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PRELODGEMENT PANEL ADVICE
EIS CONSULTATION AND ADVICE

PROPERTY: 1-5 Khartoum Road, Macquarie Park

MEETING DATE: 5/12/2024 **TIME:** 9.30am to 10:30am

PRELODGMENT No: PRL NO 2024/0027

DEVELOPMENT: **Demolition of the existing structures and Construction and operation of a data centre that includes, part road construction, landscaping, carparking and associated infrastructure. The Application is proposed under State Significant Development Application**

ATTENDANCE:

Council:

Nic Najar	Acting Senior Co-Ordinator Development Advisory.
Michael Cuthbert	Infrastructure Strategy & Planning Coordinator
Amir Mousavi	Senior Coordinator Transport Development
Daniel Pearse	Senior Coordinator Engineering & Landscaping Services
Gasan Mohamad	Senior Coordinator Activation & Compliance
Joey Huang	Traffic & Development Engineer

Proponents:

- Stephen White
- Maud Garnier
- Stan Kafes
- Gerald Page
- Niki Douglas
- Enrico Zara

NOTES FOR PROPONENTS

The Application is proposed under the State Significant Development Pathway with the Department of Planning Housing and Infrastructure being the consent authority. This advice services as a record of Council's consultation and detailed advice provided to the applicant to assist them prepare their Environmental Impact Statement (EIS).

This advice contains technical advice that is recommended to be considered and addressed in any EIS submission. The Pre-EIS advice does NOT constitute a formal assessment of your proposal and at the time of EIS Lodgement Council will undertake a detailed review of the complete application. A complete application should address this advice and respond to the issues raised.

Introduction

In late 2023 Stockland submitted a SEARs request letter to the Department to request industry Secretary's Environmental Assessment Requirements (SEARs). A SEARs has been issued for the proposed Data Centre Development known as SSD-63235720.

The proposal is State Significant Development (SSD) being a data centre with power consumption exceeding 15 megawatts, in accordance with Section 25 of Schedule 1 of the State Environmental Planning Policy (Planning Systems) 2021.

As the proposal is SSD, the Department of Planning Housing and Infrastructure (DPHI) is the consent authority for the application. As Council is an identified stakeholder and the local government authority for which the application is proposed detailed consultation is required by the SEARs.

Stockland's has engaged City of Ryde Council in a formal Pre- Environmental Impact Statement (EIS) review of their proposal for detailed feedback. To support the pre review, Stockland's provided Council with a draft package that included:

- Request for SEARs letter
- Issued SEARs
- SEARs cover Letter
- Draft Letter of Offer
- Preliminary planning letter
- Draft Architectural and Landscaping package.

Councils detailed advice to inform the EIS is contained below.

THE SITE

The site is located at 1-5 Khartoum Road, Macquarie Park, within the City of Ryde Local Government Area (LGA), approximately 12km north-west of the Sydney CBD and proximate to the commercial centres of Chatswood and Norwest.

The area subject of the data centre development is 10,015sqm (legally described as Part Lot 2 DP 1043041). Council notes that the Applicant has a submitted a development application for the formal subdivision of the site under LDA2024/255, and the site area is proposed at 1ha (Refer Figure 1).

The data centre development relates to the eastern portion of Lot 2 DP 1043041 is shown in Figure 2.

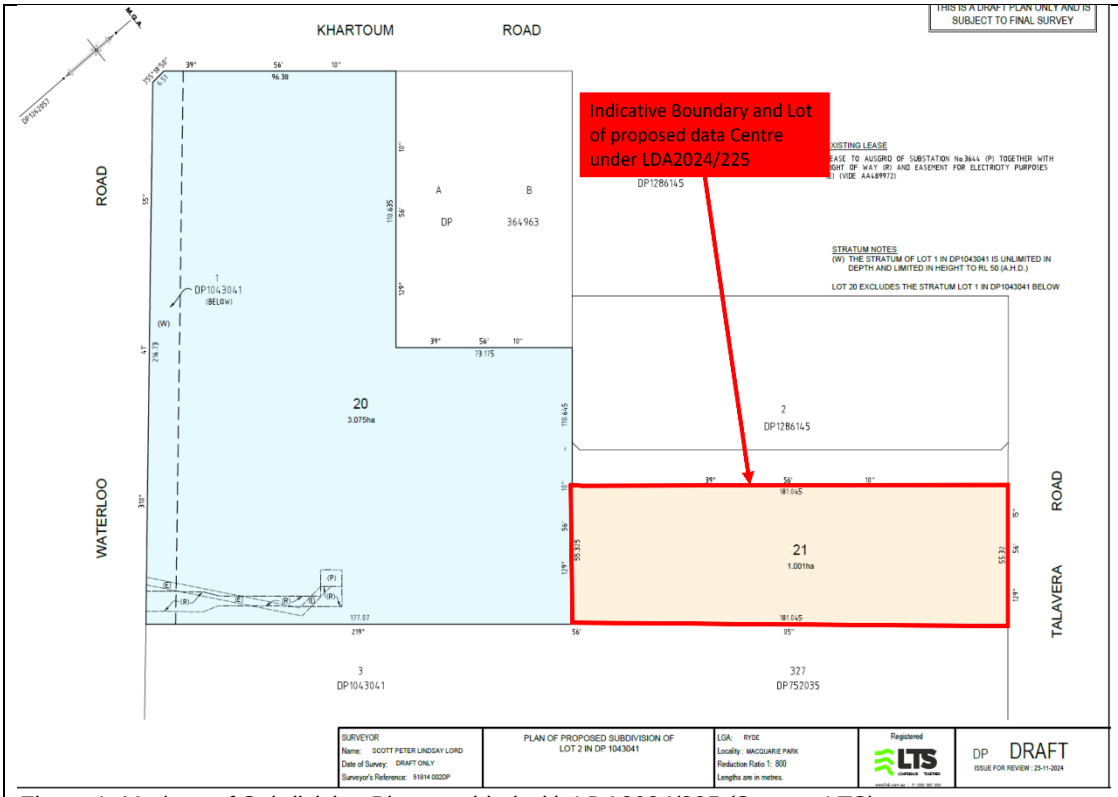

Figure 1: Mark up of Subdivision Plan provided with LDA2024/225 (Source: LTS)

