AMENDED

BUSHFIRE PROTECTION ASSESSMENT

FOR THE

PROPOSED SPD COMMERCIAL BUILDING

ON

LOT 621 in DP 1128314

No. 172

FOX VALLEY ROAD

WAHROONGA

PREPARED FOR THE

SYDNEY ADVENTIST CHURCH

Australian Bushfire Protection Planners Pty Limited

Bushfire Mitigation Consultants
ACN 083 085 474
32 Old Dog Trap Road
SOMERSBY 2250 NSW
Phone: (02) 43622112 Fax: (02) 43622204
Email: abpp@bigpond.net.au

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Report Number	Document	Preparation Date	Issue Date	Directors Approval
B121919 - 6	Final	14.2.2013	4.6.2014	*G.L.Swain*

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EXECUTIVE SUMMARY

Australian Bushfire Protection Planners Pty Limited has been commissioned to prepare a Bushfire Protection Assessment for a Development Application to Ku-ring-gai Council for the construction of the proposed Commercial Building on Lot 621 in DP 1128314, No. 172 Fox Valley Road, Wahroonga.

The proposed building occupies the land on the north-eastern corner of the intersection of Fox Valley Road and The Comenarra Parkway and replaces the existing short term residential accommodation complex.

The new building will provide approximately 6000sqm for use as office premises for professional activities.

The building design is based on three simple rectilinear forms, four storeys in height, arranged around a central atrium space, which form in essence a triangular shape. Three levels of basement car parking are located under the building footprint.

All three buildings have the same function and are of similar floor plate.

Building 1 is the longest of the three and is located to the west of bushland which occupies the land within the eastern portion of the Wahroonga Estate. Buildings 2 and 3, front Fox Valley Road and the Comenarra Parkway respectively.

Vehicular access to the carpark basement floors is from both The Comenarra Parkway and Fox Valley Road.

The existing landuse to the north of the proposed building site consists of residential development. The existing Wahroonga Adventist Primary School is located to the west of Fox Valley Road and is proposed to be replaced with a mixed use development, which will be subject to a future, separate development application.

Residential development extends to the southwest of The Comenarra Parkway/Fox Valley Road intersection and an existing Neighbourhood Centre occupies the land to the south of The Comenarra Parkway.

The proposed development forms part of the Fox Valley Road East Precinct under the approved Concept Plan for the redevelopment of the Wahroonga Estate.

The land upon which it is proposed to construct the Commercial Building is impacted by the buffer zone to the Category 1 Bushfire Prone Vegetation, identified on the Ku-ring-gai Bushfire Prone Land Map, as occupying the eastern portion of the Wahroonga Estate.

Therefore, the construction of the proposed building is required to comply with the provisions of Section 79BA of the *Environmental Planning & Assessment Act 1979.*

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Section 79BA of the *Environmental Planning and Assessment Act* requires that the proposed development comply with the requirements of *Planning for Bushfire Protection 2006* with respect to the protection of persons, property and the environment from the danger that may arise from a bushfire.

Planning for Bushfire Protection 2006 provides specific deemed-to-satisfy provisions on the bushfire protection measures necessary for rural & residential subdivisions, the construction of *"Special Fire Protection Purpose Developments"* and the construction of Class 1, 2 and 3 buildings in Bushfire Prone areas. The document does not specify specific deemed-to-satisfy protection measures for Class 5 to 8 and 10 buildings as defined by the Building Code of Australia.

The document does provide the following advice for these classes of buildings:

"The Building Code of Australia does not provide for any bushfire specific performance requirements and as such AS 3959 -1999 does not apply as a set of "deemed-to-satisfy" provisions. The general fire safety construction provisions [of the BCA] are taken as acceptable solutions, but the aim and objectives of Planning for Bushfire Protection 2006 apply in relation to other matters such as access, water and services, emergency planning and landscaping/vegetation management".

"Where the aim and objectives of PfPFP [Section 1.1] are not met, then the construction requirements for bushfire protection will need to be considered on a case-by-case basis".

"In many cases, these types of developments will require on-site parking and loading areas. In such cases, it is prudent to place these facilities in the most appropriate location in order to establish defendable space for firefighting purpose".

The objectives of *Planning for Bushfire Protection 2006* are:

(i) Afford occupants of any building adequate protection from exposure to a bushfire;
(ii) Provide for a defendable space to be located around buildings;
(iii) Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition;
(iv) Ensure that safe operational access and egress for emergency service personnel and residents is available;
(v) Provide for ongoing management and maintenance of bushfire protection measures, including fuel loads in the asset protection zones; and
(vi) Ensure that utility services are adequate to meet the needs of firefighters and others assisting in bushfire fighting.

