Request to Prepare a Planning Proposal

Nos. 366-372 Lane Cove Road, Nos. 124a & 126
Epping Road & No.1 Paul Street, North Ryde

February 2015

urbis

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Appendix A Survey

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OVERVIEW

This report has been prepared on behalf of *Franpina Developments Pty Ltd* to initiate the preparation of an amendment to the *Ryde Local Environmental Plan 2014* (RLEP 2014). The amendment relates to Nos. 366-372 Lane Cove Road, Nos. 124A & 126 Epping Road and No. 1 Paul Street, North Ryde and would result in the following:

- A change in zoning from R2 Low Density Residential to B4 Mixed Use;
- An increase in the maximum allowable building height from 9.5m to 44.5m (12 storey equivalent);
- An increase in floor space ratio (FSR) from 0.5:1 to 2.5:1.

The proposed density for the subject site will facilitate additional residential and employment development close to public transport, infrastructure and services. It will also result in a built form that addresses the site's prominent corner location.

This report has been prepared to assist the City of Ryde Council to prepare a Planning Proposal for the LEP amendment of the site in accordance with Section 55 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This report has been prepared in accordance with the NSW Department of Planning and Infrastructure's '*A Guide to Preparing Planning proposals'*.

SITE AND SURROUNDING AREA CONTEXT

The subject site is an irregular parcel of land with a large consolidated area of 6,654m² (refer to Survey attached at **Appendix A**). The site is within the suburb of North Ryde, which is in close proximity to medical services, education, parks, commercial buildings, mixed use retail, commercial and residential buildings and low density residential uses. The site is also located within approximately 400m of Macquarie Park Station and North Ryde Station, as well as bus stops on Epping and Lane Cove Roads.

SECTION 3 - STRATEGIC CONTEXT

Under *A Plan for Growing Sydney*, Macquarie Park is identified as a Strategic Centre within the global economic corridor. The focus of Strategy is retaining Macquarie Park as a commercial core. The proposal will locate new dwellings south of Epping Road to enable concentration of office development within the Strategic Centre and tackle potential land use conflicts arising from residential intrusions into commercial cores.

The *Draft Inner North Subregional Strategy* highlights an employment capacity target of 21,000 jobs additional jobs by 2031 a residential target of 12,000 new dwellings for the Ryde LGA. The Strategy also identifies Macquarie Park as a Specialised Centre. Most of centre has been reserved for employment lands. In doing so the potential for housing development is limited. The proposal provides an opportunity to increase housing without impact on the employment land in the centre.

SECTION 4 - LOCAL PLANNING FRAMEWORK

The Ryde Local Environmental Plan 2014 (RLEP 2014) is the principal Environmental Planning Instrument governing and guiding development within the Ryde LGA and was gazetted 9 September 2014. The subject site is zoned R2 Low Density Residential under the RLEP 2014. Under the LEP, dwellings, dual occupancies and health consulting rooms are permitted with consent. However, residential flat buildings, shop top housing and health services facilities (medical centres) are prohibited uses. The existing medical centre is therefore a prohibited use and would rely on existing use rights for any future development. The existing medical centre creates an anomaly in the land use planning for Ryde.

SECTION 5 - PLANNING PROPOSAL OVERVIEW

A Preliminary Concept Design has been prepared by Bates Smart for the potential redevelopment of the Franpina Developments landholdings (separately submitted). Some key features of the Urban Design Strategy include:

- A maximum building height of 12 storeys with massing towards the Epping Road and Lane Cove Road intersection to properly address the corner location and to be consistent with taller buildings to the north. Heights step down to the south, west and south west corner to transition to the lower density residential zone.
- A GFA of 16,643m², which equates to an FSR of 2.5:1.
- Redevelopment will provide 180 new dwellings with a residential GFA of 15,539m².
- The corner of Epping and Lane Cove Road will accommodate 1,104m² of retail/commercial/medical uses. These uses will activate the street levels and cater for the new population near transport nodes and provide opportunities to work closer to home.

SECTION 6 - PLANNING PROPOSAL OUTCOMES

In summary, the site will achieve the following key planning outcomes:

- Consistency with State Government policy to encourage growth within existing centres.
- Consistency with State government housing targets.
- Sound planning practice and sustainable transport focused development.
- Timely delivery of the redevelopment of the site as it is under one ownership.
- A high quality mixed use development that successfully integrates with the emerging context.
- Appropriate built form on a prominent corner location.
- Improved pedestrian safety by reducing the number of vehicle crossings.
- Street activation to encourage pedestrian activity and vibrancy.
- Landscape opportunities for well-considered landscape areas, communal open spaces and deep soil planting.

Overall, it is considered that the proposal will have significant benefits for the community and is in the public interest.

SECTION 7 - THE PROVISIONS TO BE INCLUDED IN THE PROPOSED LEP

The proposal seeks the following amendments to the RLEP 2014 provisions, in accordance with the Maps in **Appendix B**:

- **Zoning:** Change the zoning of the site from R2 Low Density Residential to B4 Mixed Use.
- **Height of buildings**: Change the maximum height of the buildings from 9.5m to 44.5m.
- **Floor space ratio**: Change the maximum FSR from 0.5:1 to 2.5:1.

SECTION 8 - JUSTIFICATION FOR THE PLANNING PROPOSAL

In accordance with the NSW Department of Planning and Infrastructure's *A Guide to Preparing Planning Proposals*, the Planning Proposal is justified on the following grounds:

- It is a result of the City of Ryde Local Planning Study, which identifies the subject site within an area designated for future planning investigation. The Planning Proposal is also consistent with the draft North Subregion, which identifies a future urban renewal investigation corridor along Lane Cove that will affect the subject site.
- It is the best means of achieving the objectives and intended outcomes. The purpose of the Planning Proposal is to enable the development of high density mixed use to occur on the site. To achieve this, amendments to the zoning and development standards that apply to the site are needed.
- It is consistent with the objectives and actions of *A Plan for growing Sydney,* the *North Subregional Strategy* and the *draft Inner North Subregional Strategy*.
- It is consistent with Council's Local Planning Study and the State Government's Metropolitan Strategy and draft Subregional Strategies.
- It is consistent with the applicable State Environmental Planning Policies.
- It is consistent with applicable Ministerial Directions (s.117 directions).
- There is no critical habitat or threatened species, populations or ecological communities, or their habitats, that will be affected as a result of the proposal.
- It is not likely to have any significant environmental impacts. Where an impact may occur it has been mitigated by appropriate siting, layout and scale. Design measures will be incorporated into future buildings to further mitigate against environmental impacts. The proposal is considered appropriate in terms of flooding, traffic, parking, overshadowing, solar access, cross ventilation, privacy, sustainability and noise.
- It will have positive social and economic effects on the local community and wider Ryde LGA.
- There is adequate public infrastructure or opportunities to provide infrastructure to support the planning proposal

SECTION 9 - MAPPING

Draft height and FSR maps are attached at **Appendix B**.

SECTION 10 - COMMUNITY CONSULTATION

It is anticipated that the public exhibition would be notified by way of:

- A public notice in local newspaper(s).
- A notice on the City of Ryde Council website.
- Written correspondence to adjoining and surrounding landowners.

SECTION 11 - PROJECT TIMELINE

It is anticipated that the LEP amendment will be completed within 12 months from February 2015 to December 2015.

CONCLUSION

Following our analysis of the site and its surrounding context and the applicable State and local planning policies, we are of the view that there is clear planning merit to the Planning Proposal. It is therefore recommended that this Planning Proposal be favourably considered by the City of Ryde Council and that Council resolve to forward it to the Department of Planning and Environment for Gateway Determination in accordance with the *Environmental Planning and Assessment Act, 1979* to prepare the necessary LEP amendment.

Introduction

1.1 OVERVIEW

This Planning Proposal has been prepared by Urbis on behalf of *Franpina Developments Pty Ltd* ("the applicant") to initiate the preparation of a Local Environmental Plan (LEP) to rezone land and increase the density at Nos. 366-372 Lane Cove Road, Nos. 124A & 126 Epping Road and No. 1 Paul Street, North Ryde ("the site").

The Planning Proposal will seek to rezone the subject site from R2 Low Density to B4 Mixed Use to permit residential flat buildings, retail, commercial and medical centres. The rezoning will be accompanied by an increase in height and FSR to 44.5m (12 storeys equivalent) and 2.5:1, respectively.

The site is zoned R2 Low Density Residential under the *Ryde Local Environmental Plan (LEP) 2014*. Under the R2 zoning, dwellings are permitted with consent. Medical centres are prohibited. The current zoning results in a planning anomaly where an existing use is prohibited in the zone.

The site is a large land holding under single ownership with a site area of 6,654m². The large consolidated land holding makes it ideal for redevelopment for the purposes of higher density residential and commercial/retail.

The site is located in a very strategic location, being in close proximity and accessible to Macquarie Park, which is one of Sydney's largest employment areas and rapidly developing high density residential living area. The site is located within close proximity of Macquarie Park Station, Macquarie University and the Macquarie Park Shopping Centre. The proposal will contribute approximately 180 new dwellings and will encourage working closer to home initiatives.

1.2 STRUCTURE OF THE REPORT

The Planning Proposal has been prepared in accordance with Section 55 of the *Environmental Planning and Assessment Act 1979* (the EP&A Act) and the relevant guidelines prepared by the NSW Department of Planning and Infrastructure including *A Guide to Preparing Local Environmental Plans* and *A Guide to Preparing Planning Proposals*. It includes the following:

- Description of the subject site and it's context;
- An overview of the strategic context of the site;
- A summary of the local planning controls;
- An overview of the key elements of the Planning Proposal;
- Statement of the objectives and intended outcomes of the proposal;
- Explanation of the provision of the proposal;
- Justification for the proposal;
- Mapping to accompany the proposal;
- Description of the community consultation process expected to occur regarding the proposal; and
- An approximate project timeline.

The Planning Proposal is accompanied by a range of plans and reports to provide a comprehensive analysis of the site opportunities and constraints. These include:

- Survey prepared by Craig & Rhodes;

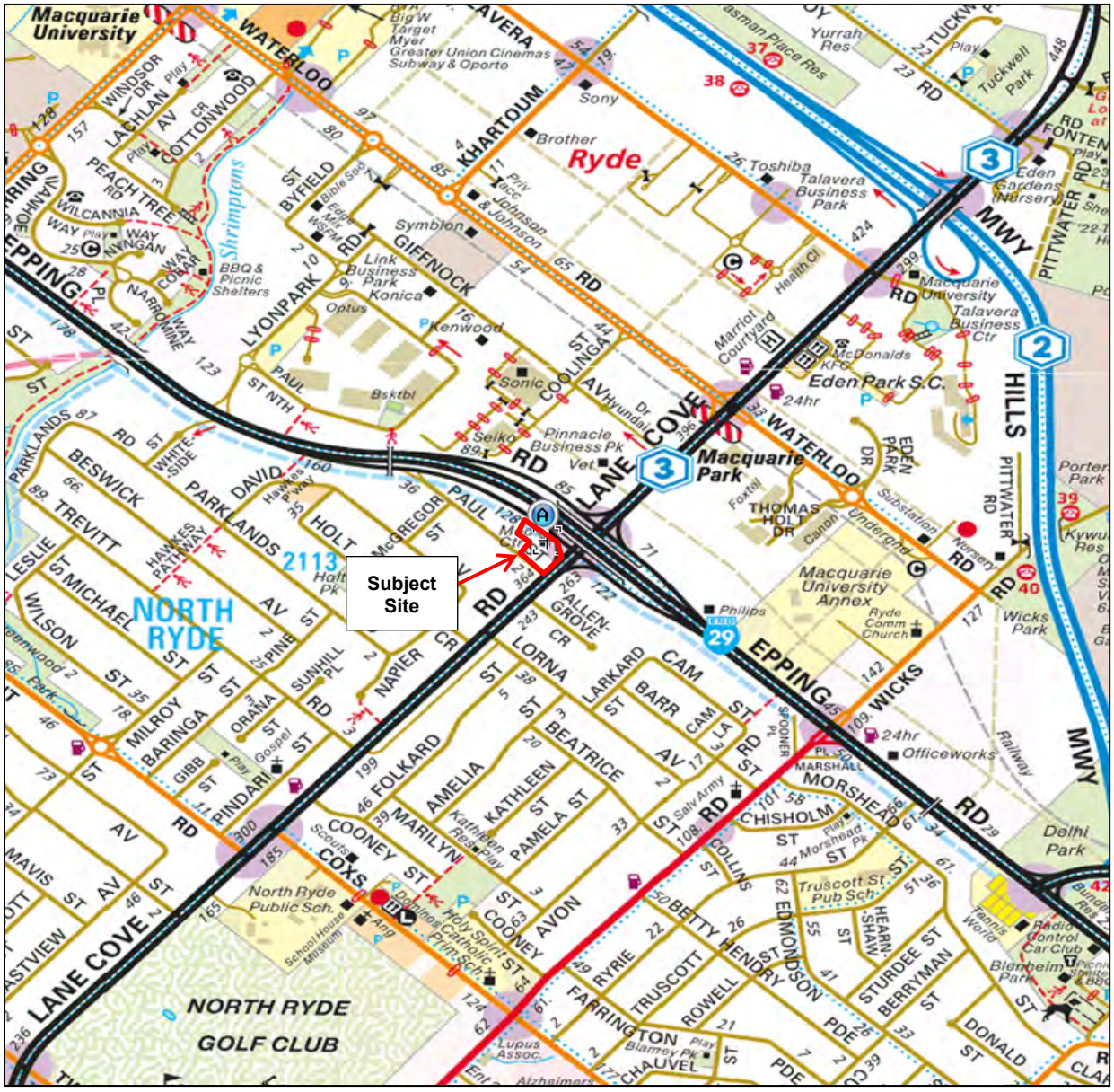
- Preliminary Concept Design and 3D massing model prepared by Bates Smart;
- Shadow diagrams prepared by Bates Smart;
- Preliminary SEPP 65 and RFDC Assessment prepared by Urbis;
- Indicative Site Landscape Plan prepared by Arcadia;
- Traffic and Parking Assessment prepared by GTA;
- Flood Study prepared by Northern Beaches Consulting Engineers Pty Ltd;
- Preliminary Site Investigation prepared by Environmental Earth Sciences; and,
- Preliminary stormwater Drainage Concept prepared by Northern Beaches Consulting Engineers Pty Ltd.

2 Site and Surrounding Area Context

2.1 THE LOCALITY

The site is located in the suburb of North Ryde in the City of Ryde Local Government (LGA), within the Inner North subregion. North Ryde is located 15km north west of the Sydney CBD. The suburb is one of Sydney's major business districts and is in close proximity and highly accessible to the education precinct and commercial centre of Macquarie Park.

FIGURE 1 – SITE LOCATION PLAN



Source: Street-Directory

North Ryde is characterised by a mix of land uses generally including medical services, commercial buildings, mixed use retail, commercial and residential buildings (with a significant number of recently approved mixed use developments currently under construction or soon to be constructed) and low density residential uses (refer to Figure 2 and Figure 3). Key land uses in the vicinity of the site include:

- **Shopping:** The site is approximately 800m walking distance to local convenience shopping on Avon Road, which includes a restaurant, computer shop, real estate agency, gym and convenience store. The regional Macquarie Shopping Centre is approximately 1km from the site.

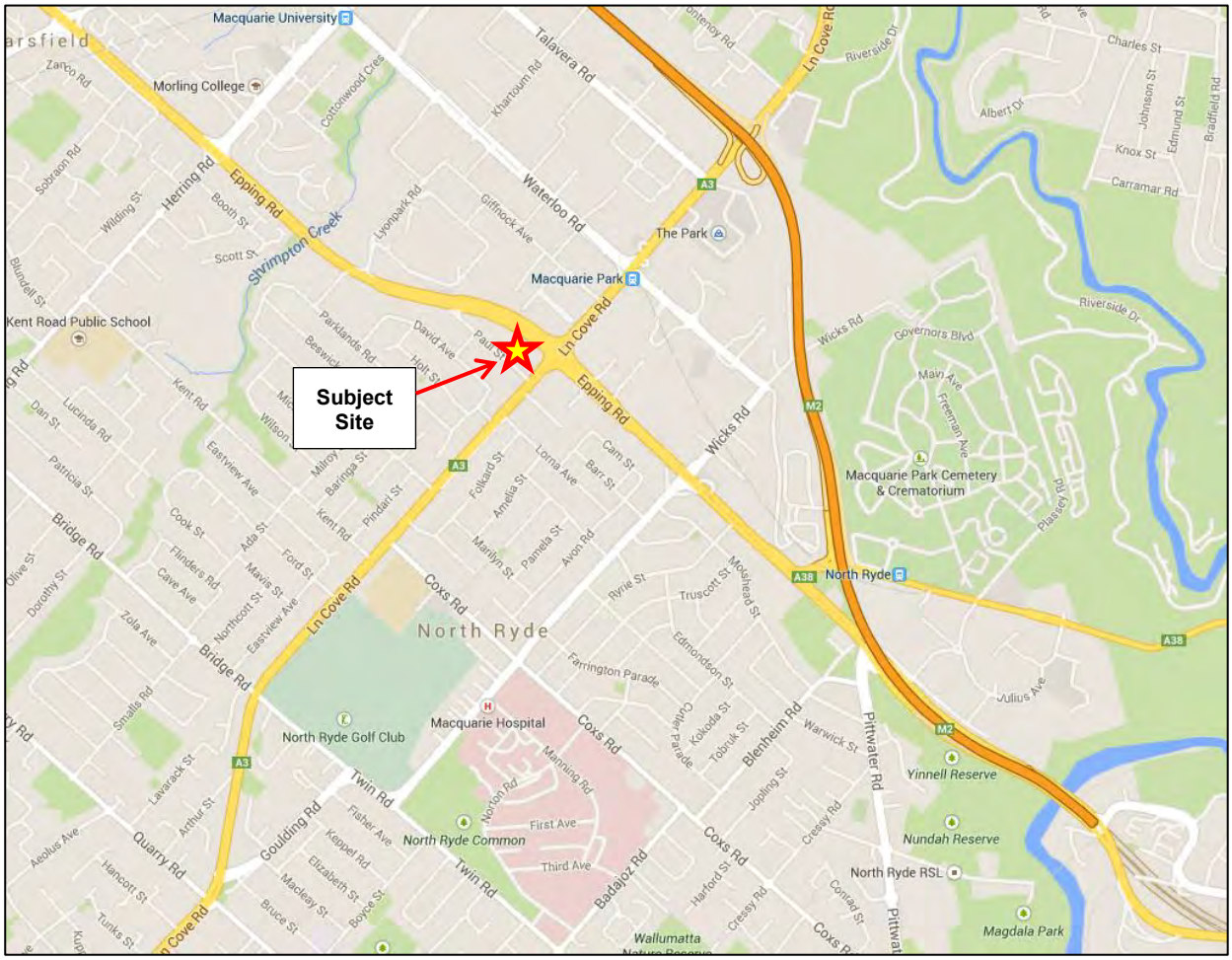
- **Education:** There are a number of schools in the local area including North Ryde Public School and Holy Spirit School located approximately 600m – 800m south of the site and Kent Road Public School approximately 1.6km to the west of the site. In addition Macquarie University is located approximately 1.6km to the north-west.

- **Medical:** The subject site contains a Specialist Medical Centre. The medical centre offers a comprehensive range of medical services including, General Practice, pharmacy, physiotherapist, dentist and Chinese medicine. The medical centre use will be maintained in the future redevelopment of the site. In addition, the Macquarie Hospital is situated approximately 800m to the south of the site.

- **Parks:** The wider locality contains numerous parkland reserves. A number of pocket parks are located within 600m-800m of the site to the south, south east and west, including North Ryde Common, Greenwood Park and Flinders Park. The site is within 1km of the Lane Cove National Park, which encompasses Mowbray Park, Northern Suburbs Memorial Gardens and Yinnell Reserve. In addition the North Ryde Golf Course is located approximately 1km to the south.

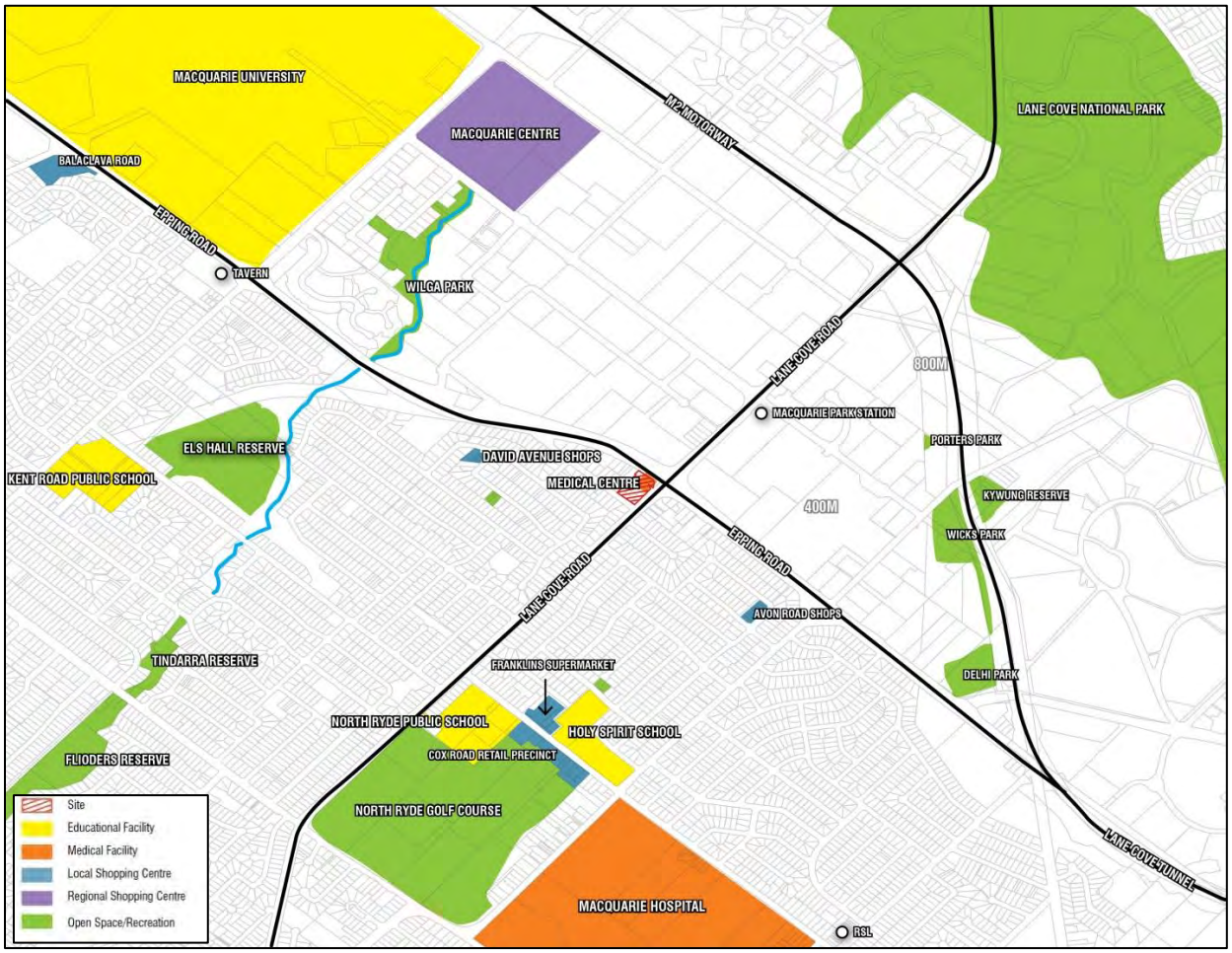
- **Transport:** The property is located within approximately 400m of Macquarie Park Station, which provides connections from Hornsby to the City via Macquarie University service on the T1 North Shore and Northern Line. The site is also within 1.5km of Macquarie University and the Macquarie Park Shopping Centre. Bus stops are located outside the site on Epping and Lane Cove Roads which provide connections between Epping, Macquarie Centre, Marsfield and the city on routes 290, 293, 459, 506 and M41.

FIGURE 2 – LOCAL CONTEXT



Source: Google Maps

FIGURE 3 – LOCAL FACILITIES



Source: Urbis

2.2 SITE DESCRIPTION AND EXISTING BUILT FORM

The subject site comprises Nos. 366-372 Lane Cove Road, Nos. 124A & 126 Epping Road and No. 1 Paul Street, North Ryde (refer to

Figure 4). The address, Lot, DP and use of the land is summarised in Table 1.

The site is an irregular shaped parcel of land with a northern frontage to the Epping Road on-ramp of approximately 75m, an eastern frontage to Lane Cove Road of approximately 95m, a southern frontage to Paul Street of approximately 60m and a western boundary of 95m, providing a total site area of 6,654m² (refer to

Figure 4).

TABLE 1 – SITE DESCRIPTION SUMMARY

ADDRESS	LOT NUMBER	DEPOSITED PLAN	LAND USE
126 Epping Road	Lot 1	DP 1087457	Single storey dwelling with carport
124A Epping Road	Lot 11	DP 1013188	One and two storey specialist medical centre with car park
372 Lane Cove Road	Lot 1	DP 1133943	Single storey brick dwelling

ADDRESS	LOT NUMBER	DEPOSITED PLAN	LAND USE
370 Lane Cove Road	Lot 1	DP 1134150	Single storey brick dwelling
368 Lane Cove Road	Lot 1	DP 1134153	Single storey brick dwelling
366 Lane Cove Road	Lot 1	DP 1134154	Single storey brick dwelling
1 Paul Street	Lot 5	DP 23568	Single storey brick dwelling

FIGURE 4 – AERIAL PHOTOGRAPH

Source: NSW Land and Property Information

2.3 FLOODING

A Flood Impact Assessment and Risk Management Report has been prepared by Northern Beaches Consulting Engineers Pty Ltd (refer to **Appendix C**). The Report notes the subject site is located within the vicinity of overland flow extents (for the 1 in 100 year flood event) of a flood as predicted by the Macquarie Park Floodplain Risk Management Study and Plan. The Report states, inter alia:

> *"It should be noted that Council flood information predicts that the 1% AEP flood extents will inundate part of the development site. These levels vary throughout the development site. Based on the existing site conditions this flood level is envisaged to enter the development site and inundate approximately 60% of the site."*

The report notes that the Preliminary Concept scheme generally meets the requirements of City of Ryde's Development Control Plan (DCP). This is discussed in detail in Section 8.3 of this report.

2.4 CONTAMINATION

A Preliminary Site Investigation has been prepared by Environmental Earth Sciences (**Appendix D**). The Investigation report was prepared to identify the potential for soil and/ or groundwater contamination at the site. The Report states:

> *"The potential sources of site contamination based on our site inspection and historical assessment of site activities are considered to be limited to:*
>
> - *Unverified imported fill material associated with the construction of buildings and concrete paved car parks located at the medical centre facility (No. 374 Lane Cove Rd and No. 124A Epping Rd); and*
> - *Potential asbestos containing material in the residences including the garage structure located at No. 366 Lane Cove Road.*
>
> *There is also potential for localised spills of household chemicals, such as lubricant, coolant, fuel (e.g. for lawnmower/car), however these would be minimal and impact to human and environmental sensitive receptors would be limited."*

Notwithstanding this, the Report concludes that the potential contamination is considered low. A full copy of the Investigation is included at **Appendix D**.

2.5 ACCESS AND PARKING

Two driveways provide access to the medical centre off the Epping Road on-ramp. Each residential dwelling has a separate driveway off Epping Road, Lane Cove Road and Paul Street.

The medical centre provides a total of 35 parking spaces. A vacant parcel of land provides informal parking for an additional 6 vehicles. Each of the dwellings within the subject site provides car parking for up to two vehicles per lot.

On street car parking is provided on both sides of Paul Street. Parking is 2 hour time restricted and there are approximately 41 spaces provided.

Details of car parking are provided in the Transport Impact Assessment prepared by GTA Consultants (**Appendix E**).

2.6 EXISTING CHARACTER AND CONTEXT

The subject site is located on the southern side of Epping Road, which forms a distinct boundary between low density housing to the south-west, and multi-level industrial and commercial development to the north-east. The surrounding area is described as follows:

- **North:** North of Epping Road is Pinnacle Business Park which contains commercial buildings up to eight storeys. The buildings are occupied by companies including Seiko and Sonic. Further north are Macquarie Shopping Centre, Macquarie University and Lane Cove National Park.

- **East:** To the east on the opposite side of Epping Road is a Business Park containing commercial buildings occupied by companies including Foxtel, Canon and Philips. Further east is an annex to Macquarie University, which contains sports field, hockey centre and university buildings.

Further east is the North Ryde Station Precinct along the M2 Motorway and adjacent North Ryde Railway Station. The Precinct is a "Transit Oriented Development" which has direct access to North Ryde Station on the Epping to Chatswood Rail Link. The Precinct will comprise a high density residential precinct, mixed use precinct and station precinct (mixed uses around the station). Significant intensification of employment generating uses is planned in this area.

- **South East:** South east of Lane Cove Road is the Allengrove development at Nos. 1-9 Allengrove Crescent, Nos. 116a-122b Epping Road and Nos. 259-263 Lane Cove Road, North Ryde. The site was granted concept approval by the NSW Land and Environment Court under Part 3A of the EP&A Act 1979 in November 2012 (MP 10_0037). Concept approval was granted for use of the site for residential flat buildings, indicative building envelopes for 7 buildings to a maximum height of 89.25m AHD (five storeys), two basement levels of car parking, road works to support the development and landscaping (refer to Figure 5). The development is currently under construction.

  As part of the Section 34 conciliation process in the Court proceedings, the applicant, *EGC*, submitted amended plans and supporting documentation reflecting a significantly reduced development. The amended plans:

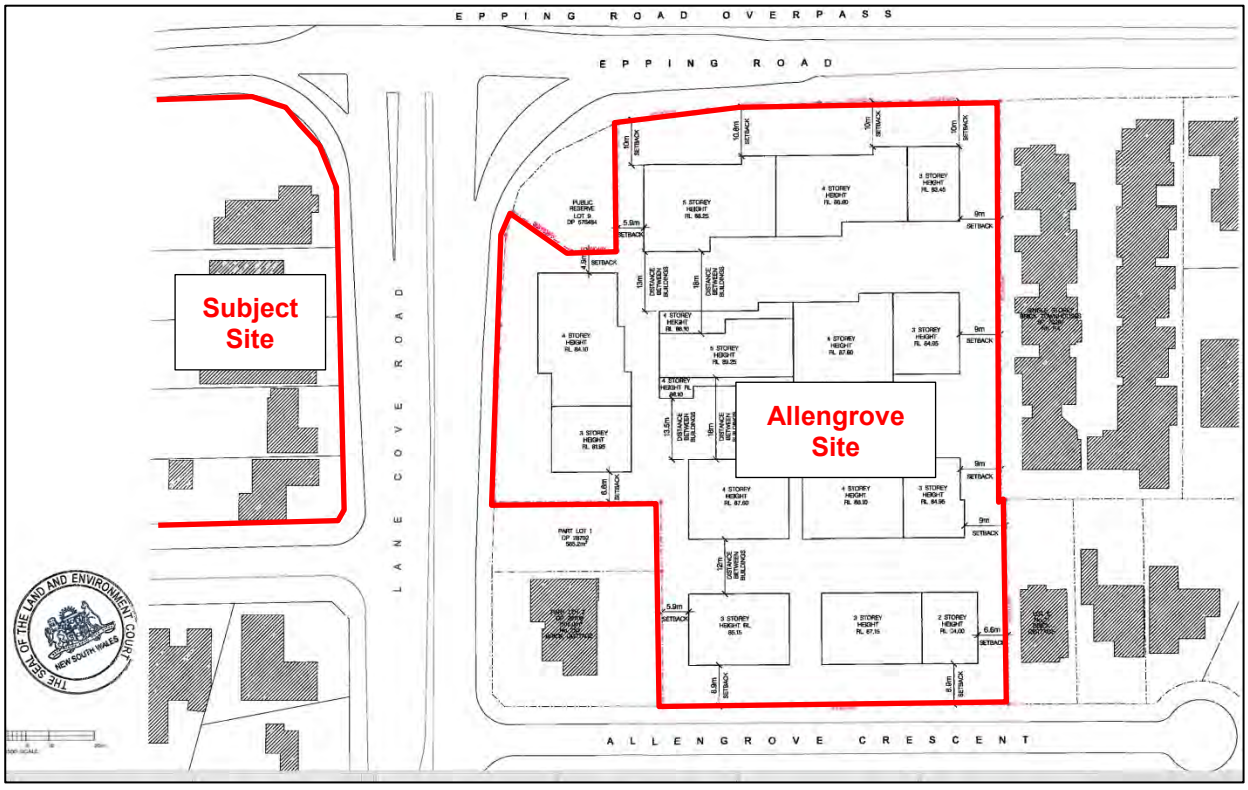
  - Reduced the maximum height of the development from eight storeys to five storeys at the corner of Epping Road and Lane Cove Road, and two to three-storeys fronting Allengrove Crescent. In the Commission's view the reduced heights substantially improved the proposal's relationship to the surrounding development, while minimising amenity impacts on neighbours;

  - Reduced the density and the number of car parking spaces; and

  - Secured reasonable amenity for future residents, subject to any future development application(s) complying with *SEPP 65 – Design Quality of Residential Flat Development* and the *Residential Flat Design Code 2002*.

- **South and West:** To the south and west are predominantly low density detached dwellings interspersed with a number of town-house and duplex developments. Land to the south and west is primarily zoned R2 Low Density Residential under the RLEP.

FIGURE 5 – MP 10_0037 CONCEPT PLAN ENVELOPES



Source: Candalepas Associates, dated 19 August 2012

2.7 DEMOGRAPHICS

There are 10,115 residents in the suburb of North Ryde based on data derived from the 2011 ABS Census statistics. The following provides a brief discussion of the demographic characteristics of North Ryde in comparison with both the Ryde LGA and Sydney Greater Capital City Statistical Area (GCCSA).

2.7.1 AGE

The suburb has an older population and an above average medium age of 41 years and a significantly higher proportion of residents aged 65 years and over (17.2%) than both the Ryde LGA (14.3%) and the Sydney GCCSA (12.9%). In addition, the suburb represents a slightly lower than average percentage of persons that fall into the working age group of 25-54 years (40.7%) compared to the Ryde LGA (44.6%) and Sydney GCCSA (43.9%).

2.7.2 INCOME AND AFFLUENCE

The median household income of North Ryde is $1,604 per week, higher than both Ryde LGA ($1,466) and Sydney GCCSA ($1,447).

2.7.3 HOUSING AND HOUSING TENURE

The majority (83.0%) of dwellings in North Ryde are separate houses. This proportion is significantly higher than the rest of the Ryde LGA (52.8%) and Sydney GCCSA (60.9%). Flats, units or apartments only comprise 5.4% of the dwelling stock in North Ryde, compared to 31.9% across Ryde LGA and 25.8% in the Sydney GCCSA.

Rates of home ownership are high in North Ryde, with 75.3% of residents owning their home outright or with a mortgage, compared to only 62.9% across the Ryde LGA and 65.2% across the Sydney GCCSA.

The average household size is slightly greater at 2.8 persons per household compared to 2.6 persons nationwide. The majority of families in North Ryde are couples with children (53.7%), higher than Ryde LGA (49.1%) and Sydney GCCSA (48.9%).

2.7.4 EMPLOYMENT

Unemployment in North Ryde is relatively low at 4.6% compared to 5.7% in Sydney GCCSA. Employment profiles for the region reflects the prominence of Macquarie University, Ryde and Macquarie Hospitals, Macquarie Technology Centre and Riverside Corporate Park.

In North Ryde 29.0% of residents are employed as professionals, 18.4% as clerical and administrative workers and 13.9% as managers. The top three industries are professional, scientific and technical services, education and training, and health care and social assistance. The proportion of persons employed in blue collar industries, such as construction and manufacturing, are lower in Ryde LGA than Sydney GCCSA, possibly related to housing affordability in the area.

2.7.5 IMPLICATIONS

Given the low rate of multi-unit housing currently provided in North Ryde, combined with the increase in employment in Macquarie Park and the opening of the Epping-Chatswood rail link, demand exists for a greater range of housing options.

2.8 SURROUNDING ROAD, RAIL AND BUS NETWORK

2.8.1 ROAD NETWORK

The subject site has a northern frontage to Epping Road, an eastern frontage to Lane Cove Road and a southern frontage to Paul Street.

- Epping Road in the vicinity of the subject site is a divided two way carriage way carrying three lanes each of traffic in an east to west direction. The west bound on-ramp to Epping Road bounds the site to the north.

- Lane Cove Road in the vicinity of the subject site is a divided two way carriage way carrying three lanes each of traffic in an north to south direction. Parking is located on each side of the road.

- Paul Street is a two way carriage way carrying one lane each of traffic in an east to west direction.

- Epping Road and Lane Cove Road are State roads according to the RMS road hierarchy. Paul Street is a local road.

Further details of the surrounding road network are provided in the Transport Impact Assessment prepared by GTA Consultants (**Appendix E**).

2.8.2 RAIL NETWORK

The subject site is 400m from the Macquarie Park Railway Station to the north. Macquarie Park is serviced by the T1 North Shore and Northern Line, which operates regular and frequent services between Berowra to the CBD via Macquarie University.

2.8.3 BUS NETWORK

The site is well serviced by the regional bus network with bus stops located less than 400m away on Epping and Lane Cove Roads (refer to Figure 6). These bus stops are serviced by Routes:

- 140 - Manly to Epping;

- 290, 292, 293 and 294 -Epping to CBD;

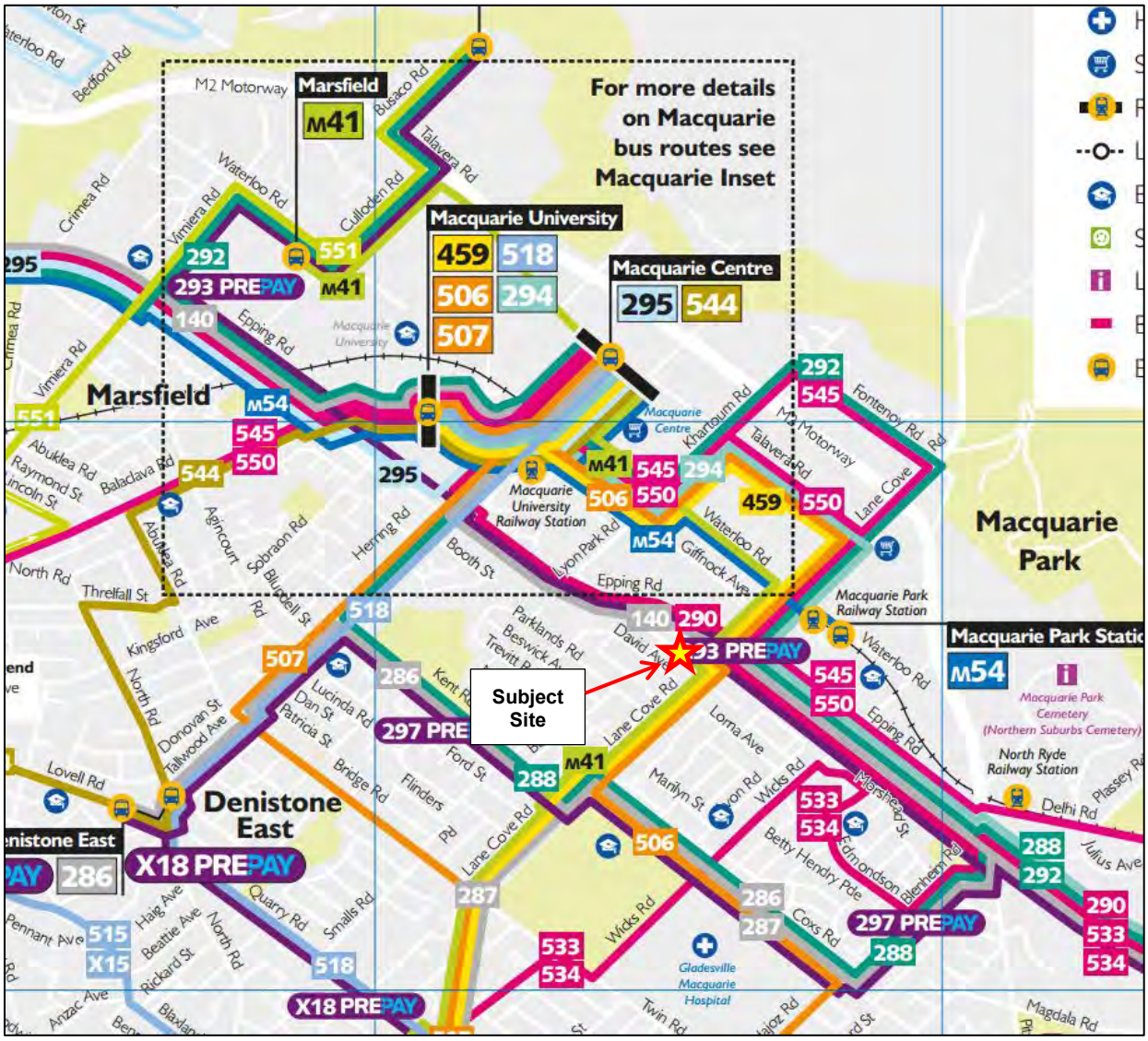
- 458 and 459 - Macquarie University to Burwood;

- 506 - Macquarie University to CBD;

- 545 and 550 - Parramatta to Chatswood; and,

- M41 – Marsfield to Hurstville.

FIGURE 6 – REGIONAL BUS MAP



Source: Sydney Buses

3 Strategic Planning Context

3.1 METROPOLITAN STRATEGY – A PLAN FOR GROWING SYDNEY

A Plan for Growing Sydney is a new plan to guide Sydney's growth and to create a strong global city, a great place to live. Once finalised, it will replace the *Metropolitan Plan for Sydney to 2036*.

The Strategy estimates that there will be approximately 689,000 new jobs across Sydney by 2031, a sign of the growing prosperity of the city. Sydney is growing much faster than ever anticipated in previous strategies and to accommodate the bigger population, 664,000 new homes will be needed.

Once finalised, the Department of Planning and Infrastructure will then develop Subregional Delivery Plans for local areas of Sydney in partnership with communities and local councils. These will replace the Draft Subregional Strategies.

3.1.1 GLOBAL ECONOMIC CORRIDOR

The site is located across Epping Road from the Macquarie Park industrial / technology park. This area is recognised at all levels of government as a critical component of the Global Economic Corridor, which extends from Port Botany and Sydney Airport, through Global Sydney to Macquarie Park. It includes centres such as Chatswood and Bondi Junction, the Strategic Centres of St Leonards and Macquarie Park, four large universities and major health and entertainment precincts (refer to Figure 7).

The strategic economic importance of Macquarie Park has been reinforced by its escalation from a specialised precinct under the previous draft Metropolitan strategy to a Strategic Centre under the current Strategy. Further, its importance is strengthened by the completion of the Epping to Chatswood rail link, including three new railway stations in the Macquarie Park locality. The Metro Strategy describes the Global Economic Corridor as:

> *"The Global Economic Corridor extends from Macquarie Park through the Sydney CBD to Port Botany and Sydney Airport. It generates over 41 per cent of the NSW Gross State Product (GSP). This economic cluster is unique in Australia due to the extent, diversity and concentration of globally competitive industries.*
>
> *Sydney's knowledge jobs are heavily concentrated within the Global Economic Corridor, including sectors such as education, financial and other business services, communications, high-tech manufacturing and emerging industries such as biotechnology. These sectors are at the forefront of innovation in Sydney's economy."*

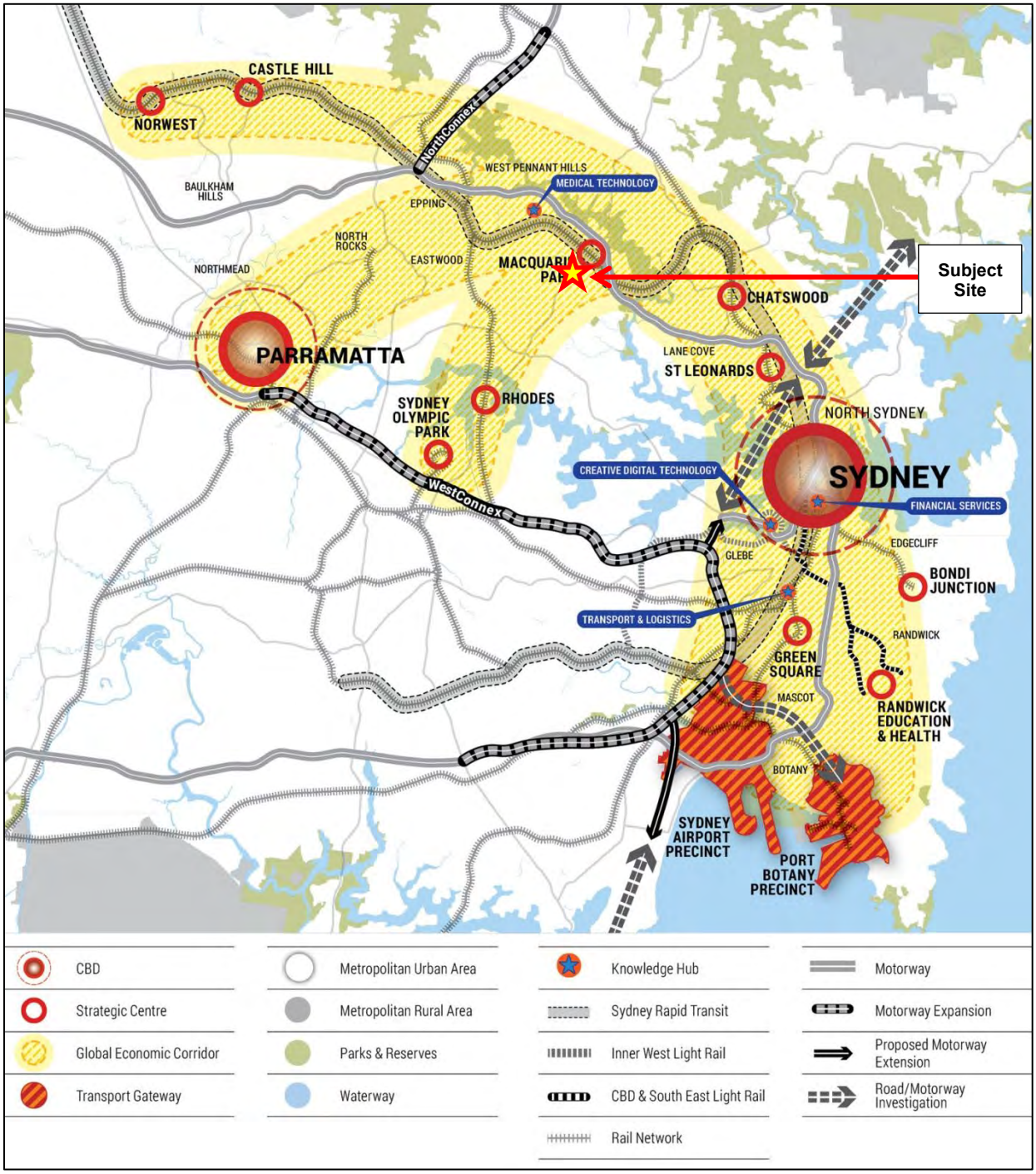
The Strategy estimates that by 2031, there will be demand for around 190,000 new stand-alone office jobs, many of which will be outside the Sydney CBD and North Sydney, in Chatswood, **Macquarie Park**, Norwest, Parramatta, Rhodes, St Leonards, Sydney Olympic Park and South Sydney. Macquarie Park in particular is performing very strongly and is important for Sydney's continued growth.

The Strategy identifies Macquarie Park as a Strategic Centre and includes a medical knowledge hub. One of the key directions of the Strategy is *Direction 1.7: Grow strategic centres – providing more jobs closer to home.* The proposal will assist with growing the Macquarie Park Strategic Centre:

- Locating new dwellings south of Epping Road will enable concentration of office development within the Strategic Centre and tackle potential land use conflicts arising from residential intrusions into commercial cores.
- The intensification of employment generating uses will be accompanied by a demand for housing close to work. The proposal will contribute new housing stock to accommodate additional workers expected in the area.
- The proposal will increase opportunities for people to work closer to home, being in close proximity to Macquarie Park and to public transport at Macquarie University. It will also provide opportunities for workers to access specialist jobs in the medical precinct.

- Being located close to the public transport network will provide many people with direct access to a range of job locations, as well as access to education facilities, health centres and hospitals, and sporting, cultural and entertainment facilities.

FIGURE 7 – GLOBAL ECONOMIC CORRIDOR



Source: A Plan for Growing Sydney

3.1.2 NORTH SUBREGION

The North Subregion includes the Ryde LGA and has the second largest Gross Regional Product, following the Central Subregion. Increases in the supply of housing and jobs will be focused around centres with good public transport, including Macquarie Park. Within the subregion, Macquarie Park is identified as a Strategic Centre. The key priorities for the Centre and a response to each are provided below:

- *Work with council to retain a commercial core in Macquarie Park for long-term employment growth.*

  Response: The focus of the Economic Corridor is to increase jobs in Macquarie Park. The proposal will provide housing in close proximity to the Centre and transport and will accommodate new workers. The location of the subject site means that there is no residential intrusion into the commercial core to maintain the economic importance of the Centre.

- *Work with council to concentrate capacity for additional mixed-use development around train stations, including retail, services and housing.*

  Response: The proposed mixed use development on the subject site will provide retail, commercial and residential uses in proximity to railway stations and bus routes.

- *Facilitate delivery of Herring Road, Macquarie Park Priority Precinct, and North Ryde Station Priority Precinct.*

  Response: Housing targets will be increasing as the population grows. It is unlikely that the above precincts will be able to deliver housing to satisfy targets that are being formulated by Council and the Greater Sydney Commission. The proposal will provide housing support to these precincts.

- *Investigate potential future opportunities for housing in areas within walking distance of train stations.*

  Response: The subject site is located along the Lane Cove Road corridor and is identified within an urban renewal investigation area (refer to Figure 8). The subject site is ideally located to provide housing 400m to Macquarie Park and North Rude Railway Stations, as well as numerous bus routes along Epping and Lane Cove Roads. The proposal presents an opportunity to deliver housing prior to investigations to keep up with housing demand in the area.

- *Support education and health-related land uses and infrastructure around Macquarie University and Macquarie University Private Hospital.*

  Response: The proposal will provide housing choice to support the workers and students of Macquarie University and Macquarie University Private Hospital.

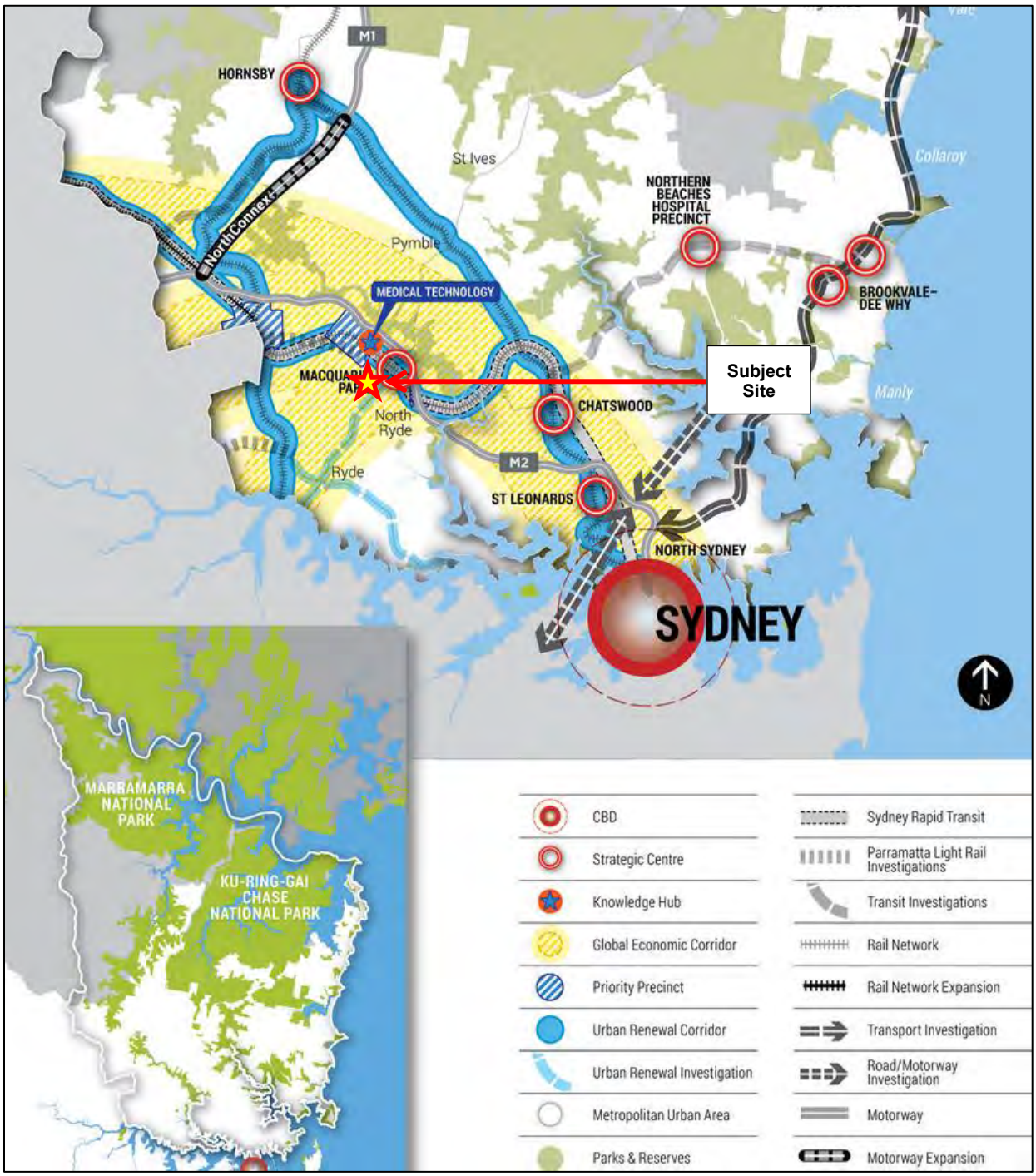
- Support the land use requirements of the Medical Technology knowledge hub.