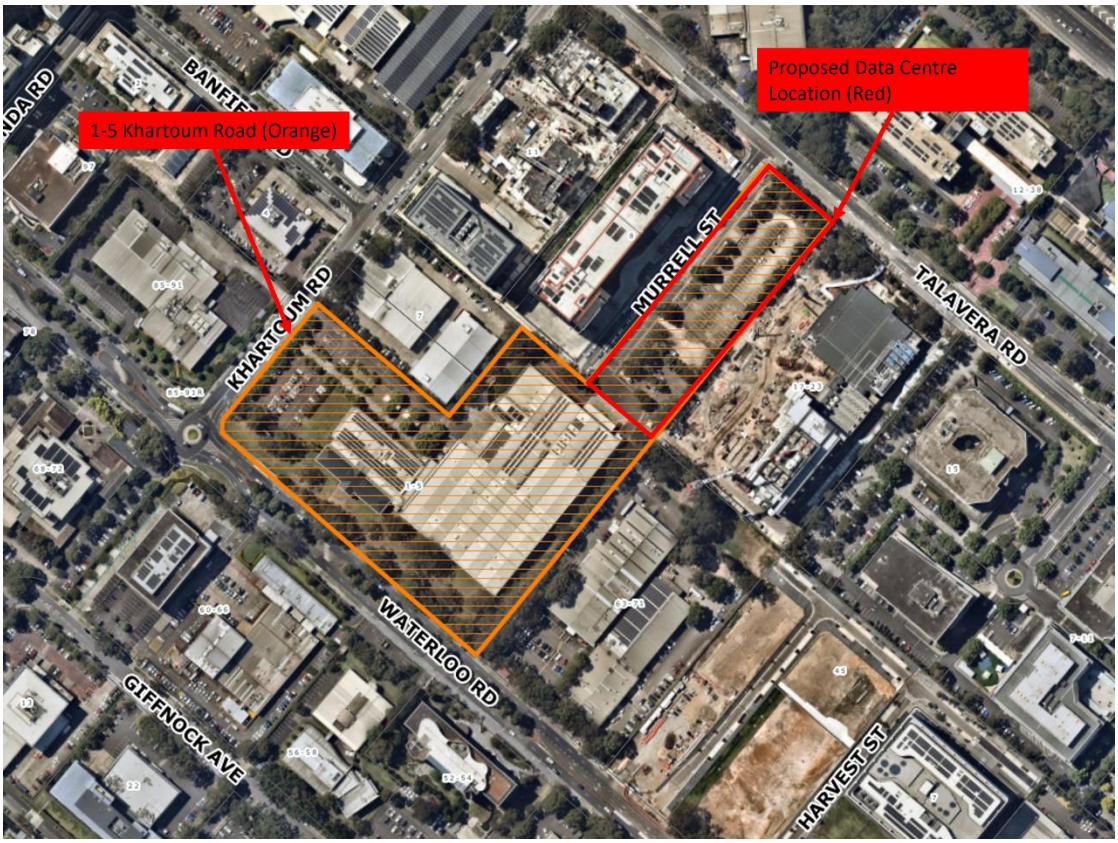

Figure 2: Context Markup of Site (Base Source: Ryde Maps)

THE PROPOSAL

The proposal involves demolition of existing structures and construction of a data centre, that specifically involves the following:

- Demolition of existing car park and associated structures.
- Site preparation works including tree removal and earthworks.
- Construction and operation of six-storey data centre development, with a maximum height of 45 metres and a combined total gross floor area (GFA) of approximately 19,434sqm including.
  - Lobby, meeting rooms and office floor space: 6,840sqm
  - Three storeys of technical data floor space accommodating 12 data houses: 12,594sqm
- Vehicle access via Road 22 with 25 parking spaces to be 'sleeved' within the building.
- Associated landscaping including trees, shrubs and grasses.
- Business identification signage zones.
- Provision of required utilities, including diesel generator back up power system.

Figures 3 and 4 show the proposed data centre.

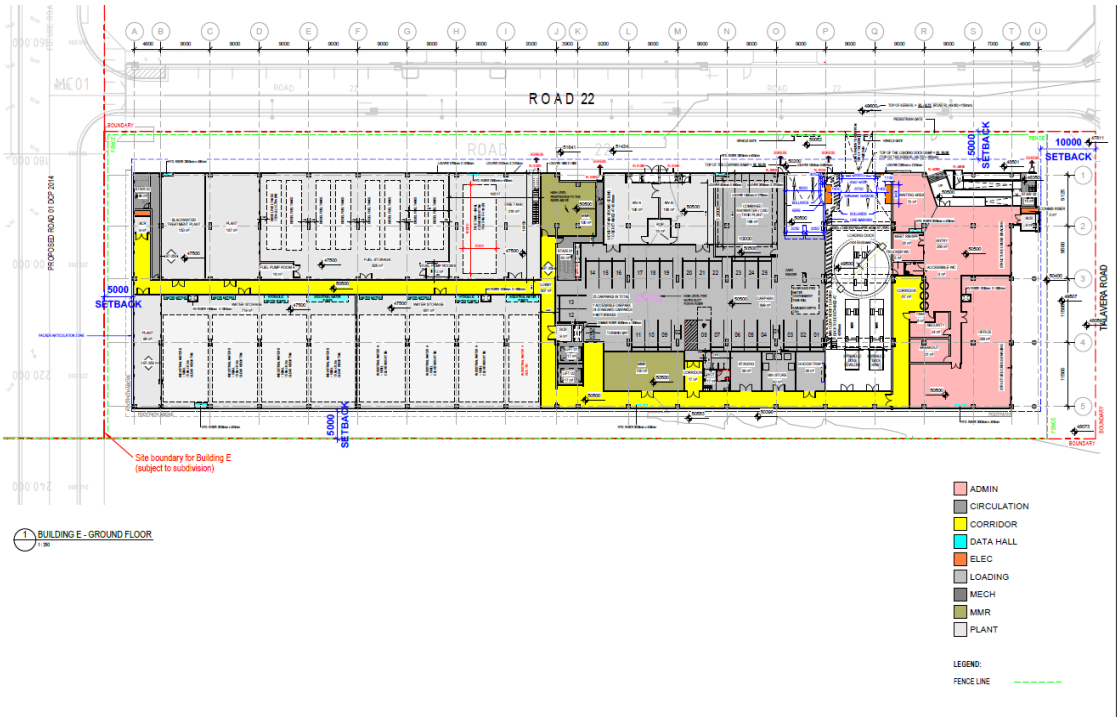

Figure 3: Ground floor Plan (Source: Greenbox Architecture)

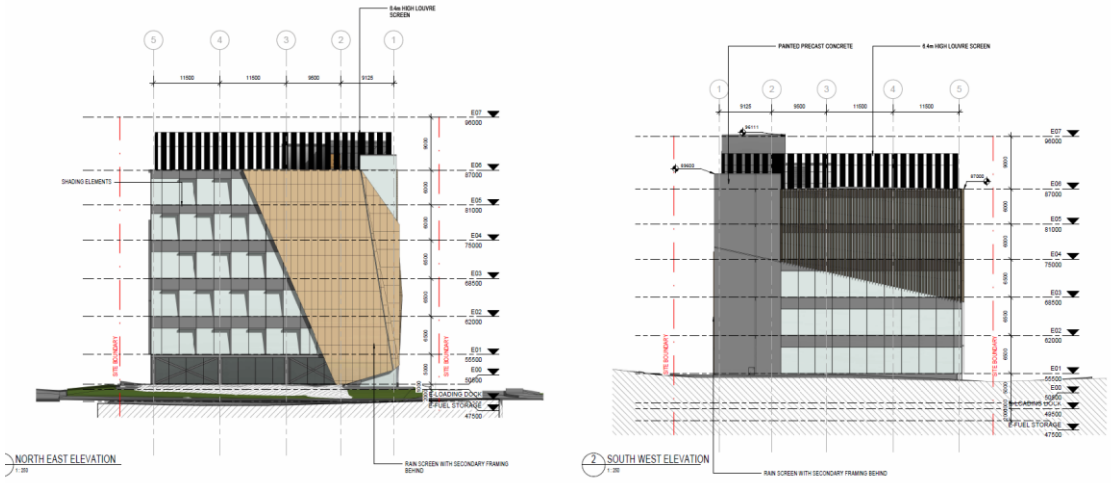

Figure 4: Proposed Elevations (Source: Greenbox Architecture)

APPLICABLE STATUTORY PLANNING CONTROLS & POLICIES

Statutory Planning Controls

The following planning & building controls are identified as applicable to the development:

- *Protection of the Environment Operations Act 1997*
- *Environmental Planning and Assessment Act 1979*
- *Environmental Planning and Assessment Regulation 2021*
- *State Environmental Planning Policy (Planning Systems) 2021*
- *State Environmental Planning Policy (Resilience and Hazards) 2021*
  - *Chapter 3 Hazardous and offensive development*
  - *Chapter 4 Remediation of land*
- *State Environmental Planning Policy (Transport and Infrastructure) 2021*
  - *Division 17 Roads and traffic*
- *State Environmental Planning Policy (Sustainable Buildings) 2022*
- *State Environmental Planning Policy (Biodiversity and Conservation) 2021*
- *Ryde Local Environmental Plan 2014*
- *Ryde Development Control Plan 2014*
  - *Section 4.5 Macquarie Park Corridor of the Ryde Development Control Plan 2014.*
    - *4.0 access network*
    - *5.0 public domain*
    - *6.0 implementation – infrastructure, facilities and public domain improvements*
    - *7.0 built form*
    - *8.0 site planning and staging*
    - *9.0 environmental performance*
  - *Section 9.3 Parking Controls*
- *Macquarie Park Design Guidelines*

Applicable Environmental Planning Instruments

Protection of the Environment Operations Act 1997

It's unclear based on the information provided with the Pre-EIS review if the proposal will trigger the requirements of the POEO Act. The EIS should demonstrate if it triggers the requirements as it relates to chemical storage as the development may need to obtain a licence for a scheduled activity.

Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EPA Act) applies to the development. Any development application submitted must demonstrate consistency with its aims and objectives. The development will be considered under Division 4.7 State Significant Development of the EPA Act and DPHI will be the consent authority.

Environmental Planning and Assessment Regulations 2021

The *Environmental Planning and Assessment Regulations 2021* (EPAR 2021) applies to the development. The submitted development application is required to be consistent with its requirements, under Part 3 Development applications and any other relevant section of the EPAR 2021.

It's noted that due to the saving and transitional arrangements gazetted in the recent rezoning of Macquarie Park that the subject application is saved by that and the previous requirements apply under the EPAR 2021. In this regard the previous Clause 35(2)(h) applies to the development which states:

> *35 Additional requirements for development applications in certain areas of Sydney*
> *(2) A person must not apply to a consent authority for development consent to carry out development on the following land unless the application is accompanied by an assessment of the consistency of the development with the relevant plan—*
> *(h) land in the Macquarie Park Corridor under Ryde Local Environmental Plan 2014,*

As the site is identified to be within the Macquarie Park Corridor, under the *Ryde Local Environmental Plan 2014* (RLEP), the clause applies. The clause requires any development application made to where this part applies, be accompanied by a statement of consistency against the 'relevant plan'. For the purposes of the clause the relevant plans are known as *Macquarie Park Innovation Precinct Place Strategy* (Place Strategy) and the *Macquarie Park Innovation Precinct Master Plan* (Master Plan*)* published on the Department's website on 30 September 2022.

In this regard the applicant is to provide a statement of consistency with the application against Place Strategy and Masterplan.

State Environmental Planning Policy (Planning Systems) 2021

The development is proscribed as being SSD under Clause 25 of Schedule 1 of the Planning System SEPP. DPHI will be the consent authority.

State Environmental Planning Policy (Resilience and Hazards) 2021

Chapter 3 Hazardous and offensive development

The requirements of Chapter 3 of the SEPP will apply to the proposal, given the proposal includes storage of large quantities of fuel and other materials.

Council notes that due to the close proximity to numerous data centres (3) that store similar hazardous materials, its requested that a cumulative hazards and assessment risk be undertaken to assess the cumulative impact of storing hazardous materials in proximity to one another.

A detailed hazards and risk assessment is to be provided with the application that addresses the SEARS requirements and considers the risks and hazards from a cumulative perspective. The EIS should demonstrate appropriate mitigation measures needed to address this matter.

Chapter 4 Remediation of land

The requirements of Chapter 4 of the Resilience and Hazard SEPP will apply to the site. In accordance with *4.6 Contamination and remediation to be considered in determining development application* of the Resilience and Hazard SEPP. It's understood that a Contamination assessment will be provided with the EIS as required by the SEARS.

State Environmental Planning Policy (Transport and Infrastructure) 2021

The EIS should address the relevant clauses under this Environmental Planning Instrument (EPI). Council will provide further detailed traffic comments below.

State Environmental Planning Policy (Sustainable Buildings) 2022

The development will trigger the requirements of the sustainable building SEPP. The EIS should demonstrate compliance with Chapter 3 of the SEPP. A detailed ESD report is to be provided with the application. Council particularly emphasises demonstrating that:

- Water consumption is reduced.
- Reduce energy and electricity use were possible and use renewable energies.
- Minimise waste from construction and consider circular economy principles to reduce carbon footprint.

State Environmental Planning Policy (Biodiversity and Conservation) 2021

Chapter 2 Vegetation in non-rural areas & Chapter 6 Bushland in urban areas

It is understood that the proposal involves the removal of several trees on the site. The EIS will need to demonstrate that impact is minimised and Council recommends that retention of significant canopy trees occurs to reduce the urban heat island effect. Particularly retaining trees on the Talavera Road frontage.

RYDE LEP 2014

Savings and Transitional Arrangements

Relevant to the application is the Savings and Transitional arrangements gazetted in the recent rezoning of Macquarie Park by DPHI.

The savings provisions gazetted with the amendment made to the RLEP 2014 by the *State Environmental Planning Policy Amendment (Macquarie Park Transport Oriented Development Precinct) 2024* outlines that any gazetted control does not ordinately apply to a development that was made prior.

SEARs have been issued for the development prior to the commencement of the RLEP TOD rezoning therefore the provisions of the previous relevant EPI's apply to the proposal.

The EIS is required to consider the relevant EPI provisions prior to the rezoning of Macquarie Park and address the relevant outcomes.

Zoning and Permissibility

Under the RLEP 2014, the site is zoned E3 Productivity support. In the E3 zone, light industries are permitted with consent. As a data centre is a form of light industry (High Technology Industry) it is nominated as being permissible in the zone.

Height of Building

Prior to the RLEP TOD amendment, the site has a base Height of Building of 30m.

Floor Space Ratio

Prior to the RLEP TOD amendment, the site has a base FSR control of 1.1.

Stormwater Management

Clause 6.4 of the RLEP 2014 applies to the development. Council's detailed stormwater advice is contained below.

Ground Floor Development in land zoned E3

Clause 6.7 of the RLEP 2014 applies to the development. Clause 6.7 requires that ground floor development within the E3 zone be used for Business or employment activities.

The EIS will need to demonstrate that the ground floor is used for Commercial Activities as described in the clause.

Development in Macquarie Park Corridor

As outlined above the savings and transitional arrangements apply to the development, therefore the previous gazetted Clause 6.9 apply to the development.

Clause 6.9 states:

> *6.9 Development in Macquarie Park Corridor*
> *(1) The objective of this clause is to encourage additional commercial development in Macquarie Park Corridor co-ordinated with an adequate access network and recreation areas.*
> *(2) This clause applies to land in Macquarie Park Corridor, identified as "Precinct 01—Macquarie Park" on the Macquarie Park Corridor Precinct Map.*
> *(3) The consent authority may approve development with a height and floor space ratio that does not exceed the increased building height and floor space ratio identified on the Macquarie Park Corridor Precinct Incentive Height of Buildings Map and the Macquarie Park Corridor Precinct Incentive Floor Space Ratio Map, but only if the consent authority is satisfied that—*
> *(a) there will be adequate provision for recreation areas and an access network, and*
> *(b) the configuration and location of the recreation areas will be appropriate for the recreational purposes of the precinct, and*
> *(c) the configuration and location of the access network will allow a suitable level of connectivity within the precinct.*

The Applicant is to note that the previous provisions of Clause 6.9 apply to the development. This means that the maximum incentive heights and FSRs are maximums and are unable to be varied by Clause 4.6, as the previous provisions of the RLEP apply including Clause 4.6(8)(cc), which prevents clause 4.6 being used to vary the maximum building height and FSR incentive provisions.

