

Appendix D -

Addendum to Statement of Environmental Effects from Urbis



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SYDNEY NSW 2000**

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17 October 2017

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Assessment
City of Ryde
Sent via email: TCollier@ryde.nsw.gov.au

Dear Tony,

LDA2016/0395: 25 - 27 EPPING ROAD, MACQUARIE PARK

We write on behalf of the Applicant to provide additional information in support of the amended development application, in relation to the following matters:

1. Solar Access Options Report; and
2. Changes to retail layout on the ground floor level of Lot 104.

These matters are described below:

1. SOLAR ACCESS OPTIONS REPORT

The Solar Access Options Report, prepared by Steve King provides a consolidation and summary of three studies, prepared in response to the recommendations of the Sydney North Planning Panel (SNPP):

- Summary peer review of solar access compliance of the submitted DA;
- Solar access sensitivity study; and
- Equinox study.

The SNPP Reasons for Deferral of the application at the Panel Meeting of the 27 September 2017, states that:

Evidence provided to the Panel by Steve King who independently assessed the scheme indicated that "at best" 47% of the units within the development received two hours solar access mid-winter and that minimal sunlight was available to the communal open space. This solar access was not significantly imposed for equinoxes.

Accordingly, amended plans are required which optimise solar access both mid-winter and equinox to both units and the major communal open spaces.

The Panel accepts that this may require reduction in heights of certain buildings and perhaps an increase in others. The Panel noted that building M which has the best solar access performance may be able to be increased in height by several storeys subject to no significant adverse impact on the adjacent reserve.

The Solar Access Options Report provides an independent analysis of a range of options for the purpose of examining the sensitivity of likely overall solar access compliance of the proposed development.

The study compared baseline ADG June 21 solar access compliance of the current DA initially with four iterative Options A – D, and after external overshadowing and other constraints were applied, to a preferred Option F was selected. The amended proposal is based on Option F, described in Section 4.1 of the Steve King report and Table 5 of the Addendum SEE, as follows:

Table 1 – Preferred option for Amended DA

	Building M	Building L3	Building J	Building K
Option F	Added 2 Levels	Added 2 Levels	Deleted 2 Levels	Deleted 2 Levels

It is noted that Options A and B result in a slightly higher proportion of complying apartments compared to the current DA, however the amended proposal based on Option F was ultimately selected having regard to the following additional objectives:

- Minimize off-site overshadowing impacts on public open spaces and residential properties from the additional height of Building M, as documented with shadow diagrams in the Addendum Statement of Environmental Effects;
- Preserve the redistributed floor space;
- Improve the variety of building heights across Lots 104 and 105;
- Maintaining the architectural intent of the overall composition of building forms and massing; and
- Accommodate a variety of architectural considerations (e.g. lift access to car parking areas).

The deletion and addition of whole floors was preferred to partial floors due for buildability reasons and efficiency in floor planning.

In summary, Option F is an improvement on the current DA scheme with the following results:

- *Between 0.7% - 1.4% representing a gain of 6 to 12 complying apartments, and a further number already previously complying that now have longer durations of projected sun access; and*
- *An increase in solar access to the courtyard between Buildings L.2 and L.3, and to the plaza between Buildings M and L.3.*

At the request of the SNPP, Steve King also included a study of the solar access performance of the current DA and the Option F at the Equinox to apartments and the major communal open spaces.

2. CHANGES TO RETAIL LAYOUT ON GROUND FLOOR LEVEL, LOT 104

We withdraw the design amendments relating to the changes to the retail layout of Lot 104, as shown on the amended ground floor plan for Lot 104, Key Plan Ground Level DA02.100 Rev M dated 12/10/2017 submitted with the amended development application on 13/10/2017. The changes to the retail layout and car parking described Addendum Statement of Environmental Effects, are also withdrawn and are not to be considered as part of the amended proposal.

We request that Key Plan Ground Level DA02.100 Rev K be included in the set of plans for the amended DA, previously submitted to Council and accepted and enclosed with this letter for your convenience.

If you have any questions, please do not hesitate to contact me on 8233 9953.

Yours sincerely,

A handwritten signature in black ink, appearing to read "M. Donaldson", with a stylized flourish at the end.

Murray Donaldson
Director

*Encl - Key Plan Ground Level DA02.100 Revision K, prepared by Turner
Solar Access Options Report_21 June + Equinox, prepared by Steve King*

cc. Simon Blount, Senior Development Manager Greenland simon.blount@glgroup.com.au

LDA2016/0395 ADDENDUM STATEMENT OF ENVIRONMENTAL EFFECTS

25-27 EPPING ROAD, MACQUARIE PARK

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Murray Donaldson
Associate Director	Samantha Wilson
Project Code	SA6105
Report Number	FINAL

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1. INTRODUCTION

1.1 OVERVIEW

This Addendum Statement of Environmental Effects (SEE) is prepared by Urbis Pty Ltd on behalf of Greenland (Sydney) Lachlan's Line Macquarie Park Development Pty Ltd (Greenland) to the City of Ryde Council (Council) in support of amended drawings submitted under Section 55 of the Environmental Planning and Assessment Regulations 2000 (EP&A Regs) in relation to Development Application LDA2016/0395 (SNPP ref: 2017SNH012 DA).

The Development Application was referred to the Sydney North Planning Panel for determination on 27 September 2017. In the Assessment Report forwarded to the Panel, Council made a recommendation to approve the proposal subject to Deferred Commencement conditions.

At the meeting on 27 September 2017, the Panel made the decision to defer the determination of the application and sought amendments to the proposal to optimise solar access to both apartments and the major communal open spaces.

In reaching this decision, the Panel accepted that to improve solar access to apartments and communal open space may require a reduction in heights of certain buildings and an increase in others. The Panel identified Building M has the best solar access performance, and an increase in height by several storeys subject to no significant adverse impact on the adjacent Bundara Reserve may be an appropriate outcome to achieve improved solar access and amenity to the apartments and communal open space.

The Panel requested solar diagrams and a consideration of the impact of the threatened species in Bundara Reserve. The Panel also confirmed that any increase in height which exceeds the development must be accompanied by a Clause 4.6 variation request.

The Amendment development application seeks consent for the mixed-use redevelopment of the subject site for a mixed-use development, including the following works:

- Three (3) levels of shared basement car parking and loading to service all activities on the site across Lots 104 and 105 for 884 car spaces;
- A tunnel beneath Jarvis Circuit Street, a future public road linking Basement Levels 00 and 01 across Lots 104 and 105;
- A single level podium across Lot 104 comprising retail and community facilities uses;
- Eight (8) residential buildings comprising 882 units ranging in height from 3 to 19 storeys;
- Publicly accessible open spaces referred to in this application as Lachlan's Square and Laura's Place;
- A 2500m² community facility over two levels; and
- Site landscaping.

1.2 SUMMARY OF PROPOSED AMENDMENTS

The amendments proposed specifically in response to the SNPP Reasons for Deferral dated 27 September 2017, as follows:

- Reduction in the height of Building J by 2 full levels, with the deletion of Levels 13 and 15;
- Reduction in the height of Building K by 2 full levels, with the deletion of Levels 12 and 13;
- Increase in the height of Building M by 2 full levels; and

- Increase in the height of Building L3 by 2 full levels.

Changes have also been made to the retail layout on the ground floor of Lot 104 development, as follows:

- Reduction in the size of the supermarket from 2829m² to 2000m² Nett Lettable Area (NLA);
- Provision of two specialty retail tenancies at the entry off Lachlan's Square; and
- Reconfiguration of amenities;
- Introduction of a accessway behind the retail tenancies fronting Jarvis Circuit
- Replacement of the entry to the supermarket off Jarvis Circuit with a specialty retail tenancy.
- Reconfiguration of retail entry from Lachlan's Square.

The above changes result in an overall reduction of 25m² in GFA.

The proposed amendments to the development are shown in the architectural drawings prepared by Turner Studio Architects and attached at **Appendix E** (Lot 104) and **Appendix F** (Lot 105).

1.3. SUPPORTING DOCUMENTATION

The following technical and design documents have been prepared to accompany this Amended DA as identified in Table 1.

Table 1 – Supporting documentation

Document name	Prepared by	Reference
SNPP Record of Deferral	SNPP	Appendix A
Clause 4.6 Request – Height of Building	Urbis	Appendix B
Clause 4.6 Request - FSR	Urbis	Appendix C
Solar Access Report	Steve King	Appendix D
Amended Architectural Drawings	Lot 104 – Bates Smart + Turner Studio	Appendix E
	Lot 105 - Turner Studio	Appendix F
Design Statement	Lot 104 and 105	Appendix G
Ecological Advice	Ecological Australia	Appendix H
Shadow diagrams	Bates Smart + Turner Studio	Appendix I
BASIX Certificates	Wood & Grieve	To be submitted to Council under separate cover

This report sets out the following:

- Background to the amended application
- Response to the Deferral Notice from the SNPP
- Details of the proposed amendments to the development plans.
- A review of the proposed amendments against the Planning Controls, demonstrating how the proposal satisfies the relevant planning provisions, including those specific to Lachlan's Line, set out as:
 - Ryde Local Environmental Plan 2014 (LEP)
 - North Ryde Station Precinct Development Control Plan (DCP)
 - SEPP 65 and the Apartment Design Guide
 - Summary and conclusions based on the amended proposal.

2. BACKGROUND

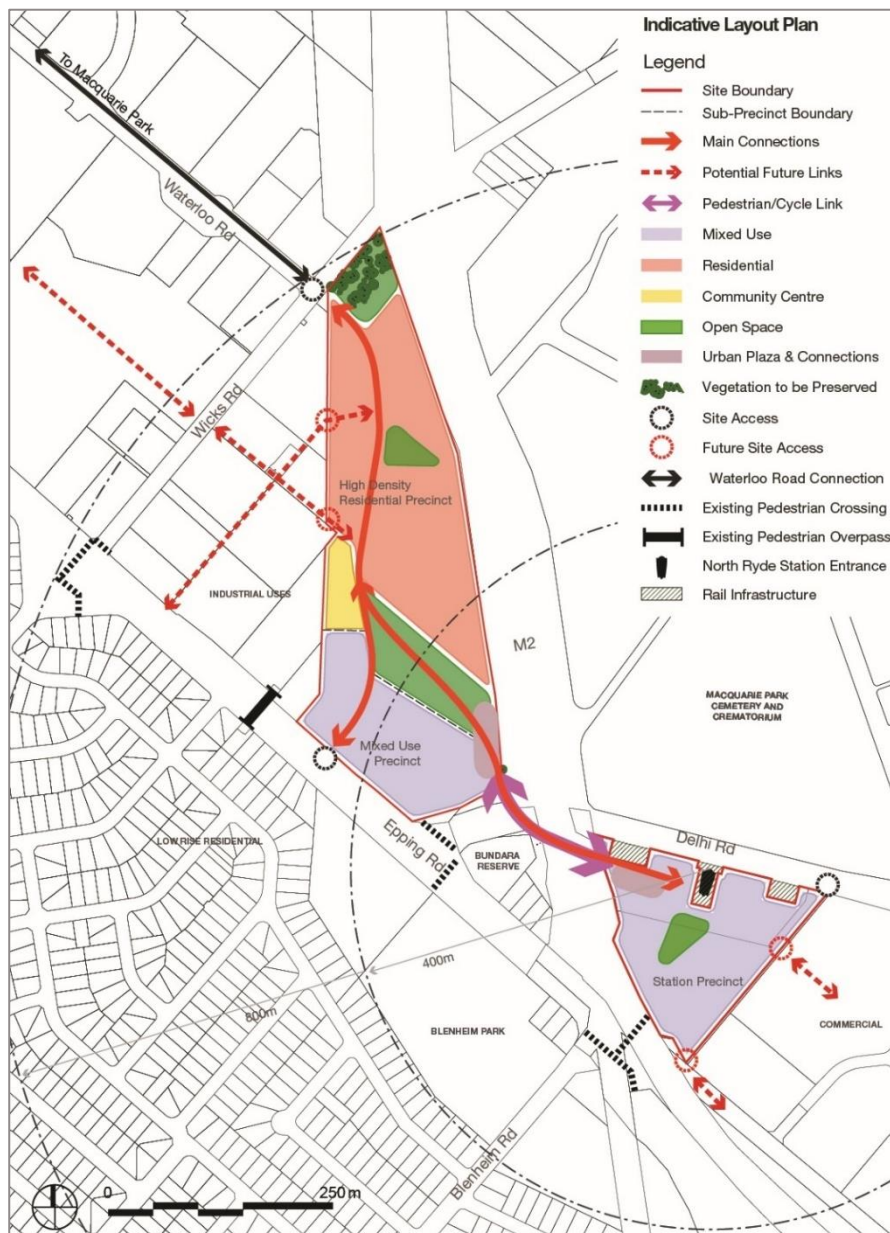
2.1. NORTH RYDE STATION URBAN ACTIVATION PRECINCT

The subject site is located within the North Ryde Station Precinct, which was identified as an Urban Activation Precinct (UAP) in October 2012 and subsequently rezoned for high-density residential mixed use development and public open spaces in September 2013.

The UAP aims to deliver a significant increase in dwellings, jobs and services centred on the North Ryde Train Station. Specifically, the UAP will comprise more than 2.4 hectares of parks and open space, 3,000 new dwellings and 1,500 jobs within a 10 minute walk from the train station, a community facility and transport upgrades.

The subject site is located within the mixed use precinct, as identified in the North Ryde Station Precinct DCP 2013 (NRSP DCP 2013) (refer Figure 1). The site has an area of approximately 2.4 hectares and is located to the west of the North Ryde train station. The site has frontage to Epping and Delhi Roads and is bordered to the west by commercial development and to the east by the M2 Motorway. The northern frontage is to be a large central open space and further north is to be a high density residential precinct.

Figure 1 – Indicative Layout Plan – North Ryde DCP 2013



2.2. STATE SIGNIFICANT DEVELOPMENT APPLICATION (SSD_5093)

A State Significant Development Application (SSD_5093) for the staged development under Section 83B of the EP&A Act 1979, of the North Ryde Station Precinct - M2 Site was approved by the Delegate of the Minister for Planning in March 2015. The approval comprises a concept approval for:

- Subdivision of the site into 12 development lots, 5 public open space lots and 2 public road lots (refer Figure 3);
- Allocation of a maximum gross floor area to each of the development lots (total of 238,919m² across the site plus an additional 2,500m² to Lot 104 for a community facility); and
- Infrastructure, civil works and landscaping.

As well as Stage 1 development works in the following phases:

- Phase 1 - Site preparation works including demolition, remediation and rehabilitation, bulk earth works;
- Phase 2A – super-lot subdivision to create 4 public roads and a future public road lot; five public reserve lots; three future development lots and two super-lots;
- Phase 2B -Civil and public domain works including road and intersection construction; open space establishment and embellishment, pedestrian pathways and cycle-ways, drainage, public domain works and services infrastructure
- Phase 3 - subdivision to create 8 development lots; and
- Phase 4 - Construction of a pedestrian bridge over Delhi Road.

Condition A8 limits the maximum GFA for future developments on the site to be consistent with the Concept Proposal, as follows:

MAXIMUM GROSS FLOOR AREA (GFA)

A8. The maximum GFA for future developments on the site shall be consistent with the Concept Proposal for each development allotment as detailed below:

Development Lot	Maximum GFA
Lot 104:	49,384m ² +2,500m ² community GFA
Lot 105:	24,136m ²
Lot 107:	4,332m ²
Lot 201:	42,949m ²
Lot 202:	25,626m ²
Lot 203:	28,468m ²
Lot 204:	15,764m ²
Lot 205:	29,210m ²
Lot 206:	5,413m ²
Lot 207:	6883m ²
Lot 208:	6,754m ²

Condition A2 to A5 of Consent SSD_5093 provides the terms of the consent reference to Urban Design and Landscape Drawings. GFA Allocation Plan DA1-003 H is included in the list of drawings referenced in the consent. An extract with the GFA of Lots 104 and 105 is provided at Figure 2.

Figure 2 – Extract from GFA Allocation Plan DA1-003 H, Consent SSD_5093



Part E of Consent SSD_5093 provides conditions to be met in future development applications for Stage 2, which are relevant to the Stage 2 development application for Lots 104 and 105. **Table 2** provides a response as to how this proposed development satisfies Part E.

Table 2 – Part E, Conditions to be met in Future Development Applications

Condition of consent	Comment
<p>General</p> <p><i>E1 The determination of any development applications for Stage 2 is to be generally consistent with the terms of this consent.</i></p>	<p>The proposed development is generally in accordance with the terms of Consent SSD_5093.</p> <p>The GFA allocation between Lots 104 and 105 varies from the maximum GFA for future development lots in condition A8</p>
<p>North Ryde Station Precinct DCP</p> <p><i>E2 Future Development Applications shall demonstrate that the development has been designed in accordance with the requirements of North Ryde Station Precinct Development Control Plan (NRSP DCP)</i></p>	<p>An assessment of the proposal against the objectives and controls of the NRSP DCP 2013 is provided at Section 6 of this report.</p>

Condition of consent	Comment
<p><i>Civil Works Completed</i></p> <p><i>E3 Prior to the issue of any construction certificate for any part of Stage 2, all Stage 1 Civil Works are to be completed in accordance with this development consent, including all works associated with:</i></p> <ul style="list-style-type: none"> <i>a) Road construction, site access and intersection upgrades;</i> <i>b) Open space embellishment;</i> <i>c) Pedestrian pathways and cycleways;</i> <i>d) Drainage; and</i> <i>e) Public domain works</i> <p><i>But excluding the pedestrian/cycle bridge referred to in Condition E4.</i></p>	<p>At the time of writing this Addendum SEE road construction, open space embellishment, pedestrian pathways and cycleways, drainage and public domain works were completed.</p>
<p><i>E4 The pedestrian/cycle bridge over Delhi Road must be completed in accordance with RMS requirements, dedicated to TfNSW, and open for public use prior to the issue of the first occupation certificate for any residential or commercial development.</i></p>	<p>At the time of writing this Addendum SEE, preparation works were underway to establish the footings for the pedestrian bridge.</p>
<p><i>Development Contributions</i></p> <p><i>E5 Future Stage 2 Development Applications will be required to make Section 94 contributions towards the provision or improvement of public amenities and services as a condition of consent. The amount of contribution will be determined in accordance with the requirements of any planning agreement or agreed offsets with Council associated with on-site amenities and services which may include public open space, community facilities, roads and drainage</i></p>	<p>A Voluntary Planning Agreement (VPA) between City of Ryde Council and Urban Growth NSW has been registered. The VPA sets out the requirements for contributions and offsets for contribution works including public open space, community facilities, roads and drainage.</p>
<p><i>E6 Any planning agreement shall be excluded prior to the lodgement of the first Stage 2 Development Application for retail or commercial development</i></p>	<p>Refer to above comment.</p>
<p><i>Regional Transport Infrastructure</i></p> <p><i>E7 Prior to the lodgement of the first Stage 2 Development Application to Council for retail or commercial development, a planning agreement in relation to regional transport infrastructure, must be executed.</i></p>	<p>A VPA between TfNSW and the NSW Department of Planning & Environment has been executed, which outlines the obligations and timeframes for regional road upgrades in the vicinity of the site.</p>
<p><i>Parking Management Strategy</i></p> <p><i>E8 Prior to the issue of any construction certificate for any part of Stage 2, a parking management strategy for the site developed in consultation with TfNSW and in accordance with the requirements of the NRSP DCP must be submitted to and approved by Council.</i></p>	<p>A Parking Management Plan was prepared for Consent SSD_5093. Proposed car parking is addressed in Section 6 of this report.</p>
<p><i>Transport Initiatives</i></p> <p><i>E9 Future Development Applications shall incorporate work place travel plans and care share scheme to be prepared in accordance with the NRSP DCP.</i></p>	<p>Travel demand management measures are included in the Traffic and Parking Assessment. A total of 12 car share spaces are proposed. Applicant is to work with a car share operator to implement a car share scheme. Refer to basement plans for Lot 104 for the location of car space spaces.</p>
<p><i>E10 Future Development Applications within the mixed use precinct shall incorporate high profile bicycle parking at retail nodes and community facilities.</i></p>	<p>Bicycle parking is incorporated into the landscape design for the publically accessible private open spaces including</p>

Condition of consent	Comment
	Lachlan's Square, which is adjacent to retail uses and community facilities.
<p><i>Sydney Trains Requirements</i></p> <p><i>E11 The lodgement of any future development applications for the development of the newly created allotments which involves ground penetration (eg excavation, piling, etc) deeper than 2 metres either above or within 25 metres of the rail corridor shall be accompanied by the following documentation:</i></p> <ul style="list-style-type: none"> <i>a) Geotechnical and structural report / drawings that meet Sydney Trains requirements. The Geotechnical Report must be based on actual borehole testing conducted on the site closest to the drainage system;</i> <i>b) Construction methodology with construction details pertaining to structural support during excavation;</i> <i>c) Cross sectional drawings showing ground surface, drainage infrastructure, sub soil profile, proposed basement excavation and structural design if sub ground support adjacent to the drainage system. All measurements are to be verified by a Registered Surveyor; and</i> <i>d) Detailed Survey Plan showing the relationship of the proposed development with respect to the Sydney Trains drainage system.</i> <p><i>The above documentation is required by Sydney Trains in order to assess the proposal for concurrence with Clause 86 of the State Environmental Planning Policy (Infrastructure) 2007. As part of the Sydney Trains assessment of the above documentation the applicant may be required to provide additional information such as, but not limited to, a numerical analysis which assesses the different stages of loading – unloading on the site and its effect on the rock mass surrounding the rail corridor.</i></p>	<p>Sydney Trains were referred the original DA, and provided Council with recommended conditions of consent that have been incorporated in draft conditions of consent.</p> <p>.</p>
<p><i>ESD</i></p> <p><i>E12 Future Stage 2 Development Applications must incorporate ESD principles in the design, construction, and on-going operation phases of the development, including compliance with the Integrated Water Management Plan for the site.</i></p>	<p>Refer to Energy Efficiency Report submitted with the original DA.</p>
<p>On Site Detention</p> <p>E13 This proposal does not exempt future applications from the need for on-site detention (OSD) provision. Future applicants may seek an exemption from OSD provision as part of future applications, having regard to Ryde Council's requirements for stormwater management.</p>	<p>Refer to Stormwater Management Plan submitted with the original DA.</p>

PLAN FORM 2 (A2)

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

Sheet 1 of 1 sheets

M2

MOTORWAY

101
4350m²
PUBLIC RESERVE

201
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6395m²

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6767m²

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106
5736m²

105
2622m²

104
12531m²

112
97m²

DELHI ROAD

DP843482

WICKS

ROAD

ROAD 1

ROAD 2

ROAD 3

ROAD 4

DELHI ROAD

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104
12531m²

112
97m²

PT 111 (1036m²) (PR)

PT 111 (1124m²) (PR)

PT 111 (1124m²) (PR)

TOTAL 3765m²

PT 111 (481m²)

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2.3. CITY OF RYDE AND UGNSW PLANNING AGREEMENT

Development Consent for SSD_5093 required that a Planning Agreement be entered into between the Developer (UrbanGrowth NSW) and Council prior to Stage 2 Development Applications being lodged with Council. The draft Voluntary Planning Agreement (VPA) is to provide community benefits in the form of open space, recreation, public art, roads and a community facility. The VPA was executed on 20 October 2016.

Under the draft VPA Greenland (purchaser of Lot 104) is to design, construct and fit-out a community facility with a gross floor area of 2,500m² in accordance with the Indicative Functional Brief provided in Schedule 20. The provisions of the draft VPA require Greenland to ensure that the Community Facility Work is designed so that its cost does not exceed the Community Facility Budget, is prepared in accordance with the Community Facility Brief, the Staged Consent and the provisions of this draft VPA, and include car parking to service Council's proposed use of the Community Facility. The community facility is required to be practically completed prior to the dedication of the community facility Land.

2.4. EARLY WORKS DEVELOPMENT APPLICATIONS

Two separate 'Early Works' Development Applications have recently been lodged with City of Ryde Council for Lot 104 (**LDA2016/0307**) and Lot 105 (**LDA2016/0308**) These applications seek approval for excavation works to accommodate three basement levels on each site, the construction of the base slab layer, and construction of a subterranean tunnel connecting the basements of Lot 104 and Lot 105.

The Early Works applications were lodged prior to LDA2016/0395 with the intention of streamlining the development process and providing a more efficient development timeframe, thus reducing the amount of time the site will sit vacant and limiting the potential disturbance time to the neighbouring community.

Notwithstanding, the subject DA also seeks approval for construction of a subterranean tunnel connecting the basements OF Lot 104 and 105.

On the 22 December 2017 Council approved LDA2016/0307.

On the 25 May 2017 Council approved LDA2016/0308.

2.5. CITY OF RYDE AND GREENLAND PLANNING AGREEMENT

On the 9 May 2017, Council considered an offer to entry into a Voluntary Planning Agreement from Urbis on behalf of Greenland in respect of the vehicle access tunnel between Lots 104 and 105, beneath Jervis Crescent. Council resolved to accept the letter of offer to entry into a VPA to provide a public benefit by works in kind for the construction and fitout of the proposed community facility on Lot 105 in DP 1224238, in addition to the requirements to provide the community facility referred to in the VPA between Council and UGNSW.

3. SITE AND SURROUNDS

3.1. SUBJECT SITE

3.1.1. Site description

The subject site is located at 25-27 Epping Road, Macquarie Park, as identified in **Figure 4** below.

This DA refers to the subject site as Lot 104 and Lot 105 of Lachlan's Line, North Ryde. Lot 104 and Lot 105 are on the unregistered plan of subdivision of Lot 101 DP1131776 approved with staged development Consent SSD_5093. Registration will occur in the later part of 2016. A Site Plan of Lots 104

The sites have the following areas:

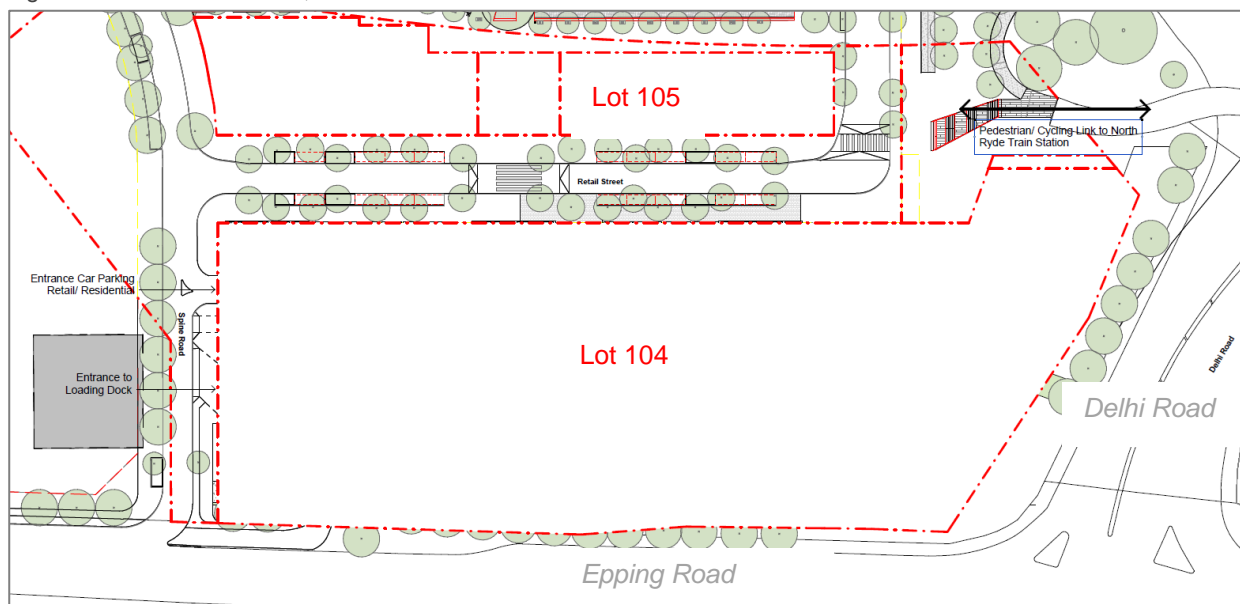
- Lot 104: 12,513m²
- Lot 105: 2,804m²

The subject site has an area of approximately 2.4 hectares and is located to the west of the North Ryde Train Station. The site has frontage to Epping and Delhi Roads and is bordered to the west by commercial development and to the east by the M2 Motorway. The site is cleared for development. Existing access to the site is via Waterloo Road and Wicks Road, a driveway off the M2 Motorway access road located 150m north of the intersection at Delhi Road, and a driveway off Epping Road. Civil works are currently under construction at Lachlan's Line. Access to the site will be via Spine Road a new local road linking Epping Road to Wicks Road

Figure 4 – Site Location, Bates Smart)



Figure 5 – Site Identification, bates smart



3.1.2. Topography

The site is located at an elevated area just below the crest of a hill and slopes towards the north and north west. The surface levels of the site have been significantly modified from previous site uses. Figure 6 illustrates a view of the Lots 104 and 105 with site dimensions and existing relative levels at site boundaries. There is a gentle fall at the upper half of the sites which increases closer to the Spine road. Refer to Site Survey submitted with the original DA.

