



RESPONSE TO BUSHFIRE PROTECTION  
MATTERS RAISED BY THE NSW RURAL FIRE SERVICE

FOR THE

WAHROONGA ESTATE REDEVELOPMENT

INCORPORATING THE

SYDNEY ADVENTIST HOSPITAL,  
WAHROONGA

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B08776 - 3	Final draft	20.7.2009	20.7.2009	<i>G.L.Swain</i>
B08776 - 4	Final	20.7.2009	3.9.2009	<i>G.L.Swain</i>

## 1.0 Background.

*Australian Bushfire Protection Planners Pty Limited*, at the request of the *Johnson Property Group*, on behalf of the *Australasian Conference Association*, has undertaken the bushfire consultancy to inform the concept planning process, under Part 3A [State Environmental Planning Policy – Major Projects SEPP] of the *Environmental Planning & Assessment Act 1979*, on the bushfire protection measures required for the redevelopment of the Sydney Adventist Hospital, Wahroonga, comprising the following land parcels.

Within the Ku-ring-gai Local Government Area:

- Part Lot 62 in DP 1017514 – [No. 185,148 & 172 Fox Valley Road];
- Lots 3 – 6 in DP 834964 – [Nos. 158 – 164 Fox Valley Road];
- Lots 7 & 8 in DP 834966 – [Nos. 166 & 168 Fox Valley Road];
- Vol. 4506 Fol. 44 known as 172a Fox Valley Road;
- Lots 1- 4 in DP 834963 – [Nos. 130 136 Fox Valley Road];
- Part Lot 2 in DP 965637 [Vol 16721 Folio 104] – known as No. 153 Fox Valley Road;
- Lots 7 – 8 in DP 834961 – [Nos. 155 – 157 Fox Valley Road];
- Lots 1 – 4 in DP 834967 – [Nos. 159 – 167 Fox Valley Road];
- Lot 1 in DP 834961 – [No. 169 Fox Valley Road];
- Lot 1 – 2 in DP 834960 - [Nos. 171 – 173 Fox Valley Road];
- Lots 1 – 2 in DP 834968 – [Nos. 191 – 193 Comenarra Parkway];
- Lots 50 – 52 in DP 880017 – [Nos. 195 – 201 Comenarra Parkway];
- Lots 1 – 6 in DP 834965 – [Nos. 203 – 213 Comenarra Parkway];
- Lots 1 – 12 in DP 834969 – [Nos. 64 – 80 & 73 – 77 Mt Pleasant Avenue];
- Part Lot 53 in DP 880017 – [No. 79 Mt Pleasant Avenue]; and Lots 50 – 61 in DP 1017514 – [Nos. 82 – 104 Mt Pleasant Avenue.

Within the Hornsby Local Government Area:

- Lot 2 in DP 410875;
- Lots 46 – 53 in DP 15946 – [No. 53 – 67 Ferndale Road].

The Wahroonga Estate contains approximately 65 hectares of land and accommodates existing urban development centred along Fox Valley Road; vacant/underutilised land around the curtilage of the existing buildings, including inefficient at-grade parking and urban bushland loosely connected to the Lane Cove National Park and recreation reserve to the south-west, beyond the Comenarra Parkway.

The Wahroonga Estate consists of a wide range of uses which together form a unique living, working community. The existing uses on the site consist of:

- Sydney Adventist Hospital & San Specialist Clinic;
- Fox Valley General Practitioner and Dentist Clinic;
- Pacific Regional Headquarters of the Adventist Church of Australia [ACA] and Media Network Centre, The Adventist Development and Relief Agency [ADRA];
- Seventh-Day Adventist Churches;
- Primary School;
- Normanhurst Adventist Retirement Village [including the Esther Somerville Nursing Home and Elizabeth Lodge Seniors Hostel];
- Fox Valley Community Centre;
- Childcare Centre;
- Mission Hostel and housing; and
- Staff Housing & Student Accommodation.