The EIS will need to demonstrate that the objectives and outcomes of Clause 6.9 are satisfied with the Application. It's noted that a draft letter of offer was provided with the Pre-EIS review.

The letter of offer is under separate review by Council's contributions Co-ordinator and further discussions is required on this matter. **Further discussions are required to be held on this matter** and the applicant is to separately reach out to the contributions co-ordinator to discuss the public benefit offer proposed.

Ryde Development Control Plan 2014

The site is located within the Macquarie Park Precinct, as such the controls of Section 4.5 Macquarie Park Corridor of the Ryde Development Control Plan 2014 would apply. Key controls include:

- 4.0 access network
- 5.0 public domain
- 6.0 implementation – infrastructure, facilities and public domain improvements
- 7.0 built form
- 8.0 site planning and staging
- 9.0 environmental performance

The EIS should demonstrate consistency with the RDCP requirements.

Macquarie Park Design Guidelines

Whilst acknowledging that the savings provisions apply to the development and the design guidelines don't ordinarily apply to the development, the application should consider the design guidelines objectives and outcomes.

Comments from Council's Pre-lodgement Panel

Following are the comments and issues that have been identified in the pre-EIS meeting which need to be addressed with any application submitted to Council. It should be noted that the identified areas contained within these comments do not constitute a full exhaustive list of all applicable requirements.

- *Trees and landscaping*
- *Development Engineering*
- *Drainage*
- *Traffic*
- *Public domain*
- *Infrastructure Planning*
- *Resilience Development*
- *Environmental Health*
- *Urban Design*

Trees and Landscaping

An Arboricultural Impact Assessment (AIA) was submitted with LDA2024/199 prepared by Birds Tree Consultancy dated 5/06/2024. This AIA and determined LDA required the retention of trees along Talavera Road and the southern boundary. Council recommends that the EIS demonstrate the retention of these trees.

Council has considered the proposal against the requirements of **Macquarie Park Design Guide** Rev. R, 15 November 2024, section 6.5. Canopy Coverage and Biodiversity pages 99 & 100 shown in the below table.

Council notes that based on the deep soil calculation in the applicable DCP, the sites compliance with deep soil is far less than when considered under the Macquarie Park design guidelines.

There is adequate Deep Soil Area based on the design guidelines, but inadequate tree canopy and tree numbers. This can be remedied by planting 54 additional medium trees. Additional deep soil area is required on site to provide this number of trees.

Should replacement plantings not be able to be undertaken on site due to location constraints, a fee per tree, as detailed in the City of Ryde's fees and charges, is to be paid to Council for the purposes of incorporating it into its street tree planting program. Should DPHI approve the application, Council would provide a recommended condition.

The site contains established trees, particularly along the Khartoum Road frontage. The Macquarie Park Place Strategy 2020 established a 40% tree canopy target and no net loss of canopy. It's recommended the development include a 40% canopy coverage.

Retaining existing tree canopy is vital to combatting urban heat island, providing high amenity in the public realm, and promoting biodiversity in Ryde's urban areas.

The proponent must demonstrate no net loss of tree canopy cover on their site.

MPDG requirement	Tree Canopy 25%	Deep Soil 20% of site area. Minimum 3x3m	For every 300m2 of site area plant at least 2 medium trees or 1 large tree in the deep soil area.
Site Requirement. Site area (10,083m2**)**	2,521m2	2017m2	66 medium trees or 33 large trees
Provided	674 + 584 = 1258m2 Unsatisfactory	3,041m2 Satisfactory	6 existing medium trees and 3 existing large trees on site to be retained. 54 additional medium trees required. Unsatisfactory

Development engineering

Stormwater Management

The site is noted to have a uniform fall towards Talavera Road and therefore does not present any fundamental issues with regards to stormwater management on the lot itself.

The Stormwater Management system will warrant the implementation of an onsite detention unit which must be designed in accordance with Council's detailed design methodology outlined in Council's DCP Part 8.2 (*Stormwater and Floodplain* Management) - Technical Manual. Essentially, this requires that stormwater runoff from the development site does not exceed the maximum level of runoff anticipated by the 5yr ARI storm event. The OSD design may be undertaken utilising DRAINS modelling and will require the submission of these data files for Council's review.

Aside from the detailed controls in the aforementioned Technical Manual, the following key requirements are applicable / to be accounted for;

- The system must be located at the lowest point of the site, close to the discharge point, so as to ensure that the entire development could readily be routed through it. It is noted that the architectural plans have located a potential onsite detention / rainwater tank storage midway up the lot, which is less than ideal.

- The failure mode for the OSD system must be accounted for. This requires consideration for stormwater to surcharge from the system plus the provision of a safe overland flowpath away from habitable areas, should the discharge line / discharge control be blocked. The plans nominate the tank to be located in the building footprint and therefore will require either full reconsideration of the tank location or more finessing of the design.
- For sites affected by flooding and overland flow, the storage and discharge control must be elevated above floodwaters so as to ensure the system operates as designed throughout such storm events. Extensive flooding over the site (ie more than 50%) may present difficulties in achieving this and therefore consideration for exemption from having to provide OSD may be considered in such instances.

It is warranted that WSUD components be implemented and the design encourages water reticulation. With the water supply issues in the Macquarie region presented by Sydney Water and the nature of the development (very high proportion of water usage), there is strong warrant that a rainwater tank / reticulation system be implemented in the development. WSUD measures must comply with Council's DCP Part 8.2 (*Stormwater and Floodplain Management*) targets.

Vehicle Access and Accommodation

The pre-application letter addresses the parking component with reference to there being 6840m^2 of office / commercial space. This is utilised to apply the Council's commercial parking rate of 1 space per 100m^2, so as to present that a maximum number of 68 parking spaces is to permitted.

A review of the plans however notes that, at most, there would appear to be some 1700m^2 of commercial area, warranting only 17 spaces. Accordingly, the proposal appears to have an excess number of parking spaces which would not be compliant with the transport objectives of the Macquarie Park corridor. The issue is exacerbated further that the area is ancillary to the primary use of the site and unlikely to be fully utilised. Notably some 1021m^2 of the area is labelled as CLIENT STORAGE / STORAGE on the plans.

Notwithstanding the above, as advised by the applicant in the meeting the proposed parking spaces services the developments operational requirements and provides the minimum amount of parking necessary to service the development for matters such as staffing, contractors, security and other operational outcomes.

On this basis, the EIS and responding traffic reports are to adequately justify the proposed parking rates for further consideration.

In regard to vehicle access, the following matters are noted and to be considered in the EIS:

- Both vehicle entry points have a gate adjoining the road boundary alignment and therefore will result in vehicles having to stand on a public road waiting to enter the site. Any traffic control mechanism must be positioned such to accommodate the largest vehicle wholly off the public domain.
- Further to the point above, the landscape plans nominates gates which swing out over the public domain land. This is an unacceptable arrangement and will need to be revised.
- The vehicle entry width into the loading bay / service vehicle area should coincide with AS2890.2 requirements and permit a minimum 6.5m opening (as per internal driveway width).
- It is noted that the development caters for the MRV design vehicle (as per AS 2890.2) only. Whilst Council does not have any policies stipulating what size service vehicles are required, Council's previous experience with data centre development notes that these typically need to accommodate an articulated vehicle (AV) (AS2890.2 design vehicle). The application should clarify that the nominated design vehicles for the service bays will be sufficient in this case and that the development will not need to utilise public domain for the purpose of loading and unloading goods and services.