Lot 104 falls from the south eastern corner towards the North West. The high point of the site is located along the south eastern boundary with a high point of RL60.5. The low point of the site has a level of RL54.9, this equates to a 5.6m fall across the site. Lot 105 falls from RL 60.60 North West along the site to RL55.4 at the north western corner of the site, a cross fall of 5.2m.

Figure 6– Relative Levels of Lots 104 and 105, Bates Smart



3.1.3. Geology

Reference to the Sydney 1:100,000 Geological Series Sheet indicates that the site is in an area underlain by Ashfield Shale and is near to the geological boundary with Hawkesbury Sandstone. This geology was confirmed by the site investigation undertaken by JK Geotechnics, which revealed a capping layer of shale overlying sandstone bedrock. The soils above the rock comprised surface fill covering residual silty clay that graded into the weathered shale and sandstone.

With exception of boreholes 4 and 8, the remaining on-site boreholes had groundwater levels at depths in the range of 4.4m to 5.2m within several hours of the completion of drilling. We note that excavation of the site is the subject of a separate 'Early Works' DAs for Lots 104 and 105 respectively. Detailed geotechnical investigations including the sample of materials from boreholes was undertaken by JK Geotechnics and reported in those DAs. Refer to Geotechnical Assessment submitted with the original DA.

3.1.4. Contamination

A Site Auditors Report and Site Auditors Statement was prepared by ERM in accordance with the requirements of the *Contaminated Land Management Act 1997* (CLM Act 1997) as amended July 2009. The reports provide an independent conclusion on the suitability of the site for low density residential including accessible solid and children's day care centres. The auditor concluded that the site is suitable for these land uses.

3.1.5. European and aboriginal archaeology

The archaeological potential of the study area has been assessed as low and no mitigation measures are considered necessary for the portion of land within the study area. The only archaeological constraint identified within the Precinct is a partially collapsed cistern/well. This structure is located outside of the (Figure 1). Therefore, it is unlikely that works within the study area would have any impact on the cistern/well.

There are no Aboriginal heritage constraints identified within the North Ryde Station Precinct, including the subject site. In conclusion there are no archaeological constraints associated with the study area and works may proceed with caution.

Figure 7 – Location of collapsed cistern/well, Artefact



3.2. SURROUNDING ENVIRONS

The surrounding environs are described in **Table 3**.

Table 3 – Surrounding environs

Direction	Description
North	<ul style="list-style-type: none">Immediately to the north of Lot 105 and within the Lachlan's Line site sits land cleared for development.Macquarie Park Train Station is located in the north-west of site.
South	<ul style="list-style-type: none">Immediately to the south on the opposite side of Epping Road is the suburb of North Ryde, characterised by low density residential neighbourhoods.Blenheim Park on Epping Road contains a range of recreational uses such as tennis courts and bike tracks. The area to the south has a large number of reserves and parkland.
East	<ul style="list-style-type: none">Macquarie Park Cemetery and Crematorium is located on the opposite side of the M2 Motorway.North Ryde Train Station is located on Delhi Road approximately 250m from site.A range of commercial land uses are located on the land bound by Delhi Road in the north and Epping Road in the south.
West	<ul style="list-style-type: none">A range of commercial uses immediately adjoin the site.On the opposite side of Epping Road is the suburb of North Ryde, characterised by low density residential neighbourhoods.

3.3. EXISTING ROAD NETWORK

The site is serviced by a number of key arterial roads, namely:

- M2 Hills Motorway
- Epping Road
- Delhi Road

The M2 Hills Motorway is a major toll road running from north-west to south-east in Sydney's north-west. Access to this highway is gained by an elevated road ramp from the eastern exit of the existing site.

Epping Road is a main road running north-west/south-east, and operates as a dual carriageway with four lanes in each direction, with a fifth bus lane in the southeast direction forming directly in front of the proposed site location. There is currently no direct access from the site to this road.

Delhi Road is a main road running east-west. It is located immediately south of the site, and is bound by Epping Road by way of a signalised T-intersection with slip lane provisions for left turning. It is predominantly a dual carriageway with two lanes in both directions, with additional lanes located around points of intersection. There is currently no direct access from the site to this road.

In addition to the arterial roads listed above, the Lachlan's Line site which the development site is located is accessible by two key collector roads; Wicks Road and Waterloo Road.

Due to the number of intersecting arterial roads, relatively high traffic volumes and complex traffic movements, many of the intersections in the local area are controlled by traffic signals. Key intersections within close proximity of the development site include:

- Epping Road/Delhi Road signalised intersection
- Epping Road/Wicks Road signalised intersection
- Delhi Road/M2 Interchange signalise intersection
- Wicks Road/Waterloo Road priority intersection

3.3.1. Future road network upgrades

To support the development of the North Ryde Station precinct a number of upgrades to the surrounding road network are proposed which support vehicle movements to/from the site. These include:

- Waterloo Road/Wicks Road: new traffic signals and pedestrian crossings
- Epping Road: left-in only connection to Lachlan's Line site including deceleration lane
- Epping Road / Wicks Road: Local intersection works to improve capacity
- Delhi Road: Widening between M2 Motorway to Julius Avenue
- Wicks Road: Widening at approaches to intersections of Epping Road and Spine Road
- Delhi Road / M2: Intersection upgrade works

Future road network upgrades are illustrated in **Figure 8** below.

Figure 8 – Future road network upgrades, Arup



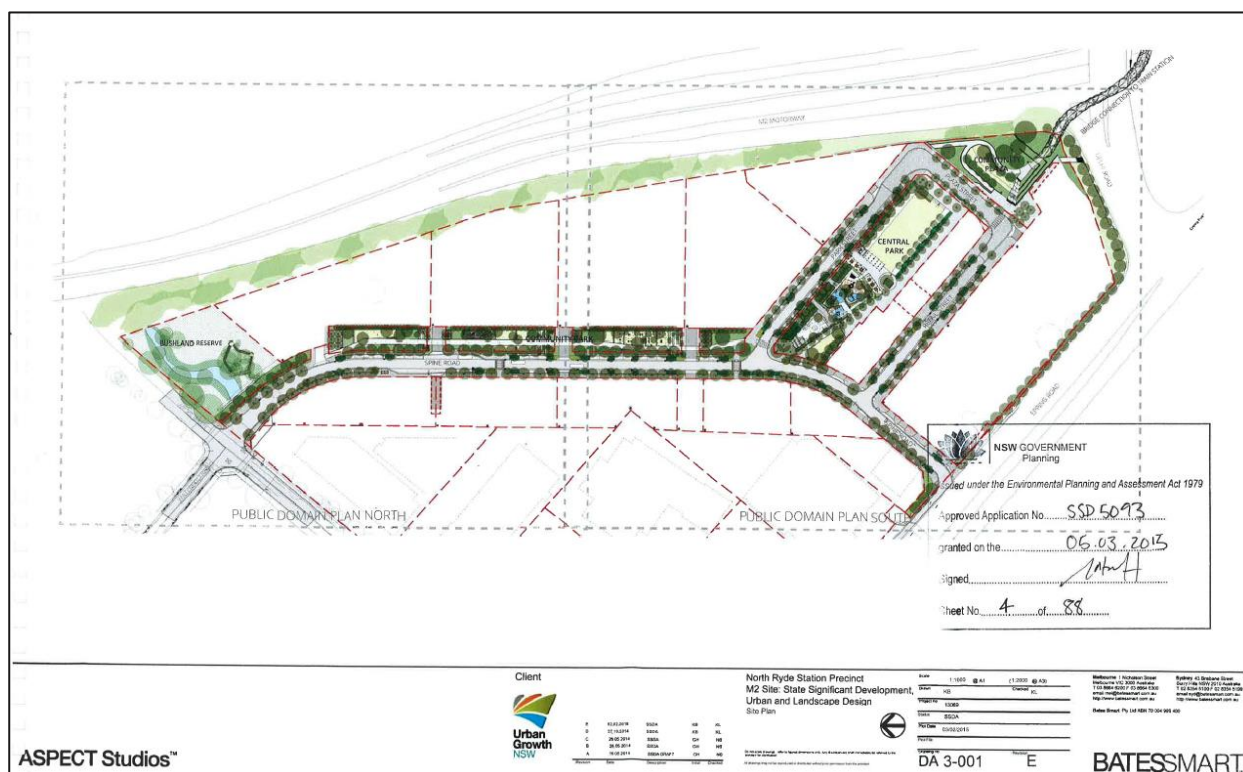
3.3.2. Internal road network

The development site is accessed via Spine Road which runs in a north-south direction from Epping Road to Waterloo Road. Spine Road is the main vehicular connection through the Lachlan's Line site.

To the south of Spine Road forms a left in only intersection with Epping Road. To the north of Spine Road forms a four way signalised intersection with Wicks Road and Waterloo Road.

Consent SSD_5093 for the Lachlan's Line development provides approval for the construction of a new road network including Spine Road between Wicks Road and Epping Road. Refer to Site Plan DA-3-001 E approved in Consent SSD_5093.

Figure 9 - Internal Road Network, SSD_5093



3.4. PUBLIC TRANSPORT

The site has good access to public transport, with several bus stops serviced by a number of routes and North Ryde Station located within walking distance.

3.4.1. Bus

A number of bus stops are located in close proximity to the site, with the closest located along Epping Road. A total of ten routes are able to be reached within approximately 300m walking distance of the site.

3.4.2. Rail

North Ryde Station is located approximately 500m to the east of the site and services the T1 North Shore, Northern and Western Line. The Station is served by trains departing every fifteen minutes and takes approximately thirty minutes (nine stops) to Sydney CBD.

Figure 10 outlines public transport facilities and routes in the Lachlan's Line local area.

Figure 10 – Local public transport facilities, Arup



3.5. WALKING AND CYCLING

The site is not especially suited for pedestrian and cyclist access given the proximity of main arterial roads and intersections to the site, however pedestrian facilities are provided at numerous locations in the immediate area.

A pedestrian footbridge provides access to both sides of Epping Road, with paved footpaths on the developed portions of the Road. The paved footpath ends directly outside the site area, and whilst there is sufficient space for pedestrian access, the path and kerb have not been developed for safe movement along this portion of the road until the signalised at-grade intersection of Epping Road/Delhi Road is reached.

Delhi Road also provides pedestrians with paved footpaths. The pedestrian facilities on the road side fronting the site end once the M2 Hills Motorway entry is reached, while facilities on the opposite side extend and contain guardrails for additional pedestrian safety.

Wicks Road provides reasonable facilities for pedestrian access to the site, with the stretch bound by Epping Road and Waterloo Road containing paved footpaths. Beyond Waterloo Road, Wicks Road no longer contains pedestrian facilities and there is little space on the road fronting side of the site for pedestrian movement given the current width of the grassed median.

Shared pedestrian and cycle paths exist along Epping Road, Wicks Road and Waterloo Road. Marked cycle lanes exist to the west of the site, on Ryrie and Avon Roads, with the closest dedicated bicycle area located at North Ryde Station. For further information regarding the greater cycle network of the area, refer to the North Ryde Station Precinct TMAP.

Significant pedestrian and cycling infrastructure upgrades (see **Figure 11**) that are part of North Ryde Station Precinct, and are relevant to the subject site include:

- A pedestrian bridge from Lachlan's Line, across Delhi Road, across the M2 Motorway and connecting to the North Ryde Station Site North (**Figure 12**);
- A footpath along the northern side of Epping Road connecting the Epping Road footbridge to the intersection with Delhi Road;
- Pedestrian crossings at the intersection of Waterloo Road and Wicks Road via the provision of new traffic signals;
- A new footpath along the eastern side of Wicks Road in front of the Lachlan's Line site;
- The creation of a continuous shared pedestrian and cycle path from the Riverside Corporate Park, through the North Ryde Station Site North, over the new pedestrian bridge, through the Lachlan's Line site and connecting to the new shared paths on Waterloo Road;
- A shared zone around the central open space within the Lachlan's Line site and pedestrian crossings with raised thresholds on either side to maintain the pedestrian and cycle priority over traffic through the site; and
- Footpath alongside Spine Road from Epping Road to the intersection of Waterloo Road and Wicks Road which will serve as a primary pedestrian route, as well as on-road cycling facilities.

Figure 11 - Pedestrian and cycle upgrades, Arup

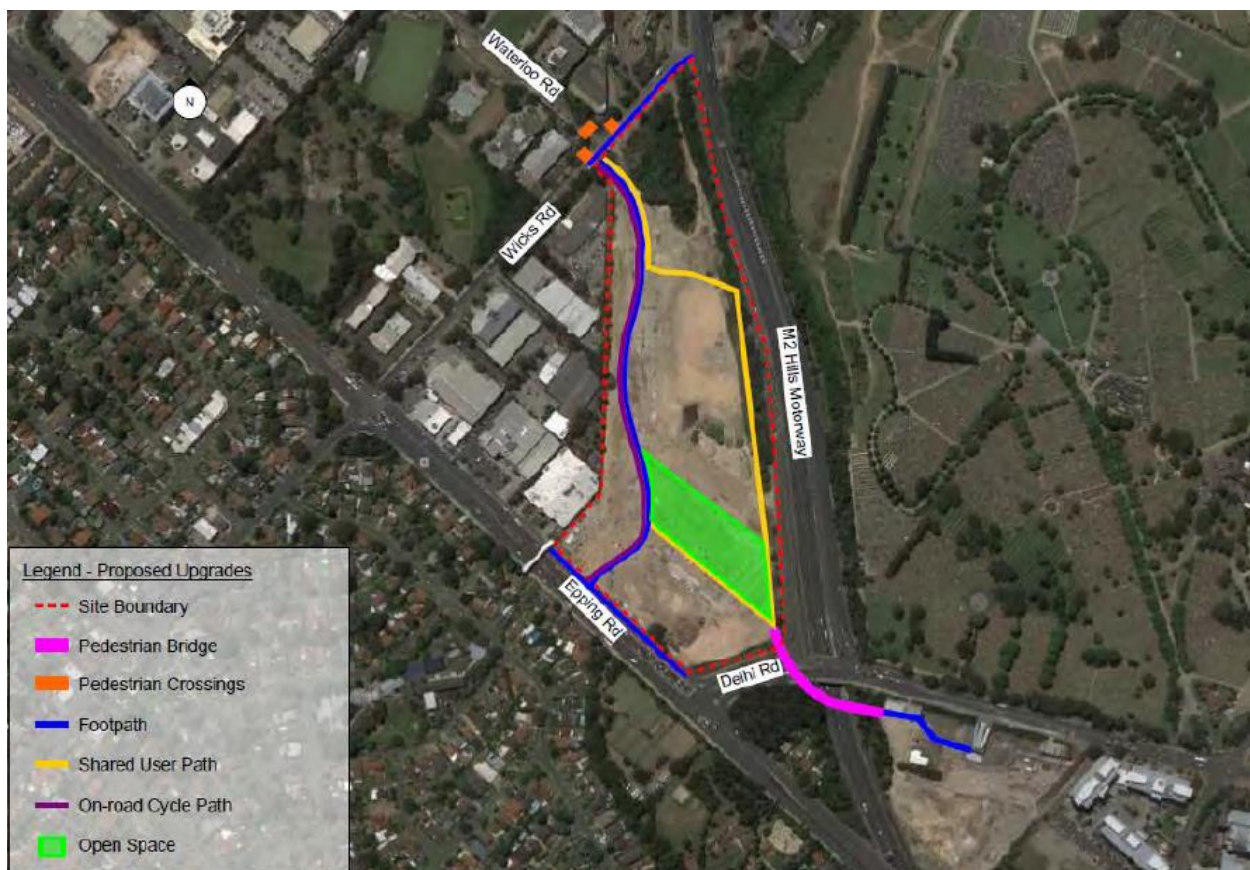
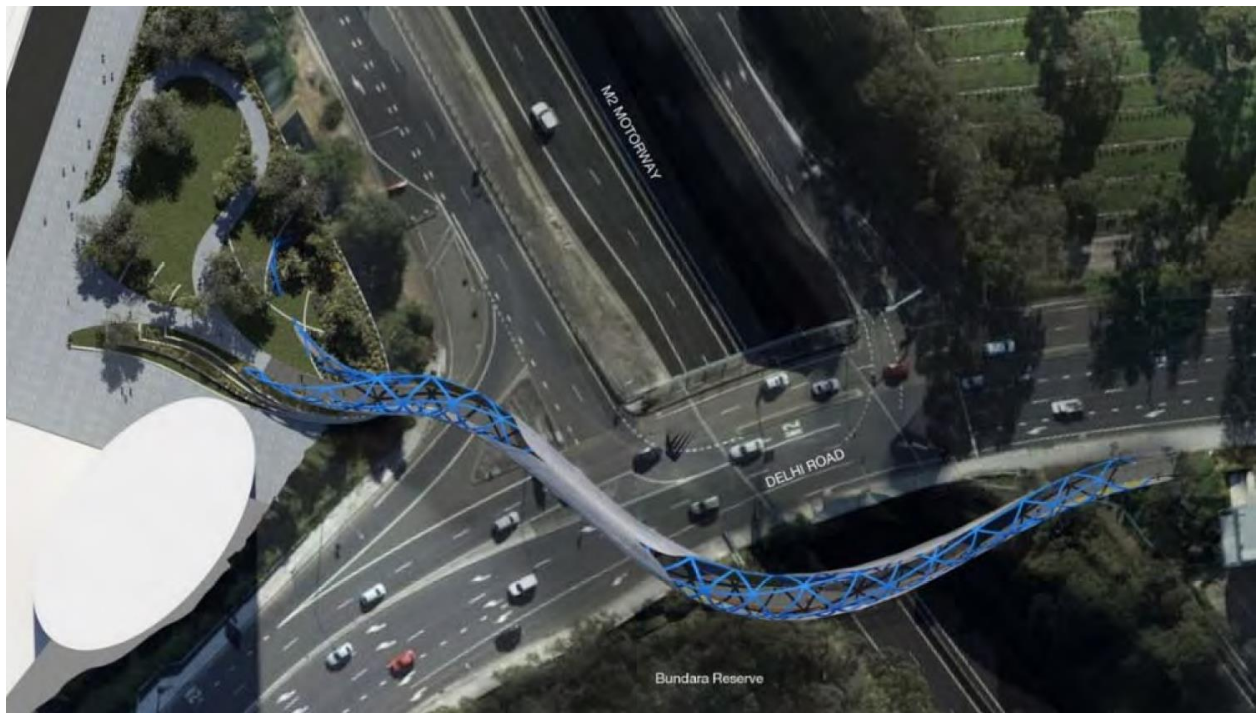


Figure 12 - Lachlan's Line pedestrian bridge, KI Studio



3.6. PUBLIC OPEN SPACE

The subject site is located within close proximity to a number of existing and future public open spaces. Existing open spaces in the vicinity of the site include:

- To the south west, Blenheim Park (**Figure 13**); and
- To the south east, Bundara Reserve (**Figure 13**)

Figure 13 – Blenheim Park and Bundara Reserve



Figure 14 illustrates the location of a future public open space to the north of Lot 105. This park is known as Central Park on the plans that were approved by the Minister for Planning (Consent SSD_5093).

Figure 14 - Public Domain Plan – South, Consent SSD_5093, Aspect Studios



4. RESPONSE TO REASONS FOR DEFERRAL

4.1. OVERVIEW

Local Development Application LDA/0395 was referred to the Sydney North Planning Panel (SNPP) for determination on 27 September 2017. In the Assessment Report forwarded to the Panel, Council made a recommendation to approve the proposal subject to Deferred Commencement conditions.

The SNPP made the decision to defer the determination of the application for the following reasons:

Reasons for Deferral

The Panel unanimously agreed to defer the determination of the matter until required information is provided by the applicant and assessment is complete by Council.

The Panel agreed to defer determination of the Development Application because the applicant has not addressed the reasons for the previous deferral (9 August 2017). Amendments to the scheme have not been provided, which were to address the poor solar performance and the poor future amenity for residents in a dense development fenced by major roads.

Solar Access

Evidence provided to the Panel by Steve King who independently assessed the scheme indicated that “at best” 47% of the units within the development received two hours solar access mid-winter and that minimal sunlight was available to the communal open space. This solar access was not significantly imposed for equinoxes.

Accordingly, amended plans are required which optimise solar access both mid-winter and equinox to both units and the major communal open spaces.

The Panel accepts that this may require reduction in heights of certain buildings and perhaps an increase in others. The Panel noted that building M which has the best solar access performance may be able to be increased in height by several storeys subject to no significant adverse impact on the adjacent reserve. This would need to be demonstrated in solar diagrams, as well as consideration of the impact of the threatened species in the reserve. Any increase in height which exceeds the development must be accompanied by a Clause 4.6 variation request”.

Amended plans addressing the above should be submitted by the Applicant, by no later than Friday, 13 October 2017.

Should the matter need to be advertised, Council should undertake this expeditiously such that any advertising is completed no later than Friday, 3 November 2017.

Council should have a supplementary assessment report to the Panel by no later than Friday, 17 November 2016.

Voluntary Planning Agreement

In relation to the issue of the VPA, which was a request from the Council for a deferral or deferred commencement condition, the Panel is minded to accept the advice of the applicant's legal representation that the matter can be dealt with by an operational condition and a bond as offered.

However, it is hoped that in the intervening period above both the applicant and Council will resolve the VPA such that such conditioning is not required.

Following receipt of this information, the Panel will determine the matter electronically, unless the Chair determined that another public meeting is required”.

The proposed development has been amended in response to the Deferral of the development application by the Sydney North Planning Panel (SNPP).

4.1.1. Response to Reasons for Deferral : 27 September 2017

The SNPP have requested that amended plans are required which optimise solar access both mid-winter and equinox to both units and the major communal open spaces.

In response to the SNPP Reasons for Deferral, independent solar access consultant, Steve King prepared an analysis of a range of options for amendments to the heights of buildings to examine the sensitivity of the likely overall solar access performance to apartments/balconies and major communal open space. The analysis concentrated on a range of options for redistributing building massing, consistent with constraints imposed by the existing lot subdivision. The choice of options analysed was further narrowed by preliminary inferences from the current full 3D digital model, as to the likely benefit of varying different building heights.

The options considered in the solar access sensitivity analysis are described in the following table:

Table 4 - Options adopted for solar access sensitivity analysis

	Building M	Building J	Building K
Option A	Added 2 levels	Delete 1 level	Delete 2 level
Option B	Added 3 levels	Delete 2 levels	Delete 2 level
Option C	Added 4 levels	Delete 2 levels	Delete 3 levels
Option D	Added 6 levels	Delete 2 levels	Delete 5 levels

Based on this initial comparison of four options, the redistribution of GFA between buildings was further considered, having regard to the overshadowing impacts on public open space and residential properties outside of the precinct.

The Amended DA (Option F) is preferred to minimise off-site overshadowing impacts on public open spaces (Bundara Reserve and Blenheim Park) and residential dwellings outside the precinct from the additional height of Building M, and redistribute permitted floor space from Lot 105 to Lot 104.

This further analysis of off-site impacts resulted in a 'preferred' Option F, which is described below.

Table 5 – Preferred option for Amended DA

	Building M	Building I.3	Building J	Building K
Option F	Added 2 Levels	Added 2 Levels	Deleted 2 Levels	Deleted 2 Levels

The outcomes of the detailed solar compliance analysis for apartments/balconies and communal open space of the above options and preferred option by Steve King is summarised below:

Apartment solar access

The following summary presents the 'baseline' overall compliance for:

- normal 9am to 3pm June 21 period; and
- The 'extended hours' 8am to 3pm. These are justified because of the extents of the model.

Table 6 – Solar access

	Total Units	>2hr 9am-3pm	>2hr 8am-4pm	No sun
Original DA	879	413 (47.0%)	504 (56.2%)	224 (25.5%)
A	871	416+2 (48.0%)	494+2 (56.9%)	221 (25.4%)
B	880	422+2 (48.2%)	502+2 (57.3%)	222 (25.2%)
C	871	417+3 (48.2%)	493+3 (56.9%)	217 (25%)

	Total Units	>2hr 9am-3pm	>2hr 8am-4pm	No sun
D	849	413+5 (49.2%)	488+5 (58.1%)	212 (25%)
F (Amended DA)	873	414+5 (48.0%)	498+5 (57.6%)	223 (25.5%)

Communal open space

Steve King has provided the following observations with respect to the impact on winter sun (21 June) in the communal open spaces for the options considered:

- *Reduction in height of Building J, makes little difference to sun in the 'western' courtyard, and has no influence on other major common open spaces; and*
- *Reduction in height of Building K, makes significant difference to sun in the 'eastern' courtyard, and introduces sun between 11:30am and 1:30pm into southern portion of plaza between Buildings L.3 and M. Options A and D, progressively increase the amount of solar access to those communal open.*

Summary

Steve King concludes that Option F represents an improvement on the current DA scheme in terms of solar access to apartments and major communal open space, with the following results obtained:

- *Between 1.0-1.4% representing a gain of 12 complying apartments, and a further number already previously complying that now have longer durations of projected sun access; and*
- *An increase in solar access to the courtyard between Buildings L.2 and L.3 and to the plaza between Buildings M and L.3.*

The solar access analysis for the amended proposal, which is based on Option f is to be submitted to Council under separate cover and include the results for mid-winter and the equinox.

The overshadowing impacts of the amended proposal on public open spaces and residential properties outside of the precinct is provided in Section 6.5 of this report, having regard to the relevant controls in the NRSP DCP.

4.2. SUMMARY OF PROPOSED AMENDMENTS

The proposed further amendments to the architectural plans have been made in response to the Deferral Notice of the SNPP, dated 27 September 2016, as summarised in Section 2.0 of this report.

The amendments proposed specifically response to the SNPP Deferral Notice dated 27 September 2017, as follows:

- Reduction in the height of Building J by 2 full levels, with the deletion of Levels 13 and 15;
- Reduction in the height of Building K by 2 full levels, with the deletion of Levels 12 and 13;
- Increase in the height of Building M by 2 full levels; and
- Increase in the height of Building L3 by 2 full levels.

Figure 16 illustrates an elevation of Building J and K with the proposed reductions in heights.

Figure 15 – Original DA West Elevation showing Buildings J and K on Lot 105 (Jervis Circuit)

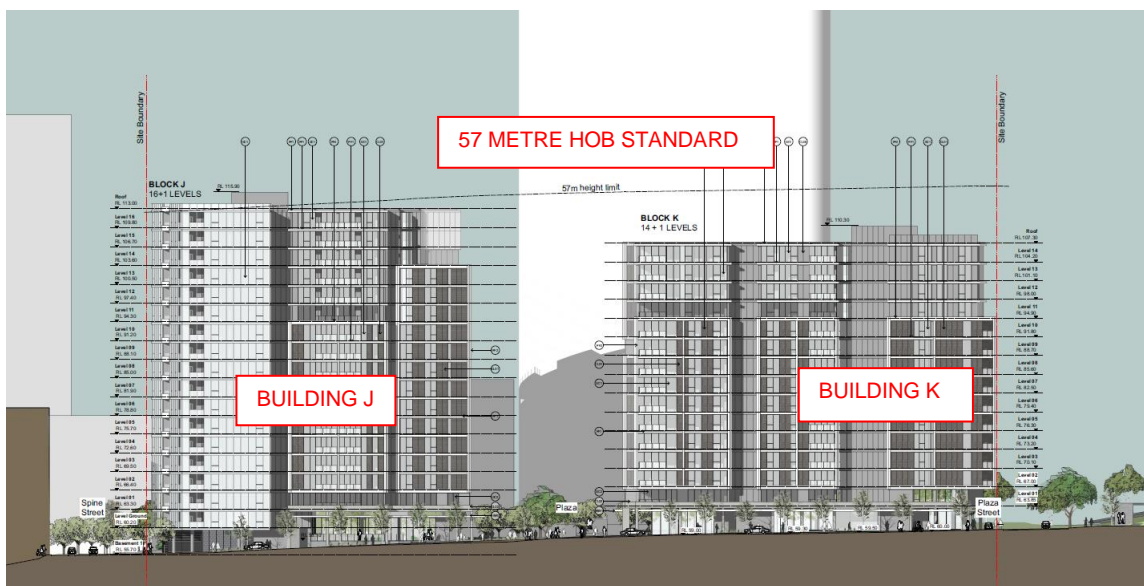


Figure 16 – Amended DA West Elevation showing Buildings J and K on Lot 105 (Jervis Circuit)

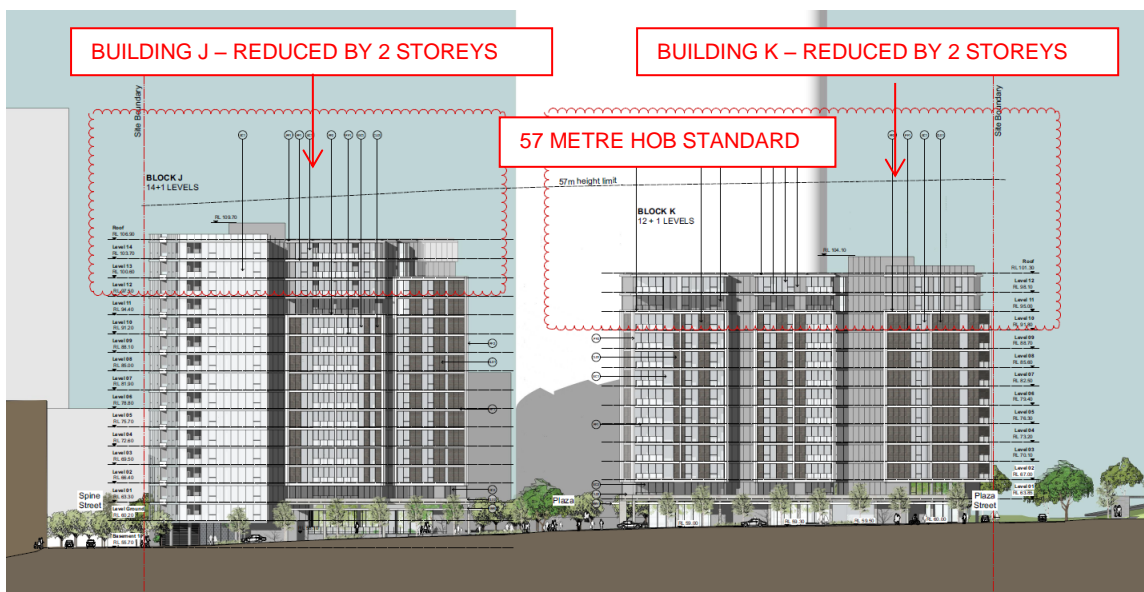


Figure 18 illustrates the proposed increase in height to Building L3 and M.