  Response: The proposal will provide housing choice to support the workers and students of Macquarie University and Macquarie University Private Hospital.

The draft Subregional Strategy emphasises the importance of maintaining the employment growth potential of Macquarie Park. The focus is therefore on protecting employment lands, especially as they form part of the Global Economic Corridor. Considering the above, there is a strong case to support significant residential density increases in locations that are outside the Macquarie Park employment precinct, and still within close proximity of the new railway stations.

Further, the Strategy does not set housing or job targets for the subregions. Sydney is growing and targets need to be revised to reflect the exponential growth. Councils will be working with the Greater Sydney Commission to develop new (higher) job and housing targets for strategic centres. It is unlikely that recent residential development and the Herring Road, Macquarie Park Priority Precinct and North Ryde Station Priority Precincts will be able to deliver the increased housing target. The proposal will assist in meeting future targets set for the subregion.

FIGURE 8 – NORTH SUBREGION



Source: A Plan for Growing Sydney

3.2 DRAFT INNER NORTH SUBREGIONAL STRATEGY

The metropolitan area of Sydney has been divided into ten subregions. Ryde Council and the subject site are located in the Inner North Subregion and included within the draft Inner North Subregion Strategy. The draft Strategy highlights the following targets for the Ryde LGA:

- Employment capacity target of 21,000 additional jobs by 2031; and
- Residential target of 12,000 new dwellings by 2031.

The Strategy also identifies Macquarie Park as a Specialised Centre, which is defined as "*areas containing major airports, ports, hospitals, universities, research and business activities. These perform a vital economic and employment role which generate metropolitan–wide benefits*."

The Draft Inner North Subregional Strategy (the Subregional Strategy) provides the intended outcomes and specific parameters for the development of the subregion.

3.2.1 CENTRES AND CORRIDORS

The Centres Map in the Subregional Strategy identifies the subject site within the Global Economic Corridor and Enterprise Corridor, in proximity to Macquarie Park Specialised Centre and between the David Avenue and Avon Avenue Local Centres. The site is also adjacent a strategic bus corridor along Lane Cove Road (refer to Figure 9).

The Macquarie Park Specialised Centre represents one of two specialised centres in the Inner North Subregion. The future intent of the Macquarie Park Specialised Centre is:

> *"Macquarie Park to continue to evolve as Australia's leading technology park, with jobs growth, further investment and improved public transport accessibility."*

It is anticipated that the Macquarie Park Specialised Centre will provide a total of 55,300 jobs by 2031 and the newly opened Epping to Chatswood rail line and its associated stations is hoped to:

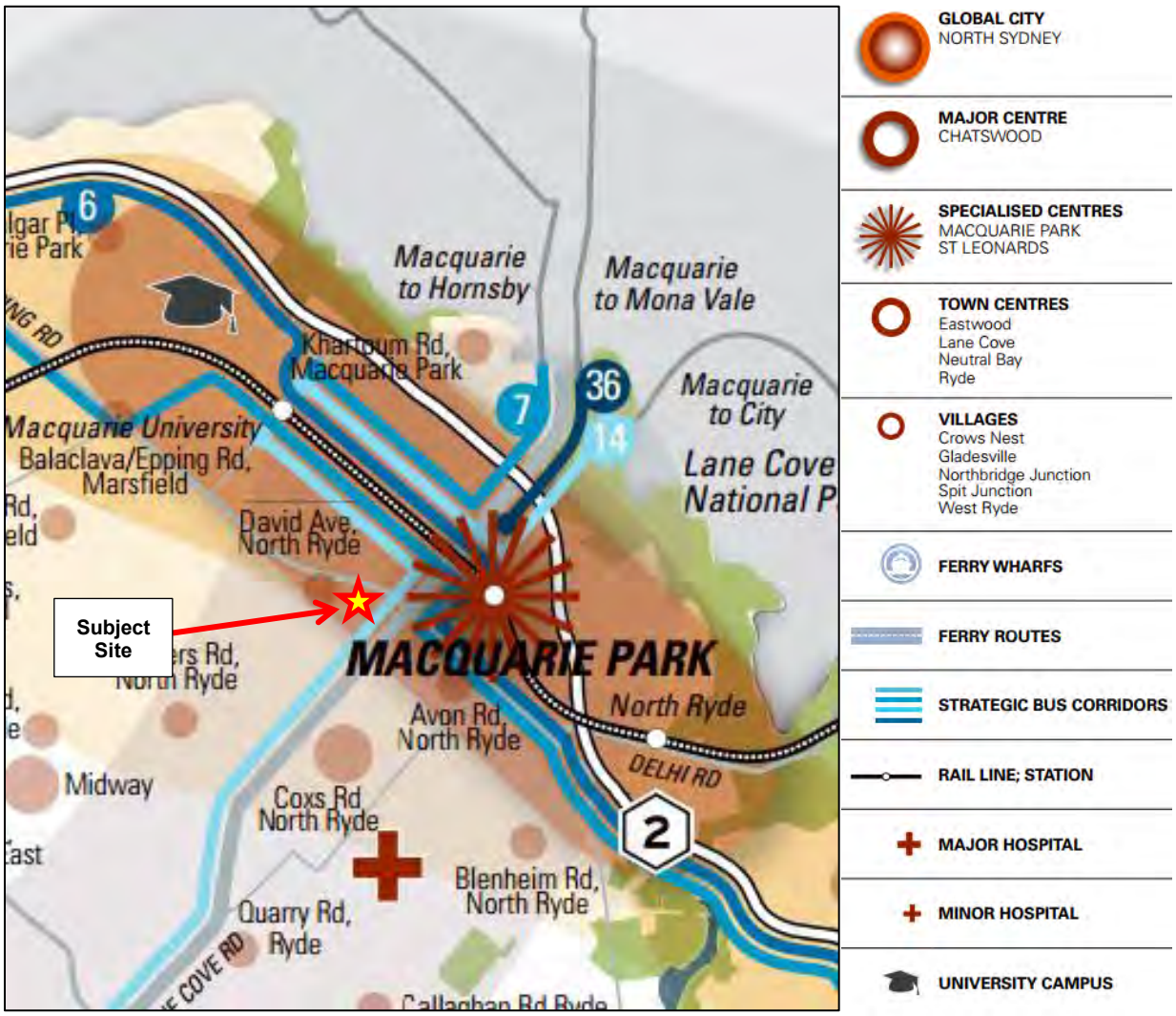
> *"… aid in furthering the economic role of Macquarie Park and improve accessibility to a broad labour market and suppliers."*

Most of land in the corridor has been reserved for the achievement of this intent with employment lands taking up most of the land along the newly created stations on the Epping to Chatswood railway. These stations are currently experiencing a lack of outbound patronage in the morning and inbound patronage in the evenings. The principal objective of the Macquarie Park area is to promote employment. In doing so the potential for housing development is limited. In order to ensure the full utilisation of the train line, and subsequently the sustainable development of the area, additional residential uses are required within easy access to transport options.

Figure 10 also shows the network of smaller centres located around the site, providing local services and facilities within walking distance. Specifically, the Avon Road and David Avenue shops are both identified as Neighbourhood Centres. However, the David Avenue shops are currently mostly vacant. The establishment of increased residential development within the area will improve the viability of struggling smaller centres.

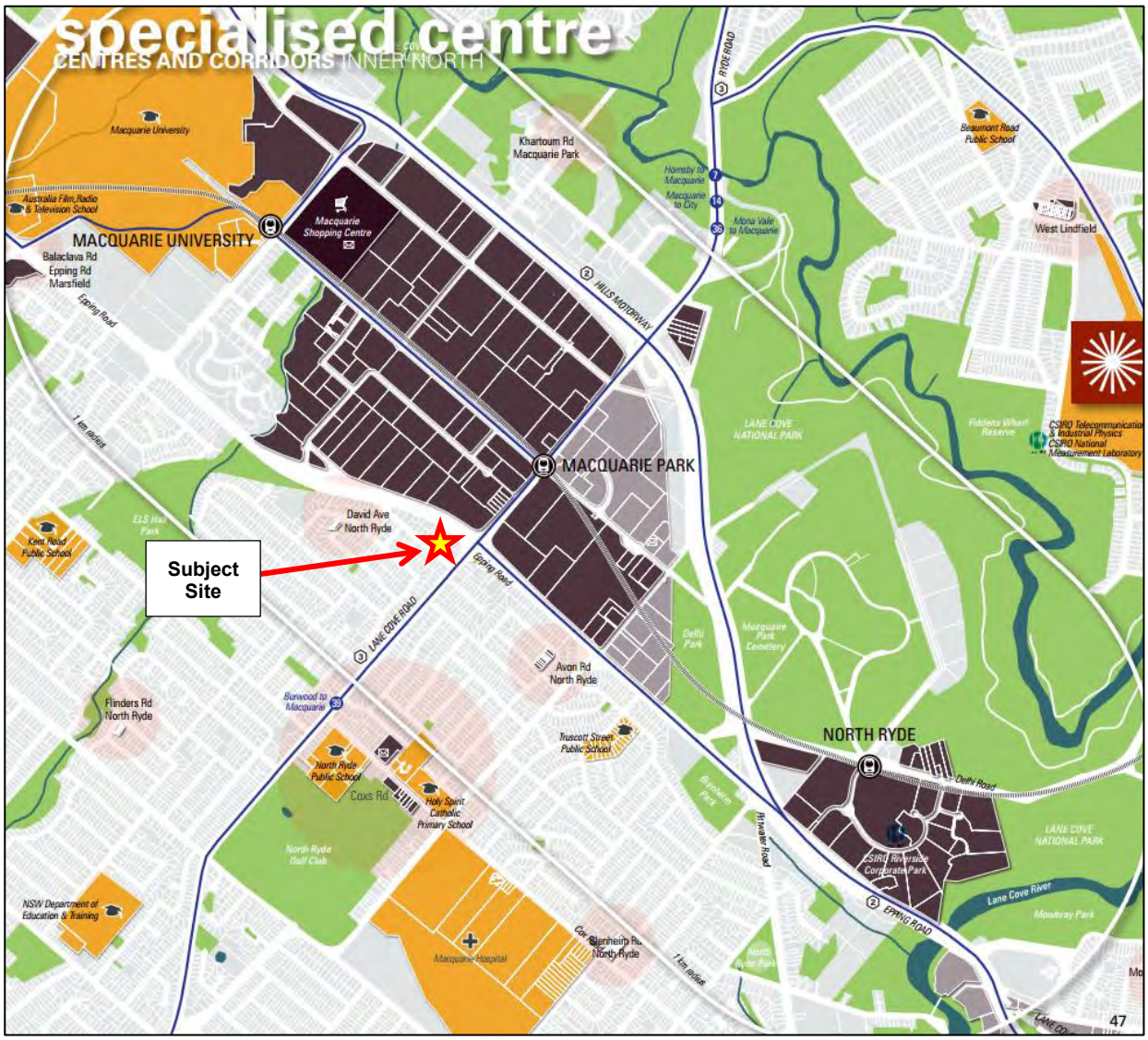
Figure 10 also demonstrates the parkland, medical services and education facilities within the area.

FIGURE 9 – CENTRES MAP INNER NORTH SUBREGION



Source: Draft Inner North Subregional Strategy

FIGURE 10 – MACQUARIE PARK SPECIALISED CENTRE MAP



Source: Draft Inner North Subregional Strategy

3.2.2 HOUSING PROVISION

The Subregional Strategy outlines a range of key directions and actions with respect to housing. The four key directions to the housing strategy are stated as follows:

- *To provide more housing opportunities to support a diverse workforce and population.*
- *To increase housing choice as part of the housing targets.*
- *Plan for 30,000 new dwellings.*
- *Enable communities to 'age in place'.*

The Planning Proposal seeks to add 180 new dwellings to the housing stock in the Ryde LGA. The new dwellings will contribute to achieving the actions identified in the 'Housing Strategy' chapter of the Subregional Strategy:

- *C1 – Ensure adequate supply of land and sites for residential development*
  - The proposal will maximise the potential for the site to contribute to the housing supply within the subregion and assist Council in identifying appropriate sites to achieve its target dwelling growth of 12,000 new homes by 2031.

- It provides new housing product within the LGA which benefits from the site's strategic location.
- It provides residential development within an existing serviced area directly adjacent to other residential land.

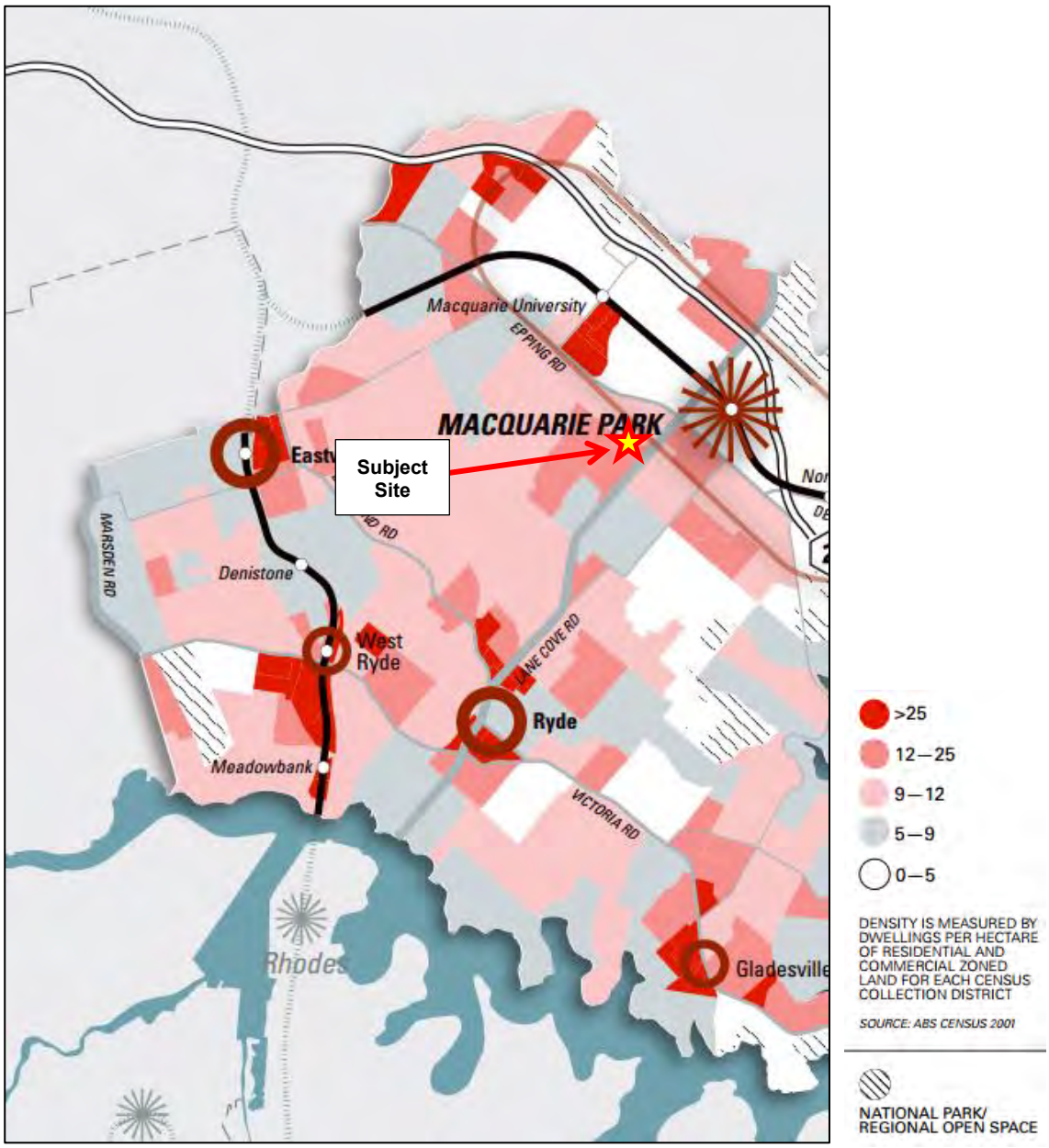
- *C2 – Plan for a housing mix near jobs, transport and services*
  - It provides a range of dwelling types offering between 1 and 3 bedroom units responding to the average household size and market demand.
  - It responds to the site's close proximity to major rail infrastructure.
  - It expands the housing supply within a walkable distance from the train station, bus routes, education facilities, medical services and shopping opportunities.

- *C5 – Improve the quality of new development and urban renewal*
  - It will provide a high quality architectural design with high quality materials and finishes.
  - It incorporates a cohesive landscape concept for the project and public domain.
  - Each residential apartment building will be designed in accordance with SEPP 65 and the RFDC at detailed DA stage.
  - It will provide a logical approach to housing diversity in a highly serviced existing urban area.

In addition, the Subregional Strategy seeks to concentrate residential development to strengthen centres and corridors and notes that the majority of residential growth should be accommodated within existing urban areas.

As evidenced in Figure 11, the existing residential character of the subregion provides very little density around the Macquarie Park Specialised Centre and the Epping to Chatswood Railway. Given the objectives of the Subregional Strategy in terms of dwelling provision, the proposal represents one of a few opportunities to provide increased housing within close proximity to both an existing centre and a range of transport options assisting with the attainment of dwelling targets.

FIGURE 11 – HOUSING - INNER NORTH SUBREGION



Source: Draft Inner North Subregional Strategy

4 Local Planning Framework

This section provides a summary of the existing local planning frameworks as may be relevant to the subject site.

4.1 RYDE LOCAL ENVIRONMENTAL PLAN

The Ryde Local Environmental Plan 2014 (RLEP 2014) is the principal Environmental Planning Instrument governing and guiding development within the Ryde LGA and was gazetted 9 September 2014.

4.1.1 AIMS OF THE PLAN

The particular aims of this Plan are as follows:

(a) To encourage a range of development, including housing, employment and recreation, that will accommodate the needs of the existing and future residents of Ryde;

(b) To provide opportunities for a range of housing types that are consistent with adjoining development and the existing environmental character of the locality;

(c) To foster the environmental, economic, social and physical development of Ryde so that it develops as an integrated, balanced and sustainable city;

(d) To identify, conserve and promote Ryde's natural and cultural heritage as the framework for its identity, prosperity, liveability and social development;

(e) To improve access to the city, facilitate the maximum use of public transport and encourage walking and cycling;

(f) To protect and enhance the natural environment, including areas of remnant bushland in Ryde, by incorporating principles of ecologically sustainable development into land use controls;

(g) To preserve and improve the existing character, amenity and environmental quality of the land to which this Plan applies;

(h) In relation to economic activities, to provide a hierarchy of retail, commercial and industrial activities that enable employment capacity targets to be met, provide employment diversity and are compatible with local amenity.

The proposal is consistent with these aims as outlined in **Section 8** of this Planning Proposal.

4.1.2 ZONING

The subject site is zoned R2 Low Density Residential under the RLEP 2014. Land south of Epping Road is zoned R2 while Macquarie Park to the north of Epping Road is zoned B3 Commercial Core and B7 Business Park (refer to Figure 12).

4.1.3 ZONE OBJECTIVES

The Objectives of the R2 zone are stated as:

- *To provide for the housing needs of the community within a low density residential environment.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*
- *To provide for a variety of housing types.*

4.1.4 PERMISIBILITY

The permitted and prohibited uses in the R2 zone are stated:

> ***2 Permitted without consent***
>
> *Home occupations*
>
> ***3 Permitted with consent***
>
> *Bed and breakfast accommodation; Boarding houses; Business identification signs; Child care centres; Community facilities; Dual occupancies (attached); Dwelling houses; Environmental protection works; Group homes; Health consulting rooms; Home-based child care; Hospitals; Multi dwelling housing; Places of public worship; Recreation areas; Residential care facilities; Respite day care centres; Roads; Secondary dwellings*
>
> ***4 Prohibited***
>
> *Any development not specified in item 2 or 3*

The LEP includes the following definition:

- ***Health consulting rooms*** *means premises comprising one or more rooms within (or within the curtilage of) a dwelling house used by not more than 3 health care professionals at any one time.*

  Note. *Health consulting rooms are a type of* ***health services facility****—see the definition of that term in this Dictionary.*

- ***Health services facility*** *means a building or place used to provide medical or other services relating to the maintenance or improvement of the health, or the restoration to health, of persons or the prevention of disease in or treatment of injury to persons, and includes any of the following:*

  (a) a medical centre,

  (b) community health service facilities,

  (c) health consulting rooms,

  (d) patient transport facilities, including helipads and ambulance facilities,

  (e) hospital.

Under the LEP, dwellings, dual occupancies and health consulting rooms are permitted with consent. However, residential flat buildings, shop top housing and health services facilities (medical centres) are prohibited uses. The existing medical centre is therefore a prohibited use and would rely on existing use rights for any future development. The existing medical centre creates an anomaly in the land use planning for Ryde.

In order to facilitate redevelopment of the site for mixed use, including a medical centre and appropriate ground floor retail activation and a range of residential apartments, amendments to the RLEP are required.

FIGURE 12 – EXTRACT FROM RLEP 2014 ZONING MAP

Source: Ryde LEP 2014

4.1.5 HEIGHT

Under the LEP, the subject site has a maximum building height of 9.5m (refer to Figure 13). To the north, sites along Lane Cove Road towards Macquarie Park Station have a maximum height of 30m to 37m. Sites along Epping Road have a maximum height of 22m.

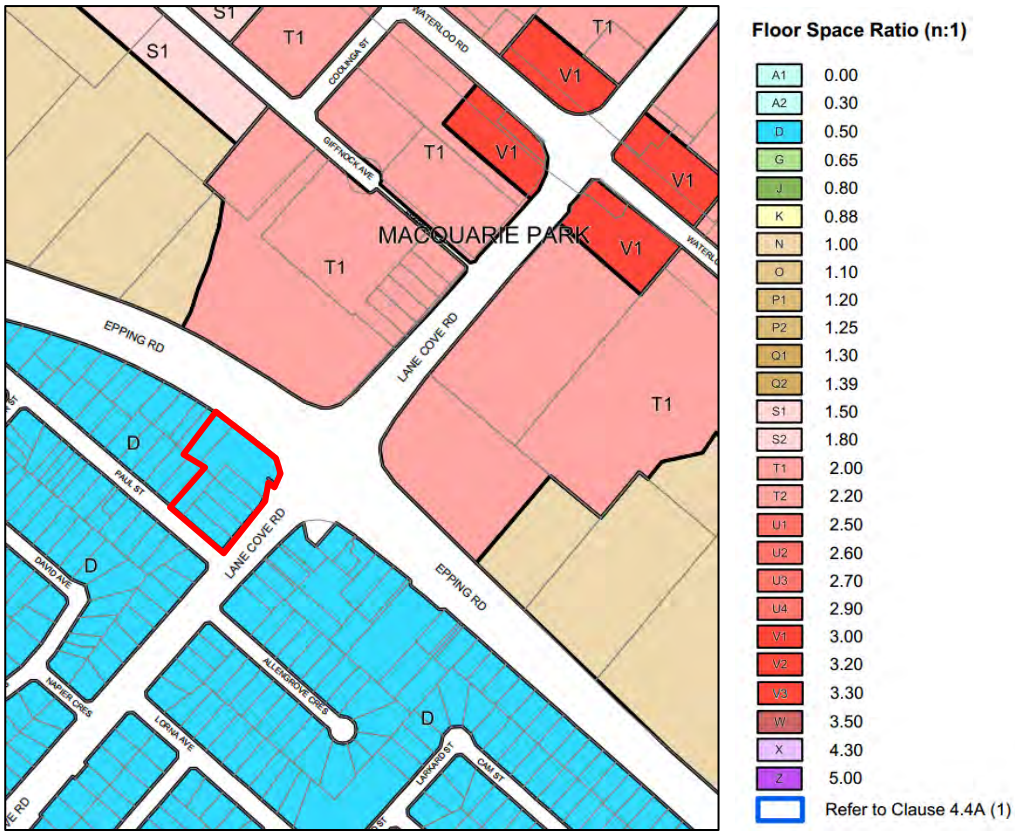
4.1.6 FSR

Under the LEP, the subject site has a maximum FSR of 0.5:1 (refer to Figure 14). To the north, sites along Lane Cove and Epping Roads have a maximum FSR of 2:1. Towards Macquarie Park Station, at the intersection of Waterloo and Lane Cove Roads the FSR is 3:1. Sites along Epping Road have a maximum height of 22m.

FIGURE 13 – EXTRACT OF HEIGHT OF BUILDINGS MAP

Source: Ryde LEP 2014

FIGURE 14 – EXTRACT OF FSR MAP



Source: Ryde LEP 2014

5 Planning Proposal Overview

5.1 OVERVIEW

A Preliminary Concept Design has been prepared by Bates Smart for the potential redevelopment of the Franpina Developments landholdings (separately submitted). Some key features of the Urban Design Strategy include:

- **Height:** The Preliminary Concept design masses building height towards the Epping Road and Lane Cove Road intersection to properly address the corner location and to be consistent with taller buildings to the north (refer to Figure 15 and Figure 16). Heights step down to the south, west and south west corner to transition to the lower density residential zone. Heights would increase from two storeys to a maximum of 12 storeys.

- **GFA:** The Concept Design demonstrates that a GFA of 16,643m² can be accommodated on site, which equates to an FSR of 2.5:1. The building layout and form is such that sufficient separation distances and landscaping are provided in accordance with the Residential Flat Design Code.

- **Residential** – Redevelopment will provide 180 new dwellings with a residential GFA of 15,539m².

- **Retail and Commercial Uses:** The corner of Epping and Lane Cove Road will accommodate 1,104m² of retail/commercial/medical uses Figure 17). These uses will activate the street levels and cater for the new population near transport nodes and provide opportunities to work closer to home.

- **Car Parking:** Two levels of basement car parking will provide 255 car spaces, 50 bicycle spaces and 7 motorcycle spaces. Parking has been provided in accordance with Council's minimum DCP rate.

- **Access:** The Preliminary Concept Design reduces the number of vehicle crossings from seven to two, which will significantly improve the streetscape appearance and reduce conflict between pedestrians and vehicles. One ingress/egress driveway is located in the north-west corner of the site off Epping Road on ramp, which is grade separated. A second ingress/egress driveway is off Paul Street, a secondary road.

- Each driveway considers the immediate road hierarchy, surrounding properties and general traffic and pedestrian safety. The driveway along the Epping Road on-ramp frontage is proposed adjacent to the western boundary of the site and therefore provides more than adequate distance from the grade separated intersection of Epping Road and Lane Cove Road further to the east. This ensures good sightlines to approaching vehicles, pedestrian amenity and safety, and effectively improves the site layout over that of the existing arrangements.

- The Paul Street driveway also considers the local road hierarchy noting that the majority of vehicles will access the site directly to/from Lane Cove Road. The number of driveway crossovers will also reduce along all frontages, with no access proposed via Lane Cove Road along the sites eastern boundary.

- The proposed access arrangements, combined with the basement car park layout and connectivity would ensure a relatively even distribution of traffic to/from the site. The Epping Road on-ramp also provides for the most efficient site entry due to its location and ability to accommodate vehicles approaching from all directions.

- **Open Space:** The building configuration has been designed to maximise deep soil, soft landscaping and communal open space. The concept provides in the order of 2,695m² landscaping (pervious area), which is 40% of the site (refer to Figure 18). The landscaping includes 18% of deep soil. A Preliminary landscape Concept has been prepared by Arcadia and is attached at **Appendix F**.

- **Flood planning:** Part of the site is located within an identified flood zone. A review of available data obtained from Council predicts the 100 Year ARI and the PMF (Probable Maximum Flood) level. All floor levels are a minimum of 500mm above the 100 year ARI flood level (refer to **Appendix C**).

- The site is classified as being of Medium Flood Risk in accordance with Ryde Council's DCP 2011. With proper controls, land uses including residential and commercial development are possible on the site.

- Preliminary Stormwater Concept Plans have also been prepared to accompany the Preliminary Concept Design (**Appendix G**).

FIGURE 15 – SITE PLAN

Source: Bates Smart Preliminary Concept Design

FIGURE 16 – VIEWS IN CONTEXT

Source: Bates Smart Preliminary Concept Design

FIGURE 17 – LOWER GROUND FLOOR PLAN

Source: Bates Smart Preliminary Concept Design

FIGURE 18 – CONCEPT LANDSCAPE PLAN

Source: Arcadia Landscape Architecture

5.2 PARTS OF THE PLANNING PROPOSAL

This Planning Proposal has been prepared in accordance with Sections 55 (1) and (2) of the *Environmental Planning and Assessment Act 1979* with consideration of the relevant guidelines, namely "*A Guide to Preparing Planning Proposals*" issued by the Department of Planning and Infrastructure in April 2013.

Accordingly, the proposal is discussed in the following parts:

- **Part 1** – A statement of the objectives or intended outcomes.
- **Part 2** – An explanation of the provisions that are to be included in the proposed LEP.
- **Part 3** – The justification for the planning proposal and the process for the implementation.
- **Part 4** – Mapping.
- **Part 5** – Details of community consultation that is to be undertaken for the planning proposal.
- **Part 6** – Project timeline.

Discussion for each of the above parts is outlined in the following chapters.

6 Part 1 – Objectives and Intended Outcomes

This section identifies the objectives and intended outcomes of the Planning Proposal.

6.1 OBJECTIVES

The primary objective of the planning proposal is to provide quality medium to high density mixed retail/commercial and residential development in an appropriate and accessible location.

The rezoning and increased density will create a high quality mixed use development that, alongside the redevelopment of surrounding lands, will make a meaningful contribution to the growth of North Ryde and the broader Ryde LGA.

6.2 INTENDED OUTCOMES

The proposed amendments to the RLEP 2014 will have the following key outcomes:

- Consistency with State government policy to encourage growth within existing centres: The proposal would generate new employment and housing opportunities within walking distance of major employment, retail, health and education facilities and excellent public transport connectivity.
- Consistency with State government housing targets: The proposal will increase the density on the subject site to provide opportunities for additional dwellings, in accordance with housing targets set by the NSW State Government and to accommodate the expected workers and students to the area.
- Sound planning practice and transport focused development: Increased densities around business centres and transport nodes, particularly Macquarie Park and the future North Ryde Station precinct, is consistent with good planning practice and promotes more sustainable and transport focused development.
- Timely delivery of the redevelopment of the site: The Planning Proposal provides an opportunity to manage future development of the site in a timely, logical and comprehensive manner, allowing for the introduction of development infrastructure of a suitable scale and nature.
- A high quality mixed use development that successfully integrates with the emerging context: The proposed LEP amendments respond to the emerging pattern of development that surrounds the site, including the Allengrove and Whiteside developments and within the North Station Precinct and Macquarie Park.
- High quality built form on a prominent corner location: Building height is massed towards the Epping and Lane Cove Road intersection to properly address the corner location and to be consistent with taller buildings to the north.
- Improved pedestrian safety: Redevelopment of the consolidated site will reduce the number of vehicle crossings from seven to two and minimise conflict between vehicles and pedestrians.
- Street activation: New local retail facilities and public spaces will activate the primary streets and complement the proposed land uses to encourage pedestrian activity and vibrancy.
- Landscape Opportunities: The large consolidated site provides opportunities for well-considered landscape areas, communal open spaces and deep soil planting.

7 Part 2 – Explanation of the provisions that are to be included in the proposed LEP

The section provides an explanation of how the objectives or intended outcomes are to be achieved by means of new controls on development imposed through an LEP amendment.

7.1 OVERVIEW

The purpose of the Planning Proposal is to amend RLEP 2014 to allow the comprehensive redevelopment of the site for the purposes of residential, retail, commercial and medical uses. Accordingly the proposal seeks the following amendments to the RLEP 2014 provisions:

- Zoning: Change the zoning of the site from R2 Low Density Residential to B4 Mixed Use.
- Height of buildings: Change the maximum height of the buildings from 9.5m to 44.5m.
- Floor space ratio: Change the maximum FSR from 0.5:1 to 2.5:1.

7.2 AMENDMENT TO ZONING

The existing Zoning Map that accompanies RLEP 2014 zones the subject site R2 Low Density Residential. It is proposed to amend the zoning to B4 Mixed Use in order to permit residential flat buildings, shop top housing, retail, commercial and medical centres on the site. The proposed outcome will be achieved by amending the RLEP 2014 Zoning Map applicable to the site in accordance with the proposed zoning map, which indicates a B4 zone for the site (refer to **Appendix B**).

7.3 AMENDMENT TO BUILDING HEIGHT

The existing Height of Building Map limits development within the site to a maximum height of 9.5m. It is proposed to amend the height development standard to permit a maximum height of 44.5m. The proposed outcome will be achieved by amending the RLEP 2014 Height of Building Map in accordance with the proposed height map, which indicates a maximum permissible height of 44.5m applicable to the site (refer to **Appendix B**). It should be noted that the Preliminary Concept Drawings propose varied heights of 10.3m to 40.1m. A height limit of 44.5m is proposed to be consistent with Council's LEP Mapping. The maximum height of future buildings will be determined by the maximum FSR and maintaining amenity to adjoining properties in accordance with SEPP 65, the RFDC and the DCP.

We note that the current Height of Building Map does not reflect the changing character of the area south of Epping Road, with the recent Allengrove and Whiteside developments achieving heights up to 21.5m. Figure 18 demonstrates the heights of buildings as proposed on the subject site and approved for Allengrove and Whiteside (refer to Figure 19).

FIGURE 19 – BUILDING HEIGHTS AS APPROVED/BUILT

Source: Urbis January 2015

7.4 AMENDMENT TO FSR

The existing Floor Space Ratio Map prescribes a maximum FSR of 0.5:1 for the site. It is proposed to amend the FSR development standard to permit a maximum FSR of 2.5:1. The proposed outcome will be achieved by amending the RLEP 2014 Floor Space Ratio Map in accordance with the proposed FSR map, which indicates a maximum permissible FSR of 2.5:1 applicable to the site (refer to **Appendix B**).

7.5 RELATIONSHIP TO EXISTING LOCAL PLANNING INSTRUMENT

It is proposed that RLEP 2014 will continue to apply to the site and will be amended by the site specific LEP.

8 Part 3 – Justification for the Planning Proposal

This section provides the justification for the planning proposal and the process for the implementation.

8.1 PLANNING AND STRATEGIC JUSTIFICATION OVERVIEW

There are a number of compelling planning and strategic reasons to justify the proposed rezoning and increase in density, as outlined below.

- **Strategic Location** – The landholding is located in a very strategic location, being in close proximity and accessible to Macquarie Park, which is one of Sydney's largest employment areas and rapidly developing high density residential living area. Macquarie Park includes the University, business parks, research precinct, shopping centre and three railway stations. Macquarie Park has employment targets of 55,300 jobs by 2031. The proposal will contribute 180 new dwellings to accommodate expected workers and encourage work closer to home initiatives.

- **Proximity to Infrastructure and Services** - The property is located within approximately 400m of Macquarie Park Station, which provides connections from Hornsby to the City via Macquarie University service on the T1 North Shore and Northern Line. The site is also within 1.5km of Macquarie University and the Macquarie Park Shopping Centre. Bus stops are located outside the site on Epping and Lane Cove Roads which provide connections between Epping, Macquarie Centre, Marsfield and the city on routes 290, 293, 459, 506 and M41. The site's proximity to transport, infrastructure, employment and other services, make it ideal to accommodate more intensive use and development than the current planning controls allow.

- **Large Land Holding** - Opportunities for larger, consolidated sites that can respond positively to balancing an uplift in employment with housing opportunities in close proximity to public transport are challenging within the context of North Ryde as Ryde City Council's current and future planning controls largely seek to prohibit residential development to the north of Epping Road (i.e. within Macquarie Park Corridor).

  While some residential sites within Macquarie Park Corridor have been approved, or are currently subject to Part 3A, there are still limited opportunities outside the corridor which are in close proximity to railway infrastructure which needs to be recognised. Fragmented land ownership and amalgamation of viable development sites is challenging. Therefore, sites like the proposed which can assist with providing new housing opportunities should be supported.

- **Housing** - The proposal will contribute to the achievement of the State Government's housing targets and connect residents with employment opportunities. Under the Draft Subregional Strategy, Ryde LGA has a housing target of 12,000 additional dwellings by the year 2031. The proposal will support the continued economic growth of the locality by integrating housing and employment opportunities. The project will also increase diversity of housing supply.

- **Housing Affordability** - Housing affordability is recognised as a key issue identified in the NSW State Plan. A high proportion of Ryde LGA (circa 90%) is composed of detached housing, with a limited diversity of alternative housing typologies, including residential flat buildings. The provision of additional housing types will assist with the supply and affordability of housing stock within the area.

- **Transition Areas** - Council Local Planning Study identifies the residential area to the south of Epping Road as having the potential for future transition areas. The southern side of Epping Road has relatively good access to the employment, retail, entertainment, and public transport opportunities within Macquarie Park, as well as nearby Lane Cove National Park and the regional road network. Investigation of this area will help address the housing needs of the local community.

- **Built Context** – The Department of Planning supported the eight storey height and density proposed on the Allengrove site in 2012. Although the development was scaled back by the PAC and Court, the Department considered the higher scale and density appropriate given the site adjoins the Macquarie Specialised Centre, is located in close to proximity to public transport, mitigated impacts from the surrounding road network and managed impacts on neighbouring properties. The subject site is

better placed to minimise impacts as it is bordered by roads on three sides and will ensure privacy and sunlight is maintained to neighbouring properties.

- **Built Form and Amenity Impacts**- The proposal responds to adjacent dominant road infrastructure and balances the mass and form of taller commercial development to the north with appropriate stepping down and setting back from adjoining properties. The proposed 10 and 12 storey building envelopes on Epping and Lane Cove Roads are considered an appropriate design response to the site's gateway location at a major intersection and strategic proximity to Sydney's global economic corridor and public transport infrastructure.

  The scale and form of the project was determined by a thorough analysis of the local context. As part of this analysis it was considered that development which could respond to the adjacent dominant road infrastructure, and manage amenity impacts on surrounding properties would be a better outcome than low-scale detached housing or alternative housing types.

  The height at Epping Road and Lane Cove Road is consistent with the height of built form to the north of Epping Road and relates well to the Allengrove development to the east. The built form steps down to the south and east, providing an appropriate transition to the surrounding low-scale context.

  The proposed envelopes have been tested in terms of their impacts on surrounding properties, and in accordance with the guidance contained within RFDC (see Section 4). These substantially comply with this guidance, and will ensure that no unreasonable amenity impacts are created.

  Shadow Diagrams have been prepared for the Concept envelopes. These demonstrate that the majority of shadow falls over the roads. Development to the south along Paul Street and development to the east at Allengrove will have sun for more than three hours during winter.

Accordingly, based on the above, there is sufficient planning and strategic justification to rezone the site for mixed use and increase the density.

8.2 QUESTIONS TO CONSIDER WHEN DEMONSTRATING THE JUSTIFICATION

8.2.1 SECTION A – NEED FOR THE PLANNING PROPOSAL

Q1. Is the planning proposal a result of any strategic study or report?

Yes.

Council has prepared a Local Planning Study in response to the Metropolitan Strategy and Inner North Draft Subregional Strategy. The Local Planning Study aims to guide the preparation of a new comprehensive LEP for the City of Ryde. The study notes that the residential area to the south of Epping Road has the potential for future transition areas (refer to Figure 20). The Study further notes that the southern side of Epping Road has relatively good access to the employment, retail, entertainment, and public transport opportunities within Macquarie Park, as well as nearby Lane Cove National Park and the regional road network. Council's preferred option is to investigate the southern side of Epping Road to determine the location, extent and character of any potential future transition areas. This option will help address the housing needs of present and future residents of the city of Ryde in an area close to jobs, public transport, shopping, services, education and recreation opportunities.

The Council's resolution to investigate the area to the south of Epping Road acknowledges the strategic role and function that areas adjacent to Macquarie Park Corridor will contribute to. The approved and constructed Allengrove and Whiteside developments are part of a very limited supply of housing within the investigation area. The subject site has been consolidated into a large viable site for higher density residential flat development and therefore represents a strategic opportunity to:

- Contribute to the achievement of housing targets;
- Enliven the Macquarie Park Corridor;

- Provide opportunities to live near jobs within the corridor; and,
- Increase the supply of housing in proximity of transport to shift transport movements from cars to public transport, walking or cycling and contribute to sustainability.

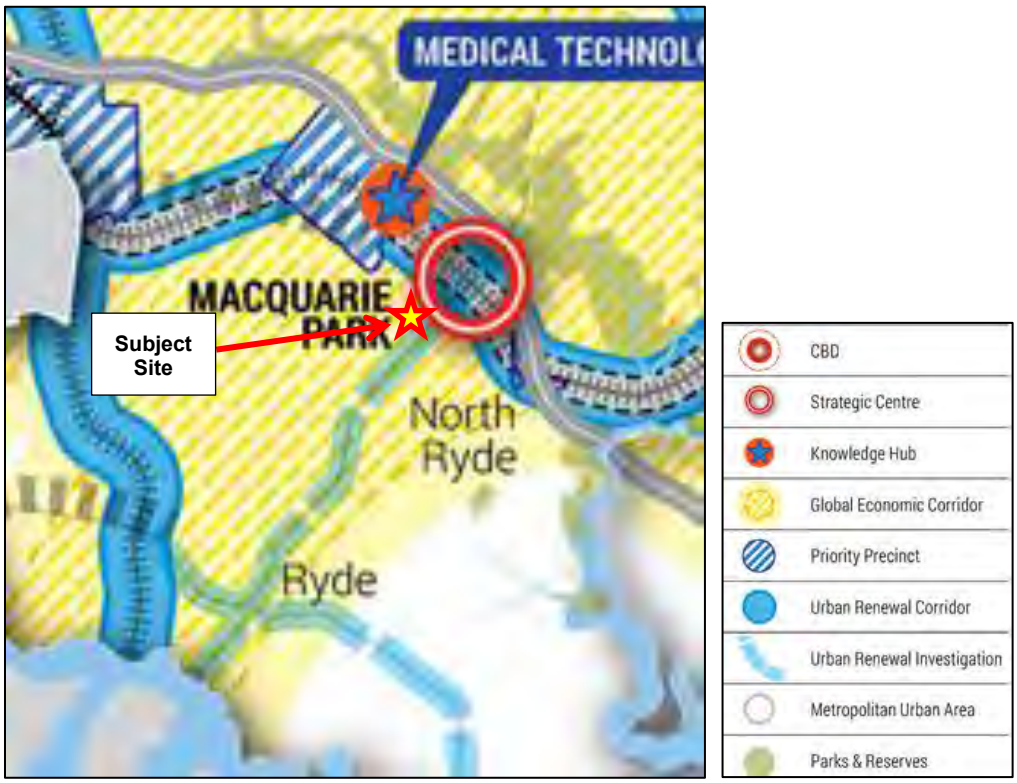
This Planning Proposal is the direct result of the recommendations of the Planning Study.

FIGURE 20 – AERIAL PHOTOGRAPH OF POTENTIAL FUTURE TRANSITIONAL AREA

Source: City of Ryde Local Planning Study

The need for further investigations south of Epping Road has also been identified in the draft North Subregion of *A Plan to Grow Sydney* (refer to Section 3.1.2 and Figure 21) . The Lane Cove Road corridor is designated as an urban renewal investigation area within the Macquarie Park Strategic Centre. The area will be investigated for potential future opportunities for housing as it is within walking distance of train stations. These investigations are needed to shape the subregional plan. Further actions will be identified through the subregional planning process.

FIGURE 21 – NORTH SUBREGION URBAN RENEWAL INVESTIGATION



Source: A Plan for Growing Sydney

Q2. Is the Planning Proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

Yes.

The purpose of the Planning Proposal is to enable the development of high density mixed use to occur on the site. To achieve this, amendments to the zoning and development standards that apply to the site are needed.

There is a strong case for higher density development than is currently possible under the existing planning controls given the site's proximity to Macquarie Park centre and existing public transport infrastructure at Macquarie Park and North Ryde stations and. Increasing development density on the site will provide accommodation for the expected workers and students within the Global Economic Corridor.

Without an amendment to the planning controls the proposed Concept Plan for the site cannot be achieved and the associated public benefits would be lost. The site is a logical and appropriate place to concentrate future growth within the Ryde LGA, being within an area designated for potential future investigation and growth.

8.2.2 SECTION B – RELATIONSHIP TO STRATEGIC PLANNING FRAMEWORK

Q3. Is the planning proposal consistent with the objectives and actions of the applicable regional or sub-regional strategy (including the Sydney Metropolitan Strategy and exhibited draft strategies)?

Yes.

The Planning Proposal is consistent with the objectives, actions and targets of *A Plan for Growing Sydney* and the *Draft Inner North Subregional Strategy* for the reasons outlined in Sections 3.1 and 3.2 of this Report.

In summary, the proposal is directly consistent with the principles of a range of broader strategic planning considerations contained within the metropolitan strategy and the draft Inner North Subregional Strategy which support a transit-orientated and centres based approach to managing growth. As such the site represents a logical location to accommodate new housing and employment opportunities in close proximity to existing services and infrastructure consistent with this approach. It allows opportunities for the growing number of people working and studying in North Ryde and Macquarie to live and work/study in the same district, thereby reducing travel demand and associated car based pollution and congestion. The proposal has the potential to contribute a valuable and sustainable component of the future commercial and residential development of North Ryde.

Q4. Is the planning proposal consistent with a Council's local strategy or other local strategic plan?

Yes.

The proposal is consistent with Council's Local Planning Study as discussed in Section 8.2.1 of this Report. The Study was prepared to inform the development controls of the current RLEP 2014. The site is within an area designated as a future transition area to the south of Macquarie Park on the basis that it has good access to employment, retail, entertainment and public transport opportunities as well as parks and road networks.

The proposal is consistent with the overarching aims and intent of the strategy in that:

- The housing needs of the current and future City of Ryde community will be met;
- It responds to the directions and actions of *A Plan for Growing Sydney* and Draft Inner North Subregional Strategy; and
- Proposes a way to assist in meeting the 12,000 dwelling target set for the City of Ryde by the Draft Inner North Subregional Strategy.

Q5. Is the planning proposal consistent with applicable State Environmental Planning Policies?

Yes.

The proposal is consistent with the relevant State Environmental Planning Policies (SEPPs). The relevant SEPPs are identified below.

- SEPP (Buildings Sustainability Index: BASIX) 2004;
- SEPP (Infrastructure) 2007;
- SEPP 55 Remediation of Land;
- SEPP 65 Design Quality of Residential Flat Buildings.

SEPP (BUILDINGS SUSTAINABILITY INDEX: BASIX) 2004

The BASIX SEPP requires residential development to achieve mandated levels of energy and water efficiency.

The proposed development concept has been designed with building massing and orientation to facilitate future BASIX compliance, which will be documented at the development application stage.

SEPP (INFRASTRUCTURE) 2007

State Environmental Planning Policy (Infrastructure) 2007 came into force in December 2007 and aims to facilitate the effective delivery of infrastructure across the State. The SEPP identifies matters for consideration in the assessment of development adjacent particular types of infrastructure development.

The following matters are relevant to the proposal:

- Future proposed development will require existing utility services to be upgraded and/or augmented to enable the future residential population to be accommodated. These works will need to be undertaken in accordance with the provisions of the SEPP.

- The site is has frontage to a classified road and requires, where practicable, vehicular access to be provided by a road other than the classified road. It also requires that the safety, efficiency and ongoing operation of the classified road will not be adversely affected by the development. Access to the site will be off Paul Street (local road) and Epping Road (State Road). The access arrangements have been addressed in the Transport Impact Assessment at **Appendix C**. Development on the site will be referred to the RMS.

- The proposed development is identified as traffic generating development to be referred to the RMS in accordance with Schedule 3 of the SEPP.

SEPP 55 REMEDIATION OF LAND

State Environmental Planning Policy (SEPP) No. 55 – Remediation of Land was gazetted on 28 August 2005 and applies to the whole of the state. Clause 7(1) requires the consent authority to consider whether land is contaminated prior to consent of a development application.

A Preliminary Site Investigation has been prepared by Environmental Earth Sciences, (refer to **Appendix D**). The Report concludes, inter alia:

> *"In summary, the potential contamination is considered low and is limited to the presence of PACM within the residences/ garages and the areas of potential fill material associated with medical centre buildings and car park.*
>
> *The site has a **Low** risk rating relating to potential contamination on site. Based on the results of this preliminary site investigation and in accordance with the requirements of SEPP55, a detailed site investigation is not required."*

Accordingly, the site is considered appropriate for high density mixed use residential development and detailed site investigation is not considered necessary. The proposal is therefore consistent with SEPP 55 requirements.

SEPP 65 DESIGN QUALITY OF RESIDENTIAL FLAT BUILDINGS

State Environmental Planning Policy 65 – Design Quality of Residential Flat Development (SEPP 65) was gazetted on 26 July 2002 and applies to all residential flat buildings. The SEPP aims to improve the design quality of residential flat development. Part 2 of SEPP 65 outlines Design Quality Principles for new residential flat buildings that seek to guide building design. A summary of the proposal's consistency with the design principles is provided in Table 2.

TABLE 2 – SEPP 65

DESIGN PRINCIPLE	PLANNING RESPONSE
Context	▪ The Strategic Direction of Macquarie Park is to maintain the commercial core and limit residential intrusion into the area. The proposal for residential south of Epping Road is consistent with this and will assist in meeting future dwelling targets. ▪ The proposed development has heights of up to 12 storeys, which will provide an appropriate transition from the Macquarie Park Centre north of Epping Road to the residential development south of the site. ▪ Redevelopment of the subject site will support the Macquarie Park Centre through increased residential density and provide an excellent opportunity to satisfy State Government's policy of integrating land use and transport.
Scale	▪ The proposal provides an appropriate transition of scale from higher commercial buildings to the north and the higher residential buildings to the east to the low density residential to the south and west. ▪ The scale of development has been carefully considered so that heights and

DESIGN PRINCIPLE	PLANNING RESPONSE
	building location/layout have minimal impact on the amenity of adjoining properties in terms of solar access and privacy.
Built Form	▪ The built form along Epping Road is 12 storeys at the corner stepping down to 7 storeys to the west to appropriately address the primary street frontage. ▪ The centre buildings are ten storeys stepping down to five storeys to the west to appropriately interface with the low density residential along Paul Street. The five storey building is some distance from the dwellings along Paul Street so as not to have a visually overbearing impact. ▪ The built form along Paul Street is seven storeys at the corner stepping down to three storeys to ensure an appropriate transition to low density dwellings to the west. ▪ The main bulk of the buildings have been located towards the corner of Epping and Lane Cove Roads to address the prominent corner location and reduce any impact of building scale.
Density	▪ The proposal has an FSR of 2.5:1. ▪ The proposal achieves separation distances and landscaping in accordance with the RFDC and the density is therefore considered appropriate. ▪ The proposal will provide retail tenancies and approximately 180 dwellings and contribute to future housing targets needed to accommodate the growing population of Macquarie Park and surrounds.
Resource, Energy and Water Efficiency	▪ The residential flat buildings are oriented to the north and east to maximise solar access to apartments and communal open spaces across the site. ▪ Proposal complies with RFDC solar access and cross ventilation requirements. ▪ Deep soil zones allow for significant tree planting, providing shade, amenity, and an enhanced living environment for residents both at ground and podium level. ▪ Rainwater tanks will be used for water irrigation.
Landscape	▪ The proposed site layout provides deep soil areas around the perimeter of the site. ▪ Landscaped podiums will achieve pleasant courtyard areas between buildings. ▪ Residents will have access to communal open space within the development site. ▪ Residents will have access to the extensive parklands of Lane Cove National Park.
Amenity	▪ The development exceeds solar access and cross ventilation provisions for indicative apartments. ▪ The indicative layouts of the Concept Design minimises south facing units. ▪ Each apartment will be provided with a balcony or ground floor terrace, accessed from living areas. ▪ Residents will have access to communal open space within the development and adjoining parklands. ▪ Separation and setbacks will provide privacy to apartments. ▪ The detailed design of the external spaces and apartment interiors will be the

DESIGN PRINCIPLE	PLANNING RESPONSE
	subject of future Development Applications.
Safety and Security	▪ Buildings address streets and open spaces and provide passive surveillance of these areas. ▪ Buildings are oriented to provide casual surveillance of communal open spaces and likely entry points. ▪ Communal open spaces that provide recreation areas and encourage shared ownership.
Social Dimensions	▪ The proposal provides an indicative mix of one (36%), two (58%) and three (5%) bedroom units and increases the housing choice in the area. ▪ 58% of units are two bedrooms, which respond to the market demand and demographic make-up of the area. This is indicative only and subject to change in future DAs. ▪ Dwellings will be designed to be adaptable to the needs of people with disabilities in future DAs. ▪ Site is located close to shops, infrastructure and services. ▪ Site is located close to a variety of public transport options.
Aesthetics	▪ Variation in height, footprint and orientation across the site contributes to the design aesthetic. ▪ Differing building bulk together with future design (modulation, solar shading and privacy screen) will articulate the facades and provide visual interest. ▪ The architectural design of the proposal, including materials, finishes, and articulation of the building forms, will be the subject of a future Development Application.

