk-shop

Members of the public were invited to contact DHL through a phone number and email address managed by Urbis. These contact details enabled stakeholders and the community to provide feedback on the project. At the time of writing this report, no enquiries have been summitted through the phone number and email address.

This engagement was consistent with the community participation objectives in the Undertaking Engagement Guidelines for State Significant Projects and complied with the community engagement requirements in the SEAR as summarised below:

- In accordance with DPHI's expectations around early and effective engagement for state significant projects, an approach was prepared and implemented to ensure DHL delivered an engagement program consistent with DPHI's *Undertaking Engagement Guide: Guidance for State Significant Projects*.
- DHL's approach aimed to connect with the relevant local and state government authorities and relevant community stakeholders.

- DHL will continue to consult with all stakeholders outlined by providing progress updates and offering the opportunity to comment and provide feedback on plans post lodgement.
- In accordance with the Regulations, the EIS will be placed on formal public exhibition once DPE has reviewed the EIS and deemed it 'adequate' for this purpose. Following this exhibition period, the applicant will respond to any matters raised by notified parties.

5.2. COMMUNITY VIEWS

The key issues raised by the community and key stakeholders are summarised in the table below. A detailed community engagement table is provided as **Appendix D** which details the way in which these issues have been addressed in the EIS.

Given the extensive level of consultation undertaken with the above identified agencies and groups as detailed in **Section 5.2,** the full extent and detail of the community views, feedback and responses is detailed within the Engagement Summary Table in **Appendix D** and **Appendix EE.**

5.3. ENGAGEMENT TO BE CARRIED OUT

The proposed consultation responds to the community feedback during the preparation of the EIS and the community participation objectives in the Undertaking Engagement Guide.

DHL welcomes feedback on the proposal. DHL will continue to keep stakeholders and the community informed of the project approval process through the exhibition and determination phases by:

- Providing information through a letterbox drop on how the community's views have been addressed.
- Enabling the community to seek clarification about the project through the two-way communication channels (engagement email and 1,800 number).

6. ASSESSMENT OF IMPACTS

This section describes the way in which the key issues identified in the SEARs have been assessed. It provides a comprehensive description of the specialist technical studies undertaken regarding the potential impacts of the proposal and recommended mitigation, minimisation and management measures to avoid unacceptable impacts. Further detailed information is appended to the EIS, including:

- SEARs compliance table identifying where the SEARs have been addressed in the EIS (**Appendix A**).
- Statutory compliance table identifying where the relevant statutory requirements have been addressed (**Appendix C**).
- Community engagement table identifying where the issues raised by the community during engagement have been addressed (**Appendix D**).
- Proposed mitigation measures for the project which are additional to the measures built into the physical layout and design of the project (**Appendix E**).

The detailed technical reports and plans prepared by specialists and appended to the EIS are individually referenced within the following sections.

6.1. DETAILED ASSESSMENT IMPACTS

This section of the report provides a detailed assessment of the key issues which could have a significant impact on the site and locality. It provides a comprehensive assessment of the relevant issues and the mitigation measures required to avoid, mitigate and/or offset the impacts of the project.

6.1.1. Designing for Country and Built Form

6.1.1.1. Overview

The proposed urban and landscape design has been significantly informed by Country. The proponent appointed Yerrabingin to establish a holistic approach to align with and realise the principles of the 'Recognise Country - Draft Guidelines for the proposal. The *Recognise Country - Draft Guidelines* help implement and align with the Draft Connecting with Country Framework prepared by Government Architect NSW (**GANSW**), which has guided Yerrabingin's overarching approach to understanding the value of Aboriginal knowledge in the design of project.

Yerrabingin have undertaken engagement which has collaboratively included Traditional Custodians people in the design of the proposal. An outline of the methodology and workshops undertaken by Yerrabingin is provided at **Appendix H** and discussed below.

This collaborative design process considered:

- Culture and conservation – the water story.
- Novel ecology approach – response to the modified environment.
- Contemporary design responses – such as urban food / pollinators.
- Indigenous involvement – project design and operation stages.

The Wanggani Dhayar (Listen to Country) design methodology developed by Yerrabingin is aligned to the principles outlined in the Government Architect NSW (**GANSW**) Connecting with Country framework. Yerrabingin in collaboration with the First Nations, the project team, and the client, have focussed on the development of Country centred design narratives, principles, and themes for the project. Utilising the NSWGA Elements of Designing with Country will ensure the environmental and social wellbeing of the site is addressed a way that will provide an enduring legacy for the place and community.

Rather than the traditional consultation or engagement, Country and its custodians are active co-designers of the project through a shared collective voice rather than a series of individual representations. The design has been explored through the lens of design thinking, during a collaborative online workshop held with Aboriginal community growing the link between imagining and shaping the design with Country.

These ideas have then been curated into the conceptual design outcomes and the design of a broader mosaic of experiences, sharing the identity of the place to support the celebration, caring and connection to

Country. The approach is outlined in the figures below which have informed the approach to the 'design jam' workshop which took place on 30 August 2021.Key ideas generated within the workshop included:

- Interpretation throughout the site; buildings to ground plane, throughout riparian corridor (naming of streets, signage/technology education, patter nation) - co design process with artists / community
- Education opportunities
- Artefact's retention
- Planting

Further to the 'design jam' workshop, further community engagement was undertaken including the following:

- Use of Language Workshop | 09/02/2022
- Aerotropolis Walk on Country | 22/06/2022
- Aerotropolis Workshop and Lunch | 22/08/2022
- Registered Aboriginal Parties (RAPs) Feedback Session | 12/06/2024
- Dharug Women Feedback Session | 12/06/2024

From this engagement, the proposal has been prepared to recognize country as shown in **Figure 20** below and as summarized in the sub-sections below.

Figure 20 Recognising Country Strategy

Source: Yerrabingin

6.1.1.2. Starting with Country

Cultural safety

An Aboriginal perspective or voice should be considered in planning and design decisions to contribute to outcomes that will create a sense of safety and celebration of culture. Further consultation during the detailed design phase is proposed to enhance and develop ideas that are being proposed by the design team.

Meaningful Engagement

Project teams should be committed to allowing the knowledge shared by Aboriginal communities influence their decision making in the design process.

As part of the broader Connecting with Country Strategy for the Concept Plan, the project team have participated in Walk on Country's and workshops to listen to the concerns and ideas from community. Design excellence for this project requires listening, problem solving and providing innovative design solutions. Once properly understood, these narratives and stories from site can then be interpreted and incorporated into all aspects of the DHL design.

Economic development opportunities

There are a wide range of economic development opportunities for Aboriginal people throughout the lifecycle of a project including planning, design, construction and operation post construction.

- Advice and guidance on decision making for planning and design
- Providing advice on and undertaking Caring for Country cultural practices; i.e Cultural Burn
- Supporting Aboriginal owned and operated businesses to operate in the Aerotropolis
- Facilitating On-Country cultural experiences throughout the stages of the project and beyond

Continued support of local Aboriginal owned businesses throughout the projects development is crucial in creating a project that is authentic and of that place. It is recommended that as part of the detailed design, there is continued consultation with community for the life of the project including during construction and post construction.

6.1.1.3. Cultural Landscape

Landscape

A Country-centred approach is where all beings and elements are equals and working together in a landscape. Topography, biodiversity, remnant vegetation, water elements and habitat should all be addressed when designing each space.

The Landscape Design plays an important role mitigating impacts of development. The reinforcement of hydrology and its interconnected nature resulted in the inclusion of significant water devices in the proposal. The inclusion of Water on site not only expresses the importance of Water Country, but more inlays Care for Country of this element; natural de-toxifying water and recharging the water table (this was a particularly strong message delivered to the project team by the Dharug Aunties).

A key consideration of the landscape design for the DHL project is the inclusion and provision of generous areas of softscape which will facilitate the growth of a healthy tree canopy. Tree canopies contribute to the function of the ecological corridors of the green grid. The site currently includes scattered existing trees. These are unable to be retained due to necessary civil works. The replacement tree canopy will significantly exceed the current cover.

The provision of 481 new trees on site provides 16.56% tree canopy coverage which contributes to the overall concept plan tree canopy target of 15% (On-Lot) and 60% (Open Space) and contribute to shade cover over hardstand areas. This will assist in mitigating the heat island affect while playing a key role in establishing the Connecting with Country Element of Wind Country.

Site Image have incorporated various design elements that site conditions. Artificial topography interprets the undulating hills that sit in the broader context of the site; water bodies create habitat for non-human kin whilst cooling the environment for people; endemic plant species are proposed to link again to the broader context of the site; connected pathways ensure people can move throughout the space; and materials proposed are to be of the place and inspired by local geology and colours.

The landscape has also been reflected in the architecture proposed by SBA. The facade concept is an interpretation of the topography, and the colours used are inspired by the broader context. Materials used are soft and blend into the surrounding environment whilst also being sustainable.

Water

Wianamatta-South Creek is a key feature of the Aerotropolis and cultural landscape of the Cumberland Plain. It remains an important place for cultural practice, recreation and gatherings. The health of Cosgroves Creek and Badgerys Creek directly affect the larger Wianamatta catchment. The DHL project has been designed to prevent any adverse water impacts and impacts to the neighbouring tributaries and Wianamatta Creek.

Open Space

The proposal aligns with the broader Burrah Park Concept Plan which will deliver spaces for the practicing and sharing of culture through dedicated cultural spaces, whilst also being areas of education and collaboration with the local Dharug community.

Caring for Country

It is important to recognise the interconnected relationship between all elements of Country (nonhuman kin, water, deep, move with, sky and wind) and adopt Aboriginal knowledge systems to caring for Country in a holistic manner. As the project progresses, the local community will be consulted to ensure the project achieving caring for Country initiatives and has considered all feedback from the community.

6.1.1.4. Built Form

Culturally Responsive Social Infrastructure

Social infrastructure incorporates the facilities, services and spaces that are used for the physical, social, cultural or intellectual development and welfare of the community. The proposal will form part of the broader Burrah Park estate which will deliver culturally response social infrastructure across the Burrah Park.

Culturally Responsive Public Art

The integration of Aboriginal art into the public realm helps to helps to increase visibility and awareness to local Aboriginal communities and contribute to culturally safe and inclusive places. Aboriginal art also helps to raise awareness and educate non-Aboriginal people on Aboriginal culture as well as communicate unique place identity.

As part of the detailed design process, it is recommended to engage with Dharug artists and community to progress art and design strategies for the project.

6.1.1.5. Language and Naming

The project naming of Burrah Park (‘Sky Park’) was determined as the result of community consultation. This approach provides a framework for ongoing language workshops to assist in the naming of streets, parks, public spaces, landmarks and buildings. On February 9th 2022, Yerrabingin undertook the ‘Northern Gateway Use of Language, Naming and Wayfinding workshop’ prepared for Burrah Park. This workshop with Representative Aboriginal Parties (RAP) and asked them to for positive / negative feedback, ideas for suggestions and also if they had any questions.

Wayfinding and signage

Incorporation of Aboriginal language, knowledge and art into wayfinding strategy will be done in collaboration with Traditional Custodians and the local Aboriginal community. Contemporary wayfinding can incorporate methods to enhance the senses; touch, smell, sight, sound to guide visitors and staff around the development. This can be achieved through plant species, natural colour palettes, pavement patterns and interpretation, or water elements etc. The proposal will form part of the broader Burrah Park estate which will deliver the appropriately designed, wayfinding elements across the Burrah Park and the detailed design elements for the proposed warehouses can explore opportunities to incorporate Aboriginal language, knowledge and art into wayfinding. More traditional wayfinding techniques include signage, art, sculpture or the combination of all.

6.1.2. Design Excellence

6.1.2.1. Response to SEARs

SEARs received for the project include the following requirement relating to design excellence:

- *Demonstrate how the development will achieve:*
  - *Design excellence in accordance with any applicable EPI provisions.*
  - *Good design in accordance with the seven objectives for good design in Better Placed.*
- *Where required by an EPI or concept approval, demonstrate how the development has been subject to a competitive design process or reviewed by the State Design Review Panel (SDRP). Recommendations are to be addressed prior to lodgement.*

Chapter 4, Part 4.5 of the **Western Parklands City SEPP**, requires the consideration of design excellence for certain development within the Aerotropolis. Under the Western Parklands City SEPP, design excellence can be achieved by either a design review panel or architectural design competition. Specifically, Clause 4.33 of the Western Parkland City SEPP provides the following:

(1) In considering whether development exhibits design excellence for the purposes of this Part, the consent authority must have regard to the following matters—

(a) whether the development responds to the physical and cultural connection of the local Aboriginal community to the land,

(b) whether a high standard of architectural design, materials and detailing appropriate to the building type and location will be achieved,

(c) whether the form and external appearance of the development will improve the quality and amenity of the public domain,

(d) whether the development detrimentally impacts on view corridors.

(2) The consent authority must also have regard to how the development addresses the following matters—

(a) the suitability of the land for development,

(b) the existing and proposed uses and use mix,

(c) Aboriginal heritage,

(d) the relationship of the development with other buildings (existing or proposed) on the same site or neighbouring sites in terms of separation, setbacks, amenity and urban form,

(e) the bulk, massing and modulation of buildings,

(f) street frontage heights,

(g) environmental performance and amenity standards, such as sustainable design, overshadowing and solar access, visual and acoustic privacy, noise, wind and reflectivity,

(h) the achievement of the principles of ecologically sustainable development,

(i) pedestrian, cycle, vehicular and service access and circulation requirements, including the permeability of pedestrian networks,

(j) the impact on, and proposed improvements to, the public domain,

(k) the impact on special character areas,

(l) achieving appropriate interfaces at ground level between the building and the public domain,

(m) architectural diversity where the development is to consist of more than 2 buildings.

In response to this design excellence requirement, the proponent group met with the State Design Review Panel (**SDRP**) on 2 June 2022. The original masterplan presented to the SRDP is shown at **Figure 21.** Feedback from the SDRP outlined that the efficient logistics layout is acknowledged, however the design

needs to be balanced with a Country led approach, responding to the site's topography and blue and green corridors. Feedback from this session informed the final design as shown in **Figure 22.**

The following design methodology outlines how the proposal responded to the SDRP feedback and evolved from the initial masterplan to the final masterplan. It also outlines how the design demonstrates design excellence. Further details are provided in SBA's Design Report located at **Appendix K**:

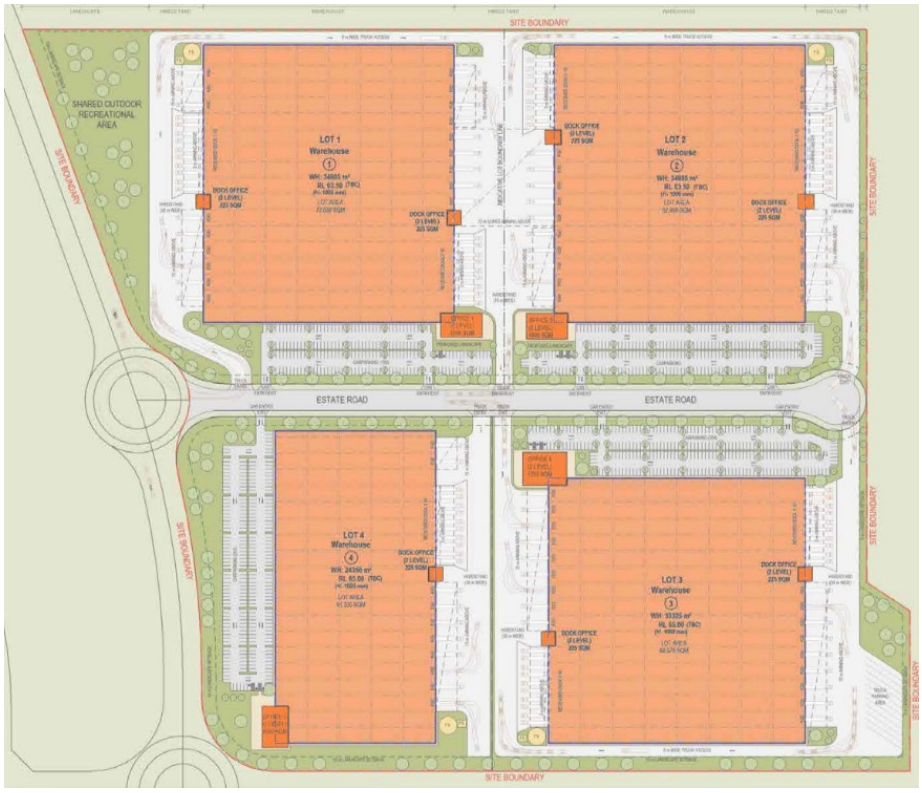
- During the initial stages of the design process, research was done to establish a connection between the principles of country, and the built environment. Physical notions were extracted to be represented through the conceptual forms of the building as well as spaces created to embody gathering and the intangible aspects of the culture. An empathetic selection of materials that are appropriate to the existing context were used to create warm and inviting spaces within the amenity areas of the design. Slender elements and elegant connections give the sense that the building sits lightly within the landscape. Organic patterning has been provided to create interest and value to the facades to enhance the perspectives and views of the buildings from outside the site.
- A summary of the design chronology and narrative is detailed below:
    - A series of site analysis maps have been produced to assess the viability of location, access, and context for the site.
    - A series of connection to country maps have been used to extract key aspects of country that are crucial to First Nations heritage which have been implemented into the design.
    - Analysis of the estate and master plan in its relation to built and natural elements surrounding the site has been produced to check the efficiency and function of the proposal.
    - A series of massing diagrams have been created to show the progression of the concept through carefully thought-out and justified decisions.
    - Sectional drawings to establish scale, bulk and landscaping have been created to allow for appropriate views and transitions from the street.
    - Precedents and concept sketches have been developed to show the key design moves for passive solar strategies and responsive design.
    - Thoughtful planning of all modes of transport has been mapped to increase safe and separated movement throughout the site.
    - A key set of architectural drawings and diagrams to explain the internal spaces and their connection with outdoor amenity, with specific focus on merging indoor and outdoor spaces to blur the line between built and landscaped environment.
    - The creation of design principles in both the built and landscaped forms allow for adaptability and variation across the different lots and facilities.

Additionally, the proposal has been designed with consideration to the following:

- **Connection to country-built form principles**: The building concept was derived from looking at key elements in nature found regularly within the Western Parklands area. This form of extracting principles from the landscapes creates a high-quality design that responds appropriately to the Badgerys Creek context.
- **Precedent Forms**: The built form comprises a set of consistent themes, such as the floating roof above the office elements, a lightweight structure and covered outdoor space that relates back to the original principles established during the concept stage of the design. Timber structures provide a lightweight and sense of warmth to the space which works in conjunction with the thin roof canopy that appears floating above the landscape. The openness of the colonnade allows for landscape to have a dynamic and seamless integration into the built form. Structural connections were researched to find slender elegant connections that gave the sense of minimal impact to the landscape elements. Different precedents were used to analyse the form of connection and the change in surfaces the structure was connected to.
- **Concept Sketch and Form**: The office concept design went through several iterations and reviews that focused on the presence and impact of the built form in the environment. The concept aimed to reflect key principles present in the natural environment such as slender elements which lightly touching the ground plane creating a sense of dynamic movement. From analysing these principles, there were

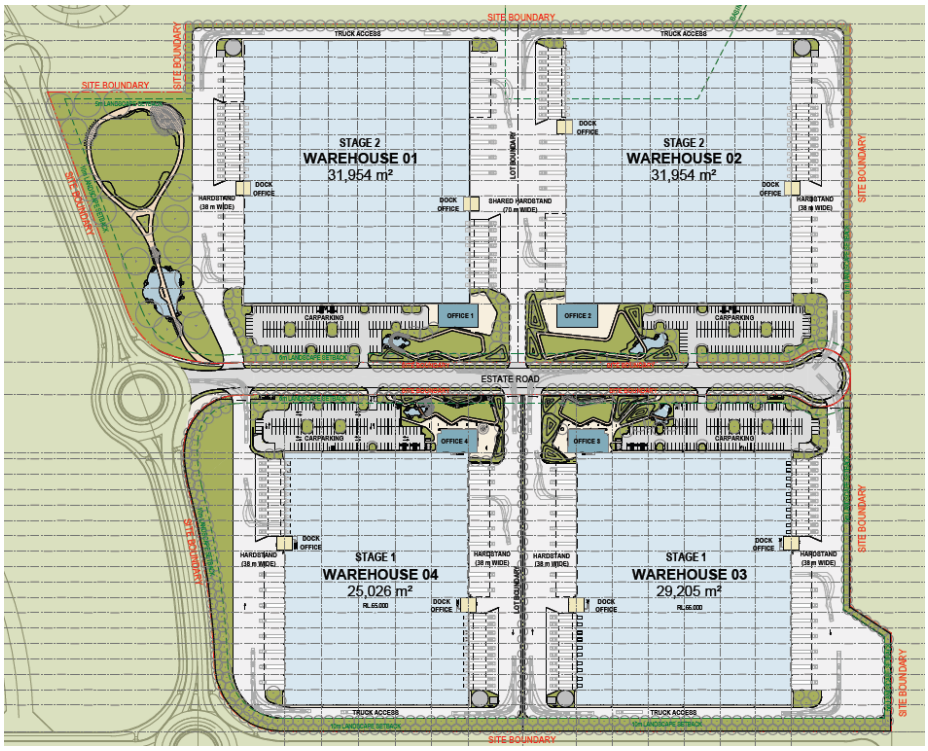
amendments to the design which included breaking the rigidity of the form through materials and recess', including more elegant and light connection points, and a more integrated landscape and outdoor amenity space.

Figure 21 Initial Masterplan presented to SDRP



Source: SBA Architects

Figure 22 Final Masterplan



Source: SBA Architects

6.1.2.2. Consistency with Burrah Park Design Excellence Strategy & Urban Design Guidelines

As part of the Burrah Park concept and stage 1 SSDA (SSD-70316465), a Design Excellence Strategy (prepared by Urbis, Final v2, dated 1 November 2024) and Urban Design Guidelines (prepared by NettletonTribe, Revision C – SSDA, dated 18 October 2024) have been established across the Burrah Park estate to ensure a consistent approach to detailed design across Burrah Park. The proposal has been prepared to be consistent with the design principles and procedures under this strategy and guidelines as detailed in the table below and at **Appendix K2** Response to Design Excellence Strategy & Guidelines, prepared by SBA Architects.

Table 12 Consistency with Burrah Park Design Strategies and Guidelines

Design Principle	Consistency
Urban Design Guidelines	
Connecting with Country	The development has integrated the principles of Connecting with Country by engaging with the Dharug community and incorporating their cultural values into the design. This includes the use of endemic vegetation, water-sensitive urban design, and the creation of cultural spaces that reflect the Dharug connection to the land.
Elements of Country	The design incorporates the Elements of Country, such as Water Country, Sky Country, and Deep Country. This is evident in the use of permeable surfaces, and the inclusion of open spaces that connect to the sky.
Sustainability and ESD	The project aims to achieve a minimum 5-star Green Star rating, aligning with the sustainability goals outlined in the Design Guide. The use of solar panels, rainwater reuse, and permeable surfaces demonstrates a commitment to environmentally sustainable design.
Smart Places	The development includes smart infrastructure, such as fibre-ready lots, EV spaces, which supports the vision of Burrah Park as a cutting-edge industrial estate.
Design Excellence	The design excellence objectives, such as context and location, sustainability, and community engagement, have been addressed. The built form responds to the local character and future desired character of the area, ensuring a high standard of architectural design and materials.
Built Form and Architecture	The built form and architecture of the warehouses and offices are consistent with the guidelines. The use of natural materials, dynamic forms, and articulated facades enhances the visual character of Burrah Park. The guidelines emphasize the articulation of building facades to public road frontages using architectural elements such as varying facade alignments, materials, textures, and colours. The development's design includes articulated facades with regular breaks in material and pattern, creating visual interest and enhancing the streetscape. The integration of green walls, tree planting, and permeable surfaces further aligns with the design principles. The guidelines suggest using colour tones and materials inspired by Deep Country, such as rammed earth, gabion feature walls, textured and coloured precast or masonry elements, timber, and natural colour palettes. The development incorporates these elements through the use of natural materials and colours that blend with the surrounding landscape. The architectural design includes features such as translucent roof sheeting, operable windows, and skylights to enhance light, transparency, and air movement. The guidelines identify the need to avoid rooftop A/C units on building facades facing public roads. The development follows this guideline by ensuring that mechanical plant and equipment are appropriately screened or located away from prominent public views, maintaining a clean and aesthetically pleasing facade. The proposed signage aligns with the typology and general locations as identified in the typical signage + fencing strategy.

Design Principle	Consistency
Landscape Design	The proposed use of endemic and native planting supports local fauna and creates a biodiverse environment.
Design Excellence Strategy	
Design Excellence Process and Integrity	The development has undergone a design review process with the NSW Government Architect and the State Design Review Panel (SDRP). Recommendations from the SDRP have been incorporated into the design, ensuring that the project meets the highest standards of architectural and urban design.
Connection to Country	The project has embedded the principles of Connecting with Country into the overall design, as outlined in the Connecting with Country Framework prepared by Yerrabingin.
Sustainability and Smart Technology	The development incorporates ESD principles and smart technology, aiming for a 5-star Green Star rating and integrating smart infrastructure to support future capabilities. This aligns with the sustainability and smart places objectives of the Design Excellence Strategy.
Urban Design Guidelines	The Urban Design Guidelines have been followed to ensure a consistent approach to the detailed design of the landscape, public spaces, and buildings. This includes guidelines on sustainability, built form, and landscape design.

6.1.3. Traffic, Transport and Accessibility

Stantec have prepared a Traffic Impact Assessment (**TIA**) to identify and analyse the potential traffic-related impacts associated with the proposal (refer to **Appendix M**). The report has been prepared in accordance with the SEARs which requires consultation with relevant transport authorities, as well as addressing the relevant legislative requirements and guidelines, including the Precinct Plan and Aerotropolis DCP.

The TIA sets out the assessment of the proposed transport implications of the proposal, including consideration of the following:

- Existing traffic conditions and infrastructure projects surrounding the site.
- Likely car parking requirements for the site.
- Consideration of vehicle access to the site.
- Pedestrian and cycle accessibility.
- Traffic generation characteristics of the proposal.
- Suitability of the proposed access arrangement for the site.
- The traffic impact of the development proposal on the surrounding road network.

Full detail of the SEARs addressed and where the corresponding section can be found in the TIA is set out in the SEARs compliance table in **Appendix A**.

6.1.3.1. Existing Environment

Surrounding Road Network

The project site is located at 1953-2109 Elizabeth Drive, Badgerys Creek. The wider site includes a 1.6km frontage to Elizabeth Drive, a State arterial road running east-west between Liverpool and surrounding suburbs. It is a major transit corridor stretching from the M7 Motorway to Badgerys Creek for 14km.

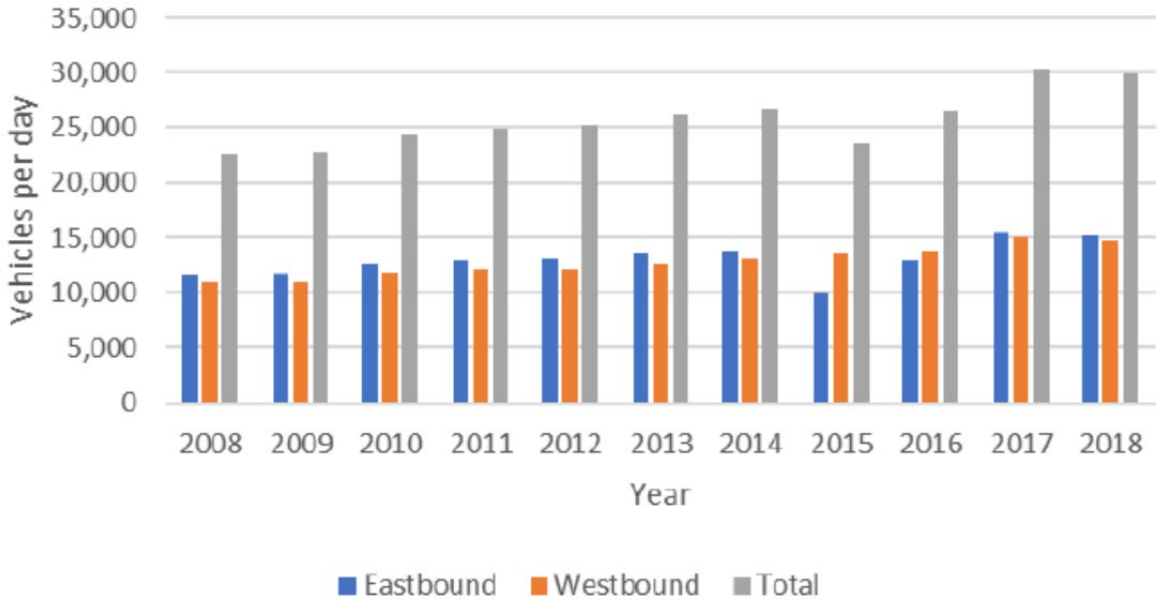
The NSW Government has allocated funding to the upgrade of Elizabeth Drive to two lanes in each direction between the M7 Motorway at Cecil Hills to the Northern Road at Luddenham. Whilst TfNSW have confirmed these upgrades, timing on any future construction works remain unknown.

Luddenham Road is a second State arterial road that runs in a north-south direction along the wider site's west boundary, opposite Cosgoves Creek. It is a key road in south-west Sydney, connecting Elizabeth Drive and Mamre Road to the south of St Marys. Luddenham Road.

Existing Traffic Volumes

Stantec have noted that due to the current construction works ongoing within the locality because of the WSI development and along Elizabeth Drive, historical traffic counts were sourced from the M12 EIS (TfNSW, October 2019) to better highlight the typical traffic volumes for the locality. As such Figure 23 below utilises that data to highlight the Annual Daily Traffic (**AADT**) volumes along Elizabeth Drive between 2008 and 2018.

Figure 23 Average Annual Daily Traffic on Elizabeth Drive



Source: M12 Motorway EIS, TfNSW, October 2019

As shown above, there is an AADT volume of around 30,000 vehicles (two-way) along Elizabeth Drive in 2018. Traffic volume data from 2008 indicates around 2.9 per cent per annum growth has occurred on Elizabeth Drive.

Public Transport

Stantec notes that given the site's location in a mostly rural landscape, the existing environment has limited public transport services operating in the locality. The 801-bus service operating between Badgerys Creek and Liverpool operates with limited services throughout the day, typically once per hour. The closest bus stop to the site is located on Badgerys Creek Road south of Elizabeth Drive.

Active Transport

The sites location in a mostly rural setting means that existing active transport amenity is limited. Whilst existing cycle routes are provided on the shoulders of Elizabeth Drive, Luddenham and Mamre Roads, the high-speed/high construction traffic environments of these roads means they are seldom utilised.

Footpaths and/ or shared paths will be provided on both sides of all roads within the site as part of SSD70316465. These paths will facilitate connection to future active transport routes along Elizabeth Drive and the M12 Motorway.

6.1.3.2. Potential Impacts

Parking Assessment

When undertaking an assessment of the proposals parking requirements, Stantec have utilised the parking requirements within the *Western Sydney Aerotropolis Development Control Plan 2022*. The DCP recommends parking for warehouses or distributions centres to be provided at a minimum rate of one parking space per 300 square metres and a maximum rate of one parking space per 100 square metres. For ancillary offices, a rate of 1 space per 40 square metres GFA is to be applied.

Noting this, **Table 13** below sets out the car parking requirements for the proposal.

Table 13 DCP 2022 Car Parking Requirements

Use		Size (sqm GFA)	Car Parking Rate		Car Parking Requirement	
			Minimum	**Maximum**	**Minimum**	**Maximum**
Warehouse 3	Warehouse	31,954	1 space per 300sqm GFA	1 space per 100 sqm GFA	107	320
	Ancillary office	1,424	1 space per 40sqm GFA		36	
Warehouse 4	Warehouse	31,954	1 space per 300sqm GFA	1 space per 100 sqm GFA	107	320
	Ancillary office	1,424	1 space per 40sqm GFA		36	
Total					**286**	**712**

Source: Stantec

As noted above, the application needs to include a minimum requirement for at least 286 spaces, and a maximum of 712. Given the proposal intends to include 440 car parking spaces (216 for Warehouse 1 and 224 for Warehouse 2), the application satisfies these requirements.

The DCP requires that two (2) percent of the total carparking be provided as accessible. Based on the proposed parking provision for each warehouse, this results in a requirement for four (4) accessible parking spaces for both Warehouses which has been provided.

Six (6) electrical vehicle (EV) parking spaces are provided for Warehouse 1 and five (5) EV spaces for Warehouse 2, meeting the DCP requirement for EV spaces which requires one (1) space per 40 car parking space.