The proposed redevelopment of the site includes:

- Upgrade of the Sydney Sanitarium Hospital;
- Provision of low to medium to high density dwellings for hospital /church staff accommodation and seniors living housing and private residences;
- Provision of new retail floor space;
- Retention and expansion of existing commercial space;
- Relocation of the Avondale College of Nursing;
- Provision of a new K – 12 School;
- Protection and enhancement of ecological conservation corridors with opportunities for passive recreation and;
- Provision of on site stormwater management.

The vegetation within the Estate varies from managed landscaped gardens/open mown lawns adjoining the existing facilities and within the cleared areas to Open Forest in the Coups Creek and Lane Cove River corridors and the undeveloped south-eastern corner of the Estate. A narrow band of EEC vegetation [Sydney Blue Gum Forest] is located to the east of the existing development along the eastern side of Fox Valley Road with a small pocket of Sydney Blue Gum Forest located to the northwest of the Hospital precinct and off the end of Elizabeth Street, to the south of Coups Creek.

The topography of the land within the Estate ranges from steep sided ridgelines to the Coups Creek and Lane Cove River corridors and the gully system in the south-eastern corner of the Estate to gently sloping land to the northwest of Fox Valley Road and within the Retirement Village/residential precinct along Mt Pleasant Ave.

Existing residential development adjoin all aspects of the Estate except for:

- A narrow corridor of undeveloped land within the B2 – B3 Freeway corridor to the northeast of the eastern boundary;
- A parcel of vacant bushland within the Loreto School grounds, to the north of the existing residential development along Mt Pleasant Avenue;
- The Public Reserve [within Hornsby LGA] to the west of the Lane Cove River corridor [west of the existing Retirement Village on Mt Pleasant Avenue and a short length of the Lane Cove National Park to the southwest of the Estate, beyond The Comenarra Parkway.

The unmanaged forest vegetation within the Estate has been mapped by Kuring-gai Council, in accordance with Section 146 of the *Environmental Planning & Assessment Act 1979*, as Category 1 Bushfire Prone Vegetation with the 100 metre wide buffer zone to this vegetation extending across much of the developed areas of the Estate. The Certified Bushfire Prone Land Map excludes Seniors Living SEPP Developments from that part of the Estate shown by blue cross hatching on the map.

The Director General's Environmental Assessment Requirements includes, under Key Assessment Requirements, subheading 7 – Bushfire, the following requirements:

- Demonstrate compliance with *Planning for Bushfire Protection 2006*, with particular regard to ensuring Special Fire Protection purpose developments are located away from the bushland interface; and
- Identify vegetation types, ownership and ongoing management of any proposed Asset Protection Zone.

The DGRs also require an appropriate and justified level of consultation should be undertaken with the NSW Rural Fire Service during the preparation of the environmental assessment, having regard to any previous consultation. This requirement has been addressed with the NSW Rural Fire Service and an initial meeting took place on the 4<sup>th</sup> July 2008 with an on site inspection and meeting held on the 16<sup>th</sup> July 2008.

Following this site inspection further survey of the Coups Creek corridor was undertaken to identify the physical location of the riparian corridor and Asset Protection Zone setbacks along this creek. A further meeting was held at the NSW Rural Fire Service Headquarters on the 23<sup>rd</sup> September 2008 to discuss the Master Plan proposal for the redevelopment of the Hospital Precinct and the Revised Concept Plan for the redevelopment of the site.

A Bushfire Protection Report was prepared in November 2008 to address the Director General's Requirements [DGRs] and examined the deemed-to-satisfy bushfire protection requirements for the future development within the Estate and provided recommendations on the provision of Asset Protection Zones to the buildings; emergency access/egress; fire-fighting access and water supplies; construction standards of the buildings, the management of the Asset Protection Zones/residual vegetation and evacuation protocols necessary to address the bushfire risk to the future occupants of the Estate and to address the aim and objectives of *Planning for Bushfire Protection 2006* and the advice provided by the NSW Rural Fire Service.

This report has been assessed by the NSW Rural Fire Service and the Service has provided a response to the Department of Planning in a letter dated 8<sup>th</sup> July 2009. The NSW Rural Fire Service response raised a number of issues relevant to the Concept Plan in regard to bushfire protection.