Drainage

A detailed Stormwater management plan is to be provided with the EIS that addresses:

- A stormwater management plan indicating the proposed method of drainage for the development to be included.
- Details of the connection to Council drainage infrastructure (pits/pipe) shall be included in the Stormwater Management Plan.
- Existing Council drainage infrastructure details including, diameter, etc. shall be shown on the plans.

Note: Please use Council asset numbers.

Please ensure the Council pit, which is being connected to, is indicated on the plans with Council pit numbering. Please see figure 5 below drainage diagram for your reference:

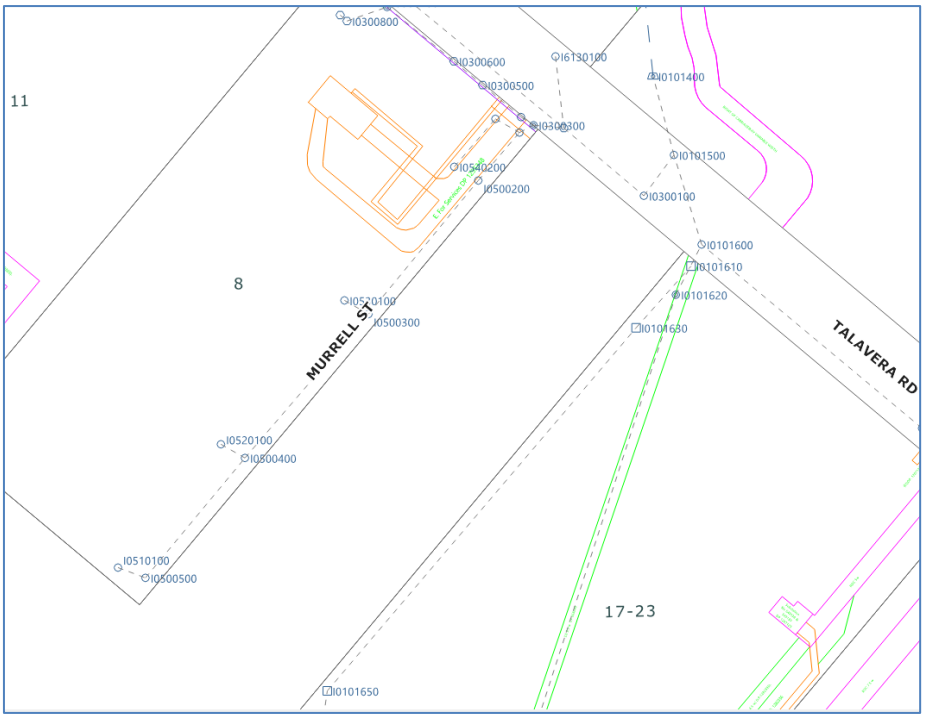

Figure 5: extract showing Council stormwater assets (Source: Ryde Maps)

- Detailed survey plan to be provided showing the stormwater infrastructures and easement adjacent the property which are being connected to.
- Please include a hydraulic capacity analysis of the downstream drainage network in the report to confirm that it can accommodate the additional flow from the development.

The site is identified as been affected by flooding, therefore Council requests that a Flood Impact Assessment provided and considers the following:

- A HEC-RAS / TUFLOW 2D computer model file analysing pre and post development situations to confirm that the proposal does not have adverse impact on the adjacent properties. The applicant shall prove that the proposed development is not adversely affecting the flood conditions of neighbouring properties or downstream catchment.

- Electronic copies of the Hydraulic model (HEC-RAS/TUFLOW) shall be submitted to Council.
    - The applicant is advised to issue this to Council prior to the EIS submission to assist Council review the data. This can be forwarded to the Development Advisory Service.
- If TUFLOW software is used, full electronic copies of executable TUFLOW modelling file compatible with QGIS software (including batch file for run and flood difference file) clearly identifying each scenario shall be submitted to Council for further assessment. Electronic copy of modelling results for pre and post development scenario for velocity, depth, flood level, VxD and VxD afflux, flood level afflux for 1% AEP in .asc format shall be submitted. If HECRAS 2D software is used, full electronic copies of executable HECRAS 2D modelling file compatible with QGIS software clearly identifying each scenario shall be submitted to Council for further assessment.
- Existing scenario flood levels shall be calibrated with the Flood Certificate levels provided by Council.
- The obtained Flood levels (Flood Levels Certificate) used to calibrate the model to be attached to the report.
- The pre and post development flood levels are to clearly be shown, inside the property and inside the neighbouring properties.
- The applicant shall prove that the proposed development is not adversely affecting the flood conditions of all neighbouring properties or downstream catchment. This includes 1 in 100 yr ARI and PMF VD values and Flood Levels.
- The freeboard requirements of Ryde DCP to be implemented in the design of the building areas.

Drainage System/ Overland Flow	Residential			Industrial/ Commercial	
	Land Level [b]	Habitable Floor Level	Non-Habitable Level [c]	Land Level [b]	Floor Level
Surface Drainage/ adjoining ground level [a]	-	.15m	-	-	.15m
Public drainage infrastructure, creeks and open channels	0.5m	0.5m	0.1m	0.3m	0.3m
Flooding and Overland Flow (Overland Flow Precincts and Low Risk)	N/A	0.3m	0.15m	N/A	0.3m
Flooding and Overland Flow (Medium Risk and greater)	N/A	0.5m	0.3m	N/A	-
Onsite Detention [d]	N/A	0.2m	0.1m	N/A	0.2m
Road Drainage Minor Systems (Gutter and pipe flow)		0.15m below top of grate			
Road Drainage		Refer to Figure 2-1.			
Detention Basins [4]		The top water level shall be designed to be 0.5m below top of embankment (100yr ARI)			

Table 2.1 Freeboard requirements.

Figure 6: Ryde Council free board requirements

- It is understood that the fire tanks and fuel storages are proposed below the NGL on a basement level. To ensure the proposed tanks remain operational and safe during extreme flood events, please ensure that the openings, vents, access points are proposed above the PMF flood. The plans submitted with the EIS should demonstrate this.

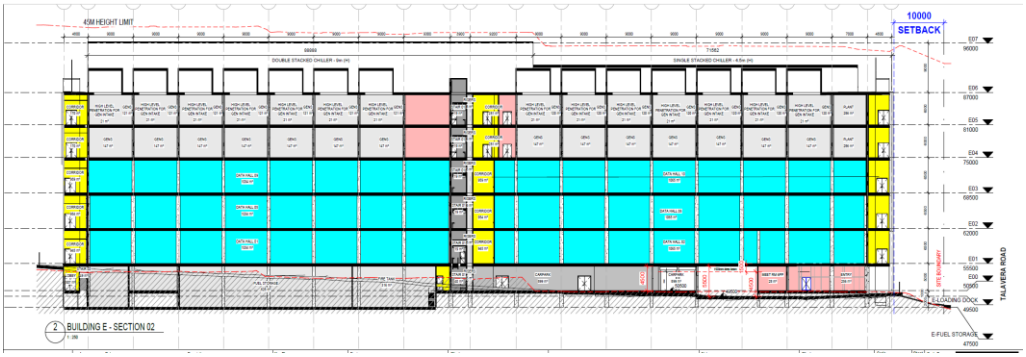

Figure 7: Section of Draft Architectural Plan (Source: Greenbox Architecture)

- VD product (Velocity x depth) of overland flows to be supplied and, if increased inside the development, restricted to below 0.4 m2 /s. VxD map to be included in the Flood Study, including neighbouring properties (no increments in VD product is allowed inside the neighbouring property).
- Flood level must be shown clearly inside and outside the development site, including neighbouring properties with 0.2m contour interval. Flood level afflux map must be shown clearly inside and outside the development site for 1% AEP flood event at 10-20mm interval, VxD maps at 0.2m^2/s interval and VxD afflux map at 0.04-0.05 m^2/s interval in the flood report. Please describe the flood level impact and VD impact inside and outside the development site due to proposed development in the report.