Detailed assessment of the residential apartments against the requirements of the Residential Flat Design Code (RFDC) will be undertaken in future stages of development. A preliminary assessment of the Preliminary Concept Design is provided in Table 3.

TABLE 3 – RFDC ASSESSMENT

PROVISION	REQUIREMENT	PROPOSAL	COMPLIES/COMMENT
General Controls	Building depth of 10-18m for adequate daylight and ventilation.	▪ Building depth range from 7.5m to 15m.	▪ Complies to ensure appropriate levels of solar access and ventilation can be provided.
	Building separation – increased separation with increased height, and greater separation for habitable rooms. *Up to 12m (4 storeys)*	▪ Separation between buildings up to four storeys is 12m. ▪ Separation between buildings five to eight	▪ Complies ▪ Complies

	- *12m btw habitable rooms/balconies* - *9m btw habitable/bal and non-habitable rooms* - *6m between non-habitable rooms* *Five to eight storeys/25 metres:* - *18m between habitable rooms/balconies.* - *13m between habitable rooms/balconies and non-habitable rooms.* - *9m between non-habitable rooms* *nine storeys and above/ over 25 metres* - *24 metres between habitable rooms/balconies* - *18 metres between habitable rooms/balconies and non-habitable rooms* *12 metres between non-habitable rooms*	storeys is 18m -19m. ▪ Separation between buildings above nine storeys is 21m.	▪ Generally complies as there are opportunities for non-habitable rooms to be located on the southern side of taller buildings. Further, detailed design at detailed DA stage can incorporate screening.
Apartment size	Studio – 38.5m² 1 bed – 50m² 2 bed – 75m² 3 bed – 95m²	1 bed – 54m² - 61m² 2 bed – 70m² - 84m² 3 bed – 93m²	Generally complies and subject to detailed design.
Ceiling Heights	Min. 2.7m for habitable rooms; 2.4 non-habitable.	Min. 2.7m for habitable rooms; 2.4 non-habitable.	Complies
Deep soil zones	Min. 25% of the site for deep soil (may be relaxed in urban areas).	18%	Site is in an urban environment. Building configuration allows significant open space areas and 40% pervious area consistent with Council's DCP.
Communal Area	The area of communal open space required should generally be at least between 25% and	Approximately 29%	Complies

	30% of the site area.		
Private Open Space	Private open space to each apartment Min. 2m depth	Private open space provided to each apartment, with min. 2m depth	Complies
Solar access	Min. 70% Living rooms and open space to receive Min. 3 hours direct sunlight between 9am and 3pm mid-winter (2 hours may be acceptable in dense urban areas)	81.5% receive solar access for 3 hours or more. 94% receive solar access for 2 hours or more.	Complies
	Limit no. single aspect apartments with a southerly aspect SW-SE to max. 10% units.	Nil	Complies
Natural ventilation	60% of residential units to be naturally cross ventilated.	65%	Complies

Q6. Is the planning proposal consistent with applicable Ministerial Directions (s.117 directions)?

Yes.

The Planning Proposal has been assessed against the applicable s117 Ministerial Directions and is consistent with each of the relevant matters, as outlined below.

DIRECTION	COMMENT
1. Employment and Resources	
1.1 Business and Industrial Zones	▪ The proposal is consistent with the Direction as follows: ▪ The proposed development will have a positive employment impact, by maintain a similar number of jobs to the existing and also creating opportunities for new jobs during the construction and operational and maintenance phases of development. ▪ The proposal will not undermine the integrity and core purpose of the Macquarie Park Strategic Centre as residential development will be focused outside the commercial core.
1.2 -1.5	Not Applicable
2. Environment and Heritage	
2.1-2.4	Not Applicable

DIRECTION	COMMENT
3. Housing, Infrastructure and Urban Development	
3.1 Residential Zones	▪ The proposal will broaden the range of housing choices to provide for existing and future housing needs. ▪ The site is located in close proximity to existing public transport and medical and education infrastructure plus commercial services. The proposal will make efficient use of existing infrastructure and services. ▪ The proposal will provide opportunity for good urban design. ▪ The built form and building layout minimises the impact of residential development.
3.2 -3.3	Not Applicable
3.4 Integrating Land Use and Transport	▪ The proposal is consistent with the direction for the following reasons: ▪ The site supports the principle of integrating land use and transport. ▪ The site exhibits good access to public and private transportation use, being within walking distance of the Macquarie Park and North Ryde Railway Stations. ▪ The site's proximity to public transport will provide opportunities for residents and employees to access the site and reduce the dependence on private vehicle use/ownership. ▪ The proposal will provide employment opportunities within the within close proximity to existing services and infrastructure, reducing travel demand, the number of trips generated by development and the distances travelled, especially by car. ▪ The proposal supports the efficient and viable operation of public transport services.
3.5-3.6	Not Applicable
4. Hazard and Risk	
4.1 Acid Sulfate Soils	▪ No physical works, including excavation, are proposed. Future detailed development applications will address environmental impacts in relation to acid sulphate soils.
4.2	Not Applicable
4.3 Flood Prone Land	▪ A Flood Analysis has been prepared that considers the relevant flood policies and the potential flood impacts both on and off the subject land and ensures that the development is commensurate with the flood

DIRECTION	COMMENT
	hazard.
4.4	Not Applicable
5. Regional Planning	
5.1 -5.8.	Not Applicable
6. Local Plan Making	
6.1 Approval and Referral Requirements	This is an administrative requirement for Council.
6.2 Reserving Land for Public Purposes	This is an administrative requirement for Council.
6.3 Site Specific Provisions	The Planning Proposal has been prepared in accordance with the provisions of the Standard Instrument and in a manner consistent with the Ryde LEP.
7. Metropolitan Planning	
7.1 Implementation of the Metropolitan Plan	The planning proposal is consistent with the aims of *A Plan for Growing Sydney* as detailed previously within the Planning Proposal.

8.3 SECTION C – ENVIRONMENTAL, SOCIAL AND ECONOMIC IMPACT

Q7. Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats will be adversely affected as a result of the proposal?

The site is fully developed and comprises little vegetation. There are no known critical habitats, threatened species or ecological communities located on the site and therefore the likelihood of any negative impacts are minimal.

Q8. Are there any other likely environmental effects as a result of the planning proposal and how are they proposed to be managed?

There are not likely to be any environmental impacts associated with the future development of the land that cannot be suitably mitigated through detailed design development. The following sections address the environmental impacts.

FLOODING

The Flood Impact Assessment and Risk Management Report prepared by Northern Beaches Consulting Engineers Pty Ltd summarises flood information in reference to the City of Ryde DCP requirements and the NSW Government Floodplain Management Manual with reference to the 1 in 100 year storm event (refer to **Appendix C**). The flood information summarised as:

- Flood Plane Level (FPL) 500mm above 1% AEP level
- Probable Maximum Flood Level (PMF) 66.01m to 66.68m AHD
- Degree of inundation 60%

- Hazard Level Medium
- Impacts of waterborne objects Medium

The Report concludes that "*the proposed development generally meets the requirements of City of Ryde's DCP. We trust that this report meets with Council requirements for flood risk management analysis.*"

TRAFFIC

A Traffic Impact Assessment has been undertaken by GTA Consultants that describes the existing local traffic context and assesses the potential traffic implications of the proposed concept. A copy of the report is submitted with the Planning Proposal at **Appendix E**. In summary, the traffic analysis indicates that:

- The proposal, including health services/commercial and high residential uses, will generate in the order of 45-78 vehicle trips in the peak hours.
- Taking into consideration the existing development, which generates in the order of 30 peak vehicle trips, the proposal results in an additional 15 to 48 vehicle trips in the peak hours.
- The additional traffic generation would have negligible impact on Epping Road. Paul Street would likely experience a minor increase in traffic of between 17 and 34 trips in the peak. The safety or function of the surrounding road network is unlikely to be significantly impacted on.
- Paul Street may experience delays and queuing the assessment is conservative given that the commercial uses and health services would not be generating peak activity during typical weekday peak periods. Further, residents would also likely alter their departure routes, dependent on any such associated delay.

Given the low volume of additional traffic, there is not likely to be any significant impacts on the capacity and function of the surrounding roads and intersections. Furthermore, the site is uniquely located to take advantage of extensive public transport services. Residents would also benefit from short walking distances to a wide range of services and jobs in Macquarie Park, reducing the need for vehicular travel.

PARKING

The Traffic Impact Assessment also considers the existing parking conditions of surrounding the site and the suitability of the proposed parking in terms of supply and concept layout. In summary, the parking analysis indicates that:

- The proposed development generates a demand for between 211 and 272 car parking spaces, based on Council's minimum and maximum requirements under the Ryde Development Control Plan (DCP) 2014.
- The Preliminary Concept Design proposes a total of 255, including 36 residential visitor spaces, and complies with the City of Ryde DCP car parking requirements.
- The Preliminary Concept Design also provides 7 motor cycle spaces in the basement.

The proposal is likely to satisfy the car parking demand generated by the proposal.

OVERSHADOWING

Shadow diagrams have been prepared to assess the proposed impact on solar access to neighbouring properties between 9am and 3pm for the Winter Solstice (June 21). The subject site is bound by roadways to the east and south and will not significantly impact on solar access of adjoining dwellings. Dwellings within the development receive sunlight in accordance with SEPP 65.

- At 9am, the proposed built form will cast shadow over Paul Street, and properties to the south. These properties will not be impacted by the proposal during the midday and afternoon hours.
- At midday, the shadow will be cast over lane Cove Road only.

- At 3pm, the proposed built form will cast shadow over Lane Cove Road, and properties to the east. These properties will not be impacted by the proposal during the morning and midday.

Accordingly, the proposed built form will not reduce the solar access of adjoining development to less than two hours between 9am and 3pm and complies with the DCP provisions.

RESIDETNIAL AMENITY

The Preliminary Concept Design has been developed having regard to the requirements of SEPP No. 65 and the accompanying RFDC:

- **Solar Access:** The proposal will provide a minimum of 3 hours of sunlight to the living areas and private open space areas of 81.5% of apartments (indicative) within the development. This increase to 94% for two hours of solar access. The proposal complies with the 'Rule of Thumb' in the RFDC. The proposal is able to achieve high compliance as all apartments have living spaces and balconies oriented to the north or north-east. Solar access is also maximised by the stepping heights of the individual building forms, and the varied separation distances between these.

- **Natural Cross Ventilation:** The proposal will provide cross ventilation to 65% of apartments, which complies with the requirement of the RFDC. This will ensure a high number of dwellings have access to fresh air and will assist in promoting thermal comfort to occupants. This will reduce energy consumption by minimising the reliance on air conditioning.

The Concept demonstrates that the development can achieve high levels of internal amenity for future residents.

VISUAL AND ACOUSTIC PRIVACY

The proposal has been designed and sited with due consideration to the privacy of adjoining and future incoming residents:

- Within the development, the buildings are consistent with the RFDC separation distances to ensure appropriate levels of privacy and provide sufficient space for private and communal open space.

- Development to the north, east and south are separated by roadways with generous separation distances to maintain privacy.

- Buildings to the west are one and two storeys. The proposal provides separation distances of 8m to 8.5m from the nearest dwellings. This is considered to be an appropriate separation for low scale development. The setbacks will be landscaped and future development will incorporate design measures, including balcony orientation to the north, to further mitigate against privacy impacts.

Accordingly, appropriate setbacks, building separation, balcony orientation and use of landscaping have been incorporated into the design to minimise privacy impacts. The use of materials and privacy screening at the detailed design stage will further enhance these proposed privacy measures.

SUSTAINABILITY

The concept has been designed with building massing and orientation to facilitate future BASIX compliance. Detailed assessment against BASIX will be provided at detailed DA stage.

The proximity of the new dwellings to workplaces and public transport infrastructure will reduce private vehicle dependence, thereby reducing greenhouse gas emissions.

ACOUSTIC ENVIRONMENT

The site is affected by road noise associated with Epping and Lane Cove Roads. Mitigation measures will be required at detailed design stage to address noise for residential units. The buildings are setback between 4.5m and 7.5m from the site boundary to provide separation from the roadways.

SUMMARY

Overall, it is considered that the site will not result in any significant environmental effects that would preclude the LEP amendment and the ultimate redevelopment of the site for high density mixed use, including residential development.

Q9. Has the planning proposal adequately addressed any social and economic effects?

The key issues to be balanced in weighing the social and economic impacts of the proposal are considered to be:

ECONOMIC IMPACT

The proposal will provide positive economic impacts:

- Retail, commercial and medical uses are located on the ground floor of the development with exposure to Epping Road and Lane Cove Road. These tenancies will create new job opportunities for the area while maintaining the medical centre use.
- The proposal will create job opportunities during the construction, maintenance and operation phases of future development.
- The proposed retail uses are more fine grained and will not impact on the viability of the Macquarie Park Centre. Rather, the increase in resident population will provide economic support to the businesses and services in the commercial core of Macquarie Park.
- This Planning Proposal supports the State government's current direction of increasing density and broadening land uses in proximity to public transport infrastructure.
- The Planning Proposal achieves the right balance of maintaining a strong employment focus while also recognising the benefits of providing residential development to take advantage of the locational and amenity benefits that the site offers. The proposal will not detract from the employment growth earmarked for Macquarie Park.
- The existing buildings within the site are nearing the end of their economic life. Optimising the potential to redevelop the site will assist State Government and Council to deliver the targets set out in *A Plan for Growing Sydney* but also, importantly will ensure that new housing and employment opportunities can be delivered with greater certainty.

SOCIAL IMPACT

The proposal will have positive social impacts on the local community and wider LGA:

- The proposal locates high-density residential development in an accessible location, close to jobs and transport infrastructure.
- The proposal will assist in meeting housing and job targets set by the State Government with greater housing choice and local employment opportunities.
- The proposal will achieve a high-quality architectural and urban design outcome for the site in relation to its context.
- The proposal has been designed and sited with due consideration to the privacy of adjoining and future incoming residents. Appropriate setbacks, building separation, balcony orientation and use of landscaping have been incorporated into the design to minimise privacy impacts.
- The proposal will not reduce the solar access of adjoining development to less than 2 hours in Winter and complies the DCP provisions.
- The proposal will provide a high level of security and design elements will deter criminal behaviour. Casual surveillance is also available over the private open space and entry areas from units and common areas. The proposal is therefore consistent with CPTED principles.

- The proposal has the potential to contribute approximately 180 new dwellings to the local housing stock. The proposed concept design provides flexibility with the future detailed design to accommodate a variety and size of dwelling types consistent with the RFDC.

- Importantly, the proposal seeks to improve on the lack of units in the suburb of Ryde. The proposal will provide a more diverse mix of dwelling types for smaller households which are currently underrepresented in the locality.

- Impacts on demand for social infrastructure services as a result of increased population. A comprehensive audit of existing facilities within the locality and the capacity of these facilities to accommodate increased demand associated with the development of the site will be undertaken to identify any gaps in the availability of social infrastructure. Future redevelopment of the site will be accompanied by a Voluntary Planning Agreement between the developer and Council to contribute to the delivery of infrastructure in the LGA.

SUMMARY

The planning proposal will therefore have positive economic and social benefits, with a multiplier effect that will benefit the broader community. In our opinion, the proposal has addressed social and economic impacts and is in the public interest.

8.4 SECTION D – STATE AND COMMONWEALTH INTERESTS

Q10. Is there adequate public infrastructure for the planning proposal?

Yes. The site is served by existing utility services and is located to allow incoming residents and workers to capitalise on the wide range of infrastructure and services existing and planned within the area. It will reinforce existing investment in public transport infrastructure, through increased patronage of the existing stations at Macquarie Park and North Ryde.

A range of established services are available within close proximity of the site, including health, education and emergency services networks.

Q11. What are the views of state and Commonwealth public authorities consulted in accordance with the Gateway determination?

No consultation with State or Commonwealth authorities has been carried out to date on the Planning Proposal. It is acknowledged that City of Ryde Council will consult with relevant public authorities following the Gateway determination.

9 Part 4 – Mapping

Draft zoning, height and FSR maps are attached at **Appendix B**.

10 Part 5 – Community Consultation

10.1 PUBLIC CONSULTATION

Clause 57 of the *Environmental Planning and Assessment Act 1979* requires the relevant planning authority to consult with the community in accordance with the gateway determination. It is anticipated that the Planning Proposal will be required to be publicly exhibited for 28 days in accordance with the requirements of the Department of Planning and Infrastructure guidelines "*A Guide to Preparing Local Environmental Plans*."

It is anticipated that the public exhibition would be notified by way of:

- A public notice in local newspaper(s).
- A notice on the City of Ryde Council website.
- Written correspondence to adjoining and surrounding landowners.

11 Part 6 – Project Timeline

It is anticipated that the LEP amendment will be completed within 9-12 months. An indicative project timeframe is provided below.

TABLE 4 – INDICATIVE PROJECT TIMELINE

STAGE	DATES
Consideration by City of Ryde Council	February 2015
Planning Proposal referred to Department of Planning and Environment for Gateway Determination	April/May 2015
Gateway Determination by Department of Planning and Environment	May/June 2015
Commencement and completion of public exhibition	July 2015
Consideration of submissions and consideration of the proposal post-exhibition	September 2015
Submission to the Department of Planning and Environment to finalise the LEP	November 2015
Gazettal of Local Environmental Plan Amendment	December 2015

12 Conclusion

This Planning Proposal seeks an amendment to Ryde Local Environmental Plan 2014 to allow for high density mixed use development at Nos. 366-372 Lane Cove Road, Nos. 124A & 126 Epping Road and No. 1 Paul Street, North Ryde. The Planning Proposal has been prepared in accordance with Section 55 of the *Environmental Planning and Assessment Act 1979* (the EP&A Act) and the relevant guidelines prepared by the NSW Department of Planning and Infrastructure including "*A Guide to Preparing Local Environmental Plans*" and "*A Guide to Preparing Planning Proposals*." It sets out the justification for the proposed LEP amendments applicable to the subject site to allow for a high density mixed use development.

The Preliminary Concept Design accompanying the Planning Proposal has been informed by a detailed site analysis. As a result, the proposed LEP changes in our view will achieve an appropriate development outcome for the following reasons:

- **From a local context perspective:** The Planning Proposal achieves an appropriate built form and scale having regard to maintaining the amenity of adjacent and surrounding lands.

- **From a strategic policy perspective:** The proposal will positively contribute to the State planning strategic goals of increasing employment and housing densities in centres with access to public transport. The level of residential development proposed will support the Macquarie Park Centre without impacting on employment lands in the Global Economic Corridor.

- **From a community benefit perspective:** The proposal will deliver a range of benefits for the community, including:

  - The proposal will maintain the medical centre use on site and ensure that it becomes permissible in the zone. The Proposal will also create new jobs in the retail, commercial and medical tenancies and during construction and maintenance of the development.

  - The proposal will provide approximately 180 new dwellings, which will increase housing choice and diversity within close proximity to public transport infrastructure and services.

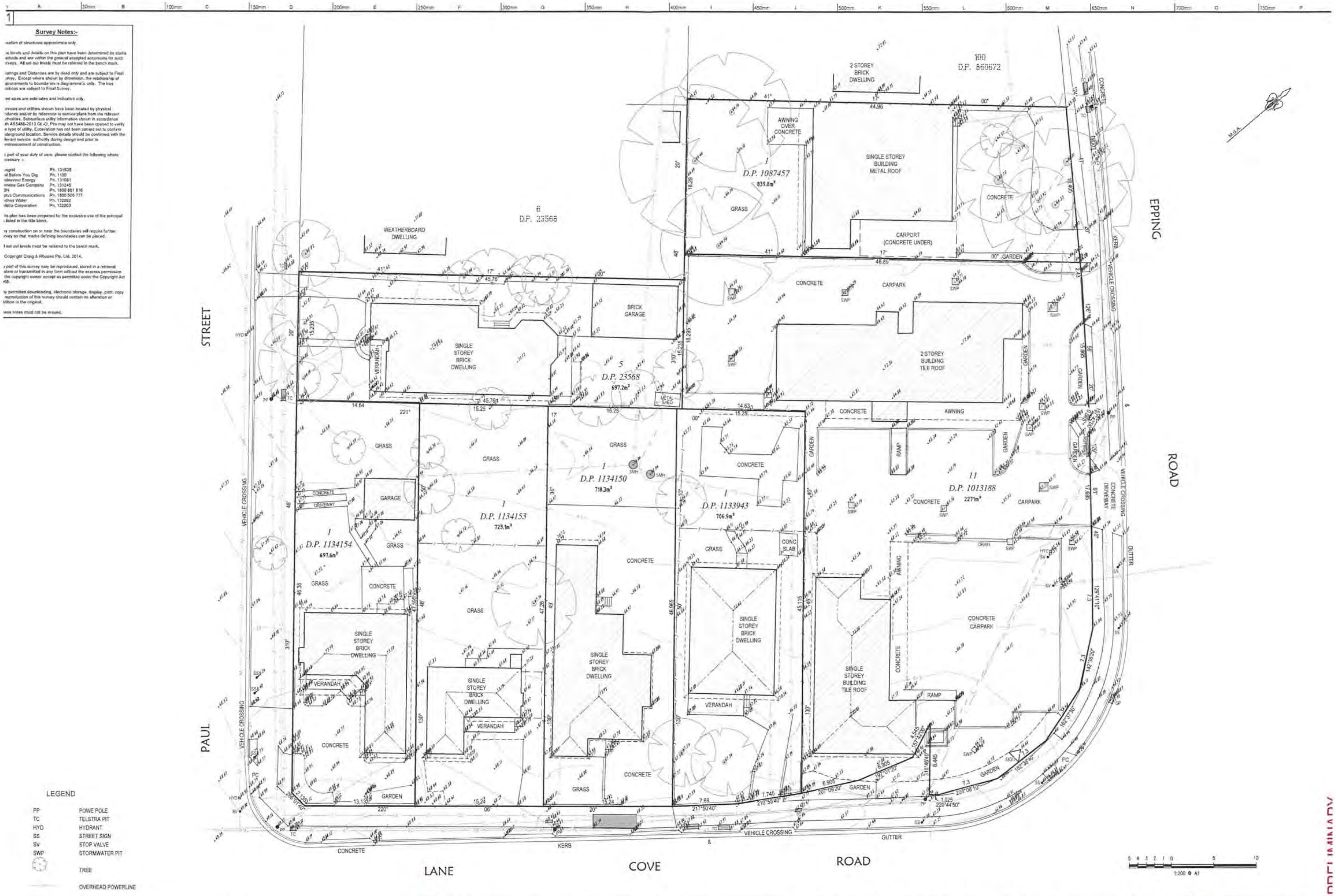
- **From an environmental perspective:** The proposal will have minimal environmental impacts in terms of traffic, parking, overshadowing, privacy and noise. Further, the provision of a mix of uses on the site with good accessibly to services and public transport will achieve environmental benefits by encouraging more trips in the centre without cars.

Overall, it is considered that the proposal will result in significant public benefits facilitating the development of a high quality mixed use development. This Planning Proposal supports the State government's current direction of increasing density in major centres with good access to public transport and facilities.

The Planning Proposal achieves the right balance of maintaining a strong employment focus while also recognising the benefits of providing residential development to take advantage of the locational and amenity benefits this site can provide.

The Planning Proposal will have positive social and economic benefits and we therefore have no hesitation in requesting the Council resolve to forward this planning proposal to the Department of Planning and Environment for LEP Gateway determination.

Appendix A Survey



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Project: DETAIL SURVEY OVER LOT 5 D.P. 23568, LOT 1 D.P. 134154, LOT 1 D.P. 134153, LOT 1 D.P. 1133943, LOT 11 D.P. 1013188 & LOT 1 D.P. 1087457
No.1 PAUL STREET, No.366-374 LANE COVE ROAD, No.124A-126 EPPING ROAD, NORTH RYDE

Principal	FRANPINA DEVELOPMENTS PTY. LTD.		
Scale 1:200	Date 9/9/2014	Council Ref.	
	Datum A.H.D.	L.G.A. RYDE	
Calc's E.C.	Drawn R.N.	Proj.Man. A.T.	Client Ref.

CRAIG & RHODES

90th ANNIVERSARY 1923 - 2013

APPROVED COMPANY ISO 9001 Quality Management Systems QMS

Our Ref. 152-14

Dwg File Ref. [Rev] - Sheet Ref. 152-14G T01 [00] - 01

PRELIMINARY

Appendix B LEP Mapping

Ryde Local Environmental Plan 2014

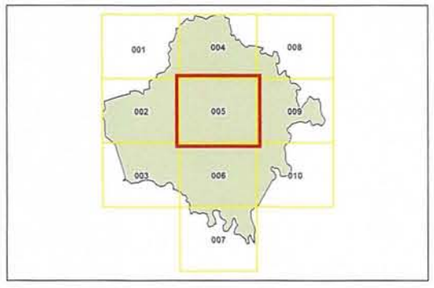
Land Zoning Map
Sheet LZN_005

Zone

- B1 Neighbourhood Centre
- B3 Commercial Core
- B4 Mixed Use
- B5 Business Development
- B6 Enterprise Corridor
- B7 Business Park
- E1 National Parks and Nature Reserves
- E2 Environmental Conservation
- IN2 Light Industrial
- W3 Working Waterfront
- R1 General Residential
- R2 Low Density Residential
- R3 Medium Density Residential
- R4 High Density Residential
- RE1 Public Recreation
- RE2 Private Recreation
- SP1 Special Activities
- SP2 Infrastructure
- DM Deferred Matter
- MD SEPP (Major Development) (Macquarie University) 2009

Cadastre

Cadastre 15/03/2013 © City of Ryde



N

0 200 400 m

Projection GDA 1994
MGA Zone 56

Scale: 1:10,000 @ A3

Map identification number:
6700_COM_LZN_005_010_20140227

Ryde Local Environmental Plan 2014

Height of Buildings Map
Sheet HOB_005

Maximum Building Height (m)

J	9.5	S2	24
K	10	T1	26
L	11.5	T2	27.5
M1	12	U1	30
M2	12.5	U2	30.5
N1	13	U3	33
N2	14	U4	33.5
O1	15	V	37
O2	15.5	W	44.5
O3	16	X	45
P	18.5	Z	57
Q	19	AA2	75
R1	21.5	AB1	92
R2	22	AB2	99
S1	23		

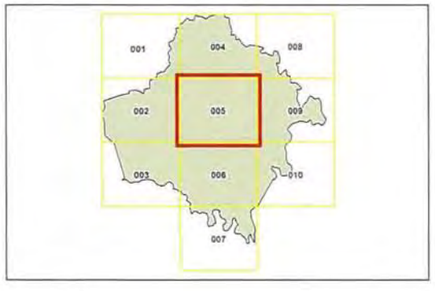
Refer to Clause 4.3A(1)

Maximum Building Height (RL)
Heights shown on map in RL (m)

- 7
- 14.6
- 18
- 24
- 25
- 33
- 39
- 47.75
- 91
- 105

Cadastre

Cadastre 15/03/2013 © City of Ryde



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Projection GDA 1994
MGA Zone 56

Scale: 1:10,000 @ A3

Map identification number: 6700_COM_HOB_005_010_20140227

Ryde Local Environmental Plan 2014

Floor Space Ratio Map
Sheet FSR_005

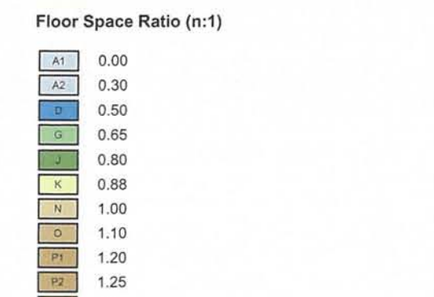
Floor Space Ratio (n:1)

A1	0.00
A2	0.30
D	0.50
G	0.65
J	0.80
K	0.88
N	1.00
O	1.10
P1	1.20
P2	1.25
Q1	1.30
Q2	1.39
S1	1.50
S2	1.80
T1	2.00
T2	2.20
U1	2.50
U2	2.60
U3	2.70
U4	2.90
V1	3.00
V2	3.20
V3	3.30
W	3.50
X	4.30
Z	5.00

Refer to Clause 4.4A (1)

Cadastre

Cadastre 15/03/2013 © City of Ryde



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Projection GDA 1994
MGA Zone 56

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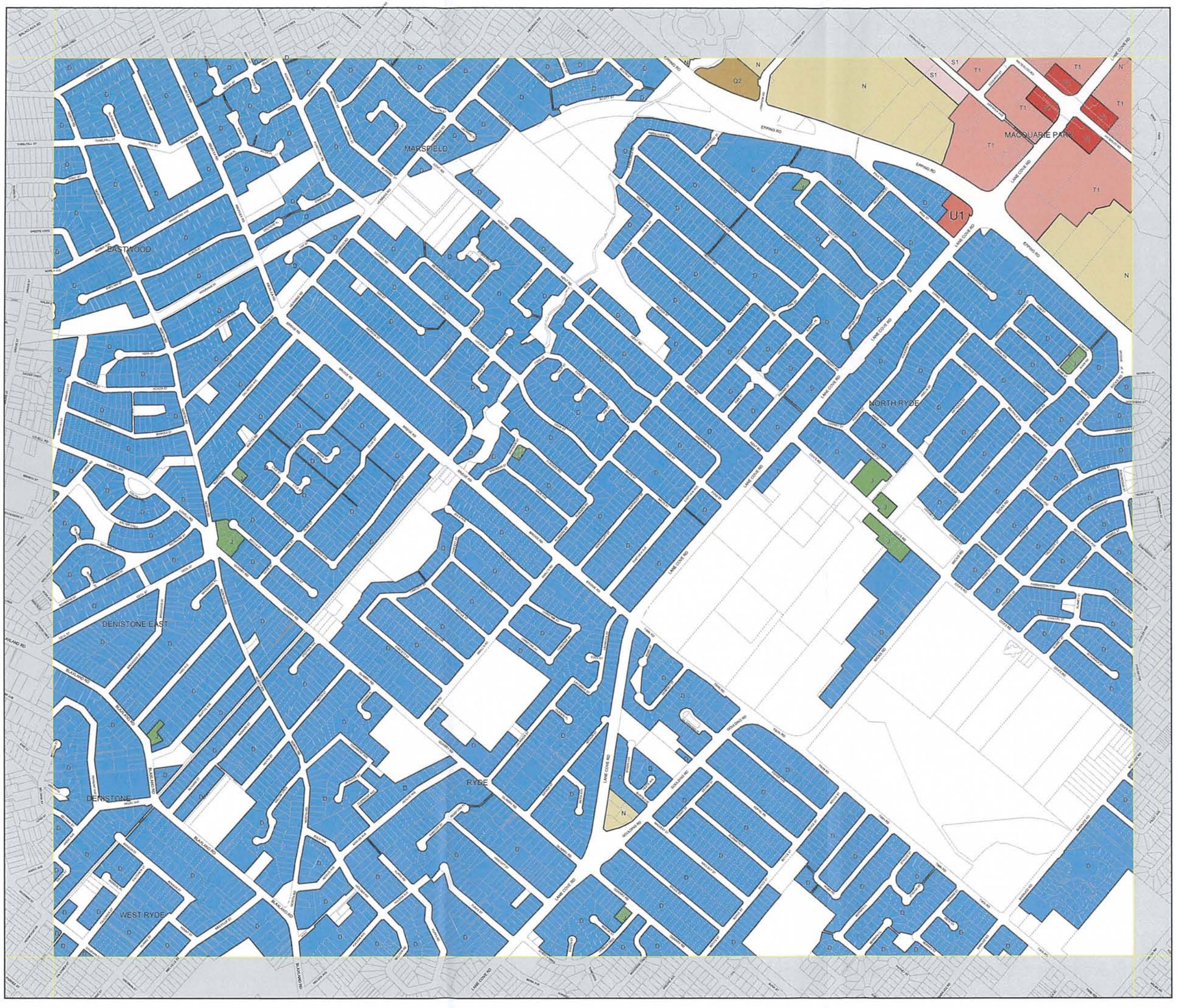

Appendix C Flood Study

DIRECTORS
Stewart McGeady Rick Wray Brad Seghers

FLOOD IMPACT ASSESMENT & RISK MANAGEMENT REPORT

Franpina Developments Pty Ltd

366-372 Lane Cove Road / 124a-126 Epping Road / 1 Paul Street, NORTH RYDE NSW

Job No. 150106
Revision B – 4th February 2015

Prepared for: Murdocca & Associates Pty Ltd

Prepared by: Rhys Mikhail

Northern Beaches Consulting Engineers Pty Ltd Structural, Civil & Stormwater Engineers ACN 076 121 616 ABN 24 076 121 616
Suite 207, 30 Fisher Road Dee Why NSW 2099 Tel 9984 7000 Fax 9984 7444 Email nb@nbconsulting.com.au

DIRECTORS
Stewart McGeady Rick Wray Brad Seghers

Contents

DIRECTORS
Stewart McSeady Rick Wray Brad Seghers

FLOOD RISK MANAGEMENT REPORT

DATE	4th February 2015
SITE	366-372 Lane Cove Road / 124a-126 Epping Road / 1 Paul Street, NORTH RYDE NSW
ENGINEER	Rhys Mikhail
DRAWINGS	Franpina Development Pty Ltd
JOB No	150106

INTRODUCTION

Northern Beaches Consulting Engineers Pty Ltd have reviewed the preliminary concept design (prepared by Bates Smart) for the above site address in reference to potential flooding issues. The proposal has been assessed utilising Ryde Councils Stormwater Management Technical Material manual, Council supplied flood information, Macquarie Park Floodplain Risk Management Study & Plan (Bewsher – 2011) and the NSW Government Floodplain Management Manual (2005).

The site consists of seven (7) properties located on the corners of Paul Street, Lane Cove Road and Epping Road in North Ryde. Six (6) of the existing properties contain single dwellings and the other property is a Medical Centre consisting of two separate buildings and car park. The development site is located within the vicinity of overland flow extents (for the 1 in 100 year flood event) of a flood as predicted by the Macquarie Park Floodplain Risk Management Study & Plan.

It should be noted that council flood information predicts that the 1% AEP flood extents will inundate part of the development site. These levels vary throughout the development site. Based on the existing site conditions this flood level is envisaged to enter the development site and inundate approximately 60% of the site.

Below is a summary of flood information in reference to City of Ryde DCP requirements and the NSW Government Floodplain Management Manual with reference to the 1 in 100 year storm event.

FLOOD RISK REPORT:

- Hazard classification — Medium
- Average 100 Year Flood Level (1% AEP) — See Table 1 below:

Table 1 – Associated 1% AEP Flood Levels from Ryde Council Supplied Flood Information

Building	Proposed FFL (AHD)	Associated 1% AEP Level (AHD)	Freeboard (mm)	Ryde DCP Check
A*	67.20m	66.63m	570	OK
B	69.00m	66.63m	2,370	OK
C	69.00m	N/A	N/A	OK
D	67.20m	65.74m	1,460	OK
E	69.00m	65.74m	3,260	OK
F	68.00m	N/A	N/A	OK
G	66.00m	64.74m	1,260	OK
H	66.00m	64.74m	1,260	OK
I	67.00m	N/A	N/A	OK

*NOTE: Refer appendix B for Building Locations

- Flood Plane Level (FPL) — 500mm above 1% AEP level
- Probable Maximum Flood Level (PMF) — 66.01m to 66.68m AHD
- Existing Ground Floor Level — See Table 2 below:

Table 2 – Existing Ground Floor Levels from Supplied Survey Information

Property Lot & DP number	Existing FFL (AHD)	Associated 1% AEP Level (AHD)
5 D.P 23568	66.52m	66.63m
1 D.P 1134154	68.98m	66.63m
1 D.P 1134153	68.55m	66.63m
1 D.P 1134150	68.23m	65.74m
1 D.P 1133943	67.68m	65.74m
11 D.P 1013188	67.17m & 64.86m	64.74m
1 D.P 1087457	64.05m	64.74m

- Degree of inundation 60%
- Hazard Level Medium
- Impacts of waterborne objects Medium
- Buoyancy Medium
- Evacuation and emergency issues
  Should flood waters begin to inundate the western and eastern kerb and path ways all occupants are directed to assemble at the Main Foyer of each building and to contact emergency services and adhere to their instructions. All residence above ground level are to remain in doors. Should flood waters continue to inundate the property all occupants are to evacuate the property (subject to emergency services instructions) via the south western car park to Paul Street and proceed towards higher ground to the west.
- Impact on surrounding properties Insignificant envisaged
- Flood levels Insignificant increase

- Recommendations for structural design

  All structural elements located below the 1% AEP flood levels are to be designed to withstand floodwaters.

- Waterproofing methods

  All electrical equipment is to be fitted with circuit breakers. Switchboard and main circuit unit is to be fitted above the 1% AEP flood level for each building. Other valuable materials or possessions are to be stored above this level and it should be acknowledged by the owner and occupants that a reasonable extent of damage to fittings below this level is to be expected during the 1% AEP storm event.

- Flood Warning

  Clear signage is to be displayed in the Main Foyer areas of the buildings indicating the extent of possible flooding, assembly points, evacuation procedures / strategy and recommendations for the storage of electrical and valuable goods above the PMF level. All permanent and temporary occupants of the building are to be informed of the extent of possible flooding, assembly points, evacuation procedures / strategy and recommendations for the storage of electrical and valuable goods above the PMF level.

- Flood Storage Area and Volume

  The Macquarie Park Floodplain Risk Management Study was used to predict the overall effect to the flood storage area in relation to the development. The dwellings and buildings have been considered as blockage areas for both the existing and proposed development scenario. The blockages are considered to be a reduction in flood storage volume.

  As a result of the development there is an approximate 15% reduction in flood storage area for the proposed development. This is considered to have an insignificant effect of the existing flood levels for storms up to and including the 1%AEP flood. Should a more accurate assessment be required, we recommend the council TUFLOW Model (July 2010) be updated to incorporate the proposed development.

- Car Parking and Driveway Access

  The driveway entrance locations are to ensure a minimum freeboard of 500mm is achieve for the associated 1% AEP flood level. Refer Table 3 for a summary of the basement entrance levels.

Table 3 – Driveway Levels / Basement Freeboard Achieved

Driveway Location	High Point (AHD)	1% AEP Flood Level (AHD)	Freeboard Achieved (mm)
Paul Street	67.20m	66.63m	570
Epping Road	66.00m	64.74m	1,260

The proposed driveway is to incorporate a high point on or near the development boundary to achieve the council required freeboard of 500mm. This has been adequately satisfied within the development. All driveways and car parking areas are to be designed in general accordance with City of Ryde Councils DCP and AS2890 requirements.

- Hazardous Material Storage

  Hazardous chemicals are not to be stored in areas under the the 1% AEP flood level for each building. This should be acknowledged by the owner and staff.

- Preliminary concept design reviewed

  The preliminary concept design is not envisaged to have an adverse effect on surrounding properties.

- Authors qualifications / experience

  Rick Wray
  Director NBConsulting,
  BE(Civil), MIEAust, CPEng, NPER,
  Over 30years professional experience

DIRECTORS
Stewart McGeady Rick Wray Brad Seghers

CONCLUSION

The proposed development generally meets the requirements of City of Ryde's DCP. We trust that this report meets with Council requirements for flood risk management analysis. Please contact the author if further clarification is required.

NORTHERN BEACHES CONSULTING ENGINEERS P/L

Rick Wray
B.E. CPEng NPER Director

X:\ENG NBC\2015\150106\150106 Flood Risk Report Rev B.docx

DIRECTORS
Stewart McGeady Rick Wray Brad Seghers

APPENDIX A – COUNCIL FLOOD INFORMATION

City of Ryde

Lifestyle and opportunity @ your doorstep

Murdocca & Associates P/L
PO Box 643
NORTH RYDE BC NSW 1670

8 August 2014 Our ref: D14/74896

Dear Sir

RE: Request for Flood Information – No 126 Epping Road, North Ryde

Reference is made to your application received on 7 August 2014 seeking flood level information pertaining to the above-mentioned address.

Please find attached flood level data sheet providing flood levels for the 20 year and 100 year ARI (Average Recurrence Interval) flood events as well as the PMF (Probable Maximum Flood) event.

Please be advised that flood models only approximate flood behaviour. Care and expertise is required in the interpretation of these flood levels. In addition, this flood information does not take into account any local overland flow issues.

Any person or organisation who acts on the information provided does so at his / her / its own risk. To the extent permitted by law, the City of Ryde accepts no responsibility and excludes all liability whatsoever in respect of any use of or reliance upon this information.

Should you require any further information, please feel free to contact Stormwater and Catchments Section on (02) 9952 8222.

Yours sincerely,

Guna Veerasingham
Team Manager, Stormwater and Catchments

Civic Centre 1 Devlin Street, Ryde NSW
Ryde Planning and Business Centre
1 Pope Street, Ryde (Below Ryde Library)

Post Locked Bag 2069, North Ryde NSW 1670
Email cityofryde@ryde.nsw.gov.au
www.ryde.nsw.gov.au

Customer Service (02) 9952 8222
TTY (02) 9952 8470 **Fax** (02) 9952 8070
Translating and Interpreting Service 131 450

DIRECTORS
Stewart McGeady Rick Wray Brad Seghers

City of Ryde

FLOOD INFORMATION REQUEST

Property Address: No. 126 Epping Road, North Ryde
Issue Date: 8 August 2014
Flood Study Reference: Macquarie Park Flood Study Report (April 2010)
Flood Model Reference: TUFLOW Model (July2010)

Flood Level Location Map

Flood Level Data Table

Location	20 Year ARI Flood (m AHD)	100 Year ARI Flood (m AHD)	Probable Maximum Flood (m AHD)
A	64.49	64.74	66.01
B	64.47	64.74	66.01
C	64.42	64.73	66.01
D	64.43	64.73	66.01
E	64.42	64.73	66.01
F	64.42	64.73	66.01

Notes:

- All levels are based on Australian Height Datum (AHD).
- This flood level information is for existing site conditions only.
- A site specific flood study / risk assessment may be required for any future development. Engage a suitably qualified engineer to assist you in this matter. Any study or assessment shall be in accordance with the NSW Government's Floodplain Development Manual 2005 and the City of Ryde Development Control Plan 2010.
- Site specific ground and building survey levels should be used to relate flood levels and to assess the impact of flooding.

DIRECTORS
Stewart McGeady Rick Wray Brad Seghers

City of Ryde

Flood Risk: Medium to High

City of Ryde
Lifestyle and opportunity @ your doorstep

Murdocca & Associates P/L
PO Box 643
NORTH RYDE BC NSW 1670

8 August 2014 Our ref: D14/74725

Dear Sir

RE: Request for Flood Information – No 1 Paul Street, North Ryde

Reference is made to your application received on 7 August 2014 seeking flood level information pertaining to the above-mentioned address.

Please find attached flood level data sheet providing flood levels for the 20 year and 100 year ARI (Average Recurrence Interval) flood events as well as the PMF (Probable Maximum Flood) event.

Please be advised that flood models only approximate flood behaviour. Care and expertise is required in the interpretation of these flood levels. In addition, this flood information does not take into account any local overland flow issues.

Any person or organisation who acts on the information provided does so at his / her / its own risk. To the extent permitted by law, the City of Ryde accepts no responsibility and excludes all liability whatsoever in respect of any use of or reliance upon this information.

Should you require any further information, please feel free to contact Stormwater and Catchments Section on (02) 9952 8222.

Yours sincerely,

Guna Veerasingham
Team Manager, Stormwater and Catchments

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Translating and Interpreting Service 131 450

City of Ryde

FLOOD INFORMATION REQUEST

Property Address: No. 1 Paul Street North Ryde
Issue Date: 8 August 2014
Flood Study Reference: Macquarie Park Flood Study Report (April 2010)
Flood Model Reference: TUFLOW Model (July2010)

Flood Level Location Map

Flood Level Data Table

Location	20 Year ARI Flood (m AHD)	100 Year ARI Flood (m AHD)	Probable Maximum Flood (m AHD)
A	66.17	66.18	66.33
B	66.62	66.63	66.68
C	65.66	65.70	66.13
D	66.16	66.16	66.21
E	65.32	65.34	66.02
F	65.32	65.33	66.01
G	65.74	65.74	66.01
H	Nil	Nil	66.01

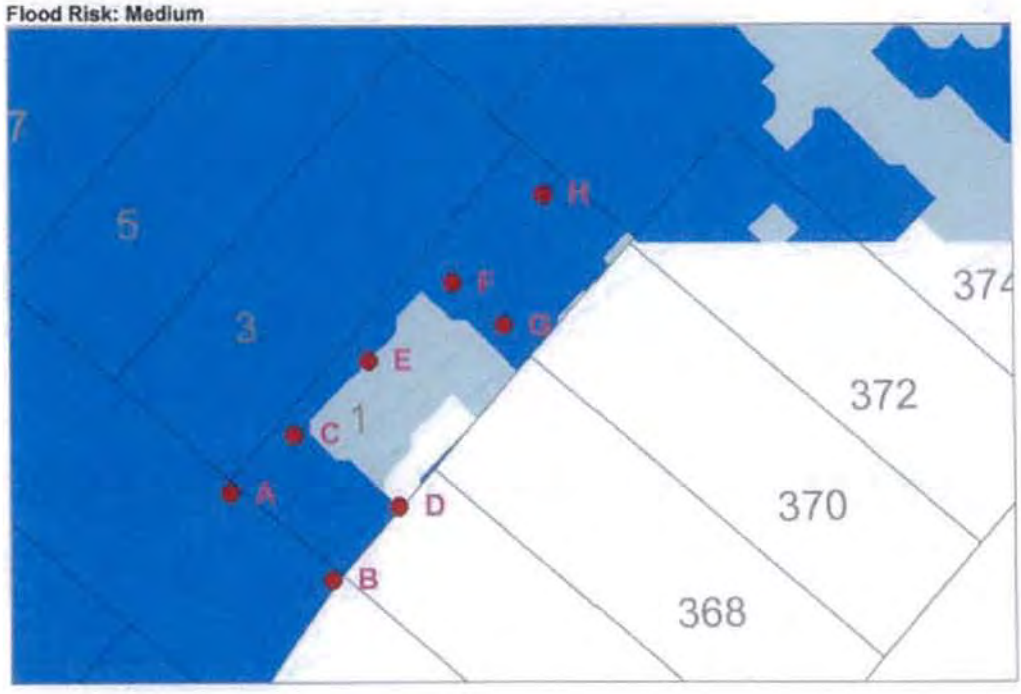
Notes:

- All levels are based on Australian Height Datum (AHD).
- This flood level information is for existing site conditions only.
- A site specific flood study / risk assessment may be required for any future development. Engage a suitably qualified engineer to assist you in this matter. Any study or assessment shall be in accordance with the NSW Government's Floodplain Development Manual 2005 and the City of Ryde Development Control Plan 2010.
- Site specific ground and building survey levels should be used to relate flood levels and to assess the impact of flooding.

