



Note: Sections are indicative of general street layout in given locations. Built form is represented only to give an impression of height and mass not architectural detail.

Carriageway dimensions subject to further investigation.

Spot heights are indicative on approximate levels and are subject to change as part of more detailed applications

Figure 74 - Section locations (not to scale)

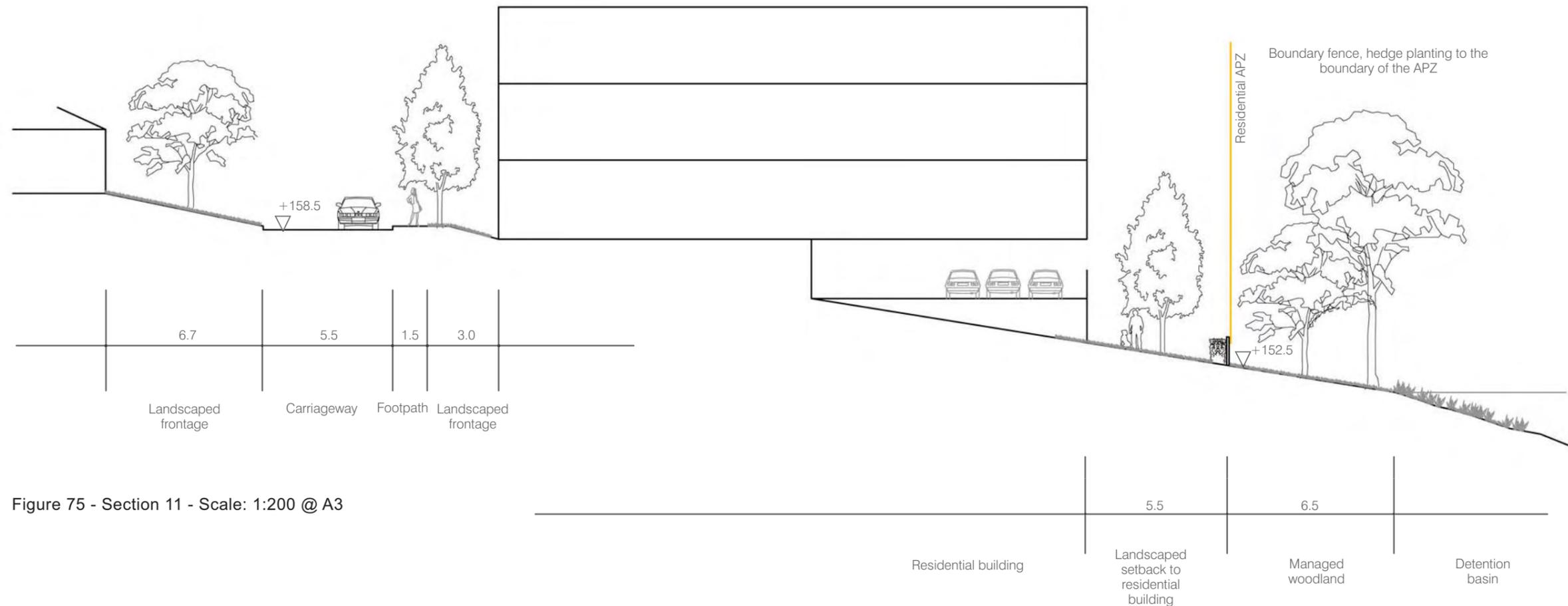


Figure 75 - Section 11 - Scale: 1:200 @ A3



Figure 76 - Section locations (not to scale)

Note: Sections are indicative of general street layout in given locations. Built form is represented only to give an impression of height and mass not architectural detail.

Carriageway dimensions subject to further investigation.

Spot heights are indicative on approximate levels and are subject to change as part of more detailed applications

