macquarie
DATA CENTRES

IC3 Super West

Operational Summary

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Always on.

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1. Introduction

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

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

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

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

- a five-storey building
- ancillary office space and staff amenities
- a back-up power system
- associated infrastructure, car parking, loading docks and landscaping

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

The particulars of this proposal are summarised below:

- Minor earthworks involving cut and fill works
- Infrastructure comprising civil works and utilities servicing
- Construction of a five (5) storey building extension, comprising up to:
  - 14 data halls
  - 18 back up generators
  - Fitout of the building for use as a data centre (on an as-needs basis)

Site Description

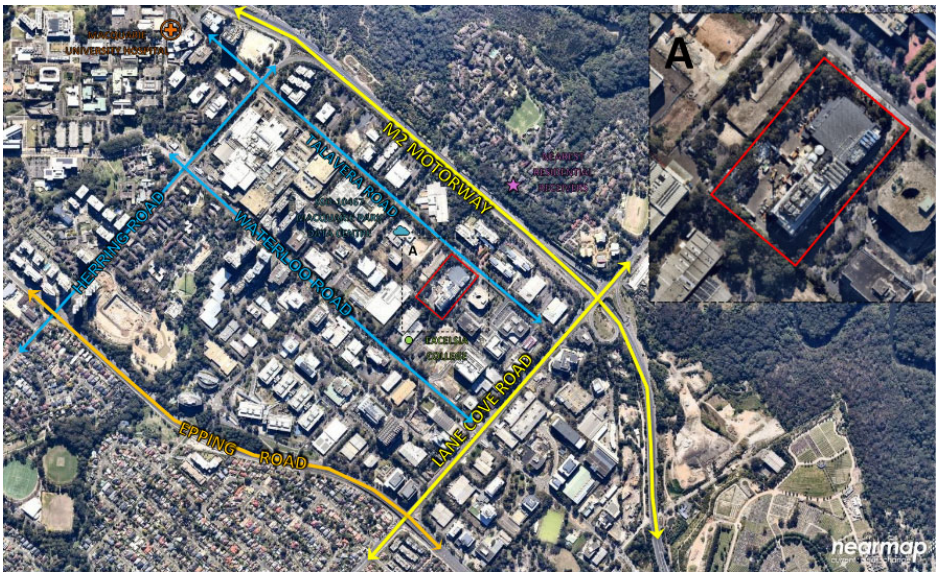
The site is described as Lot 527 DP 752035, commonly known as 17 – 23 Talavera Road, Macquarie Park. The site has a total area of approximately 20,000m2, with access achieved via Talavera Road.

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

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

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

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



Site Location

The site 17 – 23 Talavera Road, Macquarie Park, being Lot 527 DP 752035.

2. Occupier Information

Macquarie Data Centres, part of ASX-listed Macquarie Telecom Group, is a Data Centre operator trusted by Fortune 500 companies, large multinationals, and the Australian Federal Government to provide secure, sovereign, and compliant data centre services.

Located in Australia, Macquarie Data Centres delivers a comprehensive portfolio of certified colocation, connectivity, and engineering services, ranging from a single rack to multi-megawatt hyperscale requirements.

Supported by over 200 Government Cleared Personnel, our remote hands and support team are trained and certified engineers available 24/7/365.

Macquarie Data Centres can tailor a solution for customers global infrastructure management requirements and provide remote hands and feet support team to easily deploy customer projects, without requiring customer presence on site.

Uniquely positioned to deliver an orchestrated environment that is better connected and highly secure, with enterprise-scale efficiencies and unrivalled IT engineering support, Macquarie Data Centres can customise any design for any customer's needs today and accommodate growth for tomorrow.

Our Data Centres

Macquarie Data Centres operates and maintains 3 geographically diverse data centre campuses with redundancy applied in terms of power supplies (diverse electrical utility sources, uninterruptable power supplies) and HVAC systems. Each data centre can be monitored and managed from another data centre.

IC1.

Located in the Sydney CBD, 3MW total capacity, 1330m2 technical area, N+1 power design, carrier neutral with diverse paths.

IC2.

Located in Sydney's Macquarie Park, a Tier III certified facility with a highly efficient PUE, 10MW total capacity, 3200 m2 technical area, carrier neutral with diverse paths.

IC3 East.

Located within the Macquarie Park Data Centre Campus. Completed in early 2021, it delivers an additional 16MW to the Macquarie Park campus. Designed to meet the needs of hyperscalers, cloud service providers, content service providers and the government sector.

Building for the Future

IC4.

Known as "The Bunker" for its high security design, IC4 is in the nation's capital, Canberra. Connected to the Australian Federal Government's ICON network and designed to support Government highly secure workloads.

IC5.