Bicycle Parking

An assessment of the number of bicycle parking spaces to be provided has been undertaken against the Aerotropolis DCP. For industrial development, the DCP recommends a rate of one space per 1,000 square metres. Based on the proposed 33,378m^2 of each warehouse, this results in a recommended bicycle parking provision of 33 bicycle spaces for Warehouse 1 and 33 bicycle spaces for Warehouse 2. One electric bicycle charging station is also required to be provided for first five bicycle spaces, plus one per 10 bicycle parking spaces thereafter. This results in a requirement for three electric bicycle charging stations per warehouse.

The DCP also sets out the following requirements for end-of-trip facilities:

- One locker per bicycle space.
- One shower and change cubicle for the first five bicycle spaces, plus an additional shower for every 10 bicycle parking spaces thereafter.

A summary of the bicycle parking requirements for the project above is provided in **Table 14.**

Table 14 End-Of-Trip Requirements

Use	**Size (sqm GFA)**	**Bicycle Requirement**	**Electric Charging Station**	**Locker Requirement**	**Shower & Cubicle Requirement**
Warehouse 1	33,378	33	6	33	4
Warehouse 2	33,378	33	6	33	4
Total		**66**	**8**	**66**	**8**

Source: Stantec

The proposed development complies with the above requirements.

Loading Assessment

The Aerotropolis DCP states that off-street loading and unloading facilities are provided for all commercial and industrial premises. The number and size of loading bays will be determined by the consent authority having regard to the:

- Intended use of the premises.
- Frequency of deliveries/collection.
- Size and bulk of goods to be delivered/collected.
- Size of vehicles to be used.
- Likely impacts on traffic safety and efficiency on adjoining roads.

The proposal includes 34 loading docks for Warehouse 1 and 38 loading docks for Warehouse 2 for use by 20-metre articulated vehicles.

In addition, B-Doubles up to 30 metres in length are also able to park parallel to each warehouse adjacent to the circulation road to be loaded/ unloaded from the side by forklifts. This provision is considered necessary by DHL to allow them to meet their specific operational requirements.

The site layout has been reviewed against the requirements of the Australian Standard for Off Street Car Parking (AS/NZS2890.1:2004 and AS2890.6:2022) and Off-Street Commercial Vehicle Facilities (AS2890.2:2018). This review indicates that the proposed site layout is expected to operate satisfactorily subject to detailed design.

Traffic Generation

Traffic generation estimates for the site have been sourced from the TfNSW Guide 2002 and Technical Direction: Updated Traffic Surveys (TDT 2013/ 04a).

Stantec have utilised data for key industrial estates in Erskine Park and Eastern Creek given they have a similar level of public transport accessibility, are similar in size to the proposal, and are in relatively new growth centres in western and southwestern Sydney. A summary of these traffic generation rates is provided below.

Table 15 Warehouse & Logistics Use Traffic Generation

Location	GFA	AM Generation Rate (Trips/100 sqm)	PM Generation Rate (Trips/100 sqm)
Erskine Park	693,605	0.15	0.16
Eastern Creek	406,600	0.20	0.19
Riverwood	29,983	0.43	0.41
Average		0.26	0.25

Source: Stantec

Based on the table above, the average traffic generation would be approximately 0.26 vehicle trips per 100m^2 GFA in the AM peak and 0.25 vehicle trips per 100m^2 in the PM peak. However, the traffic generation rates differ significantly with the size of the site.

The Arcadis TIA undertaken for SSD-70316465 adopted the following rates to estimate the traffic generation associated with the broader Burrah Park site. It is understood that these rates were agreed with TfNSW.

- For warehouses:
  - 0.23 trips per 100m^2 GFA during the AM peak hour
  - 0.24 trips per 100m^2 GFA during the PM peak hour
- For offices:

– 2.75 trips per 100m^2 GFA during the AM peak hour

– 1.2 trips per 100m^2 GFA during the PM peak hour

Table 16 has been prepared to summarise the anticipated traffic generation of the proposal based on the above traffic generation rates.

Table 16 Scenario 1 - DHL Stage 2 Traffic Generation Estimates

Warehouse	Use	GFA (sqm)	Traffic Estimate (trips/hour)	
			AM	PM
1	Warehouse	31,954	74	77
	Office	1,424	39	17
2	Warehouse	31,954	74	77
	Office	1,424	39	14
Sub-total			**226**	**188**
Stage 1 – Warehouse 3 & 4 (separate SSDA)				
3	Warehouse	29,205	67	70
	Office	1,424	39	17
4	Warehouse	27,960	64	67
	Office	1,195	33	14
Sub-Total			**203**	**168**
Total			**429**	**356**

Source: Stantec

Arcadis have undertaken a TIA and traffic generation estimates for the Burrah Park Concept Plan (SSD-70316465). These traffic generation estimates are provided below in **Table 17.**

Table 17 Burrah Park Traffic Generation Estimates

Use	GFA (sqm)	Traffic Estimate (trips/hour)	
		AM	AM
Warehouse	561,931	1,290	1,350
Office	14,052	225	790
Total		**3,093**	**2,134**

Source: Stantec

Distribution & Assessment

The TIA prepared by Arcadis adopted the following traffic distribution assumptions for the broader Burrah Park development:

- In the AM peak, 75 per cent of traffic generated by the sites will be inbound traffic, whilst 25 per cent will be outbound.

- In the PM peak, 30 per cent of traffic generated by the sites will be inbound traffic, whilst 70 per cent will be outbound.

The directional distribution and assignment adopted by Arcadis was based on the Sydney Dynamic Traffic Assignment (SDTA) data. Based on this data, the following assumptions were adopted:

- Approximately 25 per cent would travel towards the west via Elizabeth Driver, with 5 per cent travelling to Luddenham Road and 20 per cent travelling towards the west via Elizabeth Drive.
- Approximately 70 per cent would travel towards the east via Elizabeth Drive, with 20 percent travelling to the north via the M12 ramp, 10 percent travelling to the south via the M12 ramps, 15 per cent travelling south via Badgerys Creek Road and 30 per cent travelling east via Elizabeth Drive.

Impact Assessment

The TIA prepared by Arcadis concluded that whilst the broader Burrah Park development (which includes the proposed Warehouse 1 & 2 developments) will generate substantial volume of traffic onto the road network, the modelling analysis indicates that the future road network will have enough capacity for the increased traffic as a result of background traffic growth and the additional traffic generated by the Burrah Park development.

The report concludes that the signalised intersections along Elizabeth Drive will operate at good levels of service (LOS C at worst during peak periods).

However, the report acknowledges that the intersection between Elizbeth Drive/ Luddenham Road and Elizabeth Drive/ Adams Road will operate at LOS F due to high volume of traffic along Elizabeth Drive which will make it difficult for vehicles from Luddenham Road and Adams Road to enter Elizabeth Drive.

The report does note that with the intersection between Elizabeth Road/ Luddenham Road, the intersection will operate at LOS F with or without the Burrah Park development and recommends that this intersection be signalised to alleviate the congestion along Luddenham Road (the Elizabeth Drive upgrade REF documentation suggests this intersection will be upgraded to a signalised intersection, however the timing of this upgrade is uncertain at this time). The Burra Park Prop Trust 1 has engaged extensively with TfNSW and will continue to do so as to explore the most effective options to improve the performance of the surrounding intersections.

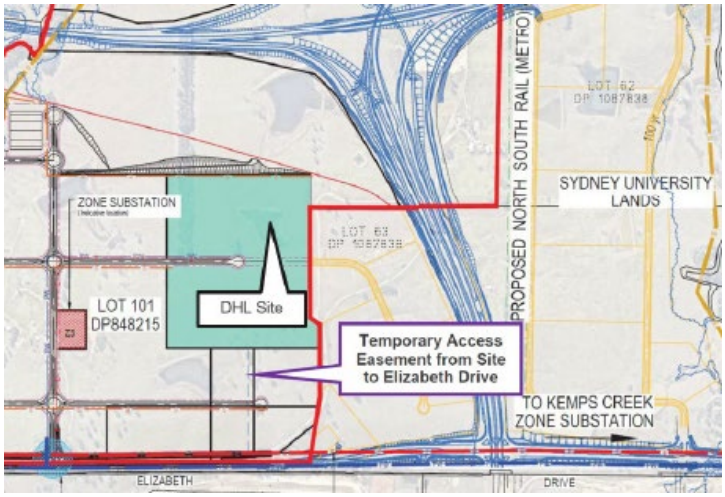
The volume of traffic along the Adams Road approach is anticipated to be low, and as such the report recommended restricting right turns at the intersection between Elizabeth Drive and Adams Road to improve delays and alleviate congestion.

The report also acknowledges for the full development of Burrah Park, further connections will be required to the northern residual parcel and the Sydney University land, and a potential connection to Luddenham Road in the west to improve connectivity to the wider road network and alleviate pressure on Elizabeth Drive.

6.1.3.3. Temporary / Alternate Access Proposal

The proposed development subject to this SSDA can be delivered independently of the concept plan by providing a temporary access easement over an existing dirt road off Elizabeth Drive which connects the southern portion of the site to Elizabeth Drive. This road would be upgraded to provide access. This access road would be subject to survey and would be designed with reference to the appropriate Australian Standards.

Figure 24 Temporary Access Easement



Source: AT&L

6.1.3.4. Mitigation Measures

The TIA recommends the following mitigation measures.

- The Green Travel Plan (refer to **Appendix M**) developed by Stantec is to be adopted to ultimately encourage increases active transport options, particularly as more infrastructure in the precinct comes online.
- A Construction Traffic Management Plan be adopted that utilises the overview of requirements within Chapter 8 of **Appendix M** to ultimately limit the overall impact of the proposal's construction on the local road network.
- All vehicles transporting loose materials will have the load covered and/or secured to prevent any items depositing onto the roadway during travel to and from the site.
- All vehicles are to enter and depart the site in a forward direction, with reverse movements to occur only within the site boundary.
- All contractor parking is to be wholly contained within the site; and Pedestrian and cycle traffic along the site frontage will be always managed appropriately.

The report has recommended the intersection of Elizabeth Drive and Luddenham Road to be signalised whilst the right turns at the intersection of Elizabeth Drive and Adams Road to be banned. This will improve intersection operations and alleviate congestion. Also, it is anticipated public transport options will be expanded to service Burrah Park generally in accordance with the Precinct Plan as more lots are developed and demand for these services increase.

The construction traffic impact of the proposal is anticipated to be minor and can be investigated further in development of a detailed construction traffic management plan for the site prior to construction certification.

6.1.4. Ecologically Sustainable Development (ESD)

A Sustainability management Plan (**SMP**) has been prepared by SLR (refer to **Appendix CC**) which details how the principles of ESD are being incorporated in the proposed development. To address the SEARs, the proposal the SMP details how the proposal seeks to implement ESD principles (as defined in section 193 of the EP&A Regulation) and a wide range of ESD initiatives.

The principal objective of the SMP is to identify all potential energy savings that may be realised during the operational phase of the project, including a description of likely energy consumption levels and options for alternative energy sources such as PV solar power.

A BCA Sections J Deem-to-Satisfy compliant building is used as the baseline building for energy consumption savings. BCA Section J provides the minimum requirement for energy efficiency, and it is expected that the proposed development will operate energy efficiently via:

- At least 300 kW PV Solar system (150 kW per warehouse);
  - The proposed 300 kW PV solar system will offset 416,100 kWh/year of energy usage
  - The estimated greenhouse gas CO2 emission saving is approximately 341,202 kgCO2/annum
- Daylight controlled LED lighting for the warehouse instead of metal halide, resulting in a considerable energy reduction and reduced maintenance;
- Motion sensors to all LED lights within the warehouse, and offices;
- Translucent roof sheeting to warehouse areas;
- R3.2 total roof insulation for the air-conditioned office areas;
- R2.8 total external wall insulation for the air-conditioned office areas;
- High performance glazing to all air-conditioned areas or minimum NCC requirements;
- Passive solar design for external outdoor areas;
- Colorbond CoolMax roof to reduce heat load through the roof.
- Efficient air conditioning system with a minimum Energy Efficiency Ratio (EER) of 4;
- A solar hot water or electric heat-pump system for domestic hot water use;
- Power sub-metering to enable continued review of power consumption for the offices, and warehouse;
- Selection of endemic and low maintenance landscaping species;
- 100 kL Rainwater tanks for rainwater harvesting and re-use for landscape irrigation and toilet flushing;
- Low flow fixtures and fittings including taps and shower heads;
- Low VOC paints, carpet and sealant; and
- Other measures as detailed below.

Subject to the above as well as the measures listed below, the project is predicted to achieve a 34.9% GHG emission reduction when compared with NCC Reference Building. By installing 4-star rated toilets, urinals and taps and the proposed rainwater harvesting facility the proposed development will reduce its potable water demand by 32%. The project is committed to achieve a 5-Star Green Star Design and As Built Rating using the Green Building Council of Australia (GBCA) Building V1.0 Rating Tool.

A Net Zero Statement is provided at Appendix C of the SMP (**Appendix CC**). The proposed development, by implementing all energy efficiency measures described in the current study, including the proposed PV solar system, will significantly minimise greenhouse gas emissions, reflecting the goal of achieving net zero emissions. Other considerations to achieve a net zero development by 2050 include:

- Electrification of all appliances and equipment.
- Use of Green Power to contribute to a reduction in total greenhouse gas emissions produced by the proposed development. Greenpower is produced from environmentally friendly renewable energy sources such as solar, wind, water or biomass.

Once the design of the building services is progressed during the detailed design stage, SLR will carry out detailed energy modelling to assess the energy use and optimise design as required.

Table 18 below details the relevant ESD initiatives proposed as part of the proposal (inclusive of the items proposed and detailed above) to address the relevant ESD principals under the EP&A Regulations and requirements of the SEARs.

Table 18 ESD Initiatives

Category	Objective	Proposed Target	Proposed Strategy	Comment
Design & Management	▪ Documentation of design intent and expected outcomes. ▪ Appropriate commissioning.	▪ Communicate sustainability initiatives and operation to building users. ▪ Commissioning and building tuning required by contractors and reviewed for 12 months after completion.	▪ Provision of Building Users Guide. ▪ Investigate costs and viability of commissioning and building tuning requirements and appointing an independent commissioning agent. ▪ Independent consultant to perform quarterly tuning of fire, mechanical, electrical, hydraulic services.	▪ SLR recommends the preparation of Building User Guide that enables building users to optimise the building's environmental performance. ▪ A sub-contractor will be engaged to maintain the facility in accordance with the operations and maintenance manuals during the 12-month defects liability period.
Façade Performance	▪ Optimised façade performance.	▪ Achieve minimum performance requirements under NCC Section J1 and J2. ▪ Reduce heat gain through the warehouse façade.	▪ Meet or exceed NCC Section J1 and J2 façade performance for conditioned spaces. ▪ Light coloured roofing with high reflectivity and appropriate insulation to reduce solar heat gain into the warehouse. ▪ Daylight: evenly spaced translucent roof sheeting to warehouses areas. ▪ Performance glazing in office spaces appropriate to the window size and orientation.	• NCC Section J report needs to be prepared by a qualified ESD consultant. • This warehouse will comply with all the requirements specified within the report during construction stage. • Colourbond roof sheeting which has a higher solar reflectivity is proposed. ▪ As per project NCC Section J requirements.
Social Sustainability	▪ Consider design with due regard to occupant satisfaction in accessibility, usability, Indoor air quality and public space utility.	▪ High level of occupant satisfaction. ▪ Provide external as well as internal comfort.	▪ Flexibility of space for potential future configurations. ▪ Use of Low VOC paints, carpets and sealants. ▪ Consider Landscaping and dense planting. ▪ Consider occupant user control eg A/C systems, glare reducing strategies, lighting etc.	• The design will incorporate open offices, client rooms, meeting rooms, lunchroom and outdoor seating area • Low VOC paints, carpet and sealant will be used as per the green star requirements • Refer proposed landscaping aera, Architectural Drawings • Selection of endemic and low maintenance landscaping species

Category	Objective	Proposed Target	Proposed Strategy	Comment
				▪ Both AC and lighting control will be provided to offices and warehouses.
Minimising Transport Impact	▪ Consider location with links to public transport and employee services. ▪ Consider location to reduce operational transport. ▪ Consider the impact of industrial trucks on local traffic.	▪ Reward drivers of fuel- efficient vehicles by providing spaces for small cars and or motorbikes. ▪ Provide alternatives to single-occupancy vehicles. ▪ Reduce operational fuel consumption through close proximity to major arterial roads. ▪ Reduce the impact of operational traffic on local communities.	▪ Consider providing 10% of total parking spaces for small cars and 5% for motorbikes situated near the office entrance. ▪ The site is located within close proximity (<5km) to both the M7 and M4 motorways. ▪ The roads linking the site to the motorways are predominantly used for industrial traffic, as such the traffic is unlikely to impact on local areas.	▪ Spaces for small cars and motorbikes are provided. ▪ Secure Bicycle parking and end of trip facilities are provided. ▪ Car park numbers and provision are provided in accordance with Consent Authority requirements. ▪ 440 car spaces are provided for warehouses 1 & 2.
Optimising IEQ	▪ Optimise natural light to work environment. ▪ Optimise fresh air ventilation. ▪ Consider Thermal Comfort of occupants. ▪ Consideration of noise transference in space planning. ▪ Minimise use of materials that emit volatile organic compounds. ▪ Create a pleasant working environment.	▪ Daylight: Daylight Factor (DF) of at least 2% at finished floor level under a uniform sky for at least 60% of the GLA. ▪ Thermal comfort: 95% of office areas have PMV levels between -1 and +1 for 98% of the year; Warehouse spaces include passive thermal comfort strategies. ▪ Finishes: 95% of all paints, adhesives & sealants and all carpet and flooring to be low- VOC finishes; use low- formaldehyde wood products. ▪ Electric lighting levels: 95% of GLA has a lighting system that is flicker free and has a maintained illuminance of no more than 25%	▪ Daylight: rationalised glazing to offices; high performance glass. ▪ Daylight: evenly spaced translucent roof sheeting to warehouses areas. ▪ Thermal comfort: Office envelope and HVAC system designed to meet thermal comfort requirements. ▪ Provide sufficient roof and wall insulation to the air- conditioned spaces; ▪ Finishes: Specify and track correct finishes and wood products. ▪ Provide pleasant indoor and outdoor breakout spaces with sufficient daylight and plants. ▪ Lighting: Good light fixtures and well-designed layout.	▪ High performance glazing to all air-conditioned areas to satisfy NCC Section J requirements ▪ Translucent roof sheeting is proposed. ▪ Insulation as per the NCC Section J requirements ▪ LED lighting and lighting controls to warehouse and offices. ▪ Adequate ventilation will be supplied in accordance with AS1668. ▪ Awnings are proposed and shown in Architectural Drawings.

Category	Objective	Proposed Target	Proposed Strategy	Comment
		above those recommended in AS1680.2.4, 2.1 and 0.1. ▪ Reduce visual glare.	▪ Ventilation: Consider increased fan and duct sizing. ▪ Provide sufficient shading and blinds with rationalised glazing for visual and thermal comfort.	
Minimising Energy Use	▪ Consider passive design to minimise energy use such as orientation, ventilation, shading and floor plate design. ▪ Appropriate sizing of plant and equipment in heating and cooling, lighting, control systems, ▪ Building management systems and renewable energy sources. ▪ Reduce reliance on connection to grid electricity and gas.	▪ Target a 20% reduction in Greenhouse gas emissions. ▪ Energy sub-metering for all major uses greater than 100kVa; linked to monitoring system. ▪ High efficiency warehouse lighting and controls. ▪ Reduce energy for water heating. ▪ Integrated building management. ▪ Consider renewable energy generation for a portion of energy consumption and/or consider future proofing the building for future installation. ▪ Reduce urban heat island effect and heat load through the roof by providing a highly reflective roof. ▪ Reduce office equipment load from 20W/m² to 15W/m². ▪ Optimise insulation for energy and thermal comfort.	▪ Roof Insulation, External Wall Insulations, Reduced Glazing area and associated heat loss in winter. ▪ Consider office air conditioning temperature set- points for an increased comfort band. ▪ Provide energy efficient T5 lighting, with zoning and automatic controls where reasonable. ▪ Consider LED lighting strategies and advanced controls. ▪ Consider a solar hot water system or a heat pump. ▪ Sub-metering: install appropriate metering; develop metering and tracking strategy to allow for self-assessment, problem solving and ongoing improvements during operations ▪ Use roofing material that has a high Solar Reflective Index ▪ ▪ Investigate current insulation design and determine proposed options.	▪ Building fabric and insulation as per the NCC requirements ▪ Design brief sets the temperature ▪ LED lighting to warehouse and offices. ▪ Lighting controls to warehouse and offices. ▪ Solar hot water or heat pump system ▪ Sub meters for major energy/water uses as per the latest green star rating tool V1.0 ▪ Colorbond CoolMax WhiteHaven is proposed to reduce heat load through the roof. ▪ As per NCC Section J requirement.
Choosing Materials	▪ With consideration to energy inputs in manufacture.	▪ Reduce steel and cement in internal slab (10% reduction in embodied energy).	▪ Jointless fibre reinforced slab. ▪ Use pre-cast concrete panels with recycled content.	To minimise the environmental impacts of materials used by encouraging the use of materials with

Category	Objective	Proposed Target	Proposed Strategy	Comment
	▪ Toxicity. ▪ Consequential impacts ▪ – rain forest timbers. ▪ Regional or local manufacturer employment support.	▪ Reduce embodied energy in concrete and plasterboard elements. ▪ Consider 95% of timber to be AFS or FSC certified. ▪ Reduce emissions associated with insulation and refrigerant. ▪ Reduce environmental impact of materials for tiling, awning.		a favourable lifecycle assessment based on the following factors: ▪ Fate of material ▪ Recycling / re-use ▪ Embodied energy ▪ Biodiversity ▪ Human health ▪ Environmental toxicity ▪ Environmental responsibility.
Water Conservation and Reuse	▪ By clever design. ▪ Contracted to builder as a requirement on site for construction waste. ▪ During the life of the building. ▪ And in dealing with building end of life options.	▪ Reduce construction waste going to landfill by 90%. ▪ Reduce operational waste going to landfill. ▪ Consider a design that can be disassembled at the end of the building's life.	▪ Contractor is to develop and implement a Waste Management Plan and track all waste going offsite to show that 90% of all construction waste is re-used or recycled. ▪ Waste storage and recycling facilities to be provided for different operational recycling streams such as paper, glass, plastics, metals, food waste etc. Consider operational waste plans and training for staff to provide incentive to reduce waste.	▪ SLR recommends more than 80% of the predicted construction waste arising from development can be re- used (on-site or at another development) or recycled off- site as per the green star requirements. ▪ The following waste avoidance measures are recommended in the Waste Management Plan for the Project: ▪ Provision of take back services to clients to reduce waste further along the supply chain.
Land Use and Ecology Impact	▪ Consider local biodiversity impacts of flora and fauna. ▪ Look to specialist advice on land in development.	▪ Encourage biodiversity. ▪ Reduce light pollution from the site. ▪ Consider reducing impact of stormwater flows off the site into the natural watercourses.	▪ Install indigenous plating appropriate to the area and the adjacent biodiversity lots. ▪ Design external lighting to avoid emitting light into the night sky or beyond the site boundary. ▪ Consider integrated stormwater management to minimise the impact on receiving waters of flow volumes	Selection of endemic and low maintenance landscaping species LED lights have been proposed for all external lights to avoid emitting light ▪ The warehouse sustainability objectives include: ▪ Reduce the impact of stormwater runoff and improve quality of

Category	Objective	Proposed Target	Proposed Strategy	Comment
			and pollution content, eg bioswales, bio retention, OSD tanks and treatment. ▪ Consider permeable concrete/paving for staff parking areas and footpaths, etc.	stormwater runoff ▪ Achieve best practice stormwater quality outcomes ▪ Incorporate water sensitive urban design principles.

Source: SLR

6.1.5. Noise and Vibration

SLR Consulting has undertaken a Noise and Vibration Impact Assessment (**NVIA**) for the proposal (refer to **Appendix N**). The assessment report addresses both the construction and operational phases.

The NVIA has been prepared in response to the SEARs issued for SSD-70817958, which note the following:

- *Provide a noise and vibration assessment prepared in accordance with the relevant EPA guidelines. The assessment must detail construction and operational noise and vibration impacts on nearby sensitive receivers and structures and outline the proposed management and mitigation measures that would be implemented.*
- *Provide an assessment of the cumulative impacts (including noise, air quality and traffic) of the project and other approved and proposed developments in accordance with the Cumulative Impact Assessment Guidelines for State Significant Projects (DPIE, July 2021).*

The report established the locality context of the proposal, including the surrounding land uses and proximity to the closest residential receivers to the north and west of the site.

6.1.5.1. Existing Environment

Given the sites existing rural landscape, the existing noise environment is generally influenced only by road traffic, local flora and fauna and pre-existing construction noise.

The nearest sensitive receivers are residential properties located to the west, south-west, north-east and east, at distances of around 900 m, 1,200m, 1,700m and 450m, respectively. These receivers are detailed below in Table 19 below.

Table 19 Proximal Sensitive Receivers

NCA	Direction	Receiver Type	Land Use Zoning	Approx. Closest Distance (m)
Receivers outside the Northern Gateway/Badgerys Creek Precincts				
NCA01	North-east	Residential	E4	1,700
NCA02	South-west	Residential	AGB	1,500
		Commercial	AGB	1,800
NCA03	South-west	Residential	AGB	1,900
Receivers inside the Northern Gateway/Badgerys Creek Precincts				
NCA04	South-west	Residential	ENT	1,200
NCA05	West	Residential	ENT	900
NCA06	South-east	Residential	ENT	1,600
NCA07	East	Residential	ENT	450[1] to 1,600
		Industrial	ENT	1,500

To ascertain the level of existing noise at the site, SLR undertook noise monitoring at the site during August 2021. The noise monitoring was positioned to measure existing noise levels that are representative of receivers positionally most affected by the proposal.

The monitoring measured existing noise levels in 15-minute periods during the daytime, evening, and time-time. The results are detailed below in Table 20 below. It is noted that the assessment periods are:

- Daytime which is 7am to 6pm Monday to Saturday and am to 6pm on Sunday and public holidays.

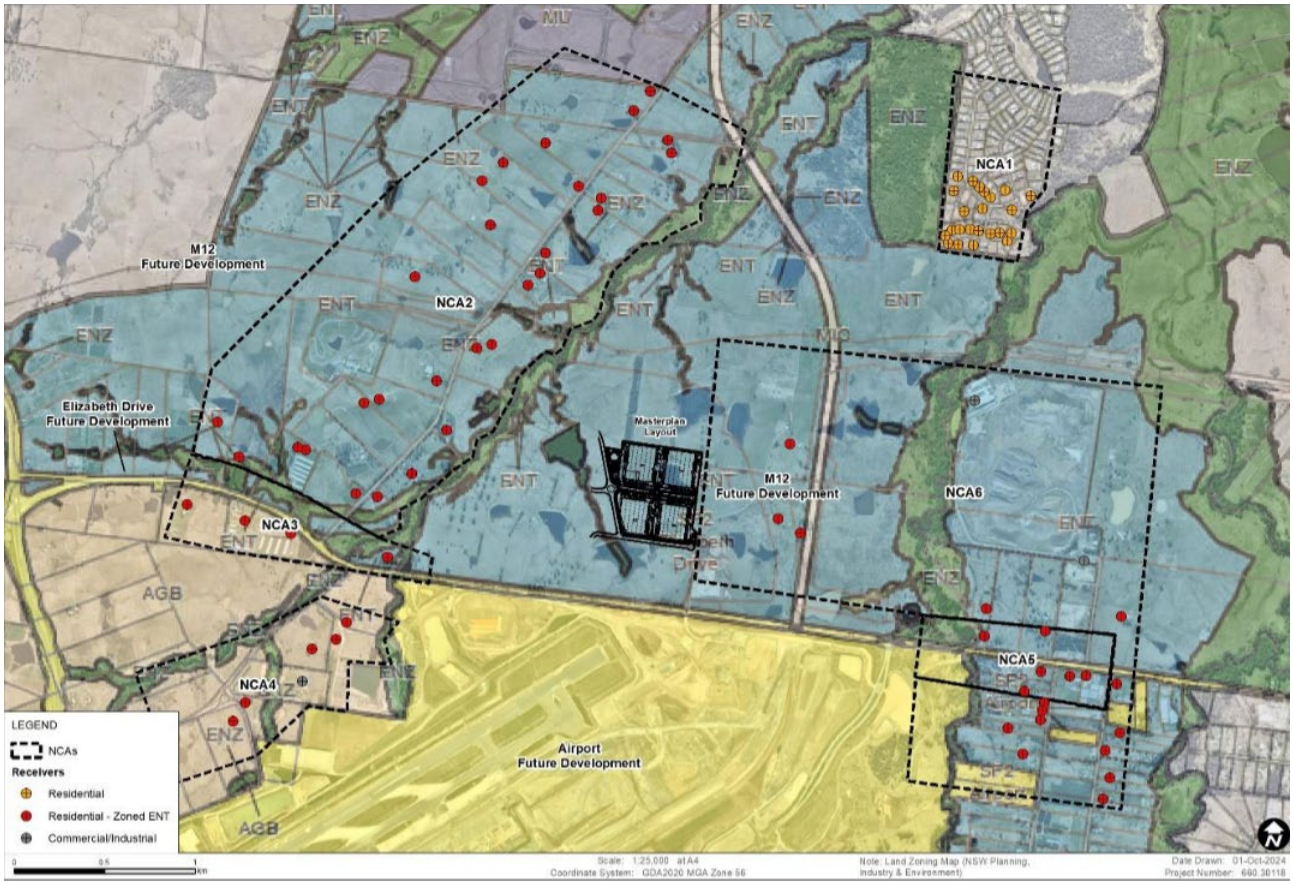
- Evening which is 6pm to 10pm, and the night-time which is 10pm to7am Monday to Saturday and 10pm to 8am on Sunday and Public Holidays.

Table 20 Summary of Unattended Noise Logging Results

ID	Address/Description	Measured Noise Levels (dBA)					
		Background Noise (RBL)			Average Noise (Laeq)		
		Day	Evening	Night	Day	Evening	Night
L01	Farmingdale Court, Luddenham	29	33	31	45	43	43
L02	150 metres north of Elizabeth Drive	40	36	35	53	50	52
L03	380 metres east of Luddenham Road	31	31	28	46	41	43

Source: SLR

Figure 25 Noise Monitoring Locations



Source: SLR

The above results are considered typical of a rural-residential setting. The highest background noise levels at L02 are impacted by traffic noise from Elizabeth Drive.

Short-term attended noise monitoring was also completed by SLR at each monitoring station. The attended measurements were found to be generally consistent with the above results. The extent of the full results is available within **Appendix N**.

6.1.5.2. Potential Impacts

The principal sources of noise generated by the proposal include both heavy and light vehicles on site access roads, hard stands and parking areas, truck unloading operations including forklift use, and

mechanical plant. The predicted noise from construction activities were also analysed, as were the road traffic noise impacts of the site on nearby receivers.

The potential noise impacts of the construction and operation of the proposal on nearby receptors was predicted using noise modelling software SoundPlan in accordance with the following guidelines:

- *NSW Noise Policy for Industry 2017*
- *NSW Road Noise Policy 2011*
- *NSW Interim Construction Noise Guideline 2009*

The noise model was constructed from a combination of aerial photography, existing ground topography, and design ground topography for the proposal. The local terrain, design of the proposal, receiver buildings and structures have been digitised in the noise model to develop a three-dimensional representation of the operations of the proposal and surrounding environment.

Noise modelling was conducted for day, evening and night-time as the warehouses would be operating 24 hours per day. No shielding provided by future buildings surrounding the site have been included within the model.

Construction Assessment

The NSW Noise Policy for Industry (**NPfI**) was released in 2017 and sets out the requirements for the assessment and management of operational noise from industry in NSW. The NPfI determines 'trigger levels' for noise emissions from industrial development. In the event a development is likely to exceed these levels at existing sensitive receivers, feasible and reasonable noise management measures are required to be considered to reduce the impacts.

There are two types of trigger levels – one to account for 'intrusive' noise impacts and one to protect the 'amenity' of particular land uses:

- The intrusiveness of an industrial noise source is considered acceptable if the Laeq noise level of the source, measured over a period of 15-minutes, does not exceed the representative background noise level by more than 5-dB. This only applies to residential receivers.
- To limit continual increases in noise levels from the use of the intrusiveness level alone, the ambient noise level within an area from all industrial sources should remain below the recommended amenity levels specified in the NpfI for that particular land use.