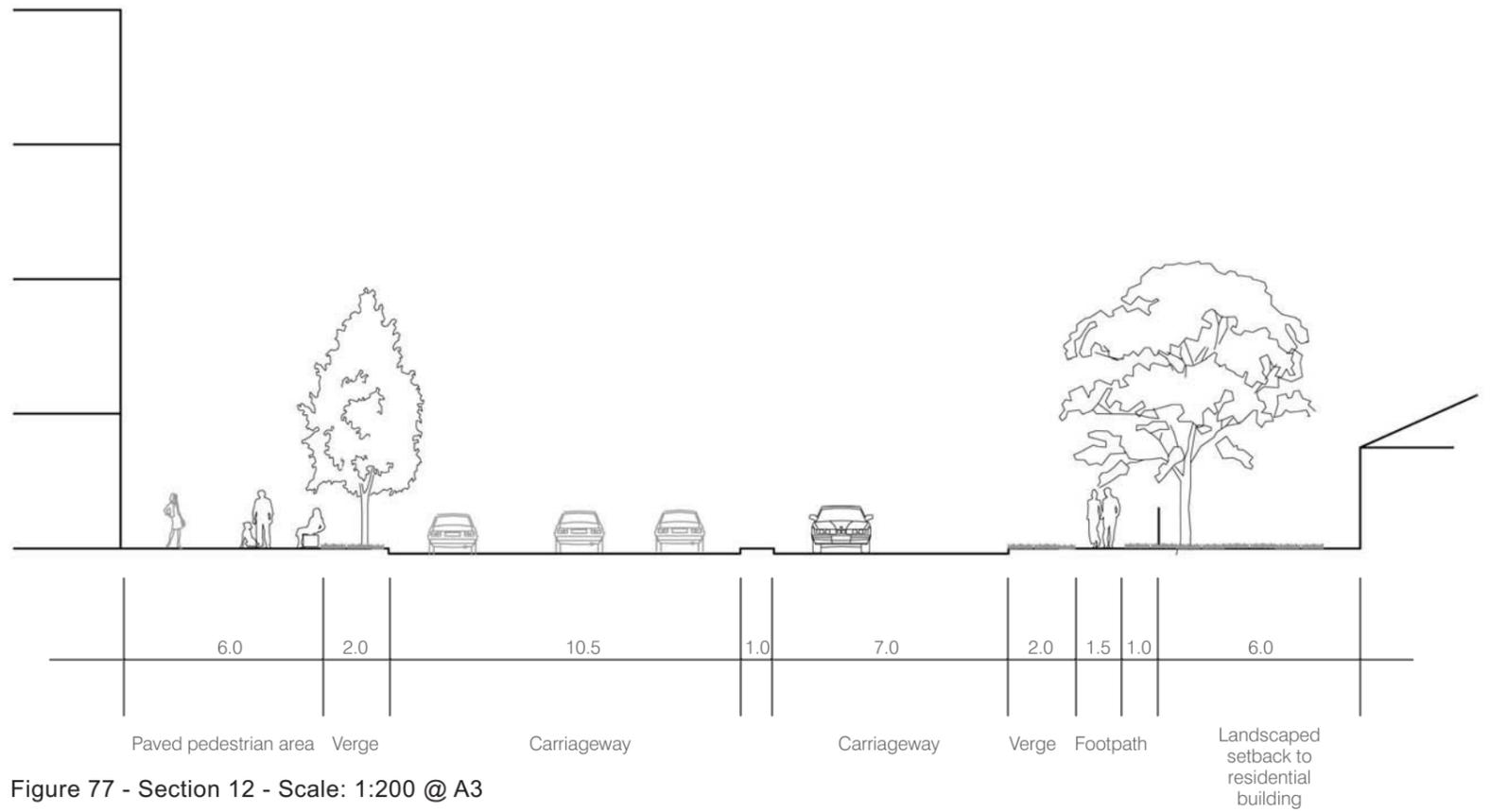


Figure 77 - Section 12 - Scale: 1:200 @ A3

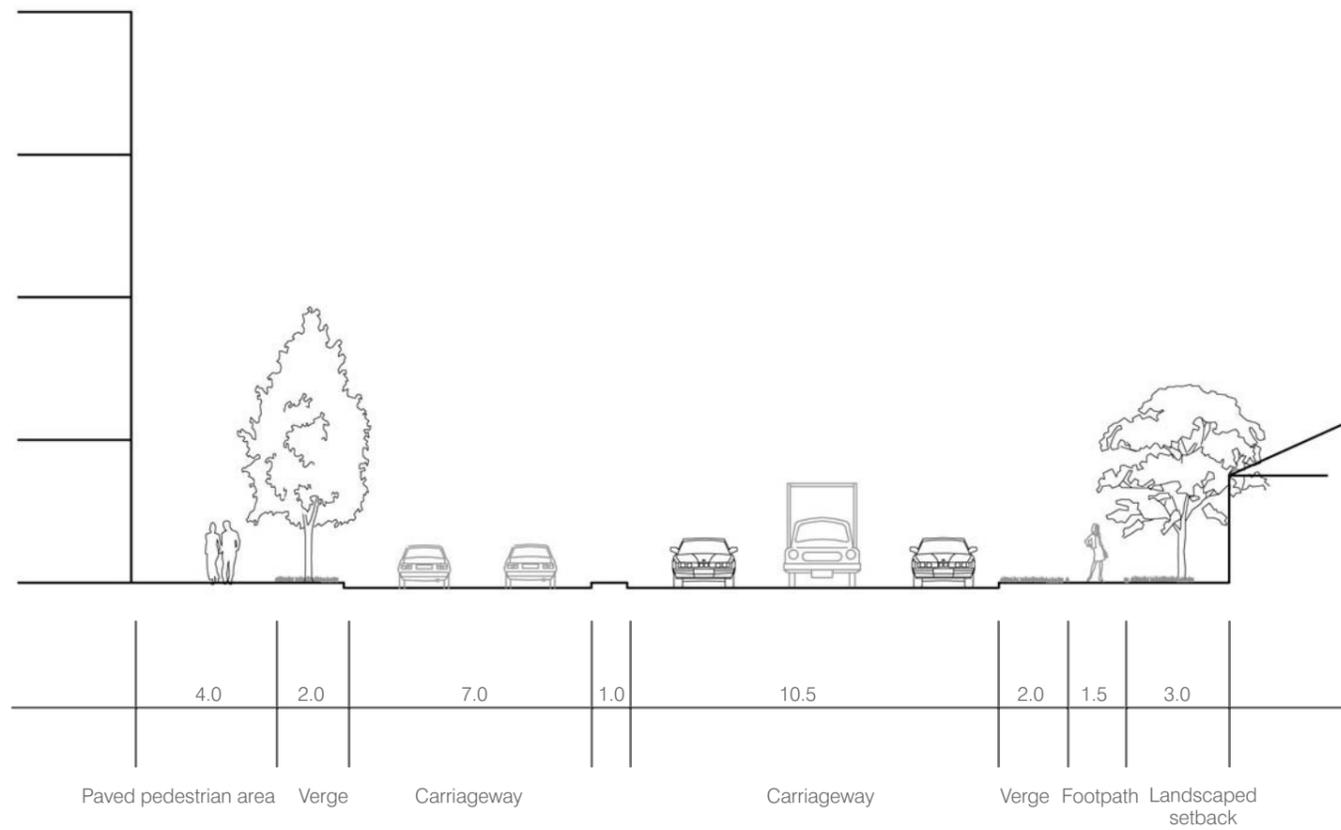


Figure 78 - Section 13 - Scale: 1:200 @ A3

## 8.8 Access, Circulation and Parking

### 8.8.1 Access and circulation

The proposal incorporates road system improvements and expansion to cater for the expected traffic generation. As illustrated in **Figure 79**, two new loop roads are proposed east and west of Fox Valley Road. Subject to negotiations with the RTA and Ku-Ring-Gai Council and the provision of off-street parking, on street parking in Fox Valley Road across the frontage of the Estate will be removed and/or restricted to provide two travel lanes in each direction.

A road connection from Mt Pleasant Avenue to Osborne Avenue is recommended to alleviate pressure on the Pennant Hills Road / Mount Pleasant intersection. This would provide an opportunity for residents to utilise a signalised intersection allowing right turn movements to and from Pennant Hills Road to be closed if deemed appropriate. Mt Pleasant Avenue would be retained as a left in / left out onto Pennant Hills Road.

A new intersection is proposed linking Fox Valley Road to the new access road in the northern region of the Estate. The primary Hospital access will be retained while the secondary entrance will be converted to left in / left out (except emergency vehicles) given its close proximity to the intersection of Fox Valley Road / Comenarra Parkway.

Subject to discussion with Council and the RTA, the following intersections are identified for upgrade to cater for existing traffic, network growth, and the proposed development:

- Pennant Hills Road and The Comenarra Parkway
- The Comenarra Parkway and Fox Valley Road
- Fox Valley Road and Pacific Highway
- The Comenarra Parkway and Kissing Point Road
- Mt Pleasant Avenue and Osborn Road
- Fox Valley Road and Ada Street
- Fox Valley Road and Lucinda Avenue

### 8.8.2 Parking

At-grade hospital parking will be replaced with multi-storey parking in the Central Precinct. Parking for associated administrative and commercial uses will be provided in accordance with the rates outlined in the Traffic Report at **Appendix J**.

**Table 8** below outlines the break down of parking spaces excluding the hospital that is subject to a separate parking report.

Table 8 - Parking

| Type                   | Parking Spaces             | Rates  |
|------------------------|----------------------------|--|
| Faculty of Nursing     | 119                        | 40% at 1.5 / Student   |
| School                 | 123                        | 1 / 8 Year 12 Students<br>1 / 1 FTE Staff  |
| Residential Apartments | 661                        | Studio: 1 / unit<br>1 Bed: 1 / 2 units<br>2 Bed: 1 / 1 unit<br>3 bed: 1 / 1unit  |
| Commercial             | 160                        | 1 space / 100 sqm  |
| Retail                 | 86                         | 3 spaces / 100 sqm   |
| Seniors Living         | 25                         | ILU (subsidised): 1 / 2 dwellings<br>ILU (non-subsidised): 1 / 5 dwellings<br>Hostels / Nursing Homes: 1 / 10 dwellings, 1 / 2 staff |
| Houses / Townhouses    | 160                        | 2 / dwelling   |
| TOTAL:                 | 1289 (+ on street parking) |  |

Residential parking is proposed at a rate that accounts for the established pattern of car usage, proposed car sharing scheme and current modal patterns within the Estate. Further evidence and discussion of the proposed car parking rates and car sharing scheme is in the Traffic Report at **Appendix J**.

The location of the proposed parking is illustrated in **Figure 80**.



Figure 79 – Vehicular Movement



Figure 80 – Parking

To reinforce the living-working community environment it is important to deliver a well designed system to encourage alternative transport and reduce car dependence and a system of pedestrian and cycle linkages has been planned across the Estate. A plan of the proposed system is shown in **Figure 81** below.



Figure 81 – Pedestrian / Cycle Movement

## 8.9 Staging, Ownership and Title

The staging, ownership and titling arrangements for each of the proposed land uses and measures to ensure dwellings for staff will be retained for that purpose are outlined as follows.