The Draft Architectural plans prepared by Greenbox Architecture Pty Ltd dated 8 November 2024 are recommended to be updated to show:

- The finished floor levels are to be clearly shown on the plan and shall match the ones instructed in the final Flood Report.
- A cross section of the basement ramp to be provided and clearly demonstrate that the crest of the basement ramp is designed up to PMF level.
- Openings above fuel tanks are above the PMF level.

Traffic

The applicant is required to submit a Traffic and Parking Impact Assessment report in accordance with the TfNSW *Guide to Transport Impact Assessments 2024* (GTIA) which addresses the following areas at a minimum:

- An analysis of the existing traffic conditions within the surrounding road network, including but not limited to a description of the surrounding road hierarchy, current peak hour vehicle movements, and an assessment of the existing performance levels of nearby intersections/roads.
- Estimate the `generation rates established by the newly published GTIA and forecast its traffic impacts on local road network.
- The truck trips generated is to be predicted based on the site operation/maintenance features, and the traffic impacts on local road network are to be identified. Largest truck size is required to be defined and its inbound/outbound swept paths at the intersection of Talavera Rd/Road 22, and the site access driveway are required.
- The concept design for Road 1 and the intersection of Road 1/Road 22 is required including horizontal/longitudinal alignments, road cross sections, as well as the dead-end section, all

designs are required to comply with Austroads guidelines, TfNSW Technical Directions and City of Ryde Council's Public Domain Technical Manual.

- The existing site access driveway off Talavera Road will be required to be removed and closed, which would be better for shared path operation along the site frontage with Talavera Road.
- The proponent is to consider appropriate ameliorative measures to minimise the impact of the proposed development on traffic safety and efficiency within the surrounding public road network where necessitated. The site access driveway is recommended to be located on Road 22 and at the location close to Talavera Road, to minimise the kerbside parking loss on the south-western section of Road 22 due to large truck turning into/out of the site potentially encroaching opposite parking bays.

In addition, road safety audit for the intersection of Road 1 and Road 22 would be required prior to construction certificate and occupation certificate.

Public Domain

General Comments

The proposal relates to the eastern pocket of Lot 2 DP1043041 which is bounded by Talavera Road, the recently constructed Road No.22, future Road No.1 and 17-23 Talavera Road. The proposal applies to the development of only a portion of the site currently known as 1-5 Khartoum Road, Macquarie Park, or Stage 2 of the MPark development as shown in figures 1 and 2 of this report.

The proposed development must incorporate public domain works along the site frontages in accordance with the City of Ryde Development Control Plan DCP2014, Part: 4.5 Macquarie Park Corridor and the Public Domain Technical Manual (PDTM) Chapter 6: Macquarie Park Corridor. As per figure 3.1.1 (Shown Figure 8) of the Macquarie Park Public Domain Technical Manual, part of Road 1 and Road 23 must be delivered as part of the works for the entire 1-5 Khartoum Road site.

As of 27/11/2024, the Macquarie Park Rezoning Master plans replace Council's Public Domain Technical Manual. The updated Macquarie Park Design Guide (Shown Figure 9), Rev R, dated 15/11/2024 - Figure 4a *Street Network Map*, also shows the requirements to deliver Road No.1 (20m width road reserve) and Road No.23 (14.5m width road reserve). It's noted that this application is saved by the savings provisions and Council's Macquarie Park DCP is applicable.

As development of only a portion of the site is proposed, it is unclear what the intended timing of delivery of Road 1 and Road No.23 are. Delaying the delivery of Road No.1 and 23 to future portions of the development works could be considered a risk to Council and timing and potentially security should be clarified.

This application seeks to develop a section of the site, and it appears from the draft documents submitted there is no intention to deliver any portion of Road No.1 which bounds the site. Council requires further clarification regarding the development of the remaining portion of the site and the timing for delivering the required new roads. Deferring the delivery of the new roads until the development of the remainder of the site represents a risk to Council and delays the provision of new infrastructure for the community.

The EIS should address in detail the proposed road network within the precinct and provide clarification on the intentions of Road 1 on when it would be delivered either as apart of this application or with a future application on the remaining portion of 1-5 Khartoum Road.

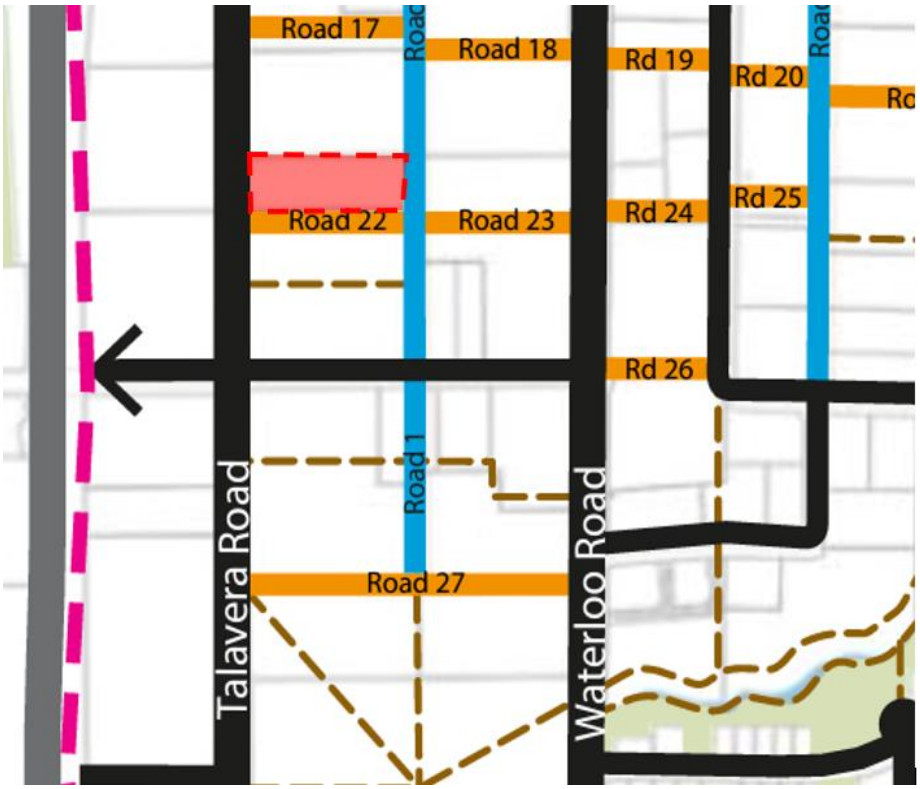

Figure 8: Extract Showing proposed site in Red (Base Source: Ryde Development Control Plan DCP2014, Part: 4.5 Macquarie Park Corridor)

Figure 9: Extract from Macquarie Park Design Guide (Source: Macquarie Park Design Guide)

Site Access

Vehicular access to the site is from Road 22 and consists of a car park entrance and a separate loading dock entrance. The loading dock entrance is at a 90-degree angle to the Road 22 kerb

line and Council has concerns that the proposed arrangement will not adequately facilitate movements for larger vehicles. It may be necessary to provide an angled vehicular entrance to facilitate access requirements of larger vehicles without impacting other road users or interrupting traffic flow. Swept paths for the largest vehicle type accessing the site should be provided to confirm that the proposed vehicular access arrangements are adequate.