DIRECTORS
Stewart McGeady Rick Wray Brad Seghers

City of Ryde

Flood Risk: Medium



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APPENDIX B – BUILDING LOCATIONS

DIRECTORS
Stewart McGeady Rick Wray Brad Seghers

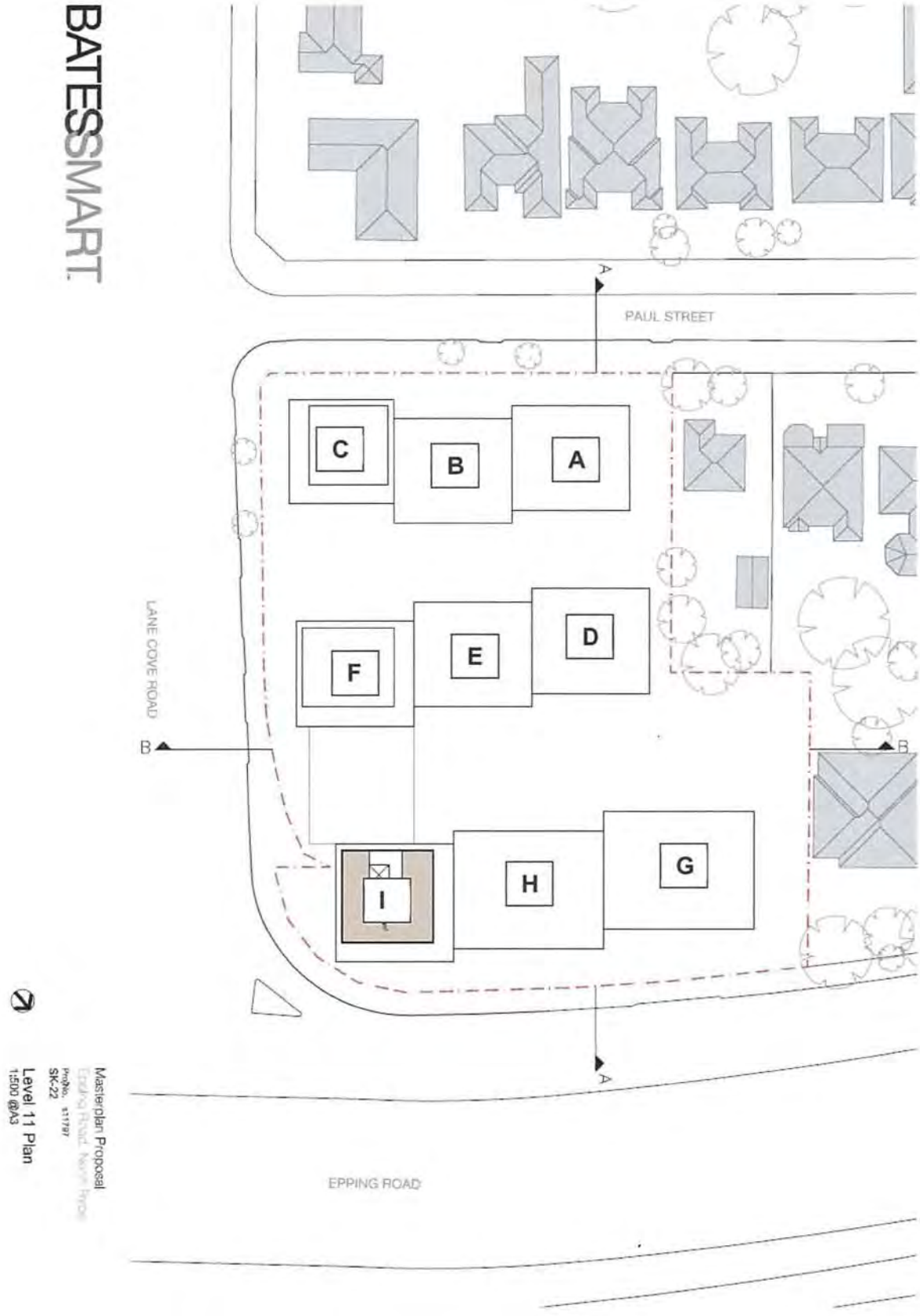

Figure 1 – Building Locations in Relation to 1% AEP Flood Level (Table 1)

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Stewart McGeady Rick Wray Brad Seghers

APPENDIX C – FLOOD STORAGE AREAS

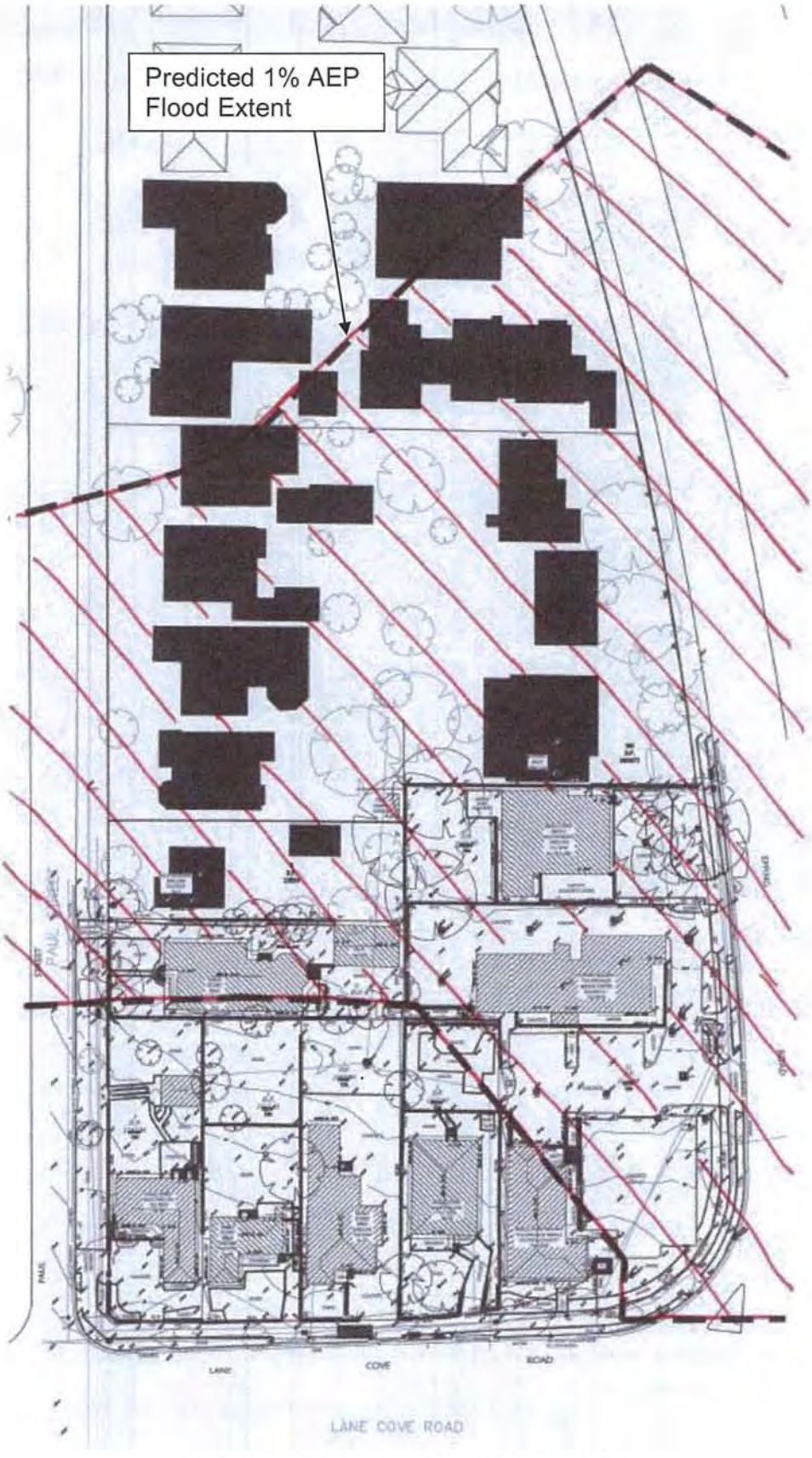


Figure 2 – Existing Flood Storage Area

DIRECTORS
Stewart McGeady Rick Wray Brad Seghers

Figure 3 – Proposed Flood Storage Area

DIRECTORS
Stewart McGeady Rick Wray Brad Seghers

APPENDIX D – ARCHITECTURAL PLAN & SURVEY

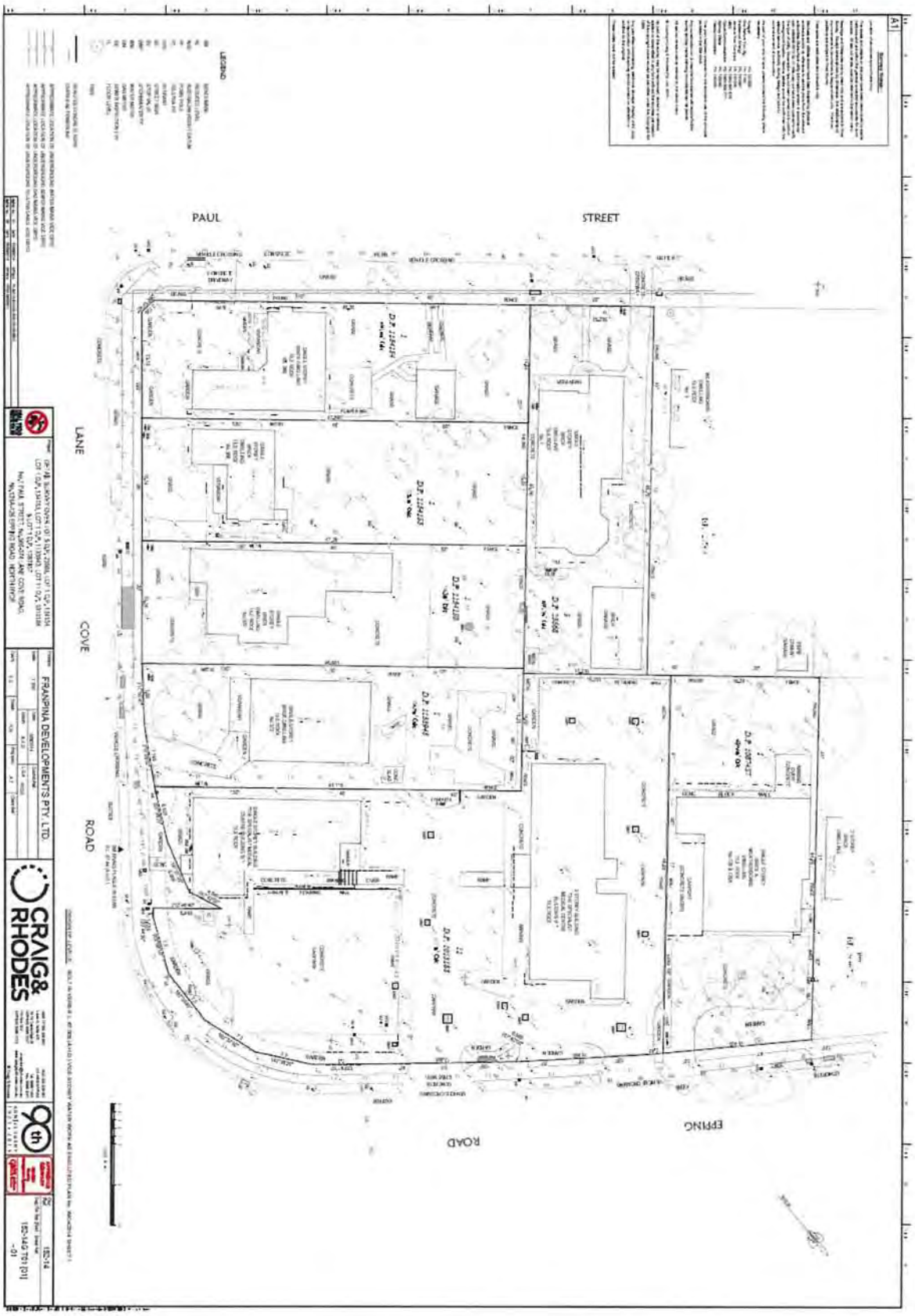


Figure 4 – Existing Survey Plan (Craig & Rhodes)

Figure 5 – Proposed Lower Ground Plan (BatesSmart)

Appendix D Preliminary Site Investigation

ENVIRONMENTAL EARTH SCIENCES

Franpina Developments Pty Ltd

Preliminary Site investigation

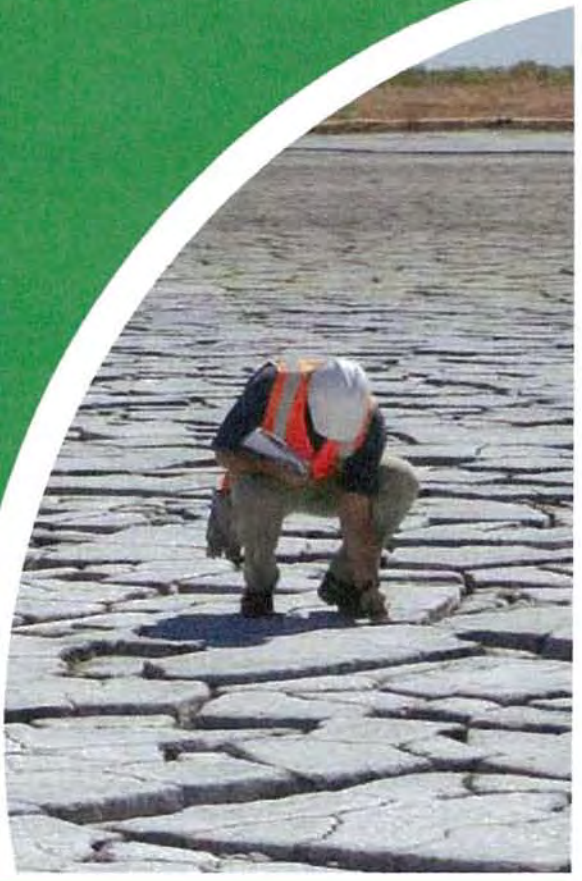
366-374 Lane Cove Road, 124A-126 Epping Road and

1 Paul Street, North Ryde NSW

115011

4 February 2015

- Soil and contaminated land assessment
- Groundwater assessment
- Mine environment management
- Property acquisition, disposal and management
- Environmental auditing and risk assessment
- Waste planning and management



ENVIRONMENTAL EARTH SCIENCES

4 February 2015

Franpina Developments Pty Ltd
C/- Urbis Australia Pty Ltd
Attn: Alaine Roff
Tower 2, Level 23 Darling Park
201 Sussex Street
Sydney NSW 2000

Dear Alaine

Preliminary Site Investigation at 366-374 Lane Cove Road, 124A-126 Epping Road and 1 Paul Street North Ryde, NSW.

Please find enclosed a copy of our report entitled as above. Thank you for the opportunity to undertake this work.

The potential for contamination is considered to be low based on a desktop review and a site inspection conducted on 14 January 2015.

It is considered that a detailed site assessment is not required based on the findings of this investigation.

If you have any queries concerning the investigation or the report please contact the undersigned.

On behalf of
Environmental Earth Sciences NSW

Report Author
Michael Grohmann
Geologist

Project Manager
Alice Plioplis
Senior Geologist

Project Director/Internal Reviewer
Christine Pitman
Principal Scientist

115011

EXECUTIVE SUMMARY

Environmental Earth Sciences undertook a Preliminary Site Investigation (PSI) for Franpina Developments Pty Ltd. Our inspection comprised a desktop investigation coupled with a site walkover inspection to identify the potential for soil and/ or groundwater contamination at the site.

Our desktop investigation comprised a review of the following information:

- Historical title searches;
- Historical aerial photographs;
- Local and State Government planning, register ad certificate information; and
- Soil, geology, hydrogeology and other relevant maps such as acid sulfate soil and salinity as required.

Please refer to below table for risk breakdown and overview:

SUMMARY	Yes/Likely	No/Unlikely	Comments
Has the site been assessed in accordance with the NEPM (2013)?	✓		
Is there a bona fide risk to human or ecological receptors?		✓	
Is there a requirement for further work (intrusive or hazardous materials assessment)?		✓	Asbestos survey of buildings to be demolished should occur prior to demolition
Is the property considered suitable for ongoing residential use with no further investigation?	✓		
Is the property considered suitable for the proposed mixed use with no further investigation?	✓		Waste characterisation of any excavated material will be required

RISK RATING	HIGH	MODERATE 2	MODERATE 1	LOW
Overall Site Environmental Risk				
• **On site Soil contamination**				
• **Underground storage tanks**				
• **Off-site migration**				
• **Historical Site Uses**				

Notes:

1. **High risk:** The desktop review and site inspection have identified potentially contaminating site activities and intrusive works must be carried out to confirm the presence or absence of contamination
2. **Moderate risk:** The desktop review and site inspection cannot rule out the presence of potentially contaminating site activities without undertaking recommended intrusive works
   Moderate 1: the potential for contamination is limited in either likelihood or extent and the presence or absence of contamination is expected to be resolved by limited targeted sampling
   Moderate 2: the potential for contamination is greater or more extensive than Moderate 1 and will require a detailed site investigation to confirm the presence or absence of contamination
3. **Low risk:** The desktop review and site inspection have not identified any potentially contaminating site activities

The site has **Low risk** of contamination associated with current and former uses.

The site has a **Low risk** associated with potential imported fill material used in the construction of dwellings 374 Lane Cove Road and 124A Epping Road (medical centre) and adjoining concrete paved car park and driveways.

A fibrous sheet shed/garage is located at 366 Lane Cove Road, it is unknown if this contains asbestos. An asbestos survey is recommended to identify the presence of ACM prior to demolition.

It is considered that no further investigation is required as the site has been used for residential purposes since at least the 1920's which is confirmed by review of historical title searches and available aerial photographs.

This executive summary is not a standalone document and should be read in conjunction with the rest of this report.

ENVIRONMENTAL EARTH SCIENCES

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ENVIRONMENTAL EARTH SCIENCES

FIGURES

APPENDICES

1.0 INTRODUCTION

Environmental Earth Sciences NSW undertook a Preliminary Site Investigation (PSI) at 366-374 Lane Cove Road, 124A-126 Epping Road and 1 Paul Street, North Ryde ("the site"). In accordance with the requirements of the National Environment Protection Council (NEPC) 2013, *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013*, this PSI aims to:

- identify potential sources of contamination and determine potential contaminants of concern;
- identify areas of potential contamination;
- identify potential human and ecological receptors;
- identify potentially affected media (soil, sediment, groundwater, surface water, indoor and ambient air).

The purpose of collecting basic site information is to identify potential contaminants, potentially affected media and potential areas of contamination by reviewing the site history, physical setting including local geology and hydrogeology, and site conditions.

Franpina Developments Pty Ltd intends to develop the site into a mixed use development with buildings ranging from 3 – 11 stories and basement parking accommodating a total of 180 dwellings and 255 car spaces as well as retail/commercial segments. As a part of the development, the site is required to be rezoned from R2 low density to B4 mixed use.

2.0 OBJECTIVE

The objective of this PSI is to provide information on the contamination status of the site to assist a planning proposal to rezone the subject site from R2 low density to B4 mixed use.

In accordance with the requirements of the Office of Environment and Heritage (NSW EPA) and SEPP55, this PSI is based on a desktop review and site walkover; hence no intrusive investigation was undertaken.

3.0 SCOPE OF WORK

The scope of work for this PSI consisted of:

- A site walkover, including taking photographs, documenting site operations and features and any visual potential for contamination;
- Obtaining and reviewing the following documents:
  - Historical title documents;
  - Historical aerial photographs;
  - EPA or Council online registers (for notified sites or environmental licences);
  - Available planning certificates;
  - WorkCover dangerous goods searches.
  - Soil, geology and other relevant maps such as acid sulfate soil and salinity as required;

- An online search for registered bores in a 1km radius of the site;
- Review of available historical information; and

- Provision of a site report detailing the PSI findings.

4.0 SITE CONDITION AND SURROUNDING ENVIRONMENT

RISK RATING: LOW

4.1 Site Identification

A summary of the site details are presented in Table 1. The site is located on the junction of Lane Cove Road and Epping Road and Lane Cove Road and Paul Street. The site comprises six residential properties and a commercial property in operation as a medical centre.

TABLE 1 SITE DETAILS

Item	Details
Site Owner	Franpina Developments
Address and associated Lot & DP number	126A Epping Road - Lot 1 DP 1087457 124A Epping Road and 374 Lane Cove Road - Lot 11 DP 1013188, 372 Lane Cove Road - Lot 1 DP 1133943 370 Lane Cove Road - Lot 1 DP 1134150 368 Lane Cove Road - Lot 1 DP 1134153 366 Lane Cove Road - Lot 1 DP 1134154 1 Paul Street - Lot 5 DP 23568
Area	6653.9 m^2
Zoning	R2 – Low density
Local Government Authority	Ryde City Council
Site Location, Layout and Features	Figures 1, 2 and 3

4.2 Adjacent Land Use

The following adjacent land use was observed at the time of the site inspection:

- North: bound by Epping Road with commercial buildings beyond this;
- South: bound by Lane Cove Road, with residential premises beyond this;
- East – construction site - apartment block development. To the south east there was a large excavation for the construction of another apartment block; and
- West – residential premises; south west of site bound by Paul Street.

4.3 Sensitive Receptors

The nearest sensitive human receptor is associated with patients and workers of the Specialist Medical Centre, located on the corner of Lane Cove Road and Epping Road, also the residents of 366-374 Lane Cove Road, 1 Paul Street and 126A Epping Road North Ryde, NSW.

The nearest sensitive environmental receptor is Shrimpton Creek and is located 900 m to the northwest of the site. Due to the westerly slope of the local topography, Shrimpton Creek could be considered an environmental receptor for surface runoff or groundwater impact from the site.

4.4 Topography and Vegetation

Chapman and Murphy (1989) describe the regional topography as low rolling and steep hills, Local relief 50-120 m, slopes 5-20%. Convex narrow (20-300 m) ridges and hillcrests grade into moderately inclined side slopes with narrow concave drainage lines. Moderately inclined slopes of 10-15% are the dominant landform elements.

The original tall open wet sclerophyll woodland has been extensively cleared. Low, dry sclerophyll open-woodland dominates ridges and crests of the Lane Cove/ North Ryde areas (Chapman and Murphy 1989).

4.5 Regional Geology

As described in the Sydney 1:100 000 Geological series sheet 9130 (Herbert 1983), the site is located on middle Triassic aged (~205-225 million years old) Wianamatta Group. The Wianamatta Group is subdivided into the Liverpool and Camden Subgroups. The site is located on the Liverpool Subgroup which comprises three formations; Bringelly Shale which consists of shale with occasional calcareous claystone, laminate and infrequent coal; Minchinbury Sandstone consisting of fine to medium-grained quartz lithic sandstone and Ashfield Shale formation consisting of laminated dark grey shale and siltstone (Chapman and Murphy, 1989).

The Wianamatta Group overlies the Triassic aged Hawkesbury Sandstone which consists of medium to coarse-grained quartz sandstone with minor shale and laminated lenses.

4.6 Soil

The soils observed at the site incorporate soils classified in the *Soil Landscapes of the Sydney 1:100 000 series sheet* (Chapman and Murphy, 1989) as belonging to the erosional Glenorie Soil Landscape. A soil landscape is an area of land with unique landform features containing a characteristic set of soils. As the site is located on a mid-slope the natural soils at the site are described by Chapman and Murphy as follows:

- Friable dark brown loam with a porous moderate structure. Surface is friable but may become hard setting when compacted and dry. Soil pH ranges from moderately acidic to slightly acidic 5.0 – 6.0. Shale fragments occur and charcoal is occasionally present whilst roots are common.
- Hardsetting brown clay loam with an earthy porous fabric. Colour is commonly brown but may range between dull yellowish brown and reddish brown. Soil pH ranges between strongly acid and moderately acid 4.0 – 6.0. Roots, shale rock and charcoal fragments are all present.

- Whole coloured reddish brown strongly structured clay. Texture is a medium clay but may range from silty to heavy clay. Colours can range from bright reddish brown to dull yellowish brown. The pH ranges from strongly acid to moderately acid 4.0 – 5.5. Shale rock fragments are common, roots are rare and charcoal fragments are absent.
- Mottled gray plastic clay which occurs as a deep sub soil. Colour is usually a pale grey but ranges from light reddish grey to brownish grey. Yellow and red mottles are common. This material is moderately sticky and very plastic when moist. Soil pH ranges from strongly acid to moderately acid 4.0 – 5.0. Shale rock fragments and gravels are common. Roots are rare and charcoal is absent.

4.7 Salinity Risk and Acid Sulfate Soils

Salinity maps for the area are not available. Chapman and Murphy (1989) mention localised salinity associated with the whole coloured reddish brown strongly structured clay of the Glenorie Soil Landscape.

The City of Ryde Council Planning Certificate Section 149 refers to no policy on hazard risk restrictions that restricts the development of the land due to acid sulfate soils. As the site is situated 70 m above sea level (Google Earth) the potential for acid sulfate soils are unlikely.

4.8 Hydrogeology and Drainage

A search was requested from the Department of Natural Resources and Mines/ *NSW Natural Resources Atlas* of registered groundwater bores within 1 km radius of the site. A series of ground water bores are located to the northeast of site as shown in Appendix C. Unfortunately, the search for the groundwater summaries conducted did not disclose any information regarding geological logs or water bearing zones.

Given the general topography and geology of the site, it is most likely that ground water will flow in a westerly direction towards Shrimptons Creek. Regional ground water flow is likely to drain north-north east towards the Lane Cove River.

4.9 Flood risk

As the site is located 70 m above sea level (Google earth) on a small ridge line, the site is not considered to be at risk of flood. Furthermore, the City of Ryde Council planning certificate Section 149 did not list the site in a flood risk area.

4.10 Meteorology

The Regional Meteorology of the site can be summarised using data from the Riverview Observatory weather station (station 066156, approximately 5 km southwest) published on the Bureau of Meteorology website (accessed 15/01/2014). This station opened in 1909. Mean maximum and minimum monthly temperatures and mean monthly rainfall recorded between 1909 and January 2015 are presented in Table 2. The regional climate comprises hot summers, mild winters and summer dominated rainfall.

TABLE 2 SUMMARY OF REGIONAL METEOROLOGY – 1909 TO PRESENT

Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Max temp (°C)	26.6	26.4	25.3	22.8	19.7	17.2	16.8	18.4	20.8	22.8	24.3	25.8	-
Min temp (°C)	17.6	17.7	16.1	12.9	9.9	7.8	6.4	7.2	9.4	12.0	14.3	16.3	-
Average rainfall (mm)	106.2	111.2	126.7	109.2	104.7	118.5	84.1	71.2	61.5	75.9	79.8	84.0	1113.4

5.0 HISTORICAL REVIEW

RISK RATING: LOW

This section includes:

- review of historical aerial photographs and title documents;
- review of historical title documents;
- review of all local and state government registers relating to the site; and
- review of any pertinent documents which exist for the site (as listed in Section 3.0).

5.1 Review of Historical Aerial Photographs

A review of aerial photographs and other available imagery of the site is presented in Table 4. At the time of the first available aerial image in 1943, the site was cleared of vegetation and accommodated a single residential dwelling on what is now address 374 Lane Cove Road. The construction of all residential buildings and associated subdivisions occurred between 1951 - 1970 to form 1 Paul Street, 366-372 Lane Cove Road and 124/126A Epping Road.

The concrete paved car park associated with the medical centre on the junction of Epping Road and Lane Cove Road was constructed between 1994 – 2002. In the same time period, the original 1951 dwelling looks to have been renovated and/or redeveloped to form the current tiled roof, single story tiled building located at 374 Lane Cove Road.

TABLE 3 REVIEW OF AERIAL PHOTOGRAPHS

Year	Scale/ Height	Colour/ B&W	Notes
1943	Six maps/viewer	B & W	A single residential dwelling is located on site. Otherwise, the site is a cleared grassed area enclosed by the boundaries of Epping Road to the north, Lane Cove Road to the southeast and Paul Street to the south-southwest. Observed land uses in the North Ryde area comprise partial commercial/ agricultural/ residential development.
1951	-	B & W	Site is as previous, comprising a single residential dwelling and a clear grassed area. A slight increase in commercial/ agricultural/ residential development in the North Ryde area. Increased development immediately southeast of site.
1970	-	B & W	The site has been sub divided to form its current properties of 1 Paul Street, 366-372 Lane Cove Road and 124/126A Epping Road. The original single residential dwelling from the 1951 aerial appears to be present at address 374 Lane Cove Road (medical centre). The car parks associated with the current medical centre on the corner of Lane Cove Road and Epping Road have not yet been constructed. A large increase in urban residential development in the North Ryde area.
1978	1:16 000	B & W	Site remains as previous with residential dwellings as noted. Increased commercial development to the north/northwest of site.
1994	1:25 000	Colour	Site remains as previous. Increased commercial development in the area.
2002	1:25 000	Colour	The concrete paved car park is now evident at the medical centre buildings. The original single residential dwelling from the 1951 aerial has now been redeveloped into the current, easterly residing building associated with the medical centre. All other residential dwellings remain as previous.
2005	Google Earth	Colour	At property 372 Lane Cove Road, an above ground pool is present in the back yard. Otherwise site as previous.
2007	Google Earth	Colour	Above ground pool removed at property 372 Lane Cove Road, land subdivided and fence removed for car parking associated with the medical centre. All other residential dwellings as previous. Immediately northwest of site across Epping Road has been demolished for redevelopment.
2009	Google Earth	Colour	The site is as previous. Locally, the site immediately northwest across Epping Road has been redeveloped for commercial purposes.
2013	Google Earth	Colour	Site as previous, area where pool was present (372 Lane Cove Road) is being used as a car parking facility for the medical centre.

5.2 Review of Historical Title Certificates

A review of historical title certificates is presented in Table 4. The title search shows the residential change of hands from 1919 – 2000. The search proves historically that the current Lot 11 DP 1013188 and associated former Lot and DP's as summarised in the table below were used for residential purposes only and therefore minimal risk of contaminating activities on site. The historical title certificates are presented in Appendix B of this report.

TABLE 4 SUMMARY OF HISTORICAL TITLE CERTIFICATES

Lot on Plan	Date of Title	Owner	Comments
Current Lot 11 DP 1013188			
Former Lot 15 DP 23568			
V. 2917 F.54	4/3/1919	William Moss	Butcher
V. 2917 F.54	17/4/1923	John Larkin	Carpenter
V 3445 F.134	10/6/1931	Myrtle Harrison	Widow, domestic duties
V. 4487 F. 243	23/4/1934	John Larkin	Carpenter
V. 4487 F. 243	20/4/1939	Arthur Bush	Labourer
V 5036 F. 178	4/8/1939	Bridget and Joseph Harrington	Electrician
V 5036 F. 178	21/7/1943	Joseph Harrington	Electrician
V 5036 F. 178	2/12/1943	Rex and Patricia Emerson	Member of the Australian Imperial Forcers
V 5036 F. 178	4/11/1955	Frank and Josephine Arena	Freeholder
Lot 15 DP 23568	19/4/2000	Franpina Developments	
Former Lot 2 DP 1009958			
V. 4418 F. 109110	15/7/1938	-	The commissioner for main roads
Lot 2 DP 1009958	12/4/2000	Frank and Giuseppa Arena	
Former Lot 1 DP 15460 – Later Lot 45 DP 701043			
V. 4418 F. 247	1/2/1935	William Larkin	Railway Employee
V. 5008 F. 274	11/4/1939	John L Larkin	Carpenter
V. 5008 F. 247	8/7/1966	John P Larkin	Electrical Operator
V 5008 F. 247	7/4/1970	-	The commissioner for main roads
Lot 45 DP 701043	3/9/1986	Frank and Giuseppa Arena	Real Estate Agent
Former Lot 293 DP 15460			
V.5036 F. 134	8/10/1954	Alex W Hamilton	Builder
V.5036 F. 134	9/11/1965	Lloyd Hamilton	Geologist
V.5036 F. 134	4/7/1966	Leo Costa	Retired Fruiterer
V.5036 F. 134	14/9/1967	-	The Commissioner for Main Roads

5.3 Council Planning Certificate

In relation to Section 59 (2) of the Contaminated Land Management Act 1997, the City of Ryde Council Planning Certificate (Section 149 [2] & [5] under the Environmental Planning and Assessment Act, 1979), states that the land:

- *"The land to which this certificate relates IS NOT significantly contaminated land.*
- *The land to which this certificate relates IS NOT subject to a management order.*
- *The land to which this certificate relates IS NOT the subject of an approved voluntary management proposal.*
- *The land to which this certificate relates IS NOT subject to an ongoing maintenance order.*
- *The land to which this certificate relates IS NOT subject to a site audit statement.*"

This information pertains to all properties involved in this PSI, as detailed in table 1 (site details) of this report.

5.4 WorkCover Dangerous Goods Search

A search of the Stored Chemical Information Database (SCID) and the microfiche records held by WorkCover NSW has not located any records pertaining to Lot 11 DP 1013188.

5.5 NSW EPA Contaminated Sites Register

A search of the NSW EPA contaminated land public record database showed no notices or records for the site.

5.6 Underground Petroleum Storage System Regulation-sensitive Zones Map

Review of the NSW EPA (2010) UPSS regulation sensitive zones map for Ryde City Council indicated that the site is not located within a sensitive zone.

6.0 SITE OBSERVATIONS

RISK RATING: Low

6.1 Site walkover

A site walkover was undertaken on 14 January 2015. Site inspection findings are summarised in Table 5. Photos showing site features are presented in Appendix A. The site comprises six separate residential properties and a commercial property trading as a medical centre.

Access was made available to the common areas of the medical centre buildings only. All other properties were viewed from the street outside the property. Potential under house access crawl spaces were identified at 366 and 370 Lane Cove Road and 1 Paul Street. These crawl spaces were not inspected during the site walkover.

Figure 2 shows the investigation area in its entirety with Lot and DP, area in m^2 and site boundary information. Figure 3 shows in more detail the findings of the site walkover associated with the medical centre facility and the shed/garage containing potential asbestos containing material (PACM) located at 366 Lane Cove Road.

TABLE 5 SITE INSPECTION FINDINGS

Location	Observation	Risk Rating
Lot 11 DP 1013188 **124 Epping Road** **374 Lane Cove Road**	Two commercial structures were present on site and in operation as a medical centre facility. A two story brick rendered, tiled roof building, concrete awning and surrounding concrete car park was observed at 124 Epping Road. A single story building with a tiled roof was observed at 374 Lane Cove Road. The site was 95% concrete paved. From the 1951 aerial photo, this is the location of the only residential dwelling on the property at the time. Aerial photo investigation showed a change (renovation/redevelopment) of the property between 1994 – 2002. A network of stormwater pits (photo1) were observed on site, the pits located to the northwest side of site were noted to have small amounts of cracking in surrounding concrete. With reference to photo 2, a change in the concrete pavement to bitumen was observed in the shape of what looked to be a former stormwater pit. An unknown service pit was located to the southwest of site. The additional car park which extends into lot 1 DP 1133943 was a former back yard/pool area (confirmation from aerial photos 2005 – 2007). A potential for fill material is present at this location as a small timber retaining wall of approx 400 mm depth was noted to level the car park area. Stabilizing fill material associated with the paved concrete car park may also be present. A larger retaining wall (approximately 800 mm) was located to the rear of 124A Epping Road (refer to photo 4) which could comprise fill material.	Low
Lot 1 DP 1087457 **126A Epping Road**	A single story brick building with a metal roof was present on site. Large, healthy looking trees and vegetation was observed. The front yard was mostly concrete paved with some minor cracking. Colorbond fencing was identified on the eastern boundary with an approximate 500 mm drop from the east neighbouring site noted. The retaining wall mentioned in the photo is retaining the concrete slab and possible fill material (refer to photo 14).	Low
Lot 5 DP 23568 **1 Paul Street**	A single story red brick building with crawl space and tiled roof was observed onsite (photo 12). A large brick garage was also present to the north. Red brick fencing was noted to the east and north, no site barrier was present to the west. Vegetation was noted to be overground with large trees in the front yard. A bare grass/soil patch was noted in the front yard, most likely from cars being parked on site. A long concrete driveway extended north toward the garage.	Low
Lot 1 DP 1134154 **336 Lane Cove Road**	The lot is located on the junction of Lane Cove Road and Paul Street. A single story, brick rendered, tiled building was present. Brick rendered and metal bar fencing was located on the eastern and most of the northern boundaries. The western boundary and second half of the northern boundary extending west was timber fenced. The front yard was noted as to be concrete paved. A crawl space was noted underneath the building (photo 10). A garage/shed was present in the rear yard, North west portion of site. The shed/garage could be constructed from asbestos/fibro material (photo 9). The material was not confirmed.	Low

Lot 1 DP 1134153 **368 Lane Cove Road**	A single story red brick building with a tiled roof and concrete front verandah was present. A rundown timber fence was noted on the eastern boundary of the property. The northern boundary comprised brick rendered fencing then colorbond fencing extending west. Some bare soil (photo 11) was noted in the front yard, most likely associated with car parking on site. Grass front yard with a 300 mm drop from the footpath.	Low
Lot 1 DP 1134150 **370 Lane Cove Road**	A single story brick rendered, tiled roof building was present on site. A crawl space was identified from the front of the property (photo 8). Northern and eastern boundaries comprised brick rendered fencing then colorbond fencing extending west.	Low
Lot 1 DP 1133943 **372 Lane Cove Road**	A single story brick dwelling with a tiled roof was present on site. The eastern boundary comprised brick fencing, colorbond fencing was observed on all other boundaries. A large conifer species of tree was present in the front year and appeared healthy. Some surface erosion was evident with patchy grass (photo 7). A drop of 500 mm from the footpath to the front year was noted.	Low

1. **High risk:** The desktop review and site inspection have identified potentially contaminating site activities and intrusive works must be carried out to confirm the presence or absence of contamination
2. **Moderate risk:** The desktop review and site inspection cannot rule out the presence of potentially contaminating site activities without undertaking recommended intrusive works
   Moderate 1: the potential for contamination is limited in either likelihood or extent and the presence or absence of contamination is expected to be resolved by limited targeted sampling
   Moderate 2: the potential for contamination is greater, or more extensive than Moderate 1 and will require a detailed site investigation to confirm the presence or absence of contamination
3. **Low risk:** The desktop review and site inspection have not identified any potentially contaminating site activities

6.1.1. Previous activities/uses

Historically the site has been used for residential purposes.

6.1.2. Services to the property (including sewer and underground services)

Underground services to the site include sewer, storm water, Ausgrid and Telstra telecommunications infrastructure.

6.1.3. Previous and present building and structures

A single residential building was present in the 1943 aerial photo at address 374 Lane Cove Road.

Present buildings are shown in Figure 2 with two commercial buildings, six residential buildings and two household garage/sheds. At the time of the site inspection all dwellings and site boundaries appeared in fair condition. As per the historical aerial photograph review of this report all residential buildings were constructed between 1951 – 1970.

6.1.4. Chemical storage and transfer areas

At the time of the site inspection no chemical storage of transfer areas were observed, although it is assumed that the medical centre in operation has some form of waste transfer area.

6.1.5. Basements and crawl space

At the time of the site inspection crawl spaces were noted at No. 366 and 370 Lane Cove Rd and No. 1 Paul Street. Crawl spaces are likely to be present at 368 and 372 Lane Cove Rd given the general north westerly sloping topography. These crawl spaces were not inspected as access to the residential properties was not permitted at the time of the site inspection.

6.1.6. Wastes produced

It is presumed there would be some clinical and related waste associated with the operational medical centre facility. No waste storage areas were identified during the site inspection. It is assumed that any clinical and related waste produced is disposed of correctly and lawfully, in accordance with *Protection of the Environment Operations (waste) Regulation (2014).*

6.1.7. Waste disposal locations and imported fill

There is a potential for imported fill material associated with the construction of the two and one story structures and paved concrete car park associated with the medical centre. Although it is unclear if this fill was sourced from on or off site.

7.0 POTENTIAL FOR CONTAMINATION AND CONCEPTUAL SITE MODEL

A conceptual site model (CSM) of the site can be formed by considering the likelihood of pathways between potential sources of site contamination and potential receptors.

7.1 Sources

The potential sources of site contamination based on our site inspection and historical assessment of site activities are considered to be limited to:

- unverified imported fill material associated with the construction of buildings and concrete paved car parks located at the medical centre facility (No. 374 Lane Cove Rd and No. 124A Epping Rd); and
- potential asbestos containing material in the residences including the garage structure located at No. 366 Lane Cove Road.

There is also potential for localised spills of household chemicals, such as lubricant, coolant, fuel (e.g. for lawnmower/car), however these would be minimal and impact to human and environmental sensitive receptors would be limited.

7.2 Pathways

The potential pathways between the sources and receptors include direct contact, migration through soil and groundwater and volatilisation (i.e. inhalation). The presence of hardstand, gravel or landscaped areas would further reduce the pathway potential of any contamination. The local clay soils would also assist to inhibit the mobilisation of any potential contamination both vertically and laterally.

7.3 Receptors

The risk to humans from imported fill material and PACM is low, given the physical barriers to areas of likely imported fill and the apparent intact condition of PACM (ie no broken or friable pieces of PACM were observed).

Therefore the risk to the site's human and environmental receptors is considered low.

8.0 RECOMMENDATIONS AND CONCLUSIONS

The findings of the site inspection and historical investigation into current and former uses of 366-374 Lane Cove Road, 124A-126 Epping Road and 1 Paul Street, North Ryde indicate that site land use has been limited to low density residential use and mixed use as a professional medical practice.

The proposed development incorporates basement car parking. Any soil to be excavated and removed from site will require Waste Classification in accordance with EPA (2014) *Waste Classification Guidelines*.

Furthermore, an Unexpected Findings Protocol is recommended to manage any unexpected findings during excavation works. For example, if any contaminated material is discovered during excavation works, this will have to be managed appropriately and removed from site in conjunction with EPA (2014) *Waste Classification Guidelines.*

Potential asbestos containing material is present at the site. We recommend that a suitably qualified contractor undertake an asbestos survey on any property to be demolished. If more than 10 m^2 of asbestos containing sheeting is present on site, then this will require monitoring, removal and disposal by an appropriately licensed contractor.

In summary, the potential contamination is considered low and is limited to the presence of PACM within the residences/ garages and the areas of potential fill material associated with medical centre buildings and car park.

The site has a **Low** risk rating relating to potential contamination on site. Based on the results of this preliminary site investigation and in accordance with the requirements of SEPP55, a detailed site investigation is not required.

9.0 LIMITATIONS

This report has been prepared by Environmental Earth Sciences NSW ABN 109 404 006 in response to and subject to the following limitations:

1. The specific instructions received from Franpina Developments Pty Ltd;
2. The specific scope of works set out in PO114063 V2 issued by instructing company for and on behalf of Franpina Developments Pty Ltd, is included in Section 2 (Objectives) of this report;
3. May not be relied upon by any third party not named in this report for any purpose except with the prior written consent of Environmental Earth Sciences NSW (which consent may or may not be given at the discretion of Environmental Earth Sciences NSW);
4. This report comprises the formal report, documentation sections, tables, figures and appendices as referred to in the index to this report and must not be released to any third party or copied in part without all the material included in this report for any reason;
5. The report only relates to the site referred to in the scope of works being located 124A-126 Epping Road, 366-374 Lane Cove Road and 1 Paul Street (the site");
6. The report relates to the site as at the date of the report as conditions may change thereafter due to natural processes and/or site activities;
7. No warranty or guarantee is made in regard to any other use than as specified in the scope of works and only applies to the depth tested and reported in this report;

8. Fill, soil, groundwater and rock to the depth tested on the site may be fit for the use specified in this report. Unless it is expressly stated in this report, the fill, soil and/or rock may not be suitable for classification as clean fill if deposited off site;
9. This report is not a geotechnical or planning report suitable for planning or zoning purposes; and
10. Our General Limitations set out at the back of the body of this report.

10.0 REFERENCES

Australian Government Bureau of Meteorology website http://www.bom.gov.au/ Accessed 15/01/2015

Chapman, G.A. and Murphy, C.L. (1989). *Soil* landscapes *of the Sydney 1:100 000 sheet*, Soil Conservation Service of NSW, Sydney

Department of Urban Affairs and Planning & NSW EPA (1998) *Managing Land Contamination – Planning guidelines SEPP55 – Remediation of Land.*

Herbert C. (ed.) (1983) — *Geology of the Sydney 1:100 000 I Sheet 9130,* New South Wales Geological Survey, Sydney.

National Environment Protection Council (NEPC) 2013, *National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013.*

NSW Department of Finance & Services, Land & Property Information https://six.nsw.gov.au/wps/portal/ (Accessed 23 January 2015)

NSW EPA (2014) *Waste Classification Guidelines*

NSW (2014) *Natural Resource Atlas (*Accessed 27 January 2015*)*

NSW Office of Environment & Heritage (2011) *Contaminated sites: Guidelines for consultants reporting on contaminated sites.*

NSW Protection of the Environment Operations Act 1997: *Protection of the Environment operations (Waste) Regulation 2014*

11.0 GLOSSARY OF TERMS

The following descriptions are of terms used in the text of this report.

Acid Sulfate Soil (ASS) soil containing iron sulfides deposited during either the Pleistocene or Holocene geological epochs (Quaternary aged) as sea levels rose and fell.

Aquifer rock or sediment in a formation, group of formations, or part of a formation which is saturated and sufficiently permeable to transmit economic quantities of water to wells and springs.

Background natural level of a property.

Baseline initial value of a measure.

Clay Soil material composed of particles finer than 0.002 mm. When used as a soil texture group such soils contain at least 35% clay.

Contaminant generally, any chemical species introduced into the soil or water. More particularly relates to those species that render soil or water unfit for beneficial use.

Contamination is considered to have occurred when the concentration of a specific element or compound is established as being greater than the normally expected (or actually quantified) background concentration.

Gradient rate of inclination of a slope. The degree of deviation from the horizontal; also refers to pressure.

Groundwater water held in the pores of an aquifer.

Horizon individual soil layer, based on texture and colour, which differs from those above and below.

Mottled masses, blobs or blotches of sub-dominant, varying colours in the soil matrix.

pH logarithmic index for the concentration of hydrogen ions in an aqueous solution, which is used as a measure of acidity.

Profile the solum. This includes the soil A and B horizons and is basically the depth of soil to weathered rock.

Remediation restoration of land or groundwater contaminated by pollutants, to a state suitable for other, beneficial uses.

Shale fine-grained sedimentary rock formed by the compaction of silt, clay, or sand that accumulates in deltas and on lake and ocean bottoms. It is the most abundant of all sedimentary rocks.

Stratigraphy vertical sequence of geological units.

Subsoil subsurface material comprising the B and C horizons of soils with distinct profiles. They often have brighter colours and higher clay content than topsoils.

Texture is the size of particles in the soil. Texture is divided into six groups, depending on the amount of coarse sand, fine sand, silt and clay in the soil.

Topsoil part of the soil profile, typically the A1 horizon, containing material which is usually darker, more fertile and better structured than the underlying layers.

Toxicity the inherent potential or capacity of a material to cause adverse effects in a living organism.

Volatile having a low boiling or subliming pressure (a high vapour pressure).

Water table interface between the saturated zone and unsaturated zones. The surface in an aquifer at which pore water pressure is equal to atmospheric pressure.

12.0 GENERAL LIMITATIONS

Scope of services
The work presented in this report is Environmental Earth Sciences response to the specific scope of works requested by, planned with and approved by the client. It cannot be relied on by any other third party for any purpose except with our prior written consent. Client may distribute this report to other parties and in doing so warrants that the report is suitable for the purpose it was intended for. However, any party wishing to rely on this report should contact us to determine the suitability of this report for their specific purpose.

Data should not be separated from the report
A report is provided inclusive of all documentation sections, limitations, tables, figures and appendices and should not be provided or copied in part without all supporting documentation for any reason, because misinterpretation may occur.

Subsurface conditions change
Understanding an environmental study will reduce exposure to the risk of the presence of contaminated soil and or groundwater. However, contaminants may be present in areas that were not investigated, or may migrate to other areas. Analysis cannot cover every type of contaminant that could possibly be present. When combined with field observations, field measurements and professional judgement, this approach increases the probability of identifying contaminated soil and or groundwater. Under no circumstances can it be considered that these findings represent the actual condition of the site at all points.

Environmental studies identify actual sub-surface conditions only at those points where samples are taken, when they are taken. Actual conditions between sampling locations differ from those inferred because no professional, no matter how qualified, and no sub-surface exploration program, no matter how comprehensive, can reveal what is hidden below the ground surface. The actual interface between materials may be far more gradual or abrupt than an assessment indicates. Actual conditions in areas not sampled may differ from that predicted. Nothing can be done to prevent the unanticipated. However, steps can be taken to help minimize the impact. For this reason, site owners should retain our services.

Problems with interpretation by others
Advice and interpretation is provided on the basis that subsequent work will be undertaken by Environmental Earth Sciences NSW. This will identify variances, maintain consistency in how data is interpreted, conduct additional tests that may be necessary and recommend solutions to problems encountered on site. Other parties may misinterpret our work and we cannot be responsible for how the information in this report is used. If further data is collected or comes to light we reserve the right to alter their conclusions.

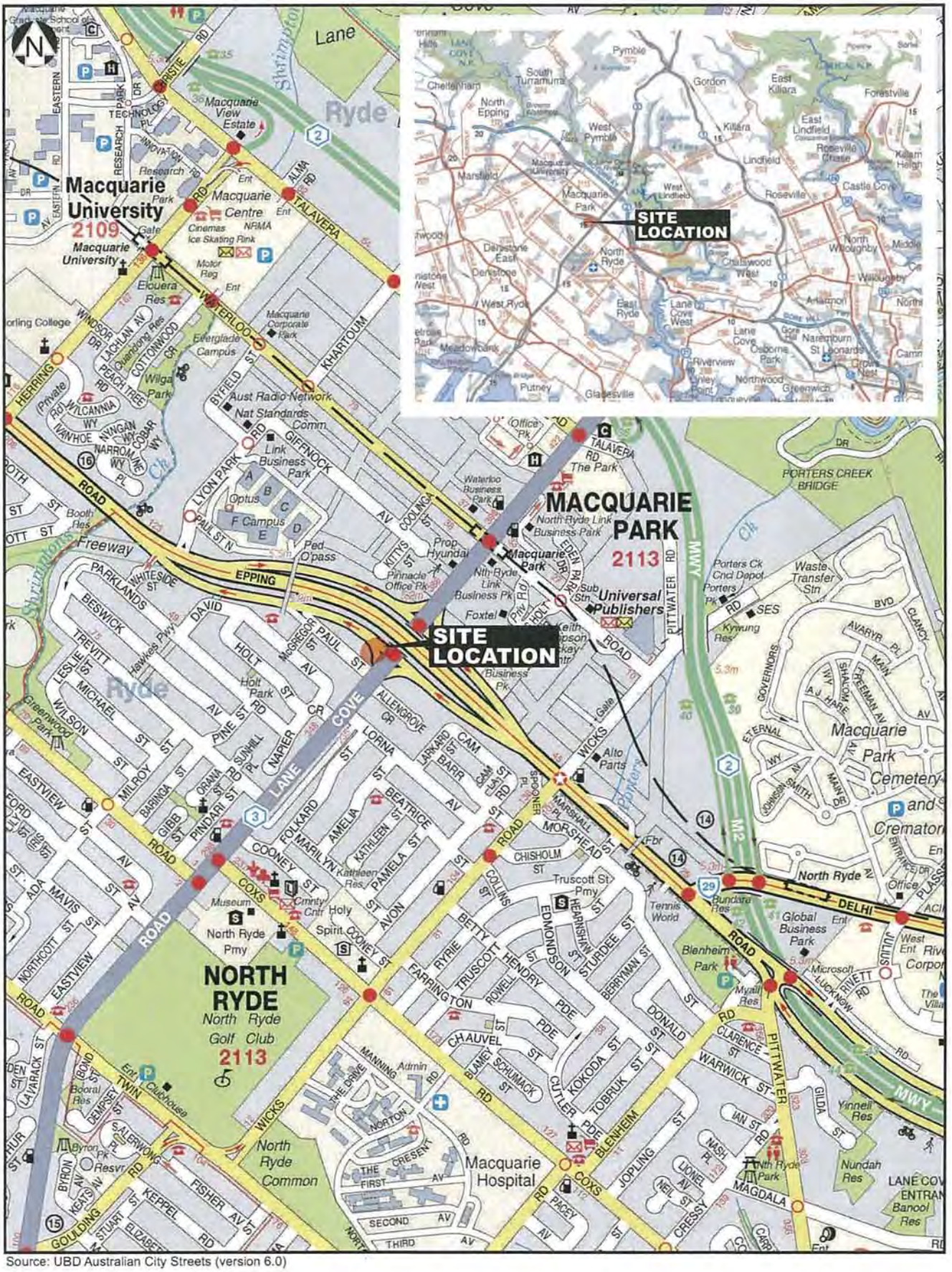
Obtain regulatory approval
The investigation and remediation of contaminated sites is a field in which legislation and interpretation of legislation is changing rapidly. Our interpretation of the investigation findings should not be taken to be that of any other party. When approval from a statutory authority is required for a project, that approval should be directly sought by the client.

Limit of liability
This study has been carried out to a particular scope of works at a specified site and should not be used for any other purpose. This report is provided on the condition that Environmental Earth Sciences NSW disclaims all liability to any person or entity other than the client in respect of anything done or omitted to be done and of the consequence of anything done or omitted to be done by any such person in reliance, whether in whole or in part, on the contents of this report. Furthermore, Environmental Earth Sciences NSW disclaims all liability in respect of anything done or omitted to be done and of the consequence of anything done or omitted to be done by the client, or any such person in reliance, whether in whole or any part of the contents of this report of all matters not stated in the brief outlined in Environmental Earth Sciences NSW's proposal number and according to Environmental Earth Sciences general terms and conditions and special terms and conditions for contaminated sites.

To the maximum extent permitted by law, we exclude all liability of whatever nature, whether in contract, tort or otherwise, for the acts, omissions or default, whether negligent or otherwise for any loss or damage whatsoever that may arise in any way in connection with the supply of services. Under circumstances where liability cannot be excluded, such liability is limited to the value of the purchased service.

ENVIRONMENTAL EARTH SCIENCES

FIGURES



Source: UBD Australian City Streets (version 6.0)

0 500
Scale in Metres

ENVIRONMENTAL EARTH SCIENCES THE KNOW AND THE HOW	Title: **Site Locality Map**	
	Location: **366-374 Lane Cove Road, 124A-126 Epping Road and 1 Paul Street, North Ryde, NSW**	
Client: **Franpina Developments Pty Ltd**		Job No: **115011**
Project Man: **AP**	Scale: **As shown**	Figure **1**
Drawn By: **LB**	Date: **January 2015**	

Source: http://maps.six.nsw.gov.au/

0 10 20 30 40 50
Scale in Metres

ENVIRONMENTAL EARTH SCIENCES
THE KNOW AND THE HOW

Title:	**Site Layout**
Location:	**366-374 Lane Cove Road, 124A-126 Epping Road and 1 Paul Street, North Ryde, NSW**
Client: **Franpina Developments Pty Ltd**	Job No: **115011**
Project Man: **AP**	Scale: **As shown**
Drawn By: **LB**	Date: **January 2015**
	Figure **2**

Source: http://maps.six.nsw.gov.au/

LEGEND:

- Stormwater pit
- Possible fill
- Cadastral boundary
- Site walkover area
- Surface run off

0 5 10 15 20 25

Scale in Metres

ENVIRONMENTAL EARTH SCIENCES
THE KNOW AND THE HOW

Title: **Detailed Site Layout 124A Epping Road**		
Location: **366-374 Lane Cove Road, 124A-126 Epping Road and 1 Paul Street, North Ryde, NSW**		
Client: **Franpina Developments Pty Ltd**		Job No: **115011**
Project Man: **AP**	Scale: **As shown**	Figure **3**
Drawn By: **LB**	Date: **January 2015**	

ENVIRONMENTAL EARTH SCIENCES

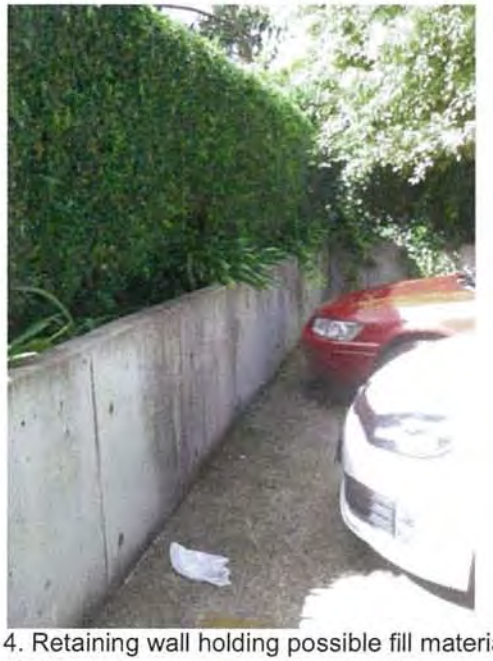
APPENDIX A SITE PHOTOGRAPHS

SITE PHOTOGRAPHS

1. Medical centre facility with associated car park, concrete paved driveways and stormwater drains (facing southwest).

2. Change in paved concrete to bitumen (facing south).

3. Former above ground swimming pool area of Lot 1 DP1133943 – Currently being used as a car park by the medical centre (facing west)



4. Retaining wall holding possible fill material (facing west).

5. Minor cracking around stormwater drains (facing north).

6. Unidentified services pit, PMC manhole covers (facing north).

7. General soil erosion, 372 Lane Cover Rd (facing west).

8. Crawl space identified at 370 Lane Cove Rd (facing west).

9. Garage/Shed located at 366 Lane Cove Rd – fibro sheeting, possible asbestos containing material.

10. Crawl space identified at 366 Lane Cove Rd

11. General grass patching exposing soil at 368 Lane Cove Rd (facing west).

12. Crawl space identified at 1 Paul Street (facing northeast)

13. 126A Epping road (facing southwest)

14. Boundary between 124A and 126A Epping Road (facing south) – reatining wall noted

ENVIRONMENTAL EARTH SCIENCES

APPENDIX B HISTORICAL DOCUMENTS

~ Search ~

re 124A Epping Road North Ryde
being Lot 11 in DP 1013188

Title Tree

11 / 1013188

15/23568 → V. 7044 F. 148 → V. 5036 F. 178 → V. 4487 F. 243 → V. 3445 F. 134 → V. 2917 F. 54

2/1009958 → V. 4418 F. 109 & 110

45/701043 → V. 5036 F. 134 → V. 5008 F. 247 → V. 4418 F. 108 → V. 4418 F. 109 & 110

V. 11558 F. 14

21/1/15

Jenners Title Searching Co.
ESTABLISHED 1940

~ Search ~

re 124A Epping Road North Ryde
Being Lot 11 in DP 1013188

Schedule of Registered Proprietors

Ltr A435673	William Moss
V. 2917 F. 54	of Ryde, Butcher
Regd. 4/3/1919	
Ltr A 924048	John Thomas Larken
Reg 17/4/23	of North Ryde
(V2917/F54)	Carpenter

21/1/15

Jenners Title Searching Co.
ESTABLISHED 1949

~ Search ~

re 124A Epping Road North Ryde
Being Lot 17 in DP 1013188

Schedule of Registered Proprietors
Of PART formerly Lot 15 DP 23568

Tfr C71756 Reg 10/6/31 (V3445 F.134)	Myrtle Minnie Harrison of North Ryde Widow, Domestic Duties
Tfr C244003 Reg 23/4/34 (V4487 F.243)	John Thomas Larkin of North Ryde Carpenter
Tfr C758795 Reg 20/4/39 (V4487 F.243)	Arthur John Bush of Ryde Labourer.
Tfr C815340 Reg 4/8/39 (V5036 F.178)	Bridget Mary Harrington wife of Joseph Phillip Harrington of Ryde, Electrician
TA D216167 Reg 21/7/43 (V5036 F.178)	Joseph Phillip Harrington of North Ryde Electrician

MG 21/1/2015

~ Search ~

re 124A Epping Road North Ryde
Being Lot 11 in DP 1013188

Schedule of Registered Proprietors
of PART formerly lot 15 DP 23568

Lge D246250	Rex Benjamin Emerson of Nth Ryde
Reg 2/12/43	Member of the Australian Imperial Forces
(V. 5036 F. 178)	& Patricia Gwendolyn Emerson
Lge G268546	Frank Arena
Reg 4/11/55	of North Ryde Freeholder &
(V. 5036 F. 178)	Josephine Arena, his wife
Lge 673 1965	Franpina Developments
Reg 19/4/2000	Pty. Ltd
(15/23568)	

21/1/15

Jenners Title Searching Co.
ESTABLISHED 1940

~ Search ~

	re 124A Epping Road North Ryde Being Lot 11 in DP 1013188
	Schedule of Rega Proprietors Contd of PART formerly Lot 2 DP 100995
Lr C 680883 Reg 15/7/38 (V. 4418 F. 109 to 110)	The Commissioner for Main Roads
Lr 6667685 Reg 12/4/200 (2/1009958)	Frank Arena & Giuseppa Arena
Lr 6731965	Ao for Search Lot 15 DP 23568

21/1/15

Jenners Title Searching Co.