A further onsite meeting was held with the NSW Rural Fire Service on the 14<sup>th</sup> July 2009 to examine the matters raised. As a result of this inspection and amendments to the Concept Plan, this response examines each of the NSW Rural Fire Service matters as listed in their correspondence dated 8<sup>th</sup> July 2009 and provides clarification on the matters raised, relevant to the amended Concept Plan.



Graham Swain,  
Managing Director,  
***Australian Bushfire Protection Planners Pty Limited.***

## 2.0 Amended Concept Plan.

The Concept Plan has been amended to reduce the extent of the proposed residential development to the east of the existing Office Complex, east of Fox Valley Road. The layout of the School Precinct, including the position of the Oval, has been modified so as to retain more of the vegetation which has been identified as Blue Gum High Forest, located at the western end of Elizabeth Street. Figure 1 below is a copy of the amended Concept Plan

**Figure 1 – Amended Concept Plan**





### 3.0 Response to NSW Rural Fire Service issues.

The following section provides a detailed response to the issues raised by the NSW Rural Fire Service:

#### **All Precincts:**

- 1. In order for existing development to gain compliance with *Planning for Bushfire Protection 2006*, a better bushfire outcome needs to be provided as part of the development. The NSW Rural Fire Service is not satisfied that this is occurring in all precincts of this development.**

#### **Response:**

The Concept Plan identifies a number of areas of residential and Hospital landuse which will not be redeveloped, other than for refurbishment of the existing buildings. Examples of this are found in the existing housing stock on the northern side of Mt Pleasant Avenue and at the west terminus of Mt Pleasant Avenue; the existing housing stock on the northern side of The Comenarra Parkway, west of the proposed Nurses College; the existing housing stock along the eastern side of Fox Valley Road, to the south of the Media Centre and the existing housing stock in the south-eastern corner of the Estate.

Whilst it is recognized that these buildings do not comply with the requirements of *Planning for Bushfire Protection 2006*, they were constructed prior to 1<sup>st</sup> August 2002 and therefore the refurbishment will be undertaken in accordance with the 'infill provisions' of *Planning for Bushfire Protection 2006*. In order to satisfy the requirements of the infill provisions, new works undertaken to these buildings will not encroach closer to the bushfire hazard than that provided by the existing building and new construction shall be undertaken to address the potential radiant heat flux on the building with additional protection measures applied to the existing structure to increase its protection against bushfire impacts.

- 2. The proposed riparian buffers around the core riparian zones [CRZs] have been proposed to be utilized as part of the Asset Protection Zones for development in proximity to these vegetated areas. On the information provided, the RFS is not satisfied that the requirement for a riparian buffer zone will not conflict with the requirements for an APZ. This will need to be clarified before the proposed APZs can be approved for this development**

#### **Response:**

Advice was sought from the Department of Water & Energy on the Water Management Act requirements for the redevelopment on the Estate. DWE advised that the Ku-ring-gai Council '*Riparian Policy*' has been endorsed by DWE and that policy is to be applied to the 'rivers' within the Estate.