For this assessment, the area surrounding the project is considered to be 'rural' as per the NPfI definitions. The trigger levels for industrial noise form the project are summarised below in **Table 21.**

Table 21 Project Noise Trigger Levels

NCA	Receiver Type	Monitoring Location	Measured RBL[1] (dBA)			NML (Laeq(15minute) (dBA)				Sleep Disturbance Screening Level[2] (Lamax dBA)
						Standard Construction Hours (RBL+10 dB)	**Out of Hours (RBL+5dB)**			
			Day	Eve.	Night	Day	Day	Eve.	Night	Night
NCA01	Residential	L01	353	33	31	45	40	38	36	52
NCA02	Residential	L03	353	31	303	45	40	36	35	52

NCA03 /04	Residential	L02	40	36	35	50	45	41	40	52
NCA05	Residential	L03	35 3	31	30 3	45	40	36	35	52
NCA06	Residential	L02	40	36	35	50	45	41	40	52
NCA07	Residential	L03	35 3	31	30 3	45	40	36	35	52
All	Industrial	n/a				75				n/a
All	Commercial	n/a				70				n/a

Source: SLR

There are also identified industrial noises that are considered to be more sensitive. The NPfI specifies the following modifying factors, shown in **Table 22**, which are to be applied

Table 22 NPfI Modifying Factors

Factor	Assessment/Measurement	When to Apply	Correction[1]
Total noise	One-third or narrow band analysis.	Level of one-third octave band exceeds the level of the adjacent bands on both sides by the levels defined in the NpfI.	5 dB[2]
Low-frequency noise	Measurement of source contribution C-weighted and A-weighted level and one-third octave measurements.	Measure/assess source contribution C and A weighted Leq,t levels over same time period. Correction to be applied where the C minus A level is 15 dB or more and the level to which the thresholds defined in the NpfI are exceeded.	2 or 5db[2]
Intermittent noise	Subjectively assessed but should be assisted with measurement to gauge the extent of change in noise level.	The source noise heard at the receiver varies by more than 5 dB and the intermittent nature of the noise is clearly audible.	5 dB[3]
Maximum adjustment	Refer to individual modifying factors.	Where two or more modifying factors are indicated.	Maximum correction of 10 dB[2] (excluding duration correction)

Source: SLR

Note 1: Corrections to be added to the measured or predicted levels.

Note 2: Where a source emits tonal and low-frequency noise, only one 5 dB correction should be applied if the tone is in the low-frequency range, that is, at or below 160 Hz.

Note 3: Adjustment to be applied to night-time only.

Additionally, The Npfl defines the sleep disturbance screening level as 52-dBA LAFmax or the prevailing background level plus 15-dB, whichever is greater. The 52-dBA LAFmax screening level has been used for this proposal for all receivers.

When assessing the overall construction noise and vibration assessment, SLR identified the below construction activities that would potentially result in noise or vibration impacts to nearby sensitive receivers (refer **Figure 26**).

Figure 26 Sound Power Levels for Construction Activities

Scenario	Works Activity	Equipment
W.01	Site establishment	Generator, hand Tools, truck
W.02	Demolition	Excavator with breaker, excavator, front end loader, generator, truck
W.03	Earth works	Excavator, generator, roller – vibratory, truck
W.04	Concreting works	Concrete mixer truck, concrete pump, concrete vibrator, generator, truck
W.05	Road works	Concrete mixer truck, concrete pump, excavator, road profiler, truck
W.06	Stormwater and Pavements	Excavator with breaker, excavator, tipper truck, truck, grader, roller – vibratory, roller - smooth drum, truck (water cart), mobile crane – franna, concrete mixer truck
W.07	Finishing works	Elevated working platform, generator, hand tools, mobile crane – franna, truck

Source: SLR

It is noted that construction works would be required to be undertaken during standard construction hours, including:

- 7.00 am to 6.00 pm Monday to Friday.
- 8.00 am to 1.00 pm on Saturdays.
- No work on Public Holidays or Sundays.

It is not anticipated that any evening or night-time works would be required.

Noting the above assessment criteria and identified noise triggers, SLR have undertaken the below assessment, utilising realistic worst-case noise levels (without additional mitigation) that are likely to occur during construction. The assessment is generally considered conservative as the calculations assume several items of construction equipment are in use at the same time within individual scenarios.

Noise predictions from the construction works have been predicted to the nearest receivers during the daytime and are summarised in **Figure 27**.

Figure 27 Predicted Daytime Construction Noise Levels

ID	Receiver Type	NML (Daytime)	Predicted Noise Level – $L_{Aeq(15minute)}$ (dBA)						
			Site establish.	Demolition	Earth works	Concreting works	Road works	Stormwater & Pavements	Finishing works
NCA01	Residential	45	21	33	27	25	26	33	22
NCA02	Residential	45	24	36	30	28	29	36	25
	Commercial	70	22	34	28	26	27	34	23
NCA03	Residential	50	21	33	27	25	26	33	22
NCA04	Residential	50	29	41	35	33	34	41	30
NCA05	Residential	45	31	43	37	35	36	43	32
NCA06	Residential	50	25	37	31	29	30	37	26
NCA07	Residential	45	36	48	42	40	41	48	37
	Industrial	75	26	38	32	30	31	38	27

Source: SLR

The above worst-case predictions show the following:

- Noise levels comply the require noise monitoring levels (**NMLs**) at the nearest receivers during most of the work, with minor exceedances predicted during certain noisy stages.
- The NMLs are predicted to be exceeded at the nearest receivers in NCA07 by up to 3 dB during the worst-case impacts. The higher exceedances are predicted to occur when noise intensive items of equipment such as rock breakers are being used during activities such as demolition or stormwater and pavements works. Noise levels at more distant receivers or during less noise intensive activities are generally expected to comply with NMLs.
- No residential receivers are predicted to be highly noise affected (ie ≥75 dBA) during any of the construction work.

The presented worst-case impacts would only be expected to occur when noisy work is being completed close to the site boundaries, relative to each receiver. When work is in central areas of the site, or when less noise intensive equipment is being used, the noise levels are expected to reduce.

Feasible and reasonable construction noise mitigation measures should be applied where exceedances of the NMLs are predicted.

Construction Vibration

Impact from vibration has been considered as most likely during construction because of earthworks.

Vibration offset distances have been determined to be minimal as all receivers are outside of the safe work distance for cosmetic damage and distance for human conform.

Construction Traffic

Construction traffic would likely access the site from Elizabeth Drive to the south. The construction traffic route could travel through areas with adjacent residential receivers.

According to the traffic impact assessment (**Section 6.1.3**) up to 180 heavy vehicles per day could be expected because of construction works. The anticipated construction vehicle volumes associated with the proposal will be far less than that estimated for the future operation of the site and therefore the impact of the construction works road traffic will be limited. A detailed Construction Traffic Management Plan is to be prepared prior to the issue of any Construction Certificate and once the known staging and operational impacts can be assessed in greater detail. Due to the existing traffic flows on Elizabeth Drive, the vehicle volumes generated from the construction of the site are likely to generate noise impacts, noting that a vehicle increase of roughly 60% would be required to increase the noise levels by 2dB.

Operational Assessment

Several assumptions have been made regarding the future tenants and sources of noise, based on the likely warehouse and distribution uses. These assumptions have been used to develop representative worst-case noise modelling scenarios that reflect the expected highest noise emissions that the development would likely emit.

Cumulative Noise Impacts

The NSW Government Cumulative Impact Assessment Guidelines for State Significant Projects requires that the potential combined effect of cumulative impacts on all nearby industrial developments to be considered when assessing potential noise impacts from state significant projects. The guideline references the NPfI when determining the approach to assessing the cumulative industrial noise impacts.

The NPfI requires that the amenity noise levels which are applied to an individual project be reduced by 5 dB to allow for the potential cumulative impact from multiple sources of industrial noise in an area (including existing and new). By doing this, the policy accounts for potential cumulative impacts by lowering the criteria for each individual development to ensure that the ambient noise level within an area from all industrial noise sources combined remains below the recommended amenity noise levels, where feasible and reasonable.

The potential cumulative impacts from the development and other sources of industrial noise in the area are therefore accounted for in the proposal-specific Project Noise Trigger Levels (**PNTL**s) (reflected in **Table 23** below).

Noise Source Inventory

- On-site traffic (light vehicles / medium vehicles / heavy vehicles)
- Hardstand and loading docks (forklifts, reversing alarms, air brakes, roller doors)
- Internal activities (typical warehousing and distribution activities)
- Mechanical plant (warehouse air-conditioning units / smoke exhaust fans / office air-conditioning units)

Table 23 Operational Noise Assessment – DHL Stage 2, Rural (Current Amenity)

NCA	Receiver Type	Period (weather)	LAeq(15 minutes) Noise Level (dBA)			Compliance
			Noise Criteria	**Predicted**	**Exceedance**	
Receivers outside the Northern Gateway/Badgerys Creek Precincts						
NCA01	Residential	Daytime (standard)	40	29	-	Yes
		Evening (standard)	38	23	-	Yes
		Night-time (standard)	36	26	-	Yes
		Night-time (noise-enhancing)	36	31	-	Yes
NCA02	Residential	Daytime (standard)	40	30	-	Yes
		Evening (standard)	36	24	-	Yes
		Night-time (standard)	35	28	-	Yes

		Night-time (noise-enhancing)	35	32	-	Yes
	Commercial	When in use (standard)	63	28	-	Yes
NCA03	Residential	Daytime (standard)	45	27	-	Yes
		Evening (standard)	41	22	-	Yes
		Night-time (standard)	38	25	-	Yes
		Night-time (noise-enhancing)	38	29	-	Yes
Receivers inside the Northern Gateway/Badgerys Creek Precincts (zoned enterprise)						
NCA04	Residential	Daytime (standard)	45	33	-	Yes
		Evening (standard)	41	27	-	Yes
		Night-time (standard)	38	30	-	Yes
		Night-time (noise-enhancing)	38	34	-	Yes
NCA05	Residential	Daytime (standard)	40	38	-	Yes
		Evening (standard)	36	32	-	Yes
		Night-time (standard)	35	35	-	Yes
		Night-time (noise-enhancing)	35	39	4	No
NCA06	Residential	Daytime (standard)	45	29	-	Yes
		Evening (standard)	41	23	-	Yes
		Night-time (standard)	38	27	-	Yes
		Night-time (noise-enhancing)	38	31	-	Yes
NCA07	Residential	Daytime (standard)	40	41	1	Marginal

		Evening (standard)	36	36	-	Yes
		Night-time (standard)	35	39	4	No
		Night-time (noise-enhancing)	35	43	8	No
	Industrial	When in use (standard)	68	33	-	Yes

Source: SLR

DHL Stage 2 – Current Rural Amenity Classification

The above assessment indicates the following:

- Noise from the proposal is predicted to comply with the PNTLs at all receivers which are outside the Northern Gateway/Badgerys Creek Precincts:
  - NCA01 to NCA03 – compliance is predicted during all periods/scenarios.
- Exceedances are predicted at some of the nearest residential receivers within the Northern Gateway Precinct, however, these are all on land zoned ENT (enterprise). It is understood that all existing receivers zoned as ENT will be redeveloped and replaced with a variety of future industrial and business enterprises as the precinct progresses:
  - NCA04 and NCA06 – compliance is predicted during all periods/scenarios.
  - NCA05 – compliance is predicted during the daytime, evening and night-time with standard weather. Exceedances of up to 4 dB is predicted during the night-time with noise-enhancing weather at multiple receivers closest to the site. Noise levels at all other receivers in NCA05 which are set further back from the site are predicted to comply with the noise goals.
  - NCA07 – compliance is predicted during the evening period. Exceedances ranging from 1 – 8 dB are predicted during the day, night-time with standard conditions and night-time with noise-enhancing weather. These exceedances are limited to the nearest three receivers which are within the footprint of the currently under construction M12 Motorway and are understood to be removed as part of upcoming construction activities. Noise levels at other receivers in NCA07 which are more distant are predicted to comply with the noise goals.

DHL Stage 2 – Future Urban Amenity Classification

- Noise from the proposal is predicted to comply with the PNTLs at all surrounding receivers.

Sleep Disturbance

The predicted night-time maximum noise levels at the nearest residential receivers are shown in **Table 24**. These include the mitigation measures specified in Section 6.2 of SLR's report included at Appendix N, where appropriate.

Table 24 Sleep Disturbance Assessment

NCA	Source	Maximum Noise Level LAmax (dBA)			Exceedance	Below Screening Level
		Sleep Dist. Screening Level	**Predicted – Masterplan**			
			Standard Weather	**Noise-Enhancing Weather**		
Receivers outside the Northern Gateway/Badgerys Creek Precincts						
NCA01	All sources	52	Up to 38	Up to 43	-	Yes
NCA02	All sources	52	Up to 39	Up to 43	-	Yes

NCA03	All sources	52	Up to 36	Up to 41	-	Yes
Receivers inside the Northern Gateway/Badgerys Creek Precincts (zoned enterprise)						
NCA04	All sources	52	Up to 41	Up to 46	-	Yes
NCA05	All sources	52	Up to 48	Up to 52	-	Yes
NCA06	All sources	52	Up to 38	Up to 43	-	Yes
NCA07	Airbrake	52	51	55	0 to 3	No
	Truck reversing		43	48	-	Yes
	Forklift reversing		38	42	-	Yes
	Roller door		29	32	-	Yes
	Trucks		42	48	-	Yes
	Cars		30	34	-	Yes

Source: SLR

The above shows that maximum noise levels are expected to comply with the sleep disturbance screening level at all receivers outside the Northern Gateway/Badgerys Creek Precincts.

Maximum noise levels are also generally expected to comply with the sleep disturbance screening level at receivers within the Northern Gateway/Badgerys Creek Precincts, except at the nearest two receivers in NCA07 when truck airbrakes are used in certain hardstand areas. These exceedances are at receivers which are within the footprint of the currently under construction M12 Motorway and are understood to be removed as part of upcoming construction activities. It is also noted that most heavy vehicles that would access the proposal during the night-time are expected to be rigid trucks (or similar) which generally do not use airbrakes.

Construction Traffic

Construction traffic would likely access the site from Elizabeth Drive to the south. The construction traffic route could travel through areas with adjacent residential receivers.

According to the traffic impact assessment (Appendix M), construction vehicles generated by the site would generally include vehicle up to 12.5 metre heavy rigid vehicles, 18.1 metre truck and dog combinations and 19 metre articulated vehicles. Up to 80 heavy vehicles per day could be expected because of construction works, or 10 vehicles per hour.

The anticipated construction vehicle volumes associated with the proposal will be far less than that estimated for the future operation of the site and therefore the impact of the construction works road traffic will be limited. A detailed Construction Traffic Management Plan (**CTMP**) is to be prepared prior to the issue of any Construction Certificate and once the known staging and operational impacts can be assessed in greater detail. Due to the existing traffic flows on Elizabeth Drive, the vehicle volumes generated from the construction of the site are likely to generate noise impacts, noting that a vehicle increase of roughly 60% would be required to increase the noise levels by 2dB.

6.1.5.3. Noise Impact from Western Sydney Airport

Considering the future operation of the WSI, SLR have considered the impact of the Airport's Australian Noise Exposure Concept (**ANEC**) and how this may impact future development at the site. The ANEC considers the anticipated number of movements, types of aircraft, and flight paths including the height of aircraft for arrivals and departures.

The potential aircraft noise impacts on the site from the WSI are summarised in **Table 25** below.

Table 25 Building Site Acceptability Based on ANEF Zones

Assessment Scenario	Building Site Acceptability Based on ANEF Zones
Year 2030 Prefer 05 Direction (majority of departures to the north-east and arrivals from the south-west)	The site buildings are less than 30 ANEC, which is considered 'acceptable' for light industrial uses.
Year 2030 Prefer 23 Direction (majority of departures to the south-west and arrivals from the north-east)	The site buildings are less than 30 ANEC, which is considered 'acceptable' for light industrial uses.
Year 2050 Prefer 05 Direction (majority of departures to the north-east and arrivals from the south-west)	The site buildings are less than 30 ANEC, which is considered 'acceptable' for light industrial uses.
Year 2050 Prefer 23 Direction (majority of departures to the south-west and arrivals from the north-east)	The site buildings are less than 30 ANEC, which is considered 'acceptable' for light industrial uses.

Source: SLR

The potential impacts from WSI and requirements for building envelope mitigation should be reviewed as the project progresses.

6.1.5.4. Mitigation Measures

SLR have identified several available mitigation measures for both the construction and operational phases of the proposal. The following mitigation measures have been identified within **Appendix E** and summarised below.

Construction Noise Mitigation

As noted in SLR's report, the impacts during construction of the project are predicted to be typical of major construction works near to sensitive receivers. No works outside of standard construction hours are currently proposed.

The use of standard mitigation measures to minimise the impacts is considered sufficient to control most of the impacts. Examples of measures which could be applied to the work are provided in the Roads and Maritime *(now Transport for NSW) Construction Noise and Vibration Guideline*, which have been appended to SLR's report (refer to Appendix E of **Appendix N**).

A Construction Noise and Vibration Management Plan (**CNVMP**) would be prepared before any work begins, once building contractors are engaged on the project. This would identify all potentially impacted receivers, assess the potential noise and vibration impacts from the project and provide details regarding how the impacts would be minimised using all feasible and reasonable mitigation measures. The CNVMP would also contain procedures for handling complaints, should they occur, and detail any compliance monitoring requirements.

Additionally, the following standard scheduling procedures should apply:

- Scheduling:
  - Highly noisy intensive works should only be undertaken during the following Standard Construction Hours, unless otherwise assessed and justified:
    - 7 am to 6 pm Mondays to Fridays, inclusive.
    - 8 am to 1 pm Saturdays.
    - At no time on Sundays or public holidays.
  - Provide appropriate respite periods as per the CNVG when noise intensive works are undertaken or during periods of high noise impacts.

– Carry out community consultation to determine the need and frequency of respite periods, if necessary.

– Avoid loading and unloading of materials / deliveries outside of daytime hours.

Operational Noise Mitigation

Where operational noise impacts from the site are predicted to exceed the relevant noise criteria, feasible and reasonable operational noise mitigation and management measures should be considered, with the aim of reducing noise emissions to the relevant criteria.

The typical hierarchy for mitigation and management of industrial noise sources is as follows:

- Reducing noise emissions at the source (i.e. noise source control)
- Reducing noise in transmission to the receiver (i.e. noise path control)
- Reducing noise at the receiver (i.e. at-receiver control).

A detailed assessment of all potential feasible and reasonable mitigation measures that could be applied to the proposal to minimise the impacts has been completed and is summarised below.

Table 26 Operational Noise Mitigation Measures

Ref.	Mitigation Option	Noise Impact/Benefit	Reasonable and Feasible to Apply
Source Control			
S1	Optimised site layout to minimise noise emissions from the site	Where possible, the site layout has been designed so that the warehouse buildings screen the noisier areas of the development (i.e., hardstands and truck routes) from the nearest receivers.	Yes – applied during design of the concept masterplan
S2	Limit vehicle movements	A reduction in concurrent vehicle movements across the site by staggering delivery/pickup times and/or employee shift change times could reduce noise emissions. In practice, this would occur naturally across the estate due to operational requirements of the different tenants.	No – vehicle volumes used in this assessment reflect DHL's requirements. Placing restrictions on allowable vehicle movements across the different tenancies is unlikely to be feasible and reasonable.
S3	Hardstand/external equipment use	Minimising the concurrent use of forklifts or other mobile plant outside the warehouses and/or limiting their use to the less sensitive day and evening periods. In practice, this would occur naturally across the estate due to operational requirements of the different tenants.	No – placing restrictions on allowable external use of forklifts and equipment across the site is unlikely to be feasible and reasonable.

Ref.	Mitigation Option	Noise Impact/Benefit	Reasonable and Feasible to Apply
S4	Quieter mobile plant and equipment	Use of quieter mobile plant and equipment options, such as electric forklifts instead of gas forklifts.	Yes – the proposal proposes to use quieter equipment such as electric forklifts instead of gas forklifts.
S5	Use broadband and/or ambient sensing alarms on trucks and forklifts where they are required to reverse during the night- time.	Reduce potential for annoying noise emissions during the night-time from forklifts and trucks.	Yes – use broadband and/or ambient sensing alarms on forklifts and trucks where they are required to reverse during the night-time.
S6	Appropriate specification and location of mechanical plant during detailed design.	If noise impacts from mechanical plant are identified during detailed design, quieter plant could be selected, or the plant could be relocated to a location screened from view of the nearest receivers, where appropriate.	Specific impacts from mechanical plant were not identified during this assessment. Noise impacts from mechanical plant would be investigated further during detailed design or construction certificate stages when specific plant requirements are identified.
S7	Appropriate design of warehouses during detailed design.	Appropriate warehouse materials to minimise noise break-out from internal activities would be selected during detailed design. Where it is identified that noisier equipment is required to be used within the warehouse buildings than currently assumed (e.g. manufacturing equipment instead of standard warehousing and distribution equipment), facade and roof construction can use materials that provide a greater acoustic benefit.	Potentially – noise impacts from internal equipment would be investigated further during construction certificate stages if tenants require manufacturing plant or other noisy equipment.
S8	Roller doors kept closed when loading/unloading is not occurring to minimise noise breakout.	Use of roller doors to minimise internal noise breakout.	Yes – roller doors should be kept closed when not in use for loading/unloading trucks.

Ref.	Mitigation Option	Noise Impact/Benefit	Reasonable and Feasible to Apply
S9	Appropriate design of site layout to minimise the need for trucks to stop or brake outside of loading docks with line of sight to residential receivers.	Minimise noise emissions, particularly from truck airbrakes.	Yes – applied during design of the concept masterplan
S10	Production of an Operational Noise Management Plan.	This would detail the measures that could be used by the various tenants to minimise general noise emissions from the site. Reference can be made to the Best Management Practice (BMP) and Best Available Technology Economically Available (BATEA) measures listed in the NPfI (see **Appendix N**).	Yes
Path Control			
P1	Noise barriers	Construction of noise barriers along boundary fence locations or other strategic locations could be used to reduce noise levels where plant or equipment are in line of sight of the nearest receivers.	Operational noise levels from DHL Stage 1 are generally predicted to comply with the noise goals, except for minor exceedances at the two nearest residential receivers to the east (when assuming a rural amenity classification). The potential noise impacts are limited to receivers within the Northern Gateway Precinct which are zoned enterprise. These receivers are also within the M12 Motorway corridor footprint and expected to be developed into future industrial and business enterprises, meaning permanent noise barriers to mitigate these receivers are unlikely to be reasonable.

Ref.	Mitigation Option	Noise Impact/Benefit	Reasonable and Feasible to Apply
Receiver Control			
R1	At-property treatments	The NPfI notes that noise mitigation at a residence may be required to be considered where the residual impact exceeds the PNTLs by ≥3 dB. At-property treatments typically include mechanical ventilation to allow windows to be closed as a noise mitigation measure, together with upgraded facade elements such as windows, doors and acoustic seals.	No residual impacts are predicted at any receivers with either rural or urban amenity classifications.
Verification Monitoring			
V1	Noise monitoring	Verify post-construction operational noise levels are in-line with predictions and the mitigation is working as intended.	Yes

Source: SLR

Resultant Context

Construction noise levels are generally predicted to comply with the management levels, however, minor exceedances are predicted at some of the nearest sensitive receivers during noisy work stages. Work would be limited to daytime hours only, and standard mitigation measures have been recommended to address the potential construction impacts.

Operational noise levels from DHL Stage 2 are expected to comply with the noise goals when assuming an urban amenity classification, which is considered representative of the future noise environment. The use of the rural amenity represents the onerous scenario and transition period as the surrounding area is redeveloped yields exceedances at the nearest receivers within NCA05 and the nearest receivers within NCA07. However, as previously discussed, the affected receivers within these zones are expected to be redeveloped as part of the Badgerys Creek Precinct upgrade or are within the M12 development's footprint and are expected to be removed.

Similarly, the cumulative operational noise from the DHL masterplan (Stage 1 and Stage 2) resulted in exceedances at the same receivers identified above when assessed in accordance with the rural amenity classification, albeit with an increase in magnitude due to the contribution of the Stage 1 warehouses. The use of the urban classification shows compliances at most receivers with a marginal exceedance (2 dB) at the closest receiver within NCA07. As previously mentioned, the receiver is expected to be removed as part of the future M12 development.

A range of feasible and reasonable mitigation measures have been recommended to control the impacts. As the aforementioned exceedances are considered temporary whilst the surrounding area transitions to an urban amenity, no additional mitigation measures are warranted. It is recommended that an agreement between the client and affected residents is agreed upon and should be undertaken on a case by case basis.

Based on the predicted levels and indicative mitigation measures, the proposal is considered appropriate from an acoustic standpoint.

6.1.6. Soil and Water Conditions

AT&L have undertaken a comprehensive analysis of soil, water, and stormwater, contained within a Civil Infrastructure Report (**CIR**) at **Appendix JJ**. The CIR assesses the potential impacts of the development on

soil and water resources, and measures proposed to reduce and mitigate impacts during and after construction.

6.1.6.1. Existing Environment

Burrah Park generally grades from east to west towards Oaky Creek and Cosgroves Creek. Burrah Park is predominantly pervious, other than some heavily compacted access tracks. A slight ridge crosses the Burrah Park diagonally from the south-eastern corner and heading west, splitting the site into two catchments, north and south. The southern catchment drains into a gully and an existing dam to the south of Warehouse 4 whilst the northern catchment drains into a gully and an existing dam approximately 100m northwest of the site. However, both dams drain into the same waterway that discharges into Cosgroves Creek.

A portion of the adjacent property to the east drains towards the eastern boundary of Warehouse 2. This catchment is approximately 3.36 ha will be diverted by the estate developer northwards along the eastern boundary and ultimately drain into the existing dam north of the Site.

The proposal however has been designed on the assumption of the completion, by the developer, of the site's establishment works. As detailed in AT&L's report, on completion of these works, the entirety of Warehouse 1 will drain into the piped drainage system under Estate Road 1a. Warehouse 2 will drain into the piped drainage system under Estate Road 4.

6.1.6.2. Potential Impacts

Bulk Earthworks

Bulk earthworks will be delivered by the concept plan. However, the volumes presented in **Table 27** are based on the current design at the time of SSDA submission, and further detailed design of the infrastructure and on-lot works may alter these volumes.

Table 27 Summary of Cut and Fill

Item	Warehouse 1 &2 (m^3)
Striping of topsoil	0
Excavation of existing farm dams	0
Net Cut (excluding topsoil stripping)	-85,900
Net fill	20,230
Balance	-65,670 (Export)

It is assumed that topsoil from the site will be reused by blending with general fill material. All imported materials will comply with the requirements of the Import Fill Protocol and geotechnical specifications for the development. Topsoil stripping, blending and placement will be undertaken in accordance with the geotechnical engineering specification for the project.

The proposed retaining walls and batter design to accommodate the proposed earth works will be constructed as follows:

- Where possible, batter slopes will be provided to accommodate level changes. Where this is not possible, retaining walls will be constructed adjacent to the road reserve or boundaries based on the current civil and earthworks design.
- All retaining walls will be constructed on a staged basis and as required to suit the development earthworks and stormwater works. Where the walls are not constructed a batter of 1 in 4 will be maintained for stability purposes.
- Any permanent batters steeper than 1 in 5 will be vegetated in accordance with Penrith City Council requirements. A typical 1 in 4 batter has been applied to the development, with the maximum localised batter being 1 in 3.
- Any temporary batters constructed during the works will be in accordance with recommended maximum batter slopes as per the geotechnical investigation report and ongoing advice from the Level 1

geotechnical engineer. All temporary batters will be stabilised with appropriate methods and vegetated where necessary.

Water Management

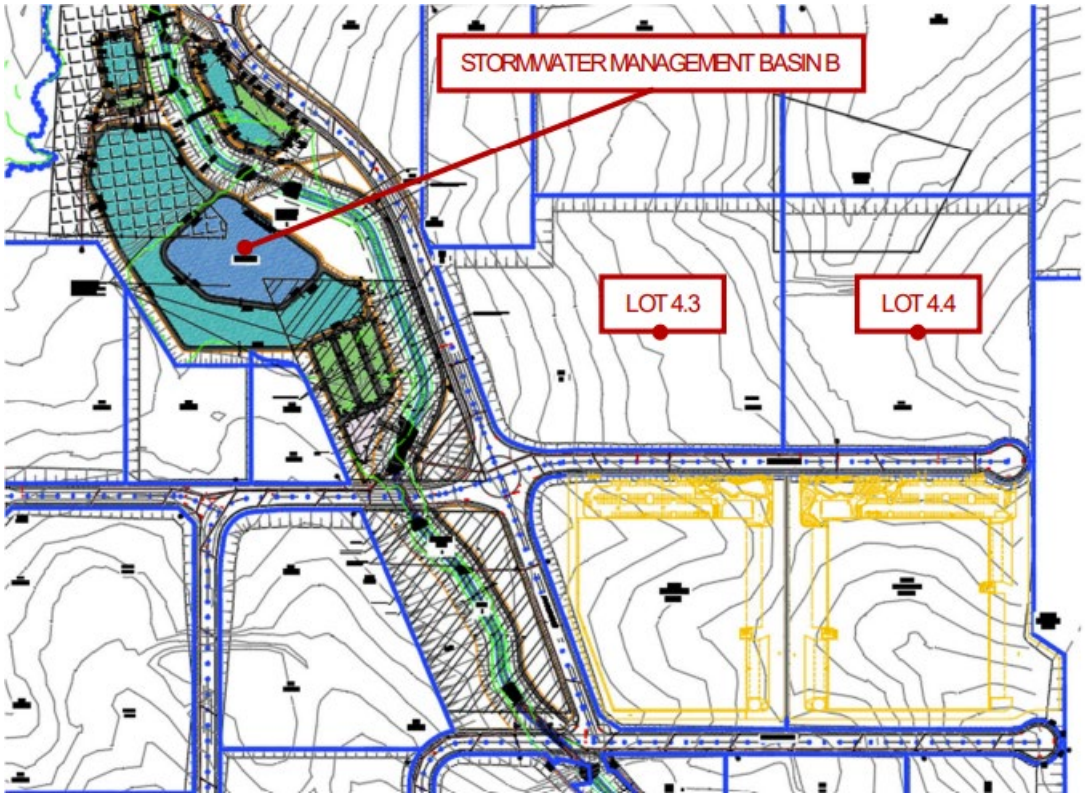
Further to the on-site stormwater drainage, an estate-based design approach has been adopted in the design of stormwater quantity and quality management measures whereby the various components are designed to complement and compensate between the individual lots and the overall estate to achieve the following:

- post-development peak flow rates do not exceed the pre-development peak flow rates for a range of design storm frequencies and durations, up to and including the 1% AEP design event.
- limit the Mean Annual Runoff Volume (MARV) at the points of discharge to Cosgrove Creek to no more than 2 ML/ha/year.
- provide a stormwater treatment train to satisfy pollutant reduction targets outlined in the Technical Guidance for Achieving Wianamatta-South Creek Stormwater Management Targets (NSW DPE, September 2022)

Regional Water Basin

Wetlands and bio-retention basins are proposed by the estate developer as part of the regional stormwater infrastructure to satisfy the Wianamatta-South Creek stormwater management targets for the entire estate. The estate developer has designed Lots 4.3 (Warehouse 1) and 4.4 (Warehouse 2) to drain into the proposed wetlands and bio-retention basin system (Basin B) located west of the Site, on the western side of Estate Road 1a as shown in **Figure 28** below.

Figure 28 Wetland and Stormwater Storage Basin Location



Basin B has been designed by the estate developer in accordance with the Wianamatta-South Creek technical guide and Sydney Water's Draft Stormwater Scheme Infrastructure Design Guideline. Further details are available with the Civil Engineering Report for SSD-70316465 (Burrah Park). Subject to these regional basins being constructed and operational, OSD systems are not required within the individual DHL lots, or in support of the proposed development.

On-Site Measures

In addition to the regional stormwater management measures, the following on-site measures are proposed:

- A gross pollutant trap (GPT) is proposed for each lot, within the lot and immediately upstream of the estate road drainage discharge point. GPT's are designed to capture litter, debris, coarse sediment, as well as some oils and greases.

It is understood that the estate developer has designed the regional stormwater infrastructure to adequately comply with the stormwater quantity and quality management objectives outlined in the Wianamatta-South Creek technical guide without the need for additional management measures to be provided across the various lots. However, additional stormwater management measures may still be provided over and above these minimum requirements.

- Recycled water to be used for landscape irrigation and toilet flushing. Details to be provided in detailed design phase.
- Permeable pavements may be adopted in exposed on-grade sections of the multi-storey car parks, footpaths and other lightly traffic pavements.

6.1.6.3. Mitigation Measures

Suitable erosion and sediment controls shall be provided by the Contractor and maintained throughout all stages of works in accordance with the ESCP. Assuming the design of all stormwater management measures are completed as outlined above and detailed within CIR report, no further mitigation measures are required to be implemented in relation to stormwater management.

6.1.7. Social Impact

Urbis have been engaged to prepare a Social Impact Assessment (**SIA**) addendum (**Appendix R**). In August 2024, Urbis Social Planning completed a Social Impact Assessment (SIA) that accompanied the Environmental Impact Statement (EIS) for the Concept Masterplan and Stage 1 SSDA of the Burrah Park site (SSD-70316465). SSD-70316465 is an SSDA which was issued SEARs on the 22 May 2024 and is currently in the process of finalising the application for lodgement following Test of Adequacy with the DPHI in September 2024. DHL intend to develop part of the site for a logistics facility, with DHL Masterplan Site known as Super lot 4a and 4b within the wider Concept Plan.