ESTABLISHED 1949

~ Search ~

	re 12A Epping Road North Ryde
	being Lot 11 in DP 1013188
	Schedule of Registered Proprietors
	of PART formerly Pt Lot 1 DP 15460
	Later Lot 45 DP 701043
Lpt C 311804	William Percy Larkin
Reg 1/2/35	of Ryde
(V 4418 F 108)	Railway Employee
Lpt C 773991	John Thomas Larkin
Reg 11/4/39	of Ryde
(V 5008 F.247)	Carpenter
Applm K 257215	John Percival Larkin
Reg 8/7/66	of Normanhurst
(V 5008 F.247)	Electrical Operator
Lpt L 806334	The Commissioner for Main
Reg 7/4/70	Roads
(V 5008 F.247)	
Lpt W 495870	Frank Arena +
Reg 3/9/86	of North Ryde, Real Estate Agent
(45/701043)	Giuseppa Arena, his wife
	21/1/15
Lpt 673965	As for Lot 15 DP 23568

~ Search ~

	re 124A Epping Road North Ryde
	Being Lot 11 in DP 101388
	Schedule of Registered Proprietors
	of PART formerly Pt Lot 293 DP 15460
	Later Lot 45 DP 701043
Tfr C815340 T.A D216167 Tfr D246250	As for Lot 15 DP 23568.
Tfr D168149 Reg 8/10/54 (V 5036 F.134)	Alex William Hamilton of Lane Cove Builder
Tfr K155274 Reg 9/11/65 (V5036 F134)	Lloyd Hinton Hamilton of Lane Cove Geologist
Tfr K371538 Reg 4/7/66 (V5036 F134)	Leo Costa of Castlecrag Retired Printer
Tfr K794360 Reg 14/9/67 (V5036 F134)	The Commissioner for Main Roads
Tfr W495870 Tfr U760112 Tfr 6131965	As for Search Pt Lot 1 DP 15460

MJ 21/1/15

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 11/1013188

SEARCH DATE	TIME	EDITION NO	DATE
21/1/2015	11:41 AM	9	3/8/2012

LAND

LOT 11 IN DEPOSITED PLAN 1013188
AT NORTH RYDE
LOCAL GOVERNMENT AREA RYDE
PARISH OF HUNTERS HILL COUNTY OF CUMBERLAND
TITLE DIAGRAM DP1013188

FIRST SCHEDULE

FRANPINA DEVELOPMENTS PTY LTD

SECOND SCHEDULE (8 NOTIFICATIONS)

1 RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2 W38520 RESTRICTION(S) ON THE USE OF LAND AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
3 6667685 EASEMENT FOR UTILITIES VARIABLE WIDTH AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
4 AA294928 MORTGAGE TO COMMONWEALTH BANK OF AUSTRALIA
5 AC282811 LEASE TO SPINAL HEALTH AUSTRALIA PTY LIMITED OF ROOM 6A BUILDING A OF THE SPECIALIST MEDICAL NETRE, 124A EPPING RD, NORTH RYDE. EXPIRES: 31/5/2006. OPTION OF RENEWAL: 2 YRS WITH A FURTHER OPTION OF 3 YRS.
6 AE46006 LEASE TO SIREESHA NIMMAGADDA BEING SUITE 3 OF BUILDING "B" OF THE SPECIALIST MEDICAL CENTRE, 124A EPPING ROAD NORTH RYDE. EXPIRES: 31/1/2011. OPTION OF RENEWAL: 2 YEARS.
7 AE46008 LEASE TO JOSEPH JACOBS NAIM & CHARBEL JUBE NAIM BEING SUITE 2, GROUND FLOOR, BUILDING "A" THE SPECIALIST MEDICAL CENTRE, 124A EPPING ROAD, NORTH RYDE. EXPIRES: 30/11/2010. OPTION OF RENEWAL: 2 YEARS.
8 AH153116 LEASE TO RYDE SKIN CANCER CLINIC PTY LIMITED OF SUITE 3A, BUILDING A ,124A EPPING ROAD, NORTH RYDE. EXPIRES: 30/11/2013. OPTION OF RENEWAL: 2 YEARS.

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

EES-Epping Rd PRINTED ON 21/1/2015

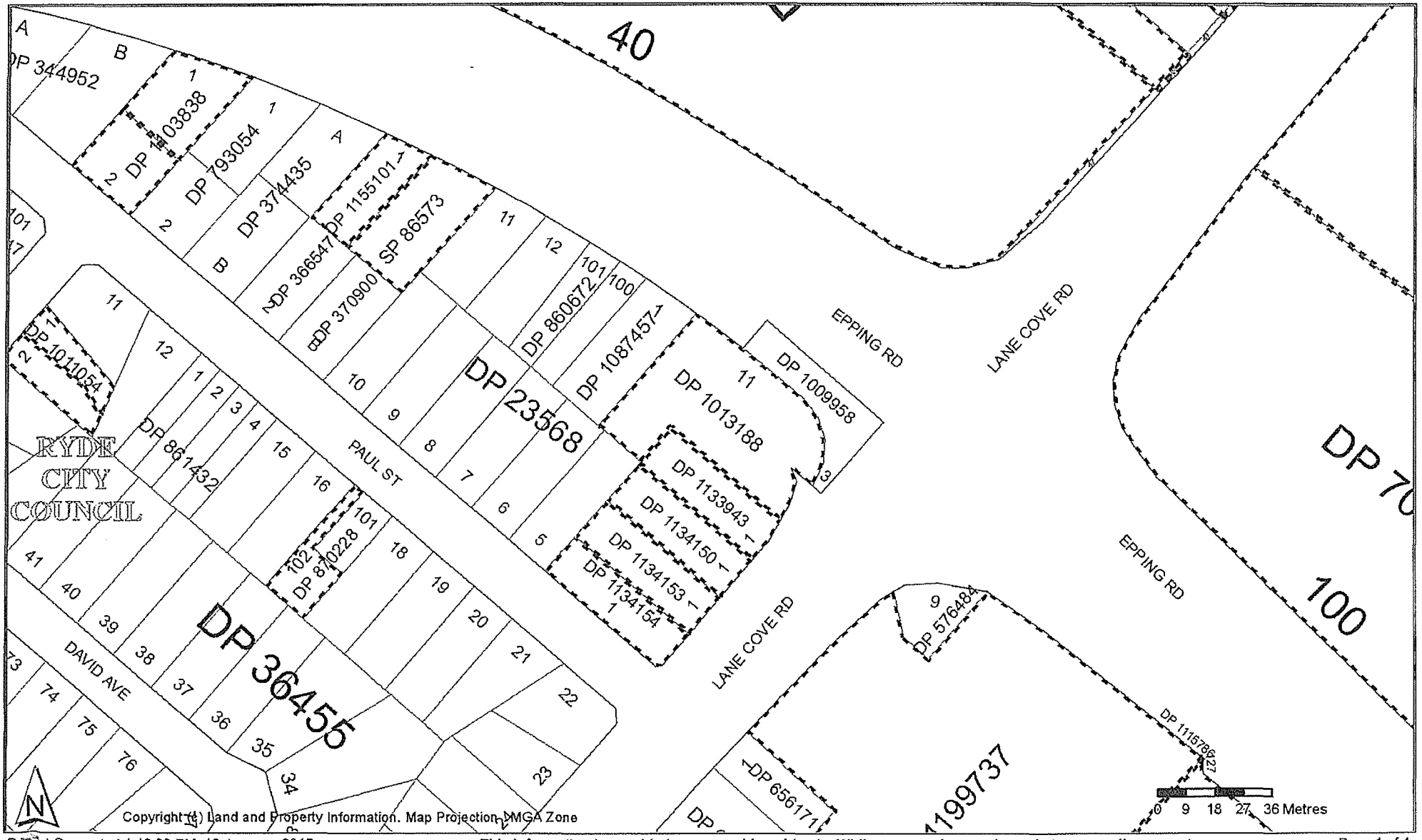
Land & Property Information

Cadastral Records Enquiry Report

Ref : EES-Epping Rd

Requested Parcel : Lot 11 DP 1013188 **Identified Parcel :** Lot 11 DP 1013188

Locality : NORTH RYDE **LGA :** RYDE **Parish :** HUNTERS HILL **County :** CUMBERLAND



Report Generated 1:12:39 PM, 13 January, 2015

This information is provided as a searching aid only. While every endeavour is made to ensure the current cadastral pattern is accurately reflected, the Registrar General cannot guarantee the information provided. For all ACTIVITY PRIOR to SEPT 2002 you must refer to the RGs Charting and Reference Maps.

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE
21/1/2015 11:44AM

FOLIO: 11/1013188

First Title(s): OLD SYSTEM
Prior Title(s): 15/23568 45/701043
2/1009958

Recorded	Number	Type of Instrument	C.T. Issue
9/5/2000	DP1013188	DEPOSITED PLAN	FOLIO CREATED EDITION 1
10/5/2001	7601027	LEASE	EDITION 2
13/12/2001	8198820	LEASE	EDITION 3
5/1/2004	AA294928	MORTGAGE	EDITION 4
21/3/2004	AA501351	DEPARTMENTAL DEALING	
8/6/2005	AB537775	LEASE	EDITION 5
19/9/2005	AB778550	LEASE	EDITION 6
8/5/2006	AC282811	LEASE	EDITION 7
15/8/2008	AE46006	LEASE	
15/8/2008	AE46007	LEASE	
15/8/2008	AE46008	LEASE	EDITION 8
3/8/2012	AH153116	LEASE	EDITION 9

*** END OF SEARCH ***

EES-Epping Rd PRINTED ON 21/1/2015

**ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.*

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE
21/1/2015 11:44AM

FOLIO: 15/23568

First Title(s): SEE PRIOR TITLE(S)
Prior Title(s): VOL 7044 FOL 148

Recorded	Number	Type of Instrument	C.T. Issue
24/11/1988		TITLE AUTOMATION PROJECT	LOT RECORDED FOLIO NOT CREATED
17/1/1989		CONVERTED TO COMPUTER FOLIO	FOLIO CREATED CT NOT ISSUED
19/4/2000	6731965	TRANSFER	EDITION 1
19/4/2000	6732019	DEPARTMENTAL DEALING	EDITION 2
9/5/2000	DP1013188	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

EES-Epping Rd

PRINTED ON 21/1/2015

**ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.*

Form: 7701 1
Licence: 10V/0096/96
Edition: 9812

TRANSFER

New South Wales
Real Property Act 1900

STAMP DUTY Office of State Revenue use only

(3)

NEW SOUTH WALES DUTY
19-04-2000 000028714-001
TRANSFER- TRANSFER
DUTIABLE AMOUNT $ ********771,700.00
DUTY $ ********30,216.50

(A) **TORRENS TITLE** If appropriate, specify the part or share transferred

45/701043, 2/1009958, 15/23568

(B) **LODGED BY**

LTO Box	Name, Address or DX and Telephone	CODES
40 61	JOSEPHINE DE GIORGIO, Solicitor P.O. Box 3628, MARSFIELD NSW 2122 Reference (optional): Phone: 98781324	T TS (s713) TW (Sheriff)

(C) **TRANSFEROR**

FRANK ARENA and GIUSEPPA ARENA

(D) The transferor acknowledges receipt of the consideration of $ 771,700.00 and as regards the land specified above

(E) transfers to the transferee an estate in fee simple.

(F) Encumbrances (if applicable): 1. 2. 3.

(G) **TRANSFEREE**

FRANPINA DEVELOPMENTS PTY LTD ACN 092 217 635

(H) **TENANCY:**

(I) We certify this dealing correct for the purposes of the Real Property Act 1900. **DATE:** 19th April, 2000.

Signed in my presence by the transferor who is personally known to me.

Signature of witness: J de Giorgio

Name of witness: JOSEPHINE DE GIORGIO

Address of witness: 12 ALAN BOND PLACE, MARSFIELD

Signature of transferor: F Arena G Arena

Signed in my presence by the transferee who is personally known to me.

Executed for FRANPINA DEVELOPMENTS PTY LTD ACN 092 217 635 by:

Signature of witness:

Name of witness:

Address of witness:

Signature of transferee: F Arena G Arena

FRANK ARENA Director

GIUSEPPA ARENA Director

If signed on the transferee's behalf by a solicitor or licensed conveyancer, insert the signatory's full name and capacity below:

All handwriting must be in block capitals.
A set of notes on this form (97-01T-2) is available from the Land Titles Office.

Page 1 of 2
number additional pages sequentially

CT 5/A CANC. & RET.

Checked by (LTO use): 7044-148

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE
21/1/2015 1:03PM

FOLIO: 2/1009958

First Title(s): OLD SYSTEM
Prior Title(s): VOL 4418 FOLS 109-110

Recorded	Number	Type of Instrument	C.T. Issue
25/2/2000	DP1009958	DEPOSITED PLAN	LOT RECORDED FOLIO NOT CREATED
16/3/2000	6646254	DEPARTMENTAL DEALING	FOLIO CREATED EDITION 1
12/4/2000	6667685	TRANSFER	EDITION 2
19/4/2000	6731965	TRANSFER	EDITION 3
19/4/2000	6732019	DEPARTMENTAL DEALING	EDITION 4
9/5/2000	DP1013188	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

EES-Epping Rd PRINTED ON 21/1/2015

**ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.*

97-011E LTO Licence No. 115F/0021/95

TRANSFER
including easement
Real Property Act, 1900

6667685N

Office c

NEW SOUTH WALES DUTY
23-03-2000 0000264570-001
SECTION 18(2)
DUTY $ **********2.00

(A) **LAND TRANSFERRED**
Show no more than 20 References to Title
If appropriate, specify the share transferred

2/1009958

(B) **TENEMENTS**

Servient (land burdened)	Dominant (land benefited)
2/1009958	Easement in gross

(C) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone
6L	FRANK ARENA 124A EPPING ROAD NORTH RYDE NSW 2113 REFERENCE(max. 15 characters) ph: 98781324

(D) **TRANSFEROR** ROADS AND TRAFFIC AUTHORITY OF NEW SOUTH WALES

(E) acknowledges receipt of the consideration of $61,700.00 and subject to the following

(F) **ENCUMBRANCES** 1. 2. 3. as regards the above land

(G) transfers to the transferee an estate in fee simple and the transferor - ~~grants an easement as set out in Schedule One hereto~~

(H) -reserves an easement as set out in Schedule Two hereto

(I) **TRANSFEREE**

T	FRANK ARENA and GIUSEPPA ARENA

(J) **TENANCY**: ~~Joint~~ Tenants

(K) We certify this dealing correct for the purposes of the Real Property Act, 1900. **DATE** 24 March 2000.
Signed in my presence by the transferor who is personally known to me.

Signature of Witness

ROBERT SCOTT
Name of Witness (BLOCK LETTERS)

ROADS + TRAFFIC AUTHORITY
Address of Witness

(PAUL GREGORY)
EXECUTED BY MANAGER, PROPERTY ASSETS
PURSUANT TO DELEGATION BOOK 4238 NO. 360.
X
Signature of tranferor

Signed in my presence by the transferee who is personally known to me

Signature of Witness

ROSE MARIE CARISTO
Name of Witness (BLOCK LETTERS)

55 SOBRAON ROAD, MARSFIELD
Address of Witness

Signature of transferee

CHECKED BY (office use only)

* Nos SENT

LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE
21/1/2015 1:03PM

FOLIO: 45/701043

First Title(s): OLD SYSTEM
Prior Title(s): VOL 5036 FOL 134 VOL 11558 FOL 145

Recorded	Number	Type of Instrument	C.T. Issue
13/1/1984	DP701043	DEPOSITED PLAN	FOLIO CREATED EDITION 1
22/11/1985	W38520	REQUEST	EDITION 2
3/9/1986	W495870	TRANSFER	EDITION 3
3/11/1994	U760112	TRANSFER	EDITION 4
19/4/2000	6731965	TRANSFER	EDITION 5
19/4/2000	6732019	DEPARTMENTAL DEALING	EDITION 6
9/5/2000	DP1013188	DEPOSITED PLAN	FOLIO CANCELLED

*** END OF SEARCH ***

EES-Epping Rd PRINTED ON 21/1/2015

**ANY ENTRIES PRECEDED BY AN ASTERISK DO NOT APPEAR ON THE CURRENT EDITION OF THE CERTIFICATE OF TITLE. WARNING: THE INFORMATION APPEARING UNDER NOTATIONS HAS NOT BEEN FORMALLY RECORDED IN THE REGISTER.*

[redacted]

W495870

TRANSFER

REAL PROPERTY ACT, 1900

T

CP 1 of 1 X

$ 35 R1/

*****1.00 STAMP-DUTY 23/07/86 16270 B CHQ BR

Torrens Title Reference	If Part Only, Delete Whole and Give Details	Location
Folio Identifier 45/701043	WHOLE	At North Ryde

DESCRIPTION OF LAND Note (a)

TRANSFEROR Note (b)

THE COMMISSIONER FOR MAIN ROADS of 309 Castlereagh Street, Sydney

(the abovenamed TRANSFEROR) hereby acknowledges receipt of the consideration of $ 75,000.00 and transfers an estate in fee simple in the land above described to the TRANSFEREE

ESTATE Note (c)

TRANSFEREE Note (d)

FRANK ARENA of 124A Epping Road, North Ryde, Real Estate Agent, and

GIUSEPPA ARENA of the same address, his wife

TENANCY Note (e)

as ~~joint tenants~~ tenants in common in equal shares

OFFICE USE ONLY

T.C 2

PRIOR ENCUMBRANCES Note (f)

subject to the following PRIOR ENCUMBRANCES 1. _____ 2. _____ 3. _____

DATE 22nd August, 1986

We hereby certify this dealing to be correct for the purposes of the Real Property Act, 1900.

EXECUTION Note (g)

Signed in my presence by the transferor who is personally known to me

SIGNED SEALED AND DELIVERED by THE COMMISSIONER FOR MAIN ROADS by _____ Signature of Witness

ROBERT JAMES CHIVERS Senior Legal Officer its duly constituted Attorney in the presence of BRENDA ELIZABETH DEKKER

Name of Witness (BLOCK LETTERS)

309 CASTLEREAGH ST, SYDNEY, CLERK

Address and occupation of Witness

B. Dekker

THE COMMISSIONER FOR MAIN ROADS by his Attorney ROBERT JAMES CHIVERS Senior Legal Officer who states that at the time of executing this instrument he held the office abovementioned and had no notice of the revocation of the Power of Attorney No. 614 Book 3582 under the authority of which he has executed this instrument.

_____ Signature of Transferor

Note (g)

Signed in my presence by the transferee who is personally known to me

_____ Signature of Witness

_____ Name of Witness (BLOCK LETTERS)

_____ Address and occupation of Witness

_____

Solicitor for ~~Transferee~~ Transferees (Josephine De Giorgio)

TO BE COMPLETED BY LODGING PARTY Notes (h) and (i)

LODGED BY JOSEPHINE DE GIORGIO, Solicitor, 382 Lane Cove Road, North Ryde, N.S.W. 2113 (DX 579, SYDNEY) Phone:88-1324

Delivery Box Number 40

LOCATION OF DOCUMENTS		
CT	OTHER	
		Herewith.
		In R.G.O. with
		Produced by

462

OFFICE USE ONLY

Checked	Passed	REGISTERED - -19
CDC		- 3 SEP 1986
Signed	Extra Fee	Registrar General

$35 S

Secondary Directions		
Delivery Directions	CT	Josephine De Giorgio 382 Lane Cove Road North Ryde 2113 DX579 SYDNEY

RP13

[redacted]

TRANSFER

Real Property Act, 1900

U 760112 U

Office of State Revenue use only

$10

$10.00

181094 5125 04 2008641894/01

(A) **LAND TRANSFERRED**

Show no more than 20 References to Title.
If appropriate, specify the share transferred.

Folio Identifier 45/701043

(B) **LODGED BY**

L.T.O. Box	Name, Address or DX and Telephone
40	Josephine De Giorgio Solicitor DX 579, SYDNEY Phone: 878 1324 REFERENCE (max. 15 characters):

(C) **TRANSFEROR** FRANK ARENA and GIUSEPPA ARENA

(D) acknowledges receipt of the consideration of N/L

and as regards the land specified above transfers to the transferee an estate in fee simple

(E) subject to the following **ENCUMBRANCES** 1. ..... 2. ..... 3. .....

(F) **TRANSFEREE**

(G) T

FRANK ARENA and GIUSEPPA ARENA

as joint tenants/~~tenants in common~~

(H) We certify this dealing correct for the purposes of the Real Property Act, 1900. **DATE OF EXECUTION** 18/10/94

Signed in my presence by the transferor who is personally known to me.

J. De Giorgio
Signature of Witness

JOSEPHINE DE GIORGIO
Name of Witness (BLOCK LETTERS)

12 ALAN BOND PLACE, MARSFIELD
Address of Witness

G. Arena
Signature of Transferor

Signed in my presence by the transferee who is personally known to me.

J. De Giorgio
Signature of Witness

JOSEPHINE DE GIORGIO
Name of Witness (BLOCK LETTERS)

12 ALAN BOND PLACE, MARSFIELD
Address of Witness

G. Arena
Signature of Transferee

A

INSTRUCTIONS FOR FILLING OUT THIS FORM ARE AVAILABLE FROM THE LAND TITLES OFFICE

CHECKED BY (office use only)

(L)

SCHEDULE ONE
grant of easement

Complete the Tenements panel on the front

The transferor grants

(M)

SCHEDULE TWO
reservation of easement

Complete the Tenements panel on the front

The transferor reserves an easement for utilities variable width as shown and marked "[E] proposed easement for utilities variable width in deposited plan 1009958". This easement for utilities means:

i. "Easement for drainage of sewerage" as provided for in Schedule 4A Part 6 of the Conveyancing Act 1919 as amended: and

ii. "Easement for drainage of water" as provided for in Schedule 4A Part 7 of the Conveyancing Act 1919 as amended; and

iii. "Easement for electricity purposes" as provided for in Schedule 4A Part 8 of the Conveyancing Act 1919 as amended; and

iv. "Easement for services" as provided for in Schedule 4A Part 9 of the Conveyancing Act 1919 as amended; and

v. "Easement for water supply" as provided for in Schedule 4A Part 10 of the Conveyancing Act 1919 as amended; and

The bodies having the benefit of this easement for utilities are:

a. Sydney Water Corporation;
b. EnergyAustralia;
c. Ryde City Council;
d. AGL Gas Networks Limited;
e. Telstra.

The land burdened by this easement for utilities is lot 2 in deposited plan 1009958.

EXECUTED BY MANAGER, PROPERTY ASSETS
PURSUANT TO DELEGATION BOOK 4238 NO. 360.

NEW SOUTH WALES

[redacted]ICATE OF TITLE

PROPERTY ACT, 1900.

11558/145

Appln No.195
Prior Title Vol.5008 Fol.247

Vol. 11558 Fol. 145

Edition issued 1-4-1971
Deposited Plan 239969

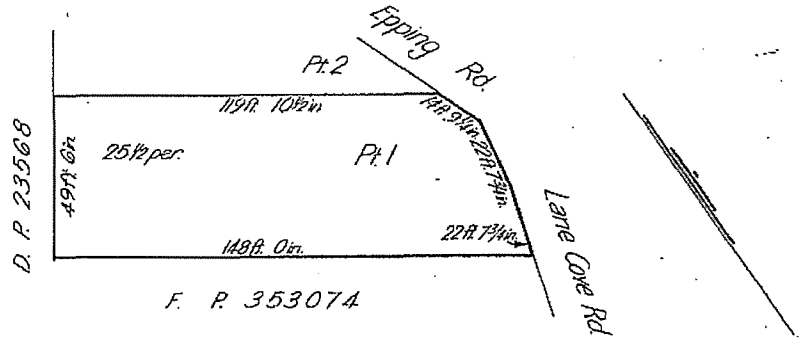
I certify that the person described in the First Schedule is the registered proprietor of the undermentioned estate in the land within described subject nevertheless to such exceptions encumbrances and interests as are shown in the Second Schedule.

Registrar General.

CANCELLED

(Page 1) Vol. 11558 Fol. 145

PLAN SHOWING LOCATION OF LAND



D. P. 239969 [redacted]

Scale: 40 feet to one inch

ESTATE AND LAND REFERRED TO

Estate in Fee Simple in the part of Lot 1 in Deposited Plan 15460 shown in the plan hereon at North Ryde in the Municipality of Ryde Parish of Hunters Hill and County of Cumberland being part of Portion 139 granted to William Kent, Junior, on 17-4-1803.

FIRST SCHEDULE

THE COMMISSIONER FOR MAIN ROADS.

SECOND SCHEDULE

1. Reservations and conditions, if any, contained in the Crown Grant above referred to.

Registrar General

V. C. N. BLIGHT, GOVERNMENT PRINTER

DP 701043
Regd 13/1/84

FIRST SCHEDULE (continued)

REGISTERED PROPRIETOR	INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	ENTERED	Signature of Registrar-General
DP/~~SP~~ 701043 Registered 13-1-1984 This folio is cancelled ~~as to whole/part~~ except road upon creation of computer folios for lots 45 in the abovementioned plan. [signature] Registrar General.					

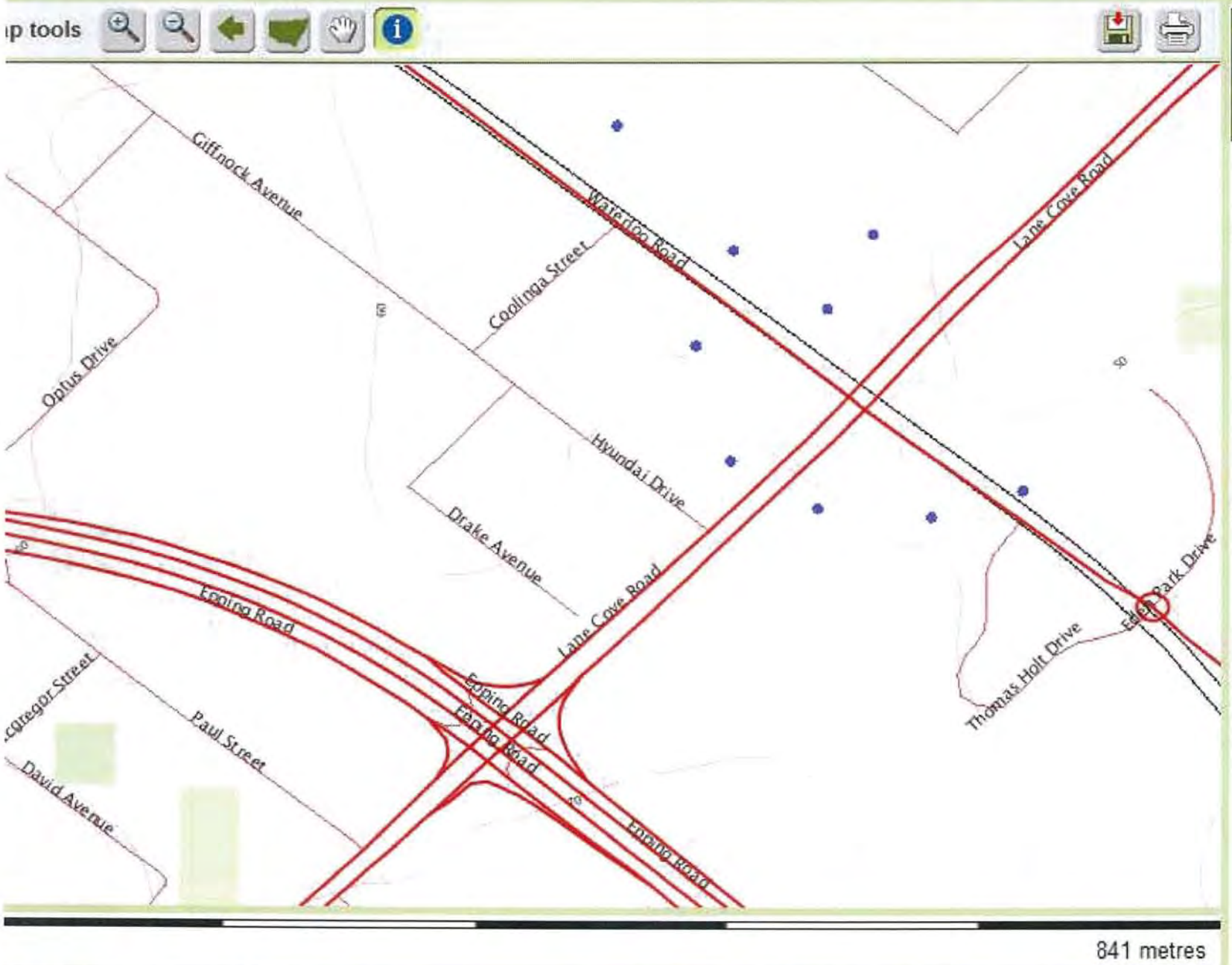
SECOND SCHEDULE (continued)

INSTRUMENT NATURE	INSTRUMENT NUMBER	INSTRUMENT DATE	PARTICULARS	ENTERED	Signature of Registrar-General	CANCELLATION
			The residue of land in this folio comprises road comprised in DP239969. [signature] REGISTRAR GENERAL			

NOTE: ENTRIES RULED THROUGH AND AUTHENTICATED BY THE SEAL OF THE REGISTRAR-GENERAL ARE CANCELLED

ENVIRONMENTAL
EARTH SCIENCES

APPENDIX C ADDITIONAL INFORMATION



Symbols & map layers

- Towns
- Groundwater Bores
- Catchment Management Authority boundaries
- Major rivers

Topographic base map:

- Primary/arterial road
- Motorway/freeway
- Railway
- Runway
- Contour
- Background

There are hidden layers - see 'Map layer control' tab

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Appendix E Transport Impact Assessment

GTAconsultants

366-372 Lane Cove Road, North Ryde
Planning Proposal
Transport Impact Assessment

Client // Franpina Developments Pty Ltd
Office // NSW
Reference // 15S1169000
Date // 16/01/15

366-372 Lane Cove Road, North Ryde

Planning Proposal

Transport Impact Assessment

Issue: A 16/01/15

Client: Franpina Developments Pty Ltd
Reference: 15S1169000
GTA Consultants Office: NSW

Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
A	16/01/15	Final	Dipen Nathwani, Rhys Hazell	Rhys Hazell	Brett Maynard	B.T. Maynard

GTAconsultants
MELBOURNE SYDNEY BRISBANE CANBERRA
ADELAIDE GOLD COAST TOWNSVILLE PERTH
www.gta.com.au

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Figures

Tables

1. Introduction

1.1 Background

It is understood that a planning proposal is to be lodged with City of Ryde Council for the rezoning of land located at 366-372 Lane Cove Road, 124A and 126 Epping Road and 1 Paul Street, North Ryde. The planning proposal seeks to amend the planning controls applying to the site as follows:

- from R2 Low Density Residential to B4 Mixed Use
- increase the maximum floor space ratio to 2.5:1
- increase the maximum height controls to 38m.

The proposal is for a mixed use development comprising 180 residential apartments and commercial/ health services floor area of 1,104 sq.m.

Franpina Developments engaged GTA Consultants in September 2014 to undertake a transport impact assessment as part of the planning proposal.

1.2 Purpose of this Report

This report sets out an assessment of the anticipated transport implications of the proposal, including consideration of the following:

i existing traffic and parking conditions surrounding the site
ii suitability of the proposed parking in terms of supply (quantum) and concept layout
iii service vehicle requirements
iv pedestrian and bicycle requirements
v the traffic generating characteristics of the proposal
vi suitability of the proposed access arrangements for the site
vii the transport impact of the proposal on the surrounding road network.

1.3 References

In preparing this report, reference has been made to the following:

- an inspection of the site and its surrounds in October 2014
- City of Ryde Development Control Plan (DCP) 2014
- Australian Standard/ New Zealand Standard, Parking Facilities, Part 1: Off-Street Car Parking AS/NZS 2890.1:2004
- Australian Standard, Parking Facilities, Part 2: Off-Street Commercial Vehicle Facilities AS 2890.2:2002
- Australian Standard / New Zealand Standard, Parking Facilities, Part 6: Off-Street Parking for People with Disabilities AS/NZS 2890.6:2009
- traffic surveys undertaken by GTA Consultants as referenced in the context of this report
- plans for the planning proposal prepared by Bates Smart, Drawing Number SK-04-SK-07, dated November 2014.
- other documents and data as referenced in this report.

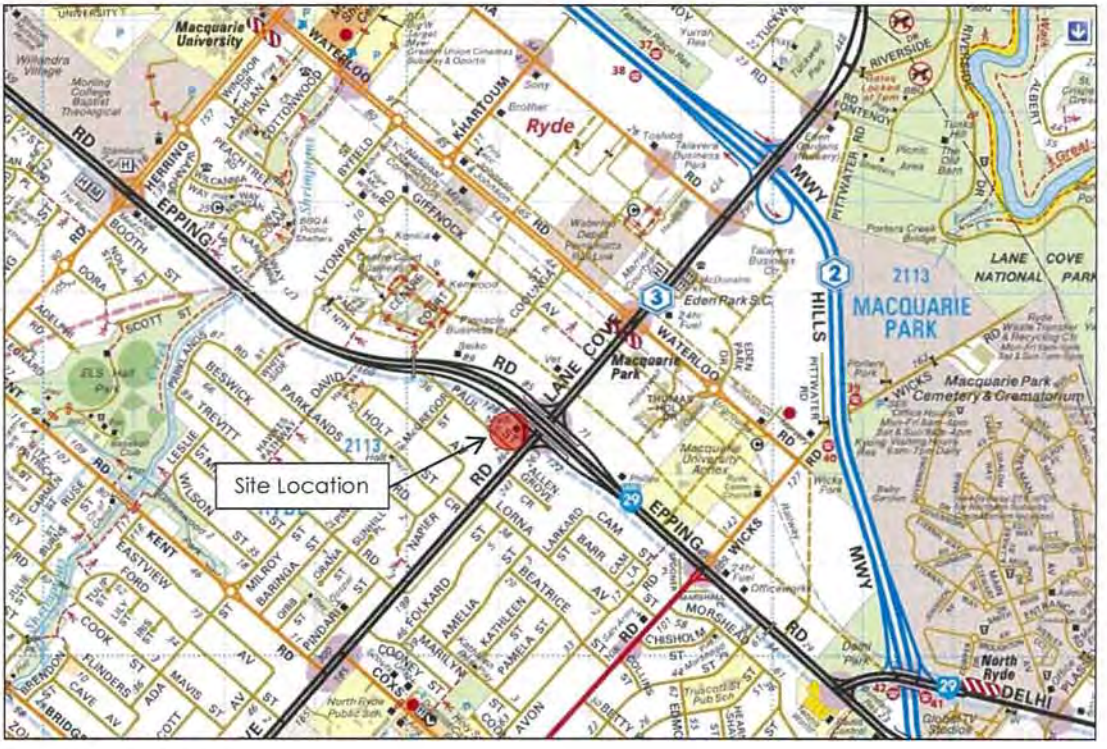
2. Existing Conditions

The subject site is located at 366-374 Lane Cove Road, North Ryde and is approximately 12 kilometres north-west of the Sydney CBD. The site of 6,654sq.m currently has a land use classification as 'R2 – Low Density Residential' and is occupied by detached residential dwellings and commercial premises providing a variety of health related services.

The surrounding properties predominantly include a mix of low density and medium density residential dwellings. Multi-level commercial developments are located opposite the site, on the northern side of Epping Road and form part of the Macquarie Park commercial centre. A five storey high density residential development is currently under construction immediately east of the site, on the east side of Lane Cove Road with access to be provided via Allengrove Crescent.

The location of the subject site and its surrounding environs is shown in Figure 2.1 with the site perspective in Figure 2.2. The current land zoning is also indicated in Figure 2.3.

Figure 2.1: Subject Site and Its Environs



Basemap Source: Sydway

Figure 2.2: Site Perspective from the Epping Road On-ramp

Figure 2.3: Land Zoning Map

Source: www.legislation.nsw.gov.au (Land Zoning Map LZN_005)

2.1 Walking and Cycling Facilities

There are well established walking and cycling facilities in the vicinity of the site including paths located on both sides Lane Cove Road, the Epping Road ramps to the north and on the southern side of Paul Street.

These paths combine to link the site with Macquarie Park Railway Station, located on the corner of Lane Cove Road and Waterloo Road approximately 400m north of the site.

Lane Cove Road also provides a shared path adjacent to the eastern boundary of the site. This shared path commences at Paul Street and connects to the existing facilities at Epping Road. Established on-road and off-road cycling paths are located throughout the local area, with

further facilities linking residential areas west of the site with Macquarie Shopping Centre, Macquarie University and the Macquarie Park commercial centre.

It is also understood that a shared path will be constructed along the Lane Cove Road eastern alignment, between Allengrove Road and Epping Road as part of the aforementioned Allengrove Road residential development.

The existing bicycle network and major trip generators in the vicinity of the site are illustrated in Figure 2.4 with the Lane Cove Road shared path shown in Figure 2.5 and Figure 2.6.

Figure 2.4: City of Ryde Existing Bicycle Network

Source: City of Ryde Bicycle Strategy (Map 2, Version 2.0, p. 11)

Figure 2.5: Lane Cove Road Shared Path (looking north adjacent to the site)

Figure 2.6: Lane Cove Road Shared Path (north of the site)

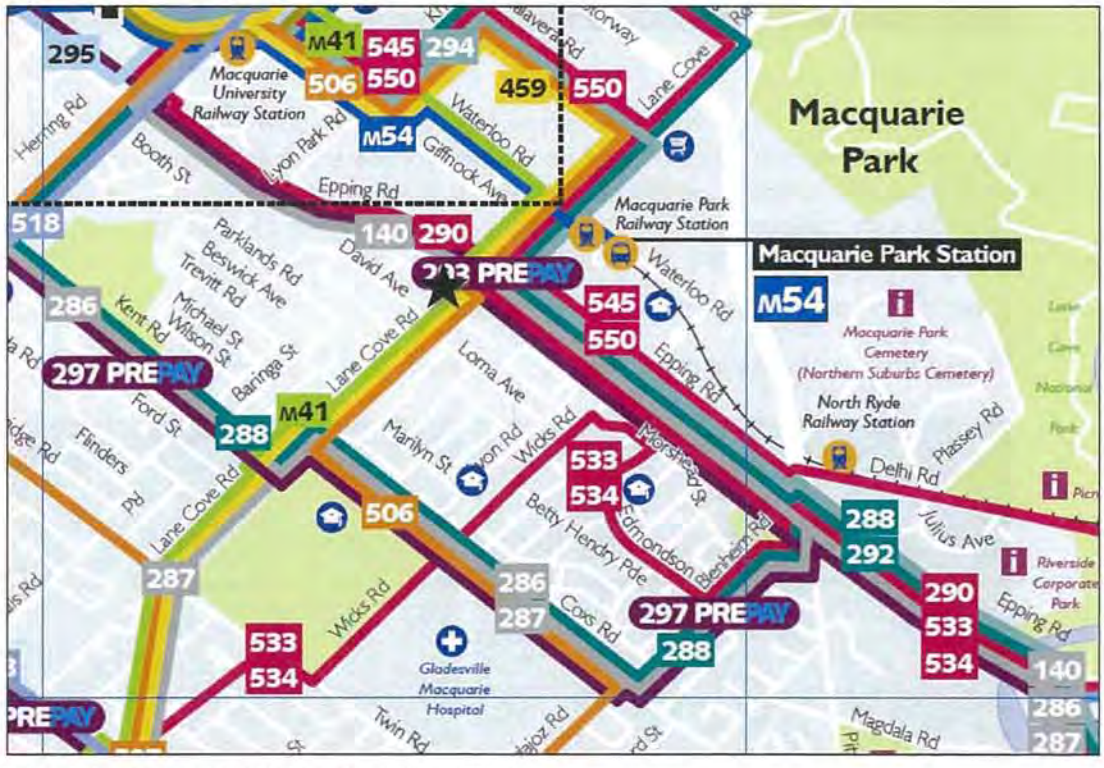
2.2 Public Transport

The site is well serviced by public transport facilities with both bus and rail services within close proximity. The site benefits from good access to the regional bus network along Lane Cove Road and Epping Road. The extensive services are operated by several providers, including Sydney Buses, Transdev, Hillsbus, Forest Coaches and Busways. The closest bus stops are located on Lane Cove Road 200m to the north and the Epping Road on-ramp immediately to the west.

The Sydney Buses route map is shown in Figure 2.7.

Macquarie Park Railway Station is located approximately 400m to the north. It provides regular train frequencies on the T1 North Shore and Northern Line connecting Berowra to the City via Macquarie University.

Figure 2.7: Existing Sydney Buses Bus Routes



Source: Sydney Buses region guide for western region (SMBSC 7)

2.3 Road Network

Epping Road

Epping Road is a State Road (MR 373) that generally runs in an east-west direction between the Lane Cove Tunnel and Longueville Road in the east and Blaxland Road, Epping in the west. In the vicinity of the site, it is a two-way divided road configured with 3 lanes in each direction, with additional turning bays at major intersections and a posted speed limit of 80km/h. The westbound on-ramp from the grade separated intersection with Lane Cove Road bounds the site to the north.

Epping Road is shown in Figure 2.8 and Figure 2.9.

Figure 2.8: Epping Road On-ramp (looking west from Lane Cove Road)

Figure 2.9: Epping Road On-ramp (existing site access)

Lane Cove Road

Lane Cove Road is a State Road (MR 162) that runs in a north-south direction adjacent to the eastern boundary of the site. It forms a continuation of Homebush Bay Drive to the south and Ryde Road/ Mona Vale Road to the north. It is a two-way divided road configured with a 6-lane, 22 metre wide carriageway. Lane Cove Road has a posted speed limit of 70km/h in the vicinity of the site, with kerbside parking not permitted.

Lane Cove Road is shown in Figure 2.10 and Figure 2.11.

Figure 2.10: Lane Cove Road at Epping Road Intersection

Figure 2.11: Lane Cove Road (looking south)

Paul Street

Paul Street is a local road and travels in an east-west direction along the southern boundary of the site. It is a two-way road configured with a 6.5 metre wide carriageway and a 50km/h speed limit. Paul Street intersects with Lane Cove Road in the south-east corner of the site at a priority controlled intersection. Access is restricted to left-in/ left-out movements.

Time restricted kerbside parking is permitted on both sides of Paul Street with one traffic lane providing for two-way movements where parking demand is high.

Paul Street is shown in Figure 2.12 and Figure 2.13.

Figure 2.12: Paul Street
(looking east to Lane Cove Road)

Figure 2.13: Paul Street
(looking west)

2.3.1 Surrounding Intersections

The following intersections currently exist in the vicinity of the site:

- Paul Street/Lane Cove Road (unsignalised)
- Lane Cove Road/Epping Road (grade separated, signalised).

2.4 Traffic Volumes

GTA Consultants completed traffic surveys during the weekday AM peak period in the vicinity of the site on Thursday 30 October 2014. The surveys were conducted at the Epping Road on-ramp site access and at the intersection of Lane Cove Road and Paul Street.

The site currently generates approximately 30 vehicle trips during a typical weekday AM peak hour.

2.5 Intersection Operation

The operation of the key intersections within the study area have been assessed using SIDRA INTERSECTION[1], a computer based modelling package which calculates intersection performance.

The commonly used measure of intersection performance, as defined by the RMS, is vehicle delay. SIDRA INTERSECTION determines the average delay that vehicles encounter and provides a measure of the level of service.

Table 2.1 shows the criteria that SIDRA INTERSECTION adopts in assessing the level of service.

[1] Program used under license from Akcelik & Associates Pty Ltd.

Table 2.1: SIDRA INTERSECTION Level of Service Criteria

Level of Service (LOS)	Average Delay per vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Sign
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Near capacity	Near capacity, accident study required
E	57 to 70	At capacity, at signals incidents will cause excessive delays	At capacity, requires other control mode
F	Greater than 70	Extra capacity required	Extreme delay, major treatment required

Table 2.2 presents a summary of the existing operation of the Epping Road on-ramp and site access.

Table 2.2: Existing Operating Conditions

Intersection	Peak	Leg	Degree of Saturation (DOS)	Average Delay (sec)	95th Percentile Queue (m)	Level of Service (LOS)
Epping Road/ Site Access	AM	South	0.01	3.5	0	A
		East	0.08	0.6	0	N/A
Lane Cove Road/ Paul Street	AM	South	0.39	0.0	0	N/A
		West	0.95	181	34	F

On the basis of the above assessment, the Epping Road site access driveway currently operates satisfactorily with minimal queues and delays on all approaches.

The priority controlled intersection of Lane Cove Road/ Paul Street experiences some delay and queuing along Paul Street. This is largely due to congestion on Lane Cove Road. Site observations confirm that Paul Street vehicles are generally accommodated by Lane Cove Road traffic, with the longest observed queue extending to up to 6 vehicles at any one time.

2.6 Epping to Chatswood Railway – Conversion to Rapid Transit

The North West Rail Link (NWRL) Project is a priority rail transport infrastructure project for the State Government. Once complete, it will be Sydney's first rapid transit rail system with the Epping to Chatswood line being an integral part of the project. The NWRL will transform the existing Sydney Trains rail operations between Epping and Chatswood to provide this rapid transit rail.

2.7 Car Parking

The health-related services currently operating on the majority of the site provide a total of 35 car parking spaces. A vacant block also provides for informal parking for approximately 6 vehicles. Observations at the time of the site visit indicate that parking demand is currently moderate, with up to 25 vehicles parked on-site during the mid-morning peak operating period, representing a demand of approximately 60%.

On-street parking in the vicinity is only permitted along Paul Street and is subject to a 2P resident parking scheme. A total of 41 on-street car spaces are provided on both sides of Paul Street

between Lane Cove Road and McGregor Street. Observations indicate that up to 31 vehicles were parked during the mid-morning period, representing a demand of 75%.

Paul Street is also relatively narrow with an approximate width of 7m and as such, allows for one lane, two-way traffic only. Residential driveways provide for regular passing opportunities, however the area would benefit from a 'no parking' zone along the northern side for a length of approximately 30m to alleviate any such conflicts.

3. Development Proposal

3.1 Land Uses

The proposal includes construction of 180 residential apartments and 1,104 sq.m commercial/ retail space, as summarised in Table 3.1.

Table 3.1: Planning Proposal Schedule

Use	Dwelling Type	No. of Apartments/ Area
Residential	1 bedroom	65
	2 bedroom	106
	3 bedroom	9
	Sub-Total	**180**
Commercial	-	1,104 sq.m GFA

3.2 Vehicle Access

Vehicular access to the site is proposed via two separate crossovers, one left-in/ left-out via the Epping Road on-ramp in the north-west corner of the site and the other via Paul Street along the southern boundary.

Each driveway considers the immediate road hierarchy, surrounding properties and general traffic and pedestrian safety. The driveway along the Epping Road on-ramp frontage is proposed adjacent to the western boundary of the site and therefore provides more than adequate distance from the grade separated intersection of Epping Road/ Lane Cove Road to the east. This ensures good sightlines to approaching vehicles, pedestrian amenity and safety, and effectively improves the site layout over the existing. The Epping Road on-ramp also provides for the most efficient site entry due to its location and ability to accommodate vehicles approaching from all directions. The Paul Street driveway also considers the local road hierarchy.

All basement car parking levels would be connected, with the lower ground floor and part of the basement level 1 car parks providing for commercial, retail and health services. The reminder of the basement level 1 and all of the basement level 2 car parks would accommodate resident parking.

No direct site access is proposed via Lane Cove Road with the total number of driveway crossovers reduced from seven to two.

4. Car Parking

4.1 Car Parking Requirements

The car parking requirements for various development types are set out in the City of Ryde DCP (2014). A review of the car parking requirement rates and the floor area schedule results in a DCP parking requirement for the proposal, as summarised in Table 4.1.

Table 4.1: DCP Car Parking Requirements

Apartment type	No. of Units/Area	DCP Parking Rate	Min. Requirement	Max. Requirement
1-bedroom	65	0.6 to 1.0 spaces/ one bedroom dwelling	39 spaces	65 spaces
2-bedroom	106	0.9 to 1.2 spaces/ two bedroom dwelling	95 spaces	128 spaces
3-bedroom	9	1.4 to 1.6 spaces/ three bedroom dwelling	13 spaces	15 spaces
Visitor	-	1 visitor space/ 5 dwellings	36 spaces	36 spaces
Commercial	1,104 sq.m	1 space/ 40sq.m GFA	28 spaces	28 spaces
Total			**211 spaces**	**272 spaces**

Based on the above, the proposed development is required to provide between 211 and 272 car parking spaces.

The concept design proposes a total of 255 car parking spaces and complies with the City of Ryde DCP car parking requirements. Included in this is 36 residential visitor spaces plus 7 separately marked motorbike spaces.

4.2 Car Parking Layout Review

The concept design has been indicatively reviewed against the requirements of the City of Ryde DCP, the Australian Standard for Off Street Car Parking (AS2890.1:2004 and AS2890.6:2009) and the Australian Standard for Off Street Commercial Vehicle Facilities (AS2890.2:2002). This assessment includes a review of the following:

- bay and aisle width
- adjacent structures
- turnaround facilities
- circulation roads and ramps
- ramp grades
- height clearances
- internal queuing
- parking for persons with disabilities
- motorbike parking.

This review indicates that the car parking layout as part of the concept design is expected to operate satisfactorily with ramp grades, height clearances, aisle widths and car space dimensions designed appropriately and feasibly able to accommodate the car parking supply and various uses.

The Paul Street access is proposed to provide access to the lower ground floor car park and would also accommodate service vehicle access. The ramp has been designed in accordance with Australian Standard (AS2890.2:2002) for access by service vehicles (including garbage trucks) up to 9-10m in length.

Basement levels 1 and 2 would provide resident parking with separate boomgates/ security roller doors providing for secure access, where required at all times.

5. Sustainable Transport Infrastructure

5.1 Bicycle End of Trip Facilities

The *NSW Planning Guidelines for Walking and Cycling* (Department of Infrastructure, Planning and Natural Resources, 2004) aims to assist land use planners and related professionals to improve consideration of walking and cycling in their projects. The guidelines have been designed to provide a walking and cycling focus to the NSW Government's *Integrating Land Use & Transport Planning* policy package. The *Planning Guidelines for Walking and Cycling* contain suggested bicycle parking provision rates for different land use types.

The suggested bicycle parking provision are summarised in Table 5.1.

Table 5.1: Suggested Bicycle Parking Rates

Land Use	No. of Units/Area	Suggested Parking Rate		Suggested Parking Provision	
		Residents/Staff	Visitors	Residents/Staff	Visitors
Residential					
1- bedroom	65	20-30% of units	5-10% of units	13-20	3-7
2- bedroom	106			21-32	5-11
3- bedroom	9			2-3	1
Commercial	1,104 sq.m	3-5% of staff	5-10% of staff	1-2 [1]	2-3 [1]
Total				**37-57**	**11-22**

[1] Assumes 30 staff for the health services, retail and commercial areas

Based on the above, the proposal is required to provide between 48 and 79 bicycle parking spaces for use by residents, staff and visitors. The development proposes a total of 50 bicycle spaces located within a secure storage area in the lower ground level car park. Additional bicycle racks would also be provided external to the building and close to the entrances. In combination, these proposed facilities comply with the recommended rates.