Figure 17 – Original DA East Elevation showing Buildings M, L1, L2, L3, L4 and L5 (Jarvis Circuit)

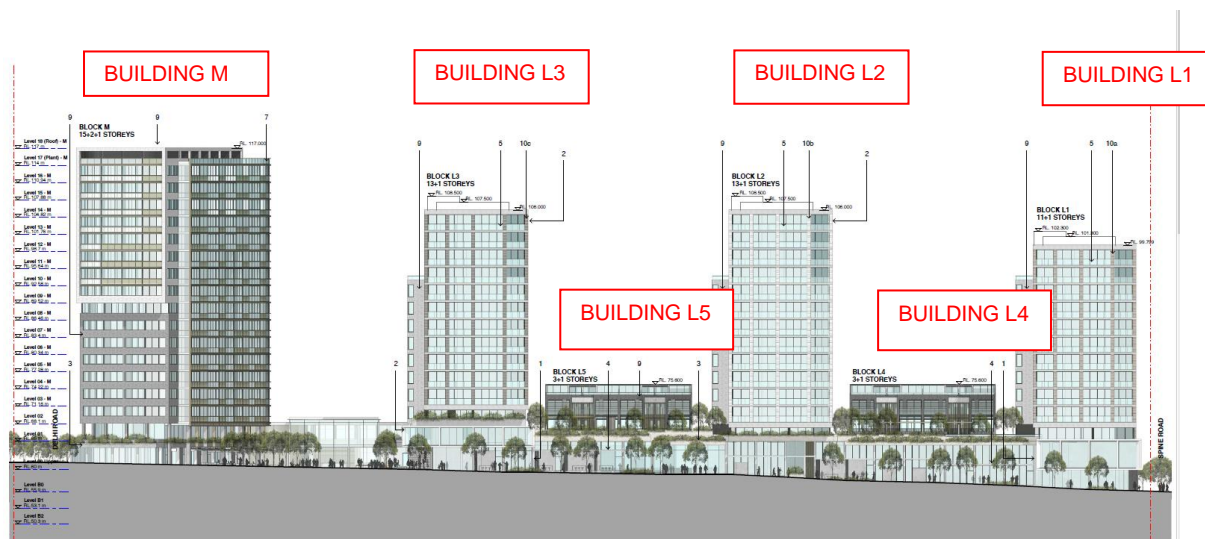
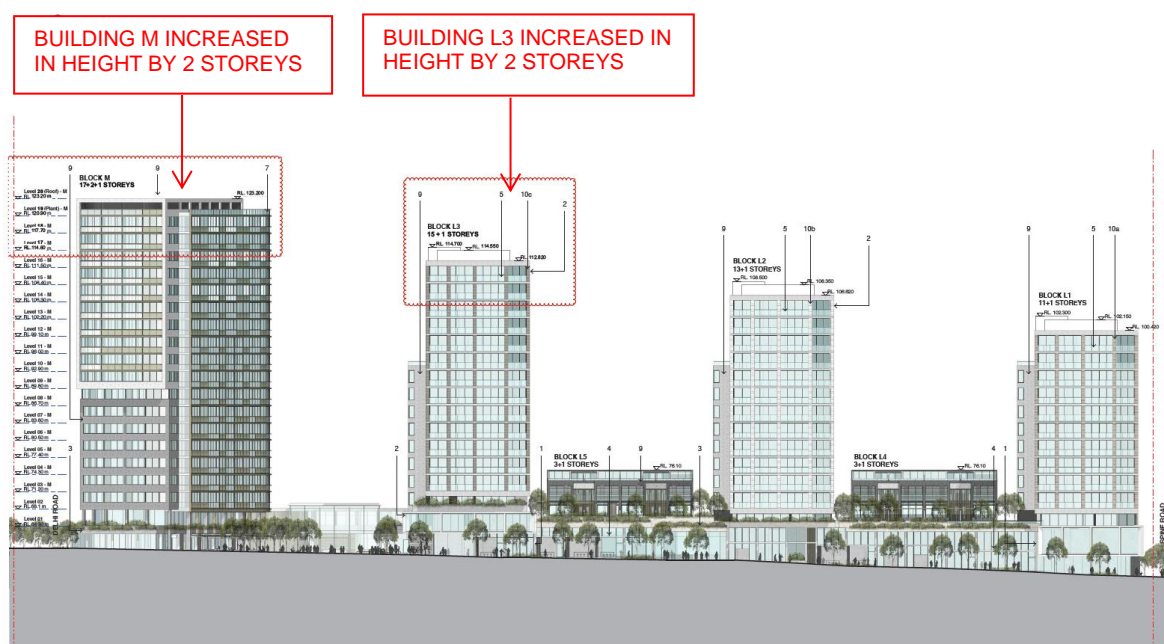


Figure 18 – Amended DA East Elevation showing Buildings M, L1, L2, L3, L4 and L5 (Jarvis Circuit)



Changes have also been made to the retail layout on the ground floor of Lot 104 development, as follows:

- Reduction in the size of the supermarket from 2829m² to 2000m² Nett Lettable Area (NLA);
- Provision of two specialty retail tenancies at the entry off Lachlan's Square; and
- Reconfiguration of amenities;
- Introduction of a accessway behind the retail tenancies fronting Jarvis Circuit
- Replacement of the entry to the supermarket off Jarvis Circuit with a specialty retail tenancy.
- Reconfiguration of retail entry from Lachlan's Square.

The proposed amendments to the development are shown in the architectural drawings prepared by Turner Studio Architects and attached at **Appendix E** (Lot 104) and **Appendix F** (Lot 105).

5. AMENDED PROPOSAL

5.1. INTRODUCTION

The Amended DA seeks approval for the mixed use redevelopment of the subject site on two allotments known as Lot 104 and 105, including the following works:

- Three (3) levels of shared basement car parking and loading to service all activities on the site across Lots 104 and 105 for 884 car spaces;
- A tunnel beneath Jarvis Circuit, a future public road linking Basement Levels 00 and 01 across Lots 104 and 105;
- A single level podium across Lot 104 comprising retail and community facilities uses;
- Eight (8) residential buildings comprising 882 units ranging in height from 5 to 19 storeys (above ground level);
- Publicly accessible open spaces referred to in this application as Lachlan's Square and Laura's Place;
- A 2500m² community facility over two levels; and
- Site landscaping.

5.2. ARCHITECTURAL DRAWINGS

This report has been prepared with reference to the architectural drawings in the following table. Amended drawings are highlighted with bold red text.

Table 7 – Architectural drawings

Document Description	Date	Plan No/Reference
LOT 104		
Key Plan Parking Level 00	27/03/2017	DA02.0B0 Rev J
Key Plan Parking Level 01	27/03/2017	DA02.0B1 Rev J
Key Plan Parking Level 02	27/03/2017	DA02.0B2 Rev H
Key Plan Parking Ground Level	12/10/2017	DA02.100 Rev M
Key Plan Level 01	27/03/2017	DA02.101 Rev H
Key Plan Level 02	27/03/2017	DA02.102 Rev H
Key Plan Level 03	27/03/2017	DA02.103 Rev H
Key Plan Level 04-07	13/07/2016	DA02.104 Rev G
Key Plan Level 08	27/03/2017	DA02.108 Rev G
Key Plan Level 09	27/03/2017	DA02.109 Rev G
Key Plan Level 10	27/03/2017	DA02.110 Rev G
Key Plan Level 11	27/03/2017	DA02.111 Rev G
Key Plan Level 12	12/10/2017	DA02.112 Rev H
Key Plan Level 13	12/10/2017	DA02.113 Rev A

Document Description	Date	Plan No/Reference
Key Plan Level 14	12/10/2017	DA02.114 Rev J
Key Plan Level 15	12/10/2017	DA02.115 Rev J
Key Plan Level 16	12/10/2017	DA02.116 Rev A
Key Plan Level 17-18	12/10/2017	DA02.117 Rev H
Key Plan Level 19	12/10/2017	DA02.118 Rev H
Key Plan Level 20 – Roof Plan	12/10/2017	DA02.119 Rev A
General Arrangement Plan Building L1 - Level 01	16/12/2016	DA03.101 Rev H
General Arrangement Plan Building L1 - Level 02-08	16/12/2016	DA03.102 Rev H
General Arrangement Plan Building L1 - Level 09	16/12/2016	DA03.109 Rev H
General Arrangement Plan Building L1 - Level 10	16/12/2016	DA03.110 Rev H
General Arrangement Plan Building L1 - Level 11	16/12/2016	DA03.111 Rev H
General Arrangement Plan Building L1 - Level 12 (Plant)	13/07/2016	DA03.112 Rev G
General Arrangement Plan Building L2 - Level 01	16/12/2016	DA03.201 Rev H
General Arrangement Plan Building L2 - Level 02-08	16/12/2016	DA03.202 Rev H
General Arrangement Plan Building L2 - Level 09	16/12/2016	DA03.209 Rev H
General Arrangement Plan Building L2 - Level 10	16/12/2016	DA03.210 Rev H
General Arrangement Plan Building L2 - Level 11	16/12/2016	DA03.211 Rev H
General Arrangement Plan Building L2 - Level 12-15	16/12/2016	DA03.212 Rev H
General Arrangement Plan Building L2 - Level 14 (Plant)	13/07/2016	DA03.214 Rev G
General Arrangement Plan Building L3 - Level 02	16/12/2016	DA03.302 Rev H
General Arrangement Plan Building L3 - Level 03-08	16/12/2016	DA03.303 Rev H
General Arrangement Plan Building L3 - Level 09	16/12/2016	DA03.309 Rev H
General Arrangement Plan Building L3 - Level 10	16/12/2016	DA03.310 Rev H
General Arrangement Plan Building L3 - Level 11	16/12/2016	DA03.311 Rev H
General Arrangement Plan Building L3 - Level 12-15	12/10/2017	DA03.312 Rev J
General Arrangement Plan Building L3 - Level 16 (Plant)	12/10/2017	DA03.314 Rev H
General Arrangement Plan Building L4 & L5 – Terrace Levels 01,02,03	27/03/2017	DA03.401 Rev H
General Arrangement Plan Building M - Level 02-07	15/12/2016	DA03.602 Rev H
General Arrangement Plan Building M - Level 08	15/12/2016	DA03.608 Rev H
General Arrangement Plan Building M - Level 09-14	16/12/2016	DA03.609 Rev H
General Arrangement Plan Building M - Level 15-18	12/10/2017	DA03.615 Rev J
General Arrangement Plan Building M - Level 19 (Plant)	12/10/2017	DA03.617 Rev H
Elevation Epping Road	12/10/2017	DA07.001 Rev K
Elevation Retail Street	12/10/2017	DA07.002 Rev K
Elevation Delhi Road	12/10/2017	DA07.003 Rev J

Document Description	Date	Plan No/Reference
Elevations Spine Road	12/10/2017	DA07.004 Rev K
Section Long Section	12/10/2017	DA08.001 Rev J
Section Lachlan's Square Facing Block M	12/10/2017	DA08.002 Rev J
Section Lachlan's Square Facing Block L3	12/10/2017	DA08.003 Rev L
Section Supermarket/Podium Facing Block L3	12/10/2017	DA08.004 Rev J
Section Supermarket/Podium Facing Block L1	12/10/2017	DA08.005 Rev K
LOT 105		
Title Sheet	08/07/2016	DA-001-001 Rev H
Site Plan	12/10/2017	DA-100-001 Rev H
Building Separation	21/12/2016	DA-100-002 Rev A
Ground Block Plan	22/12/2016	DA-110-000 Rev K
Level 01 Block Plan	15/07/2016	DA-110-001 Rev I
Level 02 Block Plan	15/07/2016	DA-110-002 Rev I
Level 03 Block Plan	15/07/2016	DA-110-003 Rev I
Level 04 Block Plan	15/07/2016	DA-110-004 Rev I
Level 05 Block Plan	15/07/2016	DA-110-005 Rev I
Level 06 Block Plan	15/07/2016	DA-110-006 Rev I
Level 07 Block Plan	15/07/2016	DA-110-007 Rev I
Level 08 Block Plan	15/07/2016	DA-110-008 Rev I
Level 09 Block Plan	15/07/2016	DA-110-009 Rev I
Level 10 Block Plan	15/07/2016	DA-110-010 Rev I
Level 11 Block Plan	12/10/2017	DA-110-011 Rev K
Level 12 Block Plan	12/10/2017	DA-110-012 Rev K
Level 13 Block Plan	12/10/2017	DA-110-013 Rev K
Level 14 Block Plan	12/10/2017	DA-110-014 Rev K
Roof Plan	12/10/2017	DA-110-017 Rev H
Basement 01	15/07/2016	DA-110-B01 Rev L
Basement 01_Alternate Option	15/07/2016	DA-110-B01 Rev L
Basement 02_Alternate Option	15/07/2016	DA-110-B02 Rev M
Basement 02	15/07/2016	DA-110-B02 Rev N
Basement 03	15/07/2016	DA-110-B03 Rev M
Basement 03_Alternate Option	15/07/2016	DA-110-B03 Rev M
Basement 04_Alternate Option	15/07/2016	DA-110-B04 Rev M
Ground Level	15/07/2016	DA-112-000 Rev L

Document Description	Date	Plan No/Reference
Level 01	13/12/2016	DA-112-001 Rev J
Level 02	13/12/2016	DA-112-002 Rev J
Level 03	13/12/2016	DA-112-003 Rev J
Level 04	13/12/2016	DA-112-004 Rev J
Level 05	13/12/2016	DA-112-005 Rev J
Level 06	13/12/2016	DA-112-006 Rev J
Level 07	13/12/2016	DA-112-007 Rev J
Level 08	13/12/2016	DA-112-008 Rev J
Level 09	13/12/2016	DA-112-009 Rev J
Level 10	13/12/2016	DA-112-010 Rev J
Level 11	29/03/2017	DA-112-011 Rev K
Level 12	29/03/2017	DA-112-012 Rev K
Level 13	12/10/2017	DA-112-013 Rev L
Level 14	12/10/2017	DA-112-014 Rev L
Ground Level	15/07/2016	DA-113-000 Rev I
Level 01	13/12/2016	DA-113-001 Rev K
Level 02	13/12/2016	DA-113-002 Rev I
Level 03	13/12/2016	DA-113-003 Rev I
Level 04	13/12/2016	DA-113-004 Rev I
Level 05	13/12/2016	DA-113-005 Rev I
Level 06	13/12/2016	DA-113-006 Rev I
Level 07	13/12/2016	DA-113-007 Rev I
Level 08	13/12/2016	DA-113-008 Rev I
Level 09	13/12/2016	DA-113-009 Rev I
Level 10	13/12/2016	DA-113-010 Rev I
Level 11	29/03/2017	DA-113-011 Rev J
Level 12	12/10/2017	DA-113-012 Rev K
Adaptable Apartments	08/07/2016	DA-120-001 Rev G
East Elevation	12/10/2017	DA-250-001 Rev J
West Elevation	12/10/2017	DA-250-002 Rev K
North Elevation	12/10/2017	DA-250-003 Rev F
South Elevation	12/10/2017	DA-250-004 Rev G
North Section	12/10/2017	DA-250-005 Rev E
South Section	12/10/2017	DA-250-006 Rev D
Section A	12/10/2017	DA-350-001 Rev E

Document Description	Date	Plan No/Reference
Section B	12/10/2017	DA-350-002 Rev E
ADG Diagrams	01/06/2016	DA-730-001 Rev E
Materials and Finishes	07/07/2016	DA-740-001 Rev C
Typical Apartments	09/12/2016	DA-800-001 Rev A
Privacy Screens	14/12/2016	DA-800-100 Rev A
3D View 01	08/07/2016	DA-900-001 Rev G
3D View 02	08/07/2016	DA-900-002 Rev G
3D View 03	08/07/2016	DA-900-003 Rev G
3D View 04	04/07/2016	DA-900-004 Rev G
3D View 05	04/07/2016	DA-900-005 Rev G
3D View 06	04/07/2016	DA-900-006 Rev G

5.3. NUMERICAL OVERVIEW

A summary of the numerical information relating to the proposed development is provided in **Table 8**.

Table 8 – Key Development Information

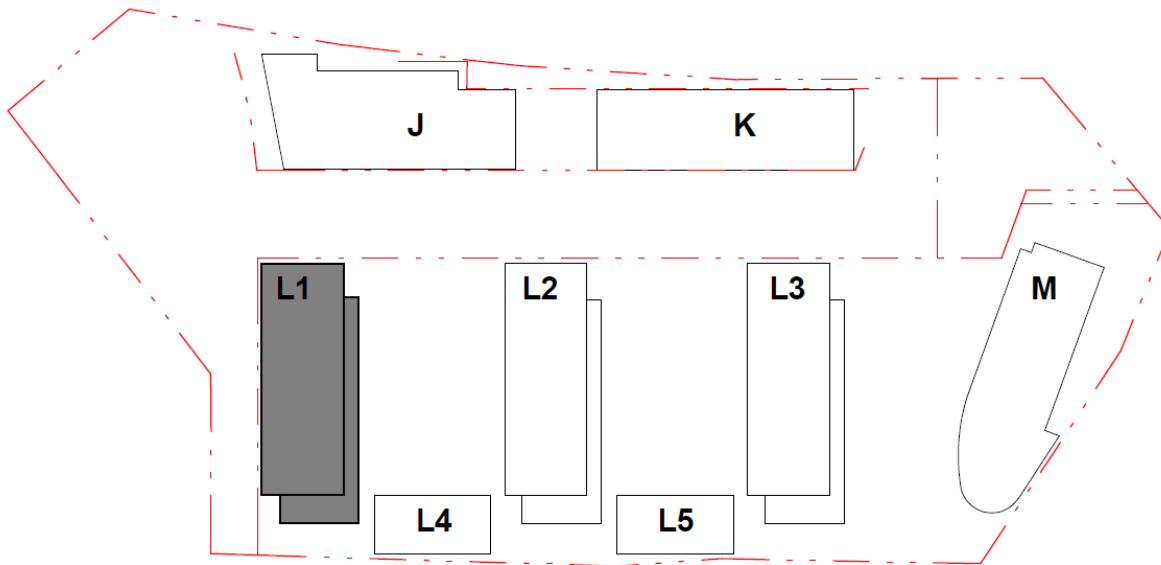
Component	Proposal	
Site Area	Lot 104	Lot 105
	12,531 m ²	2822 m ²
GFA		
▪ Retail	4954 m ²	766
▪ Residential	47,346 m ²	20,429
▪ Community	2500m ²	-
▪ Total	54,800 m²	21,195
▪ Car parking GFA	2090 m ²	
Height (storeys above ground)		
▪ Building J		15 Storeys
▪ Building K		13 storeys
▪ Building L1	13 storeys	
▪ Building L2	15 storeys	
▪ Building L3	17 storeys	

Component	Proposal	
<ul style="list-style-type: none"> ▪ Building L4 ▪ Building L5 ▪ Building M 	5 storeys 5 storeys 19 storeys	
Unit mix <ul style="list-style-type: none"> ▪ Studio ▪ 1 bedroom ▪ 2 bedroom ▪ 3 bedroom ▪ 4 bedroom 	50 263 280 8 8	9 138 126 Nil
No. of residential units	609	273
Total no. of residential units	882	
Parking <ul style="list-style-type: none"> ▪ Retail ▪ Residential ▪ Residential: visitor ▪ Community ▪ On-site car share 	180 398 46 25 12	196

5.4. KEY ELEMENTS OF THE AMENDED PROPOSAL

The proposed land uses have been allocated in response to the guidelines set in the Ryde LEP 2014 and North Ryde Station Precinct DCP. Buildings are referenced alphabetically, as shown in **Figure 19**.

Figure 19 – Building Identification Plan



1.2.1 Basement

- Ancillary car parking, storage and local dock and waste and recycling rooms, and back of house spaces for retail, residential and community uses in Basements Levels 00-02.

1.2.2 Ground floor

- Retail on the ground floor level of buildings fronting the Jarvis Circuit, Lachlan's Square, Central Park. Retail or commercial on Geddes Ave.
- Community use fronting Lachlan's Square and Delhi Road.

1.2.3 First floor

- Retail (gymnasium) on Level 1 Lachlan's Square
- Community use.
- Residential uses across all buildings at this level.

1.2.4 Second floor and above

- Residential uses across all buildings at these levels

5.5. BUILDING ENVELOPES, HEIGHT AND SETBACKS

The proposal establishes building envelopes across the subject site ranging from 1 to 19 storeys).

Building envelopes are designed to:

- Provide definition of streets and public open spaces;
- Achieve view sharing principles;

- Maintain sunlight to communal and public open spaces areas.
- Address streets with retail frontages and residential entrances.
- Streets between sites break building elements which contribute to solar access and natural ventilation.

5.6. ARCHITECTURAL EXPRESSION

5.6.1. Lot 104

The built form on Lot 104 is proposed comprises five (6) residential buildings above a single level retail podium known as Buildings L1, L2, L3, L4, and L5 and a standalone building known as Building M.

Materials and finishes

Building M has a primary orientation to civic piazza as well as acting as an identifiable anchor within the overall site context, expresses its position through utilisation of glass a more urban and distinct material.

The Building L building types acknowledge, through use of masonry, its residential nature and framing of communal open space.

The diagram below shows the grouping of facade typologies derived from the response the local context. In summary the following facade types are proposed:

- TYPE B (Requiring shading and one directional acoustic screening)
- TYPE B1 (Requiring limited amount of one directional acoustic screening and no solar shading)
- TYPE C (Requiring two directional acoustic screening and extensive shading)

5.6.2. Lot 105

The built form for Lot 105 comprises two buildings known as Building J to the north west, and Building K to the south east. There is a through site link known as Laura's Place between Jarvis Circuit and the new park.

The steps in the building forms relate to a datum within built form proposed on Lot 104 that breaks down the scale of the buildings to Jarvis Circuit and Lachlan's Square.

Materials and finishes

The proposed materials and finishes on Lot 105 has been developed to relate to the design for Lot 104, but offering differentiation for both residents, and as a positive urban response.

The development presents a refined approach to architectural expression, and a palette of quality materials that will set a benchmark for future developments in the Lachlan's Line precinct.

The building forms and their articulation relate to vehicular and pedestrian access and movement, as well as street and park frontages, each requiring differing approaches to scale and in response to the Council UDRP comments.

These differing requirements have been addressed using a limited palette that has been deployed in a manner appropriate to each aspect.

The following four (4) facade types are proposed throughout the composition of Lot 105 buildings:.

- Facade type 1: Glazed facade with bronze tinted glass with expressed dark bronze coloured mullions. Glass to slab edges.

- Facade type 2: Concrete frame portals, painted white, with expressed slabs and panels of masonry with glazed balustrades.
- Facade type 3: 450mm expressed slab edges, painted white. Full-height glazing and glass balustrades.
- Facade type 4: Deep expressed mullions in a light bronze highlight colour.

The base of the building is given a civic expression by way of a single-storey colonnade in a glazed white brick and cantilevered awning. The middle framing elements in the buildings are lifted to above level 1 to provide a two-storey human scale.

5.7. GROSS FLOOR AREA / FLOOR SPACE RATIO

This section of the report provides a numerical summary of the proposed GFA for the development, excluding the GFA associated with the excess retail car parking.

Table 9 provides the GFA for each building and land use in the proposal for Lot 104.

Table 9 – Lot 104 GFA

Building	GFA (m ²)		
	Residential	Retail	Community
L1	9316	4954	2500
L2	10,548		
L3	11,349		
L4	564		
L5	564		
M	15,005		
Total	47,346	4954	2500

Table 10 provides the GFA for each building and land use in the proposal for Lot 105.

Table 10 – Lot 105 GFA

Building	GFA (m ²)		
	Residential	Retail	Community
J	11,261	268	-
K	9168	498	-
Total	20,429	766	-

Table 11 provides the GFA for each building and land use in the proposal for Lots 104 and 104.

Table 11 – GFA summary

Use	Lot 104 (m2)	Lot 105 (m2)	Total (m2)
▪ Retail	4954	766	5720
▪ Residential	47,346	20,429	67,775

▪ Community	2500	-	2500
▪ Total	54,800	21,195	75,995

5.8. VEHICLE ACCESS AND CAR PARKING

5.8.1. Vehicle access

Parking is proposed on 3 levels – Level 00, Lower Ground/Basement 01 and Basement 02. Retail/community and car share parking is allocated will exist on Levels 00 and 01, whilst residential parking is proposed on Basement Levels 01 and 02. Off-street parking has been assessed by Arup Traffic Engineers to be compliant with AS/NZS 2890.1:2004 and AS/NZS 2890.6:2009.

Access to the basement car parking facility will be via Lower Ground/Basement 01, where a two way access ramp with an additional entry merging lane is proposed to intersect with Spine Road. A merge lane is provided for ingressing vehicles so as to limit vehicle queuing on Spine Road.

Two-way ramps exist on all levels, and do not exceed a grade of 1:5 between levels containing retail/community allocated spaces and 1:4 between levels containing residential allocated spaces in accordance with the relevant Australian Standards.

5.8.2. Tunnel

A vehicle tunnel is proposed between Lots 104 and 105 beneath Jarvis Circuit, a future public street to link basement Levels 01 and 02. The tunnel is 9 metres in width.

5.8.3. Car parking

Section 7.2 of the North Ryde Station Precinct DCP sets out the maximum parking rates for the North Ryde Station Precinct. Car parking rates applicable to the development site are provided at **Table 12**:

Table 12 – Proposed Car parking by use

Use	Total area / dwellings	required rate	Proposed rate	Proposed spaces
Residential				
Studio	59	0 spaces per studio	0 spaces per studio	0
1 bedroom	401	0.6 spaces per 1 bedroom dwelling	0.6 spaces per 1 bedroom dwelling	230
2 bedroom	406	0.9 spaces per 2 bedroom dwelling	0.9 spaces per 2 bedroom dwelling	239
3+ bedroom	16	1.4 spaces per 3 bedroom dwelling	1.4 spaces per 3 bedroom dwelling	8
Visitor		0.1 spaces per 10 dwellings (visitors)	0.1 spaces per dwelling (visitors)	46
General retail	3720m ²	1 space per 100m ² GFA	1 space per 33.1m ² GFA	93
Supermarket retail	2000m ²	1 space per 60m ² GFA	1 space per 33.1m ² GFA	97
Community	2500m ²	1 space per 100 m ² GFA	1 space per 100 m ² GFA	25

Use	Total area / dwellings	required rate	Proposed rate	Proposed spaces
Car share		1 space per 50 standard bays	1 space per 50 standard bays	12
Total				884

Retail car parking

Providing a suitable number of on-site car parking spaces for the retail development is important to ensure that parking is confined to the site and not adjacent streets. A total of 180 car spaces for the retail uses are proposed, which is 94 spaces more than the maximum car parking rates in the NRSP DCP 2013 permits. Refer to NRSP DCP 2013 compliance assessment at **Section 5** of this report.

Residential visitor parking

A total of 46 visitor parking will be provided for the residential uses, which is fewer than the maximum 85 spaces permitted under the North Ryde Station DCP 2013. Visitors will share car parking with the retail users of the development. Car parking between the residential visitors and retail users may be shared during peak demand periods, which is an efficient way of allocating car parking given the peaks for these two users typically do not coincide.