The Burrah Park SIA was prepared for the whole Concept DA. In most cases, each identified impact was given an overall mitigated impact rating which covered the Stage 1 works/development (including but not limited to the construction and fit out of three warehouse buildings and ancillary office space) and the entire Concept Masterplan. The traffic-related impact was the only impact where a separate impact rating was provided for Stage 1 and the entire Concept Masterplan. This was mainly because the information to undertake separate impact ratings across each development phase was available in the relevant technical reports.

The DHL northern and southern sites are both detailed stages of the Burrah Park Concept Masterplan. Following consultation by Urbis with DPHI, an addendum covering letter for the SIA covering the DHL sites was deemed appropriate given that the existing Burrah Park SIA covers the whole Concept DA and that limited time had passed since the preparation of the assessment.

The advice from DPHI noted that the addendum would need to clearly describe each of the DHL applications and provide analysis of these developments against the findings of the Burrah Park SIA.

The following table outlines the assessment of social impact related to the DHL Stage 1. The site has been assessed against the impacts outlined in the Burrah Park SIA. An overall mitigated impact rating covering the DHL Stage 1 sites is provided, given the similar findings of the technical reports developed for each site.

Table 28 Impacts related to DHL logistics facilities

Impact	Summary of Burrah Park SIA	Assessment of DHL proposals
Impact category: Way of life		
Meeting the needs of the future Aerotropolis	**Impacted groups** Immediate, surrounding and regional locality (Current	We expect that both DHL sites will contribute to the needs of the future Aerotropolis. The Economic Impact Assessments by Oxford Economics Australia (2024) notes the following:

	residents; site workers and visitors; future residents) **Summary** The Burrah Park SIA provided an assessment on how the development will meet the needs of the future Western Sydney Aerotropolis. It found that the Burrah Park site is to become a well-connected and accessible precinct with direct links to the future Aerotropolis and the broader Western Sydney region. It will support the Northern Gateway Precinct of the Aerotropolis by providing jobs and employment for a growing population locally and regionally, as well as social infrastructure and walking and cycling networks. **Mitigated impact rating** The Burrah Park SIA assessed the overall mitigated impact as **high positive.**	• 827 direct jobs will be created during the construction and operation of Stage 1 and 912 direct jobs during the construction and operation of Stage 2. • Stage 1 will provide 59,800 sqm of employment floorspace and Stage 2 will provide 66,750 sqm of employment floorspace. Both DHL sites are also expected to provide associated infrastructure to support logistics, warehousing and distribution uses. • The development of both DHL sites will promote the viability and expansion of existing business in the area, and potentially attract enterprises from other municipalities seeking larger tenancies or access to locational benefits offered by an airport fringe location. • The range of potential uses for both DHL sites will change over time as the Aerotropolis develops, Western Sydney's economy and population grows, and the volume of passenger and air freight through the airport increases. Beyond the employment benefits, both DHL sites will contribute to the provision of open space within the Burrah Park estate, and DHL (the proponent/developer) will likely contribute to several contributions plans to ensure the delivery of local infrastructure. **Mitigated impact rating** The overall mitigated impact for both DHL sites is assessed as **medium positive**, given the likely likelihood and minor magnitude. **Additional recommendations** • None.
Impact category: Community		
Changes to existing community composition and cohesion	**Impacted groups** Immediate, surrounding and regional locality (Current residents; site workers and visitors; future residents) **Summary** The Burrah Park SIA noted that changes occurring during the construction and operation of the Burrah Park site is expected to have impacts on community cohesion and composition due to the introduction of a new workforce onsite and changes to the existing rural setting. The SIA however identified several measures integrated into the proposal to mitigate the impact of these changes and introduce benefits.	Both DHL sites will attract new workers onsite, during both construction and operation. This will likely have additional impacts on community cohesion and composition. The Landscape Reports by Site Image (2024) show that both Stage 1 and Stage 2 sites will have communal and publicly accessible open spaces within the significant north-west corner of each site. These open spaces will contain respite seating and BBQ areas with shade structures to encourage patronage and foster community interaction among workers. The reports also note that these open spaces will provide a good spatial format for community events, such as NAIDOC Week and other cultural activities. The Urban Design Reports by SBA Architects (2024) for both sites also reiterate the use of spaces between the buildings as part of the overall open space strategy. A range of community engagement activities have been undertaken as part of this proposal to help provide further clarity on the development of the site and to reduce community concern. These activities are outlined in greater detail on page 13.

	Mitigated impact rating The Burrah Park SIA assessed the overall mitigated impact as **high positive.**	Contributions plans have not yet been finalised for both sites but are expected to be in place by the time the application is determined. The contributions plans that the developer will likely contribute to include Penrith Aerotropolis Development Contributions Plan, Western Sydney Growth Areas Special Infrastructure Contribution (SIC) and Sydney Water Development Servicing Plan (DSP) charges. This will help support local infrastructure, including places that foster social interaction and community cohesion. There are also opportunities for planning agreements, as an alternative to monetary contributions, but these discussions are in their very early stages. **Mitigated impact rating** The overall mitigated impact for both DHL sites is assessed as **medium positive**, given the likely likelihood and minor magnitude. **Additional recommendations** • Prior to the DHL sites becoming operational, provide the local community with information on the publicly accessible open spaces on both sites. This communication can be streamlined with any information provided about the broader Burrah Park estate. • Consider ongoing programming activities in the open spaces of both sites to encourage social interaction and community connections over time (e.g. community open day events, NAIDOC Week events and other cultural activities).
Impact category: Accessibility		
Increased traffic in the area	**Impacted groups** Immediate, surrounding and regional locality (Current residents; site workers and visitors; future residents) **Summary** The Burrah Park SIA provided an assessment on how the incoming workforce of the Burrah Park site will have a corresponding impact on the levels of traffic and congestion that already exist within the area (during construction and operation). The SIA however identified several measures integrated into the proposal to mitigate the impact of these changes and introduce benefits. **Mitigated impact rating** The Burrah Park SIA assessed the mitigated impact as **low negative** for Stage 1 and **medium**	The Traffic and Accessibility Impact (TAI) Statements by Stantec (2024) for both DHL sites had the following key findings: • All warehouses (Warehouse 1 – 4) across both DHL sites were found to comply with all requirements related to car parking, bicycle parking spaces, loading docks, and off-street car parking. • The DHL site in its entirety will generate approximately 429 vehicle trips in the morning peak hour and 356 vehicle trips in the afternoon peak hour. • The TAIs also outline Green Travel Plans (GTPs) for both DHL sites to promote sustainable travel and reduce the reliance on private vehicles (please refer to mitigated measures in impact 'Increased active transport for site users'). • Construction Traffic Management Plans (CTMPs) have been developed in the respective TAIs to mitigate traffic impacts during the construction stage for both DHL sites. • Overall, both TAIs found that the proposed developments across Stage 1 (Warehouse 3 & 4) and 2 (Warehouse 1 & 2) can be supported from a traffic and transport perspective.

	negative in the short term and **neutral in the long term** for the entire concept masterplan.	On a broader level, the TAIs concluded that the future road network will have enough capacity for the increased traffic, except for the intersection between Elizabeth Drive/ Luddenham Road and Elizabeth Drive/ Adams Road. The report has recommended the intersection of Elizabeth Drive and Luddenham Road to be signalised whilst the right turns at the intersection of Elizabeth Drive and Adams Road to be banned. This will improve intersection operations and alleviate congestion. **Mitigated impact rating** Assuming that the Construction Traffic Management Plans (CTMPs) will be implemented for both DHL sites, the overall mitigated impact for both DHL sites is assessed as **low negative,** given the unlikely likelihood and minor magnitude. **Additional recommendations** • None.
Increased active transport for site users	**Impacted groups** Immediate, surrounding and regional locality (site workers and visitors) **Summary** The Burrah Park SIA provided an assessment on how the development will increase active transport options for site users. There are currently no dedicated active transport facilities in the area, however Burrah Park will provide an extensive network of cycle paths, foot paths and shared paths which will provide connectivity to green space and all the proposed lots in the development. The SIA however identified several measures integrated into the proposal to mitigate the impact of these changes and introduce benefits. **Mitigated impact rating** The Burrah Park SIA assessed the overall mitigated impact as **high positive.**	The TAIs by Stantec (2024) noted that as part of the broader Burrah Park industrial subdivision, footpaths and/or shared paths will be provided on both sides of all roads across both DHL sites, facilitating connection to future paths along Elizabeth Drive and the M12 motorway. The TAIs also note that existing pedestrian and cyclist movements are not expected to be impacted by the proposed construction works. The public transport options to and from the Burrah Park estate The TAIs also outline Green Travel Plans (GTPs) for both DHL sites to promote sustainable travel and reduce the reliance on private vehicles. The site-specific measures recommended for each site are as follows: • Limiting on-site parking provision. • Providing a Travel Access Guide (TAG) to staff and visitors. • Providing public transport information board/apps to inform staff and visitors of alternative transport options. • Providing bicycle facilities for staff and visitors. • Encourage staff carpooling. • Promoting ride/walk to workdays. • Providing a regular staff newsletter outlining sustainable travel initiatives. **Mitigated impact rating** With connections to Burrah Park's broader pedestrian and cycling network, and assuming the GTPs for both DHL sites will be implemented, the overall mitigated impact for both DHL sites is assessed as **medium positive,** given the likely likelihood and minor magnitude. **Additional recommendations** • None.
Access to services and facilities	**Impacted groups** Immediate, surrounding and regional locality (Current residents; site workers and visitors; future residents)	We expect that both DHL sites could potentially contribute to the demand on existing services and facilities during construction and operation. The Economic Impact Assessments by Oxford Economics Australia (2024) for both sites notes that 827 direct jobs

	Summary The Burrah Park SIA notes that the employment opportunities during the construction and operation of Burrah Park may draw additional residents and workers to the local area and Western Parkland City overall, leading to increased demand on existing services and facilities, such as childcare, schools, community facilities and open space, which already have limited capacity. The Burrah Park concept masterplan however, once completed in entirety and operational, will host a town centre which is expected to provide small retail, metro style supermarket, eateries, playground and a neighbourhood centre. These services and facilities will be supported by a vast range of shared open space and landscape areas which can be used by those who work, visit or live close by to the site. **Mitigated impact rating** The Burrah Park SIA assessed the overall mitigated impact as **medium positive.**	will be created during the construction and operation of Stage 1 and 912 direct jobs during the construction and operation of Stage 2. During operation, the DHL sites will provide onsite office facilities for future workers. This includes end of trip facilities, internal and external breakout spaces, and kitchen facilities. Future workers will also have access to the facilities of the proposed town centre of Burrah Park, minimising the impact on existing services in the local area. **Mitigated impact rating** Given the provision of services and facilities onsite and within the Burrah Park estate, the overall mitigated impact for both DHL sites is assessed as **low positive in the long term** for future workers and visitors and **neutral** for the surrounding community, given the possible likelihood and minimal magnitude. **Additional recommendations** • None.
Impact category: Culture		
Potential disruption to sites of Aboriginal significance	**Impacted groups** Local Aboriginal community members and stakeholders; future workers and visitors on the site. **Summary** The Burrah Park SIA considered the impact of the development on Aboriginal objects, the landscape and the spiritual connection that Aboriginal people have to Country. The SIA identified several measures integrated into the proposal to mitigate the impact of these changes and introduce benefits. **Mitigated impact rating**	The Aboriginal heritage consistency assessments by Artefact (2024) found that both Stage 1 and Stage 2 DHL sites do not contain any Aboriginal sites or Aboriginal heritage constraints, as identified in the ACHAR and addendum for the Burrah Park Concept and Stage 1 development. The assessments found that as there are no Aboriginal heritage constraints identified for either site and that bulk works would be carried out under SSD-70316465 (Burrah Park Concept and Stage 1) no management of Aboriginal heritage is required for both sites. Connecting with Country frameworks have been developed for both DHL sites by Yerrabingin (2024). The design principles are derived from community engagement outlined in the overarching Burrah Park Connecting with Country framework. This includes Connecting with Dharug Country, Designing for Kin, Enterprise Opportunities, Cultural Practices and Sharing Knowledge. The frameworks also celebrate Aboriginal

	The Burrah Park SIA assessed the overall mitigated impact as **medium positive.**	culture and heritage through cultural landscape, built form and language and wayfinding. The Urban Design Reports by SBA Architects (2024) for both sites reflects the elements of the Connecting with Country frameworks. Key analysis and consistent collaboration with First Nations consultants have created a deep response to Country in the early stages of the design, expressed through water bodies and course, topography and landscape, and vegetation and wildlife. The Landscape Reports by Site Image (2024) states that landscape design for both sites will be in line with the Connection/design with Country principles and outcomes. All spaces, their inclusions and forms have been driven by Country, with Country and relative elements. The communal open spaces on both sites also provide a good spatial format for cultural activities and potential educational opportunities (such as plaques/QR codes to inform and ingrain Country) to users. **Mitigated impact rating** The overall mitigated impact for both DHL sites is assessed as **medium positive,** given the possible likelihood and moderate magnitude. **Additional recommendations** • Consider the procurement of local Aboriginal artists and businesses to deliver Aboriginal design and landscape elements across Stage 1 and Stage 2 masterplans.
Loss of sense of place	**Impacted groups** Immediate and surrounding social locality (Current residents) **Summary** The Burrah Park SIA provided an assessment on how the change of Burrah Park from rural residential to largely enterprise uses will contribute to impacting the community's sense of and connection to place. The loss of sense of place will be largely felt by current residents who have lived in the area for many years. **Mitigated impact rating** The Burrah Park SIA assessed the overall mitigated impact as **medium positive in the long term.**	We expect that both the DHL sites will contribute to the loss of sense of place, although noting that the development of the Burrah Park site is consistent with the broader strategic directions for the Northern Gateway Precinct and the broader Aerotropolis. The Urban Design Reports by SBA Architects (2024) outline how both sites incorporate Connecting with Country elements to reflect the First Nation heritage and culture of the site. The reports do not however outline any details of how the sites will incorporate rural and agricultural elements throughout the built form, to preserve and honour the rural landscape origins of the site. **Mitigated impact rating** Given the minimal evidence of incorporating rural and agricultural elements into the site, the overall mitigated impact for both DHL sites is assessed as **low negative**, given the possible likelihood and minimal magnitude. **Additional recommendations** • Consider opportunities to incorporate rural and agricultural elements throughout the built and landscape form, reflecting the rural landscape origins of the site, in addition to the proposed Connecting with Country initiatives.
Impact category: Surroundings		

Impacts to amenity through construction and operational noise	**Impacted groups** Immediate social locality (current residents; workers and visitors of the site; future residents) **Summary** The Burrah Park SIA assessed the impact of the construction and operation of the Burrah Park development on the existing noise environment within and the surrounding site. It found that noise allowances will not be exceeded during construction and operation, with several mitigation measures proposed. **Mitigated impact rating** The Burrah Park SIA assessed the overall mitigated impact as **low negative.**	The Noise Impact Assessments by SLR Consulting Australia (2024) found that: • Construction noise levels for both DHL sites are generally predicted to comply with the management levels, however, minor exceedances are predicted at some of the nearest sensitive receivers during noisy work stages. Work would be limited to daytime hours only, and standard mitigation measures have been recommended to address the potential construction impacts. • Operational noise levels from both DHL sites are expected to comply with the noise goals when assuming an urban amenity classification, which is considered representative of the future noise environment. • Operational noise from the both DHL sites resulted in exceedances at the same receivers identified above when assessed in accordance with the rural amenity classification, a range of mitigation measures have been recommended to control the impacts. **Mitigated impact rating** Assuming the mitigation measures outlined in the Noise Impact Assessments for both DHL sites, including a Construction Noise and Vibration Management Plan (CNVMP) and an Operational Noise Management Plan will be implemented, the overall mitigated impact for both DHL sites is assessed as **low negative,** given the unlikely likelihood and minimal magnitude. **Additional recommendations** • None
Impacts to visual amenity	**Impacted groups** Immediate and surrounding social locality (current and future residents; site workers and visitors) **Summary** The Burrah Park SIA considered the impact of the development on the visual amenity, noting that the Burrah Park site is visually compatible with the anticipated and likely visual character of the surrounding Aerotropolis. **Mitigated impact rating** The Burrah Park SIA assessed the overall mitigated impact as **low negative to neutral in the long term.**	We expect that both the DHL sites will also be compatible to the overall visual character of Burrah Park. The Visual Impact Assessment (VIA) by OG Urban (2024) for the DHL southern site found that the proposed facility will be variably visible within the locality, however it will be entirely consistent with the emerging visual character of the Aerotropolis. The overall impact of the proposal on the visual quality of the environment is acceptable, with measures such as landscape screening implemented. The main findings for VIA for the DHL northern site, also by OG Urban (2024), are the same for the VIA of the DHL southern site. **Mitigated impact rating** The overall mitigated impact for both DHL sites is assessed as **low negative,** given the unlikely likelihood and minimal magnitude. **Additional recommendations** • None.
Impacts to air quality during construction	**Impacted groups** Immediate social locality (workers and visitors) **Summary**	We expect that both the DHL sites will have minimal impact on air quality during construction. The Air Quality Assessments (AQAs) for both sites by SLR Consulting Australia (2024) found that air quality issues are not considered to represent a constraint for the proposed

	The Burrah Park SIA considered the impact of the construction of the Burrah Park site on air quality which can have flow-on impacts on human health. It was found that predicted concentrations and deposition of all airborne pollutants during construction will fall below the applicable impact assessment criteria and will be mitigated through managing activities onsite. **Mitigated impact rating** The Burrah Park SIA assessed the overall mitigated impact as **low negative to neutral.**	development. The main potential sources of air emissions were identified as particulate matter impacts during the construction phase and products of combustion during the operational phase of the project. However, the site is located away from any affected sensitive receptors and no adverse off-site impacts would be expected. The report concluded that dust impacts due to the construction works can be adequately managed with the implementation of industry-standard dust mitigation measures, and that the residual impacts are likely to be of negligible risk for all construction activities at neighbouring sensitive receptors. **Mitigated impact rating** With the assumptions all mitigation measures noted in the AQAs will be implemented, the overall mitigated impact for both DHL sites is assessed as **low negative to neutral,** given the unlikely likelihood and minimal magnitude. **Additional recommendations** • None.
Impact category: Livelihoods		
Supporting local job and procurement opportunities	**Impacted groups** Local and regional workforce **Summary** The Burrah Park SIA assessed the economic and employment contributions the Burrah Park site during construction and operation of Stage 1 and the entire Concept Masterplan. The construction of Stage 1 is estimated to support 605 jobs over the one-year construction period and the construction of the entire Burrah Park Concept Masterplan is estimated to support an average 592 jobs per annum over six years. Upon completion, the Burrah Park Stage 1 has the potential to deliver 367 direct ongoing operational jobs and the Burrah Park Masterplan is expected to provide 3,182 direct ongoing jobs. **Mitigated impact rating** The Burrah Park SIA assessed the overall mitigated impact as **high positive.**	We expect that both the DHL sites will contribute to supporting local job and procurement opportunities generated by the Burrah Park development. The Economic Impact Assessment (EIA) by Oxford Economics Australia (2024) for Stage 1 (Warehouse 3 and 4) found: • Construction on-site would provide 199 direct job years and 326 indirect (or flow-on) job years in the wider economy. • Total ongoing or operational employment following the construction of the concept plan for the subject site would amount to 628 jobs. • Total indirect or flow-on jobs in the wider economy (in supplies, transport, retail, and other such sectors) following the development would amount to a further 670 jobs. • Development will contribute around $93 million per annum to GDP once the project is completed and operational. The EIA for Stage 2 (Warehouse 1 and 2) found: • Construction on-site would provide 219 direct job years and 359 indirect (or flow-on) job years in the wider economy. • Total ongoing or operational employment following the construction of the concept plan for the subject site would amount to 693 jobs. • Total indirect or flow-on jobs in the wider economy (in supplies, transport, retail, and other such sectors) following the development would amount to a further 743 jobs. • Development will contribute around $102 million per annum to GDP once the project is completed and operational.

		Mitigated impact rating Given the number of jobs created during construction and operation, and the flow-on effects to the wider community, the overall mitigated impact for both DHL sites is assessed as **medium positive,** given the possible likelihood and moderate magnitude. **Additional recommendations** • None
Impact on local housing supply	**Impacted groups** Immediate and surrounding locality (Current and future residents); Regional and local workforce **Summary** The Burrah Park SIA assessed the development's impact on the local housing supply, with the projected job creation during construction and operation likely to draw new residents, increasing demand for both local housing and increasing rental and sales prices into the local area and the Western Parkland City more broadly. It was noted however that additional housing for the Northern Gateway Precinct and the broader Aerotropolis was planned to meet market demand and conditions. **Mitigated impact rating** The Burrah Park SIA assessed the overall mitigated impact as **medium positive.**	The Economic Impact Assessment by Oxford Economics Australia (2024) notes that 827 direct jobs will be created during the construction and operation of Stage 1 and 912 direct jobs during the construction and operation of Stage 2. While it is assumed that the construction workers may not move into the area, there is still a potential for some portion of the 1,321 operational workers (and their families) across both DHL sites, to move into the local area to be closer to their jobs. This would place increased demand on housing in the local area and its surrounds. The Burrah Park SIA noted that additional housing is planned for the Northern Gateway Precinct and the Bradfield City Centre. The Bradfield City Centre alone has the potential to deliver 10,000 apartments for a future population of a future population of 15,000 – 23,000 residents up to and beyond 2056. **Mitigated impact rating** Given the limited local housing options and travel to work distances for site workers, both DHL sites may have a **medium negative impact on the existing local housing supply in the short term** (given the possible likelihood and moderate magnitude). In the long term, the overall mitigated impact for both DHL sites is assessed as **low negative to neutral on local housing supply,** given the housing planned for the Northern Gateway Precinct and the broader Aerotropolis. **Additional recommendations** • None.
Impact category: Decision-making systems		
Adequate communication and consultation with the local community	**Impacted groups** Immediate and surrounding social locality (current residents) **Summary** The Burrah Park SIA noted that the Burrah Park development is occurring in an area of significant change as the vision for the Aerotropolis and the broader Western Sydney region are being realised. There are documented concerns by the local community that their feedback for the development	The Engagement Outcomes Report by Urbis (2024) notes that DHL has undertaken engagement activities in 2024 to support engagement activities for the DHL SSDA in 2022 and the Burrah Park Concept Masterplan in 2024. This includes a community newsletter distributed to 431 surrounding landowners, businesses and stakeholders, as well as the Western Sydney Aerotropolis Community Consultative Committee, in June 2024. A community enquiry line was also set up to support these engagement activities. The Engagement Outcomes Report also notes that DHL will continue to keep stakeholders and the community informed of the project approval process through the engagement channels outlined above. **Mitigated impact rating**

	in the area has not been well managed, as well as a level of community consultation fatigue. The current developer of Burrah Park site has however committed to communication and engagement activities during the SSDA process, through to construction and operation of the site. **Mitigated impact rating** The Burrah Park SIA assessed the overall mitigated impact as **medium positive.**	Assuming the ongoing engagement and community activities specified in the Engagement Outcomes Report are undertaken, contributing to broader engagement for Burrah Park, the overall mitigated impact continues to be **low positive,** given the likely likelihood and minimal magnitude. **Additional recommendations** • Ensure ongoing communication with the local community includes outlining how impacts during construction are being mitigated (e.g. traffic, parking availability, noise, vibration and dust).

The addendum assessment concludes that the proposed DHL proposal is consistent with the original SIA prepared for the approved Concept Masterplan.

6.1.8. Airport Safeguarding

Aviation projects have been engaged to prepare an Aviation Impact Assessment (**AIA**) (**Appendix S**) for the proposal to ultimately identify and consider the impact of the proposal against the future operation of the WSIA and ensure overall safety and suitability of the site and proposal.

6.1.8.1. Existing Environment

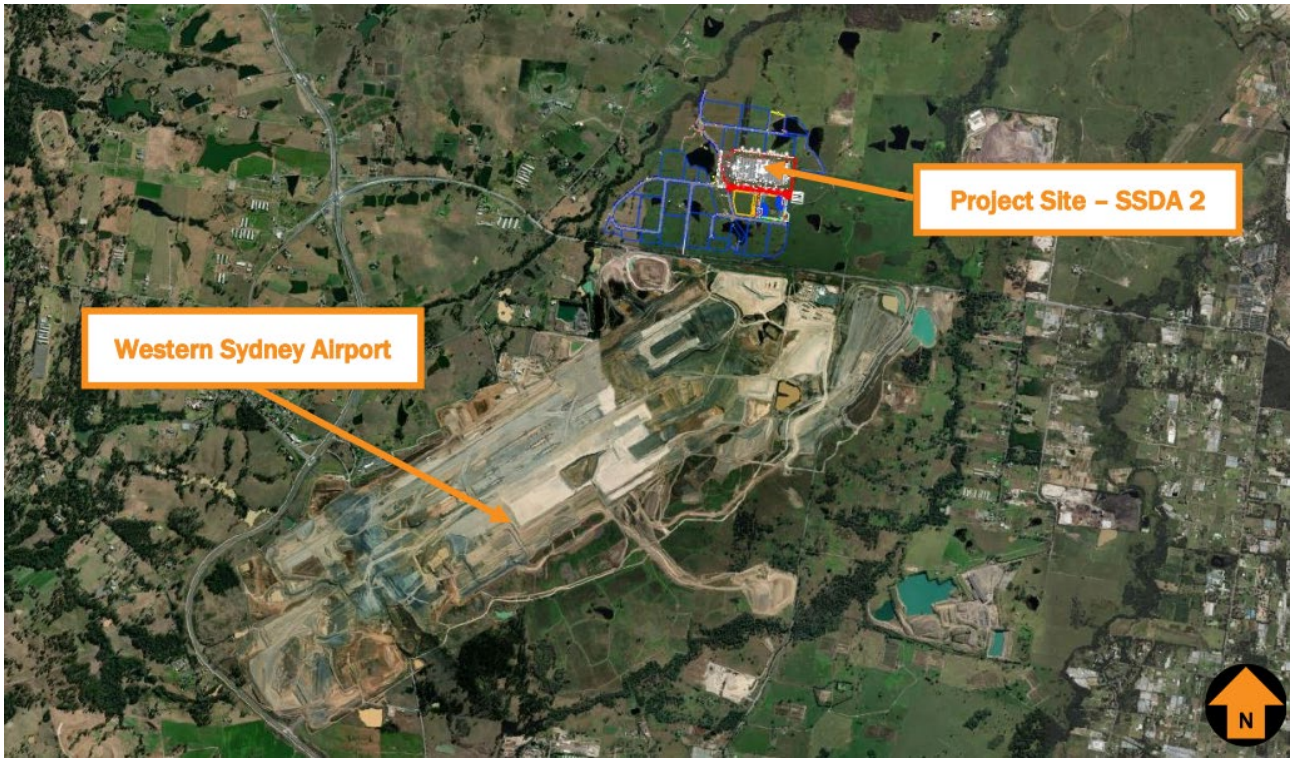
The sites proximity to the WSIA (as shown in **Figure 29**) and there are several potential impediments to the future operation of the facility requires consideration of the proposal against the relevant airspace controls to ensure the proposal can operate in a manner that does not impact the future airport.

The Airports (Protection of Airspace) Regulations 1996 specifies volumes of Prescribed Airspace related to Federally leased airports such as WSI that protect them from uncontrolled obstacle growth that may have an adverse impact upon flight safety or the regularity of flight operations.

Prescribed Airspace for an airport is the airspace above any facet of the Obstacle Limitation Surfaces (**OLS**) or the *Procedures for Air Navigation Services – Aircraft Operations* (**PANS OPS**) surfaces, or the Radar Terrain Clearance Chart (**RTCC**) protection surfaces.

The central part of the site is located approximately 3.2 km northeast of the Aerodrome Reference Point (**ARP**) for WSI and approximately 1.1 km from the nearest Runway 23 end.

Figure 29 Site Location in relation to the WSI



Source: Aviation Projects

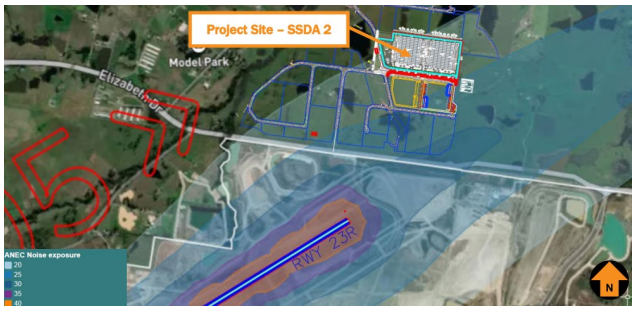
6.1.8.2. Potential Impacts

To assess the overall impact of the proposal against the future operation of the WSIA, an assessment has been undertaken of the proposal against guidelines established by the National Airports Safeguarding Advisory Group (**NASAG**) called the National Airports Safeguarding Framework (**NASF**). The purpose of the NASF is to enhance the current and future safety, viability, and growth of aviation operations at Australian airports.

Guideline A: Measure for Managing Impact of Aircraft Noise
This guideline principally provides recommendations to local planning authorities on the implementation of noise policies within their legislative frameworks using principles set out in Australian Noise Exposure Forecast (ANEF) System and the Australian Standard AS 2021-2015 Acoustics – Aircraft Noise Intrusion – Building Siting and Construction (AS2021).

The projected ANEF contours for WSIA are described below.

Figure 30 Stage 1 Year 2033



Picture 13 (Year 2033) Prefer 05 Direction

Source: Aviation Projects

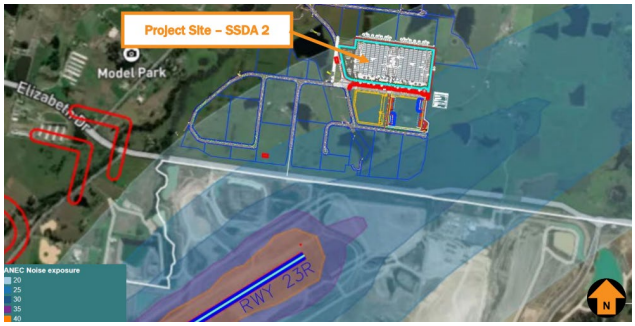
Picture 14 (Year 2033) Prefer 23 Direction

Source: Aviation Projects

Picture 13 and **Picture 14**: Stage 1 (Year 2033) - Noise predictions for Stage 1 (2033) represent the anticipated noise exposure levels associated with an airport handling about 10 million annual passengers. A single runway would be constructed initially. "Prefer 05 Direction" refers to the primary mode of operation; i.e.

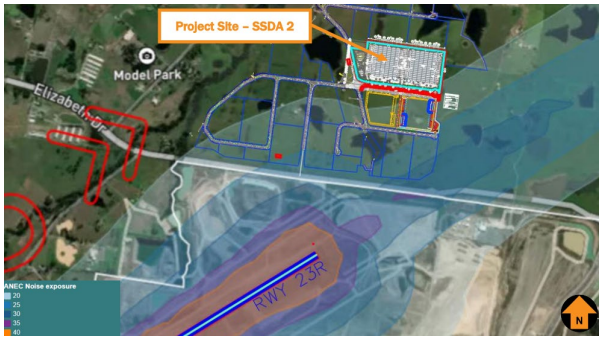
prioritising the use of runway direction "05". This mode would result in the majority of departures to the northeast and arrivals from the south west. "Prefer 23 Direction" refers to the primary mode of operation; i.e. prioritising the use of runway direction "23". This mode would result in the majority of departures to the south west and arrivals from the north east.

Figure 31 Stage 1 Additional Capacity (Year 2040)



Picture 15 (Year 2040) Prefer 05 Direction

Source: Aviation Projects

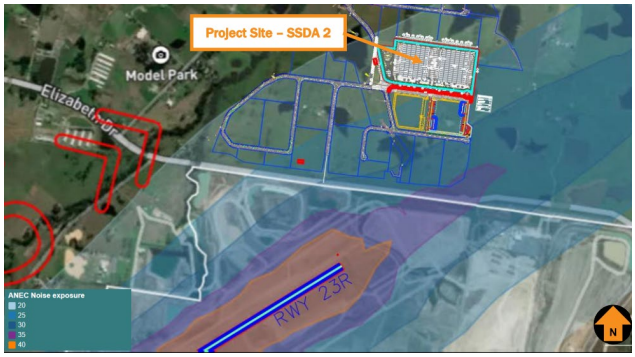


Picture 16 (Year 2040) Prefer 23 Direction

Source: Aviation Projects

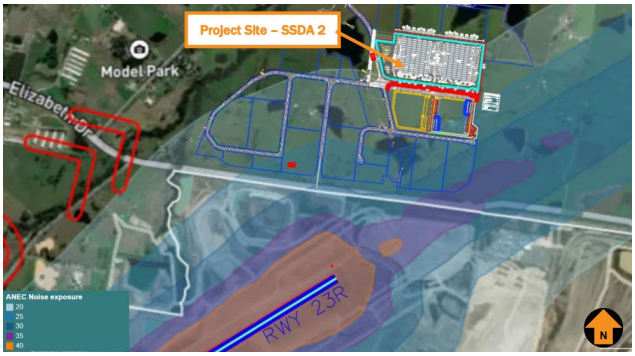
Picture 15 and **Picture 16**: Noise predictions for the year 2040 consider the anticipated growth of Western Sydney Airport. This scenario considers noise exposure levels at a time when the initial single runway would likely be approaching approximately 15 million annual passengers.