### 8.9.1 Staging

As outlined in the submission from the proponent Johnson Property Group at **Appendix K**, staging will be determined having regard to a range of factors including:

- Commercial interests and decisions of the ACA;
- Demand for health services;
- Student enrolments, HECS funding arrangements and forecast demand for educational services;
- Commercial / retail demand;
- Dwelling demand and occupation rates;
- Transitional arrangement for relocation of existing structures (accommodation, school, hostel etc) and
- Infrastructure and servicing capacity.

While the precise timing and delivery of development will be determined by a combination of these factors the following indicative schedule is provided with respect to the proposed staging of development within the Estate. An indicative Staging Plan for the Wahroonga Estate is included in **Figure 82**.

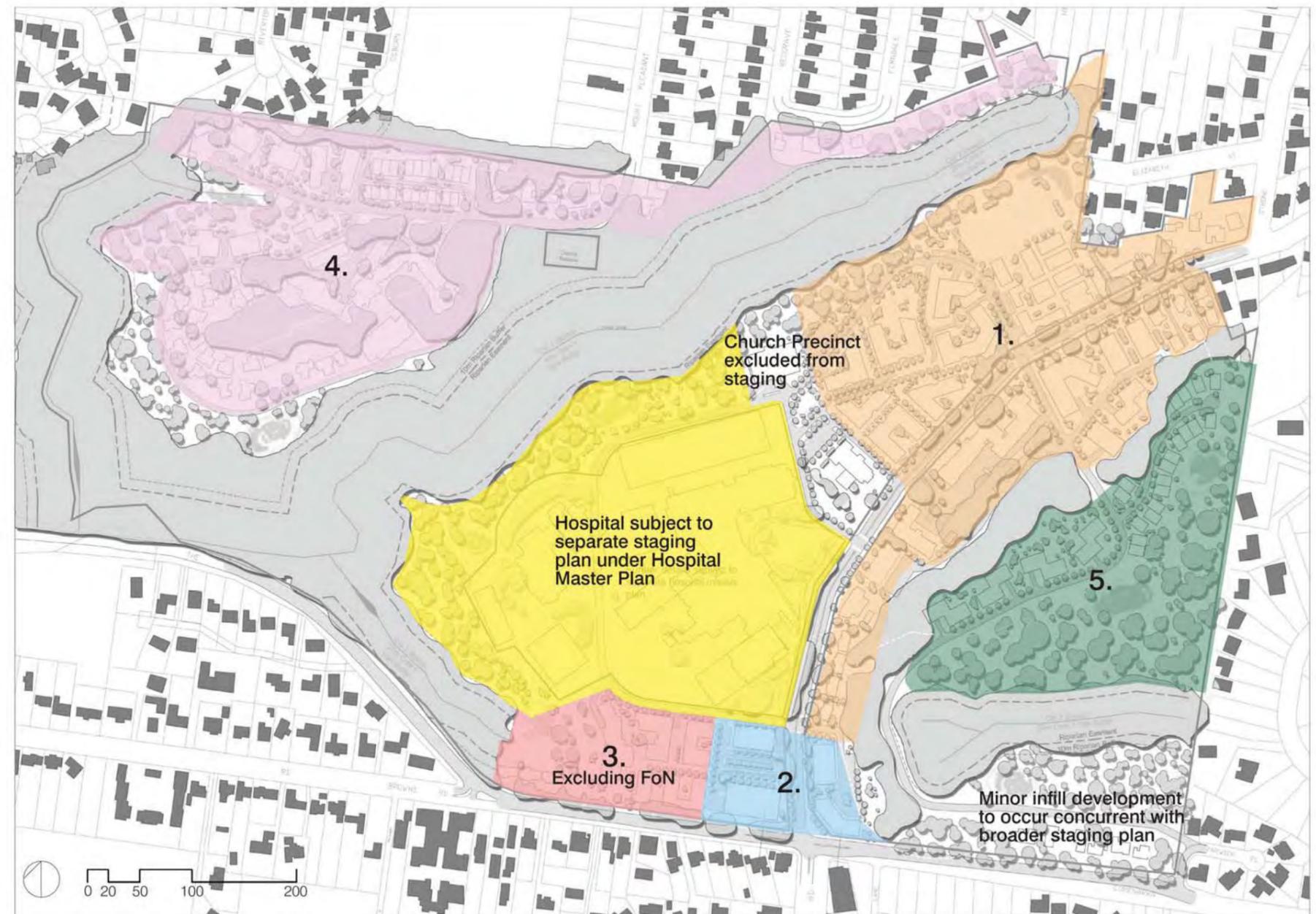


Figure 82 – Staging Plan

### *Hospital related development*

A detailed project staging plan for the hospital related development will be submitted with a secondary concept/project application for the Hospital which will follow approval of this overall Wahroonga Estate masterplan. Notwithstanding this an indicative staging of the health related development is provided in the following table.

Table 9 – Anticipated Staging Schedule for Hospital Redevelopment

| Timing | Hospital works  |
|--------|---|
| 2010   | Construction of San 2 Clinic, multi-storey car park with student / nurse accommodation and Faculty of Nursing     |
| 2015   | Demolition of existing structures and construction of new hospital tower extension                                |
| 2018   | Clinical services building extension  |
| 2019   | Demolition of existing structures and construction of new hydrotherapy pool                                       |
| 2020   | Demolition of existing structures and construction of new multi-storey car park and sub-acute inpatients building |

### *Non-hospital related development*

Non-hospital related development will be sequenced generally in accordance with the development precincts identified in the attached plan, but having regard to the following issues:

- transition, relocation and demolition of structures associated with existing land uses (school, accommodation);
- minimisation of construction impacts on adjoining properties and the operation of existing services within the Estate;
- availability or provision of utility services and infrastructure; and
- market demand and/or the organisational requirements of the SDA.

Detailed staging plans will be provided at the project application stage for each of the development precincts and/or particular land uses. These plans will update and amend these indicative plans in response to the abovementioned issues. Development involving the refurbishment or replacement of existing dwellings and the churches has not been included in the staging plan and may occur at any stage concurrent with proposed staging of development.

### 8.9.2 Ownership

As outlined in the submission from the proponent Johnson Property Group at **Appendix K**, with the exception of two (2) properties<sup>1</sup> contained within the site boundaries, ownership of the remainder of the Wahroonga Estate is vested in the Australasian Conference Association (ACA) as the property trustees of the Seventh-day Adventist Church. It is intended that the ACA will retain ownership of SDA assets including the Sydney Adventist Hospital, media centre, administration building, Faculty of Nursing, church buildings, Fox Valley community centre, school, hostel accommodation, residential accommodation for SDA employees, Mount Pleasant retirement village and any other related or ancillary functions.

Some areas and facilities including the Coups Creek conservation area, riparian corridors and passive open spaces within the estate will preferably be transferred to a public authority (Council or State ownership) or other community based organisation through separate agreement, particularly where opportunities exist to improve connectivity with adjoining public land. No formal consultation with public authorities has occurred to date. It is intended that discussions occur throughout the process of negotiating environmental offsets and the Voluntary Planning Agreement.

Components of the commercial, retail and residential development will be available for private investment / purchase. These measures will provide capital to fund expansion of the health and other ACA facilities within the Wahroonga Estate. Some investment / private development may contain provisions or restrictions on title to maximise occupation and use by organisations and staff within the Wahroonga Estate.

<sup>1</sup> Properties at 149 & 151 Fox Valley Road are not owned by the ACA but the owners have provided authorisation to be included in the concept plan.