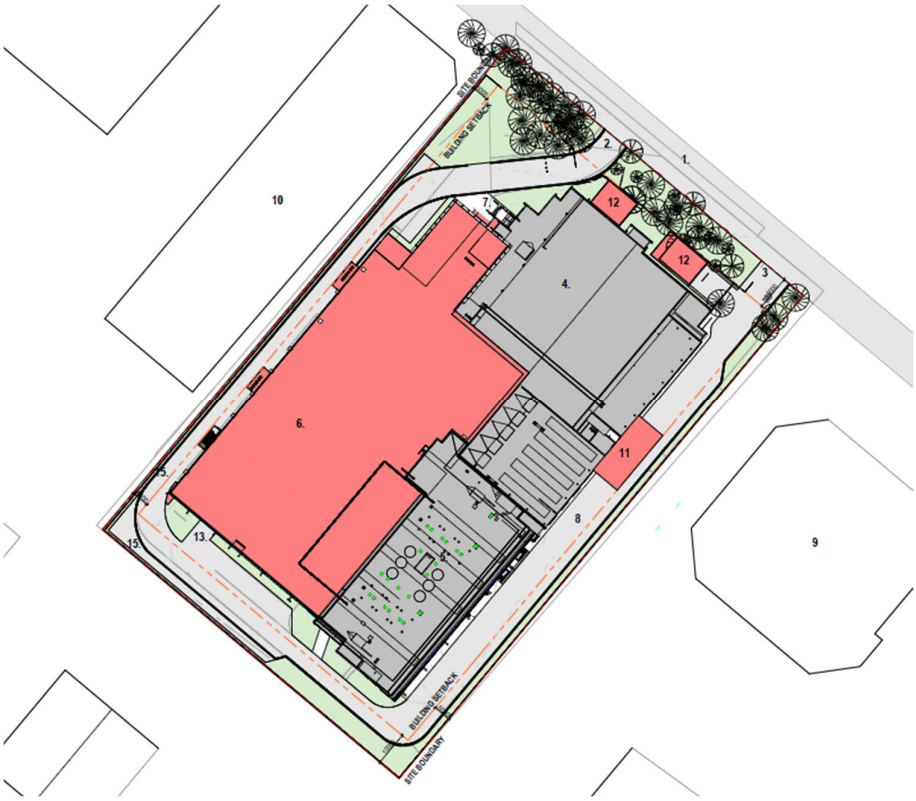
Located within Macquarie's Canberra Data Centre Campus, IC5 uses the latest in physical and virtual security to manage the highest classification of government cloud workloads. Designed and built to achieve Tier IV data centre standards, IC5 delivers 4MW of capacity.

IC3 Super West.

IC3 Super West development will add a further 32 MW of IT load, enabling the total campus IT Load capacity to 50MW. It will be designed, constructed and operated to meet the needs of corporate, government and multi-national customers.

3. Site Details

3.1 Proposed Site Plan



3.2 Proposed Access, Parking, Delivery areas


Talavera Rd Entry (East Gate)
East Loading Bay (improved)
IC3 Loading Dock (existing)
Talavera Rd Entry (West Gate)
IC2 Loading Dock (existing)
Security Reception
GIDDIS
macquarie DATA CENTRES
IC3 SUPER WEST
17-23 TALAVERA RD, MACQUARIE PARK
GENERAL ARRANGEMENT GROUND FLOOR
19301489
A2101
B

4. Proposed Operation

4.1 Overview

Macquarie Data Centres has established policies, processes, and systems for managing the operation and maintenance of its data centres. The existing processes and systems would be extended to include the management of the proposed facility.

The Macquarie Data Centres Operations team includes Facility Managers, Provisioning Managers, Technicians, Security Guards and Customer Service Managers. The team would be sized appropriately to cater for the expanded site and capacity in use.

4.1.1 Operations

Data Centre and Security Operations are managed from existing dedicated control rooms on the site. Control rooms provide the real-time status of the operating environment, including any events that require attention.

The existing control room areas and systems would be expanded to support the new facility.

Operational process conducted at the site include:

- Site Induction Management
- Customer Service Management
- Information Security Management
- Physical and Logical Security Management
- Environmental Security Management
- Identity and Access Management
- Monitoring and Event Management
- Incident, Problem and Change Management
- Safety and Quality Management

4.1.2 Maintenance

Data Centre planned, scheduled and break-fix maintenance is performed to keep the data centre components and the environment in a good state of operation and physical health. Maintenance (including inspections, tests, measurements, adjustments, parts replacement, and cleaning) is performed specifically to prevent equipment failure and faults from occurring.

Maintenance plans take advantage of the Uptime Institute "TIER 3 Concurrently Maintainable" data centre design. Under this design, each component needed to support the IT processing environment can be shut down and maintained without impacting IT operations.