Figure 32 Stage 1 (Year 2055)



Picture 17 (Year 2055) Prefer 05 Direction

Source: Aviation Projects

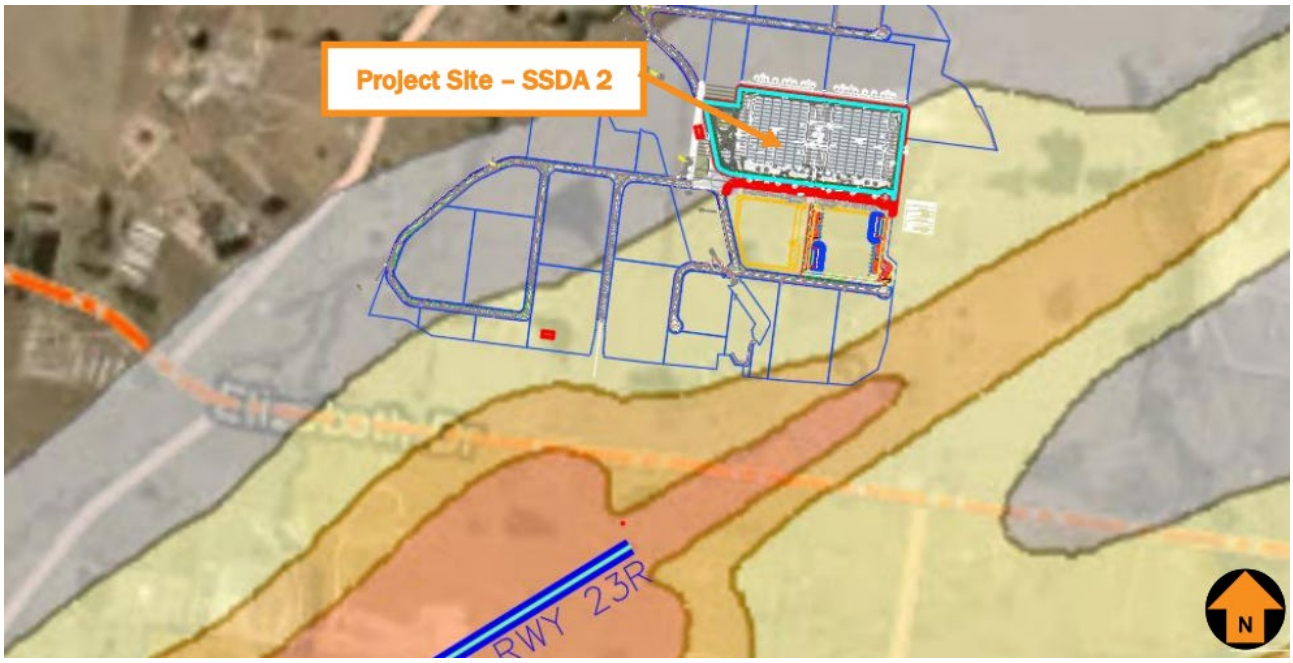


Picture 18 (Year 2055) Prefer 23 Direction

Source: Aviation Projects

Picture 17 and **Picture 18**: Noise predictions for the year 2055 consider the anticipated growth of Western Sydney Airport. This scenario considers noise exposure levels at a time when the initial single runway would likely be approaching its capacity (approximately 37 million annual passengers).

Figure 33 Long term ANEC contours for Prefer 05 and Prefer 23 operating modes



Source: Aviation Projects

Western Sydney Airport's web page publish the Airport Safeguarding tool, which includes the Long Term Combine noise contour. Noise predictions for the long-term development. The long-term development would operate with two runways. "Prefer 05 Direction" refers to the primary mode of operation; i.e. prioritising the use of Runways "05L" (left) (northern runway) and "05R" (right) (southern runway). This mode would result in the majority of departures to the north east and arrivals from the south west. "Prefer 23 Direction" refers to the primary mode of operation; i.e. prioritising the use of runway directions "23L" (left) (northern runway) and "23R" (right) (southern runway). This mode would result in the majority of departures to the south west and arrivals from the north east.

Based on above analysis, the development site falls within the following ANEC contour summarised in **Table 29** below.

Table 29 Development Stages ANEC Contours

Airport Development Stages	Prefer 05 Direction	Prefer 23 Direction
Stage 1 (Year 2033)	ANEC = 20-25	ANEC = 20-25
Stage 1 (Year 2040)	ANEC = 20-25	ANEC = 20-25
Stage 1 (Year 2055)	ANEC = 25-30	ANEC = 20-25
Long Term	ANEC = 20 - 25	

Source: Aviation Projects

The Project belongs to the 'other industrial' building type, which is acceptable for all ANEF zones.

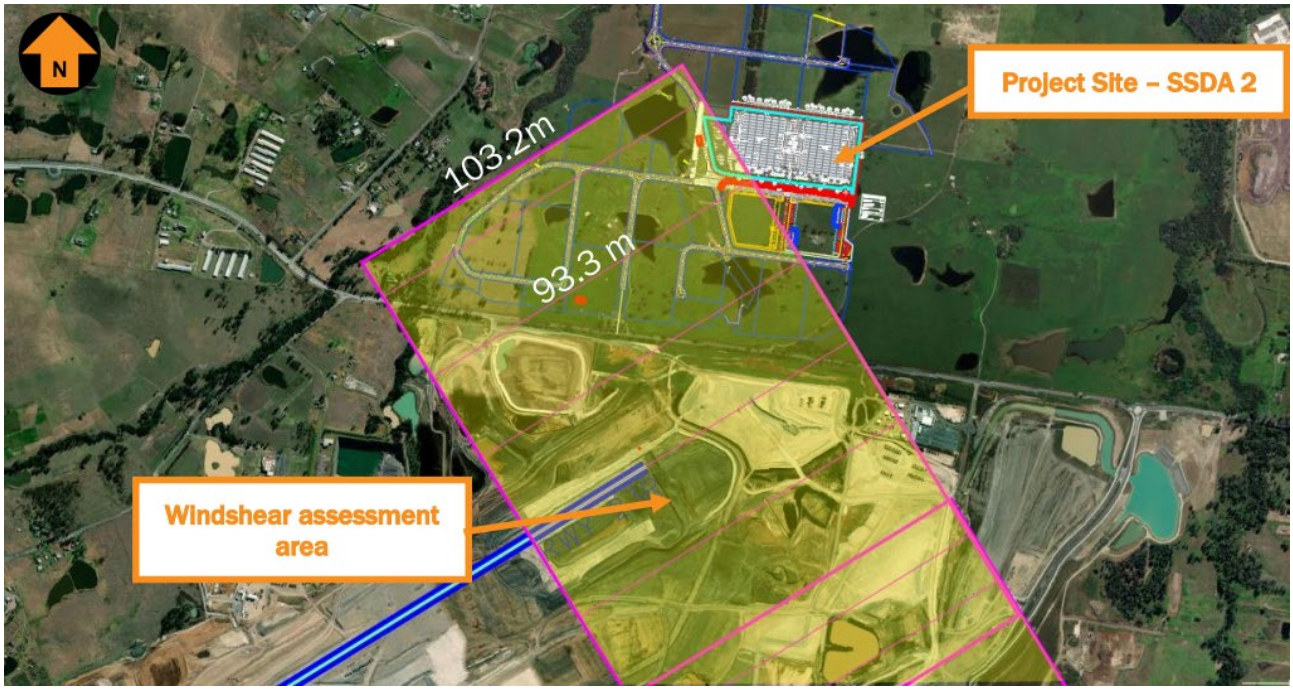
Guideline B: Managing the Risk of Building Generated Windshear and Turbulence at Airports

NASF Guideline B – Measures for Managing the Risk of Building Generated Windshear and Turbulence at Airports provide guidance to Commonwealth, state/territory and local government decision makers and airport operators to manage the risk of building generated windshear (i.e. changes in wind speed and/or direction between two points) and building generated turbulence (i.e. rapid irregular changes in wind speed and/or direction at a fixed point) at airports.

As shown in the in **Figure 34**, the Project Site will be partly within the windshear trigger area. The height at the Project Site will be from 93.3 m AHD to 103.2 m AHD. The maximum height of the warehouses will be 79.6 m, which will be lower than height of the trigger area.

With the assumption of 15 m above the roof for crane operations, it will up to 94.6 m. However, narrow structures like cranes do not cause significant wind turbulence effects.

Figure 34 Windshear Impact Area



Source: Aviation Projects

Guideline C: Managing the Risk of Wildlife Strikes in Vicinity of Airports

As shown in **Figure 35**, the Project Site is within Area A. Specifically in Guideline C, Warehouse (non-food storage) is listed as a 'very low' risk and requirement to 'Monitor' within Area A. According to Guideline C, the

following relevant actions are recommended for new development and land uses in wildlife management areas:

36. Where 'monitor' is indicated, information regarding approved development should be provided to the relevant airport operator and it should be included in future monitoring activity undertaken by the relevant airport operator.

Figure 35 Wildlife Control Zones

Source: Aviation Projects

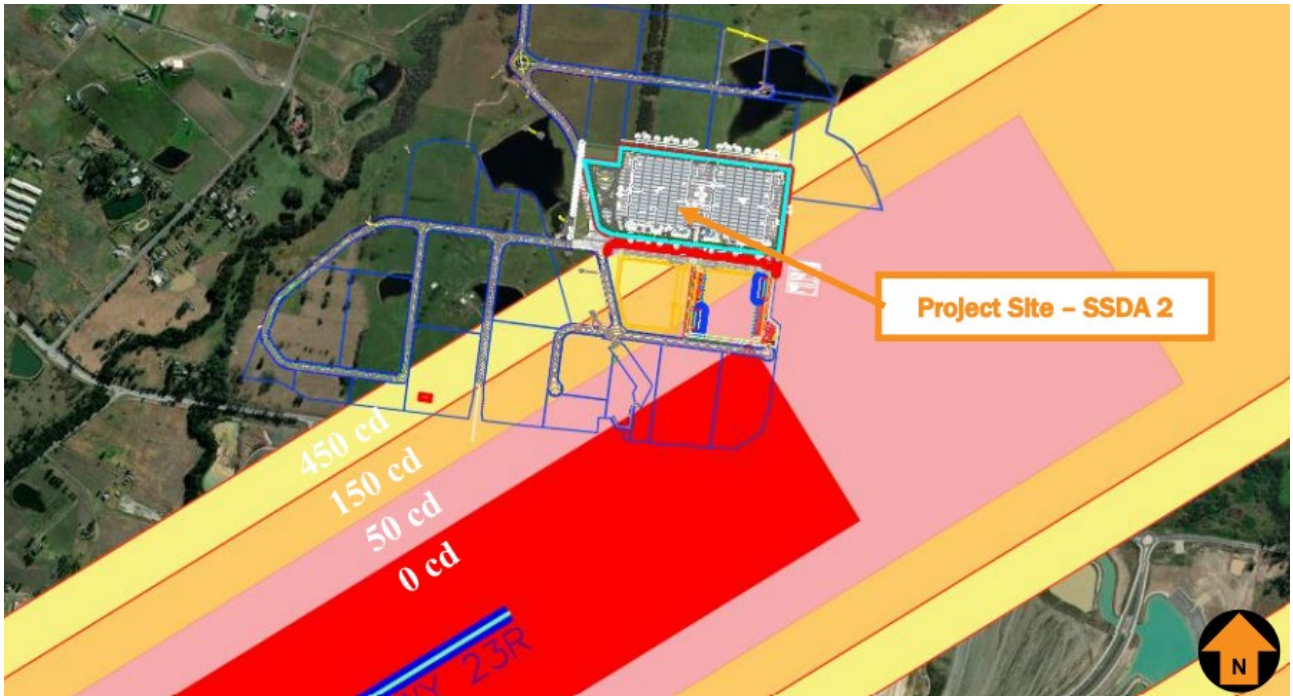
Guideline D: Managing the Risk of Wind Turbine Farms as Physical Obstacles to Air Navigation

The proposed development is not a wind farm nor includes a single wind turbine this Guideline does not apply. Requirements and assessment approach are therefore not included in the EIS and AIA.

Guideline E: Managing the Risk of Distractions to Pilots from Lighting in Vicinity of Airports

NASF, Guideline E, describes a set of zones at either end of a runway used at night or in poor weather conditions, in which lighting that may cause a distraction to pilots due to its intensity, configuration or colour might confuse a pilot and endanger the safety of an aircraft. The site is located within Zones A to D (very small portion of the project within Zone A), as shown in **Figure 36** (source: Guideline E and Google Earth).

Figure 36 Lighting Hazard identification area



Source: Aviation Projects

The design and construction of the proposed development is required to limit the upward light (measured 3° to the horizontal) and is no more than 0 candelas for Zone A area, 50 candelas for Zone B area, 150 candelas for Zone C area and 450 candelas for Zone D area during both construction and ongoing operation.

Guideline F: Managing the Risk of Intrusions into the Protected Operational Airspace of Airports

Certified Airports

- The Project is within 30 nm of Western Sydney Airport:

  Calculating PANS-OPS surfaces is complex because of the highly technical nature of the design and interaction of procedures. The design of a full set of PANS-OPS for Stage 1 and long-term operations will be required following the formal flight path design before the start of operations. Once designed, the PANS-OPS will be protected under the Airspace Protection Regulations.

  Once the construction details can be provided before starting the procedure (PANS-OPS) design, the height of the warehouse will be considered as part of the design and as such will not affect the PANS-OPS surfaces.

Obstacle Limitation Surfaces

- The Project has been assessed to not infringe on the obstacle limitation surface (OLS) for WSI.

Air Routes and Lowest Safe Altitude (LSALT)

- The Project would not impact the Grid LSALT and any Air Route LSALT

Airspace

- The site is currently located outside of controlled airspace (wholly within Class G airspace) and is not located in any Prohibited and Restriction areas.
- Is located within Danger Area –D556A. Consultation with the Consultation with CASA will be required. Airservices Australia will provide this report to CASA when they receive the consultation advice.

Guideline G: Protecting Aviation Facilities – Communication, Navigation and Surveillance (CNS)

Aviation Navigation Facilities

- The Project potentially locate within both the Glide Path BRA and GBAS BRA area.
- Aviation Projects cannot confirm any specifics as to the potential impacts as public information on the planned equipment and final locations is not available.
- Consultation with Airservices Australia will be required.

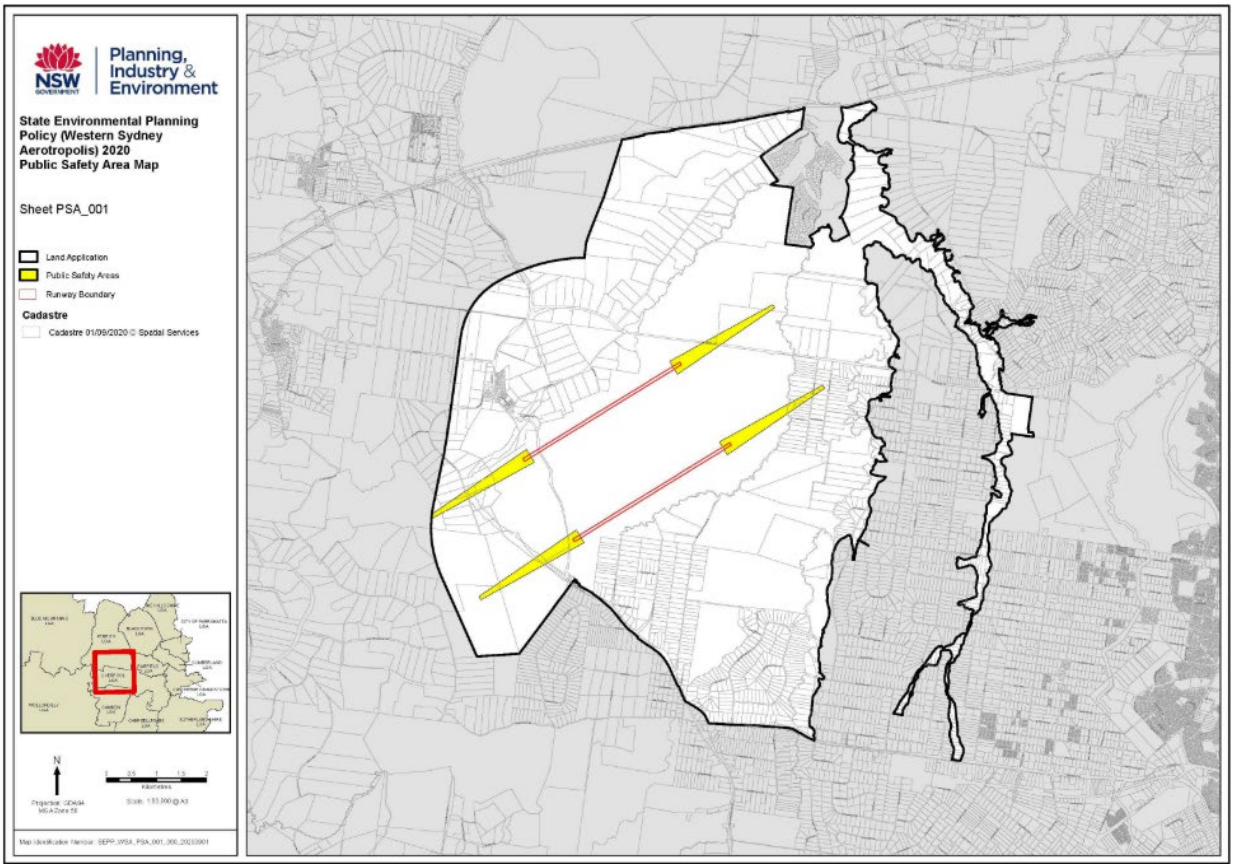
Guideline H: Protecting Strategically Important Helicopter Landing Sites (HLS)

The proposed Project Site is located more than 3.5km from any relevant helicopter landing sites. Therefore, the Project Site will not impact on any HLS operations. It is also understood that WSI will not facilitate helicopter operations.

Guideline I: Managing the Risk in Public Safety Areas at The Ends of Runways

The Project Site is located outside the PSA area of Western Sydney Airport as seen in the figure below.

Figure 37 Extract from SEPP (Western Sydney Aerotropolis) PSA Map



Source: DPHI

Figure 38 Contour from Figure Above (PSA Map) Onto the Burrah Park Site

Source: Aviation Projects

6.1.8.3. Mitigation Measures

The following mitigation measures have been recommended by Aviation Project's report:

- If approved, details of the Project must be reported to Airservices Australia via this email address: vod@airservicesaustralia.com, and published in En Route Supplement Australia (ERSA) and other relevant aeronautical chart products.
- Consultation with Airservices Australia regarding PANS-OPS and CNS is required, and once public information available, it is recommended that the assessment is revisited.

6.1.9. Biodiversity

Eco Logical Australia Pty Ltd was engaged to prepare a Biodiversity Assessment Report (**BAR**) (**Appendix O**) for the proposal in line with the SEARs issued by the DPHI in relation to the proposal. The site is located within the Northern Gateway Precinct of the Western Sydney Aerotropolis, and within the Cumberland Plain Conservation Plan (**CPCP**) area. The CPCP provides for the protection of biodiversity in strategic areas, referred to as 'Avoided Land' as well as the certification of land identified as urban capable and major transport corridors under the Order conferring strategic biodiversity certification – Cumberland Plain Conservation Plan (22 July 2022).

Certified land does not require further assessment under Part 8 of the Biodiversity Conservation Act 2016 (**BC Act**) or the Environment Protection and Biodiversity Conservation Act 1999 (**EPBC Act**). The approval for any impacts and the respective management of any biodiversity impacts will be undertaken by the estate developer as part of the broader Burrah Park SSDA (SSD-70316465).

The BAR is included at **Appendix O** as part of this proposal to the satisfaction of the SEARs. This report describes the biodiversity values of the site, describes such impacts and confirms the biodiversity certification of the site. The findings and overall recommendations of the BAR are detailed below.

6.1.9.1. Existing Environment - Flora

The impact area contains remnant native vegetation, planted native vegetation, exotic grassland, built/cleared land and aquatic features (farm dams) (refer to **Figure 39**).

Figure 39 Site Map with Key Features

Source: ELA

The vegetation validation survey identified two Plant Community Types (**PCT**s) across the impact area for DHL Stage 1 and 2 (ELA 2024a). A total of 9 full-floristic vegetation plots across the broader study area were surveyed to identify PCTs and TECs within the study area, although none of these were located in the subject site. The PCTs identified within the site boundary are:

- PCT 3320 Cumberland Shale Plains Woodland
- PCT 3320 Cumberland Shale Plains Woodland (Derived Native Grasslands)
- PCT 4025 Cumberland Red Gum Riverflat Forest

The areas of PCTs and non-native vegetation are summarised in **Table 30** below.

Table 30 Description of PCTs and Non-Native Vegetation Areas

PCT ID	PCT Name / Non-native Area	Vegetation Class	Vegetation Formation	Area (ha)
Native PCTs				
PCT 3320	Cumberland Shale Plains Woodland	Coastal Valley Grassy Woodlands	Grassy Woodlands	0.287
PCT 3320	Cumberland Shale Plains Woodland (Derived Native Grasslands)	Coastal Valley Grassy Woodlands	Grassy Woodlands	1.025
PCT 4025	Cumberland Red Gum Riverflat Forest (Mixed Understorey)	Coastal Floodplain Wetlands	Forested Wetlands	0.121
Planted vegetation and non-native areas				
-	Planted	-	-	1.362
-	Dams	-	-	1.958
-	Built	-	-	0.047
-	Roads	-	-	0.424
-	Exotic Grasslands	-	-	21.324
			Total	**26.547 ha**

The PCTs described above do not conform to the condition criteria for listing under the EPBC Act due to a lack of native understorey (< 40%). Therefore, no further assessment of impacts to vegetation within the study area has been undertaken as the entire site is biodiversity certified under the CPCP.

The study area is in the Sydney Basin IBRA region, within the Cumberland subregion. Under the NSW Mitchell landscapes classification, the study area is underlain by Cumberland Plain and Hawkesbury Nepean Channels and Floodplains.

One first order watercourse (Strahler classification) is located within the site boundary. Field validation of watercourses within the study area concluded that the mapped first order stream does not meet the definition of a ‘river’ under the WM Act (ELA, 2021). A second order watercourse is located approximately 10m south east of the site boundary at its closest point. It is a tributary of South Creek, within the Hawkesbury Nepean catchment.

One dam is located within the impact area. No important wetlands or key fish habitat have been mapped in the impact area. No native vegetation was identified in relation to the dam. It is understood that the dam will be subject to dewatering under a separate application by the estate developer as part of SSD-70316465.

6.1.9.2. Existing Environment – Fauna

A search of BioNet Atlas threatened species records within 5 km of the study area was undertaken to inform the assessment of MNES and determine if any previously recorded threatened flora or fauna had been recorded within the development site.

No hollow-bearing trees are located within the site boundary. The nearest hollow is approximately 25 m from the site boundary, which represents a 5 m construction buffer around the direct impact area. Some aquatic fauna may be present within the farm dam located in the site boundary.

6.1.9.3. Potential Impacts

The Cumberland Plain Conservation Plan (**CPCP**) dated 20 July 2022 confirms the site is biodiversity certified. As shown in the certification, the entire development site is located on Certified – urban capable land.

An assessment against the measures from the CPCP is shown in the below table.

Table 31 Compliance with relevant measures of Appendix E of the CPCP

Mitigation Measure	Rational for Measure	Species	Implementation Mechanism	Response
Retain large trees (including dead trees but excluding noxious weeds) (≥50cm DBH) during precinct planning where possible and avoid impacts to soil within the dripline of these trees during construction.	Important fauna habitat	Microbats Flying foxes and nectivorous birds Owls and raptors	DCP template Mitigation Measures Guideline CPCP Guidelines for infrastructure Development	The development is proposed in an area of largely exotic grassland. No hollow-bearing trees are within the site. Most native vegetation to be removed is considered planted (1.362 ha). Canopy cover will be reinstated through landscaping and street tree plantings as part of the proposal. Zoning has enabled large trees to be retained in the adjacent Cosgrove's Creek riparian Corridor.
Implement 'open structure design' when designing structures such as roads adjacent to known populations of Cumberland Plain land snail where possible, consistent with the critical actions for this species under the Save our Species program (EES 2020)	Prevents creation of isolated patches of habitat	Cumberland Plain land snail	DCP template Mitigation Measures Guideline	Targeted surveys for Cumberland Plain land snail were undertaken across the study area and no individuals were identified during the survey in 2021. As such, Cumberland Plain land snail are not considered to occur within the study area.
Manage weeds for flora populations and habitat adjacent to urban and infrastructure development during construction and operation of the development,	Minimises indirect impacts to flora populations	Dillwynia tenuifolia Pultenaea parviflora Persoonia nutans	DCP template Mitigation Measures Guideline	The site is surrounded by exotic pasture that is urban capable land and to be developed for infrastructure or industrial purposes. As such this measure is not relevant.

Mitigation Measure	Rational for Measure	Species	Implementation Mechanism	Response
considering relevant guidance in the weed control implementation strategy.				However, A construction environment management plan (CEMP) will be prepared and include measures to manage weeds during construction.
Incorporate best-practice site hygiene protocols to manage the potential spread of pathogens, such as Phytophthora and myrtle rust adjacent to potential habitat for relevant TECs	Minimises the risk of spreading pathogens	CPW, RFEF	DCP template Mitigation Measures Guideline	A CEMP will be prepared and include measures to stop the spread of pathogens during construction. Hygiene measures should be based off the Saving Our Species - Hygiene guidelines.

The EPBC Act establishes a regime for assessing and regulating the environmental impact of activities (including development) where a Matters of National Environmental Significance (**MNES**) may be affected. Under the EPBC Act, any action which has, will have, or is likely to have a significant impact on a matter of MNES is defined as a "controlled action", and requires approval from the Minister. The Commonwealth Department of Climate Change, Energy, Environment and Water is responsible for administering the EPBC Act. In lieu of Commonwealth approval of the CPCP, an assessment of biodiversity under the EPBC Act has been undertaken.

The process includes undertaking an Assessment of Significance for listed threatened species and ecological communities that represent a matter of MNES that will be impacted because of the proposed action. The Matters of National Environmental Significance – Significant Impact Guidelines 1.1 published by DAWE (2009) provide overarching guidance on determining whether an action is likely to have a significant impact on a MNES.

CPW and RFEF within the development site did not meet the minimum condition threshold in accordance with the EPBC Act, and are therefore not considered MNES, for the following reasons:

- Derived native grasslands (DNG) are not included in the EPBC listed Cumberland Plain Woodland
- Ground cover for poor condition patches was less than 30% native cover

Therefore, CPW within the impact area is not a MNES and further assessment in accordance with the EPBC Act is not required. A habitat assessment and Likelihood of Occurrence table was completed and the following MNES were assessed in accordance with the Significant Impact Guidelines 1.1:

- Botaurus poiciloptilus (Australasian Bittern)
- Hirundapus caudacutus (White-throated Needletail)
- Pteropus poliocephalus (Grey-headed Flying-fox)
- Rostratula australis (Australian Painted Snipe)
- Anthochaera Phrygia (Regent Honeyeater)
- Lathamus discolor (Swift Parrot)

6.1.9.4. Mitigation Measures

In response to the above impacts identified by Eco Logical, several mitigation measures have been identified to manage the direct and indirect impacts at the site. The respective management of any biodiversity impacts

will be undertaken by the estate developer as part of the broader Burrah Park SSDA (SSD-70316465). These mitigation measures relevant to the site are detailed in the table below.

Table 32 Mitigation Measures

Impact	Mitigation Measure	Timing	Responsibility
Direct Impacts			
Removal of native vegetation, loss of habitat (including hollows)	Pre-clearance survey of trees to be removed and identification/location of active nests by a suitably qualified ecologist. Native animals are to be relocated from development sites in accordance with the former Office of Environment and Heritage's *Policy on the Translocation of Threatened Fauna in NSW*.	B	PM ECO
Breeding disruptions to native fauna	Programming of works to avoid critical life cycle events such as breeding or nursing. Impacts to vegetation during the Spring/Summer breeding period should be minimised to avoid disrupting the breeding cycles of threatened species (i.e., microbat species threatened under the BC Act).	B, D	PM, in consultation with ECO
Habitat connectivity	Road design is to be in accordance with the Cumberland Plain Land Snail Saving Our Species strategy, which includes: ▪ Road design with open structures to facilitate movement of the Snail across the landscape. ▪ Use of bridges rather than culverts and minimising channelisation of waterways allows migration to occur.	B	PM, in consultation with ECO
Dam dewatering	The dewatering schedule should allow time for fish rescue, especially during the final 0.3 - 1 m water depth (to be advised by an Aquatic Ecologist). Fauna should be captured in one day, so pumps need to be of an adequate size and placed in an area free from mud and debris (e.g., inside excavator bucket or screened sump pit). If wetland birds are observed nesting, or young birds (chicks) are using the dam, advise the Aquatic Ecologist immediately for advice. Depending on species and age, birds may be able to relocate themselves. Chicks will need temporary refuge during dewatering, or works may need to be postponed. Fish are to be collected by hand nets during the final day of dewatering. Native fish healthy enough for relocation are to be contained and transported in an aerated tub/bucket/tank to an appropriate dam/lake/waterhole/creek, such as Cosgroves Creek. Exotic fish (e.g., Carp, Gambusia, Goldfish, Redfin Perch, Spotted Livebearer) are to be intercepted, euthanised and disposed of in accordance with the ecologist's Animal Research Authority (issued by the Secretary's Animal Care & Ethic Committee). Exotic Trachemys scripta	B	PM, in consultation with ECO

Impact	Mitigation Measure	Timing	Responsibility
	elegans (Red-eared Slider Turtle) are to be contained humanely and DPI immediately notified (Biosecurity Line - 1800 680 244). They will collect the live turtle from the ecologist. The Aquatic Ecologist should prepare a summary report suitable for submission to NSW Fisheries within 7 days of completing the aquatic fauna relocation works.		
Indirect impacts to adjacent vegetation, edge effects, inadvertent damage, soil disturbance	Boundaries of the impact area to be clearly delineated with heavy duty fencing, retained areas marked with "No Go" signage, surrounding the riparian corridor located along the western boundary of the development site. Temporary fencing and signage to be installed at the edge of the development site to prevent entry into the adjacent retained vegetation (i.e. riparian corridor).	B, D	PM, in consultation with ECO
Sedimentation, erosion	Install permanent sediment barriers and erosion controls during and post construction to prevent runoff into vegetation outside of the impact area, including the second order watercourse. Maintain controls throughout construction and undertake regular inspections (weekly). Inspect controls following heavy rainfall. Removal of native vegetation by chain-saw, rather than heavy machinery, is preferable where partial clearing is proposed to avoid impacts outside of the defined impact area.	L	PM, C
Noise impacts to fauna	Daily timing of construction activities is recommended in accordance with the standard daytime hours.		PM, C
Light and dust disturbance to native fauna	Conduct works during standard daylight hours Dust management controls to be implemented during construction and operations. If water is being used to manage dust, ensure contaminated water in managed appropriately on and off site in accordance with a water management plan or similar.	D	PM
Spread of priority weeds or WoNS	*Phytophthora* control measures must be undertaken from the commencement of the project to minimise the risk of spread and to the site. The following guidelines should be followed: ▪ https://www.rbgsyd.nsw.gov.au/science/plants/pests- diseases/phytophthora-dieback/disinfection-procedures ▪ http://www.environment.gov.au/biodiversity/invasive- species/publications/management-phytophthora-cinnamomi- biodiversity-conservation Vehicles, machinery and building refuse should remain only within the development site and disposed of at an appropriate waste management facility in accordance with the EPA (2014) *Waste Classification Guidelines.* Vehicles to be washed down before entering and exiting the site to prevent the spread of weeds to or from the development site and adjacent vegetation.	B, D	PM, C

Impact	Mitigation Measure	Timing	Responsibility
	Machinery work on or nearby dams are required to be washed down to prevent the spread of chytrid fungus into or from the development site. If water trucks are being used for dust control, implement procedures to manage *Phytophthora* such as daily cleaning of the water truck and equipment.		
Understanding of environmental features and values	All staff working on the project will undertake an environmental induction as part of their site familiarisation. Site briefings should be updated based on phase of the work. This induction will include items such as: ▪ Site environmental procedures (vegetation management, sediment and erosion control, exclusion fencing) ▪ Threatened species habitat, TECs, riparian corridor ▪ What to do in case of environmental emergency (chemical spills, fire, injured fauna) ▪ Key contacts in case of environmental emergency ▪ What to do in the case of finding a threatened species ▪ What to do in the case of finding fauna on the site	B, D	PM, ALL
Indirect Impacts			
Reduced viability of adjacent habitat due to edge effects	Boundaries of the impact area to be clearly delineated with heavy duty fencing, retained areas marked with “No Go” signage, in particular surrounding the riparian corridor located along the western boundary of the development site. Temporary fencing and signage to be installed at the edge of the development site to prevent entry into the adjacent retained vegetation	L	PM
Reduced viability of adjacent habitat due to noise, dust or light spill	No impacts expected during construction if works are carried out during daytime hours. Lighting installed during construction, to be used for the operation phase of the project, is to conform to Australian Standard AS 4282 to minimise light spill. Lighting should be of suitable kind that does not attract insects, to deter microbats from the site.	D, P	PM, C
Transport of weeds and pathogens from the site to adjacent vegetation	As above (‘Spread of priority weeds or WoNS’)	L	PM, ALL
Fauna - Increased risk of starvation or exposure, and loss of shade or shelter	*Boundaries of the impact area to be clearly delineated with heavy duty fencing, retained areas marked with “No Go” signage* *Vegetation is to be reinstated post-works including landscaping and street trees.*	D, P	PM, C

Impact	Mitigation Measure	Timing	Responsibility
Trampling of threatened flora species	*No threatened flora species were identified within the impact or study area.*	N/A	N/A
Rubbish dumping	All general contractor waste is to be disposed of using provided waste bins.	L	ALL

TIMING KEY: B = BEFORE CONSTRUCTION, D = DURING CONSTRUCTION, P = POST-CONSTRUCTION, L = THROUGHOUT LIFE OF PROJECT

RESPONSIBILITY KEY: PM = PROJECT MANAGER, C = CONTRACTOR, ALL = ALL STAFF, ECO = PROJECT ECOLOGIST

As the proposal is wholly located within certified-urban capable land under the CPCP, no further assessment under the BC Act is required. The BAR report describes the biodiversity certification of the proposal site under the CPCP, and consistency with the DCP and the Biodiversity and Conservation SEPP. Mitigation measures relating to direct, indirect and prescribed impacts are provided within this report.