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### 8.9.3 Titling

As outlined in the submission from the proponent Johnson Property Group at **Appendix K**, titling within the Wahroonga Estate will consist of a combination of some or all of Torrens, strata and community title. The application of titling arrangements will be dictated by intended ownership, occupation, commercial considerations, and legal issues related to preferential occupation, car sharing contributions etc. Separate or amalgamated Torrens title is considered most appropriate and likely for the following uses:

- Sydney Adventist Hospital and ancillary health facilities;
- School;
- Churches;
- Faculty of Nursing,
- Mission Hostel (if contained in a separate self contained building);
- Open space / conservation areas;
- Dedicated student/nursing accommodation within the hospital precinct;
- Residential care facility;
- Dwelling houses;
- Attached / detached dual occupancy dwellings; and
- Townhouses.

Strata title is preferential and likely for the following:

- Residential flat buildings;
- Multiple dwelling housing;
- Commercial offices; and
- Retail premises.

Community title may be appropriate for seniors / independent living dwellings and other medium density residential development.

### 8.9.4 Measures to retain church / staff accommodation

A significant proportion of the dwellings and other accommodation within the Wahroonga Estate are intended for occupation by people employed within the Estate or the Church more generally. Measures to retain / prioritise dwellings for employees / key workers may include some or all of the following measures (refer to written submission of Johnson Property Group at **Appendix K**):

- ownership, management and allocation of dwellings by the ACA (or designated organisations within the Church such as the hospital, ACA Administration Centre, school etc);
- leasehold title for occupation of dwellings;
- long term leases over non-ACA owned dwellings;
- first right of refusal on buy-back of non-ACA properties; and
- restrictions as to user registered against the title of the property (eg: sections 88E or 88B of the [Conveyancing Act 1919](#)) limiting the use of any such accommodation to staff / student / critical health worker accommodation.

The proposed mechanism for specific residential development will be identified and applied through the project application process for individual stages of development.

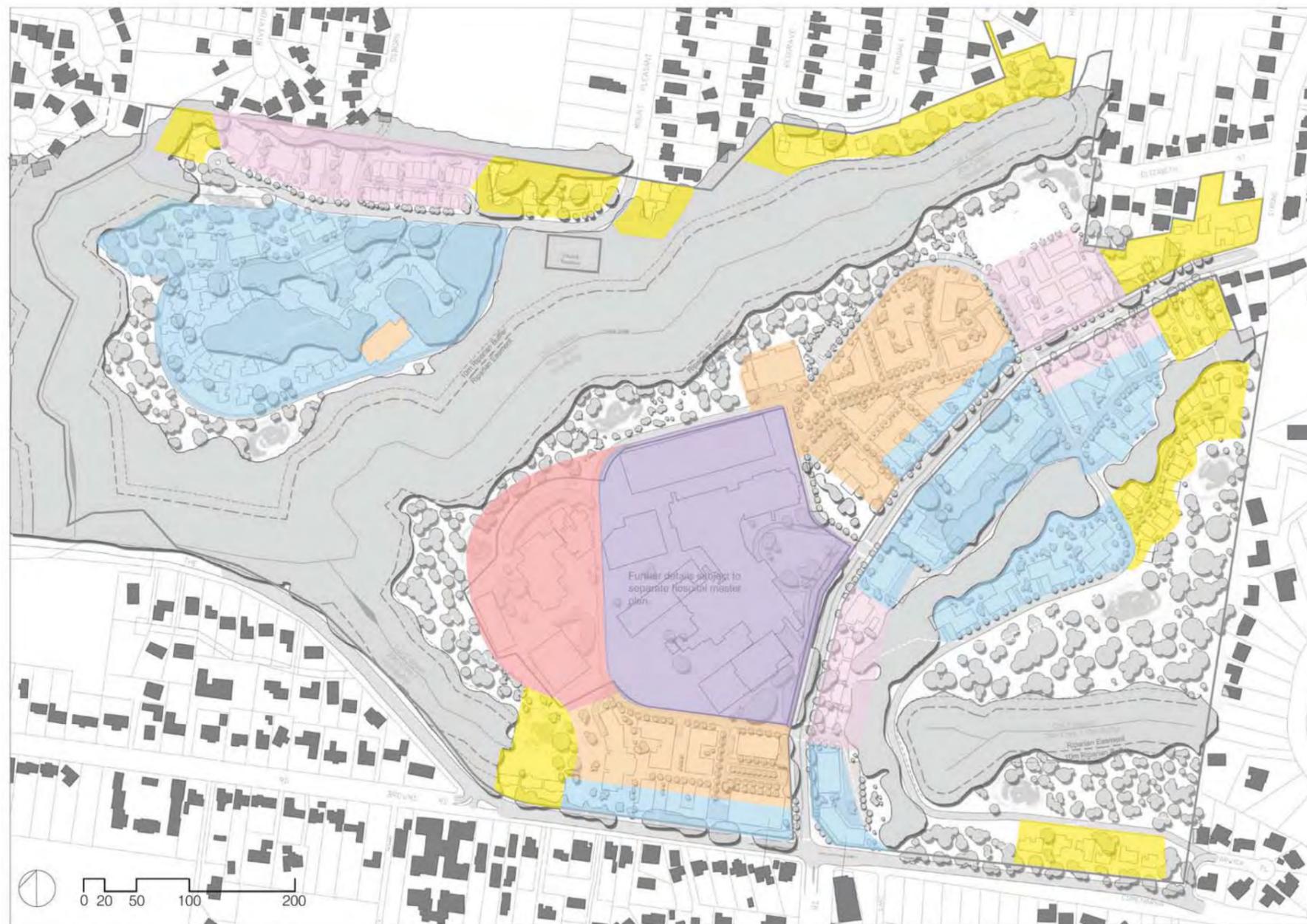
## 8.10 Proposed Statutory Planning Amendments

The proposed State Significant Site (SSS) study to list in Schedule 3 of SEPP – Major Projects contains a draft zoning plan, height map and floor space maximum. Extracts of these plans are included below. Refer to **Appendix A** for the comprehensive draft SSS study.

The proposed SP2, R1 and R2 zones outlined in the figure below include the required asset protection zones (APZs) for bushfire management and thus cover a larger area than the proposed development footprint. Also, the proposed R2 zones in the south east corner of the site and along the northern boundary have been identified so as to reflect a consistent zoning strategy for low-density residential development across the site, and do not represent any additional proposed development, other than two additional dwelling houses along Comenarra Parkway.