Parking aisles will be two-way to allow full circulation with 90 degree parking spaces and a minimum of 5.8m aisle width exists throughout the entire facility to comply with AS/NZS 2890.1:2004. Standard parking space dimensions will be 2.6m width by 5.4m length whilst disabled parking spaces will be 3.9m width by 5.4m length, of which a minimum of 2.4m width will be dedicated parking space.

Vehicle swept paths are provided in Appendix A of the Traffic and Parking Assessment report prepared by ARUP Traffic Engineers submitted with the development application.

Car share

In accordance with Ryde Council requirements, 1 car share space will be provided for every 50 standard residential car parking bays. Based on the 624 car spaces provided across lots 104 and 105, 12 car space spaces are proposed on Lot 104 basement Level 01.

1.2.5 Loading and service Vehicles

A loading dock exists is proposed on the western corner of lower ground/basement 01 on Lot 104 which is to be accessed off Spine Road adjacent to the car park entrance. This loading dock will accommodate up to six service vehicles at any one time, up to articulated vehicles.

A 19m turntable has been provided to accommodate vehicle manoeuvrability within the loading dock. Vehicle swept path analysis was undertaken by Arup Traffic Engineers and is included as an appendix to the Traffic and Parking Assessment report submitted with the development application.

5.9. BICYCLE PARKING

The Ryde Council DCP recommends that bicycle parking be provided equivalent to 10% of the required residential car spaces. The DCP control requires 62 bicycle parking to be provided across both developments. Given the scale of development, proximity to nearby public transport and the general objective of the precinct to encourage active transport usage, a significantly higher bicycle parking provision is proposed. This includes 200 dedicated bicycle parking spaces as well as 470 additional residential storage cages.

5.10. PEDESTRIAN ACCESSIBILITY

On Lot 104, the new urban space, Lachlan's Square is located on the eastern end of Jarvis Circuit immediately adjacent to the pedestrian/cycle bridge. It provides a new civic space within the precinct. Surrounding Lachlan's Square are the council facilities, one of the two pedestrian entries into the supermarket, retail facilities that support the civic nature of Lachlan's Square, and vertical transport that connects pedestrians to the basement carpark. Also located within Lachlan's Square are the residential

lobbies to Blocks L3 and M, and the public staircase that provides access to both the level 01 Gym and the residential podium level.

Along Jarvis Circuit are café and dining facilities to the east, all of which have dual frontage to Jarvis Circuit and Central Park. A new pedestrian referred to as Laura's Place is proposed between Blocks J & K of Lot 105 which is to link to Central Park to Jarvis Circuit. Both Lachlan's Square and the new plaza will be high quality urban landscaped spaces with excellent solar access that make them ideal spaces for outdoor dining and community events.

An entry to the supermarket is proposed on the Jarvis Circuit frontage adjacent to the pedestrian crossing from Central Park, contains the second entry into the Supermarket as well as retail facilities that support its operation. The 3600m² supermarket and its BOH facilities are centred along Lot 104. The residential lobby to Blocks K and L2 also fronts Jarvis Circuit

The downward slope of the site from the pedestrian crossing along Jarvis Circuit towards Spine Road allows the lower level facilities along Jarvis Circuit have higher floor-floor heights, whilst enabling the northern portion of Lot 104 to house the Medical Centre fronting Spine Road and Jarvis Circuit. The supermarket office, which is connected off the BOH Supermarket facilities, is positioned in a visible and prime location on the north western corner of the site. Lot 105 takes advantage of the sloped terrain with residential apartments that face Central Park and the beginning of the residential portion of Spine Road. A residential entry to Building K is located close to the corner of Jarvis Circuit.

5.11. RESIDENTIAL LIVING

The residential units are contained within eight (8) buildings cross Lots 104 and 105. Access to the residential units is provided from the basement levels, from surrounding streets and Lachlan's Square via designated residential lobbies. .

5.11.1. Unit mix

This section of the report provides a summary of the proposed unit mix. **Table 13** provides the unit mix for the proposed Lot 104 development.

Table 13 – Lot 104 unit mix

Apartment type	Number	% mix
Studio	50	8%
1 bedroom	263	43%
2 bedroom	280	46%
3 bedroom	8	1.5%
4 bedroom	8	1.5%
TOTAL	609	100%

Table 14 provides the unit mix for the proposed Lot 105 development.

Table 14 – Lot 105 unit mix

Apartment type	Number	% mix
Studio	9	3%
1 bedroom	138	51%
2 bedroom	126	46%

Apartment type	Number	% mix
Studio	9	3%
3 bedroom	0	0%
TOTAL	273	100%

Table 15 provides a summary of the unit mix for the proposed Lot 104 and 105 development.

Table 15 – Summary of proposed unit mix

Apartment type	Number	% mix
Studio	59	7%
1 bedroom	401	45%
2 bedroom	406	46%
3 bedroom	8	1%
4 bedroom	8	1%
TOTAL	882	100%

5.11.2. Residential amenity

The proposed development has been designed to provide a high standard of residential amenity, having regard to the characteristics, orientation and configuration of the site adjacent to busy arterial roads, and the lot configuration as approved in the staged development Consent SSD_5093.

Architectural Design Verification Statements prepared by Turner Studio in accordance with SEPP 65 and the Regulations and provide an assessment against SEPP 65 Design Quality Principals and the Apartment Design Guide.

The proposed amended plans have been prepared by Turner Studio, and reviewed by Steve King to confirm the solar access to apartments. The proposed amendments do not alter the natural cross ventilation performance, being above 9 storeys in height.

5.12. PUBLICLY ACCESSIBLE OPEN SPACE AND LANDSCAPING

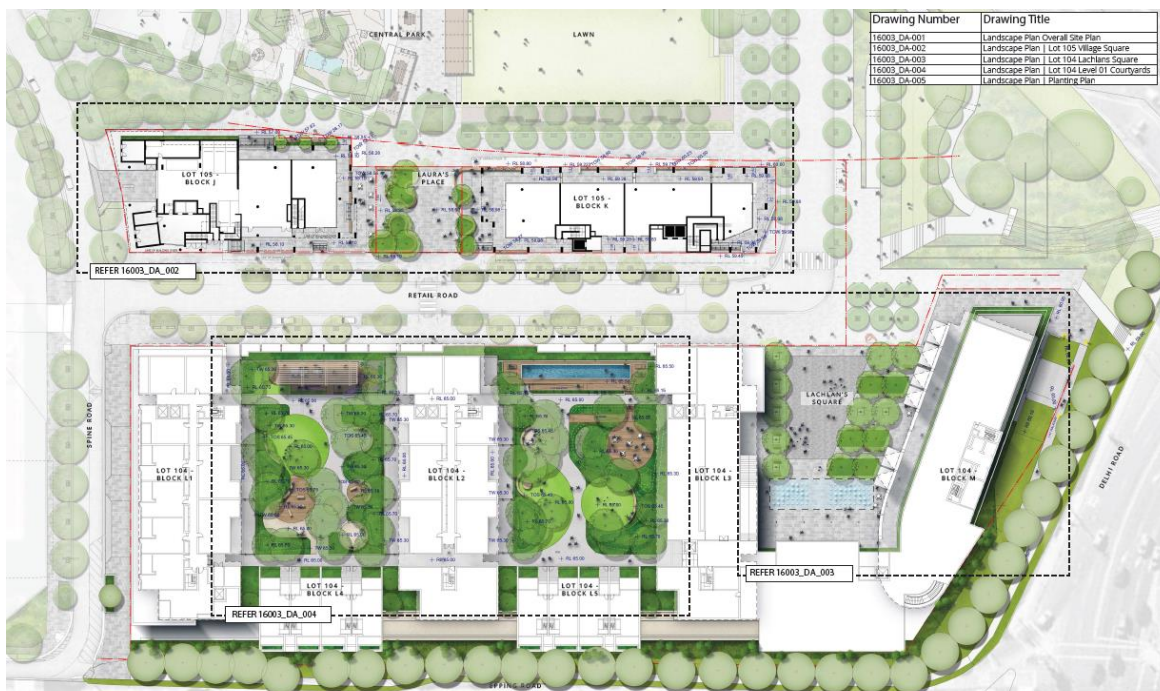
5.12.1. Design principles

The proposed public and private domain areas within the Lachlan's Line Lots 104 and 105 development have been designed with regard to the principles listed below:

- The provision of high quality land/active public domain that allow for a variety of uses and user groups;
- A public domain scheme that reinforces clear and accessible connections to North Ryde rail station and the existing Waterloo Road commercial spine;
- The provision of a 1,550m² centrally located public square, referred to as Lachlan's Square and a 578m² public square and through site link known as Laura's Place;.
- The provision of a landscape that harnesses the potential for WSUD within its design;
- Provision of a high quality and comfortable streetscape that prioritises the pedestrian, and encourages safe and legible movement to, from, and within the site;
- Provision of comfort for residents through considered private and communal landscape spaces;
- Increased biodiversity and environmental protection through plant species choice and hard materials;
- Low water consumption planting;
- High quality, low maintenance, robust streetscape materials; and
- A public domain that has been designed with regard to crime prevention through its design (consideration of CPTED principles).

Figure 20 illustrates a composite landscape plan for the proposed development.

Figure 20 – Proposed Composite Landscape Plan for Lots 104 and 105, Aspect Studios



5.12.2. Lachlan's Square

The proposed design for Lachlan's Square aims to create a new civic heart for visitors and residents to the Lachlan's Line development (**Figure 21**). The design for Lachlan's Square makes reference to the following design principles:

- Legible pedestrian circulation
- Outdoor dining area (3m wide)
- Active frontages to all parameters to provide passive surveillance
- Dimensions that allow for a range of functional layouts (Error! Reference source not found.)

Lachlan's Square will be a vibrant public square with active frontages, outdoor dining and pedestrian access to the community centre and retail.

Figure 21 – Lachlan's Square Landscape plan, Aspect Studios



5.12.3. Laura's Place

The public domain areas for Lot 105 include 'Laura's Place' and the retail edges fronting onto Central Park, as well as Jarvis Circuit (Figure 22).

Laura's Place provides a high quality, verdant through pedestrian link from the Central Park across Jarvis Circuit though robust public domain materials including granite, timber and concrete. Clear view-lines framed by greenery will make Laura's Place a successful through pedestrian link, drawing people into the park, or to the surrounding shops.

Figure 22 – Laura's Place Landscape Plan, Aspect Studios



5.12.4. Delhi Road and Epping Road interface

A continuous planting zone of native trees and shrubs and mass understorey planting is to be established along the southern edge of the development along Epping Road and Delhi Road. These plantings will provide a green background to the consistent avenue of tree planting by Urban Growth NSW in the road verges.

A sloped walkway from Delhi Road will provide all accessible access from Epping Road and North Ryde rail station into Lachlan's Square and to the broader development.

Figure 23 – Delhi Road and Epping Road interface Landscape Plan and section B, Aspect Studios



5.12.5. Residential Communal open space and landscaping

Two large residential courtyards to the Lot 104 development will provide outdoor recreation opportunities as well as visual interest from Buildings J, K and L residential units (**Figure 24**).

Each of the courtyards are situated over a basement podium with a 1.0m set down in the slab level. Coupled with mounding and raised soil volumes, adequate soil depth will provide for mature tree plantings to establish.

The courtyards have been designed to provide a range of spaces for residents with opportunities to relax or enjoy passive recreation. Smaller spaces framed by raised planter beds and seating elements providing more intimate interactions. Open lawn areas will provide for passive recreation.

Figure 24 – Lot 104 Level 1 courtyards landscape plan and section, Aspect Studios



5.13. PUBLIC ART PLAN

Guppy Associates Art Management was engaged by Greenland to prepare the Lachlan's Square Public Art Plan to provide early directions for public art planning and development in the Retail Precinct at Lachlan's Line. This document at **Appendix H** includes the strategic planning of public art opportunities, the formulation of public art principles and values, an initial artist shortlist, early consideration of potential locations for art projects and early project directions. Specific artworks are not proposed at this stage, rather the Public Art Plan presents the proposed framework, in which to select an artwork for Lachlan's Square to be delivered by Greenland as part of the Lot 104 and 105 development.

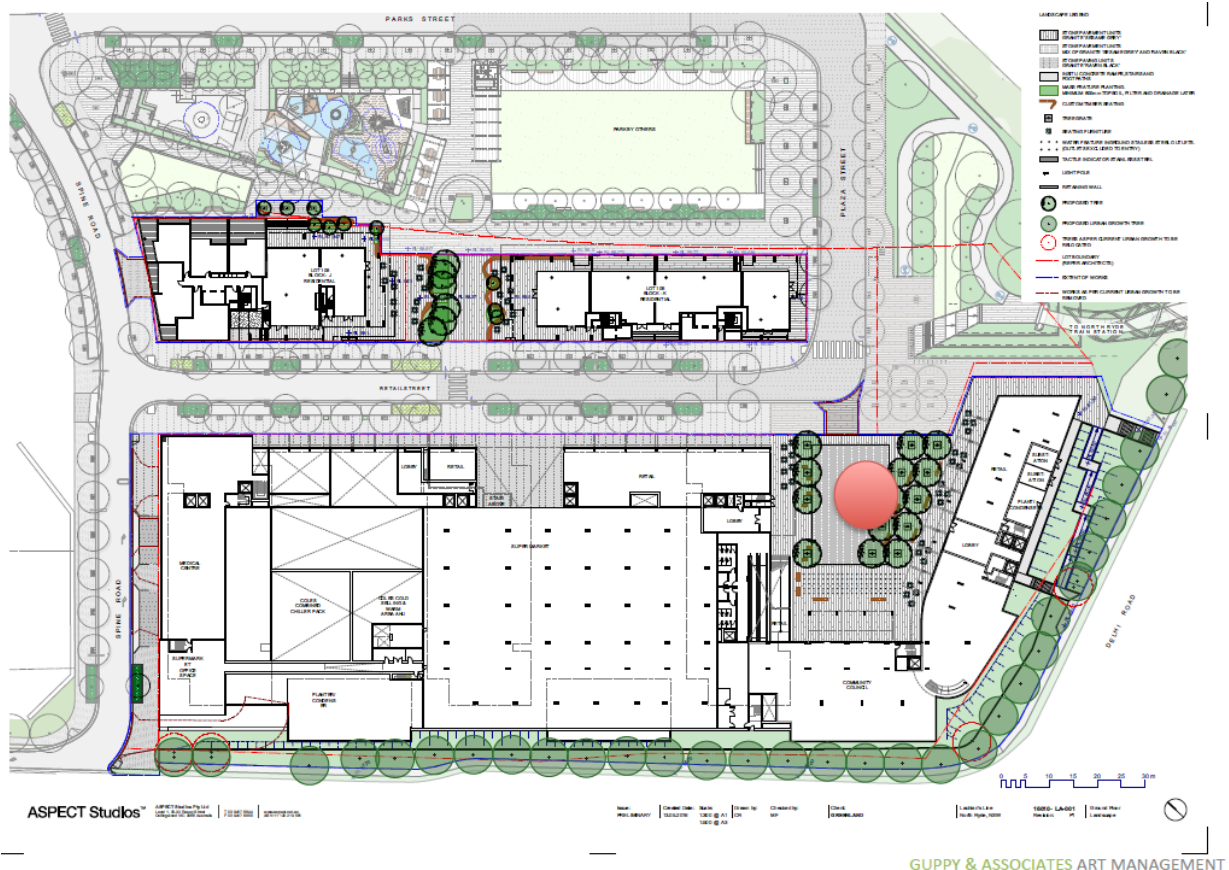
A Public Art Strategy was prepared for Lachlan's Line in 2014 with art works now in fabrication. Lachlan's Square Art Plan responds to the intent of the previous plan while developing an original direction for the new town square.

The Art Plan has been prepared having regard to the suite of design work including the Landscape Design Report prepared by Aspect Landscape Architecture and Urban Design in association with Bates Smart Architects. The Art Plan is designed to work in tandem with the architecture of the built form and the Landscape Plan for Lachlan's Square and reflects an interest in supporting broader cultural Development objectives in Lachlan's Line (

Figure 25). The red dot on the plan indicates a suitable location for public art.

An Indicative Art Budget of \$500,000 has been allocated for Lachlan's Square.

Figure 25 - Indicative Location for Public Art in Lachlan's Square, Guppy Associates



Three artists have been shortlisted and a sample of their works are illustrated in **Figure 26** and **Figure 27**.

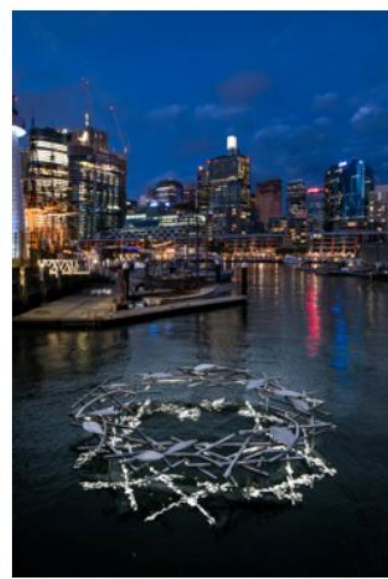
Figure 26 – Shortlisted Artists works - Hew Chee Fong and Warren Langley

Shortlisted Artist Hew Chee Fong

Hew Chee Fong is a public artist and sculptor with a powerful body of work in Australia and Asia. He uses carved stone finished to create the illusion of water or engaging with water itself. His work often reflects the power of the natural world in the urban context. Recent work includes Chatswood Mall (below right) and Beerwah Town Square



Shortlisted Artist Warren Langley



Warren Langley is one of Australia's most experienced public artists. His work reflects his interest in working with water and light. Artworks often combine a day and night time effect and use a range of materials as a scaffold for lighting. Recent work includes Tarcoma Museum of Contemporary Art Above (left) & Australian National Maritime Museum (right)



Figure 27 – Shortlisted Artists works -Jamie North

Shortlisted Artist Jamie North



Jamie North is a sculptor whose work explores the relationship between plants and man-made materials. He has an interest in the capacity of plants to inhabit spaces in the urban landscape and his selection is often specific to a particular locality. Recent work has included the 2016 Sydney Biennale (left) and residential projects (above).



Table 16 - Indicative delivery timeframe

Planning Stage	Art Milestone	Delivery Areas
Development Application	Lachlan's Line Public Art Plan	Art Directions Thematic Framework Artist Shortlist Project Opportunities
	Artist Selection	Review of Artist Shortlist Interview Process Artist Engagement
	Approval of Final Concept	Art Concept
Prior to Construction Certificate	Design Development	Documentation Engineering Package Preparation of tender package if required Fabricators approved
Construction	Fabrication & Install	Artwork installed on site
Completion of Landscaping	Artwork Handover	Final Inspections Maintenance Manual

5.14. WASTE MANAGEMENT

5.14.1. Construction waste

Construction waste management details are provided in the draft Construction Management Plan submitted with the original DA.

5.14.2. Operational waste

Operation waste management is described in detail the waste management plan submitted with the original DA.

Residential waste collection will be via lower ground/basement 01 level. The entrance has been assessed by Arup Traffic Engineers to be adequate to accommodate garbage collection vehicles.

A garbage loading area is located at the base of the tunnel connecting to the lot 105 car park, where adequate room is provided for vehicles to perform turning manoeuvres.

Access for garbage vehicles will typically be out of hours and not coincide with the traffic peak for the retail and residential uses. This will minimise any potential conflicts between traffic and minimise vehicle queuing within the site.

Vehicle swept paths for the residential waste loading area are provided as an appendix to the Traffic and Parking Assessment prepared by Arup submitted with the original DA.

5.15. PROPOSED HOURS OF OPERATION

5.15.1. Retail tenancies

Table 17 provides the hours of operation proposed for the non-residential uses. We note that the hours of operation are yet to be confirmed for the community facility by Council.

Table 17 – Proposed hours of operation

Proposed use	Days of week	Operating hours
Supermarket	Monday to Sunday	6.00am to midnight
Retail premises (shops, restaurants)	Monday to Sunday	6.00am to midnight
Medical centre	Monday to Sunday	7.00am to 9.00pm
Gymnasium	Monday to Sunday	24 hours
Community facility	To be advised by Council.	To be advised by Council.

6. SECTION 79C PLANNING ASSESSMENT

6.1. INTRODUCTION

The *Environmental Planning and Assessment Act 1979* (EP&A Act) is the key planning legislation in NSW. The Act provides guidelines for Councils to make new policies and assess development applications (EP&A Act).

This section of the report contains an assessment of the proposed development against the relevant heads of consideration contained in Section 79C (1) of the EP&A Act. In determining a development application the consent authority must take into account a range of matters relevant to the development including the provisions of environmental planning instruments; impacts on the built and natural environment, the social and economic impacts of the development; the suitability of the site; and whether the public interest would be served by the development. The assessment includes only those matters under Section 79C (1) that are relevant to the proposal as follows:

(1) Matters for consideration—general

In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:

(a) the provisions of:

(i) any environmental planning instrument, and

(ii) any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Director-General has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and

(iii) any development control plan, and

(iiia) any planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F, and

(iv) the regulations (to the extent that they prescribe matters for the purposes of this paragraph), and

(v) any coastal zone management plan (within the meaning of the Coastal Protection Act 1979), that apply to the land to which the development application relates,

(b) the likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality,

(c) the suitability of the site for the development,

(d) any submissions made in accordance with this Act or the regulations,

(e) the public interest

Detailed consideration of Section 79C(1)(a) (b), (c), (d) and (e) matters is provided in the sections below.

6.2. COMPLIANCE WITH RELEVANT STATUTORY PLANS AND POLICIES

Under Section 79C (1) of the EP&A Act the consent authority is required to take into account the relevant provisions of any environmental planning instrument, draft instrument, or development control plan in their assessment of a DA. The following legislation is considered relevant to the proposed development:

- *Environmental Planning and Assessment Act 1979 (EP&A Act);*
- *Heritage Act 1977*
- *Contaminated Land Management Act 1997*
- *State Environmental Planning Policy 55 – Remediation of Land (SEPP 55);*
- *State Environmental Planning Policy 65 – Design Quality of Residential Flat Development (SEPP 65) and supporting Apartment Design Guide (ADG);*
- *State Environmental Planning Policy (Building Sustainability Index: BASIX);*
- *State Environmental Planning Policy (Infrastructure) 2007;*
- *Ryde Local Environmental Plan 2014 (as amended by State Environmental Planning Policy Amendment (North Ryde Station Precinct) 2013); and*
- *North Ryde Station Precinct Development Control Plan 2013.*

The consistency and compliance with the relevant strategic and statutory plans and policies is detailed in the following sections.

6.2.1. Objects of the EP&A Act

The objects of the EP&A Act provide a policy framework against which the proposal is required to be considered. An assessment of the proposed development against the objectives of the EP&A Act is provided in **Table 11**.

Table 18 – Objects of the EP&A Act

Objectives	Response
(a)(i) encourage the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment.	<p>The proposal responds to the existing condition of the Lachlan's Line site. Specialist studies have been carried out in relation to contamination, ecological, archaeological, stormwater and geotechnical features of the sites. The proposed works address the outcomes of these studies and proposes mitigation measures to properly manage all identified impacts.</p> <p>Additionally, the proposal seeks to develop the land, provide housing and a retail centre and open space provisions.</p>
(a)(ii) encourage the promotion and co-ordination of the orderly and economic use and development of land.	This application relates the provision of mixed use and high density residential housing on the site, which is consistent with land use zoning provisions and the staged development consent SSDA_5093.
(a)(iii) encourage the protection, provision and co-ordination of communication and utility services.	Existing utilises and services are coordinated in the civil works currently underway to serve the development lots at Lachlan's Line.
(a)(iv) encourage the provision of land for public purposes.	This application will provide for public domain spaces for the benefit of the existing and future local community.
(a)(v) encourage the provision and co-ordination of community services and facilities.	The proposal includes the provision of a new community facility, consistent with the draft VPA.
(a)(vi) encourage the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats.	The proposal will have minimal impacts on the native plant and animal species and ecological communities.
(a)(vii) encourage ecologically sustainable development.	The principles of ecologically sustainable development have been considered as part of this proposal.
(a)(viii) encourage the provision and maintenance of affordable housing.	The proposal provides a range of unit types which are improve affordability of housing in the local area.
(b) promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and	This regional development applications will be determined by the Sydney Planning Panel. The Applicant has consulted with Council in the preparation of this application.

Objectives	Response
(c) provide increased opportunity for public involvement and participation in environmental planning and assessment.	The proposal will be placed on exhibition for public comments in accordance with the requirements of the <i>Environmental Planning and Assessment Regulation 2000</i> .

6.2.2. Heritage Act 1977 (Heritage Act)

The Heritage Act promotes identification and conservation of the State's heritage. The Heritage Act also establishes the circumstances under which a proposal would be referred to the Heritage Council of NSW for separate approval. The subject site is not listed on the State Heritage Register of NSW under the Heritage Act.

The Lachlan's Line site has previously been significantly disturbed. A non-indigenous heritage item (well/cistern) has been identified on the Lachlan's Line site. Assessment found that the Heritage Office did not require a Section 140 permit under the provisions of the Heritage Act.

6.2.3. Contaminated Land Management Act 1997 (CLM Act)

The CLM Act is the primary act under which contaminated land is regulated by the Department of Environment, Climate Change and Water (DECCW).

A Site Audit Statement and Site Audit Report for the subject site was prepared by ERM, as a condition of the ETTT licence agreement (i.e. the previous site user) (refer to summary at **Section 7**).

6.2.4. Roads Act 1993

The Roads Act seeks to regulate the carrying out of various activities on public roads. Section 138 relates to works and structures and states the following:

(1) A person must not:

(a) erect a structure or carry out a work in, on or over a public road, or

(b) dig up or disturb the surface of a public road, or

(c) remove or interfere with a structure, work or tree on a public road, or

(d) pump water into a public road from any land adjoining the road, or

(e) connect a road (whether public or private) to a classified road,

otherwise than with the consent of the appropriate roads authority

The proposal includes the construction of a tunnel linking the basement levels of Lots 104 and 105 beneath Jarvis Circuit, a future local road to be dedicated to Council. It is understood that Council will be the responsible road authority, and Council's approval is sought to construct the tunnel, as part of this development application.

6.3. STATE ENVIRONMENTAL PLANNING POLICIES

6.3.1. State Environmental Planning Policy 65: Design Quality of Residential Apartment Development

Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident well-being. Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas, and ease of access for all age groups and degrees of mobility.

The Architects has undertaken an assessment of the proposal in regard to the Design Criteria of the Apartment Design Guide (ADG) under SEPP 65, being solar access and natural ventilation.

Assessments of the proposed development against the 9 design quality principals of SEPP 65 and the ADG are required to be prepared with Design Verification Statements, by architects that are registered under the *Architects Act 2003*.

Turner Studio prepared a Design Verification Statement, in accordance with SEPP 65 for the original DA. An addendum to the Design Statement is provided at **Appendix G**.

6.3.2. State Environmental Planning Policy – BASIX

A BASIX Certificates for the amended development proposal are to be provided to Council for the assessment.

6.3.3. State Environmental Planning Policy 55 – Remediation of contaminated land

SEPP 55 – Remediation of Land, requires an assessment of the suitability of the site to accommodate the proposed uses, having regard to any contamination assessments of the land on which a development is located.

The site has been remediated and a Site Audit Report and Site Audit Statement have been prepared. The report and statement confirm the site has been appropriately remediated and the site is suitable for the proposed uses. The requirements of SEPP 55 have been satisfied for the proposed development application.

6.3.4. State Environmental Planning Policy – Infrastructure

The aim of the SEPP is to facilitate the effective delivery of infrastructure across NSW by identifying matters to be considered in the assessment of development adjacent to particular types of infrastructure such a classified roads and prescribing consultation requirements for certain development.

Traffic Generating Development (Clause 104)

Developments listed in the Schedule 3 of the SEPP are to be referred to RMS. Schedule 3 lists categories and sizes or capacity of developments which both have site access to a classified road (or within 90m) and access to any road. Certain characteristics of the development proposal trigger referral to the RMS for comment, such as:

- Commercial premises with floor space of more than 2,500m²;
- Parking for 50 or more motor vehicles; and
- Shops of 500m² or more.

The original DA was referred to the RMS.

Further discussion on the proposed traffic and car parking is provided at Section 6 of this report.

6.3.5. State Environmental Planning Policy 64 – Advertising and Signage

SEPP 64 aims to:

- (a) *to ensure that signage (including advertising):*
 - (i) *is compatible with the desired amenity and visual character of an area, and*
 - (ii) *provides effective communication in suitable locations, and*
 - (iii) *is of high quality design and finish, and*
- (b) *to regulate signage (but not content) under Part 4 of the Act, and*
- (c) *to provide time-limited consents for the display of certain advertisements.*

The development application includes areas on the building for the provision of future signage. The applicant is in the process of securing the retail tenants and their signage requirements are not yet finalised. Therefore, consent for the design of signage within the approved signage zones on the building will be lodged as a separate development application.

The design of the building, including the height, bulk and scale and the architectural features, has allowed for the signage zones in appropriate locations to provide effective signage for key tenants.