Planned maintenance of the new facility is predominantly conducted during business hours and according to manufacture recommended intervals (typically on a monthly basis). The scope of maintenance includes:

- Electrical infrastructure

- Cooling infrastructure
- Fire Safety systems
- Security systems
- Hydraulic systems
- Monitoring systems
- Cleaning
- Landscaped areas, and
- The building itself

Each maintenance activity is controlled under Change Management, using defined maintenance procedures, formally approved via a Permission to Work (PTW) process and in accordance with the relevant Safe Work Method Statement (SWMS) for the activity type.

4.1.3 Service Offerings

The main customer product offerings at the site are:

- Data halls and colocation space with backup power and cooling to house and support customer IT equipment (data storage)
- Interconnect services for customers to connect to carrier networks
- Remote hands services for remote execution of defined tasks

4.2 Operational Process Flow

From a high level, the operational process flow on the subject site is as follows:

1. Mechanical and Electrical plant are installed to provide power and cooling to meet the required IT load capacity
2. Data halls are provided with resilient power and cooling to maintain the operating conditions for customer IT equipment. Data Centre Operations teams monitor, manage, and maintain the power and cooling systems to ensure high uptime consistent with data centre and customer requirements.
3. On-site security personnel provide monitoring, patrols, event response and related security operations functions
4. Customers lease data hall space to house their IT equipment
5. Customers transport their systems to the site and install them into data halls using a mix of on-site teams and 3rd party transport and installation specialists. Customer IT equipment is connected to the site power at an agreed controlled demarcation point.
6. Customers connect their systems to carrier networks through cross connect services
7. Customers operate their systems remotely, via their carrier network connections. Customers or their nominated service representatives attend as required to service their equipment
8. Waste generated predominantly comprises packaging materials for new equipment, and old electronic components. These materials are transported internally through the facility to the waste collection areas adjacent to loading bays for collection by contracted recycling and waste services. Waste is managed according to the Waste Management Plan.

9. Planned Preventative maintenance is conducted on data centre infrastructure in accordance with the data centre maintenance schedules, defined maintenance methods and safe work procedures.

4.3 Hours of operation

The proposed development will operate 24 hours a day, 7 days a week, 365 days per year. 24x7x365 operation is consistent with the existing data centre facilities on the site and is required to provide continuous operation of the data centre service.

However, the main business activities including deliveries, maintenance and customer equipment connections are typically conducted during business hours Monday-Friday.

4.4 Site Security

The site is managed as a highly secure site, meeting the compliance requirements of Federal Government and other customers with stringent security requirements.

Macquarie Data Centres would extend its established framework and processes that ensure data centre physical security is appropriately enabled and managed. The framework includes the following controls:

- Deploying defence-in-depth physical security, including steel perimeter fencing, 2-phase entry to the reception area and separate ingress/egress for people access onwards,
- Green/amber/red security zoning within the data centre facilities, walkways and data halls, locked ingress /egress points and "person traps" requiring multi-factor access authentication,
- Delivery/loading docks suitably isolated to prevent unauthorised access,
- Regular physical security checks and lockups, and;
- 24x7x365 monitoring by on-site security personnel, with remote monitoring capability from other Macquarie Data Centre facilities.

In cases of emergencies, data centre physical security can be monitored, managed and controlled remotely by equally qualified personnel from an alternate Macquarie Data Centres data centre.

Customers hosting data at the site may deploy additional guards as a further security layer around their data and assets.

4.5 Staff

The typical anticipated staffing requirements for the proposed development are as follows.

- Day shift 20-30 staff
- Night shift 10-20 staff

The maximum anticipated employee numbers on site at any one time is expected to be approximately 49 staff.

4.6 Customers and Visitors

Customers using the site fall into two main groups:

- Most customers would visit the site for initial equipment installation, and thereafter manage their systems remotely, visiting the site only for break/fix or maintenance activities
- A small number of customers (typically customers with significant leased space) may lease office space in the tower building as a touch down space when supporting their installed equipment

Visitors to the site include specialist consultants, contractors, and maintenance technicians, on a programmed basis, prospective customers, and project personnel.

Approximately 25-50 customers and visitors per day has been assumed.

Customers and visitors access the site via the Talavera Road West Gate (main entry) via secure vehicle or pedestrian gates. Access is managed by on-site security.

Customer and visitor parking is available on site. Approximately 71 parking spaces are planned at ground level.

4.7 Delivery Information

Deliveries are made via the two existing secure gates at the Talavera Road boundary.

The new development would utilise the existing loading facilities at the site:

- IC2 loading dock, located at the South West corner of the IC2 data centre.
- IC2 east loading bay, located on the Eastern side of the IC2 data centre
- IC3 loading dock, located on the Western side of the IC3east data centre

The IC2 east loading bay will be improved under this development.

Loading docks are located well within the site to avoid traffic congestion at the boundary. Dock access paths are shown in the site plans.

All deliveries are managed by the Security team.

macquariedatacentres.com

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