Figure 83 – Zoning

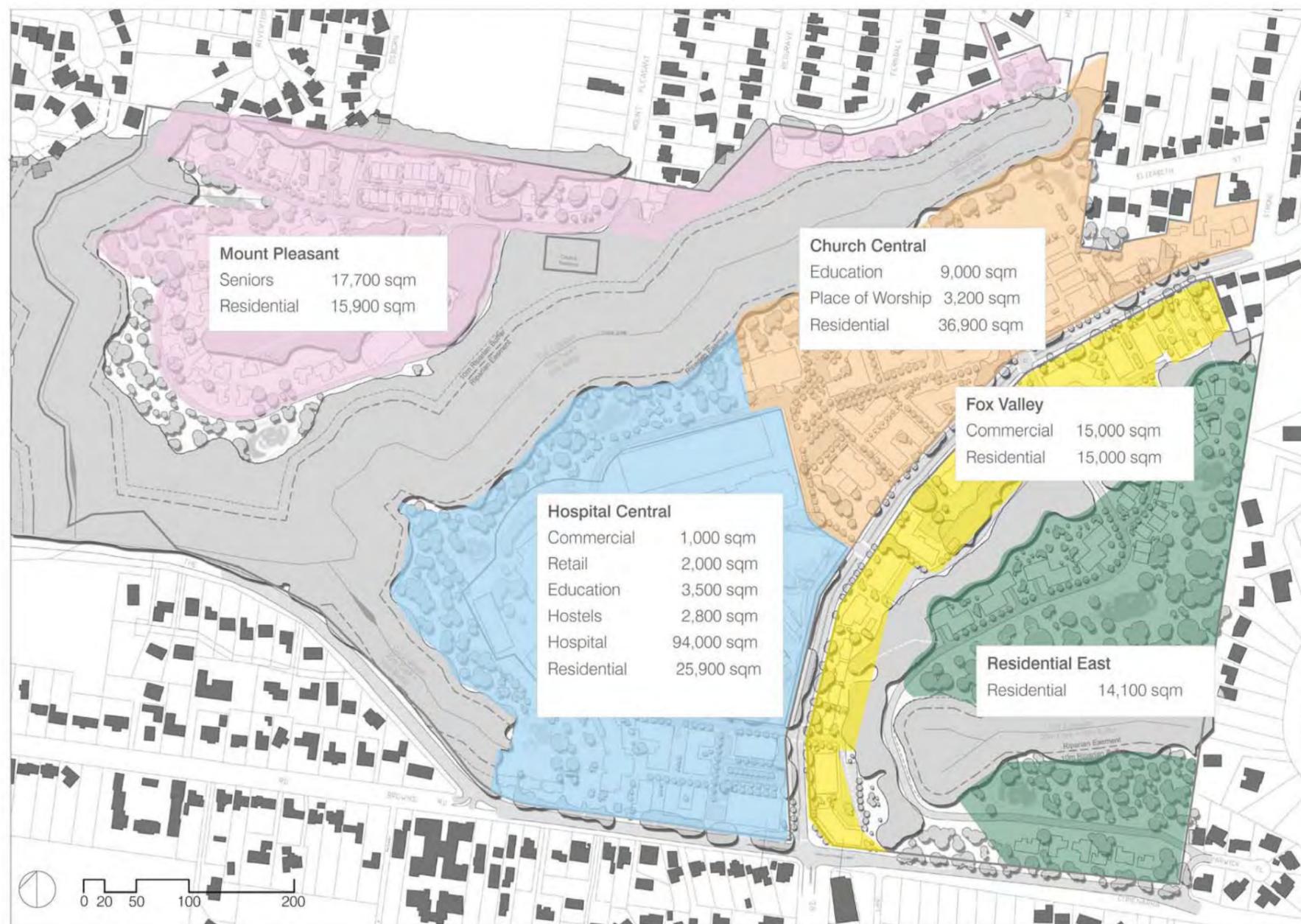


- Two Storey (maximum 9m)
- Three Storey (maximum 12m)
- Four Storey (maximum 15m)
- Six Storey (maximum 21m)
- Eight Storey (maximum 28m)
- Twelve Storey (maximum 42m)

\* Hospital layout is only indicative and subject to separate hospital master plan

\*\* Maximum building height means the vertical distance between ground level (existing) at any point to the highest point of the building, including plant and lift overruns, but excluding communication devices, antennae, satellite dishes, masts, flagpoles, chimneys, flues and the like.

Figure 84 – Height



| TOTALS BY USE                         |                      | % of Site |
|---------------------------------------|----------------------|-----------|
| Residential                           | 107,800 sqm          | 29%       |
| Commercial                            | 16,000 sqm           | 3%        |
| Retail                                | 2,000 sqm            | 2%        |
| Educational                           | 12,500 sqm           | 4%        |
| Hospital + Ancillary                  | 94,000 sqm           | 16%       |
| Place of Public Workshop              | 3,200 sqm            | 2%        |
| Hostels / Group Home / Boarding House | 2,800 sqm            | 1%        |
| Seniors Housing                       | 17,700 sqm           | 9%        |
| Conservation                          | 213,600 sqm          | 34%       |
| <b>TOTAL</b>                          | <b>= 469,600 sqm</b> |           |

- A. Mount Pleasant: 33,600 sqm
  - B. Church Central: 49,100 sqm
  - C. Hospital Central: 129,200 sqm
  - D. Fox Valley: 30,000 sqm
  - E. Residential East: 14,100 sqm
- (Total max GFA of precincts: 256,000 sqm)

\* Hospital layout is only indicative and subject to separate hospital master plan

Figure 85 – Maximum Floor Space Map and Table



Figure 86 – Residential types

## 9 ENVIRONMENTAL ASSESSMENT

### 9.1 Consistency with relevant planning legislation

#### 9.1.1 State Environmental Planning Policies

The following State Environmental Planning Policies (SEPPs) apply to the project. A description and an assessment of the proposed development in relation to each of these Environmental Planning Policies are included in the table below.

Table 10 – SEPP Compliance Table

| SEPP  | Outline   | Compliance   |
|---|---|--|
| State Environmental Planning Policy (Infrastructure) 2007 | The SEPP assists the NSW Government, local councils and the communities they support by simplifying the process for providing infrastructure in areas such as education, hospitals, roads, railways, emergency services, water supply and electricity delivery.   | As required by the SEPP, the proposal will be referred off to the RTA for comment. Otherwise, the provision of the SEPP have been taken in to consideration in the preparation of the proposed zoning regime for the site.   |
| State Environmental Planning Policy (Major Projects) 2005 | The purpose of this policy is to define what projects are subject to Part 3A of the EPAA and require ministerial approval.<br><br>SEPP (Major Projects) 2005 sets out a list of categories of development which are declared to be projects to which Part 3A applies. An applicant must apply to the Director General of the Department of Planning to establish whether Part 3A will apply to the project. | The project is consistent with SEPP Major Projects in that it involves the redevelopment of an existing hospital of significance to the State, and the orderly use, development and conservation of surplus transit oriented public land in direct accordance with the objectives and provisions of the Metro Strategy.<br><br>The project is primarily for a public purpose and includes the redevelopment of those parts of the site no longer required for that public purpose. |
| State Environmental Planning Policy (Seniors Living) 2004 | The purpose of this policy is to encourage the provision of housing which meets the needs of seniors or people with a disability.   | Additional seniors living is catered for within the existing seniors development in the Mount Pleasant precinct. Any future development will be designed with consideration to this Policy.  |

| SEPP   | Outline  | Compliance   |
|--|--|--|
| State Environmental Planning Policy (Building Sustainability Index) 2004 | This SEPP operates in conjunction with Environmental Planning and Assessment Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW. The SEPP ensures consistency in the implementation of BASIX throughout the State by overriding competing provisions in other environmental planning instruments and development control plans. | Compliance with BASIX provisions is a statutory requirement and has also been included in the draft Statement of Commitments.  |
| SEPP 10 – Retention of Low-Cost Rental Accommodation                     | The aim of this SEPP is to ensure that people on low incomes have housing they are able to rent by ensuring there are a mix of housing types available in each local community.  | The project provides a range of housing types, including low cost accommodation for nursing students and key workers within the Estate and is thus consistent with the aims and objectives of SEPP 10. |
| SEPP 11 – Traffic Generating Development                                 | This SEPP requires the Roads and Traffic Authority is made aware of, and is given an opportunity to make representations on certain traffic generating developments.   | It is assumed that the Minister will seek the views of the Roads and Traffic Authority, consistent with the aims and provisions of SEPP 11.  |
| SEPP 19 – Bushland in Urban Areas  | This SEPP requires that when preparing draft environmental planning instruments consideration shall be given to retaining bushland, unless significant environmental, economic or social benefits arise to outweigh the value of the bushland.   | A comprehensive survey and assessment of the impact upon urban bushland has been undertaken as part of the proposal.   |
| SEPP 44 – Koala Habitat Protection.                                      | The main aim of this SEPP is to ensure proper protection of existing koala habitats, through the conservation and management of natural vegetation area that provide these habitats. As outlined in Schedule 1, this SEPP is applicable to the Ku-ring-gai LGA.  | The ecological studies have not found any core Koala Habitat under SEPP 44.  |