Ku-ring-gai Council will, upon receipt of an application for the proposed works, refer the application to the Rural Fire Service for consideration under Section 79BA of the *Environmental Planning and Assessment Act*.

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The Rural Fire Service will consider matters necessary to provide protection from the potential impacts that may arise from a bushfire occurrence within the bushfire prone vegetation nominated on the Bushfire Prone Land Map.

Matters considered necessary by the Rural Fire Service will include the provision of a "defendable space" [Asset Protection Zone] to widths necessary to provide a safe working environment for firefighters and the protection of the building; fuel management of the vegetation within the defendable space; access provisions for emergency services; construction standards to the building; water supplies for firefighting operations and evacuation provisions.

This report undertakes an assessment of the bushfire protection measures required to address the objectives of *Planning for Bushfire Protection 2006,* and examines the standards regarding setbacks [defendable space], provision of water supply, fuel management protocols, construction standards to the building and other matters considered necessary to mitigate any potential bushfire threat to persons, property and the environment from the danger that may arise from a bushfire within the vegetation.

The characteristics of the proposed development including provision of a defendable space and construction standards which address the likely levels of radiant heat on the building provide that the site is suitable in terms of its intended use.

I also certify that the Development Proposal complies with the aim and objectives of *Planning for Bushfire Protection 2006.*

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

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SECTION 1

INTRODUCTION

1.1 Aim of this Assessment.

The aim of this Bushfire Protection Assessment is to undertake a review of the proposed development to determine compliance with the intent of *Planning for Bushfire Protection 2006* and in particular:

- Determine the formation of the vegetation on and adjoining the development footprint in accordance with the vegetation classification system contained in *Planning for Bushfire Protection 2006*;

- Undertake an assessment to determine the effective slope of the land which will cause the most insignificant fire behaviour on the facility;

- Determine the Fire Danger Index [FDI] for the site;

- Undertake an assessment to determine the adequacy of the bushfire protection measures, including the following matters:

  (i) The provision of setbacks [defendable spaces] from vegetated areas;
  (ii) Fire fighting water supplies;
  (iii) Access requirements for emergency service vehicles;
  (iv) Construction standards;
  (v) Land management responsibilities; and
  (vi) Evacuation management.

1.2 Development Proposal.

A Development Application is to be lodged with Ku-ring-gai Council for the construction of a proposed Commercial Building on Lot 621 in DP 1128314, No. 172 Fox Valley Road, Wahroonga – refer to Figure 1 on Page 8 showing Site Plan of the proposed building.