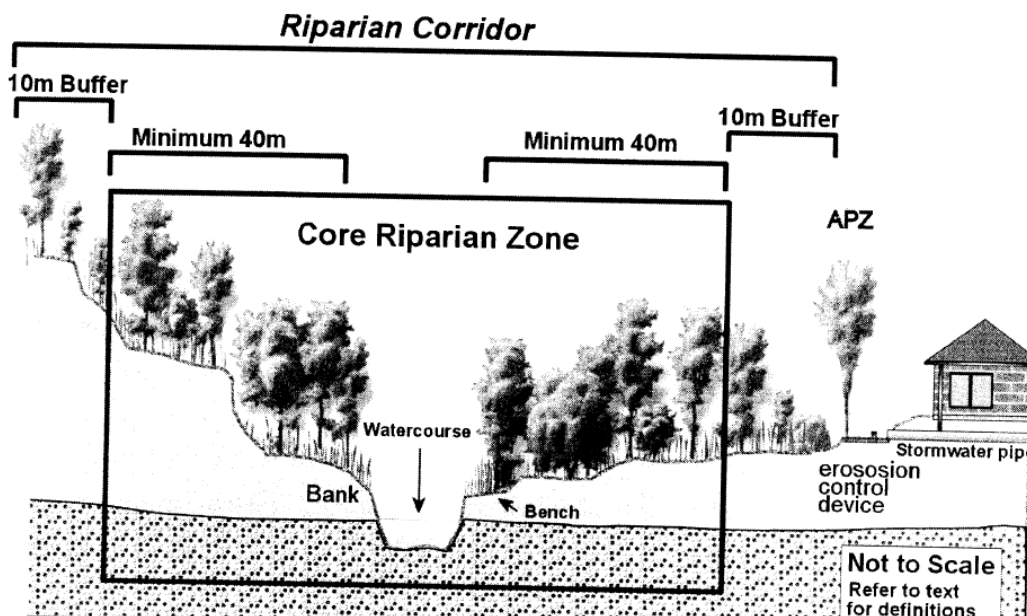
Page 8 of the Policy provides advice on the buffer zone/APZ requirements and states:



“Asset Protection Zones have in part been allowed for in Category 1 & 2 riparian zones as reflected by the addition of 10 metres to the buffer. This buffer can serve to both counter the edge effects of urban development and also contribute to any required Asset Protection Zone that may affect properties classified as a high or medium fire risk. If an APZ wider than 10 metres is required, or fire control access tracks are needed, the additional width or any fire control access tracks are not to be taken from the Core Riparian Zone [CRZ]”.

Figure 1, page 10 and Figure 2, page 11 of the document provides a graphical representation of the Riparian Policy requirements.

Figure 1 Environmental corridor



The Master Plan utilizes the 10 metre wide Buffer Zone to the Critical Riparian Zone as part of the Asset Protection Zone [as permitted by the Ku-ring-gai Council Riparian Policy] with the buffer zone forming that part of the Asset Protection Zone which will be managed as an Outer Protection Area [OPA], therefore retaining some of the existing canopy trees within the Buffer Zone.

**Precinct A:**

3. **All new residential development will require a 20 metre Asset Protection Zone to the forest hazard on the neighbouring school grounds to the north. The RFS is not satisfied from the concept plan as to whether this requirement has been incorporated into the design.**

**Response:**

As a result of discussions on site, the amended Concept Plan provides for a 20 metre wide Asset Protection Zone to the north of the proposed residential redevelopment adjacent to the forest vegetation in the adjoining Lorretto Ladies College. The existing housing stock which will remain will not be extended closer than the existing footprints [Refer to Response to Item 1].

[Refer to Attachment A - Amended Concept Plan – Precinct A]

- 4. The proposed CRZ and buffer zone for the stream linking the forest hazard to the west may cause a greater bushfire threat that what is depicted on the Concept Plan. Details as to how this hazard will be revegetated and how this hazard will act in bushfire situation will need to be provided. This in turn may impact on the Asset Protection Zone requirements for the surrounding development.**

**Response:**

As a result of discussions on site, the Master Plan has been modified. The modifications reshape the extent of vegetation in the gully to the south of the western end of Mt Pleasant Avenue [which is not recorded as a ‘river’ in the Ku-ring-gai Riparian Policy] and this in turn provides a separation of 100 metres between the Lane Cove River riparian corridor CRZ and the future extensions to the Retirement Village precinct.

Similarly, the bushfire threat to the proposed residential development to the north of Mt Pleasant Avenue has been modified and the Asset Protection Zone to the southwest of the western most new development has been increased to provide additional protection from a fire run up the Lane Cove River corridor.

[Refer to Attachment A - Amended Concept Plan – Precinct A]

- 5. The new development proposes to increase the population density of this precinct while depending on the existing road infrastructure. Adequacy of the access into and within this precinct will need to be provided in accordance with Planning for Bushfire Protection 2006.**

**Response:**

Mt Pleasant Avenue is a public road which is constructed in compliance with the Public Road standards as defined by Section 4.1.3(a) of *Planning for Bushfire Protection 2006*. The existing perimeter road to the Retirement Village precinct was approved by the Land Environment Court and also complies with the private road standards of Section 4.1.3(b) of *Planning for Bushfire Protection 2006*.