| SEPP   | Outline   | Compliance   |
|--|---|--|
| SEPP 55 – Remediation of Land                          | This SEPP requires that land must not be rezoned or developed unless contamination has been considered and, where relevant, land has been appropriately remediated.   | A preliminary contamination analysis has been undertaken to demonstrate that the site can be made suitable for its proposed purpose (see <b>Section 9.10</b> ). The Statement of Commitments (see <b>Section 10</b> ) includes a commitment to undertake a further contamination assessment as part of any subsequent project application. The project is thereby consistent with SEPP 55. |
| SEPP 65 – Design Quality of Residential Flat Buildings | This SEPP includes design principles to raise the design quality of residential flat buildings. It also requires that in the preparation of environmental planning instruments and development control plans, provisions are included to ensure the achievement of design quality principles. | As outlined in the discussion on design, the proposal has been designed to accord with the principles of SEPP 65, refer to assessment against principles in <b>Section 9.3</b>   |

## 9.1.2 Ku-ring-gai Planning Scheme Ordinance

The proposed hospital and related components that characterise the project are permissible under the existing 5(a) Special Uses (Hospital) zoning. While the extent of proposed commercial, residential school and church uses are beyond the scope of ancillary hospital uses permitted in the existing zone, the scale and scope of the mixed use development is considered to be appropriate in a specialised hospital precinct and not inconsistent with that seen in other specialised health service areas.

### Density

Section 43(3)(a) of the KPSO states that a dwelling house shall not be erected in Zone 2(c) on any allotment which has an areas of less than 929 square metres. This gives an effective density of the surrounding area of 10.8 dwellings/ha. Urbis' analysis (refer **Figure 87**) indicates that the density of the surrounding residential development ranges from 7.8 dwellings/ha to 11.6 dwellings/ha.

As discussed in Section 9.3 of this report, the proposed density of the overall Wahroonga Estate site is 18.9 dwellings/ha. Although at a higher density than the surrounding residential area, the higher density is considered appropriate for this specialised centre. The combination of high levels of employment and good access to facilities and services is sound justification for maximising the density to within the reasonable limits of transport infrastructure and amenity impact of the adjoining residents.

The assessment of transport infrastructure finds that the proposed density is reasonable. Factors such as an innovative car sharing scheme and a significant proportion of workers living on site assist in achieving the proposed density.

Impact upon adjoining properties has been mitigated through designing a transition of built form. The built form immediately adjacent to adjoining properties adopts a similar scale and all larger buildings are located centrally to the site.

### Height

The height of the SAN hospital is 12 storeys or 42 metres and the existing surrounding residential development is maximum 2 storeys or 8 metres. The height of development proposed in this Concept Plan has been developed to respond to the height of existing buildings on the site and surrounding areas, and is outlined and discussed in **Section 9.3** of this report.

## Heritage

Schedule 7 of the KPSO outlines all Heritage Items in the Ku-ring-gai LGA. The Adventist Administration Building is the only identified heritage item (local) within the Wahroonga Estate Redevelopment.

The Wahroonga Estate Redevelopment Master Plan has identified that a number of the buildings, which have been identified as having potential heritage significance, will be removed or relocated. Further, any artefacts exposed during the demolition of buildings have the ability to make a significant contribution to the interpretation of the Sydney Adventist's in Wahroonga. In accordance with heritage best practice, an archival photographic recording will be prepared for these particular elements to Heritage branch standards to ensure that the contribution of these buildings to the historical development of the Sydney Adventists in Wahroonga is not lost.

A Heritage Impact Assessment in relation to the Concept Plan has been prepared by Australian Museum Business Services (AMBS) and is included as **Appendix H** to the report.

## 9.1.3 Section 117 Ministerial Directions

The following Ministerial Directions apply to the project. A description and an assessment of the proposed development in relation to each of these Ministerial Directions are included in the table below.

Table 11 – Section 117 Direction Compliance Table

| Section 117 Direction                            | Outline  | Compliance  |
|--|--|---|
| No. 17 – Integrating Land Use and Transport      | This direction seeks to ensure that urban structure, building form, land use locations and subdivision design helps to integrate land use and transport and minimise the need to travel by private car, increases choice of public transport, reduce travel demand, and supports viable operation of public transport. | The proposed density, mix and location of new residential and business proposed as part of the Wahroonga Estate is directly consistent with 'Improving Transport Choice – guidelines for planning and development' (DUAP 2001), and 'The Right Place for Business and Services – Planning Policy' (DUAP 2001).  |
| No. 19 – Planning for Bushfire Protection        | This direction requires that consideration be given to land that is subject to bushfire hazard and, where relevant, draft LEPs should provide setbacks and controls which avoid placing urban development in hazardous areas.  | The development of the Wahroonga Estate is consistent with 'Planning for Bushfire Legislation' (2006) (see <b>Section 9.8</b> ).  |
| No. 21 – Residential Zones                       | This direction requires that residential development is not permitted until land is, or can be shown to be, adequately serviced with water and sewerage.   | The proposed Wahroonga Estate is consistent with Direction 21: The site is already served by water and sewerage infrastructure that will be augmented in consultation with the relevant utility provider as necessary to accommodate the project (see <b>Section 9.11</b> ). The project provides for a variety of housing forms and increases the permissible residential density on the land. |
| No. 26 – Special Area Zones and Recreation Zones | This direction requires that special use zones are not created altered or removed without the approval of the relevant public authority and the Minister for Planning.   | The land currently zoned Special Uses – Hospital to be incorporated into the SP2 zone as per the standard instrument. The proposed rezoning is therefore consistent with Direction 26.  |

#### 9.1.4 Development Control Plans

Regard has been made to the Ku-ring-gai DCPs where relevant to the broad considerations of the Concept Plan. In particular, the following DCPs have been addressed in the Concept Plan and State Significant Site Listing.

##### **Ku-ring-gai DCP 38 – Residential Design Manual**

The Concept Plan is consistent with the aims of this DCP and the general design principles of this DCP have been adhered to in the precinct plans outlined in Section 8. Specific design details, as outlined in Section 4 of this DCP, will be addressed at the Project Application stage.

##### **Ku-ring-gai DCP 43 – Car Parking Code**

A comprehensive review of car parking has been undertaken which has considered Council's car parking rates and the nature of the development. The Transport Report (Refer **Appendix J**) includes a justification of the most appropriate car parking rates for the Estate.

The proposed parking provision rates for residential, commercial and retail uses are below those set in the Ku-ring-gai Council DCP for parking. However they are considered appropriate having regard to the high proportion of employees that will live on the site, a proposed car sharing scheme and the predominance of retail visitors from residents and employees of the site.

##### **Ku-ring-gai DCP 46 – Exempt and Complying Development.**

Development within the Wahroonga Estate that satisfies the requirements for exempt development or complying development specified in Development Control Plan (DCP) 46 is exempt development or complying development, as appropriate.