It is recommended that the separate development application for signage include a comprehensive signage strategy to promote a consistent approach for the high quality signage, which complements the architectural expression of the buildings and the desired character of the mixed use precinct described in the NRSPDCP 2013.

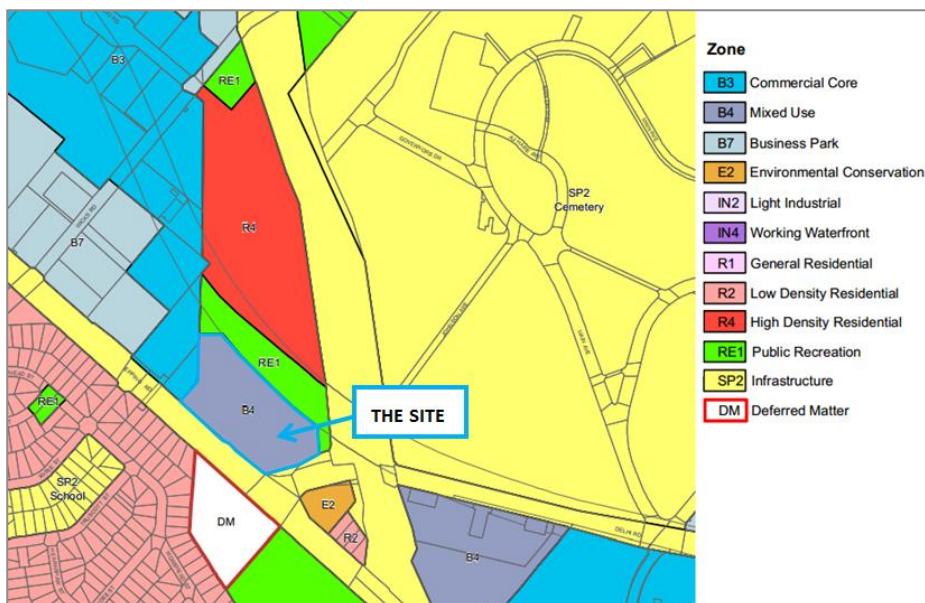
6.4. RYDE LOCAL ENVIRONMENTAL PLAN 2014

The *Ryde Local Environment Plan 2014* (RLEP) was amended following the gazettal of the *State Environmental Planning Policy Amendment (North Ryde Station Precinct) 2013* on 23 September 2013. An assessment of the proposal against the relevant provisions of RLEP is provided below.

6.4.1. Land Use zoning and permissibility

The site is zoned B4 Mixed Use under the RLEP as shown in **Figure 28**.

Figure 28 – Zoning Map (RLEP 2014)



The objectives of the B4 Mixed Use zone are:

- *To provide a mixture of compatible land uses.*
- *To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.*
- *To ensure employment and educational activities within the Macquarie University campus are integrated with other businesses and activities.*
- *To promote strong links between Macquarie University and research institutions and businesses within the Macquarie Park corridor.*

The proposed development is consistent with the objectives of the B4 Mixed Use zone. Specifically, the proposal will provide a mixture of compatible land uses in an accessible location, so as to maximise public transport patronage and encourage walking and cycling.

Land use permissibility within the B4 Mixed Use zone is summarised in **Table 19** as follows:

Table 19 – B4 Mixed Use Land Use Table (RLEP 2014)

Zone	Land Uses
Permitted with consent	<i>Boarding houses; Building identification signs; Business identification signs; Child care centres; Commercial premises; Community facilities; Educational establishments; Entertainment facilities; Function centres; Hotel or motel accommodation; Information and education facilities; Medical centres; Passenger transport facilities; Recreation facilities (indoor); Registered clubs; Respite day care centres; Restricted premises; Roads; Seniors housing; Shop top housing; Waste or resource transfer stations; Any other development not specified in item 2 or 4</i>
Prohibited	<i>Agriculture; Air transport facilities; Animal boarding or training establishments; Biosolids treatment facilities; Camping grounds; Caravan parks; Depots; Eco-tourist facilities; Farm buildings; General industries; Heavy industrial storage establishments; Heavy industries; Home occupations (sex services); Industrial training facilities; Resource recovery facilities; Sewage treatment plants; Sex services premises; Signage; Vehicle body repair workshops; Vehicle repair stations; Waste disposal facilities; Water recycling facilities; Water supply systems</i>

The proposed development incorporates the following land uses, all of which are permissible within the B4 Mixed Use zone:

- Commercial premises;
- Community facility;
- Medical centres; and
- Shop top housing.

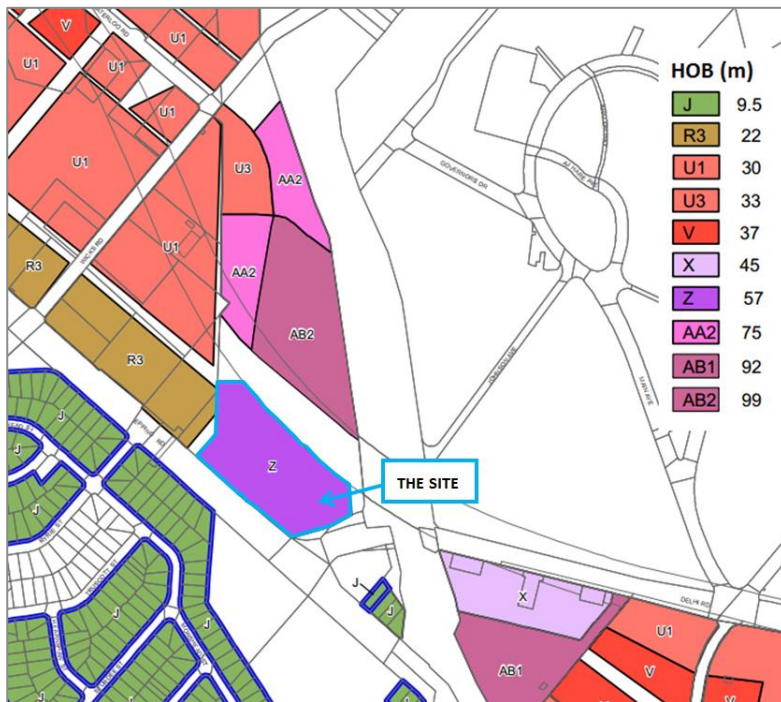
6.4.2. Height of Building

The Height of Building Map specifies a maximum height of 57 metres as shown in Figure 29. Clause 4.3 (Height of buildings) of the RLEP also includes objectives for the site as follows:

- *To ensure that street frontages of development are in proportion with and in keeping with the character of nearby development,*
- *To minimise overshadowing and to ensure that development is generally compatible with or improves the appearance of the area,*
- *To encourage a consolidation pattern and sustainable integrated land use and transport development around key public transport infrastructure,*
- *To minimise the impact of development on the amenity of surrounding properties,*
- *To emphasise road frontages along road corridors.*

The proposed building M is 63.2 metres in height, which exceeds the maximum 57 metre height of buildings development standard.

Figure 29 – Height of Building Map (RLEP 2014)

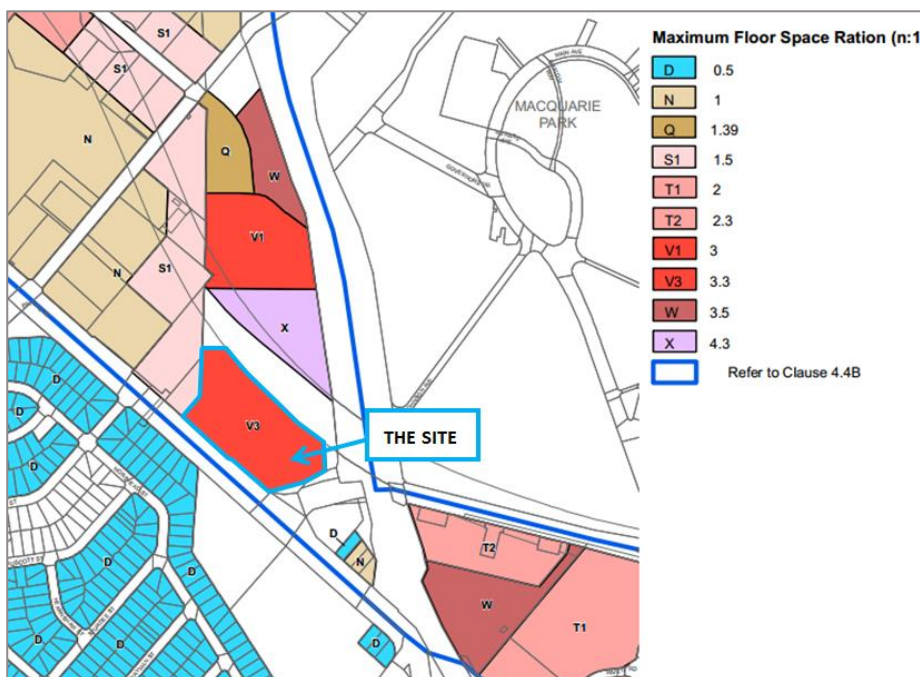


6.4.3. Floor Space Ratio

The Floor Space Ratio Map specifies a maximum FSR of 3.3:1 as identified in Figure 30 below. The objectives for FSR are specified under Clause 4.4 of the RLEP as follows:

- To provide effective control over the bulk of future development,
- To allow appropriate levels of development for specific areas,
- In relation to land identified as a Centre on the Centres Map—to consolidate development and encourage sustainable development patterns around key public transport infrastructure.

Figure 30 – Floor Space Ratio Map (RLEP 2010)



The maximum FSR apply to the two lots is 3.3:1.

SSD_5093 includes staged development consent with a concept proposal for subdivision of the M2 site to create development lots, public road lots and open space lots and to allocate GFA to the development lots. In accordance with Section 83B(3)(a) of the EP&A Act, consent is to be sought separately to erect and use buildings and ancillary development on the development lots.

Table 20 below provides the GFA allocation in SSD_5093 for development lots 104 and 105. The provision of an additional 2,500m² of GFA is allocated to community facilities on Lot 104.

Use	Lot 104 (m2)	Lot 105 (m2)	TOTAL (m2)
▪ Retail	4954	766	5720
▪ Residential	47,346	20,429	67,775
▪ Community	2500	-	2500
▪ Total	54,800	21,195	75,995

Table 20 – SSD_5093 GFA Allocation

Lot Description	GFA Allocation	GFA Proposed
Development Lot 104	49,384m ² + 2,500m ² community facility	52,300 m ² + 2,500m ² community facility
Development Lot 105	24,136m ²	21,195 m ²
Total	73,520m ² + 2,500 m ² community facility	73,495m ² + 2,500 m ² community facility
		110 additional retail car spaces = 2090m ²

The FSR for the proposed development lots (excluding car parking) are as follows:

- Lot 104: 4.37:1
- Lot 105: 7.51:1 FSR

The approval of the GFA allocation with staged development consent SSD_5093 operates such that the consent authority for subsequent DAs is capable of, and obliged to grant consent, even in the event a development proposed breaches the FSR standards in the RLEP 2014.

6.5. NORTH RYDE STATION PRECINCT DEVELOPMENT CONTROL PLAN 2013

6.5.1. Introduction

The North Ryde Station Precinct Development Control Plan 2013 (NRSP DCP 2013) established detailed objectives and controls for development within the NRSP and support the relevant provisions of the RLEP 2010. The development controls contained within the NRSP DCP 2013 establish standards, which if met, mean that development should be consistent with the objectives. As outlined in the NRSP 2013, in some circumstances, strict compliance with the controls may not be necessary, or may be difficult to achieve because of the particular characteristics. In these situations, the consent authority may grant consent to a proposal that does not comply with the controls in this plan, provided the intent of the controls is achieved.

The Indicative Layout Plan, as shown in Figure 3 of the NRSP DCP 2013, shows one option as to how the overall Precinct may develop over time. It is intended as a guide to demonstrate how the objectives for the site may be achieved. However, it is recognised that there may be other options for the site's layout which may be more efficient and effective in achieving the vision for the Precinct. As such, Council may grant consent to a proposal that differs from the Indicative Layout Plan where the variation is considered to still achieve the objectives set out in the RLEP 2010 and the Vision in NRSP DCP 2013.

It is noted that Consent SSD_5093 approved a different road and open space layout to the ILP in the NRSP DCP 2013. This consent established the subdivision of the Lachlan's Line site to create development lots Lot 104 and 105. The approved subdivision layout results in Jarvis Circuit dividing Lots 104 and 105.

Table 21 provides a summary and assessment of the proposal against the relevant controls of the NRSP DCP 2013.

Table 21 – Key Controls in the North Ryde Station Precinct Development Control Plan 2013

Section	Development Controls	Proposed/Comments	Complies
3.1.2 Indicative Layout Plan	<p><i>Development should be generally in accordance with the Indicative Layout Plan (ILP) (Figure 3 of the DCP).</i></p> <p><i>Section 1.7.2 recognises that the ILP is only one option for the site layout and that there may be other more efficient and effective development options.</i></p>	<p>The proposal varies from the road and open space layout in the ILP, as result of the approval of Consent SSD_5093.</p> <p>The proposal is generally consistent with the ILP proposing a mixed use development, in the Mixed Use Precinct south of Central Park.</p>	Refer to comment.
3.2 Circulation Networks	<p><i>Subdivision development applications are to be generally in accordance with the Indicative Vehicular Movement Plan (IVMP) (Figure 4 of the NRSPDCP).</i></p> <p><i>Provide a clear hierarchy of streets, including a spine road to link Epping Road and Wicks Road</i></p> <p><i>Provide emergency access to the M2 Motorway.</i></p> <p><i>Provide a signalised intersection at Wicks Road/Waterloo Road.</i></p>	<p>No change is proposed the approved circulation network in Consent SSD_5093.</p> <p>Closure of the vehicular access to the M2 Motorway was approved in Consent SSD_5093.</p> <p>Approval of the signalised intersection at Wicks Road/Waterloo Road was approved in Consent SSD_5093.</p>	✓

Section	Development Controls	Proposed/Comments	Complies
3.3 Public Transport	<i>A Public Transport Facilities Plan must be prepared detailing the connection of the site and key public transport facilities.</i>	A Public Transport Facilities Plan has been prepared by UrbanGrowth NSW and approved with Consent SSD_5093.	✓
3.4 Open Space	<p><i>At least 50% of new public space is to receive 3 hours of sunlight on June 21 between 9am and 3pm.</i></p> <p><i>Design of parks and plazas should be in accordance with the Macquarie Park Public Domain Technical Manual.</i></p> <p><i>Table 3 of the DCP includes the required sizes and provisions for two plazas in the Mixed Use Precinct, as follows:</i></p> <p><i>Mixed Use Precinct Plazas – 2000m²</i></p> <p><i>Provision is to be made for:</i></p> <ul style="list-style-type: none"> ▪ <i>At least two pedestrian plazas, one towards the south of the mixed use precinct off Epping Road and the other addressing the Central Open Space.</i> ▪ <i>Sufficient shade tree planting to provide shade and shelter.</i> ▪ <i>Seating and other street furniture to optimise use of the plazas.</i> 	<p>The Lachlan's Square will receive approximately 1.5 hours of sunlight over 50% of the surface in 21 June between the nominated hours.</p> <p>The Laura's Place will receive 3 hours of sunlight over 50% surface in 21 June between the nominated hours.</p> <p>The Macquarie Park Public Domain Technical Manual has been given consideration should be reviewed and considered at DA stage.</p> <p>Lachlan's Square has an area of approximately 1550m². Laura's Place has an area of approximately 578m² measuring the space between buildings Building J and K.</p> <p>Both publicly accessible squares will have shade trees and seating to optimise use.</p>	Solar Access Report by Steve King at Appendix D.
4.2 Pedestrian and Cycle Network	<p><i>Cycle and pedestrian links are to be provided in accordance with the Indicative Pedestrian and Cycle Links Plan (IPCLP).</i></p> <p><i>Footpaths are required to be provided on both sides of the street.</i></p> <p><i>A pedestrian link is to be provided between the mixed use precinct and the railway station and from the Epping Road/Pittwater Road intersection to Delhi Road.</i></p> <p><i>Bicycle facilities and parking are to be provided.</i></p>	<p>The public domain design including streets incorporated a pedestrian and cycle network, which was the subject of the Consent SSD_5093.</p> <p>The proposed development with additional publicly accessible open spaces at Lachlan's Square and Laura's Place will complement the pedestrian cycleway network by providing additional publicly accessible open spaces, which will enhance pedestrian connectivity and cycling</p>	✓

Section	Development Controls	Proposed/Comments	Complies
		experiences through Lachlan's Line.	
4.3 Pedestrian and Cycle Station Link	<i>Requires a pedestrian/cyclist bridge between the mixed use precinct and Bundara Reserve and a safe pedestrian/cycle crossing (either an extension to the bridge or at-grade crossing) between Bundara Reserve and North Ryde Station.</i>	A pedestrian/cyclist bridge is part of the civil works approved for construction in Consent SSD_5093.	N/A
4.4 Stormwater Management	<i>Requires an Integrated Water Management Plan to be prepared.</i>	Refer to Stormwater Management Plan at Appendix U .	✓
4.5 Street Tree Planting	<i>A Street Tree Plan in accordance with the City of Ryde Street Tree Master Plan is required to be lodged with development applications for road construction works.</i>	Street Tree Plans were included with Consent SSD_5093. Additional tree planting in the proposed Lachlan's Square and Laura's Place are consistent with Ryde Street Tree Plan for public spaces.'	✓
4.6 Street Furniture and Lighting	<i>Required to be provided in accordance with the Macquarie Park Public Domain Technical Manual.</i>	Street furniture and lighting were included with Consent SSD_5093. Lighting of Lachlan's Square and Laura's Place is to be detailed in the construction documentation.	✓
4.7 Public Art	<i>Development with a capital investment value of \$5 million or more are required to include an element of public art with details accompanying the development application.</i> <i>Section 4.7(3) includes specific details for the Design Selection Criteria for public art.</i>	A Public Art Plan has been prepared for the development that identifies Lachlan's Square as a suitable location for public art. The Public Art Plan includes a shortlist of three artists who are to be considered for a commission. The indicative budget of \$500,000. The Applicant accepts a condition of consent for the design, fabrication and installation of the public art to	✓

Section	Development Controls	Proposed/Comments	Complies
		be in accordance with the <i>Lachlan's Line Public Art Plan</i> .	
4.8 Safety	<p><i>Design should incorporate the principles of Crime Prevention Through Environmental Design (CPTED) and Safer by Design (NSW Police).</i></p> <p><i>Public domain is to be lit to comply with Australian Standards.</i></p> <p><i>Open spaces are to have more than two access points.</i></p> <p><i>Residential areas should incorporate passive surveillance with positioning of entries and windows to habitable rooms.</i></p>	<p>A CPTED assessment has been prepared by Urbis.</p> <p>Publicly accessible private open spaces on Lots 104 and 105 have been designed in accordance with the relevant Australian Standards.</p> <p>Laura's Place acts as the through site link across Lot 105 between the Jarvis Circuit and Central Park.</p> <p>Lachlan's Square is designed as a publicly accessible plaza with wide dimensions, and is accessed from Jarvis Circuit which has high visibility into the space offering excellent surveillance from surrounding buildings and public domain. Retail, community and residential uses frame Lachlan's Square and provides a good degree of activation.</p> <p>Generally the residential lobbies are accessed from a street frontage. The residential terrace type dwellings on Lot 104 are accessed via stairs and lifts from Lachlan's Square with individual entries off large communal open spaces. These common open spaces have good surveillance from residential units overlooking.</p>	✓
5. Built Form			
5.1 Street Frontage Heights	<p><i>Mixed use buildings with a zero street setback should generally comply with the following (Figure 16):</i></p> <ul style="list-style-type: none"> <i>Floors above 9m have articulation within a 2m zone;</i> 	The proposed built form generally complies with the street frontage height diagram for mixed use buildings.	✓

Section	Development Controls	Proposed/Comments	Complies
	<ul style="list-style-type: none"> <i>Street frontages should provide awnings; and</i> <i>Basement levels should not protrude above the natural ground level.</i> 	<p>Buildings have a zero setback from boundaries fronting Jarvis Circuit.</p> <p>Balconies provide articulation to buildings fronting Jarvis Circuit.</p> <p>Awnings are proposed along building frontages to the Jarvis Circuit.</p> <p>Basement levels do not protrude above the ground level frontage to Jarvis Circuit. Due to the change in level of the site, the upper basement level is above the level of the Jarvis Circuit in part. Retail tenancies are proposed to sleeve the basement along Jarvis Circuit.</p>	
5.2 Building Setbacks	<p><i>1. Buildings setbacks are to be provided generally in accordance with Table 5.</i></p> <ul style="list-style-type: none"> <i>Epping Road – 5m landscaped setback</i> <i>Spine Road, Delhi Road – 5m setback</i> <i>Retail and Plaza Streets – zero setback</i> <i>Central Open Space – 3m setback</i> <i>Public Plazas – 3m setback</i> <p><i>Building setbacks can be varied subject to meeting acceptable performance based solutions.</i></p> <p><i>2. Setbacks between buildings are to comply with SEPP 65 and the RFDC.</i></p> <p><i>3. Buildings are to be aligned to the street to define and frame the street edge.</i></p> <p><i>4. Buildings are to provide clear delineation between the public and private domain.</i></p>	<p>Epping Road – Lot 104 development has a variable setback of between 2m min. to 6m at Ground floor Level. Upgraded landscaping by UrbanGrowth NSW is to be provided in the Epping Road reserve in accordance with SSD_5093. Additional planting is proposed including large trees in the Lot 104 podium setback zone provided. Refer to Landscape Plans at Appendix G.</p> <p>Variable heights of buildings including terrace housing are proposed along Epping Road, which effectively breakdown the scale of built form along Epping Road.</p> <p>Setbacks for residential towers L1, L2 and L3 vary from 8 to 10 metres from the site boundary with Epping Road.</p>	Variations sought – see justification below.

Section	Development Controls	Proposed/Comments	Complies
		<p>Spine Road – zero setback for proposed development of Lots 104 (Building L1) and 105 (Building J), which varies from the 5m minimum setback control.</p> <p>Delhi Road – zero setback for Building M on Lot 104, which varies from the 5 metre control which is appropriate due to the wide verge form the kerb line of the street, and to create a landmark building that strongly defined this important road intersection.</p> <p>Public plazas – zero setback proposed does not comply with the 3 metre setback control. The zero setback proposed does comply with the Street Wall Height sections illustrated for mixed use development under Section 5.1 of the DCP, which is considered appropriate to reinforce a mixed use character of the built form..</p> <p>Central Open Space – Buildings J is in part setback 2 metres from the Central Park providing a widened pedestrian pathway along the edge of the Central Park to Spine Road.</p> <p>Building K has a 3 metre setback at ground level. Upper levels are built to the shared boundary with the Central Park.</p> <p>Buildings have separation distances that are generally consistent with the Apartment Design Guide. Refer to Architects design statement for Lots 104 and 105 submitted with the original DA</p>	

Section	Development Controls	Proposed/Comments	Complies
		<p>All buildings are aligned to street frontages and publicly accessible open spaces.</p> <p>A clear delineation between private and public domains are provided. Lachlan's Square and Laura's Place are publicly accessible private open spaces.</p> <p>The built form clearly defines publicly accessible areas from private areas.</p>	
5.3 Building Depth and Bulk	<p><i>Buildings above 22m in height that aligns to a street must not exceed a building length of 50m.</i></p>	<p>The majority of buildings comply with the maximum length of 50m.</p> <p>Building K is aligned to the Jarvis Circuit and has a building length of 57.5m, which exceeds the maximum length by 7.5 metres. The length of the building is break down with substantial vertical recesses in the façade at the location of the fire stairs.</p>	<p>Variation. See justification below</p>
5.4 Mixed Use Buildings	<p><i>First two floors above ground floor are to provide flexible building layouts.</i></p> <p><i>First two floors above ground are to have a minimum floor to ceiling height of 3.3m.</i></p> <p><i>Lower levels of building immediately adjacent to Epping Road are to provide non-residential uses.</i></p> <p><i>Floor to ceiling heights should comply with the Residential Flat Design Code.</i></p>	<p>The first floor levels of buildings in Buildings L1-L5 are of residential use. The control does not specify how many levels are required to be for non-residential uses of buildings fronting Epping Road. It is noted that the retail floor to floor level has a height of approximately 6.5 metres, which is approximately equivalent to two residential floor levels. The double height ground floor level satisfies the objective of the control to provide adequate amenity for residential units.</p> <p>First floor level floor to ceiling heights are 3.8 metres to the retail at Level 1 in Lot 104, and 3.9m for the community</p>	<p>Generally complies.</p>

Section	Development Controls	Proposed/Comments	Complies
		<p>facility. Residential at Level 1 has a height of 3.1m.</p> <p>Floor to ceiling heights for residential levels comply with the minimum design criteria in the ADG.</p>	
5.5 Building Design and Materials	<p><i>Balconies and terraces are to be provided, particularly where buildings overlook parks.</i></p> <p><i>A materials sample board and schedule is required to be submitted with development applications with a capital investment value of \$1 million or more for parts of development built to the street edge.</i></p> <p><i>Minor projections up to 450mm from building walls may extend into the public space providing they don't fall within the definition of 'gross floor area' and they comply with the BCA.</i></p>	<p>Balconies are provided and generally orientated towards open spaces.</p> <p>Materials and finishes are illustrated in the coloured elevations submitted with the development application.</p> <p>No projections beyond the approved lot boundaries are proposed, with the exception of the tunnel.</p>	✓
5.6 Overshadowing	<p><i>Detailed shadow diagrams are to be lodged with development applications.</i></p> <p><i>Sunlight access is to comply with the Residential Flat Design Code.</i></p> <p><i>At least 50% of new public open space is to receive 3 hours direct sunlight between 9am and 3pm on June 21.</i></p> <p><i>At least 50% of communal courtyards must receive 3 hours direct sunlight between 9am and 3pm on 21 June.</i></p> <p><i>No overshadowing of the following is to occur on 21 June:</i></p> <ul style="list-style-type: none"> <i>Residential lots outside of the precinct is after 11am;</i> <i>Blenheim Park or Bundara Reserve after 9am;</i> <i>Myall Reserve after 11am; and</i> <i>Yinnell Reserve after 12:30pm</i> 	<p>New public open space</p> <p>The Lachlan's Square will receive approximately 1.5 hours of sunlight over 50% surface in 21 June between the nominated hours.</p> <p>The Laura's Place will receive 3 hours of sunlight over 50% surface in 21 June between the nominated hours.</p> <p>The communal courtyards above the podium on Block L would not receive 3 hours of sunlight to 50% of their area between 9am and 3pm on 21 June.</p> <p>The shadows cast by the development overshadow residential lots adjoining Bundara Reserve. The, overshadowing is limited to the rear portion of the lots' private</p>	See justification below

Section	Development Controls	Proposed/Comments	Complies
	<i>Sunlight access should comply with the Residential Flat Design Code.</i>	<p>open space and occurs from approximately 2pm onwards at midwinter. Solar access to these residences is currently impacted by the high canopy vegetation in Bundara Reserve.</p> <p>The residential lots will continue to comply with the Daylight and Sunlight Access requirements for dwelling houses under the Ryde DCP 2010.</p> <p>The shadow diagrams at Appendix I indicate that the development would not comply with the overshadowing controls for Bundara Reserve as shadows would be cast over the Reserve from approximately 11am onwards on 21 June. Refer to assessment of the impact of additional shade on the Bundara Reserve below and at Appendix I.</p>	
5.7 Landscape Design	<p><i>At least 30% of the developable area of residential sites is to be provided as landscaped area (Section 5.7 includes a definition of 'landscaped area').</i></p> <p><i>Deep soil planting within residential and mixed use development is to be provided in accordance with the Residential Flat Design Code.</i></p>	<p>The proposed development is located in the Mixed Use Zone. As outlined above the built form controls for the Mixed Use zone assume a higher building footprint than on land in the R4 High Density Residential Zone.</p> <p>Unimpeded deep soil planting is not proposed on Lots 104 and 105, with the exception of the deep soil planting zone along Epping Road and Delhi Road.</p> <p>Planting is proposed on podium top communal open space in courtyard on Lots 104. Refer to landscape Plans and sections and planting schedule which demonstrates the soil depths</p>	✓