Future access to the new residential component, to the northwest of the existing Retirement Village precinct will be constructed to comply with the Public Road standards of *Planning for Bushfire Protection 2006*, connecting to Mt Pleasant Ave. The new residential precinct to the north of Mt Pleasant Avenue will be accessed from Mt Pleasant Avenue.

The bushfire risk to Precinct A will emanate from a fire in the Lane Cove River corridor and long Coups Creek. Safe egress, to the east along Mt Pleasant Avenue, will be available to residents as the existing management of the Asset Protection Zones to the Retirement Village Precinct and the new Asset Protection Zones to the future development remove the risk to Mt Pleasant Avenue. In addition, Mt Pleasant Avenue turns to the north, passing through existing residential development and School land which is not subject to bushfire attack, therefore removing the need for evacuation of this area of Normanhurst.

Mt Pleasant Avenue will therefore cater for any increase in population which may need to evacuate from the Estate lands.

### ***Precinct B***

- 6. The Concept Plan is unclear as to whether the proposed school can provide and maintain the required APZ from the riparian corridor and buffer zones to the west. This will need to be resolved in order to gain compliance with Planning for Bushfire Protection 2006.***

#### ***Response:***

The School Precinct on the Concept Plan has been modified so as to maintain more of the Blue Gum High Forest vegetation at the western end Of Elizabeth Street. This vegetation is currently managed to provide a fire break to the adjoining residential development.

This management protocol will remain, therefore maintaining the retained vegetation as an Asset Protection Zone. The Oval to the School has been relocated and provides a 77 metre wide Asset Protection Zone perpendicular to the Coups Creek corridor which at this pint reduces to a CRZ width of 20m + 20m. This setback complies with the effective slope of the land within the CRZ.

The layout of the School buildings has also been modified to accommodate the change to the location of the Oval, thus providing a 110 metre wide Asset Protection Zone to the northwest of the School Buildings.

*[Refer to Attachment B - Amended Concept Plan – Precinct B]*

- 7. Extensions to the existing church are to occur closer to the bushfire hazard to the west. The RFS is not satisfied that a better bushfire outcome will be created by permitting this development. Clarification of this proposed development will be required before this development is approved.**

**Response:**

The amended Master Plan has removed the extension to the west of the existing Church/Community Centre and has relocated it to the eastern aspect of the existing building as there is no hazard to the north-eastern aspect of the building and this location does not encroach closer to the bushfire hazard in the Coups Creek corridor than the existing building and places the new extension behind the existing building in terms of fire path along the Coups Creek corridor.

[Refer to Attachment B - Amended Concept Plan – Precinct B]

**Precinct C**

- 8. New hospital buildings are proposed to be built closer to the bushfire hazard. These buildings are proposed to exist in the flame zone and do not meet the required Asset Protection Zones of Planning for Bushfire Protection 2006. The use of these buildings and the required setbacks will need to be clarified.**

**Response:**

The discussions with the NSW Rural Fire Service identified that the Hospital Precinct would contain 'core' and non-core' Hospital landuse.

Agreement was reached that core Hospital uses, such as Wards, Operating Theatres, Day Surgery etc would be located a minimum of 100 metres from the unmanaged vegetation in the Coups Creek corridor. The Master Plan satisfies this agreement.

Agreement was also reached that non-core Hospital landuse, such as Offices and Carparking Buildings could be located up to the flame zone setback from the unmanaged vegetation. The Master Plan satisfies this agreement.

- 9. The Concept Plan is unclear as to whether the Facility of Nursing to the south of the precinct achieves the required APZs for a 'Special Fire Protection Purpose' development from the hazard to the east as outline in Planning for Bushfire Protection 2006.**

**Response:**

The Facility of Nursing is located a minimum of 85 metres from the unmanaged vegetation to the west and more than 200 metres from the unmanaged vegetation to the east, east of Fox Valley Road/The Comenarra Parkway intersection.