6.1.10. Visual Impact

A Visual Impact Assessment (**VIA**) has been prepared by OG Urban and is included at **Appendix L** to address the SEARs. The purpose of the VIA is to assess the potential visual impacts of the proposal on surrounding private and public receivers and if required, outline appropriate mitigation strategies. An outline of the assessment methodology and overall impact is provided below.

The Project is located within a rural context where land use is characterised by low intensity agricultural and rural residential land uses. The overall visual impact to the site has been assessed in terms of the Aerotropolis and specifically the Northern Gateway Precinct which identifies the area as currently utilised for rural purposes, however, has been rezoned and is to be developed as a future employment precinct around the WSI.

The above-described exercise has been carried out for the following categories of views:

- Close views – up to 1km from the Proposal site boundaries.
- Medium distant views – at distances between 1km and 2kms from the site.
- Distant views – representative viewpoints up to 3kms from the site.

The proposal consists of a singular industrial building for use as a warehouse and distribution centre of approximately 14.6 metres in height with associated service areas, public domain, and landscape.

6.1.10.1. Existing Environment

From a visual perspective, the area immediately surrounding and nearby the site is defined as a highly modified landscape due to a history of agricultural uses and rural-residential dwellings on large lots. As such, most vegetation on and surrounding the site has been cleared, however some limited areas of remnant vegetation remain within the locality. The most significant vegetation in proximity to the site is mature riparian vegetation associated with surrounding creeks such as Cosgroves Creek and Oaky Creek to the west and Badgerys Creek to the east.

The surrounding topography is predominately undulating, with certain more elevated positions allowing views towards the distant Blue Mountains. A ridge crest between Cosgroves Creek to the west and Badgerys Creek to the east forms the watershed, with this ridge roughly dividing the Proposal site from the university of Sydney's farm site to the east.

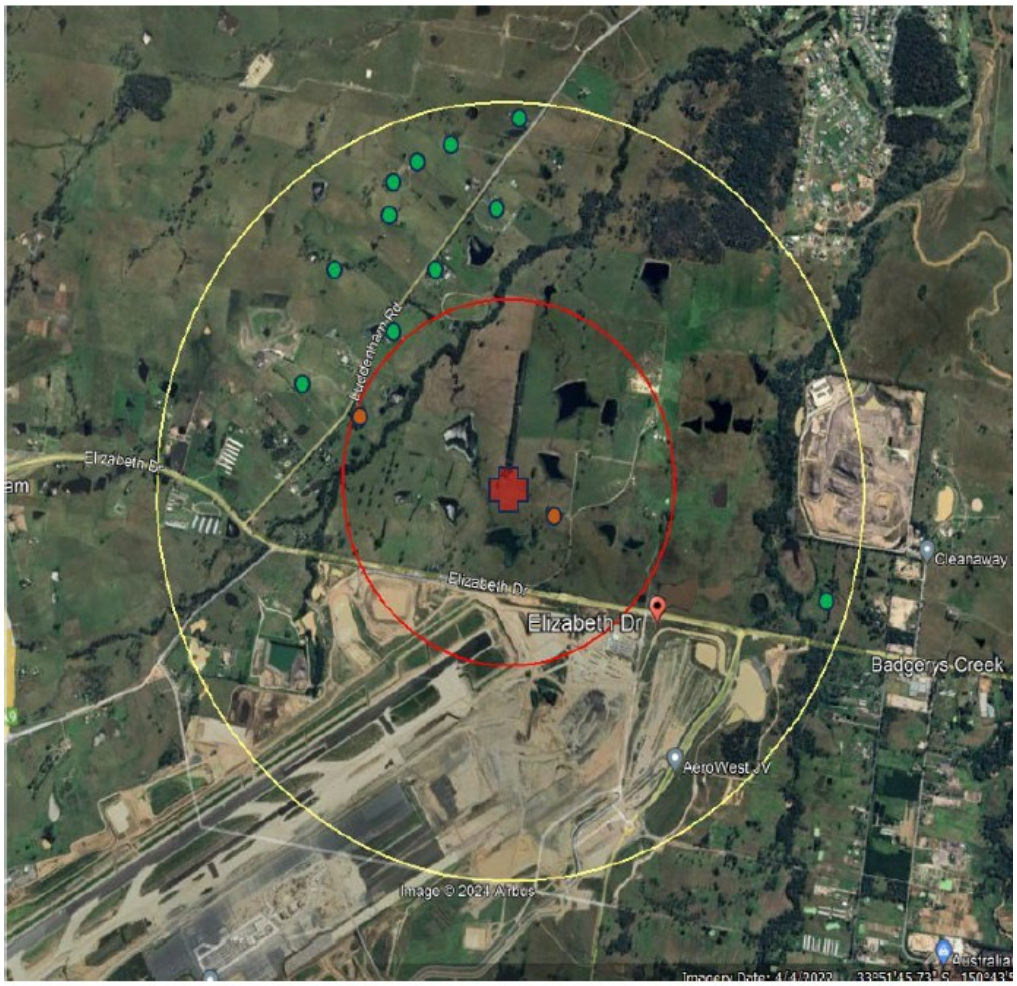
Most built form in the locality consist of structures related to rural living and activities. These are limited to large rural-residential dwellings and associated sheds that range in purpose from storage to sheering. Elizabeth Drive forms another major built-form element in the immediate vicinity, with a range of smaller secondary, and less used, roads in the surrounding area.

Two dwellings are located within 1 km of the site. It is understood that the closest dwelling belongs to the owner of the subject land. The dwelling is within the footprint of the Stage 1 proposal and will be demolished.

The second dwelling is located on the south eastern side of Luddenham Road. Views in the direction of the proposed development from this dwelling would be substantially or completely screened by vegetation along Cosgrove Creek. Several dwellings are located within 1km and 2kms of the site. Approximately 4 of these dwellings are located on the south eastern side of Luddenham Road and would be screened from views of the development site by the vegetated Cosgrove Creek corridor. Other dwellings are located on sloping land elevated above Luddenham Road with south eastern site aspects and are likely to have views in the direction of the development site.

The location of these residential dwellings in relation to the site are demonstrated in **Figure 40** below. The viewpoints that informed the VIA modelling and assessment was selected as it provided the most representative views of the site either from the private owners of neighbouring sites, or from the closest, accessible areas.

Figure 40 Location of Nearest Residential dwellings



Subject site

2 km radius line

1km radius line

Green circle — Private dwellings between 1km & 2kms of the site

Red circle — Private dwellings within 1km of the site

Source: OG Urban

6.1.10.2. Potential Impacts

Internal Streetscape View Impacts

Indicative renderings of the view down the dividing street within the development have been prepared. The renderings illustrate the proposed two storey carpark and proposed street tree plantings, showing that the carpark will be a visible elements in the streetscape. As such, measures recommended to mitigate the impacts of the carpark on streetscape quality include:

- Inclusion of a combination of screening to the carpark façade such as permeable panelling or a partial planted green wall; and
- Landscape treatment to the carpark surrounds including planting of trees and shrubs as screening and softening agents.

The renderings illustrate that the carpark's presentation to the street will also be softened over time with the development of the proposed street tree planting scheme.

Figure 41 Indicative Internal Street View (Including landscaping at Year 10)

Source: OG Urban

External Viewpoint Impacts

Consistent with current best practice in VIAs, this assessment of the likely impacts of the DHL Badgerys Creek proposal on local visual quality has been carried out via a process of qualitatively assessing:

- Viewpoint sensitivity – the level of value that viewers would be likely to attribute to the quality of views from a given location.
- Change magnitude – the amount of change to views from given locations that would likely result from implementation of the proposal.
- Composite impact level – a value judgement based on the assessed sensitivity of the viewpoint and the amount of change that would be likely to occur to the specific view or views from similar locations.

Impacts on each view have been graded as Low, Moderate or High.

As noted in OG Urban's report, photomontages have been prepared by visualisation specialists, Urbanfinity. These have been prepared over base photographs of existing views taken in the direction of the Badgerys Creek site from the critical viewpoints. Base photos have been taken using a camera lens with a 24mm focal length. Each viewpoint selected for preparation of photomontages has been accurately positioned locationally and topographically via survey. Included at Appendix A of OG Urban's report is detail from CMS Surveyors that provides survey data for each of the selected viewpoints. This data has been used by visualisation specialists, Urbanfinity, to accurately locate the electronic 3D model of the proposal in each photo.

6.1.10.3. Viewpoint 1

Viewpoint 1 is the closest available view location to the site on public land. The viewpoint is on the northern verge of Elizabeth Drive, directly to the south of the site, at approximately 400m from the proposal. Elizabeth

Drive is currently being expanded and will be a primary arterial east-west connector road in the developing Western Sydney Aerotropolis. Viewpoint 1 represents a typical view of the proposal that would be available from Elizabeth Drive.

As a primary arterial road through the Aerotropolis, Elizabeth Drive currently receives significant traffic volumes, and these will inevitably increase substantially as the Precinct develops. The current visual environment, comprising open pastureland interspersed with homesteads and rural dams, would be moderately sensitive to change and users of the road would be expected to be moderately sensitive to the visual quality of the locality. However, the developing visual environment, resulting from implementation of the Aerotropolis Plan, will change dramatically and will generally include warehouse style complexes in a landscape setting. The sensitivity of the viewpoint to change in the context of this changing visual environment is low.

Figure 42 Viewpoint 1 Photomontage (Including landscaping at Year 10)

Source: OG Urban, 2022

The figure above indicates that the proposed building group will present as a significant new built element extending along much of the northern horizon in views from close locations along Elizabeth Drive. The impact of the proposed building on these views will be mitigated by its relatively low profile, muted colour scheme and partial screening by a significant group of trees.

6.1.10.4. Viewpoint 2

Viewpoint 2 is on the northern verge of Elizabeth Drive, approximately 1km east of the Elizabeth Drive / Adams Road intersection. The viewpoint location is the first available view towards the site when travelling east on Elizabeth Drive. Views to the northeast are screened by roadside vegetation up to this point. Views to the site from Viewpoint 2 are over approximately 900m.

Like Viewpoint 1, users of this part of Elizabeth Drive will increase substantially in number in the short term as the Aerotropolis develops. The local visual environment in the direction of the site is also like Viewpoint 1, incorporating undulating pastureland interspersed with farm dams and remnant native vegetation. The visual environment would be moderately sensitive to change and the developing visual environment of employment-based development will have a low change sensitivity. The composite sensitivity of the viewpoint would be low – moderate.

Figure 43 Viewpoint 2 Photomontage (Including landscaping at Year 10)

Source: OG Urban, 2022

Comparison between the base photo and photomontage from Viewpoint 2 illustrates that the proposed building complex will be a significant new built element in views from Elizabeth Drive to the northeast. The building will, however, appear below the horizon line in these views. Existing trees will remain visible as skyline elements behind the building and the building will be substantially screened by existing mature trees in the foreground. The existing substantial farm dam in the foreground will also remain intact as a significant softening element in these views. Future development for employment uses will change the visual landscape and the new building will be consistent with this changing character. With these mitigating factors in place, the magnitude of change to views from this locality is low - moderate.

6.1.10.5. Viewpoint 3

The 3rd selected viewpoint for the VIA is on the western side of the recently upgraded Badgerys Creek Road. The viewpoint is on a pedestrian footpath on the southern edge of a newly constructed road bridge across a drainage line that diverts stormwater along the northern edge of the WSI site. The viewpoint is approximately 200m south of the intersection of Badgerys Creek Road and Elizabeth Drive. Views towards the site are from a slightly elevated position over approximately 1.5kms.

Travellers heading north on the newly re-routed Badgerys Creek Road would move through a mosaic of landscapes that would include the developing WSI site, remnant small scale rural holdings to the east of the road and the more open pasturelands that remain on the northern side of Elizabeth Drive. This landscape will be to major change with the completion of the WSI and the development of the Aerotropolis. It will transition to a highly urbanised environment dominated by the WSI and associated light industrial / employment-based land uses. As such, there would be expectations from viewers that the landscape is transitioning at this viewpoint. Based on this expectation of change, the visual environment at and within the vicinity of Viewpoint 3 is considered to have a moderate visual sensitivity.

Figure 44 Viewpoint 3 Photomontage (Including landscaping at Year 10)

Source: OG Urban

The structures on the site associated with this proposal will read as new horizontal built elements sitting generally below the skyline in the mid distance. In current conditions there would be only minimal screening of the structures by existing tree stock but, importantly, existing vegetation would comprise much of the backdrop to the built form and the ridgeline of the Blue Mountains National Park provides a natural horizon.

On this basis, it is considered that the change magnitude of the proposal in views from Badgerys Creek Road is low to moderate.

6.1.10.6. Viewpoint 4

Viewpoint 4 provides an indicative view towards the site from the north west over medium distances. The viewpoint is on the south eastern verge of Luddenham Road, close to the access road to the proposed Sydney Science Park (currently under construction) and approximately 3.5kms from its intersection with Elizabeth Drive. Views towards the site would be over approximately 2.5kms.

Luddenham Road follows the eastern edge of a ridgeline to the west of Cosgroves Creek. It provides broad, elevated views to the east and south east that include the vegetated creek lines of Cosgroves Creek and Badgerys Creek, open pastureland and distant views of the developing WSI. The land to the east of Luddenham Road is, again to major change in the medium term resulting from its re-zoning to Enterprise under the Western Sydney Parkland City SEPP. The significant tracts of bushland that follow the creek lines will, however, be retained in the transformation of the area. In this context, the sensitivity of views from this locality is moderate.

Figure 45 Viewpoint 4 Photomontage

Source: OG Urban, 2022

The photomontage illustrates that from this viewpoint the proposed building will be completely screened from view by existing vegetation along the Cosgroves Creek corridor. This will be the case for views in the direction of the site from most of the length of Luddenham Road. Some views of the developed site are likely to be available from branch roads and properties on the more elevated land to the west of Luddenahm Road, but these would be over relatively long distances and the developed site would be a small part of the very expansive views likely to be available from these locations. The proposal would have a low to minimal impact on these views.

6.1.10.7. Viewpoint 5

Viewpoint 5 represents potentially available views from residential properties on the southern edge of the relatively recent residential subdivision of Twin Creeks Estate, located approximately 2kms north east of the site.

The Twin Creeks Estate is a prestige residential subdivision developed around a golf course. Houses in the Estate tend to be very large and there is clearly significant attention in the Estate design to developing a high quality visual environment. The Estate is, however, inwardly orientated in its design and centred on the golf course that meanders through the Estate, generally following the existing creek lines. Views out of the Estate to the broader landscape are generally only available from the rear of private lots and these tend to be towards the south and south east. The visual sensitivity of the locality is moderate.

Figure 46 Viewpoint 5

Source: OG Urban, 2022

The visual catchment indicates that the site may potentially be visible from the rear of some properties on the southern edge of the Twin Creeks Estate. To test this, photography and a photomontage were prepared from the rear of a vacant residential lot on the southwestern edge of the Estate. The montage indicates that, the developed site would hidden by local topography and would not be visible from the viewpoint location selected. It is possible that the site would be visible from the rear of other private properties in this part of the Estate but, if so, the proposal would be at least partially screened by topography and would be a small component of very expansive views. On this basis, the change magnitude of the proposal from this locality is low.

6.1.10.8. Viewpoint 6

Viewpoint 6 provides a representative view that would be expected from elevated residences on the western and north western side of Luddenham Road. At a distance of approximately 1.5kms, the viewpoint is arguably the closest available view location to the subject site.

Views to the east and south east from these elevated locations are expansive and include undulating farmlands interspersed with tracts of indigenous trees. The Royal National Park is visible as a distant horizon. Much of the land in the views has been re-zoned for Enterprise uses so the view will change over time to include significantly greater amounts of built form. The sensitivity of these views to change in the context of this changing visual environment is considered to be moderate – high.

Figure 47 Viewpoint 6 Photomontage (Including landscaping at Year 10)

Source: OG Urban

The proposed development will present as a new built element in the middle ground views from elevated locations on the western side of Luddenham Road. The photomontages indicate, however, that the native vegetation along Cosgroves Creek will be retained as a natural foreground that would mitigate the visual impacts of the development. The distant views to the National Park would not be impacted and the development would not impact on the horizon. The photomontages also indicate that over time, built development on the site will be substantially screened and softened by the developing landscape within the boundaries of the site. Future development for employment uses will change the visual landscape and the new building will be consistent with this changing character. With these mitigating factors in place, the magnitude of change to views from these elevated location to the west of the site moderate.

6.1.10.9. Viewpoint 7

Viewpoint 7 is from land within the north western sector of the future Burrah Park Estate. The viewpoint is located on or near to a proposed road within the Estate. Distance to the development site is approximately 500 metres. The land is currently vacant pasture. It will develop in the medium term to accommodate buildings, roads and landscape associated with the future employment uses of the Estate.

In its current form, the viewpoint is within unoccupied pastureland and, as such, it would not be sensitive to visual change. When developed for employment purposes, the locality will accommodate a daily workforce but not residential uses. In this regard, the locality is considered the have a low to moderate sensitivity to change to its visual environment.

Figure 48 Viewpoint 7 Photomontage (Including landscaping at Year 10)

Source: OG Urban

The proposed building complex will be a significant new built element in views from within the Burra Estate. The landscape scheme that will be implemented as part of the approval would include substantial trees that would, over time, soften views towards the site from other locations within the Estate. Coupled with the expectations of future workers in the employment estate that built form will be part of its developing character, it is considered that the developed site would result in a moderate to high magnitude of change from within the Estate.

6.1.10.10. Viewpoint 8

Viewpoint 8 is on the north western edge of an existing rural dam within the Burrah Park Estate. It is understood that the dam will be retained as recreational land within the developed Estate. Views in the direction of the development site are over distances of approximately 500 metres.

For similar reasons to other viewpoints within the developing Burrah Park Estate, Viewpoint 8 could be considered to have a low to moderate sensitivity to change. However, given the high quality of the view, including the waterbody and horizon trees, the sensitivity of this view should be elevated to moderate.

Figure 49 Viewpoint 8 Photomontage (Including landscaping at Year 10)

Source: OG Urban

Changes to these views would be similar to Viewpoint 7. The magnitude of change to views from this locality is considered to be moderate to high.

6.1.10.11. Viewpoint 9

Viewpoint 6 is adjacent to the development site on its western edge. For similar reasons to other viewpoints within the developing Burrah Park Estate, Viewpoint 9 could be considered to have a low to moderate sensitivity to change.

Figure 50 Viewpoint 9 Photomontage (Including landscaping at Year 10)

Source: OG Urban

Views from within the Burrah Park estate, adjacent to the site will, of course change dramatically from a rural landscape to a built form dominated landscape associated with employment uses. The change will, however, be consistent with the surrounding visual environment within the new employment lands.

6.1.10.12. Summary of Visual Impacts

Table 33 summaries the assessment of impacts of the proposal from the selected viewpoints.

Table 33 VIA Summary

Viewpoint	Visual Sensitivity	Change magnitude	Composite impacts assessment
Close views			
Viewpoint 1	Low - moderate	Moderate	Moderate
Viewpoint 2	Low - moderate	Low - moderate	Low - moderate
Viewpoint 3	Moderate	Low	Low
Medium distant views			
Viewpoint 4	Moderate	Low	Low
Viewpoint 5	Moderate	Low	Low
Long distant views			
General viewing locations	Moderate	Low	Low
Additional viewpoints assessed in response to Department's RFI			

Viewpoint	Visual Sensitivity	Change magnitude	Composite impacts assessment
Medium distant views			
Viewpoint 6	Moderate - high	Moderate	Moderate
Close views			
Viewpoint 7	Low - moderate	Moderate	Moderate
Viewpoint 8	Moderate	Moderate - high	Moderate - high
Viewpoint 9	Low - moderate	High	Moderate - high

In summary, the conclusions of the visual impacts of the proposal are:

- The site is zoned ENT – Enterprise under State Environmental Planning Policy (Precincts – Western Sydney Parkland City) 2021. It is located to the north of Elizabeth Drive on land which is currently cleared for rural uses, but which will be part of an employment precinct within the Western Sydney Aerotropolis in the medium term.
- By virtue of recent regional planning the visual character of the locality of the proposal is in a state of transition from generally rural and pastoral uses to an urban environment incorporating the WSI and employment lands in a landscape setting.
- The proposed warehouse and logistics facility on the site would be variably visible in its locality.
  - In close views from within the Burrah Park Estate, the new complex will present as a significant new building group in a currently rural landscape. However, in the medium term the complex will be part of the developing contemporary commercial / employment orientated estate. The development will be consistent with this developing context and its impact on these close views will be appropriate and acceptable.
  - In close to medium distant views (up to 1.5kms) from public land to the south, south east and south west, the new complex will present as a broad and low built element in the landscape, partially screened by existing remnant trees and tree groups. In views from Elizabeth Drive to the south, the complex will be visible as a skyline element but it will be substantially screened by existing tree stock in the foreground. From the west and east the complex will not break the skyline. Composite impacts on these views are low to moderate.
  - In medium distant views from the north and north west, the building complex will be either completely screened by existing topography or vegetation or partially visible from elevated locations to the west. In these views the complex would be a small part of broad and expansive views. The composite impact of the proposal on these views is low.
  - In medium to long distant views from the north east, east and south east, the proposed complex will not be visible, and its composite impact will be negligible.
- The locality of the proposal is in a state of transition from rural to urban. The proposed new complex, incorporating warehouse buildings of contemporary architectural form in a high-quality landscape setting, will be entirely consistent with this emerging visual character. In this regard, the proposal is consistent with the desired future character of its locality as articulated in the Western Sydney Aerotropolis Plan.
- Photomontages that include modelling of the developing landscape treatment proposed in the SSDA (requested by the Department in its adequacy assessment of the earlier SSDA) indicate that:
  - The proposed buildings will be substantially softened and screened in all views as the proposed tree planting develops over a timeframe up to 10 years.
  - Street tree and in-lot planting, also included in the SSDA, will soften the streetscape and provide a landscape context for the proposed buildings in the 5 to 10 year timeframe.

- It is also important to note that none of the viewpoints account for the future M12 the motorway, which will be visually prominent in the landscape. This will form an important aspect of the future character of the site.
- With the proposed landscape scheme in place and with the development implemented as proposed in the SSDA, the new building complex will be consistent with its developing visual environment and will have an acceptable impact with regard to visual quality. No additional mitigation measures would be required to achieve this outcome.

6.1.11. Contamination and Remediation

Douglas Partners Pty Ltd has prepared a contamination summary letter for the proposed in support of the proposed development (**Appendix LL**). Douglas Partners has conducted several contamination investigations for the site and its surroundings, with reports are included in the SSDA submission. Additionally, a Stage 2 Detailed Site Investigation (DSI) by Development Risk Management Pty Ltd (DRM) was included in the environmental impact statement (EIS) for the wider Burrah Park SSDA.

The summary letter consolidates findings from previous investigations and outlines remediation and further investigation requirements.

Contamination Investigations

1. **Douglas (2004):** Soil assessment indicated compatibility with various land uses, but further investigation of hydrocarbons was recommended.
2. **EI (2018):** Preliminary site investigation suggested the site could be suitable for development, subject to further investigations of localised contamination sources.
3. **Douglas (2019):** Preliminary site investigation identified several areas of environmental concern (AECs) requiring further investigation.
4. **Douglas (2020):** Sampling and Analysis Quality Plan (SAQP) defined the methodology for soil and groundwater sampling.
5. **Douglas (2024):** Detailed Site Investigation (DSI) found no widespread contamination but identified localised contamination requiring further investigation and remediation.
6. **Douglas (2024a):** Supplementary Contamination Investigation (SCI) further delineated contamination extents and recommended remediation.
7. **Douglas (2024b):** Remediation Action Plan (RAP) established remediation objectives and methodologies.
8. **DRM (2024):** Stage 2 DSI confirmed low potential for significant widespread contamination but recommended remediation of identified contamination.

The key findings across these investigations include:

- **AEC 36:** Localised contamination around power poles requires remediation. The extent of contamination should be confirmed with validation sampling during remediation.
- **AEC 15 and 16:** Asbestos-containing material (ACM) pipe network should be removed and validated. Surface ACM fragments should be removed by hand.
- **DRM Recommendations:** In addition to the remediation actions/further investigation requirements recommended by Douglas as summarised above, it is noted that DRM also recommended to assess the dam water and sediment quality prior to dam dewatering and beneficial re-use. Douglas agrees that an assessment of the dam water and sediment quality should be completed prior to dam dewatering and beneficial re-use.

Further detail of the contamination assessment work that prepared in support of this SSD is provided below.

6.1.11.1. Detailed Site Investigation

A Detailed Site Investigation (**DSI**) has been prepared by Douglas Partners Pty Ltd (**Appendix V**) to characterise the contamination status of the Site, and to determine the suitability for the project. As part of

this investigation, Areas of Environmental Concern (**AEC**s) at the site, or immediately nearby to the site were investigated. The following scope of works were undertaken for the DSI include the following:

- Review of the SAQP including the findings of previous investigations of relevance to the site and the rationale for the scope of the DSI;
- Undertake a detailed site walkover of AECs;
- Using a backhoe, undertake test pits across the site to a depth of 0.5 m into natural strata, 3 m or prior refusal (whichever came first). The following test pit numbers were undertaken within the current site:
  - Ten test pits (TP) in background areas (TP383 to TP387, TP401 to TP405); and
  - Three targeted test pits within AECs (TP570, TP576 and TP577)
- Using hand tools (hand auger or a hand trowel) surface soil samples were collected from next to two power poles at the site;
- Soil samples were analysed for a range of contaminants of potential concern (CoPC) as defined in the SAQP and including metals, Total Recoverable Hydrocarbons (TRH), benzene, toluene, ethylbenzene and total xylenes (BTEX), polycyclic aromatic hydrocarbons (PAHs), total phenols, Polychlorinated Biphenyls (PCBs), organochlorine pesticides (OC) and organophosphorus pesticides (OP);
- Soil results were assessed against current NSW EPA endorsed criteria for residential land use in the first instance as defined in the SAQP and in this report; and
- Outline the findings of the DSI in this report which has been prepared with reference to NSW EPA (2020b) guidelines.

The investigation found that the site was previously and recently used for primarily pastoral and rural residential land uses. Portions of the wider site have been used for stockpiling of materials and sub-leased (in part) to other parties for storage of such materials.

Soil analytical results have been assessed against SAC and reviewed alongside observations made in the detailed site walkover. The findings of the DSI have established there is no evidence of widespread or significant contamination across the site. Localised contamination in some AECs was observed on or immediately nearby to the site as requiring further investigation, delineation and/or remediation. These AECs requiring further works are summarised below:

- AEC 36 – Exceedances of Metals (As), TRH, benzo(a)pyrene, and total PAH were recorded for surface soils around the two power poles assessed at the site. It is noted that exceedances of metals, TRH, benzo(a)pyrene, total PAHs and total PCBs have been observed next to power poles from elsewhere across the wider TNG site. It is noted that the number of exceedances observed in this DSI and the DSI for the wider TNG site indicate additional targeted investigations of all power poles will be required around power poles at the site to establish and further define which are suitable to be retained on site and which will require remediation. The additional targeted investigations will include step-out samples around the power poles; and
- ACM Pipe network – an ACM pipe network has been sighted in AECs 15 and 16. ACM pipe network to be removed, chased out and validated. Where observed, ACM fragments on the surface should be removed by hand. A Remediation Action Plan (RAP) is required to document the process for the remediation and validation works.

It is noted that the majority of the observed impact as outlined above are typical of sites in the southwest Sydney region and does not impinge on the suitability of the site for rezoning from a contamination perspective. The above additional works should be undertaken to facilitate the DA process for subdivision.

The site is therefore suitable for rezoning and development from a contamination perspective subject to the above additional investigations and/or remediation works being undertaken prior to subdivision.

A number of stockpiles have been observed across the site, some of which have since been removed. For any remainder soil stockpiles, the UXF protocol should be referred to if asbestos is encountered once these materials are disturbed. A waste classification assessment will be required for off-site disposal for materials that are not pre-classified.

6.1.11.2. Supplementary Contamination Investigation

A Supplementary Contamination Investigation (**SCI**) has been prepared by Douglas Partners Pty Ltd (**Appendix HH**). The DSI established that there was no evidence of widespread or significant contamination across the site. However, localised contamination in some AECs was observed as requiring a SCI to further investigate the AEC identified by the DSI and associated contaminants of potential concern (CoPC) to determine the vertical and lateral extent of the contamination issues and/or whether remediation is required. The SCI fieldwork was completed at the site on 14 to 20 December 2022 and 7 to 9 February 2023 to assess the AEC identified as requiring further investigation.

A CSM was documented in the SAQP (DP, 2020) and updated during the DSI (DP, 2023). The data collected for the SCI has generally confirmed that certain potential contaminant sources outlined in the CSM pose a potentially complete pathway to the identified receptor(s) whilst others do not. This is summarised in the table below.

Table 34 Updated Summary of Potentially Complete Exposure Pathways (Proposed Land Use)

Source	Transport Pathway	Receptor	Risk Management Action/Remediation Action Required
AEC36			
Timber treatment and PCBs in transmission box(es): Metals, TRH, benzo(a)pyrene, total PAHs, total PCBs.	Direct contact of contaminated ground, ingestion and dermal contact with soil or water, inhalation of dust, leaching of contaminants and vertical migration into groundwater, lateral migration of groundwater	Future site users Adjacent land users Ecological receptors	The results of power pole delineation sampling at power poles PP32 and PP35, generally identified the lateral extents of surface topsoil impacted by power pole related COCP, as requiring remediation, to be limited to within 1 m (north, south, east and west) of each of the power poles across an approximate area of 4 m2 . The vertical extent of impact to topsoil was delineated in the vicinity of power pole (PP35) to depths of approximately 0.3 m bgl. The vertical extent of impact to topsoils at power pole PP32 should be confirmed with validation sampling at the time of remediation. Based on the results of sampling of the remaining power poles on-site, and those samples with power pole related CoPC exceeding the commercial/industrial land use criteria, remediation will be required of soil in the vicinity of power pole PP33. Based on the results of the delineation sampling, the extent of impact to soil from related CoPC in the vicinity of remaining power poles requiring remediation is expected to be limited to approximately 1 m from each power pole. The lateral and vertical extents of impact from power pole related CoPC should be confirmed with validation sampling at the time of remediation. Exceedances for ESLs and or public open space criteria only (without exceeding commercial/industrial criteria) were not considered to warrant remediation of soil in the vicinity of the following power poles (PP31, PP34 and PP39) given the primary commercial/industrial land use of the site and the limited potential for public or ecological access to soil.
AEC 15 and 16			
ACM pipe network – asbestos	Inhalation of dust	Future site users Adjacent land users	The ACM pipe network should be removed and all branches of former pipework followed and validated. Where observed, ACM fragments on the surface should be removed by hand. A RAP is required to document the process for the remediation and validation works. There is the potential that an ACM pipe network not observed in this investigation is present at the site.