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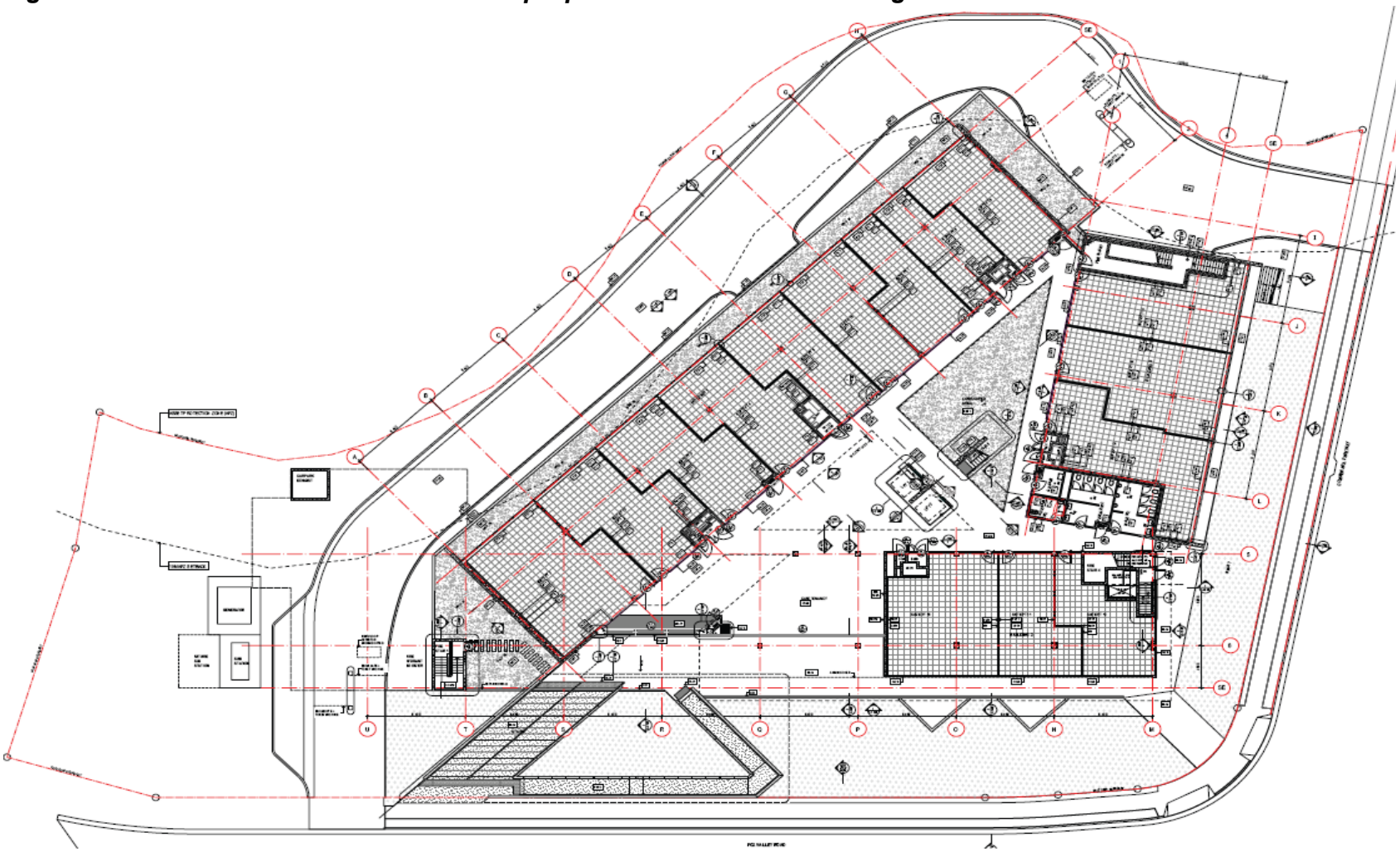
Figure 1 – Site & Ground Floor Plan of the proposed Commercial Building.



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1.3 Statutory Requirements.

This report has been prepared having regard to the following legislative and planning requirements:

1.3.1 Legislation.

***(a) Environmental Planning and Assessment Act* (EPA Act)**

Planning and development within NSW is regulated by the *Environmental Planning & Assessment Act, 1979* (EPA Act). This Act was amended in August 2002 by the *Rural Fires & Environmental Assessment Legislation Amendment Act, 2002.* In relation to bushfire planning for new residential, rural residential and special fire protection developments in bushfire prone areas in NSW, the following sections of the Act apply:

(i) Section 79BA states:

"Development consent cannot be granted for any purpose (other than a subdivision of land that could lawfully be used for residential or rural residential purposes or development for a special fire protection purpose) on bushfire prone land unless the consent authority:

- *Is satisfied that the development conforms to the specifications and requirements of Planning for Bushfire Protection 2006 or:*

- *Has been provided with a certificate by a person who is recognised by the NSW Rural Fire Service as a qualified consultant in bushfire risk assessment stating that the development conforms to the relevant specifications and requirements".*

(ii) Section 79C(1) states:

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

- *The likely impacts of the development (e.g. natural hazards such as bushfire threat);*

- *The suitability of a site for development (e.g. bushfires)*

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(b) Rural Fires Act 1997

The objectives of the *Rural Fires Act* are to provide:

- The prevention, mitigation and suppression of fires;
- Coordination of bushfire fighting and prevention;
- Protection of people and property from fires; and
- Protection of the environment.

In relation to the management of bushfire fuels on public and private lands within NSW, Sections 63(1) and 63(2) require public authorities and owners / occupiers of land to take all practicable steps to prevent the occurrence of bushfires on, and to minimize the danger of, the spread of bushfires.

1.3.2 Planning Policies.

Planning for Bushfire Protection – 2006 (Rural Fire Service).

This document provides recommendations on the provision of defendable space requirements to Class 5 – 8 and 10 buildings and access/water supply provisions for developments in bushfire prone areas. Provision for the assessment of construction standards to buildings and management / maintenance of the defendable space to buildings is also provided in the document.

1.4 Documentation reviewed in this Assessment.

The following documents were reviewed in the preparation of this report:

- Architectural Plans and Elevations of the proposed Commercial Building prepared by Morris Bray Martin Ollman Architects;
- Aerial Photograph of the development site and adjoining land;
- *Planning for Bushfire Protection 2006* prepared by the NSW Rural Fire Service;
- Australian Standard AS3959 – 2009 - *"Construction of Buildings in Bushfire Prone Areas"*;
- *Rural Fires Act 1997;*
- Approved Concept Plan – Wahroonga Estate; and
- Ku-ring-gai Council Certified Bushfire Prone Land Map.