These widths satisfy the Asset Protection Zone requirements of *Planning for Bushfire Protection 2006*.

[Refer to Attachment C - Amended Concept Plan – Precinct C]

#### **Precinct D**

**10. The proposed ecological corridor identified to be retained has not been classified as a bushfire threat. From the information provided, the RFS is not satisfied that this vegetation will not be a bushfire hazard and that adequate APZs have been provided to surrounding development.**

#### **Response:**

The amended Master Plan modifies the extent of the residential development within this precinct so as to retain more of the existing vegetation. The new layout accepts that the retention of a larger area of the existing vegetation retains the bushfire hazard in this precinct. The amended layout also provides Asset Protection Zones of 35 metres width between the future residential development and the retained vegetation.

The existing defensible spaces will be maintained to the east of the Administration Buildings/Media Centre.

**11. There is evidence of a Hostel/Student accommodation building in this precinct. It is unclear whether this is the current use of this building or a change of use is proposed to the existing building. Clarification of this is to be provided in order to determine whether or not this building is considered infill development as determined under *Planning for Bushfire Protection 2006*.**

#### **Response:**

This is an existing building which contains Student accommodation. This use will not change and any modifications/refurbishment of the building will not encroach closer to the bushfire hazard than the existing building. Construction standards shall be applied to address the infill provisions of *Planning for Bushfire Protection 2006*.

[Refer to Attachment D - Amended Concept Plan – Precinct D]

**12. New access roads will be required to comply with *Planning for Bushfire Protection 2006*.**

#### **Response:**

All new access roads will be designed and constructed to comply with Section 4.1.3 of *Planning for Bushfire Protection 2006*.

**Precinct E:**

**13. It is proposed to increase the number of dwellings in the southeast corner of this precinct. This proposal has been classified by the applicant as infill. Due to the increase in density and dwelling numbers, the RFS is not satisfied that this proposal is indeed infill in accordance with Planning for Bushfire Protection 2006, based on the information provided.**

**Response:**

The amended Master Plan provides an Asset Protection Zone to the north of the proposed new dwellings [and existing dwellings].

**14. The new residential development has not provided any APZs from the proposed ecological corridor to the west of this precinct. From information provided, the RFS is not satisfied that this vegetation will not be a bushfire hazard and in turn these dwellings may require APZs from this hazard.**

**Response:**

The Master Plan proposes to add two additional dwellings between the existing dwellings located along the northern side of The Comenarra Parkway. The existing dwelling located adjacent to the ecological corridor is proposed to remain with the amended Master Plan providing a 20 metre wide 'Defendable Space' to the west of this existing dwelling.

*[Refer to Attachment E - Amended Concept Plan – Precinct E]*

**15. New access roads will be required to comply with Planning for Bushfire Protection 2006.**

**Response:**

All new access roads will be designed and constructed to comply with Section 4.1.3 of *Planning for Bushfire Protection 2006*.

**Additional Response to questions asked during Site Inspection:**

During the site inspection the RFS raised the issue of the proposed 'Mixed Use' precinct on the corner of Fox Valley Road and The Comenarra Parkway. The amended Concept Plan provides for Commercial Landuse on the eastern side of Fox Valley Road, with a 20 – 30 metre wide defendable space provided to the retained vegetation in the ecological corridor. The 'Mixed Use' land use to the west of Fox Valley Road will contain a residential component, located 85 metres from the retained vegetation in the ecological corridor.