Section	Development Controls	Proposed/Comments	Complies
		proposed are suitable for the planting proposed.	
6.1 Active Street Frontages	<p><i>Active ground level uses are required on all street frontages in the mixed use precinct.</i></p> <p><i>Commercial and residential lobbies are not to occupy more than 25% of the total length of the building's street frontage.</i></p> <p><i>Active uses in the mixed use zone are to occupy the street frontage for a depth of at least 10m.</i></p>	<p>Active street frontages have been provided on Lots 104 and 105 along Jarvis Circuit, as well as proposed Lachlan's Square and Laura's Place.</p> <p>The residential lobbies combined do not occupy more than 25% of the frontage to Jarvis Circuit.</p>	✓
6.2 Awnings	<p><i>Awnings are to be provided at key pedestrian and active frontage locations.</i></p> <p><i>Awnings are to have a minimum soffit height of 3.6m (3.6m to 4.2m on sloping sites)</i></p> <p><i>Steps in awnings should not exceed 600mm</i></p> <p><i>Entry canopies are to have a minimum height of 3.6m and the canopy soffit height may vary from 2.6m to 4.2m.</i></p>	<p>Awnings are proposed at all pedestrian entries and along all active frontages.</p> <p>Awnings have varying heights to the underside of soffits above the footpath levels. Steps are provided in logical locations and appropriately deal with the level change in Jarvis Circuit.</p>	✓
6.3 Signage	<p><i>Signage is to comply with the Macquarie Park controls set out in Section 6.1.14 of Part 4.5 of the Ryde DCP 2010.</i></p>	<p>This development application does not seek consent for signage. A separate development application is to be prepared and lodged for signage.</p>	N/A
7.1 Vehicular Access	<p><i>Driveway crossings are to comply with Part 8.3 of Ryde DCP 2010.</i></p> <p><i>Driveway, vehicular ramps and passing bays are to comply with the relevant Australian Standard.</i></p> <p><i>Section 7.1 includes provisions to mitigate pedestrian and vehicle conflicts.</i></p>	<p>Driveway crossing dimension comply with Australian Standards and are suitable for the volume of traffic generated by the proposed development..</p>	✓
7.2 Car Parking	<p><i>A Parking Management Strategy is required identify on-street parking and potential overspill into surrounding areas.</i></p> <p><i>Section 7.2 of the North Ryde Station Precinct DCP sets out the maximum</i></p>	<p>A Parking management Strategy was prepared and approved with the staged development Consent SSD_5093.</p>	Variation sought for retail parking and residential visitor

Section	Development Controls	Proposed/Comments	Complies
	<i>parking rates for the entire North Ryde Station Precinct including Lachlan's Line and the development site.</i>	Complies with residential and community facility car parking rates. Variations sought for general retail and supermarket parking. It is noted the proposed retail parking complies with the Ryde DCP 2014 rate for retail floor space.	parking. Refer to justification below.
7.3 Bicycle Parking	<i>Bicycle parking is to be provided in accordance with Section 6.3.8 of Part 4.5 of the Ryde DCP 2010.</i>	Bicycle parking is to be provided at a higher rate than that recommended in the Ryde Council DCP to encourage active transport usage.	✓
7.4 Site Facilities and Services	<i>Site facilities and services are to comply with the Macquarie Park controls set out in Section 6.3.6 of Part 4.5 of the Ryde DCP 2010.</i>	Site facilities are provided in accordance with the Ryde DCP 2014.	✓
7.5 Work Place Travel Plan	<i>Required for all commercial developments that exceed 5,000m² floor space or 100 employees and must be prepared in accordance with Section 6.3.9 of part 4.5 of the Ryde DCP 2010.</i>	The proposed development does not included a commercial development exceeding 5000m ² or employ more than 100 employees. A number of travel initiatives are proposed in order to reduce single occupancy vehicle trips and car ownership. This can be enforced through the introduction of a suite of travel demand management measures contained within a green travel plan (GTP). The implementation of a GTP would address travel demand and sustainable travel initiatives for the residential, commercial and retail components of the site, and would bring benefits such as: <ul style="list-style-type: none"> Residents and employees can enjoy improved health, less stress, a better; 	N/A

Section	Development Controls	Proposed/Comments	Complies
		<ul style="list-style-type: none"> quality of life, cost and time savings, and greater travel choice; Reduced traffic congestion; and Benefit from improved air quality, less noise and pollutants. <p>Deliver health benefits, tackle obesity and improve residents quality of life.</p> <p>The Applicant invites an appropriately worded condition that requires the preparation of a Green Travel Plan prior to the issue of a Construction Certificate.</p>	
7.6 Accessible Design	<i>Development is to be designed to comply with Part 9.2 of the Ryde DCP 2010 and consider the recommendations of the National Disability Strategy NSW Implementation Plan 2012 and the NSW Disability Action Plan 2012-2017.</i>	Refer to accessibility assessment at Appendix J .	✓
8.1 Environmental Performance	<p><i>All residential buildings are to be certified against Green Star (Design Rating) and achieve a minimum 4 star rating.</i></p> <p><i>All commercial buildings are to be certified against Green Star (Design Rating) and achieve a minimum 5 star rating if the DA is lodged before 1 January 2017 (6 star rating if lodged after 1 January 2017).</i></p> <p><i>Potable water demand in residential buildings is to be reduced by at least 50% from BASIX baseline for an average household.</i></p> <p><i>Potable water demand in commercial buildings is to be reduced to achieve a 4.5 NABERS water rating.</i></p> <p><i>The following targets for the reduction in energy use are to be met:</i></p>	<p>BASIX targets in the NRSP DCP 2013 differ that those that are set by the scale of the building elsewhere in NSW, and the proposed development meets the relevant requirements.</p> <p>The environmental performance of the proposed development has been assessed against the criteria relevant to the proposed uses and scale, and which apply to similar development elsewhere in Ryde.</p>	BASIX Certificates for the amended development application are to be submitted to Council under separate cover.

Section	Development Controls	Proposed/Comments	Complies
	<ul style="list-style-type: none"> <i>BASIX 25 – achieve a 25% reduction in kgCO₂ – e/person/year in residential buildings 6 storeys or higher;</i> <i>BASIX 35 – achieve a 35% reduction in kgCO₂ – e/person/year in residential buildings 4-5 storeys; and</i> <i>BASIX 45 – achieve a 40% reduction in kgCO₂ – e/person/year in residential buildings 1-3 storeys.</i> <p><i>Residential buildings are to achieve a 7 star NATHERS rating for heating and cooling for DAs lodged prior to 1 January 2017 (8 star for DAs after 1 January 2017).</i></p> <p><i>Commercial buildings are to achieve a 5.5 star NABERS rating.</i></p>		
8.2 Flooding	<p><i>Alternate site access is to be provided to the high density residential precinct for emergency vehicles.</i></p> <p><i>Proposed road connecting the high density residential precinct with Wicks Road is to be designed to accommodate future flood mitigation works to relieve existing flooding impacts on Wicks Road.</i></p> <p><i>DAs for residential buildings identified as having a flood risk are to be accompanied with a site specific flood assessment.</i></p> <p><i>Developments are to comply with Section 6.3.1 of Part 4.5 of the Ryde DCP 2010.</i></p>	The Mixed Use Precinct is located on the crest of a hill and is not flood prone land.	N/A
8.3 Wind Mitigation	<i>Development is to comply with Section 6.1.16 of Part 4.5 of the Ryde DCP 2010.</i>	A wind environment statement was submitted with the development application, and the findings continue to apply to the amended proposal.	✓
8.4 Air, Noise and Vibration	<i>The State Environmental Planning Policy (Infrastructure) 2007 and Development near Rail Corridors and</i>	Noise and vibration impact assessments for the Lots 104 and 105 developments were	✓

Section	Development Controls	Proposed/Comments	Complies
	<p><i>Busy Roads Interim Guideline must be taken into consideration.</i></p> <p><i>An Acoustic Impact Assessment Report is required to be submitted with DAs.</i></p> <p><i>A vegetation buffer is to be established between the M2 Motorway and any residential buildings.</i></p>	<p>submitted with the original DA</p> <p>The landscape concept plan provide a vegetated buffer to the M2 corridor.</p>	
8.5 Waste Management	<i>Development is to comply with the Section 6.3.3 of Part 4.5 of the Ryde DCP 2010.</i>	A waste management plan was submitted with the original DA.	✓
8.6 Vegetation Management	<i>Not applicable.</i>	N/A	N/A
8.7 Soil Management	<i>Development is to comply with Section 6.3.4 of Part 4.5 of the Ryde DCP 2010.</i>	A soil and water management plan was submitted with the original DA.	✓
8.8 Site Contamination	<i>Development is to comply with Section 6.3.5 of Part 4.5 of the Ryde DCP 2010.</i>	Refer to Site Audit Statement and Site Audit Report submitted with the original DA	✓
8.9 Heritage and Archaeology	<i>The NRSPDCP states that where works are proposed in the vicinity of the bricked domed well or cistern located within the Mixed Use Precinct, a report is to be provided detailing the arrangements for archaeological monitoring.</i>	The Heritage Assessment Report prepared for SSD_5093 shows the cistern is located in the High Density Residential Precinct, not the Mixed Use Precinct. The proposed development will have no impact on the well/cistern. Refer to Section 7.	N/A

As detailed in the table, the proposed development design does not comply all of the development controls under the NRSP DCP 2013. Detailed justification for non-compliances are provided in the following sub-sections of this report, on the basis of satisfying the objectives of the controls.

6.5.2. Setback to Epping Road and Delhi Road (Cl. 5.2)

Clause 5.2 of the NRSP DCP 2013 requires a minimum building setback of 5 metres to the Epping Road and Delhi Road boundaries. Landscaping is required to be provided in the boundary setback area with the objective of contributing to the landscape character of the Precinct.

The objectives of the Building setback controls at Clause 5.2 of the NRSP DCP 2013 are to:

- a) *Create streets which contribute to the character and identity of the Precinct.*
- b) *Provide variety and activation of street frontages.*
- c) *Create pedestrian amenity.*

- d) *Provide building separation for visual and acoustic privacy as well as solar access.*
- e) *Contribute to the landscape character of the Precinct.*

Clause 5.2 of the NRSP DCP 2013 provides the following setback controls:

1. Building setbacks are to be provided generally in accordance with Table 5.
2. Setbacks between buildings are to comply with SEPP 65 and the Residential Flat Design Code.
3. Buildings are to be aligned to the street to define and frame the street edge.
4. Buildings are to provide clear delineation between the public and private domain.

The south eastern end of Building M on Lot 104 has a zero from Delhi Road at the ground floor level and a portion of the floors. The north eastern portion of the building is setback from Delhi Road. Notwithstanding this non-compliance, the development considered an appropriate response to the streetscape to address and define this key intersection. Furthermore, there is no defined setback character on the immediately surrounding portion of Delhi Road as the site is bounded by roads to the north, east and south and is adjacent to a bushland reserve to the east. The encroachment into the 5 metre setback would also not have a detrimental impact on the vision of motorists.

The Lot 104 development has a variable setback to the site boundary with Epping Road of between 2m minimum to 6 metres maximum at Ground Floor Level. Upgraded landscaping by UrbanGrowth NSW is provided in the Epping Road and Delhi Road reserves. Additional planting is proposed including large trees in the Lot 104 podium setback zone provided. Refer to Landscape Plans submitted with the development application.

The proposed landscape solution to the Epping Road and Delhi Road frontages is considered to meet the objectives for site landscape, as well as providing an appropriate urban design solution for community facility that will provide a strong definition of the Delhi Road and Epping Road intersection.

6.5.3. Setback to Spine Road (Cl. 5.2)

Table 5 in Clause 5.2 requires a 5 metre setback for buildings fronting Spine Road.

A zero setback is proposed along Spine Road for the podium levels of Building L1 on Lot 104 (Error! Reference source not found.) with the tower setback and Building J on Lot 105 has a zero setback proposed from Level 1 to 16.

The retail podium with a car park entry and loading dock at Ground Floor Level and medical centre at Level 1 in Building L1 presents a mixed use and urban character to Spine Road, which is considered an appropriate response to the site and its context. The residential tower above is setback from the podium levels approximately 2 metres.

The non-compliances with the 5 metre setback control is considered acceptable as the building adjoins commercial development to the west and would be separated by Spine Road. The proposal complies with the objectives of Section 5.2 as it would not have a detrimental impact on the character and identity of the Precinct, pedestrian amenity or the landscape character of the Precinct.

6.5.4. Setback to Central Park (Cl. 5.2)

Table 5 in Clause 5.2 requires a 3 metre setback for buildings fronting Central Park.

The western portion of the Basement Level 01 of Building J on Lot 105 is setback 2 metres from the southern boundary of Central Park, which does not comply with the 3 metre development control. Ground floor level and above the western portion of the building is built to this boundary. Approximately 10 metres of Block J would encroach into the setback which represents approximately 22% of the total length of Blocks J and K, which adjoin the Central Open Space.

The western portion of Building J is to be built to the boundary which will provide an appropriate urban design response to this important location on the site to accentuate the view along Spine Road from the north looking south. The encroachment is not considered to be significant as it would not have a detrimental impact on the amenity of occupants of the open space or cast any additional shadows over

the open space. The encroachment is also not considered to create any significant additional privacy impacts.

The proposed 2 metre setback allows for a pedestrian pathway along the southern edge of the park to link Spine Road to the park.

6.5.5. Building Depth and Bulk (Cl. 5.3)

Clause 5.3 of the NRSP DCP 2013 provides that buildings above 22m in height that aligns to a street must not exceed a building length of 50m. The objective of the building depth and bulk controls are to:

- a) *Reduce the apparent bulk and scale of buildings by breaking up expanses of building walls with modulation of form and articulation of façades.*

Building K is aligned to the Jarvis Circuit and has a building length of 57.5m, which exceeds the maximum length by 7.5 metres. The length of the building is broken down with substantial vertical recesses in the Southern Elevation at the location of the fire stairs and lift core, which will effectively reduce the perceived bulk of the building. Recesses are also proposed on the East Elevation, which successfully articulate and modulate the façade fronting Central Park.

6.5.6. Overshadowing residential lots outside the precinct

Clause 5.6 (5) of the NRSP DCP 2013 requires that:

No overshadowing of residential lots outside of the Precinct is to occur after 11 am on June 21.

Figure 31 shows the “Land to which Plan applies” under Section 1.0 of the NRSP DCP 2013.

Figure 31 – Residential lots outside the North Ryde Station Precinct (NRSP DCP 2013)



Figure 59 identifies the following properties that are located outside of the NRSP which are overshadowed by the proposed development for a period of time after 11.00am at 21 June:

- 20 and 22 Epping Road, North Ryde; and
- 21, 21A, 23 and 23A Epping Road, North Ryde

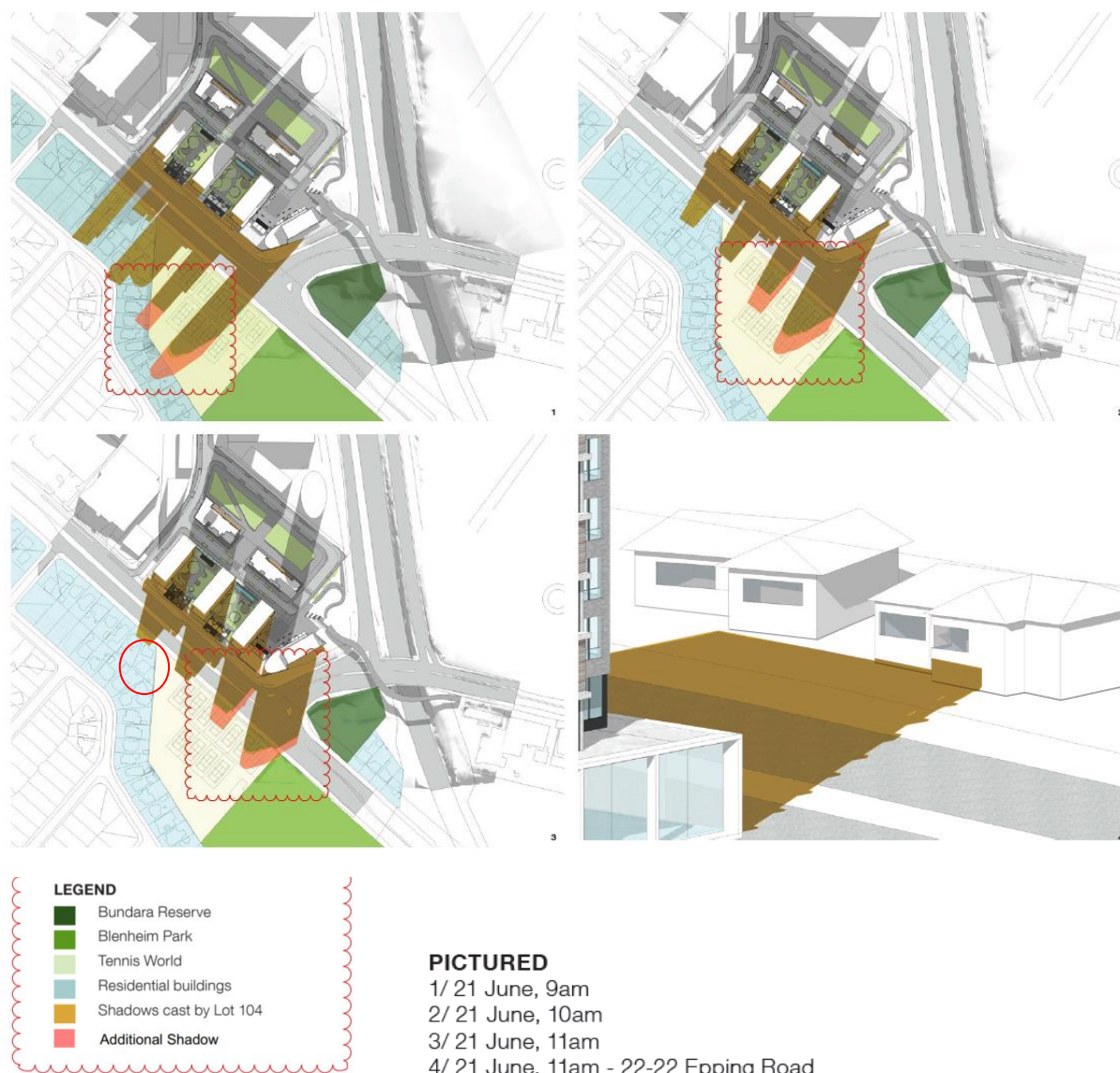
The additional overshadowing from the proposed development on these residential properties is addressed below.

20 and 22 Epping Road

Shadow diagrams prepared for the development application show that Building L1 overshadows the front yards of the properties at 20 and 22 Epping Road at 11am (Refer to **Figure 32**). Additional shadows are show shaded red for comparison to the original DA shadows shaded brown.

The additional shadows after 11am occur over hard paved parking areas. On 22 Epping Road, the additional shadow also occurs over the front façade. The 3D perspective of the additional shadow illustrates the shadow on the façade after 11am does not impact on the front windows of the dwelling at 22 Epping Road.

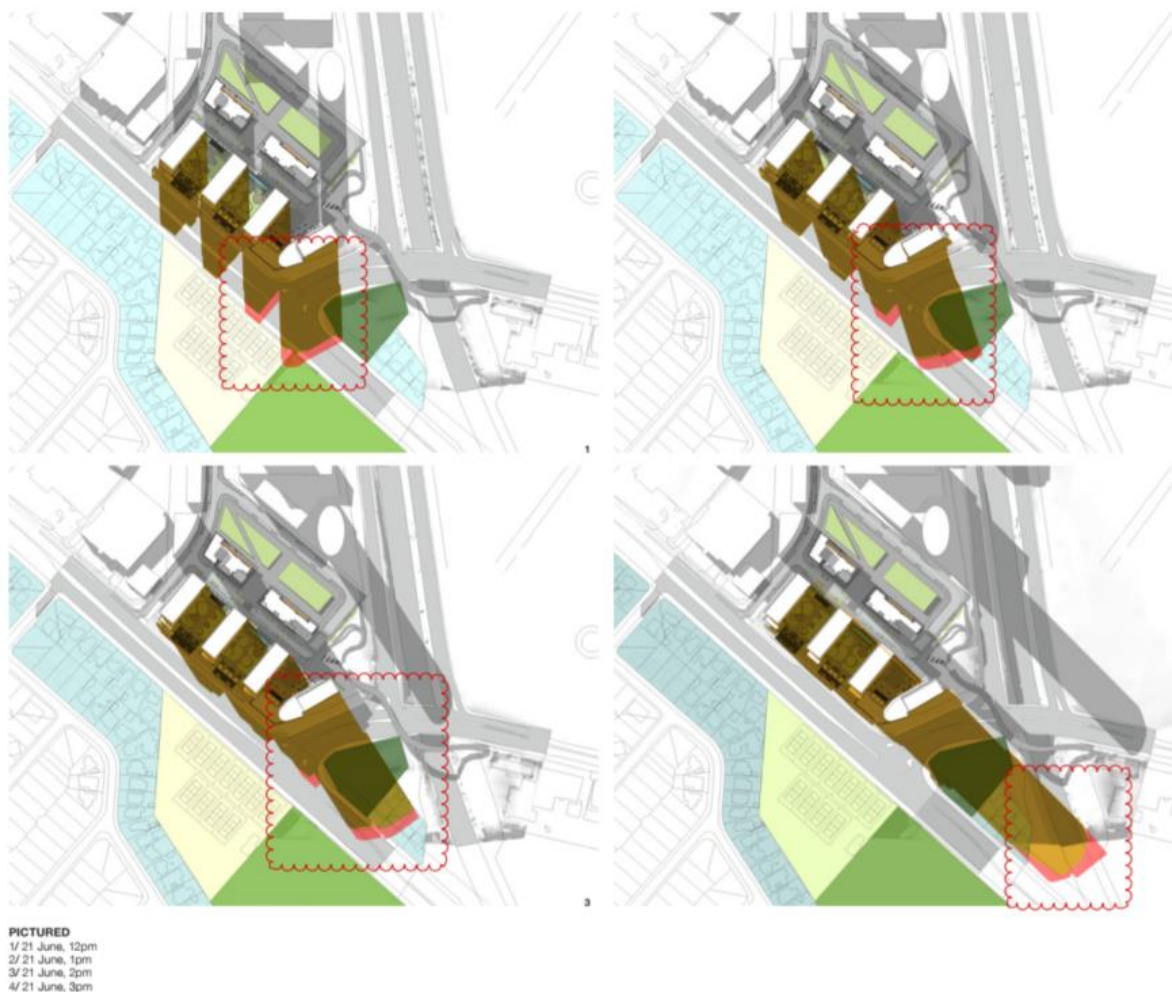
Figure 32 – Shadow diagrams June 21 9pm, 10am, 11am, turner studio



21, 21A, 23 and 23A Epping Road, North Ryde

Known as 21, 21A, 23 and 23A Epping Road, North Ryde the residential properties between Epping Road and the M2 to the south of Bundara Reserve are located outside the NRSP as defined by the NRSP DCP 2013. Building M will overshadow these residential lots after approximately 2pm onwards on 21 June (Figure 33). Additional shadows are show shaded red for comparison to the original DA shadows shaded brown.

Figure 33 – Shadow diagrams June 21 12pm, 1pm, 2pm and 3.00pm, turner



Despite the non-compliance with Clause 5.6(5) of the NRSP DCP 2013, overshadowing is limited to the rear portion of the lots' private open space and sunlight access is likely to already be impacted to some extent by the vegetation in Bundara Reserve in the late afternoon at midwinter.

The overshadowing of the residential lots outside the boundary of the NRSP does not effect the achievement of the daylight and solar access requirements for these dwelling houses under Section 2.14.1 (Daylight and Sunlight Access) of Part 3.3 in the Ryde DCP 2014, which states that:

- c. *Windows to north-facing living areas of the subject dwelling are to receive at least 3 hours of sunlight between 9am and 3pm on 21 June over a portion of their surface.*

- d. *Private open space of the subject dwelling is to receive at least two hours sunlight between 9am and 3pm on June 21.*
- e. *For neighbouring properties ensure:*
 - i. *sunlight to at least 50% of the principal area of ground level private open space of adjacent properties is not reduced to less than two hours between 9am and 3pm on June 21, and*
 - ii. *windows to north-facing living areas of neighbouring dwellings receive at least 3 hours of sunlight between 9am and 3pm on 21 June over a portion of their surface, where this can be reasonably maintained given the orientation topography of the subject and neighbouring sites.*

6.5.7. Overshadowing of Bundara Reserve and Blenheim Park (Cl. 5.6)

Clause 5.6 of the NRSP DCP 2013 requires that:

“No overshadowing of Blenheim Park or Bundara Reserve is to occur after 9am on June 21”

Blenheim Park is a public open space which is legally described as Lot F in DP 410408 bounded by residential dwellings to the south west, the Tennis World site to the North West, Epping Road to the north east and Blenheim Road to the south east.

Blenheim Park is an active park providing public recreation with the following facilities:

- Picnic shelters
- BBQ
- Toilets
- Accessible toilet
- Playground
- Recreational cycle path
- Walking track/path
- Enclosed 24/7 dog off-leash area
- Remote control car track

The amended height of Building M, with an additional 2 levels, results in minor overshadowing of the north corner of Blenheim Park at 12.00pm on 21 June (Figure 34).

Figure 34 – Shadow diagram, 21 June 12.00pm



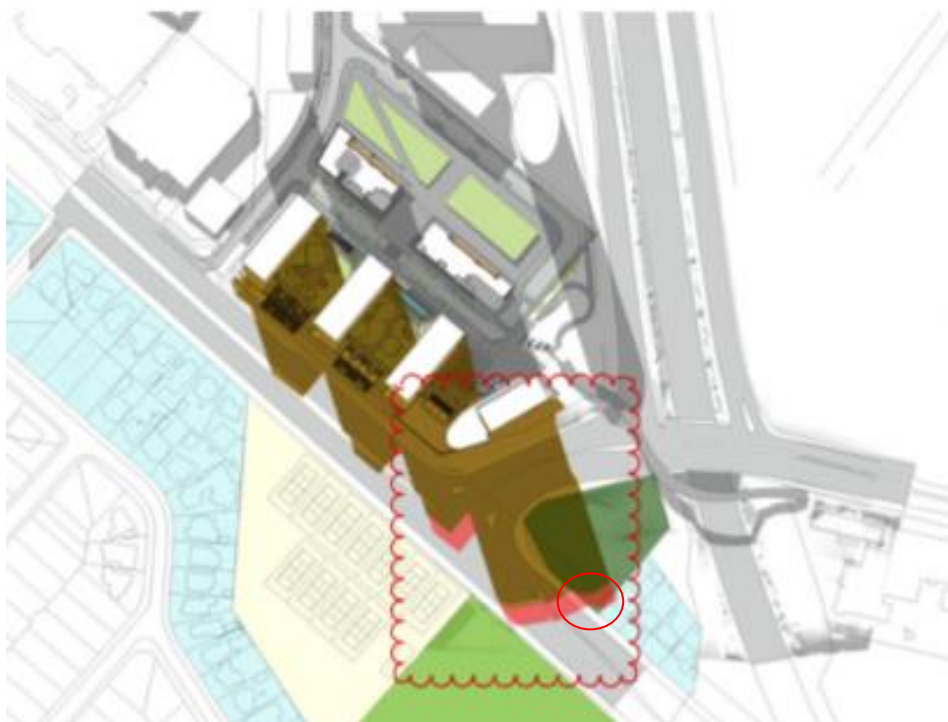
The Amendments to the height of Building M have increased the building height by two levels. The amended proposal will progressively shade the Bundara Reserve from 11 am onwards during mid-winter. The shadow diagrams prepared for the amended proposal for 21 June, 21 at 9.00am, 10.00am, 11.00am, 12noon, 1.00pm and 3.00pm, demonstrate the following in relation to solar access to Bundara Reserve:

□

- No overshadowing of Bundara Reserve occurs between 9.00am and 11.00am. No changes to shading as per the original DA are expected;
- At 12.00pm solar access is maintained to approximately 70% of Bundara Reserve. No changes to shading as per the original DA are expected;
- At 1.00pm solar access is maintained to approximately 55% of Bundara Reserve, representing a 5% reduction in solar access when compared to the original DA (Figure 35).
- At 2.00pm solar access is maintained to approximately 20% of Bundara Reserve. No changes to shading as per the original DA are expected.
- At 3.00pm solar access is maintained to approximately 10% of Bundara Reserve. No changes to shading as per the original DA are expected.

This overshadowing is considered to have a negligible impact on the public use and enjoyment of Bundara Reserve. The controls do not distinguish between the Bundara Reserve and Blenheim Park public spaces in terms of their functions and use.

Figure 35 – Shadow diagram, 21 June 1.00pm



Bundara Reserve is open space land legally described as Lot 10 in DP 1017829 bounded by Delhi Road to the north, Epping Road to the south west, the M2 to the east and residential dwellings to the south east. Bundara Reserve is a bushland reserve that preserves a pocket of Sydney Turpentine Ironbark Margin Forest vegetation community. Bundara Reserve performs an ecological conservation function and has limited access to the general public being an island with busy roads on three sides and due to the conservation function it performs.

Bundara Reserve is a public reserve with dense understory vegetation and high canopy trees. Use of the reserve by the public is limited. Field assessment by Eco Logical Australia confirmed Sydney Turpentine Ironbark Forest in Bundara Reserve and was considered to be in moderate to good condition. No threatened flora or fauna were detected within Bundara Reserve during surveys by Eco Logical Australia (ELA) in 2008. Surveys by ELA (2012) in surrounding areas for the North Ryde Station Precinct State Significant Development Application (SSDA) detected three threatened fauna species in areas adjacent to Bundara Reserve. These were:

- *Miniopterus schreibersii oceanensis* (Eastern Bentwing-bat)
- *Mormopterus norfolkensis* (East Coast Freetail Bat)
- *Pteropus poliocephalus* (Grey-headed Flying-Fox)

These fauna are listed as vulnerable under the TSC Act. The Grey-headed Flying-fox is also listed under the Environment Protection and Biodiversity Conservation Act 1999. A further eight threatened and migratory species with potential to occur were assessed as part of the 2012 Environmental Assessment for the North Ryde Station Precinct.