The permeability of the proposed site layout would allow for a variety of access opportunities for both pedestrians and cyclists along all site frontages. The site boundary structure/ walls have been set back to allow for appropriate footpaths along both Lane Cove Road and Epping Road, and to minimise the visual impact.

The extensive network of internal pedestrian facilities will allow easy access along pedestrian desire lines to public transport facilities/ services, including major bus stops along Lane Cove Road and Epping Road, as well as Macquarie Park Railway Station.

6. Traffic Impact Assessment

6.1 Traffic Generation

6.1.1 Design Rates

Traffic generation estimates for the proposal are typically sourced from the *Guide to Traffic Generating Developments* (2002). However, several more recent and appropriate surveys have been completed to update trip generation and parking information as part of the Guide. The Technical Direction (TDT 2013/04a) published by RMS in August 2013 is intended to be used as a supplement to the 2002 Guide.

Having consideration for the size of apartments and their location, Table 6.1 sets out traffic generation estimates for both peak hour and daily periods.

Table 6.1: Estimated Development Traffic Generation

Land Use	Design Generation Rates (Sydney Average)		Traffic Generation Estimates	
	Peak Hour	Daily	Peak Hour	Daily
High Density Residential Flat Dwellings	0.15-0.19 vehicle trips/unit	1.52 vehicle trips/unit	27-34 vehicle trips/hour	274 vehicle trips/day
Commercial/ Health Services	1.6-4 vehicle trips/100 sq.m GFA	11-20 vehicle trips/100 sq.m GFA	18-44 vehicle trips/hour	121-221 vehicle trips/day
Total			**45-78 vehicle trips/hour**	**395-495 vehicle trips/day**

Table 6.1 indicates the proposal could be expected to generate between 45 and 78 vehicle trips during any peak hour and 400-500 vehicle trips per day on a typical weekday.

Taking into consideration the existing surveyed site generation of 30 vehicles per hour, the proposal represents a net increase of less than 48 vehicles in any peak hour. This represents a minor impact on the surrounding road network.

6.2 Distribution and Assignment

The directional distribution and assignment of traffic generated by the proposed development will be influenced by a number of factors, including the:

i configuration of the arterial road network in the immediate vicinity of the site
ii existing operation of intersections providing access between the local and arterial road network
iii distribution of households in the vicinity of the site
iv surrounding employment centres, retail centres and schools in relation to the site
v likely distribution of staff residences in relation to the site
vi configuration of access points to the site.

Having consideration for the above and for the purposes of estimating vehicle movements, the following directional distributions have been assumed:

Residential

- Epping Road on-ramp 70%
- Paul Street 30%

Commercial

- Epping Road on-ramp 50%
- Paul Street 50%

In addition, the directional split of traffic (i.e. the ratio between the inbound and outbound traffic movements) has been assumed to be the following:

Residential

- AM Peak Hour – Inbound 20% Outbound 80%
- PM Peak Hour – Inbound 80% Outbound 20%.

Commercial

- AM Peak Hour – Inbound 50% Outbound 50%
- PM Peak Hour – Inbound 50% Outbound 50%.

6.3 Traffic Impact

Based on the above, the Epping Road on-ramp access would have a negligible change to existing site traffic generation, with a net change of between 0 and 16 vehicle trips in any peak hour. Paul Street would likely accommodate a minor increase in traffic generation, with between 17 and 32 additional vehicle trips in any peak hour.

Against existing traffic volumes in the vicinity of the site, the additional traffic generated by the proposal could not be expected to compromise the safety or function of the surrounding road network.

Paul Street would, however, experience an increase in delay and queuing on approach to Lane Cove Road. The vehicle queue length would likely increase from approximately 5 vehicles to 15 vehicles. With this in mind, it is worth noting that the assessment is conservative given that the commercial uses and health services would not be generating peak activity during typical weekday peak periods and residents would also likely alter their departure routes, dependent on any such associated delay.

7. Conclusion

Based on the analysis and discussions presented within this report, the following conclusions are made:

i A planning proposal is to be lodged with City of Ryde Council to amend the current site planning controls in order to enable a mixed use development to be located at 366-372 Lane Cove Road, 124A and 126 Epping Road and 1 Paul Street, North Ryde.

ii The amended planning controls include rezoning the land from R2 Low Density to B4 Mixed Use, an increase in the maximum floor space ratio to 2.5:1 and an increase in the maximum height controls to 38m.

iii The planning proposal includes an indicative on-site car parking provision of 255 car parking spaces.

iv The proposal generates a City of Ryde DCP (2014) parking requirement of between 211 and 272 car spaces.

v The concept design parking layout has been indicatively reviewed and is consistent with the dimensional requirements as set out in the relevant guidelines and Australian Standards.

vi Secure resident bicycle parking facilities are proposed within a storage area in the lower ground level car park. Additional bicycle racks would be provided external to the buildings.

vii The proposal generates a minimum bicycle parking requirement 48 spaces. The proposed supply of 50 spaces (with additional external racks) meets this requirement.

viii The Guide to Traffic Generating Developments (RMS, 2002) and Technical Direction (TDT 2013/04a) traffic generation rates are considered appropriate for such a development in close proximity to a range of public transport services.

ix The site is expected to generate up to 78 vehicle trips in any peak hour. Considering the existing site generation of 30 vehicle trips per hour, the proposal represents a net increase up to 48 vehicle trips in any peak hour.

x The Epping Road on-ramp site access would generate an additional 16 vehicle trips in any peak hour with Paul Street generating between 17 and 32 vehicle trips.

xi Paul Street at Lane Cove Road currently experiences some delay with queues of up to 5 vehicles.

xii The proposal indicates that vehicle queuing may extend up to 15 vehicles, however this assessment is conservative given that peak periods for commercial and health services typically occur outside the typical weekday peak periods.

xiii The total number of driveway crossovers is reduced from seven to two, with no site access proposed via Lane Cove Road.

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Appendix F Concept Landscape Plan

ARCADIA
LANDSCAPE ARCHITECTURE

DRAWING LIST

EPPING ROAD, NORTH RYDE
RESIDENTIAL DEVELOPMENT

LANDSCAPE CONCEPT
FEBRUARY 2015

GROUND FLOOR + STREETSCAPE

ARCADIA
LANDSCAPE ARCHITECTURE

EPPING ROAD APARTMENTS, NORTH RYDE
LANDSCAPE CONCEPT

PREPARED BY	Arcadia Landscape Architecture	DATE	Feb 2015
CLIENT	Frampina Developments Pty Ltd	SCALE	NA
ARCHITECT	BATESSMART	ISSUE	2

LANDSCAPE PLAN

LEGEND

- 01/ Communal Terrace Turf Area
- 02/ Deep Soil Buffer Planting
- 03/ Low Boundary Wall with Accent Planting (Refer Sections)
- 04/ Timber Decking
- 05/ Raised Planter Beds
- 06/ Raised Tree Planter Beds
- 07/ Ramp Access
- 08/ Drivway Access

0 4 8 12 16 20M

SCALE 1:200 @ A3

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SECTION A-A

SECTION B-B

KEY PLAN

ARCADIA
LANDSCAPE ARCHITECTURE

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LANDSCAPE CONCEPT

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LANDSCAPE SECTIONS

SECTION C-C

SECTION D-D

KEY PLAN

ARCADIA
LANDSCAPE ARCHITECTURE

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PLANTING PALETTE

TREES


Gleditsia triacanthos


Cupaniopsis anacardioides


Tristaniopsis laurina 'Luscious'


Eucalyptus haemastoma


Corymbia maculata


Ulmus parvifolia

SHRUBS


Santolina chamaecyparissus


Buxus microphylla 'Japonica'


Westringia fruticosa


Murraya paniculata


Westringia fern's Gem


syzygium paniculatum

ACCENTS


Philodendron xanadu


Cycas revoluta


Calathea rufibarba


Clivia miniata


Acanthus mollis


Arthropodium cirratum

GRASSES


Pennisetum 'Nafray'


Liriope-evergreen-giant


Lomandra longifolia 'Tanika'


Dianella caerulea


Dianella 'Rainbow Twist'


Dianella tasmanica

GROUNDCOVERS


Dichondra repens


Dichondra argentea 'Silver Falls'


Stachys byzantina


Trachelospermum jasminoides


Viola hederacea


Stylidium graminifolium

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ARCHITECT	BATESSMART	**ISSUE**	2

Appendix G Preliminary Stormwater Concept

STORMWATER CONCEPT MANAGEMENT PLANS FOR DA

at: 366-372 Lane Cove Road, 124A & 126 Epping Road
and 1 Paul Street, North Ryde N.S.W 2113

for: Franpina Developments Pty Ltd

Architect: BATESSMART

Prepared By:

NORTHERN BEACHES
Consulting Engineers P/L.

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DRAWING SCHEDULE:

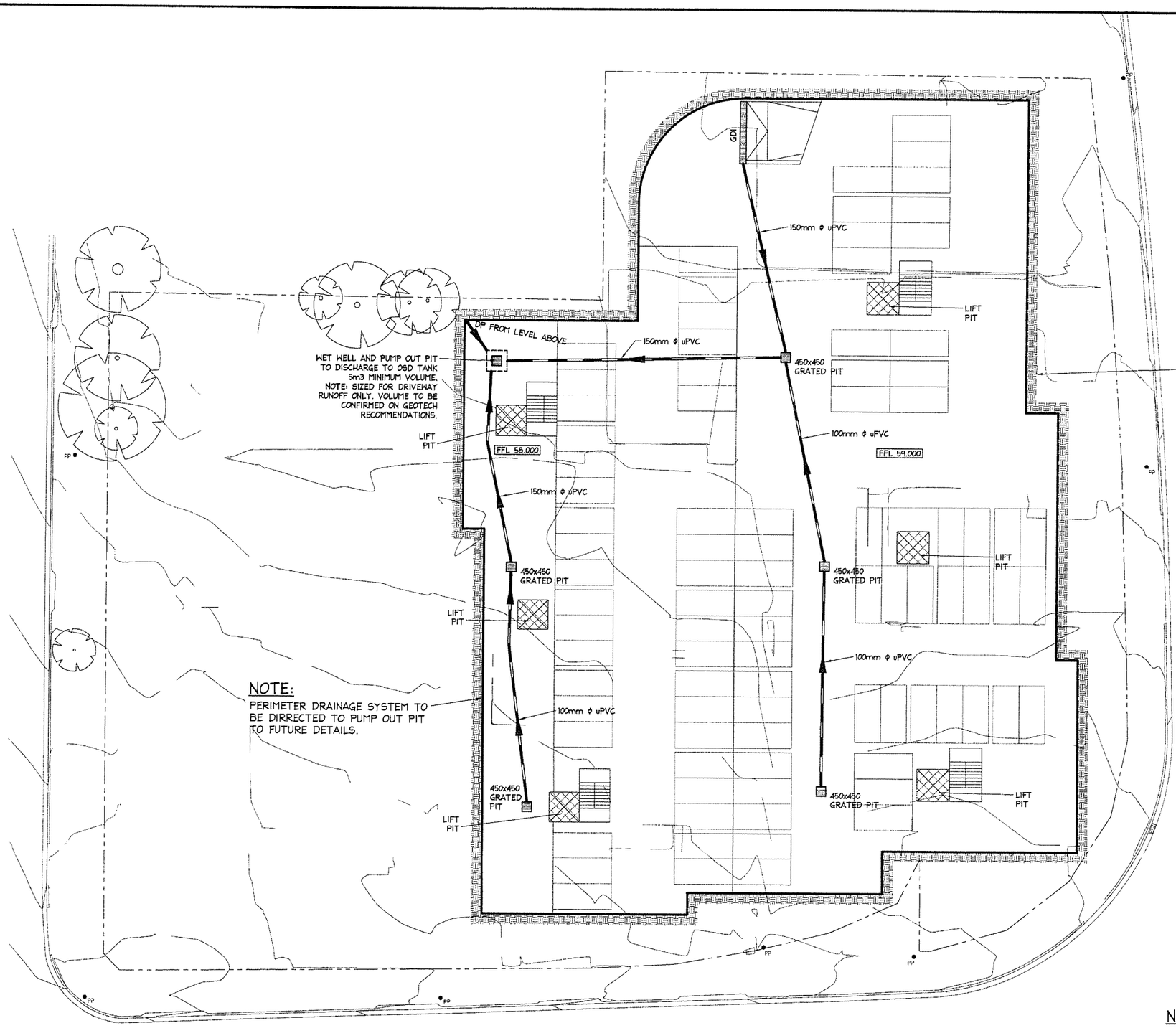
ISSUED FOR INDICATIVE CONCEPT DESIGN ONLY

150106

REV. A - 03.02.2015

NOTES:

1. ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.



NOTE:

STORMWATER DRAWINGS DO NOT INCLUDE SUBSOIL AGRICULTURAL DRAINAGE DETAILS FOR D.A. SUBMISSION. NORTHERN BEACHES CONSULTING ENGINEERS PTY LTD MUST BE COMMISSIONED TO INCLUDE THESE DETAILS ONLY WHEN CONSTRUCTION CERTIFICATE AND/OR CONSTRUCTION DOCUMENTATION IS COMPLETE AND PROVIDED.

LEGEND

- STORMWATER PIPE FLOW DIRECTION
- PIT — STORMWATER PIT
- GDI — GRATED DRAIN GDI - 150 MIN DEPTH x 300 WIDE GRATED DRAIN

NOTE: ALL DRAINAGE LINES ARE INDICATIVE ONLY. LOCATION MAY VARY DUE TO CONSTRAINTS.

NOTE: SUMPS IN LIFT PITS

ALL SUMPS IN LIFT PITS IF REQUIRED ARE TO BE AS PER LIFT MANUFACTURERS DETAILS.

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BASEMENT 2 STORMWATER DRAINAGE PLAN

SCALE = 1 : 200

A1

Date:	Rev:	Amendment:	By:
03.02.2015	A	ISSUED FOR INDICATIVE CONCEPT DESIGN ONLY	P.R.B.

DOCUMENT CERTIFICATION
Date : Feb 15
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Architect: BATESSMART

Client: Franpina Developments Pty Ltd

Project: PROPOSED DEVELOPMENT
366-372 Lane Cove Road, 124A & 126 Epping Road and 1 Paul Street, North Ryde N.S.W 2113

Drawing Title: BASEMENT 2 STORMWATER DRAINAGE PLAN

Date:	Design:	Drawn:	Checked:
Jan 2015	R.M.	Paul R Bruce AMIEAust.	

Job No:	Drawing No:	Rev:
150106	D01	A

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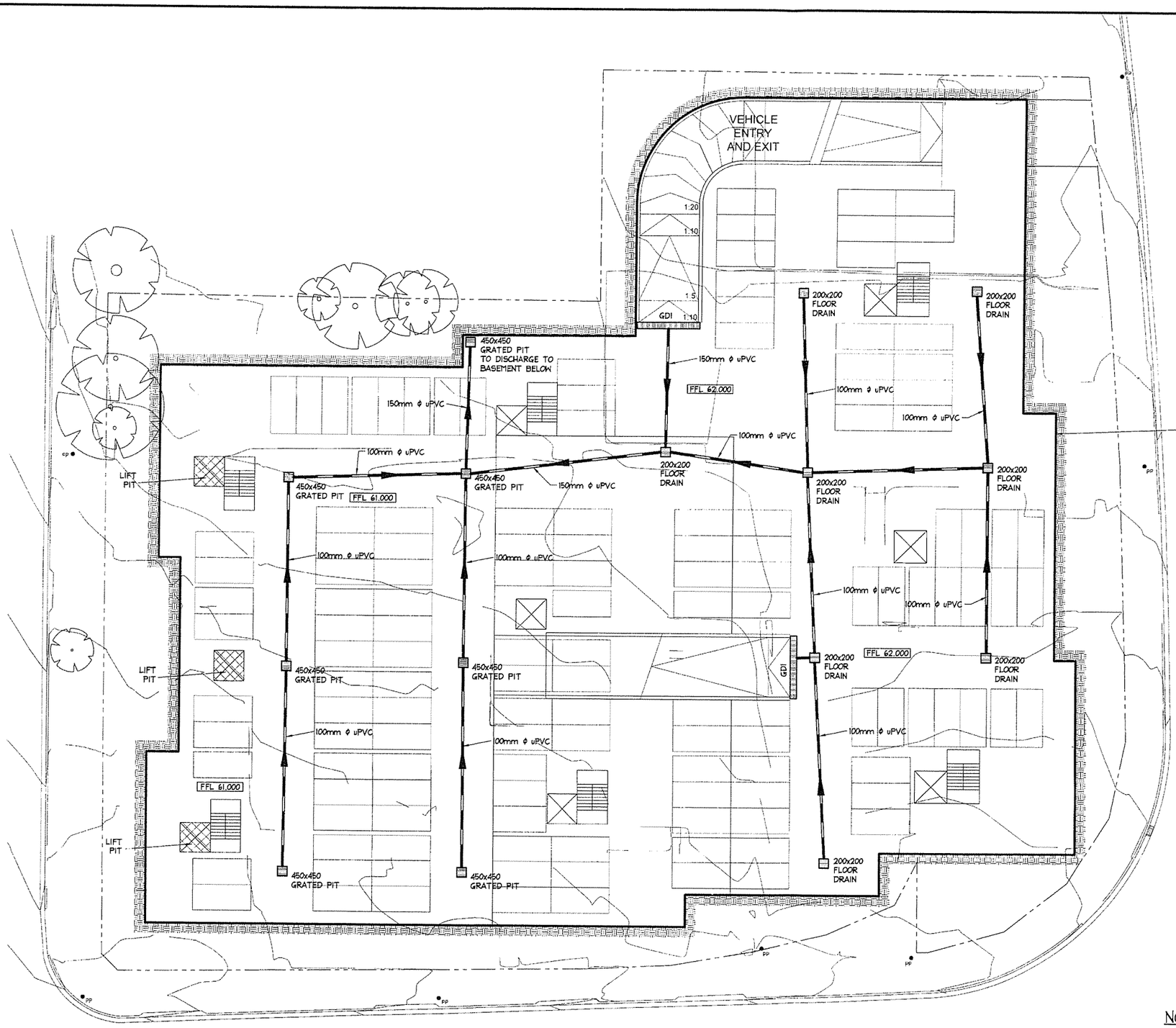

NOTE:
PERIMETER DRAINAGE SYSTEM TO BE DIRRECTED TO PUMP OUT PIT TO FUTURE DETAILS.

NOTE:
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BASEMENT 1 STORMWATER DRAINAGE PLAN

SCALE = 1 : 200

A1

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Drawing Title: BASEMENT 1 STORMWATER DRAINAGE PLAN

Date	Design	Drawn	Checked
Jan 2015	R.M.	Paul R Bruce MIEAust.	

Job No	Drawing No	Rev
150106	D02	A

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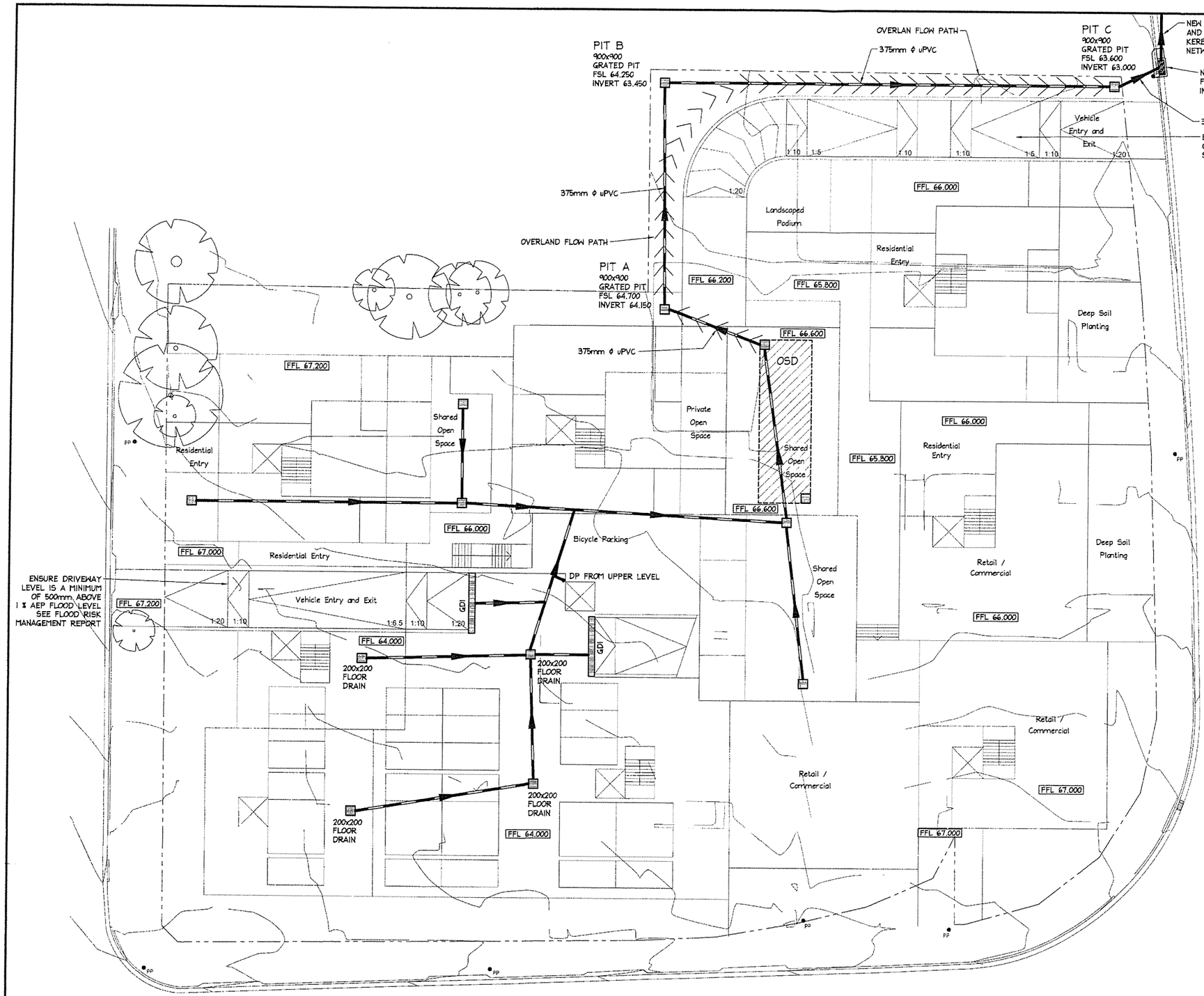

NOTES:

1. ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.

LEGEND

DP1	100mm ϕ DOWNPIPE DISCHARGE TO RWT
DP2	100mm ϕ DOWNPIPE DISCHARGE TO SWT
DP3	100mm ϕ DOWNPIPE DISCHARGE TO OSD TANK
RHD1	RAINHEAD WITH 100mm ϕ DOWNPIPE DISCHARGE TO RWT
RHD2	RAINHEAD WITH 2 x 100mm ϕ DOWNPIPES DISCHARGE TO RWT
EDP	EXISTING DOWNPIPE
SP	DOWNPIPE WITH SPREADER
I.O.	INSPECTION OPENING
	50mm ϕ uPVC STORMWATER PIPE CAST INTO SLAB
	NEW STORMWATER PIPE
	EXISTING STORMWATER PIPE
	STORMWATER PIPE FALL DIRECTION IN CHARGED SYSTEMS
	STORMWATER PIPE FLOW DIRECTION
PIT	STORMWATER PIT
FD	200x200 FLOOR DRAIN
GDI	GRATED DRAIN GDI - 150 MIN DEPTH x 300 WIDE GRATED DRAIN
OSD	OSD TANK (REFER TO DETAILS) 11m x 7m x 1m DEEP (INTERNAL DIMENSIONS)

NOTE: ALL DRAINAGE LINES ARE INDICATIVE ONLY. LOCATION MAY VARY DUE TO CONSTRAINTS.

NOTE:
REFER TO FLOOD MANAGEMENT REPORT FOR FURTHER RECOMMENDATIONS

LOWER GROUND FLOOR STORMWATER DRAINAGE PLAN

SCALE = 1 : 200

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Architect:	BATESSMART
Client:	Franpina Developments Pty Ltd
Project	PROPOSED DEVELOPMENT 366-372 Lane Cove Road, 124A & 126 Epping Road and 1 Paul Street, North Ryde N.S.W 2113
Drawing Title:	LOWER GROUND FLOOR STORMWATER DRAINAGE PLAN

Date:	Design:	Drawn:	Checked:
Jan 2015	R.M.	Paul R Bruce AMIEAust.	

Job No:	Drawing No.	Rev:
150106	D03	A

NOTES:

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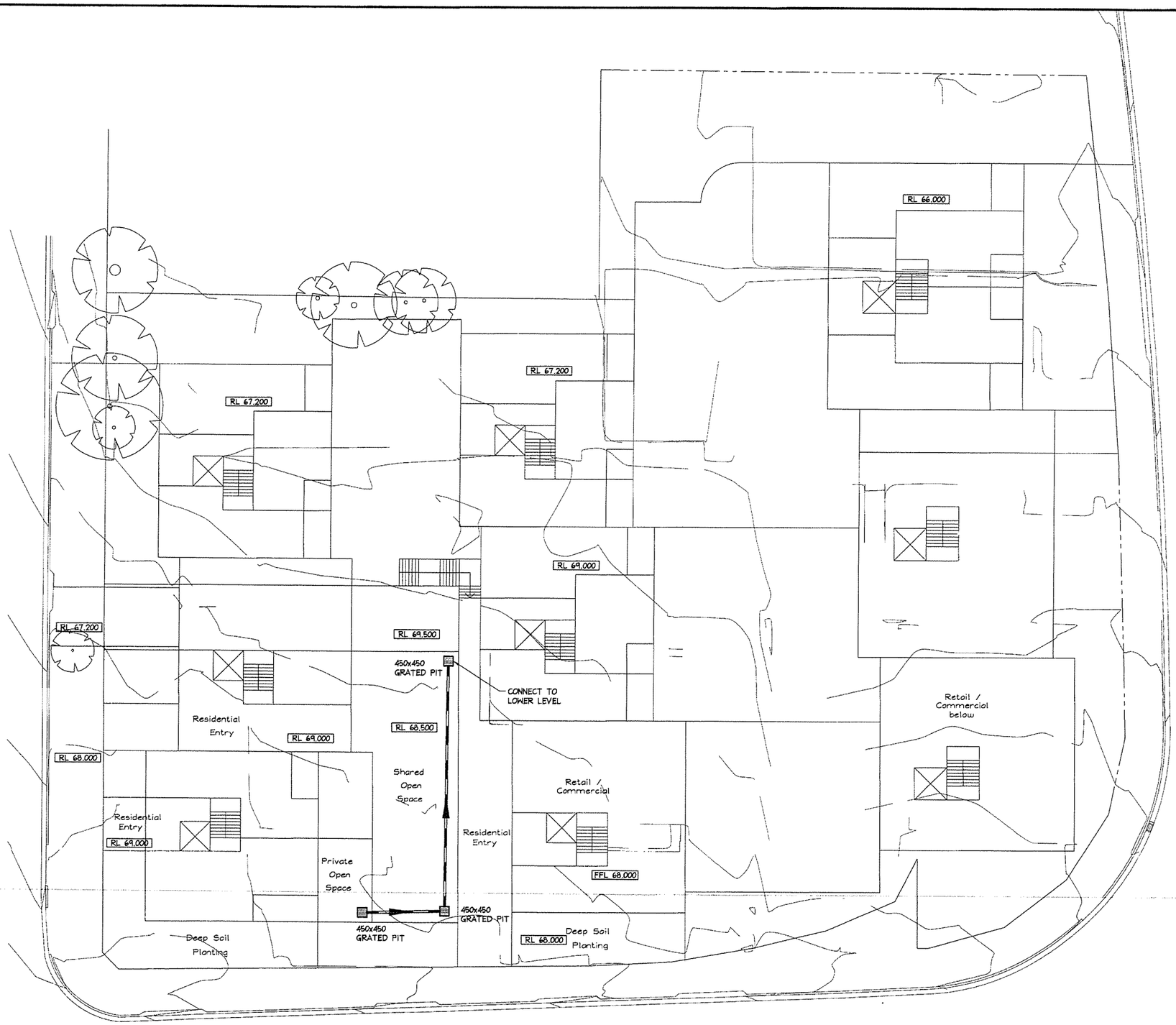

UPPER GROUND FLOOR STORMWATER DRAINAGE PLAN

SCALE = 1 : 200

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Architect: BATESSMART

Client: Franpina Developments Pty Ltd

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366-372 Lane Cove Road, 124A & 126 Epping Road and 1 Paul Street, North Ryde N.S.W 2113

Drawing Title: UPPER GROUND FLOOR STORMWATER DRAINAGE PLAN

Date:	Design:	Drawn:	Checked:
Jan 2015	R.M.	Paul R Bruce MIEAust.	

Job No:	Drawing No.	Rev:
150106	D04	A

NOTES:

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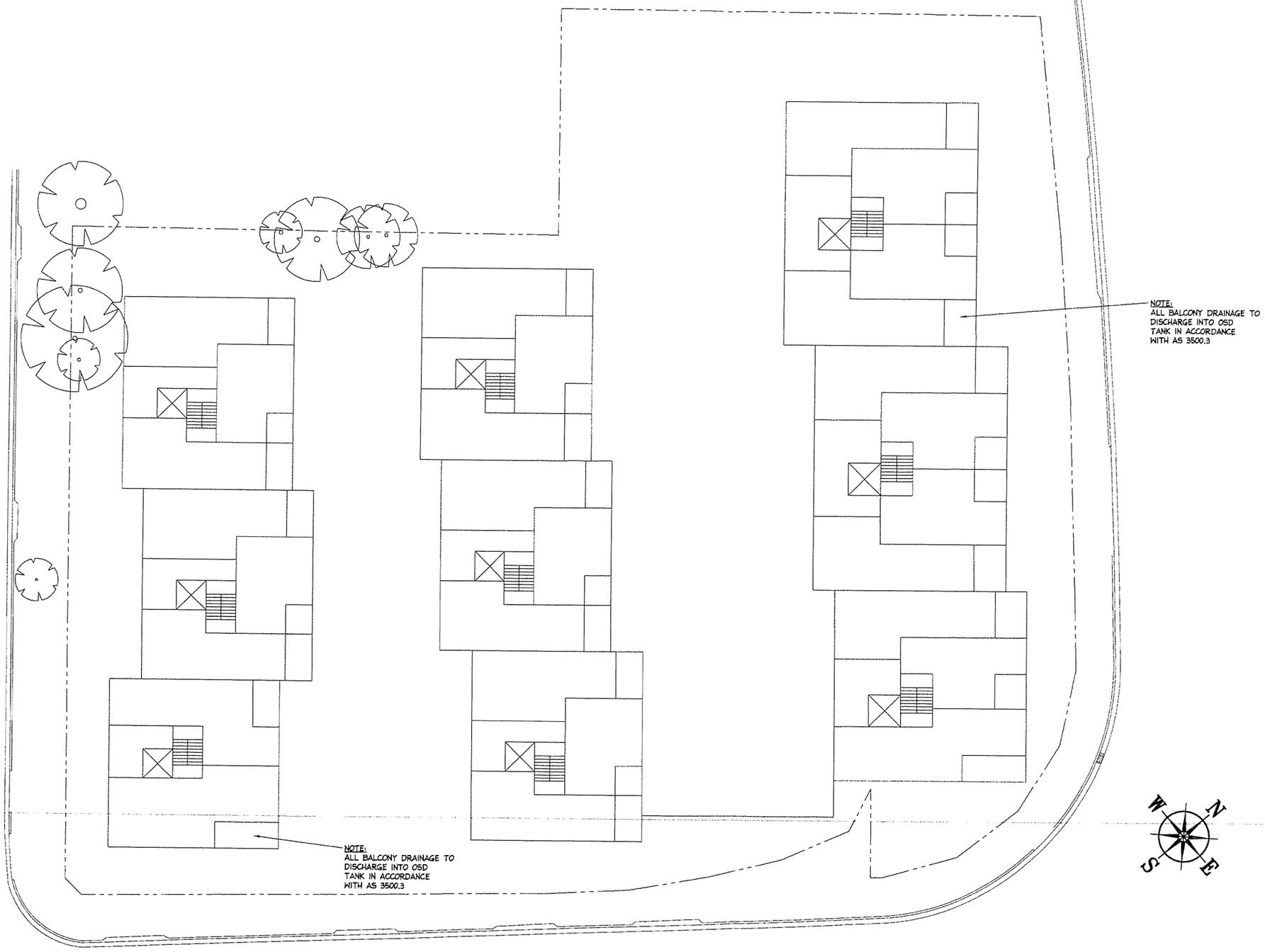

TYPICAL FLOOR STORMWATER DRAINAGE PLAN

SCALE = 1 : 200

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Architect: BATESSMART

Client: Franpina Developments Pty Ltd

Project: PROPOSED DEVELOPMENT
366-372 Lane Cove Road, 124A & 126 Epping Road and 1 Paul Street, North Ryde N.S.W 2113

Drawing Title: TYPICAL FLOOR STORMWATER DRAINAGE PLAN

Date:	Design:	Drawn:	Checked:
Jan 2015	R.M.	Paul R Bruce AMIEAust.	

Job No:	Drawing No:	Rev:
150106	D05	A

NOTES:

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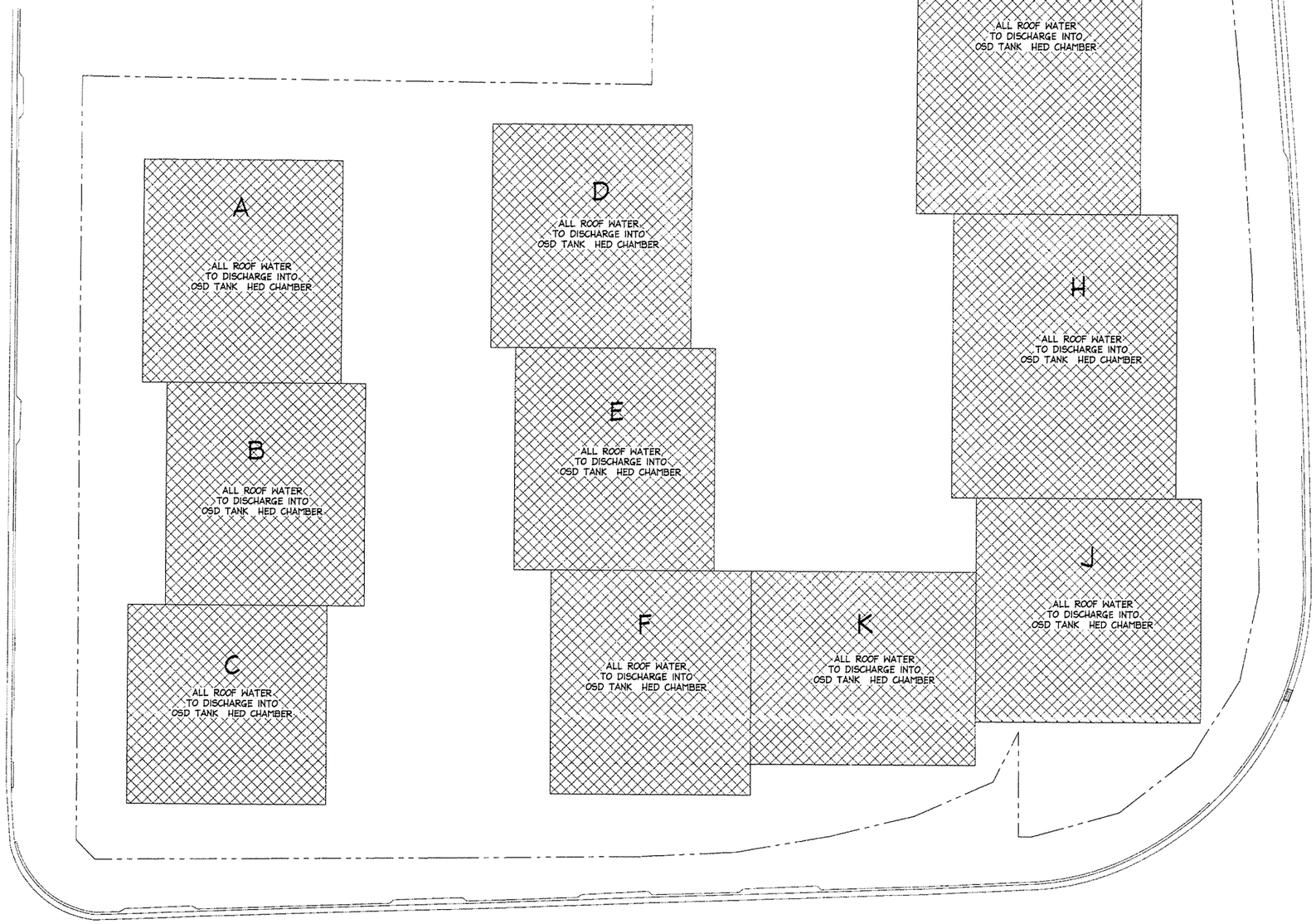

DOWN PIPE SCHEDULE			
BUILDING	AREA m2	No. OF 100mm ϕ DP's	No. OF 100mm ϕ DP's
A	288	8	3
E	288	8	3
C	256	7	3
D	288	8	3
E	288	8	3
F	288	8	3
G	414	11	4
H	414	11	4
J	324	9	3
K	279	8	3

NOTE:
NUMBER AND TYPE OF DOWN PIPES REQUIRED FOR EACH ROOF AREA IN ACCORDANCE WITH AS 3500.3
ROOF GUTTERING TO FUTURE DETAILS

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ROOF STORMWATER DRAINAGE PLAN

SCALE = 1 : 200

A1

Date	Rev.	Amendment	By.
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Architect: BATESSMART

Client: Franpina Developments Pty Ltd

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366-372 Lane Cove Road, 124A & 126 Epping Road and 1 Paul Street, North Ryde N.S.W 2113

Drawing Title: ROOF STORMWATER DRAINAGE PLAN

Date:	Design:	Drawn:	Checked:
Jan 2015	R.M.	Paul R Bruce AMIEAust.	

Job No	Drawing No:	Rev:
150106	D06	A

Northern Beaches Consulting Engineers Pty Ltd.

PUMP OUT NOTES:

1. TO ENSURE THAT SEEPAGE WATER IS NOT BEING PUMPED CONTINUALLY OUT TO THE STREET, THE PUMPS IN THE BASEMENT SHALL BE ADJUSTED TO PERMIT STORAGE IN THE BASEMENT PIPE SYSTEM (REFER DETAIL FOR RL) PRIOR TO THE PUMPS CUTTING IN. THE PUMPS SHOULD THEN DISCHARGE ALL WATER SO THAT ONLY MINIMAL WATER IS LEFT OVER THE PUMP INTAKE AS REQUIRED BY THE MANUFACTURER.
2. THE PUMPS SHALL OPERATE ALTERNATELY TO RL INDICATED ON DETAILS, WITH BOTH PUMPS OPERATING IN UNISON AT RL INDICATED ON DETAILS, (WITH ALARM) IF THE WATER LEVEL CONTINUES TO RISE ABOVE THE MAXIMUM WATER LEVEL AFTER THE FIRST PUMP HAS COME ON. THE LOW AREA OF THE BASEMENT TO BE SIGN POSTED TO PERMIT ADDITIONAL STORAGE VOLUME (UP TO 200mm IN DEPTH) DURING A MAJOR STORM EVENT.
3. ALL WORKS TO BE IN ACCORDANCE WITH AS 3500-3.2:1998 SECTION 9 PUMPED SYSTEMS
4. PUMPS SHALL BE IN DUPLICATE. THE MAXIMUM CAPACITY OF EACH PUMP SHALL BE SELECTED SO THAT THE CAPACITY OF THE SYSTEM RECEIVING THE DISCHARGE IS NOT EXCEEDED. THE PUMP CONTROLS SHALL BE SET UP TO ENABLE ALTERNATE PUMP OPERATION AT EACH START. IN THE EVENT THAT A PUMP FAILS TO OPERATE WHEN THE WATER LEVEL IN THE WET WELL REACHES THE PUMP START, THE OTHER PUMP SHALL BE ACTIVATED AND A VISIBLE ALARM INITIATED. IN THE EVENT THAT BOTH PUMPS FAIL TO OPERATE AN AUDIBLE ALARM SHALL BE INITIATED.
5. PUMPING EQUIPMENT SHALL BE SECURELY FIXED TO THE WET WELL USING CORROSION RESISTANT FIXINGS.
6. PUMPS SHALL BE FITTED WITH A GATE VALVE AND NON-RETURN VALVE ON THE DELIVERY SIDE OF EACH PUMP.
7. PUMPS SHALL HAVE FLANGES OR UNIONS INSTALLED TO FACILITATE REMOVAL.
8. PUMPS SHALL BE CONTROLLED SO AS TO LIMIT THE NUMBER OF STARTS PER HOUR TO WITHIN THE CAPACITY OF THE ELECTRICAL MOTORS AND EQUIPMENT, AND SHALL, AS FAR AS PRACTICABLE, EMPTY THE CONTENTS OF THE WET WELL AT EACH OPERATION.
9. THE REQUIRED PUMPING RATE SHALL BE CALCULATED BASED ON AN ASSESSMENT OF THE EXPECTED INFLOW AND, WHERE APPROPRIATE, THE ALLOWABLE DISCHARGE RATE.

STORMWATER NOTES:

1 - ALL PIPES TO BE 100mm ϕ UNLESS NOTED OTHERWISE.
2 - ALL PIPES TO BE uPVC TO AS 1254-2002 UNLESS NOTED OTHERWISE.
3 - ALL PIPES TO BE LAYED AT 1 % MINIMUM GRADE UNLESS NOTED OTHERWISE.
4 - ALL PIPES SHALL BE LAID ON A 75mm SAND BED, COMPACTED TO 100% S.M.D.D. BELOW PAVEMENTS.
(NO COMPACTION REQUIRED BELOW LANDSCAPING)
COVER TO SURFACE FROM TOP OF PIPE TO BE 300mm MINIMUM.
BACKFILL TO BE ADEQUATELY CONSOLIDATED AROUND PIPES BY METHOD OF RAMMING AND WATERING IN. TRENCHES TO BE FILLED WITH GRANULAR MATERIAL AS SPECIFIED.
5 - ALL DOWN PIPES TO BE 100mm ϕ UNLESS NOTED OTHERWISE.
6 - DOWN PIPE LOCATIONS ARE INDICATIVE ONLY. LOCATIONS TO BE CONFIRMED WITH ARCHITECT PRIOR TO COMMENCEMENT WITH WORK.
7 - PROVIDE CLEANING EYES AT ALL DOWNPIPES.
8 - ALL PITS TO BE CAST INSITU OR, IF PRECAST, APPROVED BY ENGINEER. CAST INSITU PITS TO HAVE 150mm THICK CONCRETE WALLS AND BASE. WALLS TO BE REINFORCED WITH 1 N12 TOP TIE UNLESS NOTED OTHERWISE. CAST INSITU PITS GREATER THAN 1000 DEEP TO BE MINIMUM 900x600 AND TO HAVE 150mm THICK CONCRETE WALLS AND BASE. WALLS TO BE REINFORCED WITH N12 AT 300 EACH WAY UNLESS NOTED OTHERWISE.
9 - ALL PITS GREATER THAN 1000mm DEEP SHALL HAVE STEP IRONS AS PER COUNCIL STANDARDS.
10 - ALL WORK TO BE IN ACCORDANCE WITH LOCAL COUNCIL STANDARDS AND SPECIFICATIONS.
11 - PRIOR TO COMMENCING ANY SITE WORKS THE CONTRACTOR SHALL IMPLEMENT EROSION CONTROL MEASURES TO APPROVED SEDIMENT AND EROSION CONTROL PLAN, EPA GUIDELINES AND COUNCIL SPECIFICATIONS. ALL MEASURES TO REMAIN IN PLACE UNTIL COMPLETION AND STABILIZATION OF THE SITE TO COUNCIL SATISFACTION.
12 - ALL LEVELS SHOWN ARE TO AHD
13 - ENSURE THAT ALL PITS AND STORMWATER PIPES ARE LOCATED CLEAR FROM TREE ROOT SYSTEMS.
14 - ALL EXISTING EARTHENWARE PIPES TO BE UPGRADED TO uPVC.
15 - ALL WORKS TO BE IN ACCORDANCE WITH AS 3500-2003 NATIONAL PLUMBING DRAINAGE CODE PART 3 - STORMWATER DRAINAGE.
16. - UNLESS NOTED OTHERWISE, SUB-SOIL DRAINS ARE TO BE INSTALLED IN ACCORDANCE WITH AS3500.3 ALONGSIDE WALLS THAT IMPEDE THE NATURAL FLOW OF GROUNDWATER. THIS MAY ALSO INVOLVE TRENCHING INTO THE CLAY OR ROCK SUBGRADE TO DIRECT GROUNDWATER AWAY FROM STRUCTURES.
17. - IF NOT INDICATED ON PLANS, PROVIDE LEAF CATCHERS TO ALL DOWNPIPES.
18. - ORIFICE PLATE MUST BE INSTALLED PRIOR TO INSTALLATION OF THE ROOF DRAINAGE SYSTEM AND CONNECTION OF THE SITE STORMWATER SYSTEM TO THE ONSITE DETENTION TANK.

NOTE:

STORMWATER DRAWINGS DO NOT INCLUDE SUBSOIL AGRICULTURAL DRAINAGE DETAILS FOR D.A. SUBMISSION. NORTHERN BEACHES CONSULTING ENGINEERS PTY LTD MUST BE COMMISSIONED TO INCLUDE THESE DETAILS ONLY WHEN CONSTRUCTION CERTIFICATE AND/OR CONSTRUCTION DOCUMENTATION IS COMPLETE AND PROVIDED.

RYDE CITY COUNCIL
ON SITE DETENTION CALCULATION SHEET

DEVELOPMENT TYPE : COMMERCIAL AND RESIDENTIAL

ADDRESS : 366-372 Lane Cove Road, 124A & 126 Epping Road and 1 Paul Street, North Ryde N.S.W 2113

DESIGN METHOD USED: COUNCIL CALCULATION SHEET & DRAINS MODEL

CATCHMENT ZONE
(ZONE 1) (ZONE 2) (EASTWOOD)

SITE AREA	=	6,654 m^2	(A)
65% OF SITE AREA	=	4,325 m^2	
TOTAL PROPOSED IMPERVIOUS AREA (ROOFS, DRIVEWAYS, HARDSTAND, ETC)	=	5,715 m^2	(B)
IMPERVIOUS AREA DRAINING TO THE STORAGE FACILITY	=	5,715 m^2	(C)
PERVIOUS AREA DRAINING TO THE STORAGE FACILITY	=	0 m^2	(D)
TOTAL AREA DRAINING TO THE STORAGE FACILITY (IMPERVIOUS AND PERVIOUS AREAS)	=	5,715 m^2	(E)
PERVIOUS AREA BYPASSING THE STORAGE FACILITY	=	939 m	(F)
IMPERVIOUS AREA BYPASSING THE STORAGE FACILITY	=	0 m^2	(G)
$\frac{(C)+(G)}{(C)}$ $\frac{5,715+0}{5,715}$	=	1.0	(L)
		CANNOT BE GREATER THAN 1.25	

CALCULATION SUMMARY FROM DRAINS:

PRE DEVELOPMENT SITE DISCHARGE		
5 YR	=	237 l/s (PSD)
100 YR	=	370 l/s (PSD)
POST DEVELOPMENT SITE DISCHARGE		
5 YR	=	204 l/s
100 YR	=	224 l/s
PORTION OF SITE THROUGH OSD	=	86 %
ORIFICE SIZE	=	290 mm ϕ
TYPE OF CONTROL	=	BELOW GROUND TANK
DIMENSION OF ONSITE DETENTION OSD TANK	=	77 m^2 x 1.0 m DEPTH
VOLUME OF ONSITE DETENTION OSD TANK	=	77 m^3 (NOTE: 70 m^3 REQUIRED)

NOTES:

1. ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.

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NO INVESTIGATION OF UNDERGROUND SERVICES HAS BEEN MADE. ALL RELEVANT AUTHORITIES SHOULD BE NOTIFIED PRIOR TO ANY EXCAVATION ON OR NEAR THE SITE

DEVELOPERS & EXCAVATORS MAY BE HELD FINANCIALLY RESPONSIBLE BY THE ASSET OWNER SHOULD THEY DAMAGE UNDERGROUND NETWORKS.

CARELESS DIGGING CAN
- CAUSE DEATH OR SERIOUS INJURY TO WORKERS AND THE GENERAL PUBLIC
- INCONVENIENCE USERS OF ELECTRICITY, GAS, WATER AND COMMUNICATIONS
- LEAD TO CRIMINAL PROSECUTION AND DAMAGES CLAIMS
- CAUSE EXPENSIVE FINANCIAL LOSSES TO BUSINESS
- CUT OFF EMERGENCY SERVICES
- DELAY PROJECT COMPLETION TIMES WHILE THE DAMAGE IS REPAIRED

MINIMISE YOUR RISK AND DIAL BEFORE YOU DIG. - TEL 1100

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DOCUMENT CERTIFICATION
Date : FEB 15'
Rick G. Wray .....
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Architect: BATESSMART

Client: Franpina Developments Pty Ltd

Project: PROPOSED DEVELOPMENT
366-372 Lane Cove Road, 124A & 126 Epping Road and 1 Paul Street, North Ryde N.S.W 2113

Drawing Title: STORMWATER DRAINAGE NOTES AND OSD CALCULATIONS

Date:	Design:	Drawn:	Checked:
Jan 2015	R.M.	Paul R Bruce AMIEAust.	

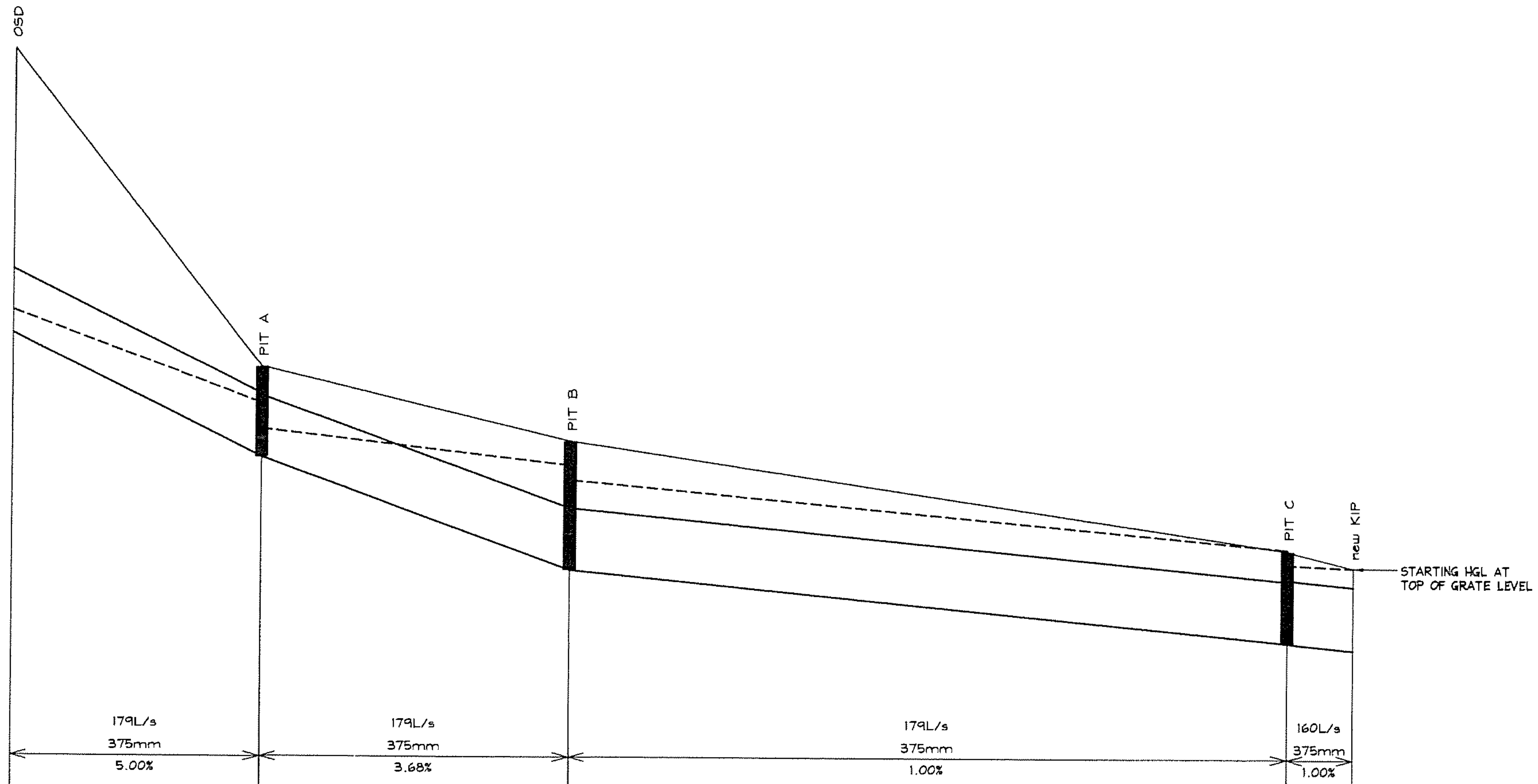
Job No: 150106

Drawing No.: D07

Rev: A

NOTES:

1. ALL DIMENSIONS TO BE VERIFIED ON SITE BY BUILDER BEFORE COMMENCING WITH WORK.



Datum El. 62

HGL	65.039	64.478	64.322	64.103	64.014	63.608	63.518	63.500
Surface Level	66.600		64.70		64.25		63.60	
Invert Level	64.900	64.150	64.150	63.470	63.470	63.040	63.040	63.000
Chainage			15.00		33.50		76.50	80.50

HGL LONGITUDINAL SECTION

SCALE = 1 : 200 HORIZONTAL
1 : 2000 VERTICAL

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Drawing Title: STORMWATER DRAINAGE
HGL LONGITUDINAL SECTION

Date:	Design:	Drawn:	Checked:
Jan 2015	R.M.	Paul R Bruce AMIEAust.	RW

Job No	Drawing No:	Rev:
150106	D08	A

NOTES:

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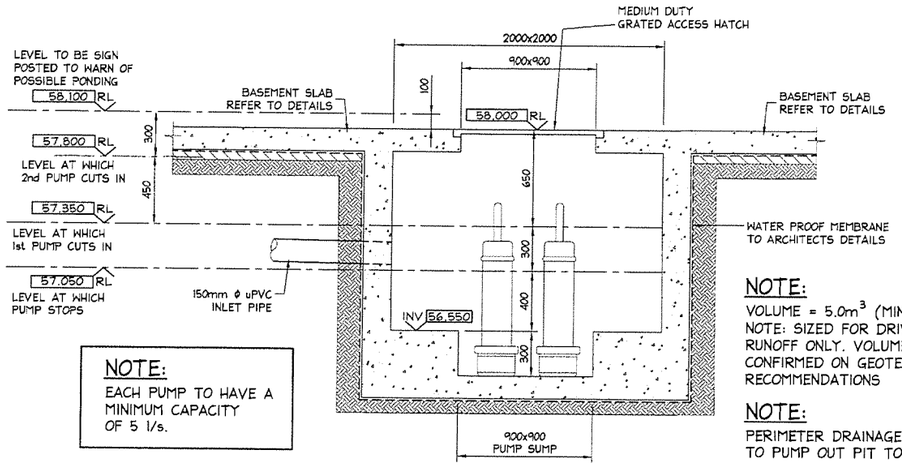
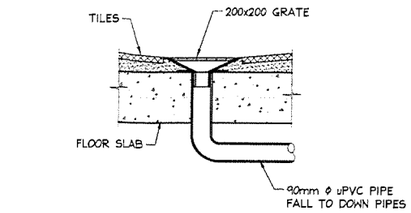


NOTE:
EACH PUMP TO HAVE A MINIMUM CAPACITY OF 5 l/s.