Graham Swain,

Managing Director,

**Australian Bushfire Protection Planners Pty Limited.**

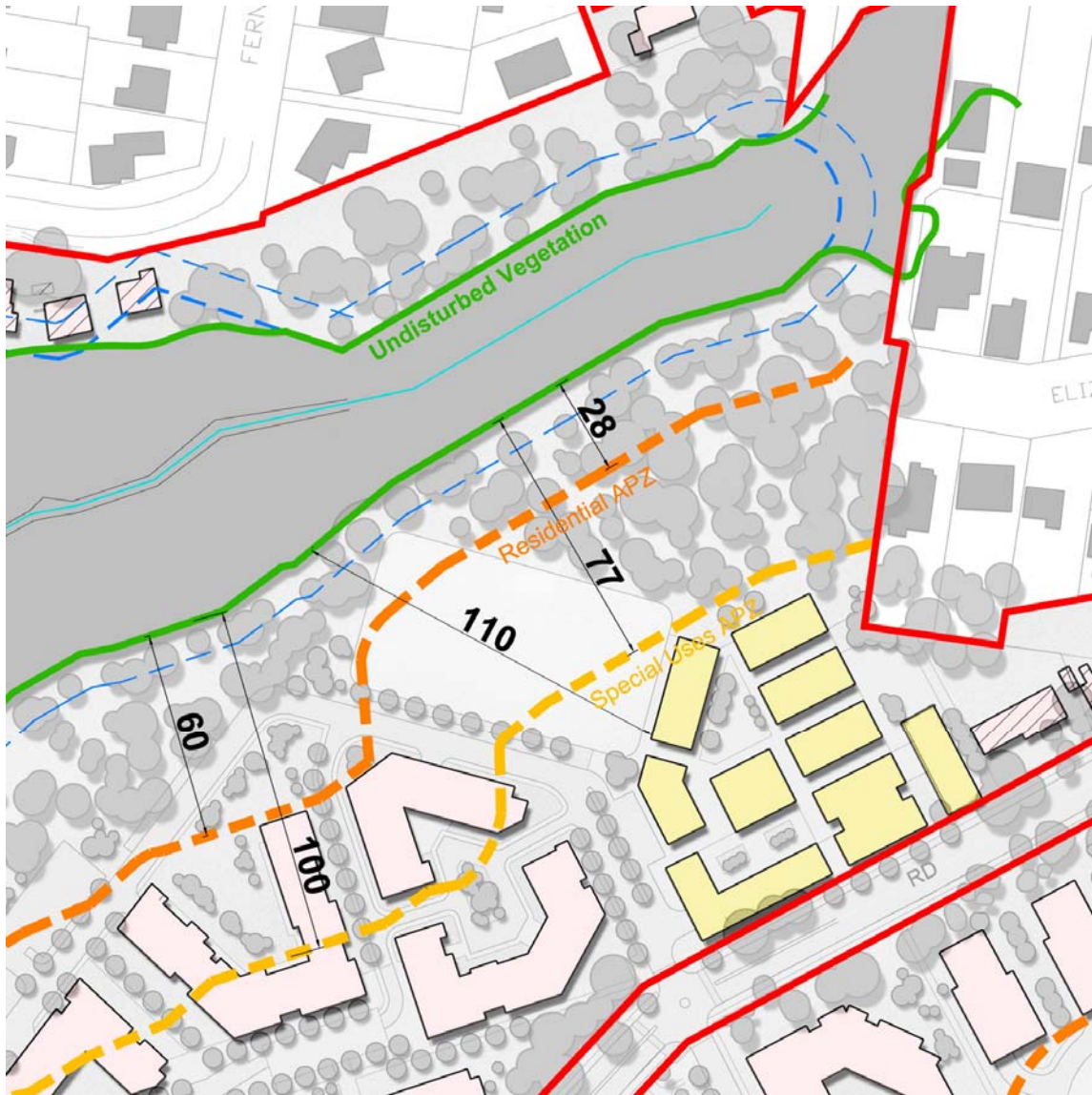


4.0 Attachment A – Amended Master Plan showing Asset Protection Zones - Precinct A [Mt Pleasant Avenue].

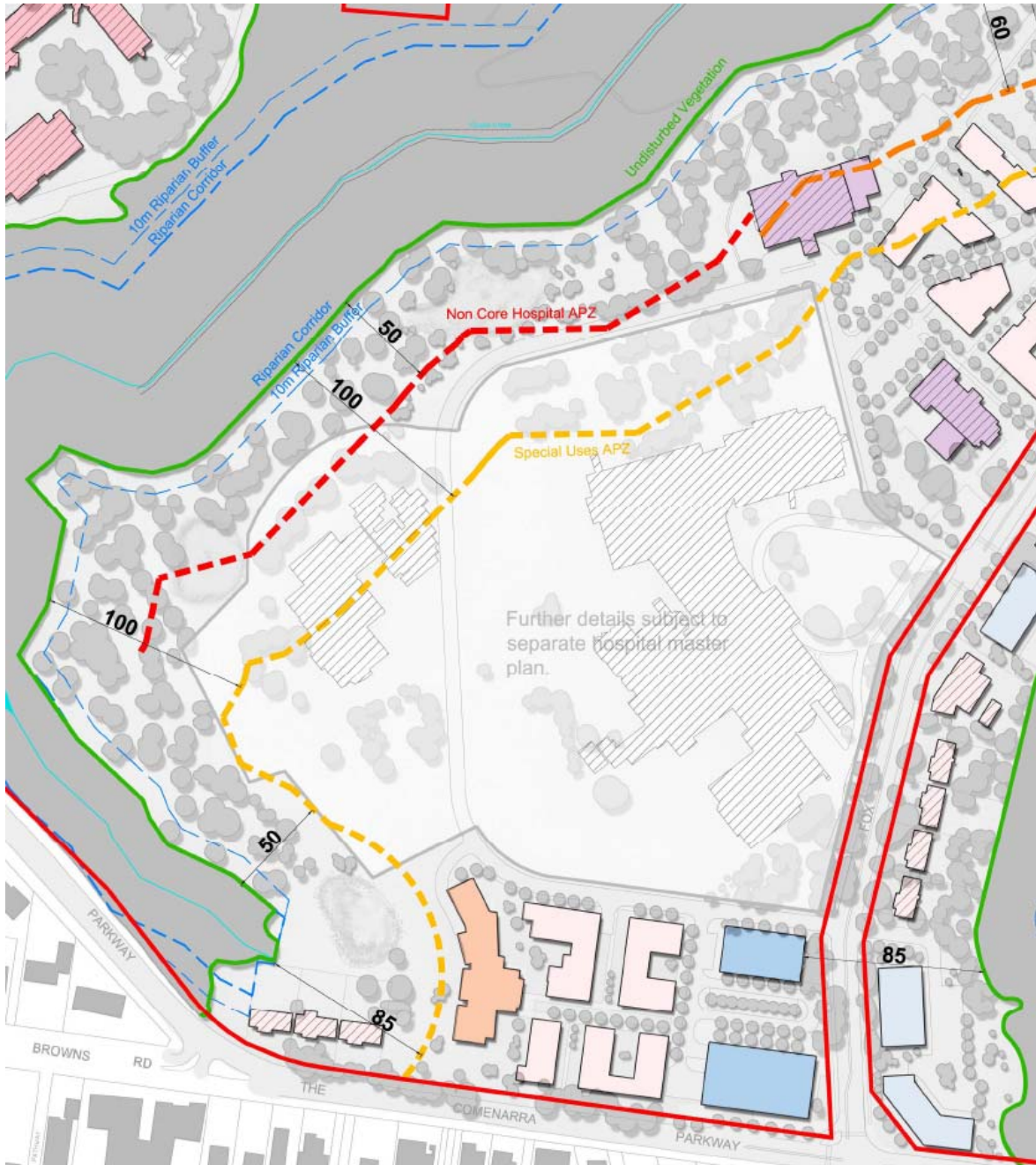




5.0 Attachment B – Amended Master Plan showing Asset Protection Zones - Precincts B [Church & School].



6.0 Attachment C – Amended Master Plan showing Asset Protection Zones - Precinct C [Hospital].





7.0 Attachment D – Amended Master Plan showing Asset Protection Zones - Precinct D [Development to the east of Fox Valley Road].



8.0 Attachment E – Amended Master Plan showing Asset Protection Zones - Precinct E [Development to the east of Fox Valley Road, in south-eastern corner of the Estate].