The results of targeted testing across the site during the SCI and collection of soil samples for laboratory analysis of the associated CoPC identified AEC15, AEC16 and AEC36 (as described in Table 3) at the site as requiring risk management and/or remediation.

The identified AEC are considered typical of other rural properties in the area and are generally considered relatively localised, limited in extent and not representative of widespread gross contamination of the site. All of the identified AEC requiring remediation are readily amenable to clean-up through conventional remediation approaches. Based on the results of the SCI, it is considered that the site can be made suitable for the proposed commercial/industrial development subject to implementation of the recommendations above.

The RAP will detail the remediation and validation requirements for each of the AEC requiring remediation to render the site suitable for the proposed land use.

6.1.11.3. Remediation Action Plan

Douglas Partners Pty Ltd have been engaged to prepare a Remediation Action Plan (**RAP**), located at **Appendix U**.

The following previous reports are relevant to this initial RAP:

Initial Remediation Action Plan

The following previous reports are relevant to this initial RAP:

- *DP Report on Soil Assessment, 1984 - 2107 Elizabeth Drive, Badgerys Creek, Project 36288, dated 16 January 2004 (DP 2004);*
- *EI Australia Pty Ltd (EI) Report on Preliminary Site Investigation, 1953-2109 Elizabeth Drive, Badgerys Creek, NSW, Report E23773.E.01_Rev0, dated 30 May 2018 (EI 2018).*
- *DP, Report on Geotechnical Land Capability Assessment, The Northern Gateway, 1953 – 2109 Elizabeth Drive, Badgerys Creek, Project 86548.00.R.001.Rev1, November 2019 (DP 2019a);*
- *DP, Report on Preliminary Site Investigation, The Northern Gateway, 1953 – 2109 Elizabeth Drive, Badgerys Creek, Project 86548.00.R.002.Rev1, November 2019 (DP 2019);*
- *DP, Report on Sampling and Analysis Quality Plan, The Northern Gateway, 1953 – 2109 Elizabeth Drive, Badgerys Creek, NSW, Project 86548.03, Rev. 1 (DP, 2020);*
- *DP Report on Site Review Detailed Site Investigation for Contamination, DHL Stage 2, Part of 1953 – 2109 Elizabeth Drive, Badgerys Creek, NSW, report reference 86548.20.R.002.Rev0 dated 8 August 2023 (DP, 2023a – 'the DSI – Stage 2'); and*
- *DP Review of Supplementary Contamination Investigation, The Northern Gateway, 1953 – 2109 Elizabeth Drive, Badgerys Creek, NSW, report reference 86548.20.R.007.Rev0 dated 17 August 2023 (DP, 2023b – 'the SCI')*

The previous investigations at the site have identified the following AEC relevant as shown in the below Table as requiring either remediation or further investigation for the site to be suitable for the proposed land use.

Table 35 Identified Areas of AEC

Location of Impact / AEC	Source	Further Assessment / Delineation Action Required
AEC 36	Timber Power Poles – Heavy metals, TRH, benzo(a)pyrene, total PAHs and total PCBs	The DSI (2023a), identified fill impacted soils with concentrations of Heavy Metals (As), TRH, benzo(a)pyrene and total PAHs and total PCBs and exceeding the HILs, ESLs and management limits at a number of timber power pole locations. During SCI (2023), the results of power pole delineation sampling at power poles (PP32 and PP35), generally identified the lateral extents of surface topsoil impacted by power pole related COCP, as requiring remediation, to be limited to within 1 m (north, south, east and west) of each of the power poles across an approximate area of 4 m2 . The vertical extent of impact to topsoil was delineated in the vicinity of power pole (PP35) to depths of

Location of Impact / AEC	Source	Further Assessment / Delineation Action Required
		approximately 0.3 m bgl with the exception of power pole PP32. The vertical extent of impact to topsoils at power pole PP32 should be confirmed with validation sampling at the time of remediation. Based on the results of sampling of the remaining power poles on-site, and those samples with power pole related COPC exceeding the commercial/industrial land use criteria, remediation will be required of soil in the vicinity of power pole PP33. Based on the results of the delineation sampling the extent of impact to soil from related COCP in the vicinity of remaining power pole PP33 requiring remediation is expected to be limited to approximately 1 m. The lateral and vertical extents of impact from power pole related COPC should be confirmed with validation sampling at the time of remediation. Exceedances for ESLs and or public open space criteria only (without exceeding commercial/industrial criteria) were not considered to warrant remediation of soil in the vicinity of the following power poles (PP31, PP34 and PP39) given the primary commercial/industrial land use of the site a
AEC 15 and 16	ACM pipe network – asbestos	ACM pipes loose above ground should be removed and disposed of and the full extent of the network removed. The methodology of remediation and validation is described in this RAP.

Remediation Options

The preferred hierarchy of options for site remediation, if required, and/or management is set out in s.6(16) Assessment of Site Contamination Policy Framework of Schedules A and B of NEPC (2013), as follows:

- on-site treatment of the contamination so that it is destroyed or the associated risk is reduced to an acceptable level; and
- off-site treatment of excavated soil, so that the contamination is destroyed or the associated risk is reduced to an acceptable level, after which soil is returned to the site; or

If the above is not practicable:

- consolidation and isolation of the soil on site by containment with a properly designed barrier; and
- removal of contaminated material to an approved site or facility, followed, where necessary, by replacement with appropriate material.

The preferred remediation hierarchy for the site is referenced in Section 4.3 of Contaminated Sites: *Guidelines for the NSW Site Auditor Scheme (3rd edition), (NSW EPA, 2017)*. These guidelines state that site auditors must ensure that adequate consideration has been given to the nature and extent of contamination, and the risks which the contamination may be posing to human health and the environment.

Mitigation Measures

The RAP provides the overarching general mechanism by which the site can be made suitable with the proposed development.

In the event that contamination remains on site (i.e., contamination is capped), a long-term environmental management plan will be required to consider the site suitable for the proposal. If required, the long-term environmental management plan is to be prepared and implemented in accordance with Table 2.7 of NSW EPA (2020) *Consultants Reporting on Contaminated Land: Contaminated Land Guidelines*. The LTEMP is to include:

- Provisions for the ongoing maintenance of the capping layer with associated recording of inspections/works completed.
- Methodology surrounding how to manage working with the cap and repairs to the cap when disturbed.

- Identifying who is responsible for the ongoing management of the cap.
- Noting how the EMP is to be made legally enforceable (e.g., as a condition of consent).

The remediation works identified will be undertaken in accordance with the statutory requirements under clause 4.6 (1) of SEPP (Resilience and Hazards). The appropriate notifications will be provided, and remediation works will comply with the relevant guidelines. An unexpected finds protocol will be enacted if additional potential contamination is encountered during remediation or general site works.

6.2. STANDARD IMPACT ASSESSMENT

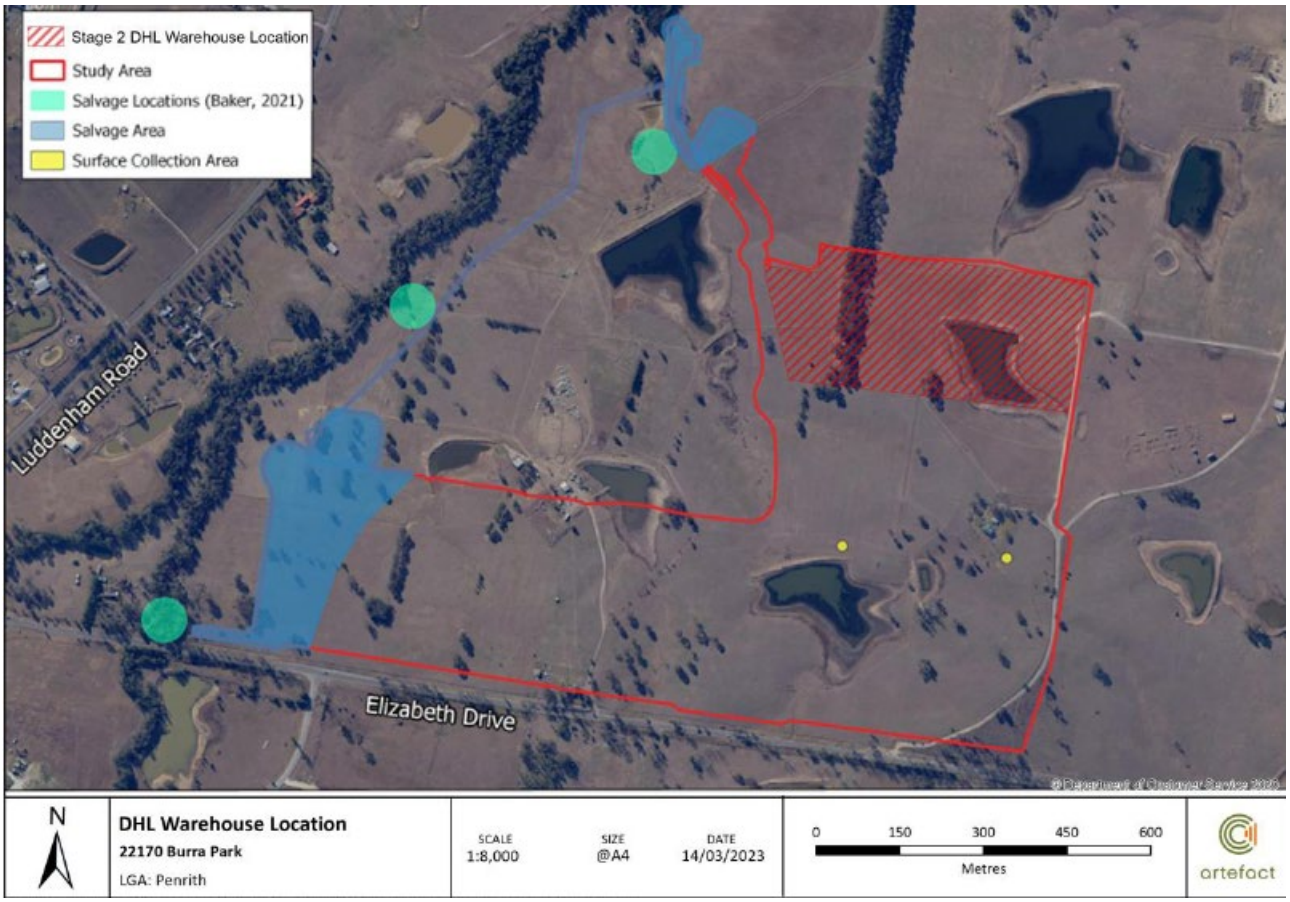
This section of the report addresses the matters which require a standard assessment. It outlines the findings of the assessment and the key mitigation measures used to ensure compliance with the relevant standards or performance measures.

6.2.1. Aboriginal Cultural Heritage

Artefact was commissioned to prepare a covering letter, which assessed the proposal in the context of previous investigations and studies of indigenous heritage on the site (refer to **Appendix P**). Artefact undertook an addendum assessment report for the latest concept design for SSD-70316465 (Burrah Park Concept and Stage 1) which was based on the Aboriginal Cultural Heritage Assessment (ACHAR) for the project prepared by Baker (2024). The ACHAR and addendum have met the SEARs in regard to Aboriginal heritage for SSD-70316465 in preparing an assessment of impacts, undertaking test excavation and Aboriginal community consultation.

The ACHAR and addendum prepared for SSD-70316465 (Burrah Park Concept and Stage 1) located a number of Aboriginal sites as a result of survey and test excavation. The focus of archaeological heritage management was on the western portion of the site near the river where areas of sensitivity were located (see **Figure 51**).

Figure 51 Location of Aboriginal sites and areas of potential requiring salvage excavation.



The DHL warehouse study area does not contain any Aboriginal sites or Aboriginal heritage constraints as identified in the ACHAR for the Burrah Park Concept and Stage 1 development. Impacts of SSD-70817958

(DHL Warehouse) are therefore consistent with those assessed for the Burrah Park Concept and Stage 1 development.

As there are no Aboriginal heritage constraints identified within the DHL warehouse study area and bulk earthworks would be carried out under SSD-70316465 (Burrah Park Concept and Stage 1) no management of Aboriginal heritage is required for SSD-70817958 (DHL Warehouse). The SSD-70316465 (Burrah Park Concept and Stage 1) ACHAR, addendum and this cover letter would meet SEAR 18 in regard to Aboriginal heritage for SSD-70817958.

6.2.2. Non-Indigenous Heritage

The site does not contain any State or locally significant heritage items. Given the sites context within the wider Burrah Park estate, the site has previously been the subject of a Statement of Heritage Impact (**SoHI**) prepared by Baker Archaeology in August 2024. The report prepared by Baker Archaeology in August 2024 remains relevant.

It is acknowledged that the concept plan seeks the removal of all heritage items, and thus, no items of heritage significance are proposed for removal under this application. After reviewing the updated drawings listed in the EIS prepared by SBA Architects dated October 2024, Urbis confirms that the SoHI report prepared by Baker Archaeology in August 2024 remains relevant, meets the Industry Specific SEARS for Environmental Heritage, and that no further heritage impact assessment is necessary.

The large-scale facilities proposed at the subject site as part of the Stage 1 works will have the same impact on the identified heritage items, eliminating all physical traces of the former CSIRO Division of Animal Health (DAH) facility.

The proposed mitigation measures recommended by the 2024 report do not require amendment and are copied below:

- None of the heritage elements identified in this SOHI warrant conservation. Archival recording is warranted prior to removal. A photographic archival record of the former CSIRO McMaster Field Station site, including all of its built and landscape elements, should be prepared by a suitably qualified heritage consultant prior to the Stage 1 development. This record should be prepared in accordance with the NSW Heritage Council's Photographic Recording of Heritage Items Using Film or Digital Capture (NSW Heritage Council, 2006).

6.2.3. Air Quality

The Air Quality Impact Assessment (**AQIA**) prepared by SLR Consulting Pty Ltd (**SLR**) assesses the potential for air quality impacts as part of the construction activities associated with the proposal and is included in **Appendix X**. The AQIA was based on a qualitative (risk-based) assessment of both construction and operational impacts, based on the information available, to identify those activities that have the potential for off-site air quality impacts if not adequately controlled, so that appropriate mitigation measures can be identified and incorporated into the project design and relevant environmental management plans.

Identified residential receivers are graphically shown in **Figure 52** below.

Figure 52 Identified Residential Receivers

Source: SLR Consulting

6.2.3.1. Findings

The assessment identifies the construction and operational works that will impact the local air quality in relation to consideration of the closest sensitive receivers. The closest residential receptor is located approximately 900 meters (m) to the west of the site, with the next closest ranging between 980 m to 1.5 km to the west and northwest along Luddenham Road. The assessment finds air quality issues from the site are not considered a constraint for the proposal.

Construction Phase

The main air quality issue associated with construction works relate to emissions of fugitive dust. The potential for dust to be emitted during the construction works will be directly influenced by the nature of the activities being performed at any given time. Generally, the activities that are most likely to lead to short-term emissions of dust, include:

- Grading
- Loading and unloading of materials
- Wheel-generated dust and combustion emissions from construction equipment
- Wheel-generated dust from trucks travelling on unpaved surfaces
- Wind erosion of exposed surfaces.

Where diesel-powered mobile machinery and vehicles are being used, localised elevations in ambient concentrations of combustion-related pollutants may also occur, however any potential for the relevant impact assessment criteria for these pollutants to be exceeded at surrounding sensitive areas will be

minimal. Fugitive dust emissions are generally considered to have the greatest potential to give rise to downwind air quality impacts.

Given the nature of construction works required, the emissions generated are of limited duration and small in comparison to the surrounding road network. The assessment also considers that the pollutants omitted during the construction phase are unlikely to have significant impacts on local air quality given the short term and low-level emissions required as part of the proposal. The risk of air quality impacts from construction activities is detailed in the table below.

Table 36 Risk of air quality impacts from construction activities

Impact	Sensitivity of Area	Dust Emission Magnitude				Preliminary Risk			
		Demolition	**Earthworks**	**Construction**	**Track out**	**Demolition**	**Earthworks**	**Construction**	**Track out**
Dust Soiling	Low	Small	Large	Large	Large	Low Risk	Low Risk	Low Risk	Low Risk
Human Health	Low					Low Risk	Low Risk	Low Risk	Low Risk

Operational Phase

During the operational phase, the main source of air emissions would be emissions of products of fuel combustion and particulate matter (from brake and tyre wear as well as re-entrainment of road dust) associated with the trucks and other vehicles entering and leaving warehouse 1 and warehouse 2 or idling at the site during loading/unloading operations.

The assessment identifies that the emissions generated by light and heavy vehicles within the proposal are small compared to those generated by traffic on the surrounding road network. Given the nature and scale of the Project, it is not anticipated that any impacts upon human health or amenity values would be experienced during the operational phase of the project and as such, air quality monitoring is not deemed to be necessary.

Given the scale of the operations, the assessment concludes that the potential impact significance from the operational phase traffic activities to be of neutral significance for all receptors. Impacts on human health or amenity values because of the operational phases is also not anticipated to occur.

6.2.3.2. Mitigation Measures

Construction Phase

While the assessment report found that the proposed construction works would result in low risk of dust soiling, human health and odour impacts, due to the potential for cumulative impacts due to the surrounding development, it is recommended that the Site adopts dust control mitigation measures relevant to high risk to ensure potential cumulative impacts are reduced. This includes the following practices:

- Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).
- Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.
- Avoid explosive blasting, using appropriate manual or mechanical alternatives.
- Bag and remove any biological debris or damp down such material before demolition.
- Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
- Use hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.
- Only remove the cover in small areas during work and not all at once.

- Avoid scabbling (roughening of concrete surfaces) if possible.
- Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
- Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery.
- For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.
- Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.
- Avoid dry sweeping of large areas.
- Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
- Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
- Record all inspections of haul routes and any subsequent action in a site log book.
- Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.
- Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
- Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.
- Access gates to be located at least 10 m from receptors where possible.

The mitigated dust deposition and human health impacts for demolition, earthworks, construction, and trackout phases are anticipated to be negligible provided appropriate mitigation measures are implemented.

Operational Phase

There are no additional mitigation measures required during the operational phase.

6.2.4. Flooding Risk

Arcadis was engaged to undertake a flood impact assessment (**FIA**) included at **Appendix T** to address the SEARs. Arcadis has conducted a comprehensive flood risk assessment for the entire Burrah Park business complex at 1953-2109 Elizabeth Drive, Badgerys Creek (SSD-70316465). The assessment evaluates existing flood conditions and the potential impacts of future development on local flood behaviour, considering adopted flood studies, the potential effects of climate change, and the relevant provisions of the NSW Flood Risk Management Manual.

Key findings of the assessment include:

- Flood Inundation and Impact Analysis: The proposed business park is primarily outside the 1% AEP flood extent, with only minor encroachments into the PMF zone. For events up to the 1% AEP, impacts are minimal and localised to areas adjacent to the proposed development embankment. Lots 4.1 and 4.2, centrally located within the site, are not related to these minor encroachments.
- Climate Change Considerations: The analysis accounts for potential changes in flood behaviour due to climate change.
- PMF Conditions: The PMF scenario results in minor flood level increases (less than 150mm) on properties west of Cosgroves Creek and along the M12 Motorway. However, these impacts are not significant in the overall flood risk profile. Additionally, Lots 4.3 and 4.4 are situated at an elevation significantly above the PMF level.

- On-Site Flood Resilience: The business park will remain flood-free up to and including the PMF, ensuring that occupants can remain on-site without evacuation. For events up to the 1% AEP, Elizabeth Drive serves as a viable evacuation route toward Northern Road. However, during a PMF event, Elizabeth Drive may experience peak flood depths of up to 400mm (hazard category H5), making it unsafe for vehicles and pedestrians.

A review of civil drawings by at&l confirms that the proposed development design aligns with the overall flood assessment conclusions. Effective internal stormwater management measures have been incorporated to minimise localised flood impacts. In accordance with the Flood Impact and Risk Assessment – Flood Risk Management Guide LU01, the following design solutions and operational procedures will be implemented:

- Integrated Stormwater Management: The design should include robust internal drainage systems that effectively manage stormwater and reduce on-site flood risk.
- Evacuation and Access Planning: Operational procedures should ensure safe access and egress during flood events. For events up to the 1% AEP, Elizabeth Drive serves as a designated evacuation route, with detailed signage and route management procedures to assist occupants during emergencies. However, during a PMF event, Elizabeth Drive may experience peak flood depths of up to 400 mm (hazard category H5), making it unsafe for vehicles and pedestrians. Therefore, it is recommended that the site be safely evacuated before the onset of flooding.

The flood risk assessment for Burrah Park, Elizabeth Drive, Badgerys Creek – Lots 4.1 and 4.2 confirms that the proposed development meets the flood risk requirements outlined in the Planning Secretary's Environmental Assessment Requirements. The assessment comprehensively evaluates existing flood risks, considers climate change impacts, and outlines the necessary design solutions and operational procedures to mitigate flood risk.

The full flood risk assessment prepared for Burrah Park is attached at **Appendix T** and provides the full technical analysis supporting this conclusion.

6.2.5. Hazards and Risks

A Preliminary Hazard Analysis (**PHA**) has been prepared by Riskcon Engineering (**Appendix AA**). Warehouse 1 is proposed to be developed as a speculative warehouse to cater toward potential customers that require large quantities of DGs to be stored. As the exact nature of the products is unknown, the warehouse is being developed to enable full flexibility of DG products including packages exceeding retail storage volumes.

The DGs will be separated into two (2) bunkers purpose built for the product suite to be stored within. The flammable gases and liquids and miscellaneous DGs (which typically have a combustible element to the product) will be stored in one bunker which will be subject to AS 1940:2017 design requirements while the other bunker will contain the remaining products and will be assessed using AS/NZS 3833:2007. Details of the design requirements for the dangerous goods storage areas is provided in the Dangerous Goods Report, prepared by Riskcon Engineering (**Appendix Z**) to ensure it is delivered in accordance with the relevant Australian Standards and the warehouse will comply with the standard and thus the NSW WHS Regulation. The quantum of dangerous goods that can be stored at Warehouse 1 are summarised in **Table 37**.

Table 37 Dangerous Goods Proposed to be Stored at Warehouse 1

Storage Location	Class	Description	PG	Quantity (kg)
DG Bunker 1	2.1	Flammable gases (aerosols)	n/a	100,000 / 25,000*
	2.2	Non-toxic, non-flammable gases	n/a	200,000
	3	Flammable liquids	II & III	1,000,000
	4.1	Flammable solids	II & III	100,000
	C1/C2	Combustible Liquids	n/a	10,000
DG Bunker 2	5.1	Oxidising agents	II & III	40,000

Storage Location	Class	Description	PG	Quantity (kg)
	8	Corrosive substances	II	20,000
			III	
	9	Miscellaneous DGs	III	10,000
Cabinet	6.1	Toxic substances	II	10

The type of DGs and quantities stored and used at the site may result in a number of hazardous scenarios, of which have been assessed as part of the PHA below:

- **Flammable liquid or gas release, delayed ignition and flash fire or explosion**: A review of the store design indicates the potential for the accumulation of vapours has been minimised by the ventilation, ignition sources controlled, and the area is contained within a compartment, the potential for offsite impact to occur has been negated. Subsequently, this incident has not been carried forward for further analysis.
- **Flammable material spill, ignition and racking fire**: The store is enclosed within FRL 240/240/240 walls; hence, in the event of a fire, the radiant heat will be contained within the compartment and be unable to impact offsite. Therefore, this incident has not been carried forward for further analysis.
- **LPG release (from aerosol), ignition and racking fire:** The store is enclosed within FRL 240/240/240 walls; hence, in the event of a fire, the radiant heat will be contained within the compartment and be unable to impact offsite. Therefore, this incident has not been carried forward for further analysis.
- **Sprinkler failure and Bunker 1 fire and radiant heat**: In the event that the sprinkler system fails to control either an aerosol or flammable liquid fire, the fire will propagate throughout the bunker resulting in radiant heat emission from the area. It is noted that the surrounding land use is zoned as enterprise which permits a wide range of industries or developments that may be located adjacent to the warehouse. This may include childcare centres or other sensitive land uses; hence, it is necessary to demonstrate that in the event of a full bunker fire that the acceptable criterion is not exceeded. A summary of the further analysis undertaken as part of the PHA is as follows:
  - A detailed fire frequency analysis has been conducted as part of the PHA, the results of this analysis indicate that an initiating fire frequency would be in the order of $1x10^{-3}$ p.a.
  - The site is fitted with multiple automatic sprinkler systems that will initiate on fire detection. The protection system will be tested monthly totalling 12 tests per annum. Hence, the frequency of a full fire within the warehouse is the frequency of an initiating fire x the probability of fail on demand (PFD) of the automatic fire fighting system.
  - Conservatively assuming a 100% chance of fatality at the site boundary for a person exposed to radiant heat from a full warehouse fire, the probability of fatality at the site boundary becomes $3.53x10^{-6}$ x 1 = $3.53x10^{-6}$ chances of fatality per year or 3.53 chances of a fatality in a million per year (pmpy).
  - The NSW Department of Planning and Environment has issued a guideline on the acceptable risk criteria. The frequency of a fatality occurring at the adjacent sites is less than the acceptable risk under this guideline, as such, he frequency of a fatality would be lower than the minimum, acceptable risk criteria under the guideline.
- **Sprinkler failure and Bunker 1 fire and toxic smoke emission**: there are no toxic substances within this bunker, the potential for toxic smoke to be generated is considered to be negligible compared to a standard warehouse fire. As there are no unique smoke hazards from this scenario, this incident has not been carried forward for further analysis.
- **Bunker 2 fire and radiant heat:** the potential for ignition to occur is low due to the nature of the products, the fire protection system and fire compartmentation, the potential for an offsite impact to occur is considered negligible; hence, this incident has not been carried forward for further analysis.

- **Bunker 2 fire and toxic smoke emission:** Bunker 2 does not contain any toxic substances and the potential for a fire to occur within the bunker is considered almost negligible given that no flammable or combustible materials are stored within the bunker. Therefore, the potential for toxic smoke emission to occur from the storage is also considered negligible; hence, this incident has not been carried forward for further analysis.
- **Full warehouse fire:** potential for propagation is considered to be low. and a full warehouse fire would not be dissimilar to a standard warehouse, this incident has not been carried forward for further analysis.
- **Toxic substance instances:** Based upon the low volume of toxic substances stored and the perceived concentration of toxic compounds in a smoke plume in the event the toxic substances are involved in a fire, it is considered that the potential for an offsite impact from toxic smoke is considered negligible. Therefore, this incident has not been carried forward for further analysis.
- **Dangerous goods liquid spill, release and environmental incident:** As the potential for an offsite impact to occur is considered negligible, this incident has not been carried forward for further analysis. Notwithstanding this, the following recommendation has been made:
  - The DG bunkers shall be equipped with spill kits that are compatible with the goods being stored and handled.
  - Unloading / loading areas shall be equipped with spills that are compatible with the goods being stored and handled.
- **Warehouse fire, sprinkler activation and potentially contaminated water release**: The site will hold 60 minutes of water storage on site as required by FM Global standards To ensure sufficient contaminated water can be contained the following recommendations have been made:
  - The warehouse and/or site boundaries shall be capable of containing 90 minutes of sprinkler discharge (i.e. ceiling mounted, in-racks, and drenchers where required) in addition to 90 minutes of hydrant hose discharge assuming three (3) hydrants are operating.
  - The civil engineers designing the site containment shall demonstrate the design is capable of containing the required water volume.

  Should the above recommendations be adopted, the potential for potentially contaminated water to be discharged from the site is considered low; hence, this incident has not been carried forward for further analysis.

As such, subject to the above, it is concluded that the risks at the site boundary are not considered to exceed the acceptable risk criteria; hence, the facility would only be classified as potentially hazardous and would be permitted within the current land zoning for the site. A summary of mitigation measure recommendations provided by the PHA, in support of the development, includes the following:

- The DG bunkers shall be equipped with spill kits that are compatible with the goods being stored and handled.
- Unloading / loading areas shall be equipped with spills that are compatible with the goods being stored and handled.
- The warehouse and/or site boundaries shall be capable of containing 90 minutes of sprinkler discharge (i.e. ceiling mounted, in-racks, and drenchers where required) in addition to 90 minutes of hydrant hose discharge assuming three (3) hydrants are operating.
- The civil engineers designing the site containment shall demonstrate the design is capable of containing the required water volume.
- A DG design report shall be completed for the warehouse to ensure all required design items from the standard are captured and included within the site design.
- The design report shall be prepared by a competent DG consultant with competencies in all the DG classes proposed to be stored at the warehouse.
- The warehouse shall be subject to a hazardous area classification to ensure that electrical equipment installed within Bunker 1 is compliant with the likely materials to be stored.

- Prior to acceptance and receival of Class 9 products at the warehouse, the flash point of the product shall be reviewed to confirm that the product is not combustible prior to storage into Bunker 2. Where combustibility is identified, the product shall be stored in Bunker 1.
- The toxic substances shall be stored in a toxic substances cabinet complying with AS 4552-1997.

6.2.6. Waste Management

A Waste Management Plan (**WMP**) (**Appendix Y**) has been prepared by SLR Consulting Australia Pty Ltd (**SLR**) to inform the proposal and identify the potential waste likely to generated during both the construction and operational phases of the proposal. The WMP provides directions as to how waste will be handled, processed, and disposed in accordance with the following waste regulatory framework:

- Penrith Development Control Plan (**Penrith DCP**) 2014
- Penrith Council's Industrial, Commercial and Mixed-Use Waste Management Guidelines.
- The Hills Development Control Plan 2012 (The Hills DCP)
- Building Code of Australia (BCA) and relevant Australian Standards
- Council of Australian Governments National Construction Code 2019
- NSW EPA's Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012
- NSW Waste and Sustainable Materials Strategy 2041: Stage 1 – 2021-2027
- NSW EPA Resource Recovery Orders and Resource Recovery Exemptions
- NSW EPA's Waste Classification Guidelines 2014
- Protection of the Environment Operations Act (POEO) 1997 and Amendment Act 2011
- The Work Health and Safety Regulation 2017
- Waste Avoidance and Resource Recovery Act 2001

6.2.6.1. Construction Waste

The site is currently vacant and comprises only rural landscaping. Some excavation is proposed at the site, but all soil will be reused on site for site levelling and landscaping. There are no structures on site so no demolition waste will be generated.

With regard to construction waste, The Penrith DCP provides no guidance on the construction of waste quantities, as such, SLR have adopted the 'Factory' and 'Office' waste construction rates from Appendix A of the Hills Shire Council DCP for estimating the type and quantities of waste generation for the proposal. SLR have also considered *Light Duty Asphalt Pavements - Design, Specification and Construction 2002* (Australian Asphalt Pavement Association) for estimated quantities required for carpark construction.

The construction waste generation rates as predicted by SLR are provided below in **Table 38**.

Table 38 Construction Waste Generation Rates

Rate Type	Area (m^2)	Waste Types & Quantities (m^3)								
		Timber	Concrete	Bricks	Gyprock	Sand/Soil	Metal	Other	Asphalt	Base
Factory	1,000	0.25	2.1	1.65	0.45	4.8	0.6	0.5	0	0
Offices	1,000	5.1	18.8	8.5	8.6	8.8	2.75	5.0	0	0
Carpark	100	0	0.225	0	0	0	0	0	0.3	1.25
Hardstand	1,000	0	2.1	0	0	4.8	0.6	0.5	0	0

Source: SLR

Utilising the above rates, the estimate types and quantities of construction waste are provided below.

Table 39 Estimated Types & Quantities of Construction Waste

	Area (m^2)	Waste types and quantities (m^3)								
		Timber	Concrete	Bricks	Gyprock	Sand or Soil	Metal	Other	Asphalt	Granular Base
W1	31,954	80	671	527	144	1,534	192	160	-	-
Offices 1	1,194	61	224	101	103	105	33	60	-	-
W2	31,954	80	671	527	144	1,534	192	160	-	-
Offices 2	1,194	61	224	101	103	105	33	60	-	-
Car park 1	3,816	-	9	-	-	-	-	-	11	48
Car park 2	3,628	-	8	-	-	-	-	-	11	45
Hardstand	31,840	-	669	-	-	1,528	191	159	-	-
Total	105,580	282	2,476	1,257	493	4,806	640	598	22	93

Source: SLR

6.2.6.2. Operational Waste

SLR have considered the operational waste streams to generate from the application and have considered they will largely be associated with day-to-day operations within the office floor space. The following waste streams have been identified:

- Bulk packaging waste, including plastic wrapping and cardboard
- Food and food and drink packaging from staff eating areas
- Garden organic waste from landscaped areas
- Bulky waste items such as furniture and e-waste
- Stores, plant and general maintenance waste

SLR has used the 'Offices' and 'Warehouse' waste generation rates from Penrith Council's Industrial, Commercial and Mixed-Use Waste Management Guidelines for estimating the type and quantities of waste generated from the operational activities of the Development. The operational waste generation rates used are shown below in **Table 40**.