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1.5 Site Inspection.

Graham Swain of *Australian Bushfire Protection Planners Pty Limited* inspected the site on the 9th February 2013 to assess the topography, slopes and vegetation classification within and adjoining the development site.

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SECTION 2

DESCRIPTION OF DEVELOPMENT SITE

2.1 Location & Description.

The land on which it is proposed to erect the Commercial Building consists of Lot 621 in DP 1128314, No. 172 Fox Valley Road, Wahroonga.

Figure 2 – Location of the proposed Commercial Building site.

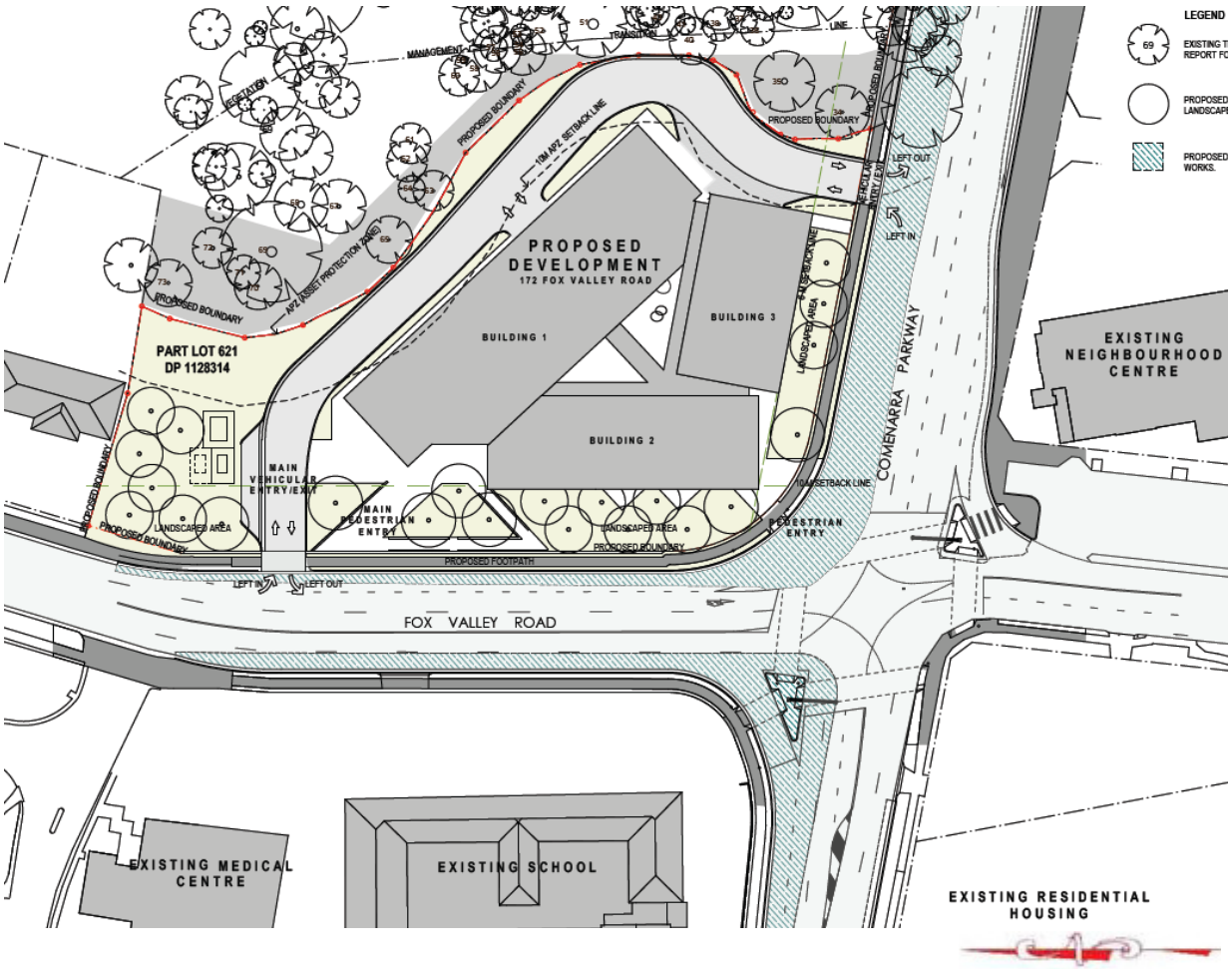

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Figure 3 – Cadastre Plan.