Bundara Reserve contains Sydney Turpentine Ironbark Forest. This is listed under the NSW Threatened Species Conservation Act 1995 (TSC Act) as an endangered ecological community (EEC). This community is also listed as critically endangered under the *Environment Protection and Biodiversity Conservation Act 1999* however as the community covers less than one hectare within Bundara Reserve this community does not meet the definition of the Commonwealth threatened ecological community.

Sydney Turpentine Ironbark Forest has been heavily fragmented, with only 0.5 per cent of its original extent remaining intact across the Sydney Basin (OEH 2014). It occurs on moderately wet sites and in higher rainfall areas can grade into the critically endangered Blue Gum High Forest.

Potential impacts

Ecological Australia have prepared an assessment of shading of Bundara Reserve with the original DA. Shading represents a potential impact to the Sydney Turpentine Ironbark Forest EEC and threatened species utilising the area. Although shading is not listed as a threat to this community, weed invasion is listed as a threat under the TSC Act.

An assessment of the impact of the overshadowing on Bundara Reserve is provided in this section of the report, to determine the nature of the impact on the ecological functioning of the vegetation in the reserve. Advice from Ecological Australia, ecologists is referred to below.

Ecological Australia have advised that the precise amount of solar access required to be maintained to conserve the Sydney Turpentine Ironbark Forest within Bundara Reserve is difficult to define. No scientific literature exploring or describing shading as a threat to this community has been prepared.

Ecological Australia has advised that shading of Bundara Reserve may contribute to changes in community structure over time. Structural changes include increased mesic shrub invasion. Mesic shrubs include the native but invasive *Pittosporum undulatum* which is present in the reserve. It has assessed that the potential changes to the EEC and threatened fauna habitat within Bundara Reserve are unlikely to be significant, provided that adequate weed control and appropriate management of the reserve is implemented.

Changes that may occur include:

- Increased soil moisture leading to changes in species composition of the vegetation; and
- Greater likelihood of weed invasion and changes in species composition as shading increases.

Recommendations and conclusion

Ecological Australia recommended the following measures to mitigate the potential impact of additional shading in Bundara Reserve:

- Weed control and management of Bundara Reserve should occur.
- Management of this reserve should be based on the best practice guidelines for Sydney Turpentine Ironbark Forest (DECC 2008).

Ecological Australia found no evidence in the literature of long term detrimental impacts to the Sydney Turpentine Ironbark Forest EEC as a result of seasonal shading.

Bundara Reserve is a Council managed reserve. Weed control as part of Council's management of Bundara Reserve, in accordance with best practice guidelines will mitigate the potentially minor effects of additional shading. Subject to the implementation of weed control and management, the seasonal overshadowing of Bundarra Reserve after 11am would not have a significant adverse impact on the conservation function of the Reserve.

Addendum advice

Ecological Australia were engaged to review the amended proposal and shadow diagrams, and consider the potential impact of the amendments to the heights of buildings on the Sydney Turpentine Ironbark Forest and threatened fauna habitat within Bundara Reserve. The Ecological Australia prepared an addendum letter at **Appendix H**, which provides the following updated advice:

Provided adequate weed control and appropriate management of the reserve is implemented, any structural changes in the community caused by the decrease in solar access to the Reserve at 1:00 pm are unlikely to be significant.

Strict compliance with Clause 5.6(5) of the NRSP DCP 2013 for Bundara Reserve and Blenheim Park will impact on the achievement of the vision for the North Ryde Station Precinct as a high-density transit oriented development. Subject to weed control and management measures, the shadows cast by the

amended proposal would not have a significant impact the existing functions and amenity of the surrounding public open space and residential properties.

6.5.8. Overshadowing Communal Open Space (Clause 5.2)

Clause 5.6 of the NRSP DCP 2013 requires that at least 50% of new communal open space is to receive 3 hours of direct sunlight between 9am and 3pm on 21 June. The proposed development includes communal open spaces above the podium between Buildings L1, L2 and L3. The shadow diagrams show that Buildings J and K on Lot 105 overshadow the common open spaces on Lot 104 between 9am and 3pm on 21 June.

The north-west to south-east orientation of Blocks J and K, coupled with the north-east to south-west orientation of Buildings L1, L2 and L3, result in buildings fronting common open spaces, limiting sunlight access.

The vision for the site is for high density, transport-orientated development, providing the most efficient use of the limited land within close proximity to public transport and local facilities and services. The nature of this development and the site means that overshadowing in mid-winter is in this instance unavoidable if the height and floor space potential and the vision of the NRSP is to be realised.

Large areas of public open space and publicly accessible open space on Lots 104 and 105, in excess of the minimum required under the NRSP DCP 2013 are to be delivered on Lachlan's Line that will have good solar access. The Central Park and Linear Park are within easy walking distance to residents in the Mixed Use Precinct and have good solar access opportunities, particularly during the "lunch time" hours of the day.

Steve King has provided the following observations with respect to the impact on winter sun (21 June) in the communal open spaces for the amended proposal:

- *Reduction in height of Building J, makes little difference to sun in the 'western' courtyard, and has no influence on other major common open spaces; and*
- *Reduction in height of Building K, makes significant difference to sun in the 'eastern' courtyard, and introduces sun between 11:30am and 1:30pm into southern portion of plaza between Buildings L.3 and M. Options A and D, progressively increase the amount of solar access to those communal open.*

6.5.9. Retail car parking (Cl. 7.2)

It is proposed to provide a total of 180 car parking spaces for the retail patrons within the basement car parking levels on Lots 104 and 105. This is 110 more car parking spaces than maximum permitted under the retail car parking rates for general retail and supermarkets in the NRSP DCP. It is noted that the proposed development of Lot 104 and 105 is to comply with the maximum residential car parking rates in the NRSP DCP.

The objectives for providing additional retail parking for the Lachlan's Line development are:

1. *To integrate retail land uses, which are consistent with the vision for the NRSP at Section 2.1 of the NRSP DCP, particularly to:*
 - *Represent 'place making' through activation of the space, creation of a destination and creation of identifiable landmarks, including an appropriate mix of uses and community facilities; and*
 - *Integrates North Ryde Station with retail, commercial, recreational and community uses, therefore stimulating activity around the station.*
2. *To increase the diversity and range of shopping activities for workers and residents of Macquarie Park;*
3. *To ensure that sufficient parking is provided to meet the demand from retail patrons; and*
4. *To ensure that parking is confined to the site and does not overflow into surrounding residential streets.*

1.2.5.1 Retail centre characteristics

The retail centre in the Mixed Use Precinct at Lachlan's Line will be a convenience based centre within a growth corridor and is to be located between two railway stations. It will be anchored by a major supermarket and comprise other tenancies that will include:

- Service retail (medical centre, pharmacy, optometrist, child care);
- Lifestyle retail (gymnasium, hair salon, day spa);
- Fresh Food (providore, butcher, seafood, delicatessen); and
- Eateries (restaurants, cafes).

Lots 104 and 105 are to include approximately 5720m² of retail floor space, with a supermarket of approximately 2000m² Net Lettable Area (NLA) on Lot 104. Various other smaller tenancies totalling approximately 3720m² are proposed across Lots 104 and 105.

Lachlan's Line retail centre will be a destination for the broader precinct for residents and visitors looking for convenient daily needs retailing and dining experiences. Wallaringa Consulting expects that the retail centre will have visitation throughout the day from early morning to late evening which is typical of other retail centres, such as Balgowlah Shopping Centre, East Village Zetland, Marrickville Metro and new mixed use residential and retail precincts within close proximity of a railway station.

Wallaringa Consulting anticipate that whilst Lachlan's Line is anticipated to comprise both pedestrian visitors (bag shoppers) and vehicle visitors (trolley shoppers) it is envisaged that given the general retail mix of the centre with service retail, cafes/ restaurants and a large format supermarket will see visitation skewed towards vehicle visitation.

1.2.5.2 North Ryde Station Precinct Development Control Plan 2013

Vision for North Ryde Station Precinct

The proposed additional retail car parking will support a vibrant and economically sustainable mixed use precinct. There are features of the Lachlan's Line development that have key focal points and will be destinations for both the immediate community and the broader Macquarie Park community, which are the community facilities, and the public open spaces, comprising Central Park and Lachlan's Square.

The provision of additional retail car parking for the mixed use precinct is consistent with vision for the North Ryde Station Precinct to create a destination that can serve the wider community, with the following characteristics:

- A vibrant mix of uses that stimulate activity around the station, and
- Activated public spaces.

The proposed retail uses and ancillary car parking is consistent with the objectives of the North Ryde Station Precinct DCP:

2.1 Vision for North Ryde Station Precinct

- *Represent 'place-making' through activation of the space, creation of a destination and creation of identifiable landmarks, including an appropriate mix of uses and community facilities*

Comment: The vision for North Ryde Mixed Use Precinct as to create a destination with an appropriate mix of uses and community facilities, which anticipates that people will visit the site from outside of the Precinct. The range of uses are suitable to meet the vision for North Ryde Station Precinct outlined in the DCP.

2.2 Design Principles

- *North Ryde Station Precinct is Active – many of the new community's needs will be available on site. The precinct is also to be a destination that can serve the wider community.*

Comment: The North Ryde Station Precinct has been designed and incorporates uses that cater to the occupants within the Precinct as well as serve the wider community. The retail uses include a full line supermarket within the Lachlan's Line, which will draw in the wider community for their daily and weekly shopping needs.

5.4 Mixed Use Buildings- Objectives

- *Creative lively streets and public spaces in the Precinct*
- *Increase the diversity and range of shopping and recreational activities for workers and residents*

Comment: The proposed mixed use development includes suitable retail uses fronting streets that create a destination that can draw in the wider community to provide vibrancy and activation throughout the day and at night. Having the proposed retail will drive the activation of the public domain and is critical to the successful mixed used precinct at North Ryde.

7.2 Car Parking - Objectives

- *Minimise traffic congestion in the Precinct*
- *Provide adequate car parking for building users and visitors, depending on building use and proximity to public transport*

Comment: The proposed car parking arrangements will successfully achieve the objectives of the DCP car parking controls. As noted above the traffic generation for the proposed development will be similar to the traffic generation anticipated in the TMAP Review. The proposal provides adequate car parking for the retail uses that are catering for the residents on the site and the wider community, as patrons will travel to the site to do their weekly shop.

6.5.9.1. Retail Car Parking rates

Section 7.2 of the NRSP DCP provides objectives and controls for car parking. The relevant objectives of the NRSP DCP provide that:

- Ensure development in the Precinct meets the objectives of Transit Oriented Development by limiting private vehicle usage.*
- Ensure that parking provision rates acknowledge capacity constraints on the surrounding road network and access restricts.*
- Minimise traffic congestion in the Precinct.*
- Minimise car dependency for commuting and recreational transport use and promote alternatives means of transport.*
- Provide adequate car parking for building users and visitors, depending on building use and proximity to public transport.*

Clause 7.2(6) of the NRSP DCP provides maximum car parking rate for retail and supermarket uses, as follows:

- Retail: 1 space per 100m² GFA
- Supermarket: 1 space per 60m² GFA

Applying the current rates for the proposed uses, will equate to the follow retail parking spaces:

Table 22 – Retail car parking

Use	m ²	Rate (maximum)	Car parking spaces
Retail	3720	1 / 100 m ²	37
Supermarket	2000	1 / 60 m ²	33
Total			67

The objectives and controls for retail car parking do not anticipate the provision of a full format supermarket that will serve the wider precinct, providing daily needs as well as a wider range of conveniences, as described in **Section 2** above.

The following sections of this report address the car parking rates for retail development in other parts of Ryde, including urban centres and in other comparable retail centres in Sydney. The capacity constraints of the surrounding road network and traffic generation is considered in **Section 7**, with advice from Arup traffic engineers.

6.5.9.2. Ryde Development Control Plan 2014

Clause 2.3 in Section 9.3 of the Ryde DCP 2014 provides a car parking rate for retail premises of 1 space per 25m² Gross Floor Area (GFA) and relates retail development in other urban centres with good public transport accessibility including Macquarie Park, Ryde, Eastwood, Gladesville, and West Ryde.

The retail car parking rate under the Ryde DCP 2014 does not distinguish between different types of retail uses (i.e. no separate rate for supermarkets).

Applying a rate of 1 space per 25m² for the proposed 5720m² retail centre, the proposed development would require 229 car parking spaces. The proposal for a total of 180 retail car spaces is below the minimum required rate for the City of Ryde. This rate been worked out on the basis of traffic generation and the capacity of the road network to accommodate additional trips generated by the supermarket use.

6.5.9.3. Car parking in comparable retail centres

Wallaringa Consulting, specialist retail property consultants have provided advice submitted with the DA, with a comparison of parking ratios provided in established centres as well as new centres under construction, that are anchored by a supermarket. These other centres have similar characteristics to the Lachlan's Line development, for the following reasons:

- Calibre of centre;
- Proximity to public transport;
- Highly urbanised locations; and
- Style of retailing.

On the basis of comparative analysis to other similar retail centres Wallaringa Consulting advises that a retail car parking rate of between 4.2 and 4.5 spaces per 100 m² GFA is considered appropriate for Lachlan's Line. This would equate to between 250 and 270 car spaces.

Capacity constraints of surrounding road network

Arup traffic engineers are engaged by Greenland to provide traffic and transport engineering advice for the development of Lots 104 and 105. Arup has considered the proposed additional retail parking in the context of the total traffic generation from all uses of the Lachlan's Line site under three scenarios:

- Scenario 1: Land uses as envisaged in the North Ryde Station Precinct Transport Management and Accessibility Plan (TMAP) modelling review for the M2 site (Parsons Brinkerhoff, January 2014)
- Scenario 2: Land uses as envisaged in the current application, with retail parking rates in accordance with the North Ryde Station development control plan (DCP)
- Scenario 3: Land uses as envisaged in the current application, with additional parking spaces for retail uses beyond that permitted in the North Ryde Station development control plan (DCP)

To assess the impact of traffic generated by the additional retail car parking spaces, Arup considered the land uses envisaged for the precinct and under the Lots 104 and 105 developments. Arup noted the proposed Lot 104 and 105 development includes a significant reduction in commercial floor space as compared to the land use mix forecast in the TMAP Review.

The overall vehicle trips generated by the site in the PM peak hour for the three scenarios is provided in the following table extracted from the Transport Assessment:

Table 23 - PM peak hour traffic generation

Land use	Land use mix		Traffic generation rate (vehicles / 100m ² GFA)		% Passing retail trade	Retail Parking Spaces	PM peak hour traffic generation		
	Commercial	Retail	Commercial	Retail			Commercial	Retail	Total
Scenario 1	10,000	3500	1.03	5.22	0%	35	103	183	286
Scenario 2	Nil	5699	1.03	2	20%	86	0	138	138
Scenario 3	Nil	5699	1.03	2	20%	180	0	457	288

The forecast level of traffic generation with an additional 94 retail car parking spaces remains below that original envisaged in the TMAP Review for the precinct. The TMAP Review established the overall traffic generation for the development for the NRSP including Lachlan's Line, which was the basis for the transport and traffic infrastructure upgrades.

ARUP concludes that:

Therefore proposed additional retail car parking for the site is not forecast to generate impacts on the surrounding road network over and above that used to inform the transport infrastructure works required for the site as outlined in the TMAP modelling review for the M2 site (Parsons Brinkerhoff, January 2014).

Conclusion

To accommodate the proposed 180 retail car parking spaces is proposed to delete the maximum retail and supermarket car parking rates to replace these with a blended maximum rate for retail floor space of 1 space per 33.1m² GFA, which is the equivalent of 3.03 spaces per 100m². The proposed car parking rate for retail development is consistent with the vision for the NRSP and will support a vibrant mixed use retail based precinct. The additional retail parking will not generate impacts on the surrounding road network beyond that which was envisaged in the traffic modelling conducted for the TMAP Review for the site for the Consent SSD_5093.

7. KEY PLANNING CONSIDERATIONS

7.1. LAND USE, URBAN DESIGN AND BUILT FORM CONSIDERATIONS

The proposed development has been designed having regard to the following urban design and built form considerations:

7.1.1. Land use

Mixed use development can create a sense of identity and place. Adhering to the following principles are important to the success of mixed use developments, as follows:

- Appropriate location of uses;
- Sound understanding of market preferences;
- Diversity of offering;
- Review of opportunities and constraints of the site and the locality;
- Creating a sense of place and local identity; and
- Appropriately balance increasing level of activity and vibrancy with residential amenity.

Successful mixed use developments feature:

- Close proximity to economic, high amenity areas and key attractors (retail, recreation, public transport, services and parklands);
- Good access and visual prominence;
- Incorporating pedestrian interaction;
- Separate commercial and residential entries with each clearly defined;
- Appropriate design solutions and management practices to address potential conflicts and the impact of different uses; and
- Adaptable to respond to current and future market trends.

The proposal responds to these principles to create a place for people, as follows:

- Lachlan's Square is proposed as a publicly accessible space that is seamlessly connected to the public domain in the southern end of Lachlan's Line. It will provide a unique experience for residents and visitors that may be used for weekend markets and outdoor dining.
- A focus on ground level activity is provided with opportunities for restaurants, cafes and outdoor dining areas, with vertical connections provided in locations that are logical and will not interrupt pedestrian foot traffic.

7.1.2. Access and connectivity

Lots 104 and 105 are large urban blocks. The street layout provides physical connections between the development lots. It is desirable for development in the Mixed Use Precinct to support pedestrian movement and connectivity through street blocks and provide secondary frontages for retail and residential buildings.

The strategy for the Mixed Use Precinct is to connect to the North Ryde Train Station with additional through site linkages, crossing Lot 105 to link Central Park with Jarvis Circuit and beyond to the future Delhi Road pedestrian and cyclist bridge.

Key access and connectivity principles adopted for the Lot 104 and 105 mixed use development are:

- Physically connect to the surroundings particularly the North Ryde station to the south east and Central Park to the north;
- Remove the physical barriers to walking and cycling through the precinct;
- Link through the Mixed Use precinct that are visually connected to surrounding streets;
- Make it easy to orient and navigate from one place to another within the precinct;
- Make logical arrangements and locations for new public plazas for people to walk and connect to the net work of open space in Lachlan's Line and surrounding areas;
- Control vehicle access to avoid conflicts with pedestrians and cyclists; and
- Provides multiple connections and ways into the retail centre on Lot 104.

The proposal responds to these access and connections principles, as follows:

- Provides a legible and direct diagonal connection across Lot 105 between Spine Road, Central Park and Jarvis Circuit. The Mixed Use Precinct will be connected to the North Ryde train station, and is to contain Council's community facility;
- The through site linkages are readily visible and open to the surrounding streets. Lachlan's Square has a wide frontage to Jarvis Circuit that will provide good visual connections into the publicly accessible open space and Council's community facility;
- Public access to the Precinct is enhanced at the northern end of the precinct with a community facility at the southern end of proposed Lachlan's Square; and
- Vehicle access that is limited to the Spine Road, and car parking provided below ground level to avoid creating barriers to pedestrian movement in Jarvis Circuit and Lachlan's Square.

7.1.3. Publicly accessible open space

Publicly accessible spaces that are unique and have legible access will encourage people to enter Lachlan's Line. Plaza spaces on Lots 104 and 105 are to be differentiated from other public spaces such as the Central Park, Linear Park and the Bushland Reserve.

The following principles have been considered in the assessment of the proposed Lot 104 and 105 development to ensure high quality publicly accessible open spaces, which:

- Feel comfortable to walk through, sit, talk and relax and are safe throughout the day and at night.
- Have clear links with the public realm.
- Accommodate a range of activities.
- Have adequate sunlight, shade and shelter from harsh weather conditions for example awnings to protect against rain, and provide adequate sunlight reach to areas designed for outdoor dining and seating.
- Capture cooling breezes in summer and avoid harsh wind effects on the pedestrian environment.
- Provide opportunities for outdoor seating and landscaping.
- Restricting vehicle access in areas of high pedestrian activity.
- Designed to meet the needs of all people including the elderly and those with physical disabilities and the young.
- Well overlooked and has quality lighting that enhances visibility and safety at night.

- Multiple entry points and exit points are provide to public spaces.
- Opportunities for public art within publicly accessible spaces.

The proposal responds to the principles for public spaces, as follows:

- Multiple small spaces proposed add to the public domain network – Lachlan’s Square and Laura’s Place.
- The proposed publicly accessible spaces are designed to accommodate pedestrian foot traffic, whilst allowing gathering spaces, with opportunities for seatings, public art and landscaping.
- Multiple pedestrian connection points are provided with wide frontages to public streets that will promote sightlines and high visibility for pedestrians.
- The spaces are activated with retail frontages and building entrances.
- The spaces are frames by built form.

7.1.4. Built Form & scale

North Ryde is to undergo significant change in the scale and height of buildings, with recent development approvals up to 33 storeys in height (Ryde Gardens). The Proposed heights of buildings are designed in accordance with Clause 4.3: Height of Buildings of the Ryde LEP, which provides an opportunity to create a visual landmark at a key intersection in the northern suburbs at the corner of Epping Road and Delhi Road.

Key built form and scale principles considered in the preparation of the development application for Lots 104 and 105:

- Provide a diversity of tower buildings, above a consistent podium height on Lot 104;
- Create visual interest in the North Ryde skyline;
- Positions towers to optimise views, privacy, and solar access for building occupants;
- The scale of development is compatible with the function of North Ryde at the southern end of Macquarie Park a ‘Specialised Precinct’, identified in *A Plan for Growing Sydney*;
- Articulate tower buildings to create unique building character and identify, with a diversity of architectural expressions across the two development lots;
- Mixed use buildings are located address and define the public domain;
- High quality and durable building materials, finishes, and use of colour to highlight building elements;
- Building facades to be vertically proportioned to accentuate height and break down the length of buildings; and
- Building entrances in mixed use development are clearly articulated primary and secondary entrances.

The proposal responds to the above built form principles, as follows:

- Tower arrangements and orientation achieves adequate separation, visual privacy, optimises views, and solar access for building occupants;
- Height reinforced along Epping Road, Delhi Road and the Central Park;
- Tallest building closest to the North Ryde Station (Building M);

- Lower scaled terraces located fronting Epping Road to minimise the number of apartments having Epping Road, a busy road, and to break up the scale and provide different building types for housing diversity; and
- Building facades are articulated and visually interesting tower forms from different architects for each lot.

7.2. BCA AND ACCESSIBILITY

A BCA Capability Statement of the proposed developments of Lots 104 and 105 has been prepared by Modern Building Certifiers (MBC). MBC reviewed the architectural drawings against the relevant requirements of the National Construction CODE Series (Volume 1) – Building Code of Australia. The assessment provides surety to the Consent Authority, that the building design is capable of complying with the BCA and that subsequent compliance with the provisions of Parts C, D, E, F and J of the BCA will not give rise to further modification to the building that may necessitate additional design changes.

The report concludes that:

“In view of the above assessment we can confirm that subject to the above measured being appropriately considered, that compliant with the Deemed-to-Satisfy Provisions and Performance Requirements of the BCA are readily achievable”

Additional and consistent with reasonable approach, we also consider the proposed works required to be appropriate for the purposes of addressing the provisions of 143 of the EP&A Regulation”.

An accessibility assessment of the proposed development has been prepared by Accessibility Solutions and is provided with the original DA. The assessment considers the following legislation, planning instruments and standards pertaining to access for people with disabilities:

- Building Code of Australia (2016)
- DDA Premises Standards
- Apartment Design Guide – Section 4Q Universal Access
- North Ryde Station Precinct DCP 2012 – Section 7.6 Accessible Design
- Ryde DCP 2014 – Section 9.2 Access for People with Disabilities
- Australian Standard AS1428.1 (2009) – Design for Access & Mobility
- Australian Standard AS1428.4.1 (2009) – Tactile Ground Surface Indicators
- Australian Standard AS2890.6 (2009) – Off Street Parking.
- Australian Standard AS1735.12 (1999) – Lifts
- Australian Standard AS4299 – Adaptable Housing – Class A

The accessibility assessment found that the access and adaptability of the development demonstrates compliance with the relevant objectives and design code requirements of BCA 2016/DDA Premises Standard pertaining to accessible retail and common domain areas and access to apartments and the Adaptable Housing Standard AS4299 in terms of the provision of 82 adaptable units for people with disabilities. The following aspects of the proposal are noted from the accessibility assessment:

- On-grade level entries from adjoining public domain footpaths are provided from Epping Road and Delhi Road to ground floor level retail tenancies, residential lobbies and Lachlan’s Square and Laura’s Place to ensure equitable access to the site consistent with the DDA Premises Standards and Part 3.2 of the BCA;

- The proposed supermarket, speciality retail tenancies and medical centre has universal access in accordance with AS1428.1 to satisfy Parts D3, E3.6, F2.4 of the BCA and DDA Premises Standards.
- The residential lobbies provide a total of 12 lifts which travel to all upper levels to access the apartments. Doorway entrances of all apartments comply with Table D3.1 of the BCA 2015 and the DDA Premises Standards.
- Details of ramps, doorway thresholds, lifts and stairs are to be confirmed at the Construction Certificate standard in accordance with the relevant Australian Standards.
- On-site parking includes 70 accessible spaces that are designed in accordance with AS2890.6 and consistent with the intent of AS4299.
- The development proposed 82 adaptable apartments with layouts that comply with AS4299 – Adaptable Housing to satisfy the Ryde DCP requirement for a minimum 10% of apartments to be adaptable.
- The development proposes 164 apartments with layouts designed in accordance with the Universal; Access features to comply with the silver level Liveable Housing Guidelines to satisfy SEPP 65 Apartment Design Guide.

7.3. ACOUSTIC AND VIBRATION IMPACTS

Acoustic and Vibration Assessments have been prepared to assess the likely noise impact from the proposed developments of Lots 104 and 105 on the potentially effected nearest effected receivers of the development have been completed by Wood & Grieve Engineers and were provided with the original DA. The assessments have had regard to the following relevant guidelines and policies:

- City of Ryde Development Control Plan (DCP) 2014;
- North Ryde Station Precinct Development Control Plan (NRSP DCP) 2013;
- Department of Planning (DoP) – Development near Rail Corridors and Buys Roads – Interim Guideline;
- Department of Planning (DoP) – Interim Guideline for the Assessment of Noise from Rail Infrastructure Projects;
- State Environmental Planning Policy (Infrastructure) 2007;
- AS/NZS 2107:2000 – Acoustics – Recommended Design Sound Levels and Reverberation Times for Building Interiors.

The Acoustic and Vibration Assessments provide a statement of compliance with the relevant statutory criteria for the proposed mixed-use development. Recommendations for noise mitigation measures for the proposed development are provided in order to meet the relevant criteria when compliance is not achieved.

The noise assessment are based on noise data collected by a combination of unattended and attended noise measurements at representative locations around the site over 9 days during February 2016.

The acoustic issues relating to the development and assessed are as follows:

- Noise intrusion from vehicle movements along the M2 Motorway, Epping Road and Delhi Road;
- Noise emissions from mechanical plant from the development to the surrounding receivers;
- Traffic noise generation on Wicks Road and Epping Road adjacent to the residential properties;

- Vibration at the proposed development due to train movements in the Epping to Chatswood Rail Link (ECRL) tunnel for human perception and structural damage; and
- Regenerated noise in apartments due to train movements in the ECRL tunnel.

The assessments has provided criteria, in-principle treatment and design requirements which aim to achieve the statutory noise and vibration criteria. In terms of noise criteria Wood and Grieve Engineers assessments provide that:

- Internal noise levels are to be in accordance with the Interim Guideline and Infrastructure SEPP for the residential apartments, and Australian Standard AS2107 for the retail tenancies;
- Internal noise level criteria due to ground borne noise from train vibration are to be in accordance with the DoP Interim Guideline;
- Noise criteria for emissions from the development to residential receivers is to be in accordance with City of Ryde Council and the NSW INP;
- Construction noise criteria is to be in accordance with the relevant criteria;
- Train and construction vibration criteria is to be in accordance with;

In order to meet the design criteria required Wood & Grieve have made recommendations for glazing for the residential and retail spaces in accordance with the requirements of the DoP Guidelines. The recommended glazing is to be incorporated into the detail construction documentation for the development.

7.4. CONTAMINATION ASSESSMENT

A Site Audit was conducted in accordance with the requirements of the *Contaminated Land Management Act 1997* (CLM Act) by Environmental Resource Management (ERM) on behalf of the Epping to Thornleigh Third Track (ETTT) Alliance to confirm the suitability of the site for unrestricted residential use. This was a requirement of the licence agreement from ETTT Alliance upon vacating the site.