##### **Ku-ring-gai DCP 47 – Water Management and Councils**

As outlined in Section 9.12 of this report, the proposed integrated water cycle management strategy, the principles and requirements of on-site detention for flood control and the requirements to control the rate of stormwater runoff and to reduce peak discharges during storm events (and thus minimise flood events and pressure on the downstream stormwater infrastructure) have been adopted for the site in accordance with Ku-ring-gai DCP 47.

##### **Ku-ring-gai DCP 48 – Medium Density Residential Development**

The Concept Plan generally complies with the design guidelines of this DCP, however, as outlined in Section 8.4 of this report, there are a number of instances where the proposed built form varies from the Medium Density Residential Development DCP 48 for a number of reasons, these include:

- Size of the site and ability to provide adequate deep soil zones surrounding the building envelopes.
- The building envelopes satisfy the building form objectives specified in the DCP including creating an interface in building form between the SAN Hospital and low density residential.

- Unbroken walls of over 24m in length are common in existing buildings and are not out of character due to the campus style of development.
- To ensure building construction efficiency.
- Limitation of long walls along visually prominent locations such as along Fox Valley Road has been avoided.

An assessment of the built form, including analysis of the height, bulk, scale, density of buildings proposed and an assessment of any impacts is included in Section 9.3 of this report.

Council's Riparian Policy 2004 and Biodiversity Strategy 2006 were also referenced in the preparation of technical reports in relation to the establishment of the APZ, protection of biodiversity, rare flora and fauna and preservation of water quality. The concept plan complies with the principles outlined in these strategies.

## 9.2 Strategic planning and site suitability

As discussed in **Section 3** of this report, the Wahroonga Estate is located in the North Subregion of the NSW Metropolitan Strategy. The Draft North Subregional Strategy has been prepared by the Department of Planning and was on exhibition for community comment until 8 February 2008.

The Wahroonga Estate development is consistent with the Draft North Sub-Regional Strategy, through the following key features of the project:

- The Wahroonga Estate will create over 1000 operational jobs in the short term; over the next five years. An additional 3000 to 5000 operational jobs will be generated over the medium term expansion phase. Over the course of the construction program the equivalent of 11,000 jobs will be created;
- The Wahroonga Estate will assist in meeting the key housing for the North Subregion, through the creation of 702 dwellings and 538 beds of hostel/student/aged accommodation;
- The concentration of health related education and research facilities within the hospital precinct will have operational synergies and infrastructure savings in accordance with government policy objectives; and
- The overall improvement of the existing facility accords with a key priority of the NSW State Plan to **'improve access to quality health care'**.

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Furthermore the site is considered suitable for the proposed development as the proposal seeks to reinforce the existing employment hub through expansion of the health care service function of the site in accordance with the Draft North Subregional Strategy.

The site has a substantial underutilised curtilage which overlooks existing urban bushland offering significant natural amenity for future development. The Environmental Assessment of this project has concluded that the site is physically capable of accommodating additional development without significant environmental impacts.

### 9.3 Urban Design – Built Form

#### Compliance with SEPP 65

The building envelopes designated for residential development are typically orientated to the north, east and west to ensure excellent light and solar access and consequently provide a high level of internal residential amenity. Where this cannot be practicably achieved, dwellings are compensated where possible by an outlook to the surrounding bushland.

The proposed layout will generally allow the requirements of SEPP 65 to be met, as identified in the following paragraphs. This will also be detailed at the project application stage when building designs are completed.

#### Context

The site comprises of urban development predominantly centred along Fox Valley Road which is anchored by a proposed extension of the Fox Valley neighbourhood centre. Proposed building envelopes step down in bulk and scale from the SAN Hospital to create an interface between the adjoining predominantly low density residential development. There is minimal visual impact from adjoining properties and significant native vegetation proposed for retention along boundary edges. The proposed building envelopes are located to maximise solar access for both existing and proposed buildings as well as open space. The proposed building envelopes also ensure an appropriate urban form is maintained within the Ku-Ring-Gai setting with the provision of significant deep soil planting opportunities and building setbacks, providing adequate amenity and privacy for building occupants.

#### Scale

The proposed development allows hospital buildings up to 12 storeys (42 metres) and residential buildings of up to 6 storeys (21 metres). Importance is placed on providing a scale of building which is sympathetic to the surrounding environment. The character of the important linkage of Fox Valley Road is retained through limited building height bulk along the frontage.

The topography of the site allows a transitional interface between the significant change in bulk and scale afforded by the surrounding development. The ability for development to provide upper level setbacks particularly when viewed from the street provides a sense of scale of character to the surrounding area. Car parking is proposed to be provided below ground and undercroft in locations where level changes allow, to reduce the bulk and scale of the proposed envelopes. The provision of areas to retain the existing landscape characteristic in the form of significant plantings in deep soil zones also provide an effective visual separation between buildings as well as framing and softening the scale of the building.