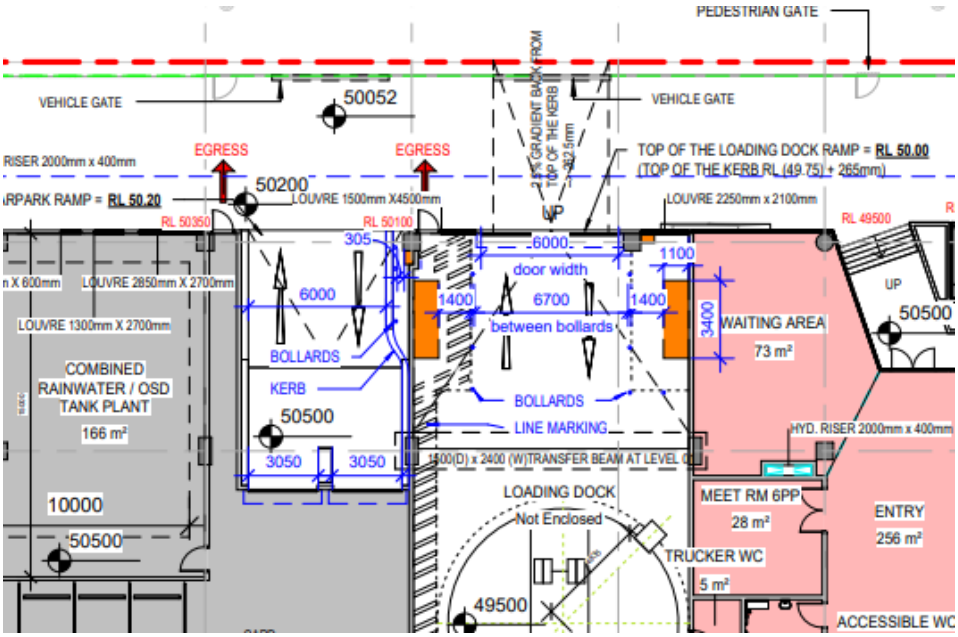

Figure 10: Extract from Ground floor Plan (Source: Greenbox Architecture)

Subsurface Utility Assets Associated with the Proposed Development

It is anticipated that the proposed development will involve the installation of high volumes of subsurface utilities not only along the site frontages but within the broader vicinity of the site. Council's experience with other nearby data centre developments has also been that the general disruption to public domain areas through continuing works to install or adjust communications infrastructure continues well beyond commencement of the occupation of the site.

Subsurface utility assets associated with data centres have resulted in the following issues, as experienced in similar projects:

- Large volumes of subsurface communications assets associated with the new data centres developments, being installed at non-compliant depths, not only along site frontages but within the broad vicinity of the site. This has prevented the delivery of new public infrastructure in accordance with Council requirements, due to the shallow non-compliant depth of newly installed communications infrastructure associated with nearby data centres.
- Ongoing trenching of public infrastructure (both road and footways) associated with additional installations of communications infrastructure associated with the data centres, has caused significant disruption to public domain infrastructure and the community that use the infrastructure.

In order to avoid similar issues, particularly in light of the fact that the pedestrian infrastructure, within the vicinity of this site is critical, Council requests information on the proposed management of subsurface infrastructure to be installed and maintained associated with the proposed data centre.

Additional Information Required

The following information is requested to enable Council to make a comprehensive assessment in regards to public domain infrastructure requirements:

- Provision of a plan of management to mitigate risk of the following adverse impacts, related to installation of high volumes of sub-surface communications infrastructure, being imposed upon public domain infrastructure:
  - Large volumes of subsurface communications assets associated with the new data centre development, being installed at non-compliant depths, not only along site frontages but within the broader vicinity of the site.
  - Ongoing trenching of public infrastructure (both road and footways) associated with installations, maintenance and upgrade of communications infrastructure associated with the data centre. This has potential to cause significant disruption to public domain infrastructure and the community that use the infrastructure. The frontages of the site are designated as part of the the Macquarie Park town centre and represent a high volume public space of critical importance to the precinct.

Specifically the plan of management should address the following: -

- A report detailing the existing subsurface features and infrastructure within the vicinity of the proposed development. The report should provide conceptual details of the expected volume of subsurface infrastructure that will be installed as part of the development works and how this new infrastructure will interact with existing subsurface infrastructure and conditions, new public domain infrastructure along the site frontages and future public domain infrastructure in the broader vicinity of the development site, including required clearances, and regulations of authorities such as TfNSW, Sydney Metro and utility authorities.
- A report detailing how installation of the required subsurface infrastructure – not only prior to occupation, but also during expansion of infrastructure post occupation - will be installed at compliant depths and allocated alignments within the verge area to prevent future obstruction to public infrastructure upgrades. The report should also provide conceptual details of how subsurface installation will be managed to minimise the ongoing impact of trenching of public infrastructure and disruption to the community.
- Provide confirmation in regards to the intended timing of delivery of new roads No.1 and 23, as per the requirements of the Macquarie Park Public Domain Technical Manual and the Macquarie Park Design Guide issued 15/11/2024.
- Provide swept paths demonstrating adequate access arrangements for the largest vehicles required to access the site from Road 22.

Infrastructure Planning

In terms of Council infrastructure planning, as the design is developed the applicant should consider the value of installing common service conduits along street frontages to support refits/later stage augmentation and protect infrastructure from damage as a result of nearby developments.

The applicant should carefully consider how to secure adequate water for the development, noting that Sydney Water has identified capacity limitations in its potable water supply and wastewater disposal systems (refer to Sydney Water's recent IPART submission, identifying the need for a new reservoir, a renewed trunk main and a major water pumping station to relieve the loading of the Ryde water pumping station). Noting overseas developments in using

reclaimed wastewater in data centres there may be potential to use sewer mining approaches to secure a reliable water source instead of potable water.

Confirmation by Sydney water is imperative that the development can be adequately serviced by water. Information has been provided to council that there will be a shortfall for supply to those who live in this area. Council recommends that detailed engagement occur with Sydney Water about ensuring the site can be adequately serviced with water. This engagement is recommended to occur prior to the submission of the EIS and details of how the application responds to any advice issued by Sydney Water is included in the EIS.

Resilience Development

The EIS is to address the development impact on the urban heat island effect and ensure that the development responds to resilient development principles and considers how it can recycle water, reduce resource usage, manage biodiversity impacts, improve canopy coverage and achieve the State Governments Net Zero Targets.

- The development should retain significant canopy trees as canopy trees aid in reducing the urban heat island effect. Given residents will be in close proximity to the site, the proposal should consider its built form impact and how it can reduce the heat island effect.
- The facade of the design is metal which will negatively contribute to impacts of urban heat island in the area. The design of the building should consider the materiality of the form and consider how it can be designed to reduce heat island impacts.
- The EIS is to consider and undertake a cumulative impact assessment of having numerous data centre agglomerated together. There is safety and security risk of proposing multiple data centres within proximity to one another.
- Council's concern and responsibility examines the cumulative impact, exposure and risk to community and environment from the placement of the data centres in this area.
- The EMS electro-magnetic and noise assessment is to be undertaken as apart of the EIS and must include a cumulative assessment of the area which, using projected data centre noise information if not readily available from the adjoining data centres, to provide council and the State Government evidence that the area will not cumulatively have detrimental health impacts to those who reside or work in the area as per the Hazard Analysis Planning circular.

Environmental Health

It's understood that the SEARs for the development requires the following expert technical reports to be submitted with the EIS. Council will undertake a detailed review of the applicants expert reports once the EIS is submitted. These reports should generally consider:

- Air Quality Assessment (including any emissions from the back-up power system).
- Noise and Vibration Assessment (including accumulative impacts to the surrounding around and assessment potential future surrounding sensitive land uses).
- Ground Water Assessment (including Geotechnical Report assessing Groundwater, Salinity and Acid Sulphate Soils).
- A Contamination Assessment to ensure that the site is suitable for the proposed use.
- A Hazardous Materials Assessment in accordance with Resilience and Hazards SEPP 2021.
- A Waste Management Plan.