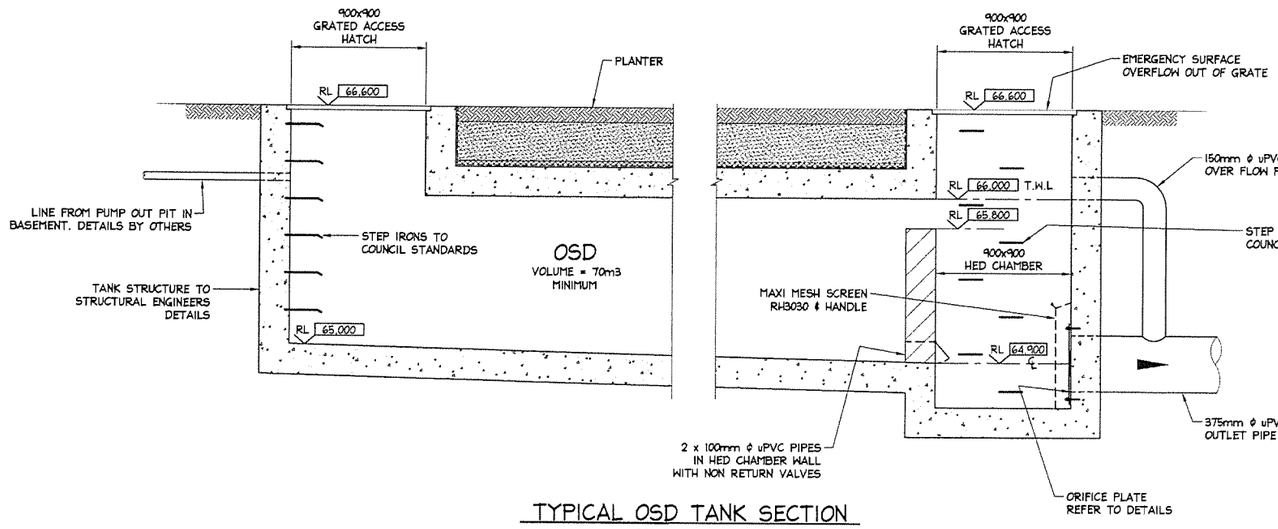
NOTE:
VOLUME = 5.0m^3 (MINIMUM)
NOTE: SIZED FOR DRIVEWAY RUNOFF ONLY. VOLUME TO BE CONFIRMED ON GEOTECH RECOMMENDATIONS

NOTE:
PERIMETER DRAINAGE TO DISCHARGE TO PUMP OUT PIT TO FUTURE DETAILS.

BASEMENT WET WELL PUMP OUT PIT DETAIL
SCALE = 1 : 20

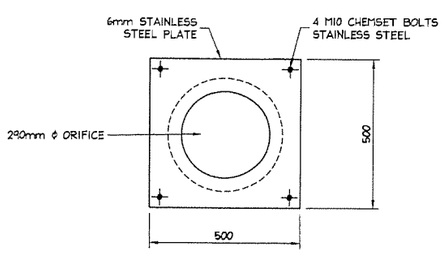


STANDARD FLOOR DRAIN - 'FD'
SCALE = 1 : 10

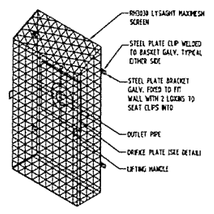


TYPICAL OSD TANK SECTION
SCALE = 1 : 20

NOTE:
TANK STRUCTURE TO STRUCTURAL ENGINEERS DETAILS.



ORIFICE PLATE DETAIL
SCALE = 1 : 10



TYPICAL MAXI MESH SCREEN DETAIL
SCALE = N.T.S.

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Architect: BATESSMART

Client: Franpina Developments Pty Ltd

Project: PROPOSED DEVELOPMENT
366-372 Lane Cove Road, 124A & 126 Epping Road and 1 Paul Street, North Ryde N.S.W 2113

Drawing Title: STORMWATER DRAINAGE DETAILS SHEET 1

Date:	Design:	Drawn:	Checked:
Jan 2015	R.M.	Paul R Bruce MIEAust.	PRB

Job No: 150106

Drawing No: D09

Rev: A

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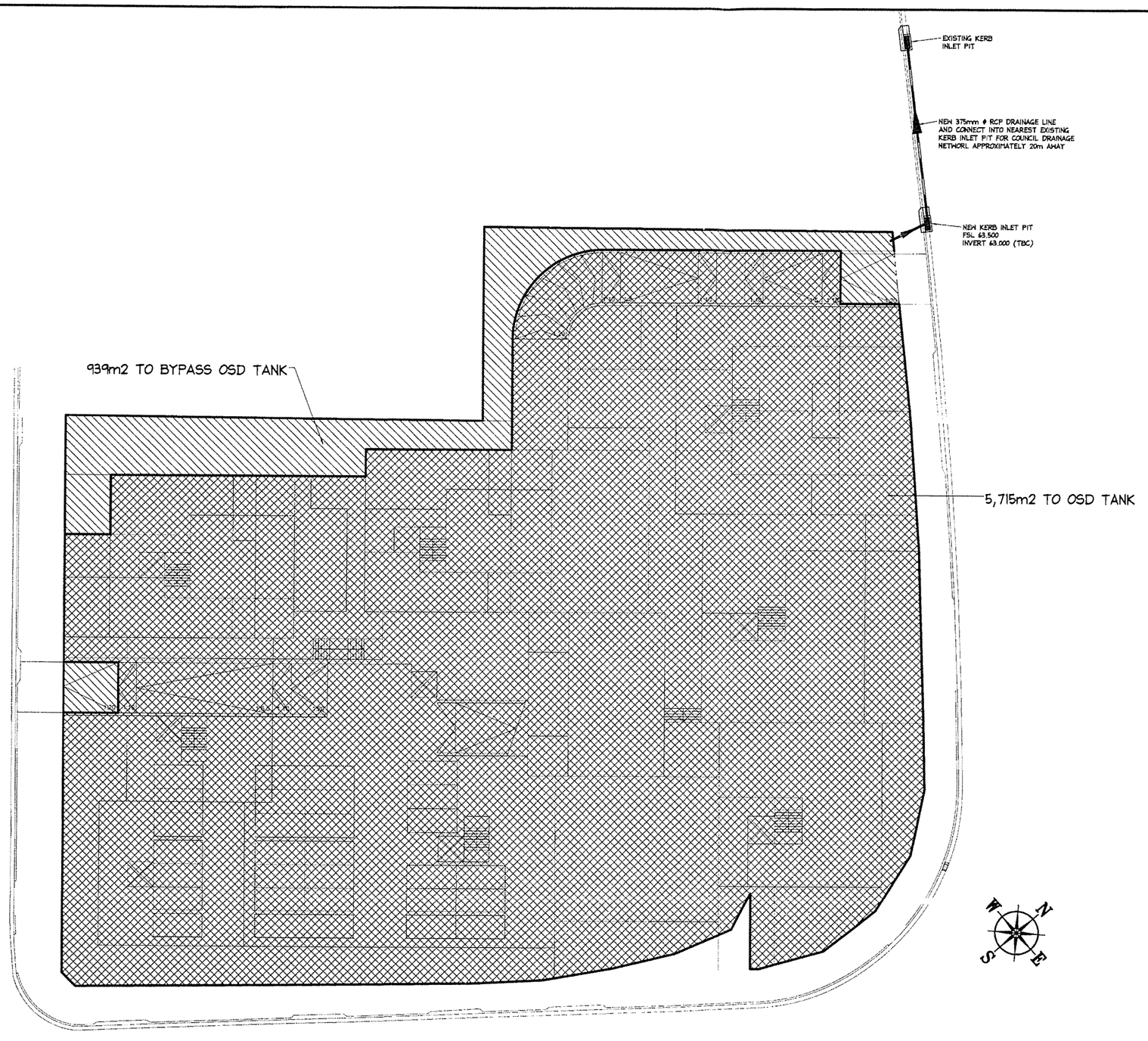

CATCHEMENT PLAN AND SITE DISCHARGE

SCALE = 1 : 250

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Architect:	BATESSMART
Client:	Franpina Developments Pty Ltd
Project:	PROPOSED DEVELOPMENT 366-372 Lane Cove Road, 124A & 126 Epping Road and 1 Paul Street, North Ryde N.S.W 2113
Drawing Title:	CATCHEMENT PLAN AND SITE DISCHARGE
Date:	Jan 2015
Design:	R.M.
Drawn:	Paul R Bruce AMIEAust.
Checked:	
Job No:	150106
Drawing No.	D10
Rev.	A

Northern Beaches Consulting Engineers Pty Ltd.

EPPING ROAD
NORTH RYDE

PRELIMINARY CONCEPT DESIGN

**366-372 LANE COVE RD, 124A & 126 EPPING ROAD &
1 PAUL STREET, NORTH RYDE**

DOCUMENT FOR

FRANPINA DEVELOPMENTS PTY LTD

4 FEBRUARY 2015

CLIENT
Franpina Developments Pty Ltd

CONSULTANTS

Architecture	Bates Smart
Planning	Urbis
Civil Engineering	Murdocca & Associates
Traffic	GTA Consultants

PROJECT NUMBER
S11797

BATESSMART.

ARCHITECTURE
INTERIOR DESIGN
URBAN DESIGN
STRATEGY

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NOMINATED NSW REGISTERED ARCHITECTS
Philip Vivian Reg. No. 6696 / Simon Swaney Reg. No. 7305 / Guy Lake Reg. No. 7119

CONTENTS

INDICATIVE DEVELOPMENT SUMMARY

Indicative Floor Space

Site Area	6,654 m²	
GFA	16,643 m²	
FSR	2:5	

Indicative Residential Mix

Dwellings	180	
Comprising	65	one bedroom units
	106	two bedroom units
	9	three bedroom units

Carparking

Total Spaces	255

1.0 INTRODUCTION

Our aim is to create a landmark quality residential precinct befitting of site and context.

Apartments have high levels of solar access, cross ventilation and building separation.

We have been particularly sensitive to adjacent residential context and have carefully modulated the scale of the proposed development to mediate between the two scales.

The proposal has been designed to read as a village of buildings of varying height and setbacks that come together to create a striking composition with a strong sense of identity.

2.0 LOCATION

Subject Site
5 minute walking radius
Macquarie Park Retail
Macquarie University
T Upper - Macquarie University Station
Lower - Macquarie Park Station

2.1
CONTEXT

EXISTING MEDICAL CENTRE

1/ Lane Cove Road

2/ Lane Cove Road

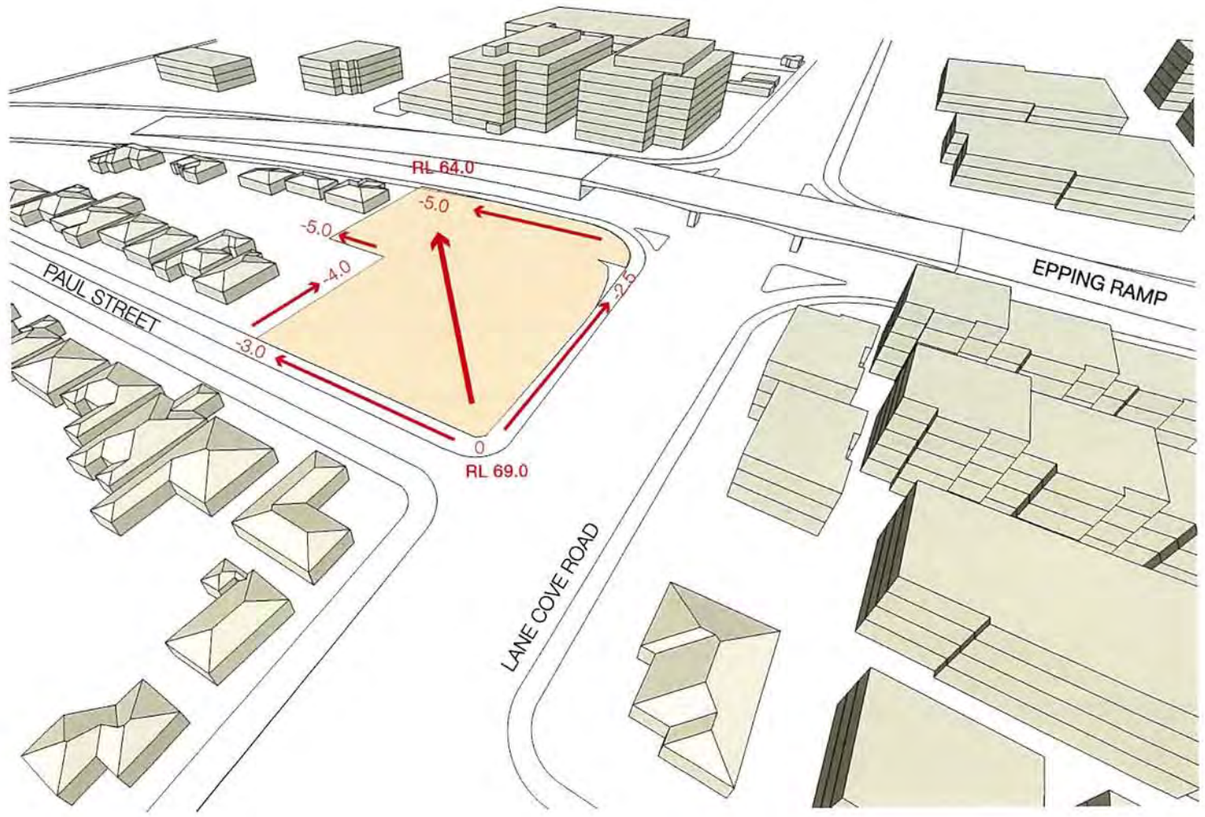
3/ Epping Road

4/ Paul Street

2.2
SITE ANALYSIS

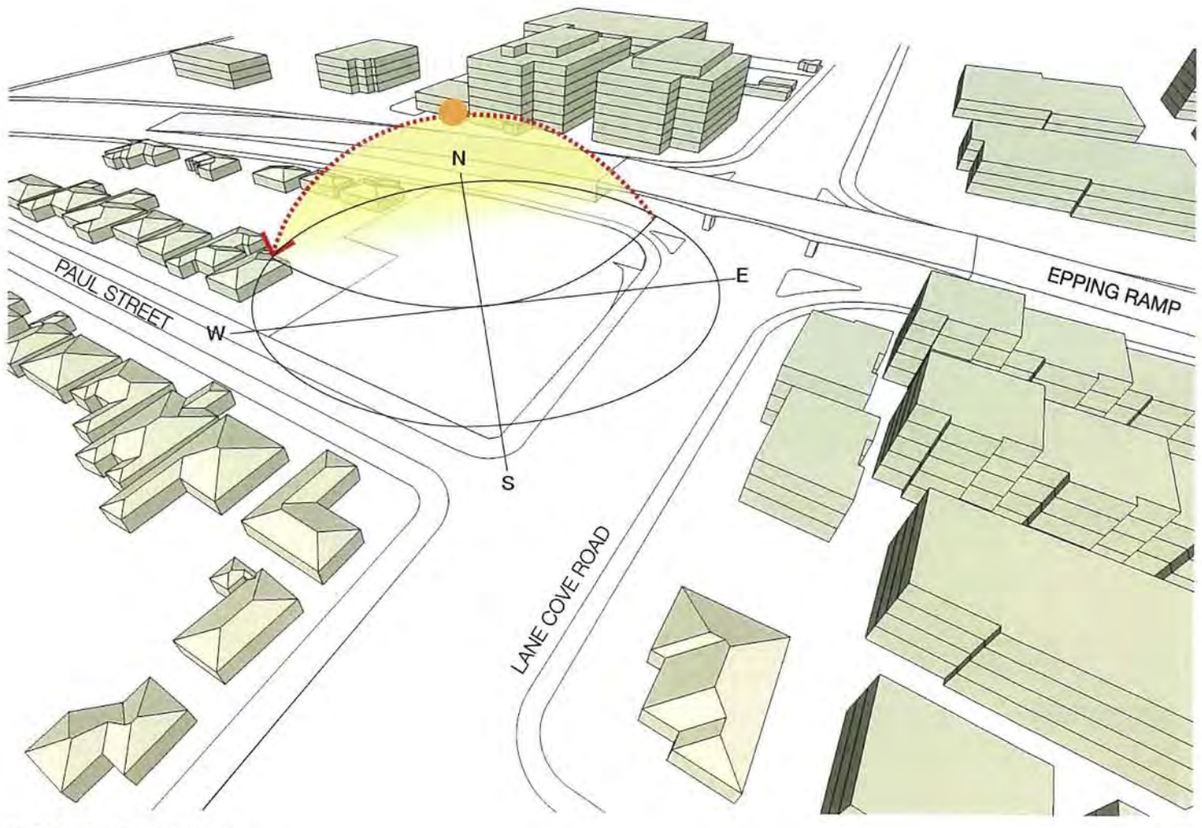
1/ SITE BOUNDARY

Site Area 6654.4sqm

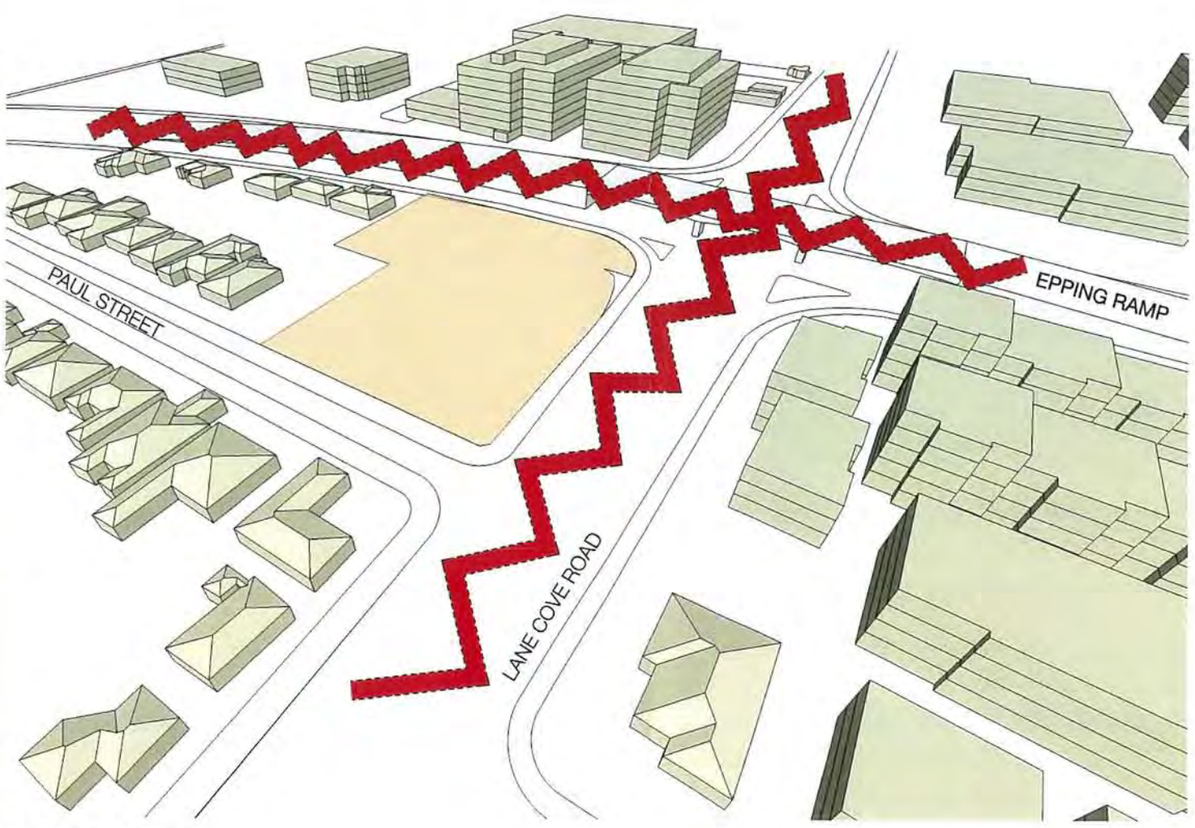


2/ TOPOGRAPHY

2.2
SITE ANALYSIS

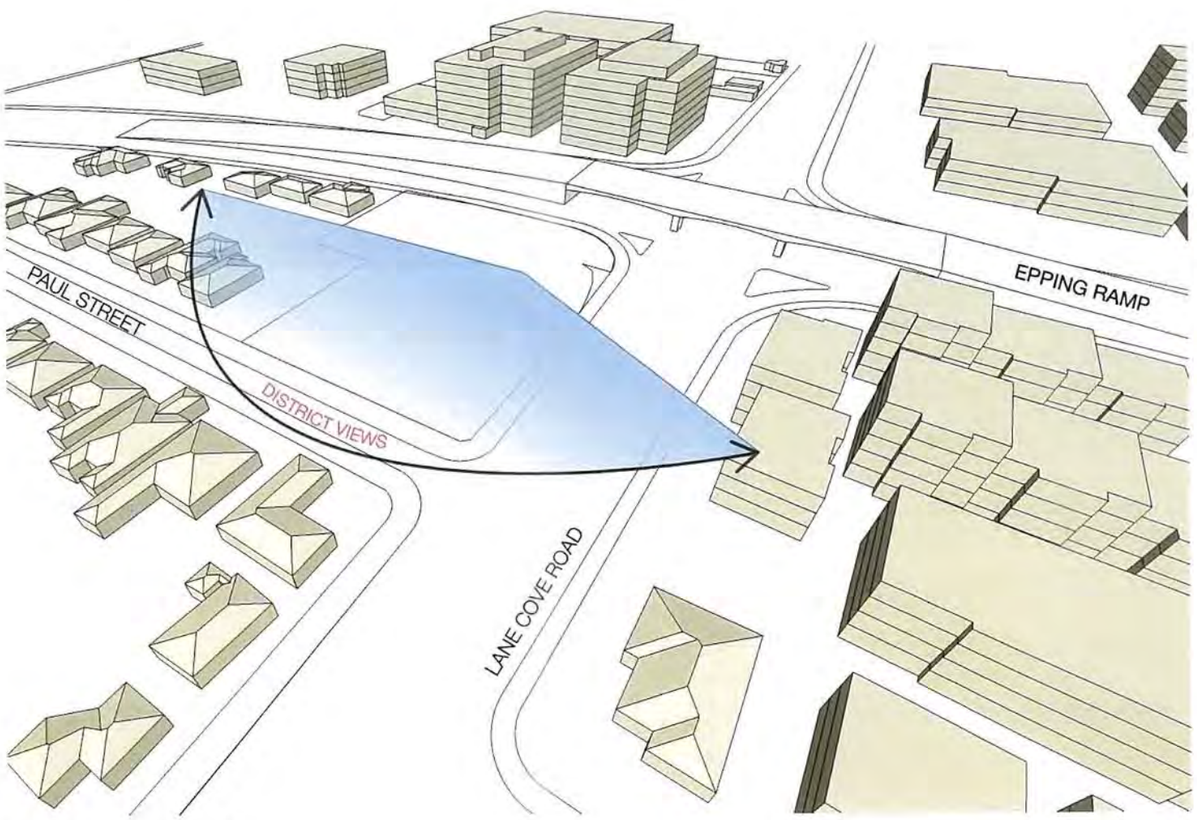


3/ SOLAR ORIENTATION



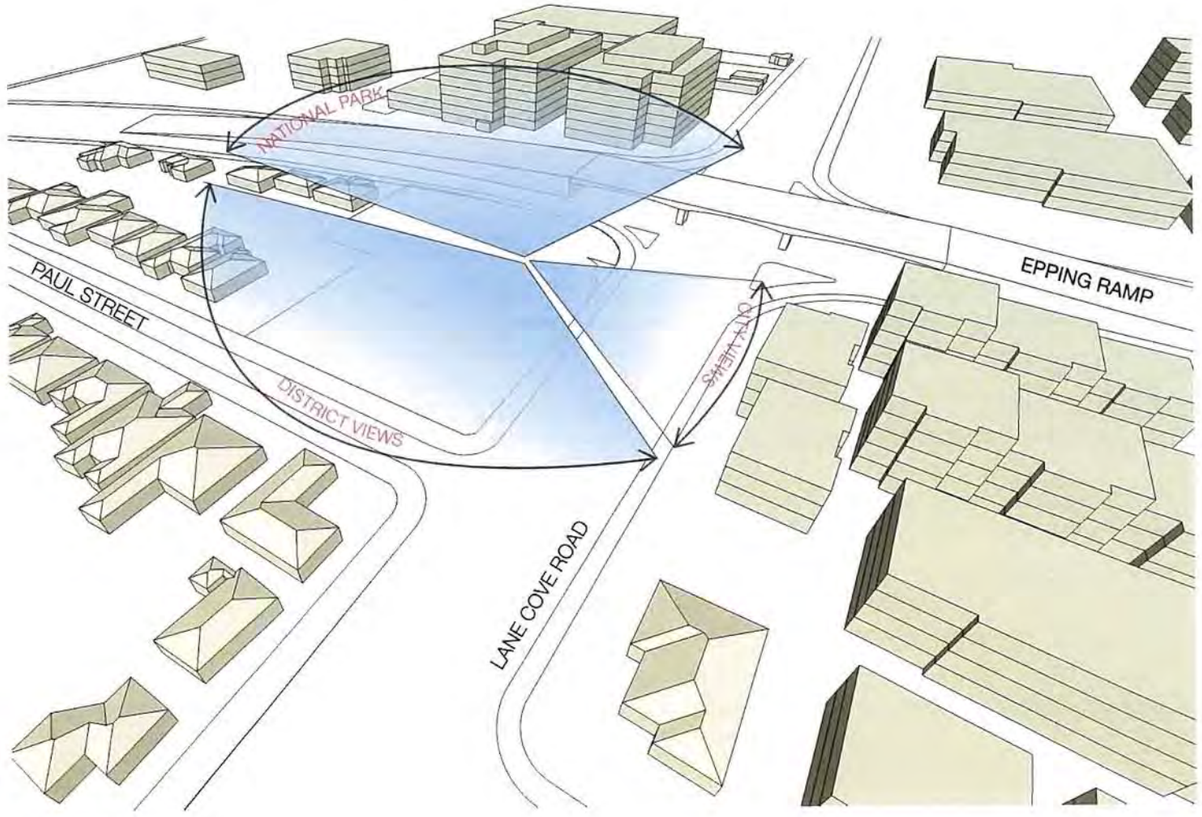
4/ TRAFFIC NOISE

2.2
SITE ANALYSIS



5/ LOWER LEVEL VIEWS

Views are from level 8 and below



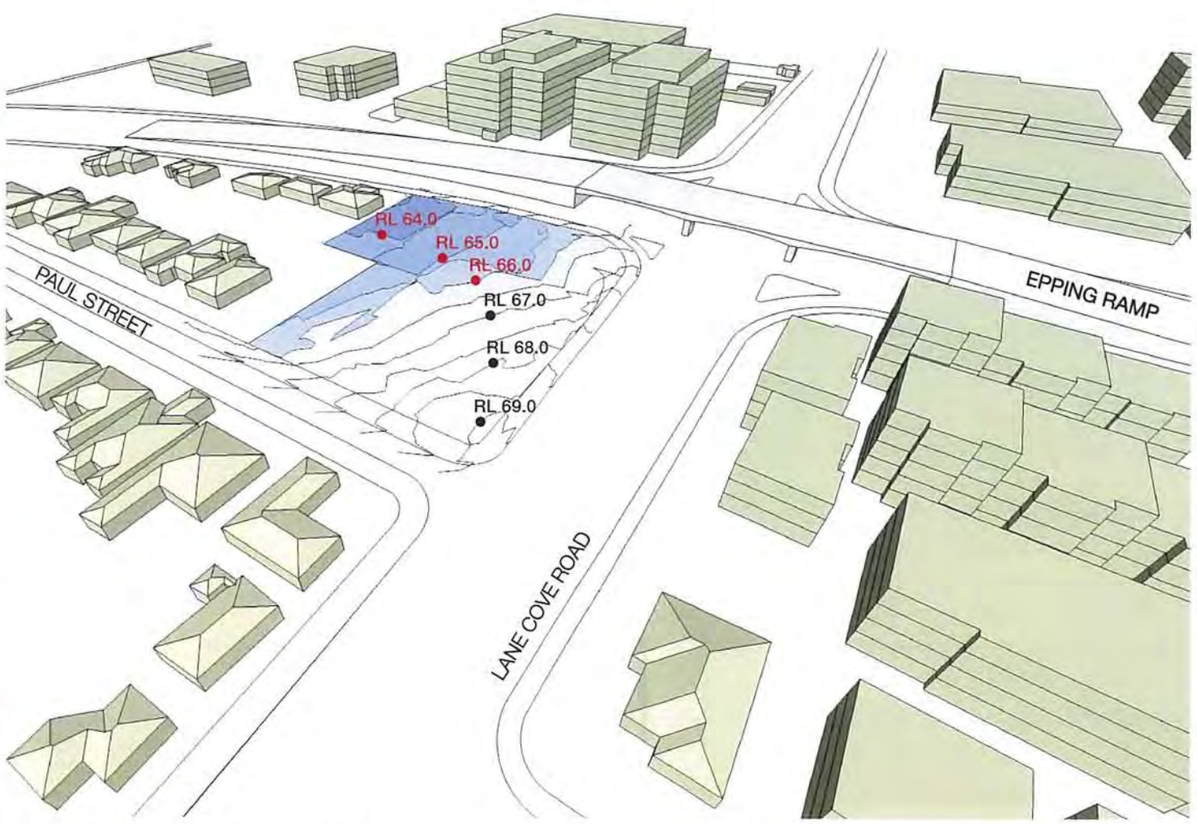
6/ UPPER LEVEL VIEWS

Views are from level 8 and above

2.2
SITE ANALYSIS

7/ CONTEXT

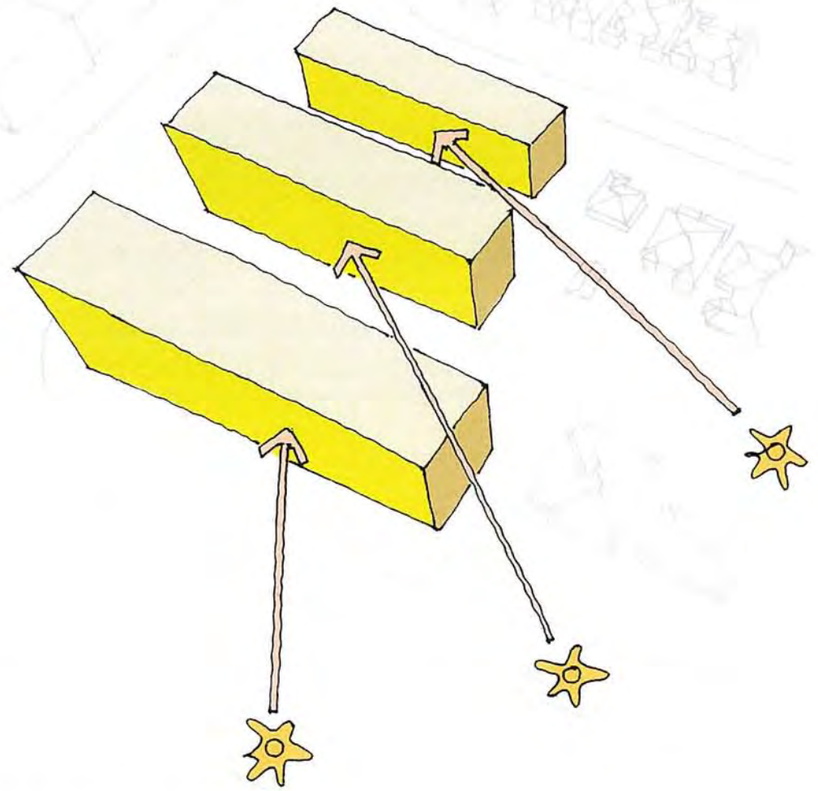
- Commercial: 3-8 storey
- Residential: 3-5 storey
- Residential: 1-2 storey



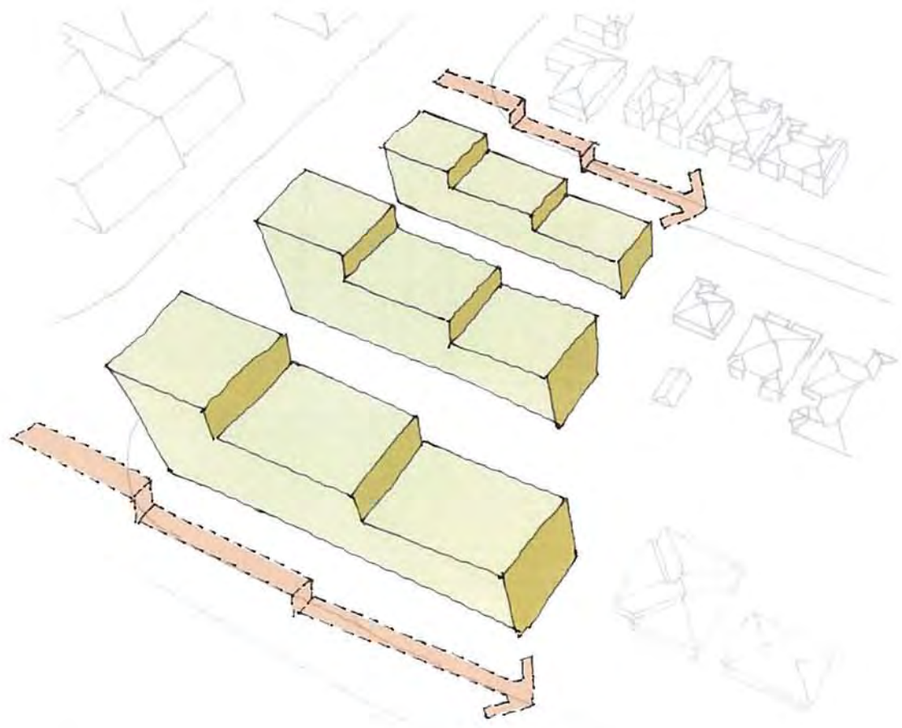
8/ FLOOD LEVEL CONSIDERATIONS

Average 1 in 100 Year Flood Level (1% AEP): 64.74 to 66.63 AHD

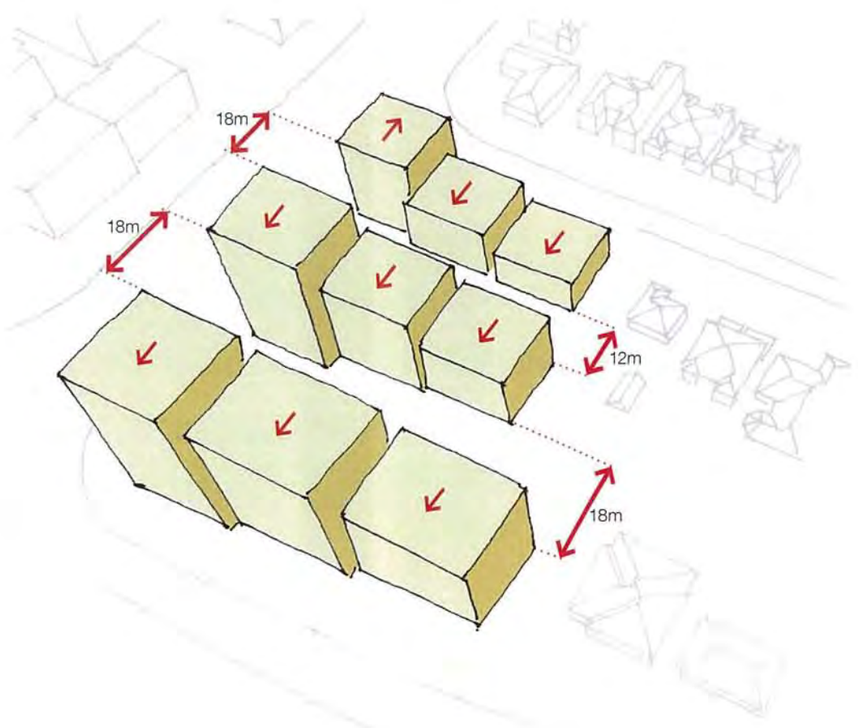
3.0 DESIGN DEVELOPMENT



1/ The arrangement of three linear forms maximises opportunities for northern sunlight to reach apartments, and improves provision of natural ventilation

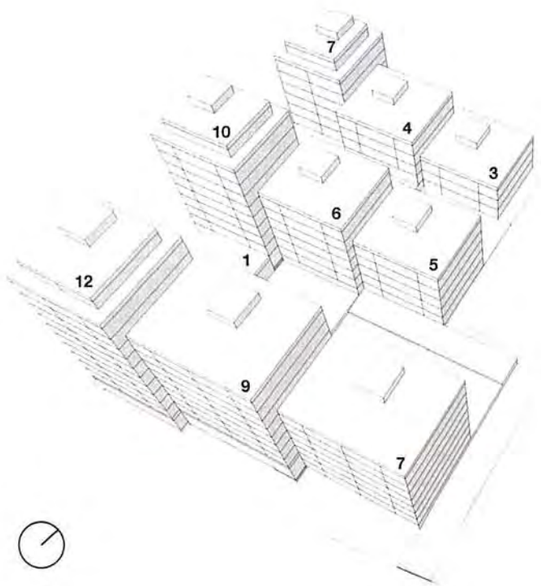


2/ Each linear building form steps down from the Epping Road Lane Cove Road intersection, transitioning to a scale compatible with the neighbouring context



3/ Building masses have been moved north & south to create a 'village' of forms, while accommodating separation requirements for visual privacy, solar access and landscaping

4.0
CONCEPT DESIGN
SITE PLAN



4.0
CONCEPT DESIGN
LOWER GROUND

1 Bedroom Apartment

2 Bedroom Apartment

3 Bedroom Apartment

Retail / Commercial / Medical Uses

Landscape Space - On Podium

Landscape Space - Deep Soil

1:500

4.0
CONCEPT DESIGN
UPPER GROUND

1 Bedroom Apartment

2 Bedroom Apartment

3 Bedroom Apartment

Retail / Commercial / Medical Uses

Landscape Space - On Podium

Landscape Space - Deep Soil

1:500

BATESSMART.

4.0
CONCEPT DESIGN
TYPICAL LEVEL

1 Bedroom Apartment

2 Bedroom Apartment

3 Bedroom Apartment

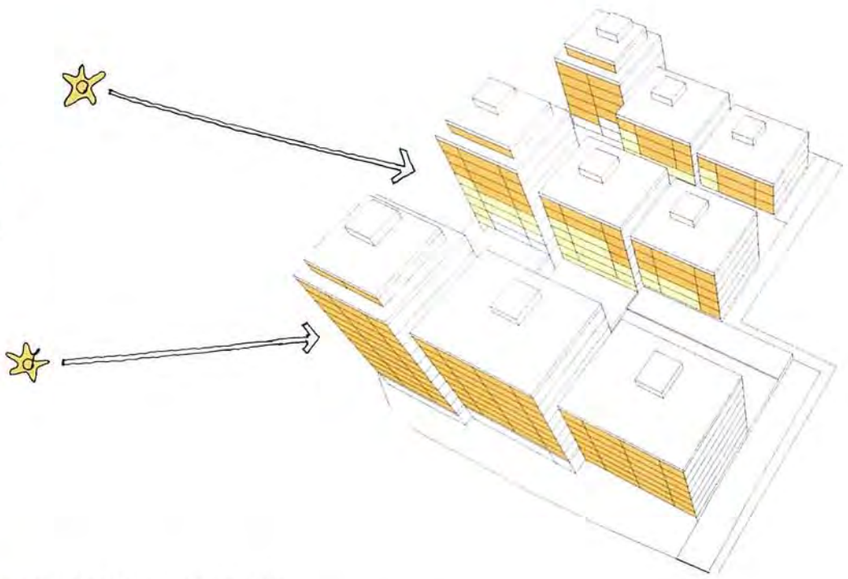
Retail / Commercial / Medical Uses

Landscape Space - On Podium

Landscape Space - Deep Soil

1:500

4.0
CONCEPT DESIGN
SEPP 65 COMPLIANCE

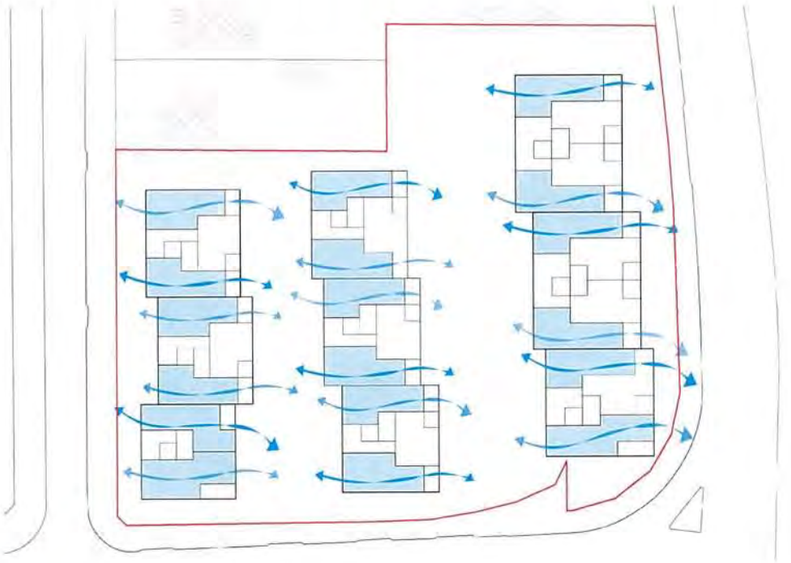


MIDWINTER SOLAR ACCESS

More than 3 hours of solar access: 82% (147 / 180)

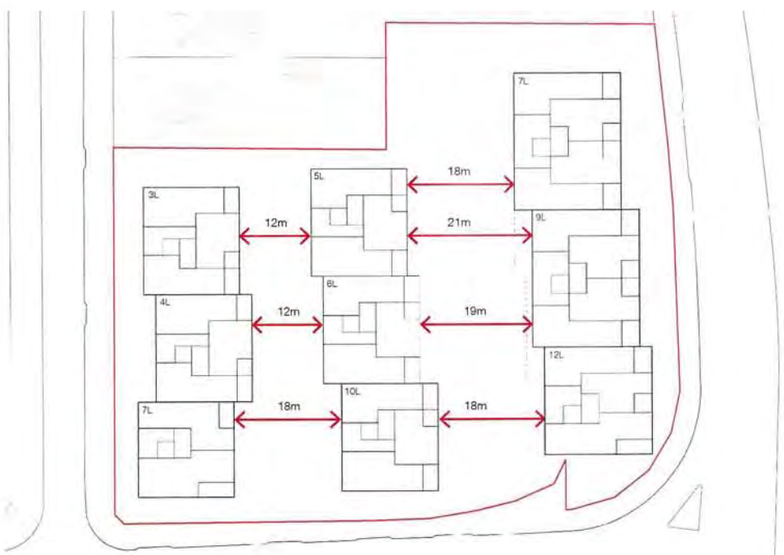
More than 2 hours of solar access: 94% (169 / 180)

Solar access calculated at June 21, to a minimum of 1sqm of direct sunlight for living room windows, based on anticipated typical apartment plans.