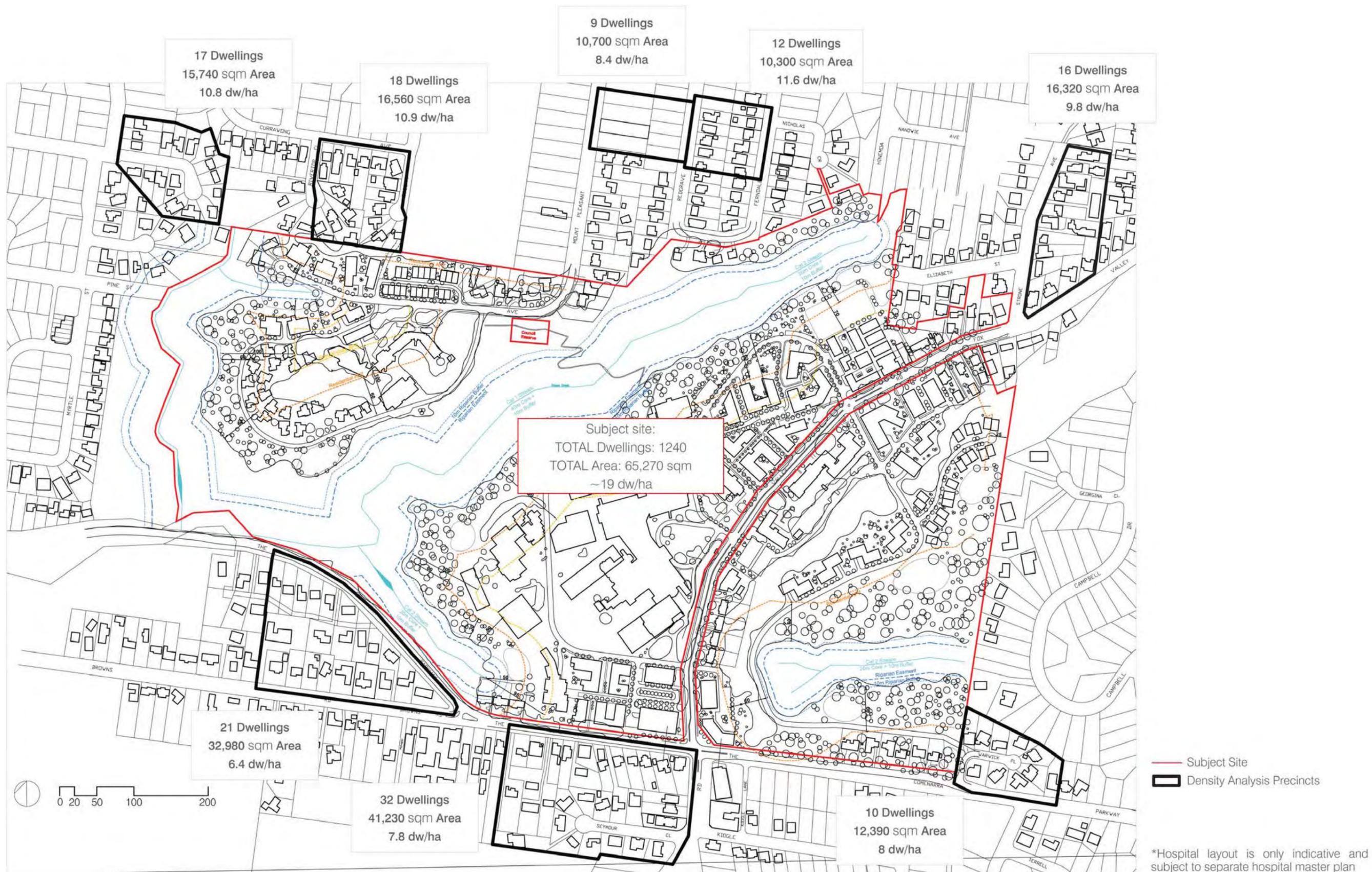


Figure 87 – Surrounding Density

## Built Form

The built form of the proposal has been sensitively designed to reflect the constraints of the site, the existing form and surrounding context. The contemporary form has been designed to create a transition between the main hospital development and adjacent buildings in terms of scale, form and material. Great importance has been placed on allowing careful articulation and detailing of facades to create a visually impressive building form of the highest standard particularly in locations of visual prominence.

The building envelopes provide an appropriate scale when viewed from the streetscape, with a series of forms creating spaces and connectivity through legibility. Changes in level further assists in creating an interesting built form. Large landscaped areas provide a good backdrop for the building and a green outlook, further softening of the built form. Envelopes are well setback from the front and rear boundaries, providing benefits of the strong vegetation setting. The separation allows for good solar access for envelopes, and cross ventilation to habitable rooms in the development.

The maximum wall length varies from the Medium Density Residential Development DCP 48 for a number of reasons, these include:

- Size of the site and ability to provide adequate deep soil zones surrounding the building envelopes.
- The building envelopes satisfy the building form objectives specified in the DCP including creating an interface in building form between the SAN Hospital and low density residential.
- Unbroken walls of over 24m in length are common in existing buildings and are not out of character due to the campus style of development.
- To ensure building construction efficiency.
- Limitation of long walls along visually prominent locations such as along Fox Valley Road has been avoided.

## Density

The proposal is reflective of the character of a campus style development transitioning low density residential development. The proposed envelopes demonstrate that daylight access and natural ventilation can be maximised, providing high levels of amenity to residents and workers. The bulk and scale of the building envelopes are limited in areas of visual prominence including along Fox Valley Road which demonstrates a suitable residential and employment density.

The existing site density is 7.0 dwellings per hectare (dw/ha). An analysis has been undertaken of the surrounding residential densities in terms of dw/ha. **Figure 87** illustrates that surrounding development densities in the immediate vicinity of the site range between 6.4 – 11.6 dw/ha.

The concept plan seeks a site density of 19 dw/ha. While the density is higher than surrounding developments, the site offers a suitable location to deliver higher density given the nature of the existing built form and employment features of the site. The proposed site density is also comparable to other campus-style developments within the LGA. The site allows for a significant amount of new dwellings to assist achieving the subregional strategy dwelling targets. The proposed residential population of 2103 people is based on residential occupancy rates from the Ku-Ring-Gai Section 94 plan.

The proposed density in terms of floor space ratio (FSR) is comparable to surrounding residential developments with both the proposed site and surrounding residential FSR controls being 0.4:1.

The density interface has also been addressed through the placement of lower density buildings along the edges of the site, with higher densities placed towards the centre of the site. Therefore, higher density developments will be buffered by significant vegetation in the conservation area.

## Water and energy efficiency

Energy efficient design and building response has been developed through allowing passive design and sun controlling elements. Solar access, natural ventilation and thermal massing requirements are achieved through the proposed building envelopes, achieving high personal comfort and low energy consumption. All apartments will be fitted with low energy appliances and fittings including dual flush toilets, and water reduction showerhead and taps. Several proposed buildings have been split so to allow light into the central corridors. Rainwater collection will be used for toilet flushing and in laundries plus provide water for irrigation, this will significantly reduce water consumption of potable water.

## Landscape

The proposed development addresses the need for vegetation connectivity in the regional context. The landscape on the site has been sensitively broken into landscape units to provide residents and visitors with a variety of useable spaces, as well as providing a landscape setting to the buildings. Landscaped elements such as formally landscaped frontages including hedgerow and specimen tree planting, provision of a series of interaction spaces.

Between the buildings rain gardens and deep soil zones further assist in improving the amenity, while strong street tree plantings add to the landscape character. Particular attention has been given to providing more access and interaction with the native vegetation and watercourses. Waterways located on the site are improved through adequate core riparian zones, vegetated buffers and managed edges. Stormwater flow and quality will be managed through retention ponds located between development and watercourses.

The overall site cover including the conservation area is 13%, excluding the conservation area the site cover is 19%.

## Amenity

The site itself offers a high level of amenity through existing vegetation and landscape. Amenity is provided in the proposal through physical, spatial and environmental qualities of the development provided in a series of spaces in each precinct. Buildings receive excellent solar access, cross ventilation, contain quality indoor and outdoor spaces, visual and acoustic privacy, efficient layouts, and outlook. Adequate parking is provided in each part of the proposed development for resident and visitor use. At grade parking is provided in suitable locations to ensure activation of streets and adjoining open space. The onsite recreation, retail and services provide a heightened level of amenity.

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### Safety and security

Safety and security has been considered so that it can be achieved to an adequate level both internally to development as well as externally particularly on the entry approach and from the street. This includes casual surveillance from development and view lines within the public realm. Detailed safety and security should be further addressed at project application stage.

### Social dimensions

The proposed development will provide a high quality mix of student accommodation, residential, seniors living, employment and retail opportunity development to allow demographic diversity interaction in the setting of the proposed development and Ku Ring Gai LGA. The proposed development will have a positive impact on the community by providing employment and improving the local amenity through improved access to waterways, open space and providing envelopes for well designed buildings that compliment the surrounding landscape. The proposal will allow for community interaction in a number of spaces.

### Aesthetics

The proposed development expresses a contemporary aesthetic to articulate the aspirations of the development within the environmental setting. The building envelopes and spaces in the proposed development are designed to address the nature of the precinct to which they are located. The Central Precinct maintains a campus form with the other precincts adopting a building in the landscape approach. As mentioned above, the building envelopes have been carefully separated and articulated to reduce the visual bulk of the building and allow the creation of interest. Deep soil areas are heavily integrated into the scheme providing environmental efficiency and visual character.

## Visual Impacts

For the purposes of assessing the impact of the proposed development on the surrounding area three locations were selected.

From many locations surrounding the site the development area is not visible and would not have a visual impact. This is primarily due to topographical constraints or by areas of dense vegetation that block views.

This assessment is intended to provide a brief evaluation of visual impact issues from 3 of the most important view points.



Figure 88 – Location of visual Impact view points



Figure 89 – View 1: Looking north along Fox Valley Road from main entrance to hospital



Figure 90 – View 2: Looking south along Fox Valley Road from entrance to 146 Fox Valley Road



Figure 91 – View 3: View south from Mt Pleasant Avenue