Council also notes that the EIS should address the following matters:

1. Details including location and specification of all proposed Cooling Towers.

2. Confirmation that no Electromagnetic Emission Assessment is required (potential for satellite dishes).

As the site is surrounded by data centres, existing and proposed a cumulative assessment is required to be undertake to understand the long term impacts of clustering numerous data centres within extreme proximity to each other.

Urban Design

Place strategy alignment

As noted earlier in this advice, as the savings provisions apply to the development the previous Clause 35(2)(h) of the EPAR 2021 applies to the development requiring the application to demonstrate consistency with the place strategy.

The site is located in the North Park – Ngalawala (Reciprocity) precinct of the Macquarie Park Innovation Precinct Place Strategy 2020 (The Place Strategy). The Place Strategy identifies this precinct for 4000+ new jobs and 18-hour economy.

The EIS will need to provide details on how many jobs the proposal will generate once constructed. Council is committed to ensuring that its employment lands will contribute to an innovative ecosystem, whilst ensuring that amenity is delivered for the surrounding communities.

The Place Strategy's Proposed Structure Plan: North Park - Ngalawala (Reciprocity) shows the site as intersecting a New Activity Hub. The activity hub is described as "new cluster of public-facing uses [that] will encourage gathering and meeting throughout the day."

The design of the data centre should support this activity hub and contribute positivity to the future character through consideration of the façade and landscaping features in the site, particularly to soften the visual experience of the data centre from the human scale.

Form, bulk and scale

The proposed development comprises a single building of uniform height extruded 45m. The building is predominantly rectangular in plan. Most of the building articulation comes from a folded rainscreen façade shown along Road 22.

The proposal lacks appropriate measures for mitigating the immense scale and bulk of the proposed development. The rainscreen emphasises the scale of the proposed development in a way which is unsympathetic to the experience of users of the public domain.

The bulk of the proposal along Road 22 is recommended to have more articulation within the façade or consider alternative design mitigation measures to manage the long built form.

Considering the Data Centre north-west of the proposal, that project while also immensely bulky – at least has some level of formal articulation. The subject proposal lacks variation in the bulk, but rather instead wrapping an unarticulated rectangular prism in a folded rainscreen veil. Council recommends that the design consider alternative façade options to minimise the bulk and scale of the development.

Materiality and architectural expression

Council has considered the applicants proposed façade and does not support the expression of the building as its uniform and does not provide variety in the visual expression when viewed from the public domain.

The proposal would benefit considerably from a more strictly composed and articulated façade design that responds to and improves on its surroundings. The proposal would also benefit from a more carefully considered material palette which not only ties the development to its place, but also improves the attractiveness of the surrounding areas.

Setbacks and Site response

It's understood the application considers the setback outcomes in the existing Ryde DCP 2014, and incorporates the 10m setback from Talavera Road. This 10m setback ensures the retention of the significant trees on Talavera Road, which is supported.

The side and rear setbacks are proposed at 5m which comply with the RDCP 2014 requirements. Notwithstanding this, Council recommends that considering the side and rear setback requirements of the Macquarie Park design guide will assist in softening the form of the building and will assist in reducing the bulk of the development.

It appears that the rear setback to the DCP road does not align with adjoining development. The proponent should demonstrate that proposed setbacks consider surrounding development.

Given the issues with bulk, the proponent is encouraged to consider modulations in building mass that respond to how this building will be viewed from its surroundings. A visual impact assessment undertaken prior to development of a new façade concept may assist the proponent's Architect to find an appropriate façade treatment that is responsive to its perception in the local context.

The building mass does not respond to the fall across the site. City Architect recommends variation in building height and volume in response to the natural slope of the site. This would partly ameliorate the problems the proposal has with bulk.

Public domain interface

The predominant interface comprises landscaped setbacks to surrounding streets. Council supports low and mid storey planting in landscaped setbacks and encourages the proponent to develop a landscape design that seeks to improve local biodiversity outcomes in line with the GANSW Biodiversity in Place guide.

Council encourages the proponent to consider planting additional tall native trees particularly along the DCP Road and Road 22 – to provide shade to the public domain and screen the proposed development from view.

Furthermore, Council does not support the installation of security fencing to the perimeter of this development which presents as a hostile interface with the public domain. The design of the building entry should be further developed to create a more attractive interface with the public domain. The design should be developed to:

- Remove the fire stair from the corner of Road 22 and Talavera Road.
- Increase the height of the entry loggia to better relate to the scale of the proposal
- Articulate the façade of the building to better indicate the entrance location
- Consider multiple entries to improve the interface with surrounding streets and diminish the immense scale of the proposal.
- Consider pedestrian movement from the site to the proposed park as a route for staff to follow, consider conflicts with turning trucks and driveways.
- The proposed 2.4m high Palisade fence in a straight line will dominate the streetscape, consider stepping sections and landscaping, colour and to soften to "Achieve a safe

and convenient pedestrian environment that encourages public transport use and social interaction."

Activation

The proposal contains limited ground floor activation or on-site employment uses. There is a lobby and office proposed facing Khartoum Road.

The proposal is inconsistent with the Contributory frontages map contained in section 5.4 of the Design Guide. The design is to be amended to provide contributory frontages and genuine activation per the objectives and provisions of the Design Guide.

The proponent is strongly advised to amend their design to include ground floor activations to all adjacent roads.

CPTED

The site is surrounded by data centres, which offer little passive surveillance of the public domain. Passive surveillance of the public domain is vital to realising the Place Strategy vision for Macquarie Park as a thriving innovation and lifestyle precinct.

Section 5.1 and 5.4 of The Design Guide contain objectives which support the pedestrian safety in the precinct. These objectives must be addressed in an amended design.

While active surveillance may be improved with the proposed development, this will do little to make this part of Macquarie park feel safe and attractive to pedestrians and cyclists who work in, live in and visit the area. The proponent is encouraged to provide a mix of uses on the site to ensure passive surveillance of the public domain.

Site access

Council supports vehicular access for private cars and loading along Road 22 in principle. The proponent must demonstrate that access complies with relevant codes and standards. Building access from Road 22 near the corner with Talavera Road is an acceptable location to protect existing trees along Talavera Road.

Other Environmental Considerations

A detailed Wind impact assessment is required to be included with the application. It's noted that the SEARs for the development does not include a wind impact assessment as relevant, however all development within Macquarie Park is subject to significant wind impact therefore warranting an assessment of impacts.

The Applicant is advised to consider Section 9.1 of the Ryde DCP 2014 Part 4.5 and provide a detailed wind impact assessment with the EIS that demonstrates no significant impact is caused on the public domain.

OUTCOMES and SSDA Lodgement Requirements

Council thanks the Applicant for engaging early on the design and the outcomes proposed on the site. Council appreciates early engagements on State Significant Applications. This advice contains technical advice on detailed application matters that will assist the applicant in preparing their EIS.

The advice contained within this report should be considered in conjunction with the issued SEARs for the development. Council recommends that any EIS submitted consider this advice and amend the design/ provide evidence with the EIS to address these issues.

Council thanks you for choosing to engage with us for formal Pre-Environmental Impact Statement Advice.

If you require any additional information regarding this matter, please contact Nic Najar- Acting Senior Co-Ordinator Development Advisory Service on 0403 215 603 or email to NicholasNa@ryde.nsw.gov.au

Yours sincerely

Nicholas Najar
Acting Senior Co-Ordinator
Development Advisory Services.

End of advice