Table 40 Waste Generation Rates Applied to the Project

Type of Premises	Waste Generation (L/100m^2/day)	Recycling Generation (L/100m^2/day)
Warehouse	10	10
Office	10	10

Source: SLR, 2022

proposal have been calculated. The operational waste quantities were additionally calculated based on a week comprising seven days of operation.

The estimated quantities of operational waste generated by the proposal are shown below in **Table 41**.

Table 41 Estimated Quantities of Operational Waste & Recycling

Precinct	Warehouse	Project area	Area (m^2)	(L/day)		(L/week)	
				Garbage	Recycling	Garbage	Recycling

2 - North	1	Warehouse	31,954	3,195	3,195	22,368	22,368
		Office and Dock office	1,194	119	119	836	836
		Total	33,148	3,315	3,315	23,204	23,204
	2	Warehouse	31,954	3,195	3,195	22,368	22,368
		Office and Dock office	1,194	119	119	836	836
		Total	33,148	3,315	3,315	23,204	23,204

Waste Storage Area

The necessary waste storage area must be large enough to adequately accommodate all quantities of operational waste and recycling between collections. All waste storage room calculations have considered the 3-m^3 front lift bin dimensions specific in the Penrith DCP and shown below in **Table 42**.

Table 42 Dimensions & Approximate Footprint of Bins

Capacity	Height (mm)	Depth (mm)	Width (mm)	Footprint (m^2)
3-m^3	1,540	1,520	2,060	3.13

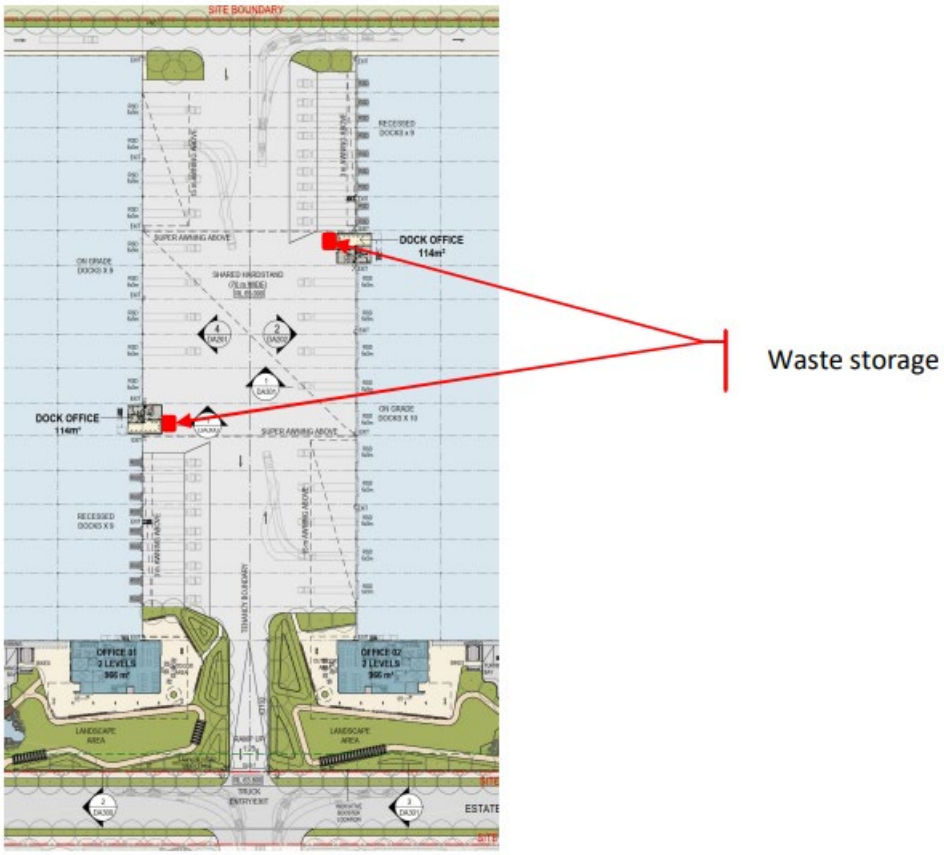
Source: SLR

Waste storage area should be located so that:

- Are away from primary street frontages
- Are convenient, safe, functional and directly accessible to users and collection vehicles but inaccessible to the public
- Avoid pedestrian or vehicular traffic.

Figure 53 below highlights the proposed location of the waste storage areas for both warehouses:

Figure 53 Proposed Waste Storage Area for Warehouse 1 & 2



Source: SLR

6.2.6.3. Mitigation Measures

Standard waste reduction measures are recommended to be conducted during the demolition, construction, and operational phases. These recommended procedures include the following:

- Effective management of construction and demolition waste through reuse and recycling where practical.
- Practical waste storage areas that are large enough to adequately store all quantities of operational waste and recycling between collections.
- Regular monitoring and reporting of waste and recycling management arrangements, as well as visual assessments of bins and bin storage areas.
- Clearly communicate waste management initiatives and management measures.
- Provide appropriate signage within waste storage and collection areas, as well as the clear and correct labelling of waste and recycling bins.
- Reuse and recycling measures (e.g., establishing systems with in-house and supply chain stakeholders to transport products in re-useable packaging where possible).
- Other operational and waste avoidance measures (e.g., participating in take-back services to suppliers, avoid printing, and reviewing packaging design).
- Hiring of qualified waste contractors for handling waste removal properly informing sub-contractors of waste management procedures.

The WMP will be the responsibility of the Building Manager, or person with an equivalent role, for its implementation as well as the engagement of subcontractors.

6.2.7. Bush Fire Risk

The Bushfire Protection Assessment for the site has been complete by Eco Logical Australia Pty (**ELA**) and is submitted as **Appendix W** to this EIS. The study assesses the landscape bushfire risk and the residual risk for the proposal, given the location of the site being identified as bushfire prone land as well as being within a wider landscape of bushfire prone land.

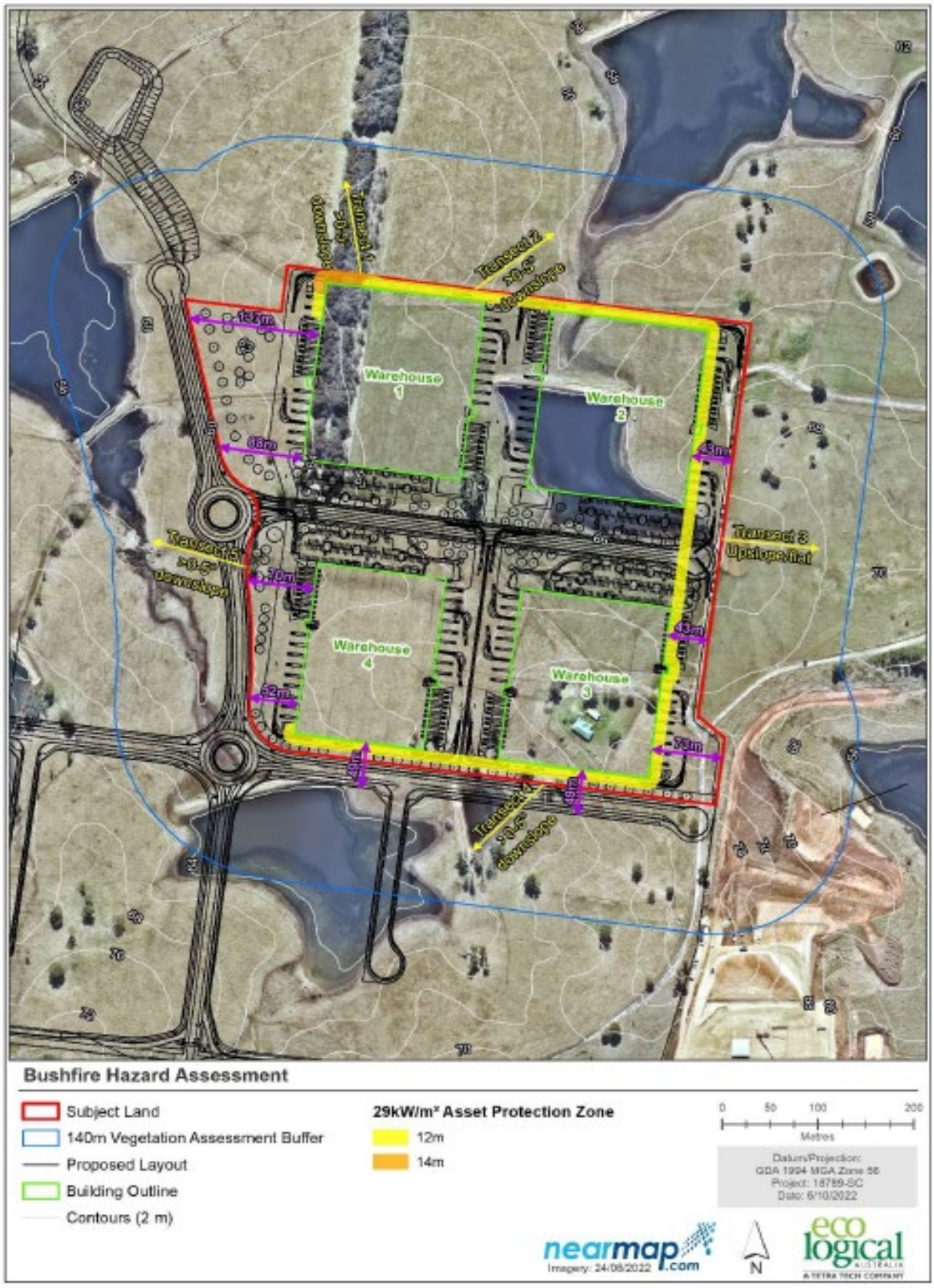
It provides recommendations in accordance with the NSW RFS document '*Planning for Bush Fire Protection*' (**PBP 2019**). The report identifies that the proposal will be sufficiently protected from the likely bushfire threat with the implementation of recommendations in relation to Asset Protection Zones (**APZs**), access, water supply, electricity service, gas service, construction standards and landscaping. This assessment was conducted with the appropriate site inspection and desktop analysis from the NSW Spatial Services mapping website.

6.2.7.1. Findings

To consider the threat of bushfire hazard to the site, ELA, in line with PBP 2019 methodology, assessed the sites slope and predominant vegetation in proximity to the site as the biggest threat from bushfire. Regarding vegetation, it has been determined that a vegetation formation at 140m from the site in all directions is the largest threat. Whilst slope, the largest threat to influence fire behaviour was determined over 100m from the boundary of the proposal under the classified vegetation. The effective slope has been determined from 2 m contour data.

As noted above the predominant bushfire threat potentially posed to the proposal is unmanaged grassland in all directions. This hazard is considered temporary in nature and will be removed as the broader precinct is activated and further development occurs. A narrow windbreak to the northwest of the site has been assessed as low hazard, however it is expected that development of adjoining lots occurs this hazard will be removed. The grassland hazard will also be minimised, and/or removed, as development of adjoining lots occurs.

Figure 54 Bushfire Hazard Assessment



Source: Eco Logical Australia

6.2.7.2. Mitigation Measures

As noted below, detailed mitigation measures and solutions can be successfully implemented into the projects design to ensure any threat from bushfire is minimised.

Table 43 Bushfire Mitigation Measures

Protection Measure	Acceptable Solution	Compliance Notes
Asset Protection Zone	Warehouse 3 is to maintain a 12m APZ	APZ available of >25m.
	Warehouse 4 is to maintain a 12m APZ	APZ available of >50m.
Access	Firefighting vehicles are provided with safe, all-weather access to structures and hazard vegetation.	Property accessed via two-way, paved driveway with two access points.
	Road surface capacity to be able to accommodate 23 tonnes.	Certification to be sought from relevant professional AS are achieved.
	Minimum 4 m carriageway width.	>4 m carriageway width provided.
	A minimum vertical clearance of 4 m to any overhanging obstructions, including tree branches.	Landscaping to comply with specifications of PBP.
Water Supply	Reticulated water is to be provided to the development.	The development will be serviced by a reticulated water supply.
	A static water supply is provided where no reticulated water is available.	
	Fire hydrant, spacing, design and sizing complies with AS 2419.1.	The advice of a relevant authority or suitably qualified professional will be sought, for certification of design and installation in accordance with relevant legislation, Australian Standards.
	Hydrants are not located within any road carriageway.	
	Reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads.	
Electricity Service	Where practicable, electrical transmission lines are underground.	Electricity services to the development will be located underground.
Gas Service	Reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014.	The advice of a relevant authority or suitably qualified professional should be sought, for certification of design and installation in

	All fixed gas cylinders are kept clear of all flammable materials.	accordance with relevant legislation, Australian Standards.
	Connections to and from gas cylinders are metal.	
	Polymer-sheathed flexible gas supply lines are not used.	
	Above-ground gas service pipes are metal, including and up to any outlets.	
Construction Standard	BAL is determined in accordance with Tables A1.12.5 to A1.12.6 of PBP.	BAL determined using Table A1.12.5 of PBP.
	Fencing and gates are constructed in accordance with Section 7.6 of PBP.	Specifications are met.
Landscaping	Compliance with the NSW RFS 'Asset protection zone standards.	APZ / Landscaping is to be managed in accordance with PBP.
	Trees and shrubs are located so that: ▪ the branches will not overhang the roof ▪ the tree canopy is not continuous ▪ any proposed wind break is located on the elevation from which fires are likely to approach.	APZ / Landscaping is to be managed in accordance with PBP.

Source: ELA

These measures identified are deemed to satisfy bushfire protection requirements and can be actioned under the proposal in accordance with the relevant PBP objectives.

6.2.8. Construction, Operation and Staging

It is noted in the SEARs that if staging is proposed, the applicant is to provide details of how construction and operation would be managed, and any impacts mitigated. For completeness, and as discussed in **Section 3** of this report, the proposal is intended to be delivered in a single stage, with both Warehouses 1 and 2 to be under construction simultaneously. As such, there is no need to consider how the impacts of a staged construction would occur onsite.

6.2.9. BCA & Fire Safety

A BCA Assessment Report has been prepared by Certatude (**Appendix BB**) for compliance with the building assessment provisions currently outlined in BCA 2022. This assessment was conducted against the deemed-to-satisfy (DtS) provisions of the BCA. The report identifies that the bulk of requirements are readily achievable and areas where performance solutions or detailed design refinements can be applied to resolve any deviation from the DtS provisions. The items that require a performance solution or detailed design refinements are summarised in **Table 44.**

Table 44 DtS Assessment

Description	Relevant DTS Clauses'	Performance Requirements
Fire Safety Items		
Perimeter Access Warehouses 01 and 02 are provided with access around all 4 sides however exceed the 18m maximum outlined in C3D5 of the BCA. ▪ Warehouse 02 – 30m plus the 6m for the vehicle = 36m at the worst point ▪ Warehouse 01 – 30m plus the 6m for the vehicle = 36m at the worst point Note – although the above nominated the worst point by dimension, the departure occurs around the perimeter of the building where loading docks are located (recessed or non- recessed). The only DTS part of the design has been determined to be the southern elevation.	C3D4 & C3D5	A Performance Solution will be applied to satisfy the performance requirement: C1P9
Extended Travel Distance Travel distances exceed the DTS requirements of the BCA. These are to be amended as part of the design or addressed through a performance solution. Warehouse 01 ▪ Up to 100m in lieu of 40m to an exit where two exits are available. Note this assessment was carried out with some consideration for an internal racking system. Racking design is required for an accurate assessment ▪ 207m between alternative exits in lieu of 60m Carparking – WH 01 ▪ Up to 43m in lieu of 40m to an exit where two exits are available ▪ 80m between alternative exits in lieu of 60m Warehouse 02 ▪ Up to 100m in lieu of 40m to an exit where two exits are available. Note this assessment was carried out with some consideration for an internal racking system. Racking design is required for an accurate assessment ▪ 199m between alternative exits in lieu of 60m Carparking – WH 02 ▪ Up to 43m in lieu of 40m to an exit where two exits are available ▪ 83m between alternative exits in lieu of 60m	D2D5, D2D6 & G6D4	A Performance Solution will be applied to satisfy the performance requirements: D1P4 & E2P2
Travel via Non-Fire Isolated Stairs Carpark – WH 01 ▪ 96m in total in lieu of 80m and 43m from the bottom of stairs in lieu of 40m Carpark – WH 02 ▪ 99m in total in lieu of 80m and 43m from the bottom of stairs in lieu of 40m	D2D14	A Performance Solution will be applied to satisfy the performance requirements: D1P4 & E2P2
Pedestrian Ramp The design team propose the use of a vehicular ramps as pedestrian ramps for the purpose of egress must be addressed through a performance-based solution.	D3D11	A Performance Solution will be applied to satisfy the performance requirement: D1P4
Booster Location	E1D2	A Performance Solution will be

Description	Relevant DTS Clauses'	Performance Requirements
The following departures are identified against AS2419.1-2021 ▪ The proposed building contains multiple Principal Pedestrian Entrances due to the nature of the design and use ▪ The proposed location is not adjacent to the principal vehicle access.		applied to satisfy the performance requirement: E1P3
Hose Reel Location ▪ Hose reels have only been documented on the ground-floor offices and are located more than 4m from an exit (5m) ▪ The design team proposes the use of 50m FHR to afford coverage throughout the warehouse and to be addressed through a performance solution.	E1D3	A Performance Solution will be applied to satisfy the performance requirement: E1P1
Exit Mounting Height Due to the height in the warehouses directional exit signs will be located above 2.7m which deviates from the provisions of AS2293.1-2018	E4D6	Compliance Readily Achievable, the detailed design can satisfy: E4P2
Smoke Hazard Management The project design team propose to omit the smoke exhaust requirements within the car park. The team proposes to rationalise the smoke exhaust rates within the warehouse	E2D10	A Performance Solution will be applied to satisfy the performance requirement: E2P2
Accessibility Items		
Access to Buildings Access to the first floor of the dock offices has not been provided	D4D2, D4D4	D1P1 & D1P2
Turning Spaces Insufficient turn space is afforded in the offices	D4D2, D4D4	D1P1
Exemptions Any exemptions must be submitted through an accredited access consultant demonstrating compliance with the provisions of D4D5 for all stakeholder review and approval. The exemptions must be requested by or on behalf of the owner with written consent.	D4D5	-

The BCA assessment was subsequently reviewed by Affinity Fire Engineering who have prepared a fire safety letter (**Appendix GG**) and conclude that a fire safety engineering assessment is to be conducted as part of the Construction Certificate stage to ensure the development achieves compliance with the Performance Requirements of the BCA.

Overall, through ongoing development and detailing of the proposed new works, the proposed design is capable of compliance with the relevant statutory accessibility legislation and can provide reasonable access for people with disability to and within the proposed development. This will be achieved through a combination of compliance with the deemed to satisfy (**DTS**) provisions and/or the Performance Requirements of the BCA.

6.2.10. Contributions and Public Benefit

As required by the SEARs, a high-level overview of likely contributions payable because of this proposal are outlined below.

6.2.10.1. Special Infrastructure Contributions

The Western Sydney Growth Areas Special Infrastructure Contribution (SIC) determination came into effect on 14 January 2021. The SIC applies to proposal on both residential and industrial zoned land and will help fund key infrastructure to support growth in Western Sydney. The proposal generates a contribution payable under the Special Infrastructure Contribution and will likely form a condition of consent once the application is determined.

6.2.10.2. Local Contributions

Local infrastructure contributions are levied by Penrith City Council (Council) for certain development in the Aerotropolis. The Penrith Aerotropolis Development Contributions Plan (CP) collects contributions from developers in accordance with this plan to deliver local infrastructure, including local road and intersection upgrades, upgrades to local drainage infrastructure and social infrastructure, such as open space and community facilities.

The CP was formally adopted by Council on 23 July 2024 and came into effect on 14 August 2024.

The CP has a rate of 5.6% of the proposed cost of development (calculated in accordance with Clause 208 of the Environmental Planning and Assessment Regulation) and levies new development towards the cost of local road, open space and social/community infrastructure.

6.2.10.3. Sydney Water DSP Charges

Sydney Water has reintroduced Development Servicing Plan (DSP) charges to cover the cost of drinking water and wastewater infrastructure necessary to support new development. In addition, a stormwater DSP charge is also proposed to be introduced in the Aerotropolis and Mamre Road precincts, where Sydney Water is the regional stormwater authority.

6.2.11. Infrastructure Requirements

AT&L have been engaged to prepare a Civil Infrastructure Report (II) which considers the extent of the utility services infrastructure required to service the proposal. Given the existing environment with minimal built form and land largely used for agricultural purposes, consideration must be given to the necessary services required to facilitate the project.

Potable Water

The estate developer is liaising with Sydney Water in relation to the proposed water supply infrastructure that will service the estate and DHL's WH01 and WH02. It is understood that a potable water supply (assumed 200mm diameter) will be reticulated from the new trunk mains currently under construction in Elizabeth Drive to each lot's main street frontage on Estate Road 4

Wastewater

The estate developer is liaising with Sydney Water in relation to the proposed sewer infrastructure that will service the estate and DHL's WH01 and WH02. It is understood that sewer connection (assumed 225mm diameter) will be reticulated along Estate Road 4 to provide connection to WH01 and WH02. This pipe will ultimately connect to the carrier main proposed on the western side of Cosgroves Creek.

Recycled Water

The estate developer has been liaising with Sydney Water in relation to the proposed recycled water supply infrastructure that will service the estate and DHL's WH01 and WH02. It is understood that a recycled water supply (assumed 150mm diameter) will be reticulated along Estate Road 4 to provide connection to WH01 and WH02.

Electricity

The estate developer has been liaising with Endeavour Energy in relation to electrical supply infrastructure that will service the estate and DHL's WH01 and WH02. It is understood that 22kV high voltage mains and connection points shall be provided along the proposed Estate Road 4 site frontage to WH01 and WH02 from a new zone substation proposed to be constructed within the estate.

Gas

There are no existing Jemena gas mains located within the vicinity of the Site. The proposed development does not require reticulated gas supply for the Site.

Telecommunications

The estate developer is expected to provide sufficient conduits along the proposed Estate Road 4 site frontage and liaise with telecommunications providers.

Infrastructure Staging

It is expected that all relevant estate infrastructure works including the intersection with Elizabeth Drive, Estate Road 1, Estate Road 1a, Estate Road 4 and the associated utility services lead ins and reticulation shall be in place and operational prior to completion of the DHL development. All estate civil, stormwater and utilities infrastructure shall be delivered by the estate developer.

7. JUSTIFICATION OF THE PROJECT

This section of the report provides a comprehensive evaluation of the project having regard to its economic, environmental, and social impacts, including the principles of ecologically sustainable development.

It assesses the potential benefits and impacts of the proposal, considering the interaction between the findings in the detailed assessments and the compliance of the proposal within the relevant controls and policies.

7.1. PROJECT DESIGN

This SSDA seeks consent for the construction and operation of two industrial buildings for use as a warehouse and logistic facility within the proposed Burrah Park, a key employment precinct within the Northern Gateway, and wider Western Parkland City. The SSDA includes a single construction stage program that will be governed by facility demand, as well as the delivery of essential infrastructure, landscaping provision, and wider amenity for the site.

Whilst the built form and design of the proposal is largely dictated by the functional needs of DHL, there is a clear recognition of the landscape led and Start with Country process which has informed the design response. The Project has been designed with a genuine consideration of the existing site conditions and emerging character of overall Burrah Park to create a state-of-the-art warehouse and logistics facility that epitomises the high-quality development that DHL is committed to delivering to Western Sydney. The architecture and landscape response reflects the designing to country themes that have emerged through the consultation process with traditional owners.

7.2. STRATEGIC CONTEXT

The proposal aligns with the strategic direction and objectives established for the site and surrounding lands under the WSAP and Precinct Plan. Furthermore, the Project aligns with the broader strategic context established by the Region Plan and District Plan as demonstrated in **Section 2.** The proposal is located on strategically important employment land close to the WSI and will support the functioning of the WSI as an international trade gateway. Furthermore, the proposal presents a design solution that respects the important role of the site in providing a reliable supply of employment land in the Aerotropolis to meet project future demand over the next decade.

Adequate consideration has been given to the relevant strategic policies as required by the SEARs and provided in **Section 4** of this EIS and finds the site to be suitable for the proposal from a strategic point of view.

7.3. STATUTORY CONTEXT

The relevant State and local environmental planning instruments are listed in **Section 4** and assessed in **Appendix C**. The assessment concludes that the proposal complies with the relevant provisions within the relevant instruments as summarised below:

- The proposal has been assessed and designed in respect to the relevant objects of the EP&A Act as defined in Section 1.3 of the Act and addressed in **Appendix C**.
- This EIS has been prepared in accordance with the SEARs as required by Schedule 2 of the EP&A Regulations.
- This SSD pathway has been undertaken in accordance with the Planning Systems SEPP as the proposal is classified as SSD.
- Concurrence from TfNSW will be required as per the T&I SEPP for ‘traffic generating development’.
- The proposal complies with all relevant provisions under the Western Parklands SEPP as detailed in **Appendix C**. The proposal is consistent with the objectives of the Enterprise Zone.
- The proposal has been assessed in accordance with the Resilience and Hazards SEPP for both hazardous and offensive development and remediation of land. The proposal complies with the relevant clauses of the SEPP.

- The proposal generally accords with the relevant provisions of the Aerotropolis DCP 2022 as outlined in **Appendix C**.

7.4. COMMUNITY VIEWS

Community and stakeholder engagement has been undertaken by the Applicant and Urbis in the preparation of the SSDA. This included direct engagement and consultation with:

- Adjoining landowners and occupants.
- Government, agency, utility services and other key stakeholders.

This engagement was consistent with the community participation objectives in the *Undertaking Engagement Guidelines for State Significant Projects* and complied with the community engagement requirements.

Feedback obtained by Government, agencies and utility stakeholders have been incorporated into the design and assessment in the EIS. No community feedback had been provided at the time of preparing the EIS, however, the concern raised will continue to be addressed via further consultation with the relevant landowner and Sydney Water.

In accordance with the Regulations, the EIS will be placed on formal public exhibition once DPE has reviewed the EIS and deemed it 'adequate' for this purpose. Following this exhibition period, the applicant will respond to any matters raised by notified parties.

7.5. LIKELY IMPACTS OF THE PROPOSAL

The proposal has been assessed considering the potential environmental, economic and social impacts as outlined below:

- **Natural Environment**: the proposal addresses the principles of ecologically sustainable development (ESD) in accordance with the requirements of the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation) and as outlined below:
  - Precautionary principle: the precautionary principle relates to uncertainty around potential environmental impacts and where a threat of serious or irreversible environmental damage exists, lack of scientific certainty should not be a reason for preventing measures to prevent environmental degradation.
    - This EIS has not identified any serious threats of environmental damage that cannot be adequately mitigated or addressed based on current scientific standards and best practices. In this regard, the proposal can be considered generally consistent with the precautionary principle.
    - Through the implementation of environmental management and an assessment of the building's operational maintainability, the Project attempts to incorporate adaptability and resilience into the project design. The key concepts that inform the precautionary principle is to create spaces for projects that can be responsive to changes in the external environment which may eventuate in the future and avoid the risk of serious or irreversible damage to the environment.
  - Intergenerational equity: the needs of future generations are considered in decision making and that environmental values are maintained or improved for the benefit of future generations by:
    - Providing for new local employment opportunities during the construction and operational phases.
    - Delivering state of the art warehouse and logistics facilities to maintain and enhance the industry specific skills.
    - Adopting impact mitigation measures to ensure environmental values are maintained and improved as a result of the proposal for future generations.
  - Conservation of biological diversity and ecological integrity: As demonstrated in **Section 6** and throughout the EIS, the proposal will not result in any significant impacts on biological and ecological integrity of surrounding land, subject to the implementation of mitigation measures.

The planting of native vegetation, increasing tree canopy coverage, improvement of stormwater runoff from the site and use of integrated landscaping, will facilitate a development that will conserve and support local ecological diversity and integrity.

– Improved valuation, pricing and incentive mechanisms: this requires the holistic consideration of environmental resources that may be affected as a result of the proposal including air, water and the biological realm. It places a high importance on the economic cost to environmental impacts and places a value on waste generation and environmental degradation.

  - The proposal will not have any unacceptable environmental impacts in relation to air quality, water quality or waste management. The effects of the proposal will be acceptable and managed accordingly by the proposed mitigation measures as required.

  - Overall, the proposal will not have any unacceptable impacts on the natural environment. The ESD Report (CC) identifies sustainability initiatives including energy savings, energy efficiency and waste minimisation.

- **Built Environment**: Subject to the various mitigation measures recommended by the specialist consultants, no adverse environmental impacts will result from the Project in terms of traffic, noise and vibration, air quality or views during construction and ongoing operation of the warehouse and logistics facility. Based on the assessment of noise, air quality and traffic mitigation measures, the Project will not result in any adverse cumulative impacts.

- **Social**: the proposal seeks to deliver employment uses to support the lifestyle of future residents and current residents within Western Sydney, by providing jobs closer to home as envisaged by the relevant strategies. The proposal will not result in any undue social impacts and will provide an improved outcome.

- **Economic**: The Project has significant economic impacts by developing high quality warehouse and logistics facilities within NSW and adjacent to the new WSI, which will result in investment and economic benefit to the Western Sydney Region and State economy. In the short term, the construction of the facility will create demand for construction jobs and services.

The potential impacts can be mitigated, minimised, or managed through the measures discussed in detail within **Section 6** and as summarised in **Appendix E** to this EIS.

7.6. SUITABILITY OF THE SITE

The suitability of the site to accommodate the proposal has been assessed in detail in the preparation of this EIS. This includes a comprehensive assessment of its consistency with the relevant strategic land use and transport policies and level of compliance with the statutory planning controls that apply to the site and the proposal. The potential environmental impacts of the proposal have also been assessed in accordance with the SEARs and as outlined within the following sub-sections of the EIS.

Each of the planning and technical specialist assessments have been considered in assessing the suitability of the site to accommodate the proposed warehouse and logistics estate. The site is considered suitable for the proposed use for the reasons as summarised below:

- The proposal will allow the construction and operation of a warehouse and logistics facility within the site, which is permissible with consent and consistent with the Enterprise Zone objectives outlined in the Western Parkland City SEPP.

- The proposal satisfactorily addresses the relevant provisions in Western Parkland City SEPP, the Precinct Plan and Western Sydney Aerotropolis DCP 2022, including built form, setbacks, car parking, waste, stormwater and landscaping. Feedback from the State Design Review Panel and City of Penrith Council has been appropriately addressed and incorporated into the design of the Project.

- The proposal is entirely consistent with the future employment precinct and will make a positive contribution to the wider Northern Gateway and is a vital piece of supporting infrastructure for WSI. The scale of the proposal is appropriate within this context and there are no significant environmental constraints that would limit the Project from being developed at the site.

- The proposal has been prepared as not be inconsistent with the Concept SSDA that is being prepared for the broader site, Burrah Park.

7.7. PUBLIC INTEREST

The proposed development is considered in the public interest for the following reasons:

- The Project, will deliver significant public benefit, namely facilitating the Government's delivery of the Northern Gateway infrastructure and by DHL investing in the delivery of a modern warehouse and logistics facility that provides essential support to the operational effectiveness of DHL and that will utilise WSI.
- 143 direct job years and 342 indirect job years (total 485) through the construction period and 693 direct jobs and 1,035 indirect jobs (total 1,728) for ongoing operation.
- No adverse environmental, social or economic impacts will result from the proposal, given the use is compatible with future adjacent land uses. Subject to the various mitigation measures recommended by the specialist consultants, the Project will not have any unreasonable impacts on the local context in terms of visual impacts, traffic, noise and vibration or air quality during construction and ongoing operation of the proposal.
- The proposal aims to achieve a high level of environmental performance including:
  - achieving a minimum 5 Star Green Star rating;
  - measures that promote and support the uptake of sustainable transport options, and
  - design features that provide resilience against potential environmental risks including climate change.
- No significant issues relating the construction and operation of the warehouse and logistics facility were raised during the pre-lodgement consultation with the local community, Council, Government and agency stakeholders.
- The Project is fully funded and 'shovel ready' for commencement of construction as soon as possible in 2023.
- It can be concluded that on balance, the benefits of the proposal outweigh any adverse impacts and as such, the proposal is in the public interest.

Having considered all relevant matters, we conclude that the proposal is appropriate for the site and approval is recommended, subject to appropriate conditions of consent.

DISCLAIMER

This report is dated 24 March 2025 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Ltd **(Urbis)** opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of DHL SUPPLY CHAIN (AUSTRALIA) PTY LTD (DHL) **(Instructing Party)** for the purpose of State Significant Development Application **(Purpose)** and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

In preparing this report, Urbis was required to make judgements which may be affected by unforeseen future events, the likelihood and effects of which are not capable of precise assessment.

All surveys, forecasts, projections and recommendations contained in or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report, and upon which Urbis relied. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

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This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the reasonable belief that they are correct and not misleading, subject to the limitations above.

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