The Audit process was undertaken by Ms Sophie Wood, an EPA Accredited Site Auditor (Report No. A30-0271459-SAR-F01), DATED 16 January 2015. The land which is the subject of this Site Audit includes the Mixed Use Precinct that includes Lots 104 and 105.

The Site Auditor reviewed eleven (11) reports by six (6) environmental consultancies detailed the site's history and characterisation, including preliminary and detailed site investigations that were prepared in accordance with SEPP 55 – Remediation of Land.

The Site Audit Report states that:

“The site history detailed between the early 1900s and present day indicates potential for contamination resulting from agricultural use, importation and use of substantial amounts of fill without adequate evidence of contamination status, and use as a depot for a series of major infrastructure construction projects. Remedial works followed the site's use between 2000-2008 as a depot for the Epping to Chatswood Rail Link construction, during which time several hundred tonnes of contaminated soils and wastes were removed from site”.

At the time of preparing detailed investigations of soil and groundwater, there was no evidence for significant exceedance of relevant assessment criteria, and the accredited Site Auditor considered the risks to health and ecological systems and beneficial uses of groundwater to be acceptably low.

The Site Audit Report concludes that:

“The Auditor considers that the investigation works to be adequately compliant with the requirements of NSW DEC (2006), other relevant guidelines made or endorsed under s105 [of] the CLM Act 1997 and objectives of the Audit. Departures from the guidelines have been

identified and discussed, and found not to materially compromise the conclusions of the assessments.

The Auditor concludes that the site is suitable for the proposed use”.

7.5. GEOTECHNICAL AND ACID SULPHATE SOILS

A preliminary statement has been prepared by JK Geotechnics was submitted with the original DA, to provide confirmation of the likely geotechnical conditions and acid sulphate soil potential on the subject site.

The information contained within the Statement submitted with the current application is provided to confirm that the previous Geotechnical investigation remains relevant and further investigations will be carried out post development approval regarding the structural integrity of the building design and the implementation of design measures to ensure the above and below ground building is structurally sound. With regard to acid sulphate soil, and the consultant conclude that the proposed basement excavations are unlikely to lower the groundwater on the adjacent land and therefore specific controls for managing acid sulphate soils are unlikely to be required.

7.6. HERITAGE AND ARCHAEOLOGY

There are no statutory heritage items located within the M2 site and the subject precinct boundary. There are two local heritage items in the vicinity of the Mixed Use Precinct: Northern Suburban Cemetery and Lane Cove National Park.

Overall, the proposed mixed use development does not adversely impact on the significance of heritage items in the vicinity of the Mixed Use Precinct. Development in the Mixed Use Precinct at Lachlan's Line is opposite the Cemetery. The western boundary of the Cemetery is lined with trees that provide a buffer zone to the highway and aesthetic setting for the Cemetery. The two sites are separated by the M2 Motorway, which varies in height from north to south as it passes under the Delhi Road bridge.

There are significant vistas within the Cemetery and to the surrounding area. Formal plantings within the Cemetery provide an internal aesthetic setting and landscape buffer to surrounding development. The historical context of the Cemetery has altered within its urban environment with the construction of the M2 Motorway and construction of the North Ryde Railway Station.

An Historical and Aboriginal Archaeological Assessment has been prepared by Artefact and assesses the potential impacts of the proposed development of Lots 104 and 105. The report states that:

“The only archaeological constraints identified within the Precinct is a partially collapsed cistern/well. This structure is located outside of the current study area to the north (Figure 1). Therefore it is unlikely that works within the study area would have any impact on the cistern/well”.

The Archaeological Assessment Report concludes that:

“There are no archaeological constraints associated with the study area and works may proceed with caution. Unexpected finds, including Aboriginal objects and historical relics remain protected by the National Parks and Wildlife Act 1974 and the Heritage Act 1977 respectively.

If any Aboriginal objects or historical relics or potential relics are uncovered in the course of works, works in the vicinity of the find should cease and a heritage consultant contacted to assess the find and recommend what Government agency notifications, further investigations and permits will be required prior to work recommencing at that location. A detailed unexpected finds procedure would be included in the Construction Environmental Management Plan (CEMP) for the works”.

7.7. ENVIRONMENTAL SUSTAINABILITY

The relevant building sustainability criteria are included in the Ryde LEP, Ryde DCP and the SEPP 65 and Apartment Design Guide and SEPP BASIX. BASIX forms part of the development application and building certification in NSW. BASIX sets water and energy efficiency targets that aim to reduce of natural resources and reduce greenhouse gas emissions. BASIX also sets the minimum levels of thermal comfort of a dwelling, in accordance with the NatHERS House Energy Rating protocol.

An Energy Efficiency Performance Report was prepared by Wood and Grieves Engineers to provide an overview of the proposed environmentally sustainable design and energy efficiency performance. The proposed design response and targeted ESD initiatives including the following approach:

- Passive Solar Access;
- Energy, Greenhouse Gas Emissions and Peak Demand Energy Reduction;
- Water resources / potable demand reduction;
- Stormwater / waste water management

The energy efficiency performance report has been prepared in response to the City of Ryde LEP and DCP and provides the above information about the proposal development in response to the requirements outlined in the Section 7.1 – 3.2 of the Ryde DCP.

Wood and Grieve Engineers are preparing separate Building Sustainability Index (BASIX) assessments of the amended development of Lots 104 and 105, which are to be submitted to Council under separate cover

7.8. WASTE MANAGEMENT

Waste will be generated from the proposed development of Lots 104 and 105, during the construction and operational phases.

7.8.1. Construction waste management

A draft construction management is to be provided with the application including waste management measures in accordance with Council requirements for the public exhibition of the development application.

7.8.2. Operational waste management

Waste Management Plan (WMP) has been prepared by Waste Audit Consultancy Services that addresses estimated quantities of waste materials generated from the operational phases of the development, and explains the proposed management processes. The WMP has been prepared with reference to the Ryde's Development Control Plan 2014 – Part 7.2 Waste Minimisation and Management.

During the operational phase, the following waste streams have been identified:

- Cardboard/paper recycling;
- Comingled recycling (glass and plastic container); and
- General waste

Paper, Cardboard and Commingled recycling will be consolidated into the one system. Other wastes may be generated, but these would be irregular in terms of when generated and as such the quantities were not able to be estimated. These would be materials such as:

- E-waste;
- Mattresses; and
- White goods and other large waste items.

Calculations for the types and quantities of waste that will be generated are based on the estimates provided in the City of Ryde's Development Control Plan 2014 Part: 7.2 Waste Minimisation and Management. In addition, averages for quantity of waste generated and composition as determined by data provided by WACS' waste audits conducted in a broad range of sectors were used to validate waste composition and volumes.

The proposed development has applied City of Ryde's waste requirements for this type of development based on:

- 1 x 660 litre skip bin for garbage per 15 units OR 1 x 1100 litre skip bin for garbage per 25 units OR 1 x 240 litre bin for garbage per two units; and
- 1 x 240 litre bin for recyclables per two units

Waste Audit Solutions estimated the total development will generate a total of 263,478 litres of waste and recyclables per week.

The following points summarise the adopted waste management strategies for the proposed development:

- Residents will be briefed on the proper use of the chute system and any contamination of the recycling stream will be monitored and reported by cleaners/building management as it is imperative that the recycling stream remain free of contamination to ensure compliance with collection protocols.
- Residents will be encouraged to maximise the separation of general waste and mixed recyclables within their apartments to aid the proper disposal of all materials.
- Prior to each collection, building management/onsite cleaning staff will transfer all bins from the waste storage room in Lot 105 to the central bin consolidation area in Lot 104 (via the access tunnel beneath Jarvis Circuit).
- The contractor vehicle will service the bins from Lot 104 and it will be the responsibility of building management/onsite cleaning staff to return the bins to the waste rooms after collection.
- The commercial tenancies will be designed so as to allow effective segregation of recyclables. These tenancies will (depending on the types of wastes / recyclables generated) be provided with sufficient smaller bins to allow for effective segregation of wastes/recyclables. This will include:
 - Paper and Cardboard recycling
 - Comingled recycling
 - General waste
- These bins will be transported to the dedicated storage area located in the basements of both Lots, by commercial tenant staff for collection by the appointed contractor.
- Waste and recycling collection services will be provided by a commercial waste contractor. Utilising a commercial waste contractor affords the development (tenants) greater flexibility regarding collection schedules and the appropriate collection frequencies will be determined in consultation with the waste contractor once appointed. At present, this is planned to be five per week, however once operational, collection schedules may need to be adjusted accordingly depending on actual waste generation.
- Items such as furniture/whitegoods stored within the bulky items storage cage/room will be managed by building management and offered to other residents for reuse if desired. If items remain unclaimed, appropriate collection organisations will be called to collect the items for recycling/reuse as required and/or collections arranged through the Council.
- There will be clinical waste generated from the medical centre. This waste will be collected by a specialised contractor and management in accordance with NSW EPA and Council requirements. As the volumes of this waste generated will be small, a small clinical waste bin and sharps container will be provided and will be stored within the medical centre.

Waste/recyclables from Lot 105 will be transported to the storage areas via an underground access tunnel beneath Jarvis Circuit to the waste storage area located in Lot 104 for collection by the contractor. The WMP includes details of proposed waste storage rooms.

7.9. FLOODING, HYDRAULICS AND STORMWATER MANAGEMENT

7.9.1. Flooding

A flood study was undertaken for the precinct by Bewsher Consulting in April 2010. This report identifies the areas within the local area that are flood affected.

Figure 36 – Flood Map, Bewsher Consulting (2010) approx. site location indicated by red star



The flood mapping shows that Lots 104 and 105 are not flood impacted. The site is located at the high point of the Lachlan's Line site and is at the crest of the stormwater catchment meaning that no upstream catchments impact on the development. As the site is not flood affected the proposed development will not impact on existing flood extents.

Wood & Grieve Engineers were commissioned by the Applicant to prepare a Stormwater Management Plan (SMP) in support of the development application for proposed development of Lots 104 and 105. The SMP outlines the conceptual stormwater design and demonstrates the application of Water Sensitive Urban Design (WSUD) principles in accordance with the Ryde City Council Standards and Guidelines for stormwater, Australian Rainfall and Runoff, Australian Standards and best engineering practise.

The SMP has specifically addressed the following potential impacts for both the construction and operational phases of the development:

- Stormwater runoff volumes and detention (Stormwater Quantity);
- Stormwater quality treatment measures (Stormwater Quality);
- Erosion and Sedimentation Control.

7.9.2. Stormwater runoff volumes and detention

The North Ryde Station Precinct – M2 Site Stormwater Management Plan for the precinct confirms the following design capacities required for the conveyance of stormwater runoff across the site:

“A major/minor storm drainage philosophy has been adopted for the M2 Site. The minor design storm considered is the 20 year ARI and will be conveyed in stormwater drainage pipes. The major storm event is the 100 year ARI, with excess stormwater runoff safely discharging within the roads and overland flows paths.”

The North Ryde Station Precinct – M2 Site Stormwater Management Plan for the precinct indicates which sites require on site detention. The report confirms that both Lots 104 and 105 can be fully developed without the requirement to provide onsite detention.

7.9.3. Stormwater quality treatment measures

The North Ryde Station Precinct – M2 Site Stormwater Management Plan for the precinct indicates that water quality treatment will be required for both lots.

In order to achieve the pollutant reduction targets specified in the SMP a series of treatment devices are proposed which together form a treatment train. In order to demonstrate that the proposed treatment train meets the required reduction targets, pollutant reduction modelling is proposed using the Model for Urban Stormwater Improvement Conceptualisation (MUSIC) Software program.

A number of management measures have been considered with a focus on reducing polluted runoff volumes from the site. The WSUD principals proposed for stormwater treatment includes the following SQID's:

- Rainwater Tanks
- EnviroPod Pit Inlet Filters
- Stormfilter Units

The effectiveness of the treatment devices proposed in the above section has been modelled using MUSIC with the overall treatment train efficiency results.

From the results presented it can be seen that the proposed SQID's mean that the stormwater quality treatment meets with the reduction targets set for the development.

7.9.4. Erosion and sediment controls

Landcom have published a design guide entitled “Managing Urban Stormwater - Soils and Construction” which is regarded as the standard to which erosion and sedimentation control should be designed to within NSW. Ryde City Council specifies compliance with the Landcom design guide in their Development Engineering Standards.

The control of erosion and sedimentation describes the measures incorporated during and following construction of a new development to prevent the pollution and degradation of the downstream watercourse.

A Soil and Water Management Plan was prepared as part of the development application documentation.

Common control measures adopted are:

- Sedimentation fences
- Sedimentation basins
- Stormwater drainage inlet protection;
- Overland flow diversion swales;

- Shaker Grids and wash downs for vehicles leaving the construction site;
- Dust control measures.

The maintenance of these control measures throughout their intended lifespan will ensure that the risk of erosion and sedimentation pollution of the downstream watercourse will be minimized.

7.10. SOCIAL AND ECONOMIC IMPACTS

7.10.1. Mixed Use development and community facilities

The proposed development integrates a mix of housing, retail and community uses in a highly accessible location. Many of the daily needs of residents will be provided at Lachlan's Line, including a range of retail tenancies including a full line supermarket, a medical centre and other speciality shops. New publicly accessible open spaces are proposed which, provide opportunities for different events, functions and uses such as markets, which create public gathering opportunities, and create the opportunities for social interaction.

The proposed mixed use development of Lots 104 and 105 will have the following positive social impacts:

- The mix of retail, community and high density residential uses, will make Lachlan's Line a vibrant place with people around;
- Creates a 'community heart' that has a variety of different uses and activities during the day and at night.
- The mix of uses brings a variety of activities that create a lively community and encourage social interaction.
- The publicly accessible spaces encourage people to socialise, for example, seating and viewing areas, places to eat and drink and places to place in, explore and relax.

7.10.2. Housing mix and affordability

The proposed development is considered to make a positive impact on housing choice and affordability in the locality, consistent with SEPP 65. Smaller dwellings with a mix of studio, 1, 2, and 3 bedroom units are proposed which provides additional choice to the detached and semi-detached dwellings, which are the predominant housing stock in the Ryde and Lane Cove Local Government Areas.

7.10.3. Crime Prevention Through Environmental Design Guidelines

Urban Social Planning was commissioned by Greenland to undertake a Crime Prevention Through Environmental Design (CPTED) Assessment for the proposed development. The CPTED assessment is an independent specialist study undertaken to identify and analysis potential improvements to design which may help to reduce crime and anti-social behaviour as required in NSW Government best practice guidelines.

As stated by the NSW Government, CPTED aims to influence the design of buildings and places by:

- Increasing the perception of risk to criminals by increasing the possibility of detection, challenge and capture.
- Increasing the effort required to commit crime, by increasing the time, energy or resources which need to be expended.
- Reducing the potential rewards of crime, by minimising, removing or concealing "crime benefits".
- Removing conditions that create confusion about required norms of behaviour.¹

¹ NSW Government Department of Urban Affairs and Planning (now the Department of Planning) *Crime prevention and the assessment of development applications*, 2001

This report assesses CPTED principles against the design of the proposed development. Where crime risks are identified, the report makes recommendations in accordance with professional standards and statutory obligations. The assessment has been informed by a demographic profile, a crime profile, a policy review and consultation with key stakeholders.

The proposed development has been reviewed. Potential safety and security risk areas associated with the development which should be the focus of design mitigations include:

- Spine Street and Epping Road
- Public Plazas
- Entry and exit points (including entry/exit between residential and commercial areas and public and service areas)
- Car parking areas
- Construction areas.

Recommendations in the CPTED Assessment include access control measures (doors, barriers), active surveillance measures (CCTV, security), adequate lighting, adequate wayfinding and security signage, and use of appropriate landscaping and materials and to be adopted in the design development please prior to the Construction Certificate stage.

7.11. WIND

Wind Impact Assessments have been undertaken by Windtech to provide an assessment of the impact of the mixed-use development of Lots 104 and 105 on the amenity of the wind environment in and around the site submitted with the development application. Separate wind impact assessment reports were prepared for each development lot. The findings of the Wind Impact Assessments are provided below:

7.11.1. Lot 104

The results of Lot 104 Wind Impact Assessment indicate that the subject development will benefit from shielding provided by other proposed buildings in the precinct, especially for the lower levels. Some areas of the development may be exposed to strong winds, and hence the following treatments are suggested:

- *Retention of the proposed tree planting scheme on the Ground Level, especially around the corners of the building.*
- *Additional tree planting is recommended on the ground floor to the north of Block M and north corner of medical centre.*
- *Addition of awnings over the ground level at the north-eastern corners of the development.*
- *Addition of localised screening in the seating areas in Lachlan's Square Plaza.*
- *Retention of the proposed tree planting on podium terrace, especially near the south-western aspect of the development adjacent to either side of Blocks L4 and L5.*
- *Additional tree planting is recommended on the podium terrace to the south-western aspect of the development adjacent to either side of Blocks L4 and L5.*
- *Retention of impermeable balustrades and privacy screens between adjacent private terraces and balconies.*
- *Addition of full-height end screens or wintergardens on the north-eastern corner balconies and southern corner terraces.*
- *Addition of screens, or strategic landscaping, on the southern-western corner terraces.*

7.11.2. Lot 105

The wind impact assessment for Lot 105 found that some areas of the proposed development may be exposed to strong winds, and hence the following treatments were suggested:

- *Retention of the proposed tree planting scheme on the Ground Level, especially around the corners of the buildings and between the two lots.*
- *Additional tree planting is recommended near the corners of the buildings.*
- *Retention of the proposed awnings, ensuring that the awning is connected to the soffit above.*
- *Additional awnings at the corners of the development, ensuring that the awning is connected to the façade of the soffit above.*
- *Retention of impermeable balustrades and privacy screens on the balconies.*
- *Addition of full-height end screens on all exposed corner balconies, or replace with wintergardens.*

With the inclusion of the recommended treatments in the final design of the development, it is expected that suitable wind conditions will be achieved for all outdoor trafficable areas within and around the Lots 104 and 105 developments. Furthermore, the development was found not to have any further adverse impact onto the wind conditions for the local surrounding area.

7.12. TRAFFIC, TRANSPORT, PARKING AND ACCESS

An assessment of traffic and transport impacts has been prepared by ARUP and is included with the original development application. The assessment examines the following aspects of the proposal:

- The suitability of the proposed vehicular access arrangements.
- The adequacy of the proposed off-street parking provision.
- The proposed parking layout with respect to internal circulation and vehicle manoeuvrability.
- The proposed internal site servicing and loading arrangements.
- Construction traffic impacts

The key issues of the Internal Traffic Assessment are discussed in the following sections.

7.12.1. Vehicle Access and internal circulation

The following vehicle access is proposed to the development site:

- Retail car park – entry and exit from Spine Road to Lot 104 and Lot 105 via a vehicle driveway crossings.
- Residential car park – entry and exit from Spine Road Street via two vehicle crossing adjacent to the southern boundary of the site.
- Loading and servicing – entry to the loading dock from Spine Road via a two way driveway.

The proposed vehicle strategy for the development to ensure optimum safety, efficiency and convenience has been as follows:

- Separate vehicular access for trucks and cars to minimise traffic conflicts.
- Loading trucks, waste vehicles and service vehicle ingress and egress positioned to Spine Road to minimise impact on Jarvis Circuit and high volume pedestrian frontages.

The design of the entry driveways, the internal circulation paths they provide access to, and the arrangement of additional infrastructure – such as intercoms, turntables and boom gates at specified access points, has been found to comply with AS 2890.1, AS2890.2 and AS2890.6. Swept path analysis of relevant on-site manoeuvring areas has confirmed its satisfactory operation.

It is noted that the overall operation of site servicing and loading is proposed to be managed through a Site Servicing Management Plan to be developed for the proposal. This is proposed as a condition on any consent granted.

7.12.2. Parking

The NRSP DCP sets maximum car parking rates specific to the North Ryde Station Precinct to optimise the use of public transport and reduce travel demand.

The proposal complies with the residential parking rates. The Traffic and Parking Assessment by Arup proposed additional car parking for the retail uses is appropriate for the a large scale mixed use development and the provision of no residential visitor parking is also considered acceptable as resident visitors will have access to retail parking spaces. The car parking provision has been assessed such that the development will not alter the overall traffic generating capacity of development that was assumed at the time of the staged development consent SSD_5093 for mixed use development. Further, the car parking areas are provided within basement levels and appropriately concealed from surrounding streets.

It is noted that the proposed 12 car share spaces are provided off-street based in accordance with Council's requirements.

7.12.3. Servicing and loading

The proposal includes 6 loading bays for all proposed uses. An additional loading bay for waste collection area is provided within the basement.

The servicing requirements for the residential component are specified as maximums within the DCP and therefore the proposal to not provide any residential bays is consistent with the DCP controls. The Traffic Assessment finds that the 6 loading spaces within the shared loading dock provides adequate capacity for dual use by both the retail and residential components. On this basis the serving and loading of the proposed development is considered to be sufficient and appropriate for the development.

7.13. SERVICING

An assessment of the servicing requirements of the site has been undertaken by Wood & Grieve Engineers and Northrop Consultants. The assessments considered the servicing requirements for the development, including:

- Mechanical Services (Heating, Ventilation and Air Conditioning).
- Electrical Services (Supply, reticulation, lighting, power, voice and data cabling, access control, and MATV).
- Vertical Transport (passenger, goods and machine room lifts, moving walks and escalators).
- Hydraulic Services (Stormwater / rainwater, sanitary plumbing, sewerage, trade waste, domestic hot and cold water, gas, fire hydrant and hose reels).
- Fire Protection (Sprinklers, Fire + Smoke Detection, OWS and portable fire extinguishers).

In summary of the assessments, the proposed redevelopment of the site can be appropriately serviced to meet the servicing, safety and capacity requirements for the proposed operations on site.

7.14. ECOLOGICALLY SUSTAINABLE DEVELOPMENT

An Ecologically Sustainable Development (ESD) Report prepared by Cardno is provided with the original development application and identifies suitable sustainability initiatives that may be employed throughout the design, construction and ongoing operation of the proposed development. The report has been prepared with regard to the following:

- Schedule 2, Clause 7(4) of *Environmental Planning and Assessment Regulation 2000*
- State Environmental Planning Policy (BASIX)
- Ryde Local Environment Plan 2014
- North Ryde Station Precinct Development Control Plan (DCP) 2013

The Ecologically Sustainability of the proposed development has been assessed against the provisions of SEPP BASIX and Section J of the Building Code of Australia and the requirements of NABERS.

The BASIX assessments undertaken for the amended proposal by Wood & Grieves Engineers and to be provided to Council under separate cover to confirm the proposed development is capable of exceeding the minimum requirements of SEPP BASIX.

New BASIX certificates were to be provided for the amended proposal under separate cover.

7.15. VOLUNTARY PLANNING AGREEMENT (VPA)

Development Consent for SSD_5093 required that a Planning Agreement be entered into between the Developer (UrbanGrowth NSW) and Council prior to Stage 2 Development Applications is lodged with Council. The draft Voluntary Planning Agreement (VPA) is to provide community benefits in the form of open space, recreation, public art, roads and a community facility. The VPA was placed on public exhibition from 1 June 2016 and executed in October 2016.

The VPA requires that the purchaser of Lot 104 design, construct and fit out a Community Facility with a gross floor area of 2,500m² in accordance with the Community Facility Brief prepared by City of Ryde Council. The Community Facility is to have a value of \$7.8 million. The community facility is required to be Practically Completed prior to the dedication of the Community Facility Land.

Under the provisions of the VPA the Developer must ensure that the Community Facility Work is designed so that its cost does not exceed the Community Facility Budget, is prepared in accordance with the Community Facility Brief, the Staged Consent and the provisions of this draft VPA, and include car parking to service Council's proposed use of the Community Facility.

The community facility of 2500m² on Lot 104 is part of this development application.

7.16. SITE SUITABILITY

In accordance with the matters for consideration under Section 79C of the Act, an assessment of the site suitability has been carried out.

The assessment concludes that the site is highly suitable for the proposed development for the following reasons:

- The proposed development is permissible in the B4 Mixed Use Zone of the RLEP 2014, and fully complies with the relevant built form standards, including building height and floor space ratio which were adopted for the site in 2010;
- The proposed development is appropriate for the site's central location within the heart of the North Ryde Station Precinct and has excellent access to nearby transport and public recreation services. New retail centre is being provided as part of the development proposal, which will provide future residents of the site with convenient access to shopping needs. The community facility provides a civic use within the development for community gathering as well as private functions;
- The proposal responds to an identified need for retail space with the North Ryde area and is a readily accessible location for both public and private transport;
- Existing infrastructure is either sufficient for the proposed works or can be easily augmented to support the proposal; and

- The proposed development has been designed generally in accordance with the site-specific controls which apply to the site. Where the proposal departs from the Council's controls, it has been demonstrated that the proposal still achieves the objectives of the controls.

7.17. PUBLIC SUBMISSIONS

No submissions regarding the amended development application have been made at the time of writing this SEE. Council will notify the development application.

7.18. THE PUBLIC INTEREST

Urbis consider the proposed development is in the public interest as the [proposal will have a number of important positive economic and social impacts. These are listed below:

Economically:

- The proposed construction of a new retail central and community facility will generated employment opportunities for the Ryde community;
- The neighbourhood retail centre of the proposed development are consistent with the demand identified for the Ryde area in the retail economic impact assessment prepared for the rezoning of the site will contribute to the maintenance of a competitive economy.
- Local residents will be provided with a wider range of retail facilities, conveniently located within walking distance of residential areas in North Ryde and the eastern parts of Macquarie Park employment precinct. The extension of choice will also promote greater competition, with possible benefits in terms of keener prices and better quality.

Socially:

- A new permeable and active pedestrian plazas in Lachlan's Square and Laura's Place located with the height of the mixed use precinct;
- Improved pedestrian and bicycle access is to be available via a pedestrian bridge, which has been approved by the Minister for Planning (ref: Consent SSD_5093);
- Increased opportunity for residential living in North Ryde in a range of dwelling sizes suited to be proximity of the site to public transport services and tertiary education institutions, retail and commercial employment opportunities; and
- Reduced dependency the on car for travel via provision of alternative forms of transport including the free community shuttle bus, bicycle storage and end of trip facilities, and car share car parking spaces provided within the development and implementation of a Green Travel Plan.

8. CONCLUSION

The purpose of this amended Statement of Environmental Effects has been to:

- Present the proposed development of Lots 104 and 105 at Lachlan's Line, amended in response to the SNPP Deferral Notice; and
- Provide a detailed assessment of relevant matters of consideration having regard to the provisions of Section 79C of the *Environmental Planning & Assessment Act 1979*.

The proposed development has been assessed against Council's planning policies and is considered to be generally consistent with these provisions. Where the proposal departs from the Council's controls, it has been demonstrated that the proposal still achieves the objectives of the controls.

The compelling reasons why a positive assessment and determination of the project should prevail are summarised below:

- **The amended proposal responds positively to the site conditions and the surrounding built environment.** The design has been formulated having close regard to the desired character for the site conditions, views, solar access and the surrounding built form;
- **The amended proposal, demonstrates an improved urban design and planning outcome,** having regard to a range of considerations, including:
 - Improved urban design response with increased variation in the heights of the proposed 8 buildings;
 - Improved solar access to proposed apartments overall and some of the major communal open spaces on Lot 104; and
 - Minimises additional overshadowing impacts of surrounding public open spaces and residential properties outside of the precinct.
- **Act as a catalyst for the renewal of the North Ryde Station Precinct;**
- **Reinforce Macquarie Park as a Strategic Centre** through the provision of a high quality architecturally designed development;
- **Proposes residential dwellings that are highly liveable.**
- **Proposes a mix of non-residential uses that are compatible and complementary with the objectives and vision for the Mixed Use Precinct,** establishing early in the development of Lachlan's Line a vibrant main street retail precinct.
- **Promote sustainable transport initiatives** – public transport, walking, care share and cycling.
- **Realise a number of public benefits through the satisfaction of the VPA** including a 2500m² community facility.
- **Includes the provision of two new publicly accessible plazas spaces:** 'Lachlan's Square' and 'Laura's Place', which will improve connectivity and permeability within the locality and be functional and useable urban spaces for the local community.

Having considered the SNPP Deferral Notice and all the relevant considerations under Section 79C of the EP& Act 1979, we conclude that the amended proposal represents a sound development outcome that respects and responds to the prominent site location and the amenity of surrounding developments. The proposal therefore is considered well-worthy of Council support and ultimately approval from the SNPP.

DISCLAIMER

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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.

APPENDIX A

SNPP RECORD OF DEFERRAL

APPENDIX B

CLAUSE 4.6 REQUEST – HEIGHT OF BUILDINGS

APPENDIX C

CLAUSE 4.6 – FLOOR SPACE RATIO

APPENDIX D SOLAR ACCESS REPORT

APPENDIX E

LOT 104 AMENDED ARCHITECTURAL DRAWINGS

APPENDIX F

LOT 105 AMENDED ARCHITECTURAL DRAWINGS

APPENDIX G LOT 104 AND 105 DESIGN STATEMENT

APPENDIX H ECOLOGICAL ADVICE

APPENDIX I SHADOW DIAGRAMS



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