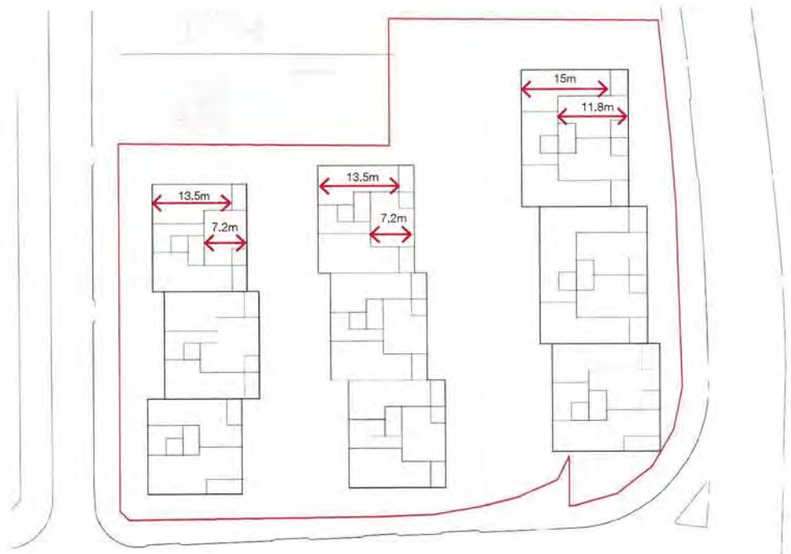


CROSS VENTILATION

Apartments with cross ventilation: 65% (118 / 180)



BUILDING SEPARATION



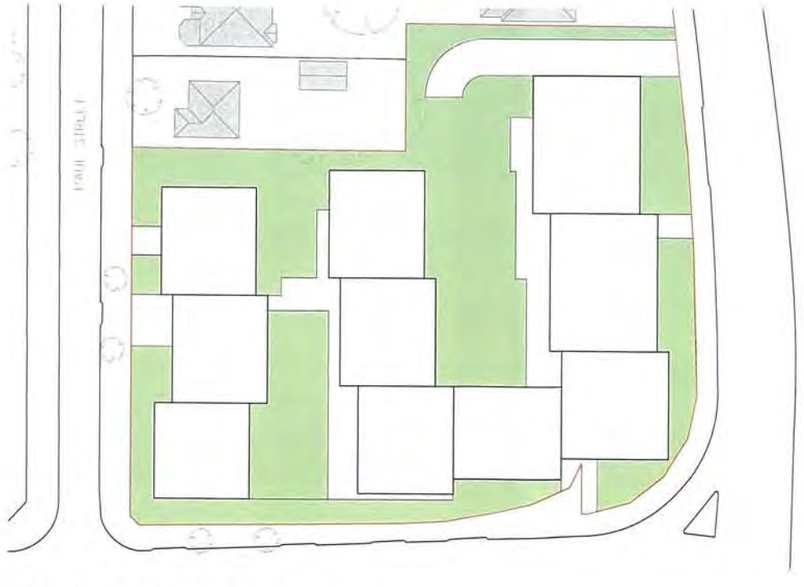
APARTMENT DEPTHS

4.0
CONCEPT DESIGN
SEPP 65 COMPLIANCE

SITE COVERAGE CALCULATIONS

Site Area: 6,654sqm

Site Coverage: 3,118sqm (46%)

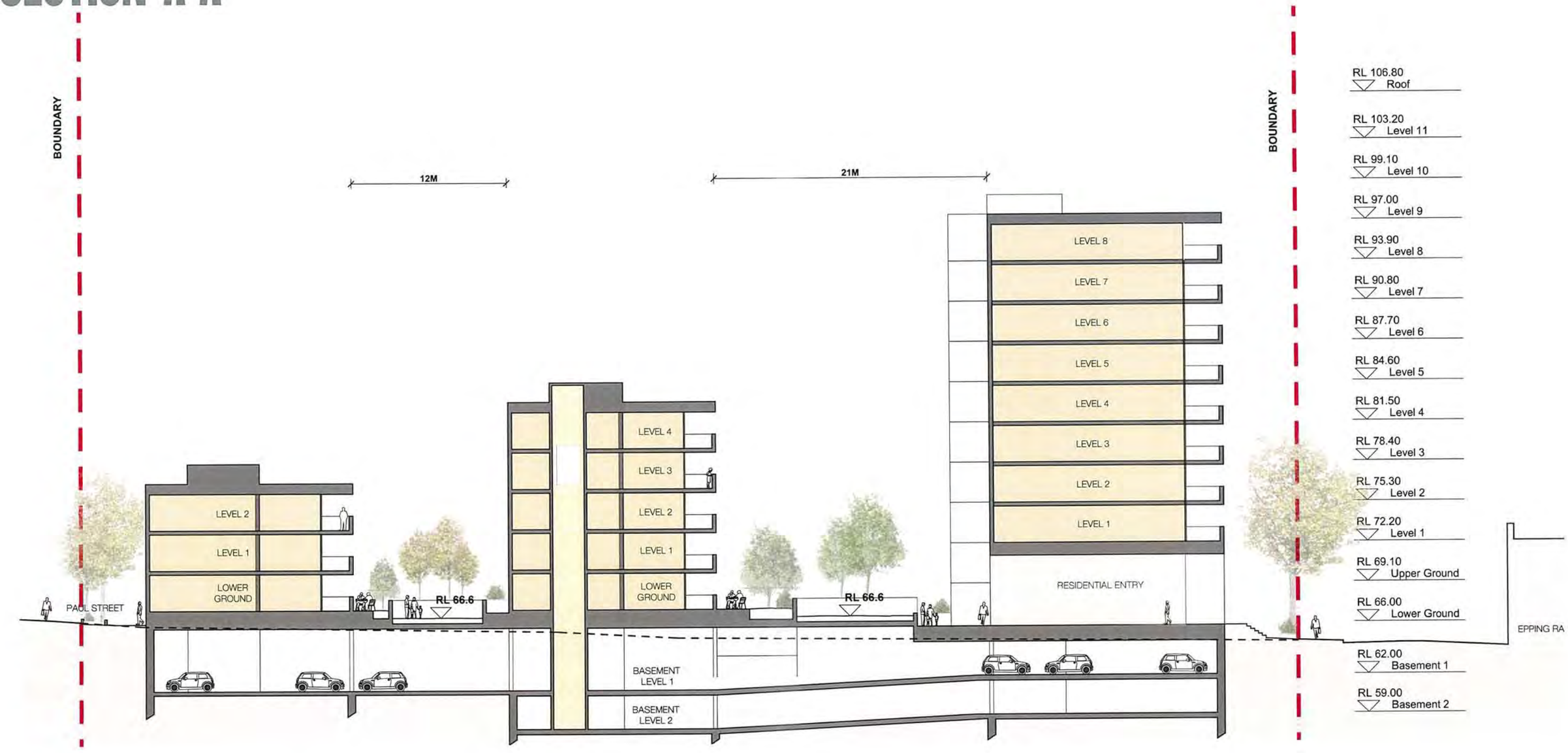


PERVIOUS AREA CALCULATIONS

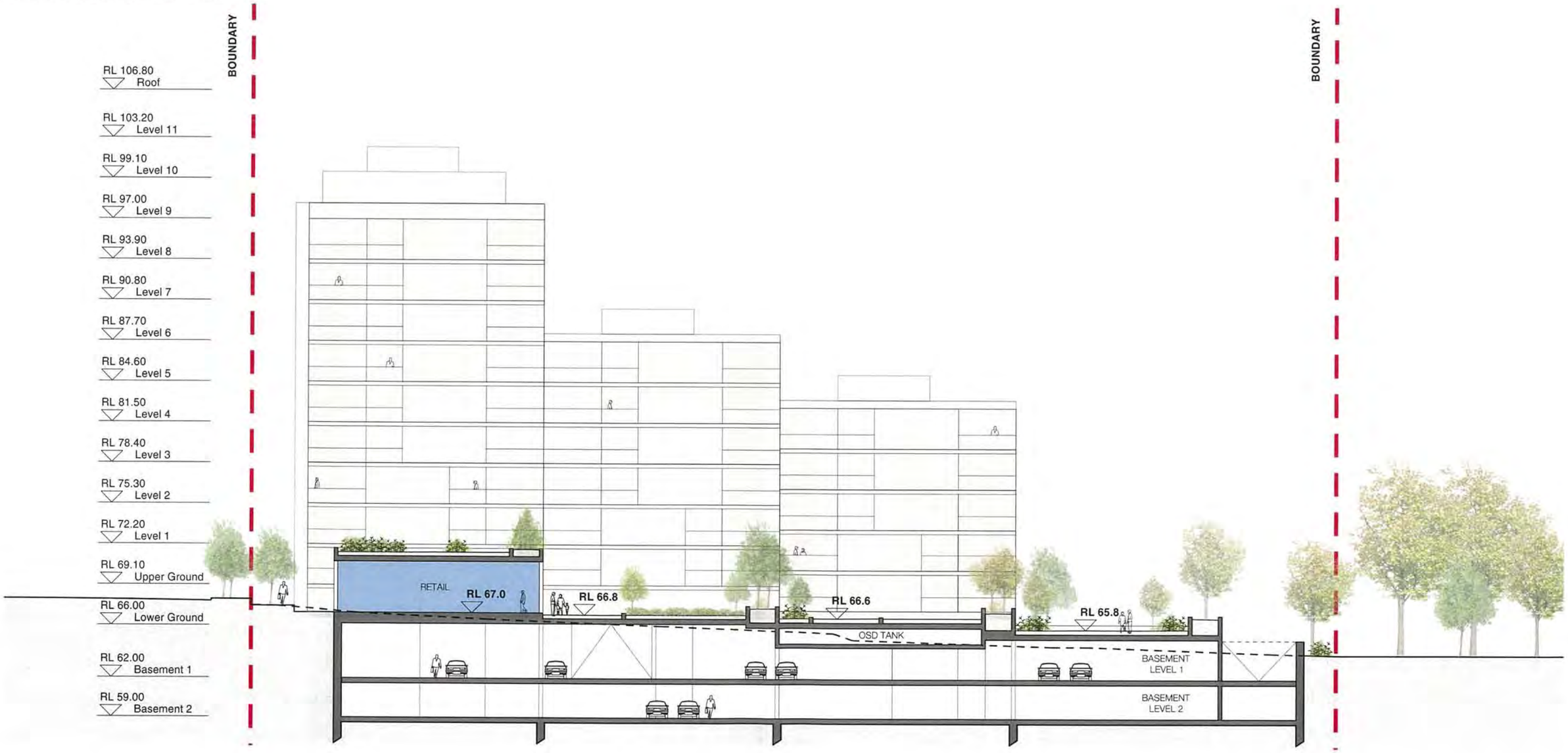
Site Area: 6,654sqm

Pervious Area: 2,695sqm (40%)

4.0
CONCEPT DESIGN
SECTION A-A



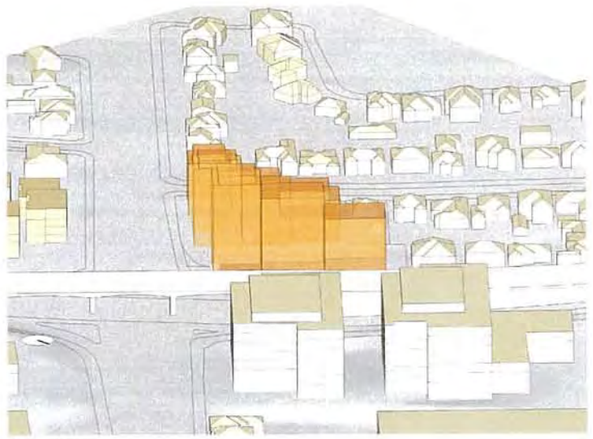
4.0
CONCEPT DESIGN
SECTION B-B



4.0
CONCEPT DESIGN
SUN ANGLE & SHADOW STUDIES

MIDWINTER SUN ANGLE STUDIES

Views taken from the angle of the sun taken at hourly increments for June 21



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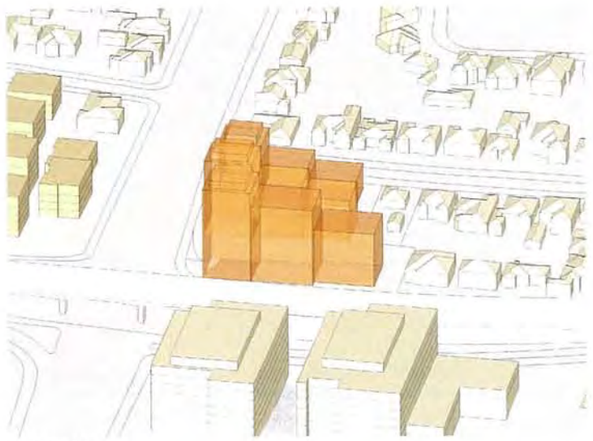

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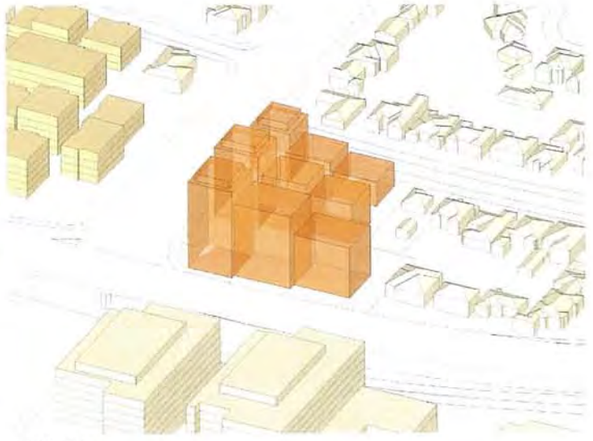

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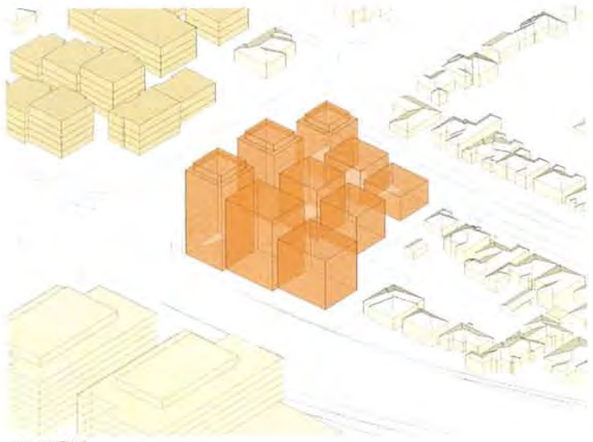

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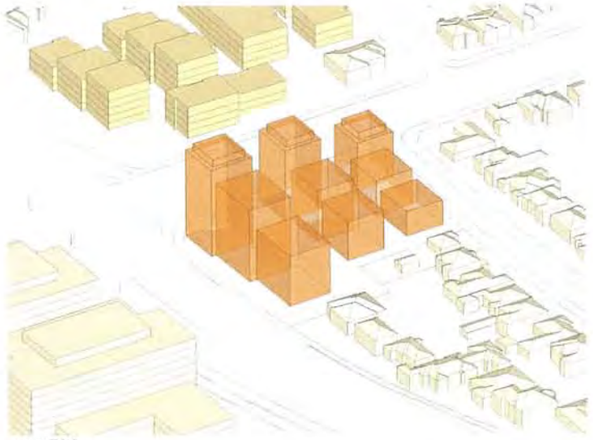

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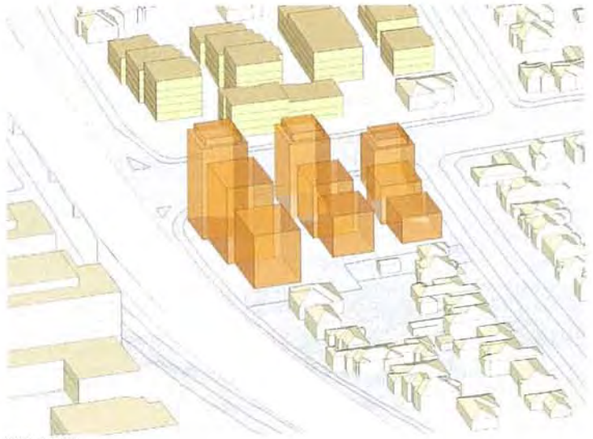

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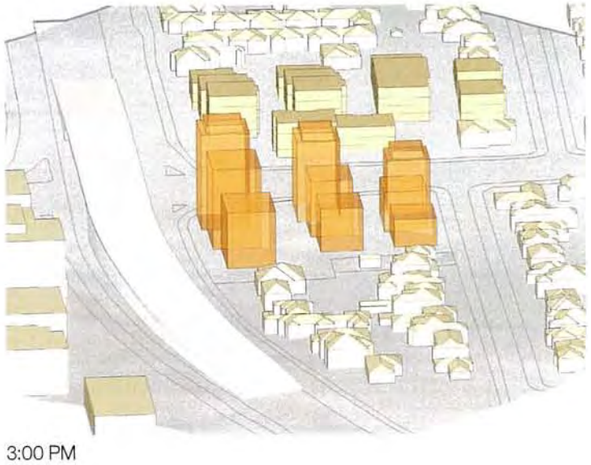
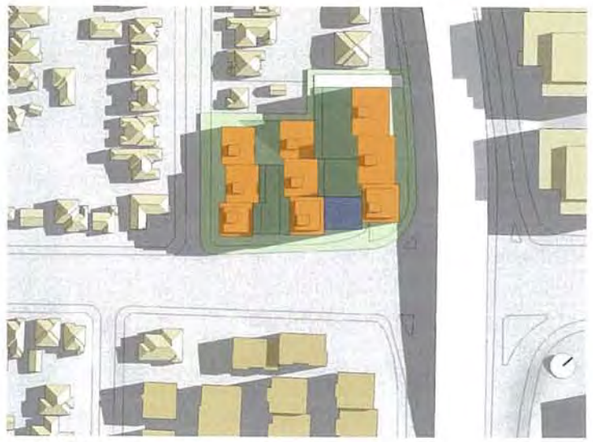


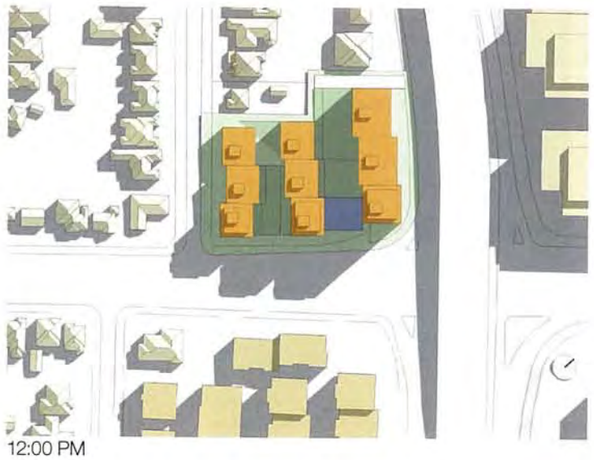
3:00 PM

MIDWINTER SHADOW STUDIES
HOURLY INCREMENTS, JUNE 21

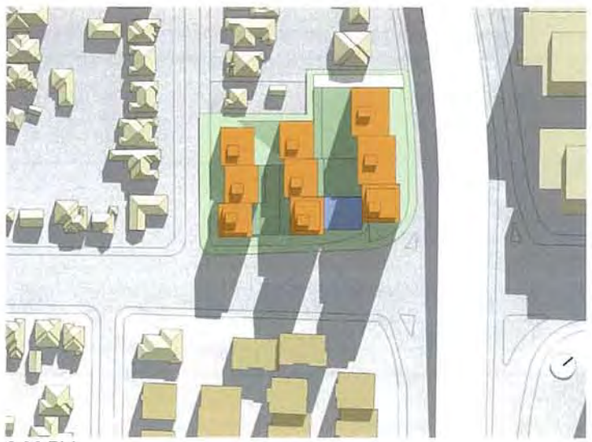

9:00 AM


10:00 AM


11:00 AM


12:00 PM


1:00 PM


2:00 PM


3:00 PM

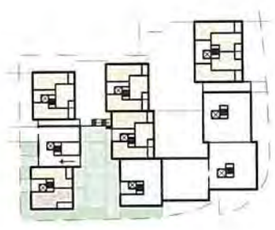
5.0
DEVELOPMENT SUMMARY
AREA SCHEDULE

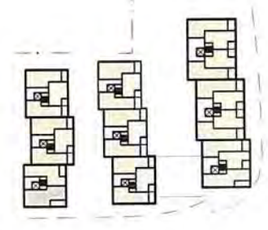
SUMMARY OF INDICATIVE PROPOSAL		
TOTAL N0 APTS		180
1BED	36%	65
2BED	59%	106
3BED	5%	9
NO OF CAR SPACES PROVIDED		255
TOTAL RESIDENTIAL GFA	15,539	2.34 :1
TOTAL COMMERCIAL / RETAIL GFA	1104	0.17 :1
GFA	16,643 sqm	
SITE AREA	6,654 sqm	
FSR	2.50 :1	

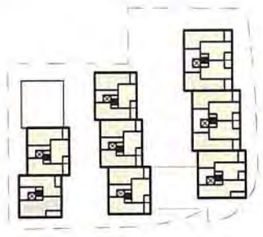

Basement 2


Basement 1


Lower Ground


Upper Ground


Level 1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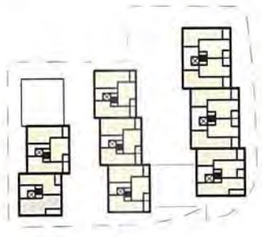
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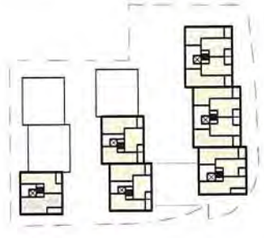
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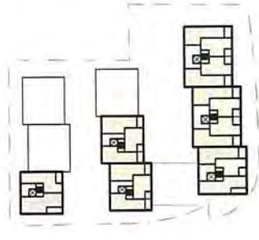
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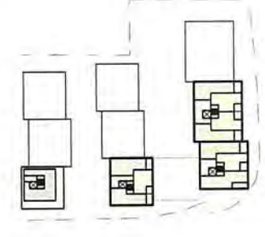
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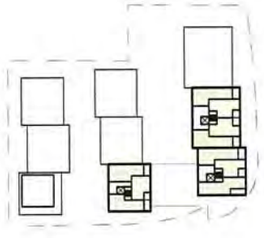
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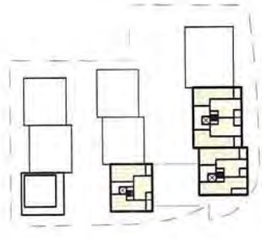
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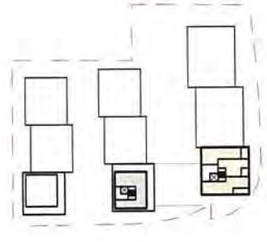
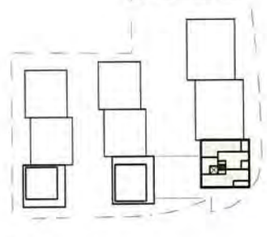
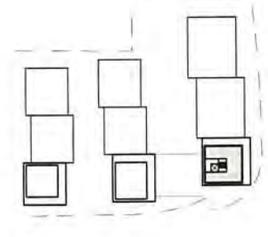

Level 9


Level 10


Level 11

5.0
DEVELOPMENT SUMMARY
CARPARKING

Indicative Car Parking Provision					Bicycles		Motorbikes	
Residential								
Dwelling Type	Percentage	No.	Rate	Spaces	Rate	No	Rate	No
1 Bedroom	36%	65	0.6	39				
2 Bedroom	59%	106	0.9	95				
3 Bedroom	5%	9	1.6	14				
Total	100%	180		**149**	1/5	36	1/50	4
Residential Visitors			1/5	36				
Total Residential				**185**		**36**		**4**
Commercial / Retail / Medical								
Type	GFA(m²)		Rate	Spaces	Rate	No	Rate	No
"Office and Business"	100		1/40	3	1/5	1	1/50	1
"Retail Premises"	200		1/25	8	1/5	2	1/50	1
"Health Services"	804	20	3	60	1/5	12	1/50	1
(based on DCP rates)		doctors	per doctor					
Total GFA:	1,104							
Total Parking Spaces for Indicative Proposal:				**255**		**50**		**7**

6.0
VIEWS IN CONTEXT

Aerial View from North

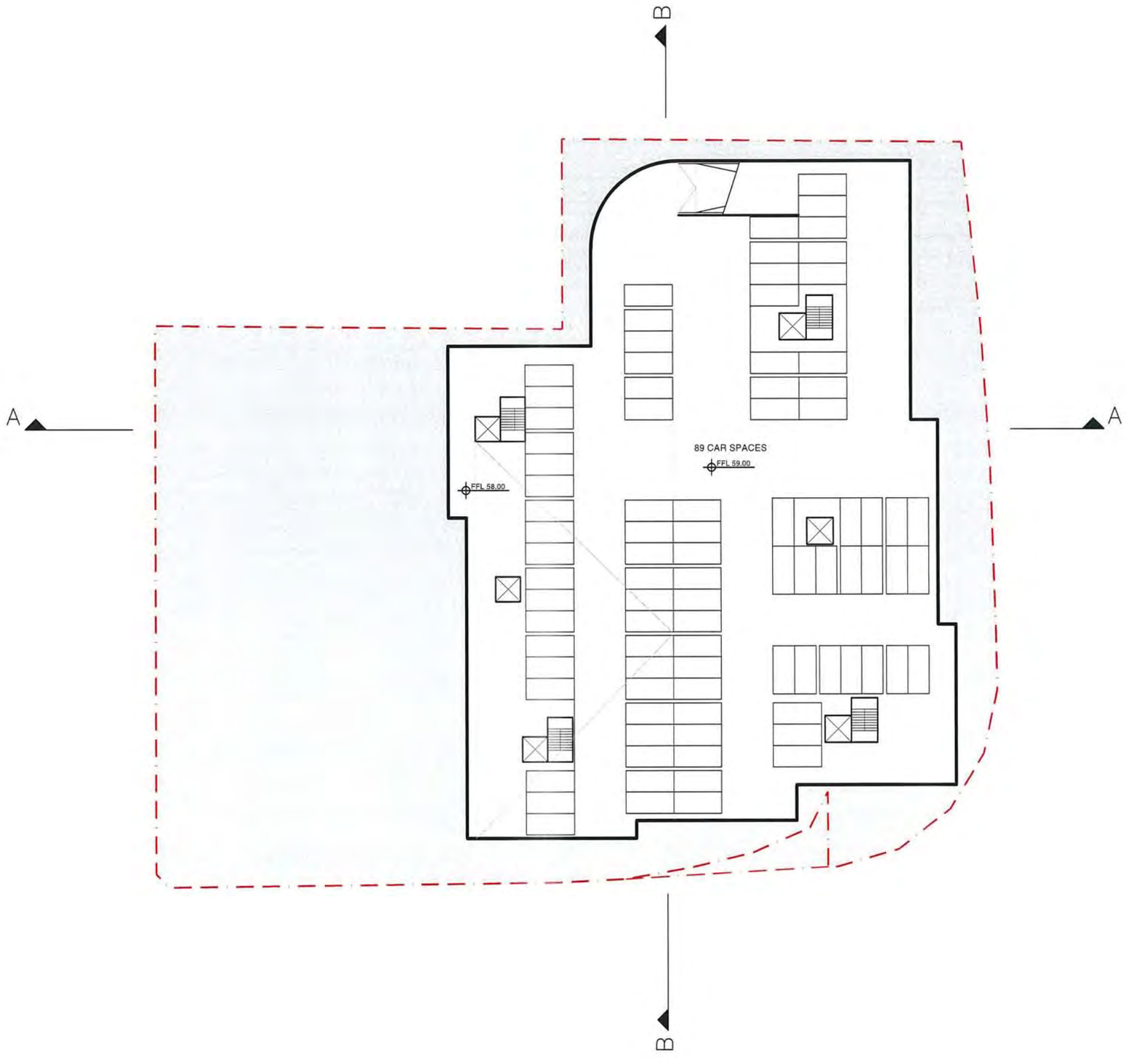
6.0
VIEWS IN CONTEXT

View from Lane Cove Road looking South

6.0
VIEWS IN CONTEXT

Aerial View from South-West

APPENDIX A:
ARCHITECTURAL DRAWINGS OF PRELIMINARY CONCEPT DESIGN

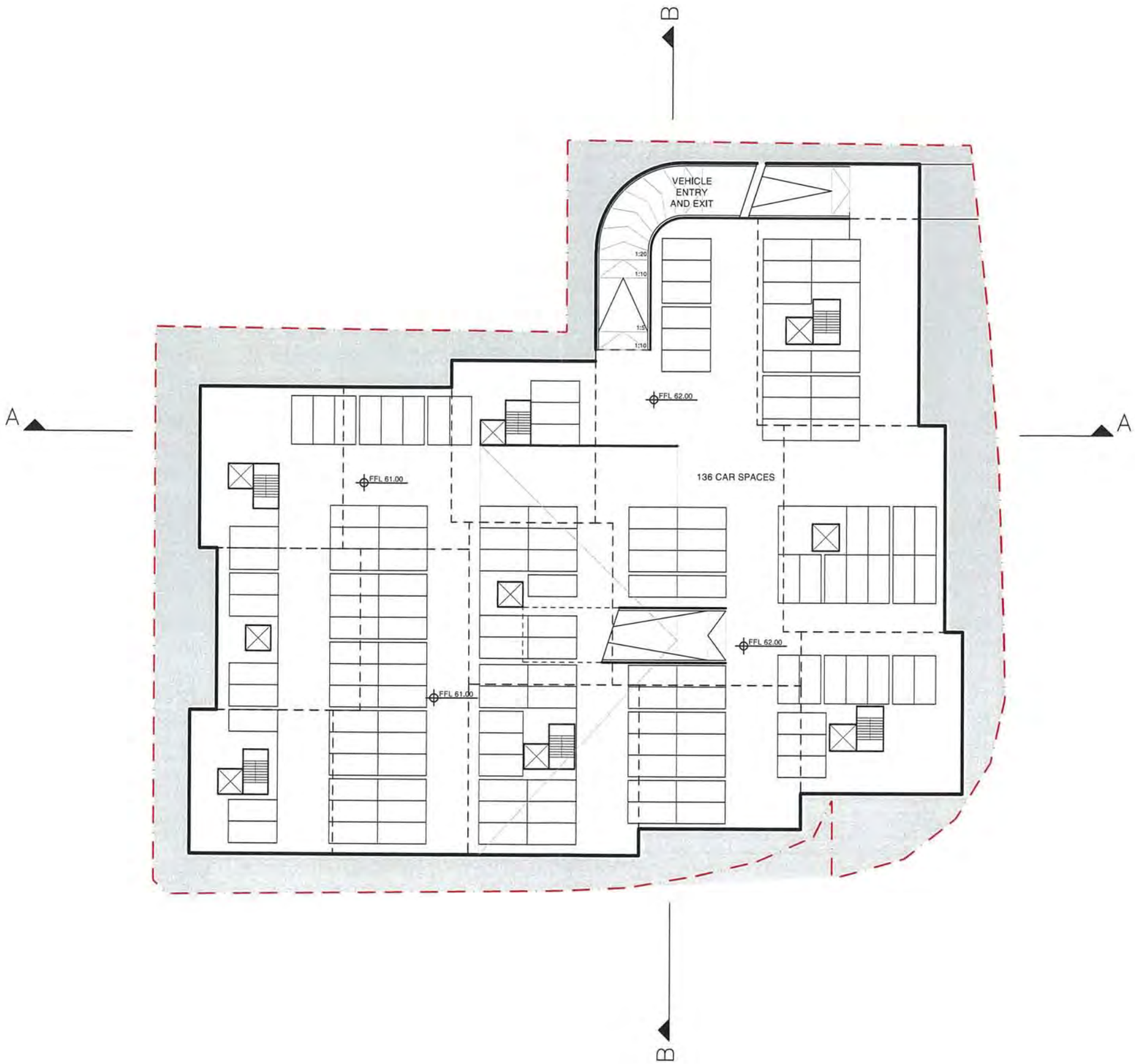


BATESSMART

Masterplan Proposal
Epping Road, North Ryde

ProjNo. s11797
SK-04 - BASEMENT LEVEL 2 PLAN

Basement Level 2 Plan
1:500 @A3



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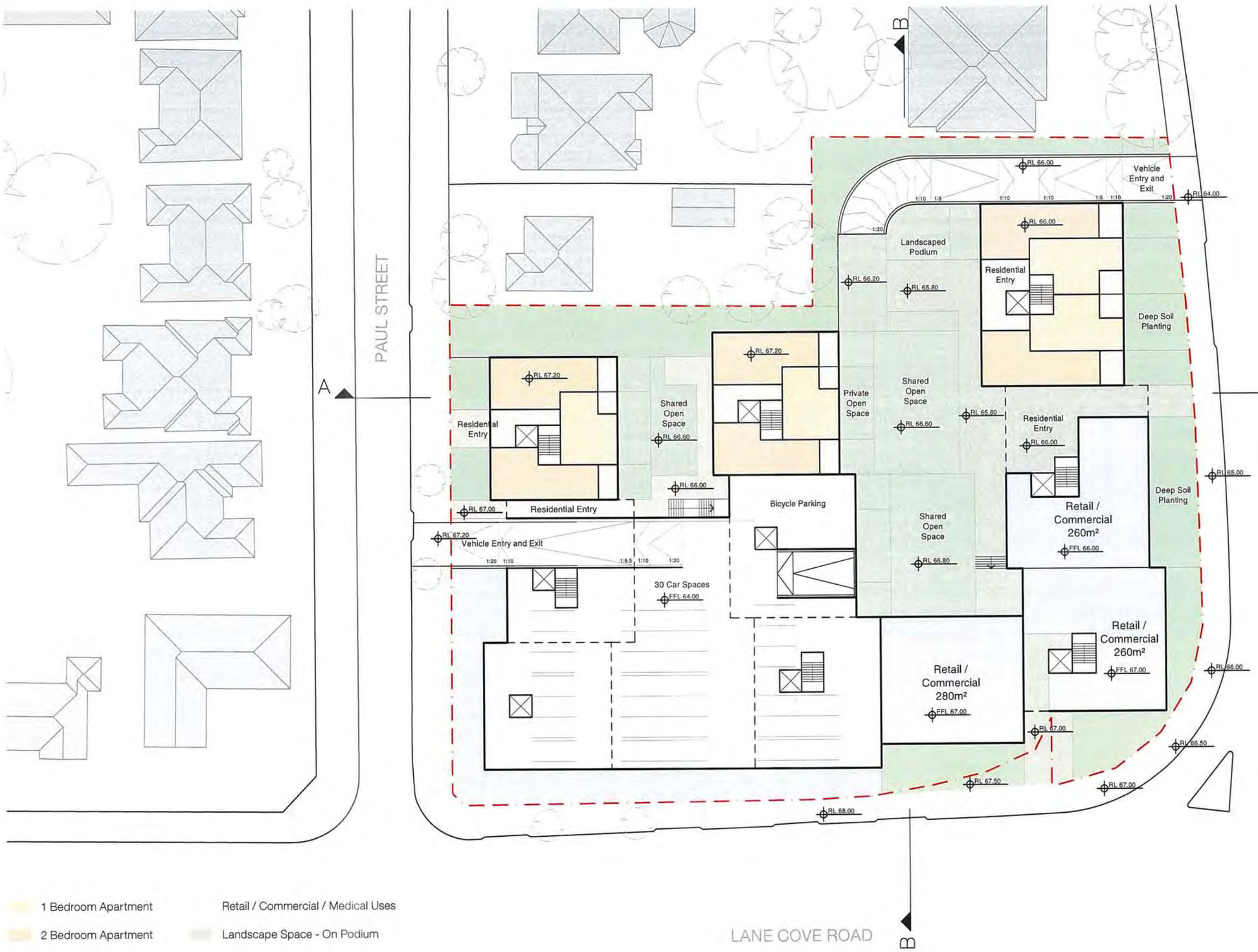
Masterplan Proposal
Epping Road, North Ryde

ProjNo. s11797
SK-05 - BASEMENT LEVEL 1 PLAN

Basement Level 1 Plan
1:500 @A3



1 Bedroom Apartment
2 Bedroom Apartment
3 Bedroom Apartment

Retail / Commercial / Medical Uses
Landscape Space - On Podium
Landscape Space - Deep Soil

BATESSMART.

Masterplan Proposal
Epping Road, North Ryde

ProjNo. s11797
SK-06 - LOWER GROUND FLOOR PLAN

Lower Ground Floor Plan
1:500 @A3

1 Bedroom Apartment
2 Bedroom Apartment
3 Bedroom Apartment

Retail / Commercial / Medical Uses
Landscape Space - On Podium
Landscape Space - Deep Soil

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Masterplan Proposal
Epping Road, North Ryde

ProjNo. s11797
SK-07 - UPPER GROUND FLOOR PLAN

Upper Ground Floor Plan
1:500 @A3

1 Bedroom Apartment

2 Bedroom Apartment

3 Bedroom Apartment

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Masterplan Proposal

Epping Road, North Ryde

ProjNo. s11797

SK-08 - LEVEL 1 PLAN

Level 01 Plan

1:500 @A3

1 Bedroom Apartment

2 Bedroom Apartment

3 Bedroom Apartment

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Masterplan Proposal

Epping Road, North Ryde

ProjNo. s11797

SK-09 - LEVEL 2 PLAN

Level 02 Plan

1:500 @A3

1 Bedroom Apartment

2 Bedroom Apartment

3 Bedroom Apartment

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Masterplan Proposal

Epping Road, North Ryde

ProjNo. s11797

SK-10 - LEVEL 3 PLAN

Level 03 Plan

1:500 @A3

1 Bedroom Apartment

2 Bedroom Apartment

3 Bedroom Apartment

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Masterplan Proposal

Epping Road, North Ryde

ProjNo. s11797

SK-11 - LEVEL 4 PLAN

Level 04 Plan

1:500 @A3

1 Bedroom Apartment

2 Bedroom Apartment

3 Bedroom Apartment

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Masterplan Proposal

Epping Road, North Ryde

ProjNo. s11797

SK-12 - LEVEL 5 PLAN

Level 05 Plan

1:500 @A3

1 Bedroom Apartment

2 Bedroom Apartment

3 Bedroom Apartment

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Masterplan Proposal

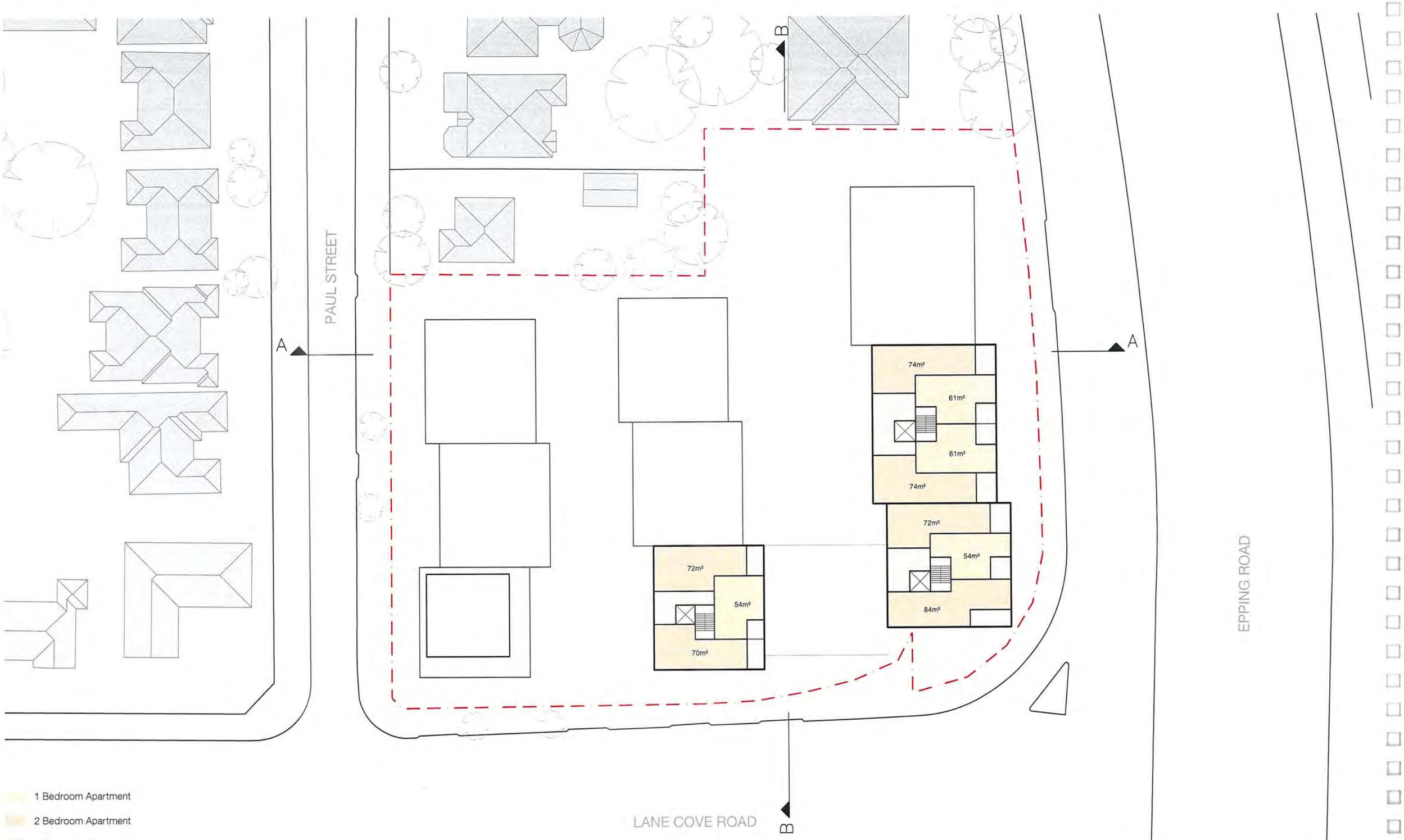
Epping Road, North Ryde

ProjNo. s11797

SK-13 - LEVEL 6 PLAN

Level 06 Plan

1:500 @A3



1 Bedroom Apartment

2 Bedroom Apartment

3 Bedroom Apartment

BATESSMART™

Masterplan Proposal

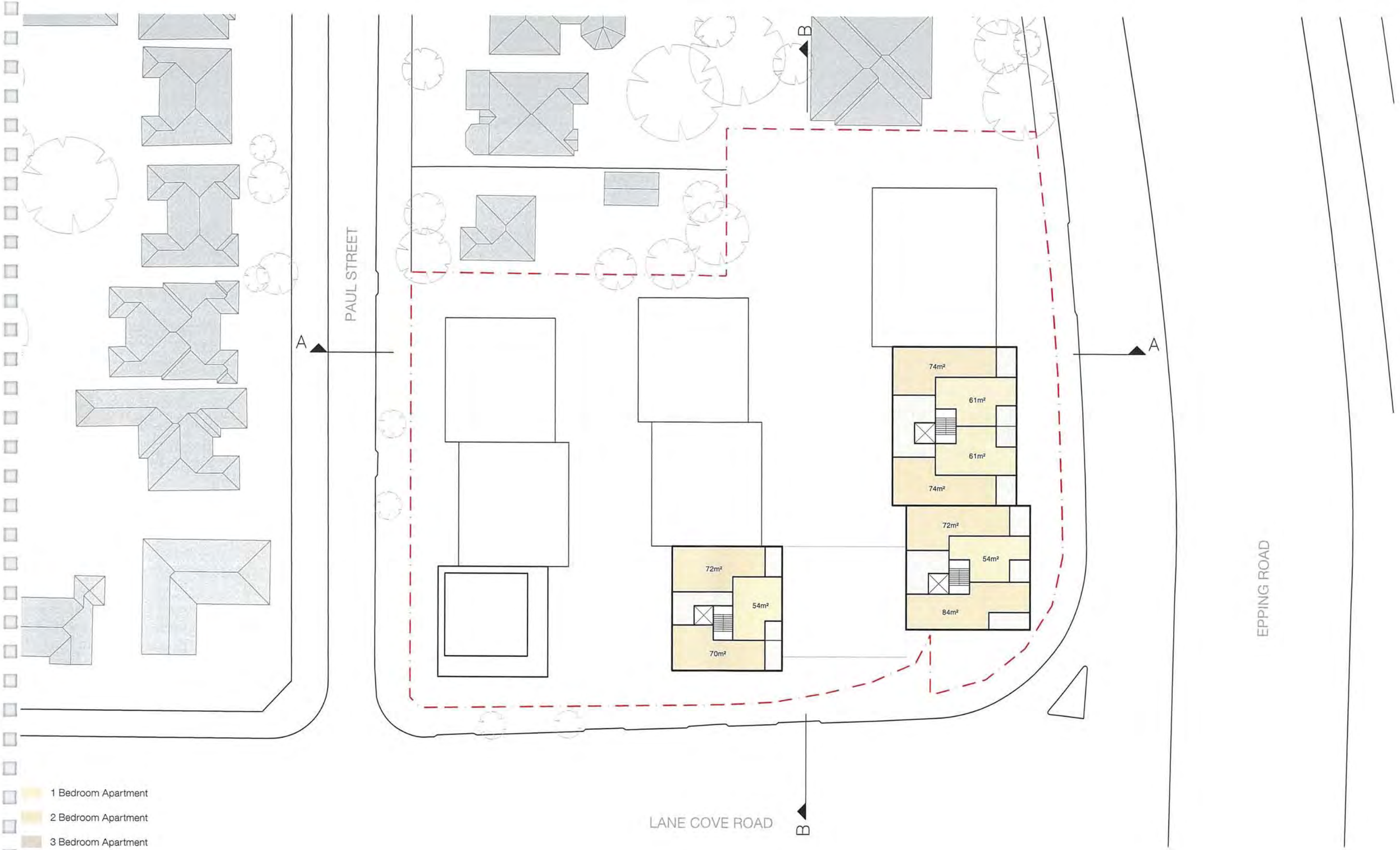
Epping Road, North Ryde

ProjNo. s11797

SK-14 - LEVEL 7 PLAN

Level 07 Plan

1:500 @A3



1 Bedroom Apartment

2 Bedroom Apartment

3 Bedroom Apartment

BATESSMART™

Masterplan Proposal

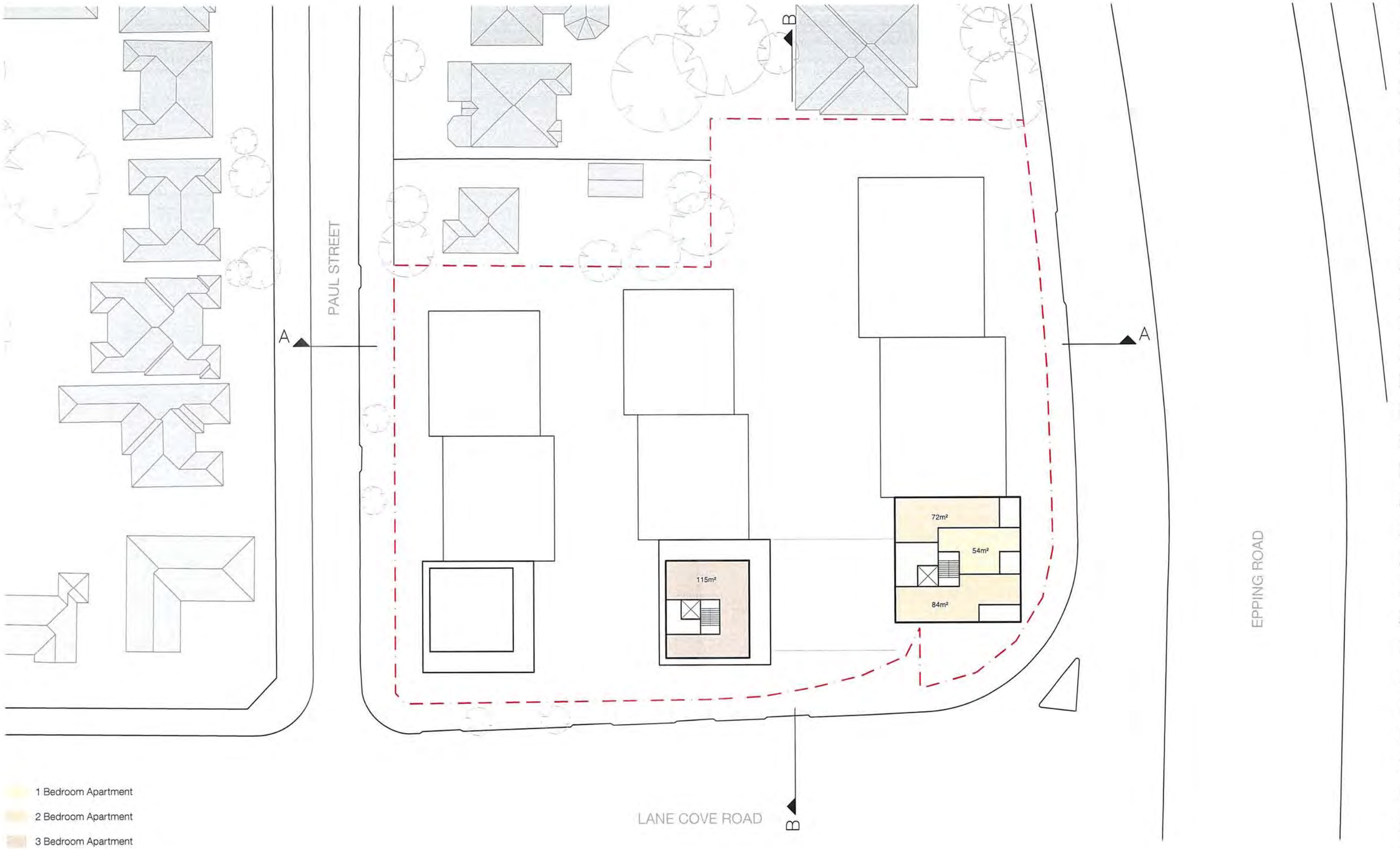
Epping Road, North Ryde

ProjNo. s11797

SK-15 - LEVEL 8 PLAN

Level 08 Plan

1:500 @A3



1 Bedroom Apartment

2 Bedroom Apartment

3 Bedroom Apartment

BATESSMART™

Masterplan Proposal

Epping Road, North Ryde

ProjNo. s11797

SK-16 - LEVEL 9 PLAN

Level 09 Plan

1:500 @A3

1 Bedroom Apartment

2 Bedroom Apartment

3 Bedroom Apartment

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Masterplan Proposal

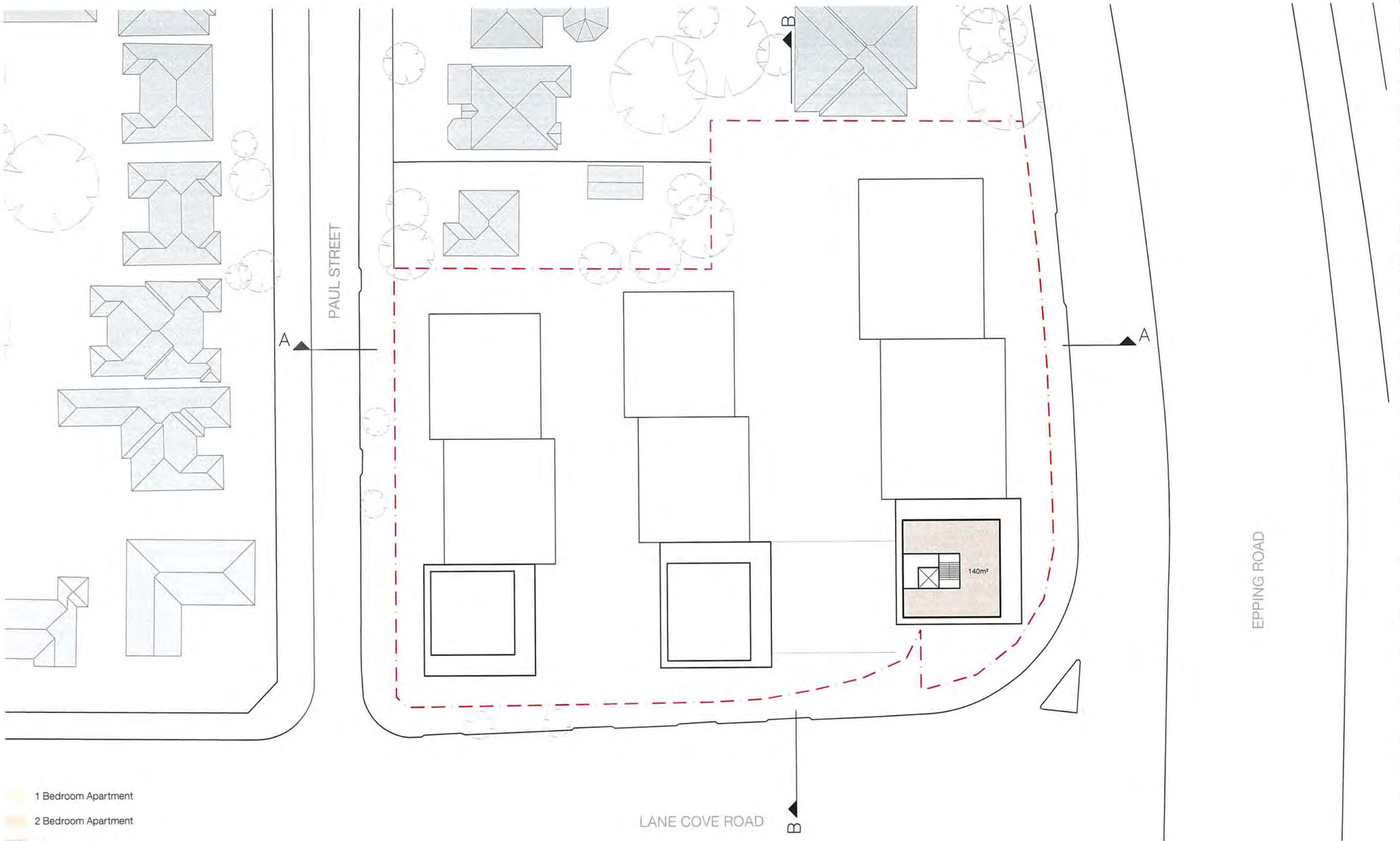
Epping Road, North Ryde

ProjNo. s11797

SK-17 - LEVEL 10 PLAN

Level 10 Plan

1:500 @A3



1 Bedroom Apartment

2 Bedroom Apartment

3 Bedroom Apartment

BATESSMART™

Masterplan Proposal

Epping Road, North Ryde

ProjNo. s11797

SK-18 - LEVEL 11 PLAN

Level 11 Plan

1:500 @A3

APPENDIX B:
SITE SURVEY

Survey Notes:-

tion of structures approximate only.

levels and details on this plan have been determined by stadia
ods and are within the general accepted accuracies for such
ys. All set out levels must be referred to the bench mark.

ings and Distances are by deed only and are subject to Final
ey. Except where shown by dimension, the relationship of
ovements to boundaries is diagrammatic only. The true
ions are subject to Final Survey.

sizes are estimates and indicative only.

ices and utilities shown have been located by physical
ince and/or by reference to service plans from the relevant
orities. Subsurface utility information shown in accordance
AS5488-2013 QL-D. Pits may not have been opened to verify
ype of utility. Excavation has not been carried out to confirm
nderground location. Service details should be confirmed with the
ant service authority during design and prior to
mencement of construction.

art of your duty of care, please contact the following where
ssary :-

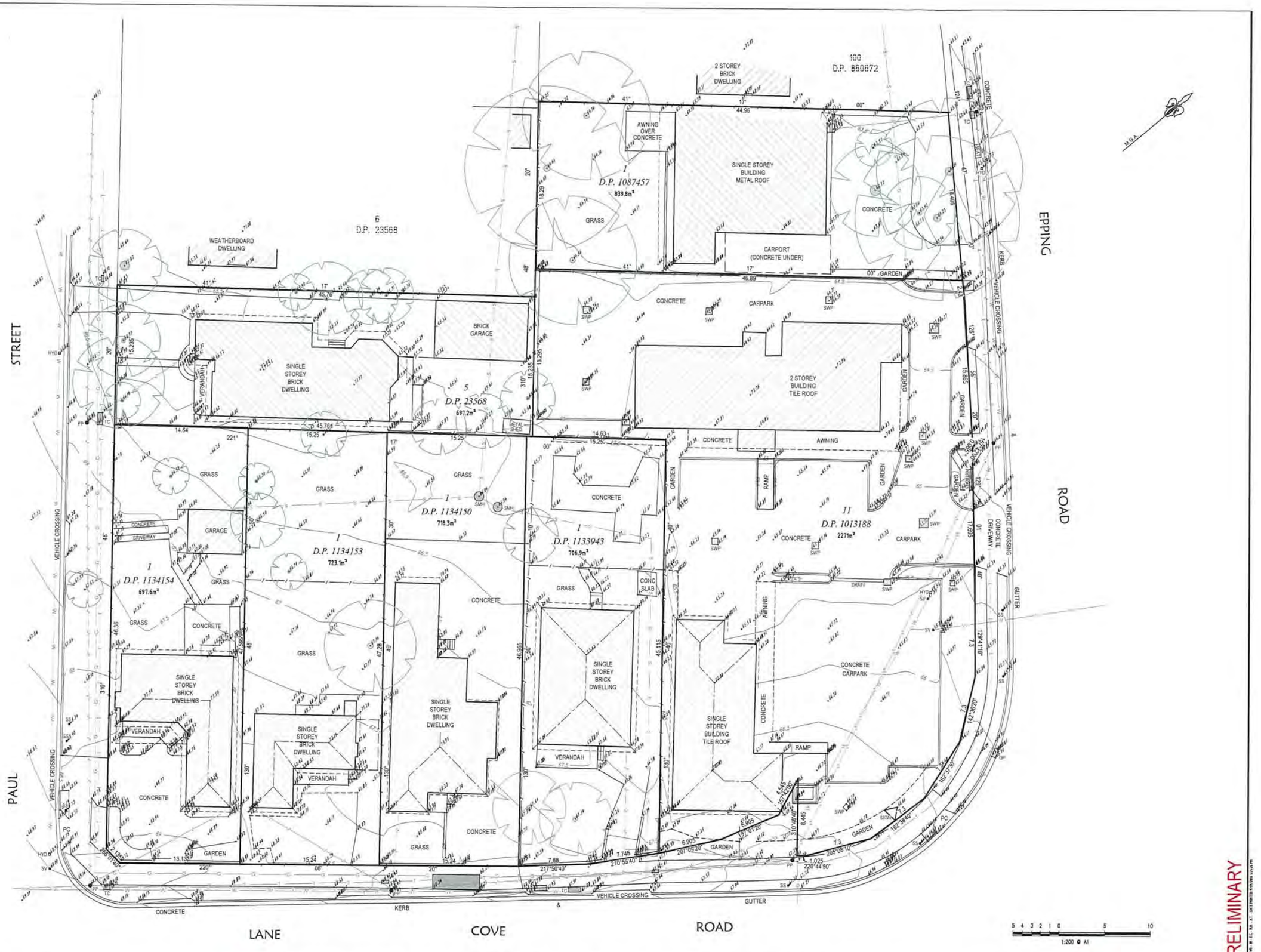
ynd	Ph. 131535
Before You Dig	Ph. 1100
ewave Energy	Ph. 131081
ima Gas Company	Ph. 131245
	Ph. 1800 881 816
is Communications	Ph. 1800 505 777
ney Water	Ph. 132092
ra Corporation	Ph. 132203

plan has been prepared for the exclusive use of the principal
ified in the title block.

construction on or near the boundaries will require further
ey so that marks defining boundaries can be placed.

et out levels must be referred to the bench mark.

e notes must not be erased.



PRELIMINARY

AMEND No. 00 DATE 09/09/2014 DETAILS PRELIMINARY

DIAL 1100 BEFORE YOU DIG

Project: DETAIL SURVEY OVER LOT 5 D.P. 23568, LOT 1 D.P. 134154, LOT 1 D.P. 134153, LOT 1 D.P. 1133943, LOT 11 D.P. 1013188 & LOT 1 D.P. 1087457
No.1 PAUL STREET, No.366-374 LANE COVE ROAD, No.124A-126 EPPING ROAD , NORTH RYDE

Principal: FRANPINA DEVELOPMENTS PTY. LTD.

Scale	1:200	Date	9/9/2014	Council Ref.	
		Datum	A.H.D.	L.G.A.	RYDE
Calc's	E.C.	Drawn	R.N.	Proj Man.	A.T.

Client Ref.

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www.craigandrhodes.com.au

90th ANNIVERSARY 1923 – 2013

APPROVED COMPANY ISO 9001 Quality QMS

Our Ref. 152-14

Dwg File Ref. [Rev] - Sheet Ref.

152-14G T01 [00] - 01