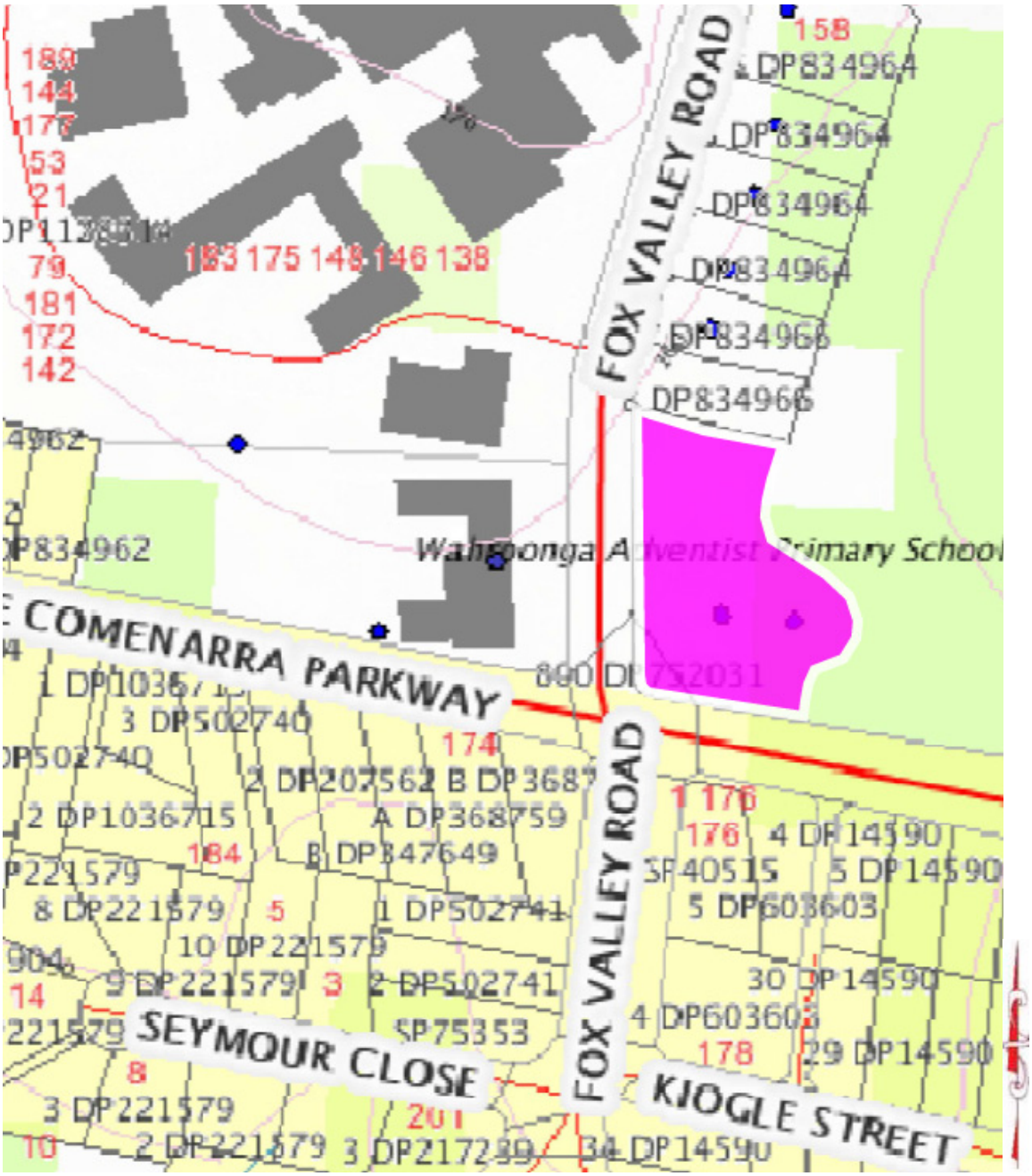

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Figure 4 – Aerial Photograph showing location of Development Site.

2.2 Adjoining Land Use.

The landuse to the north of the development site contains existing residential development within the Wahroonga Estate. The land to the west contains the existing Wahroonga Adventist Primary School which is planned to be replaced with a new mixed use development. The land to the south of The Comenarra Parkway contains an existing Neighbourhood Centre and existing residential development.

[Refer to Figure 4 – Aerial Photograph above].

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2.3 Topography.

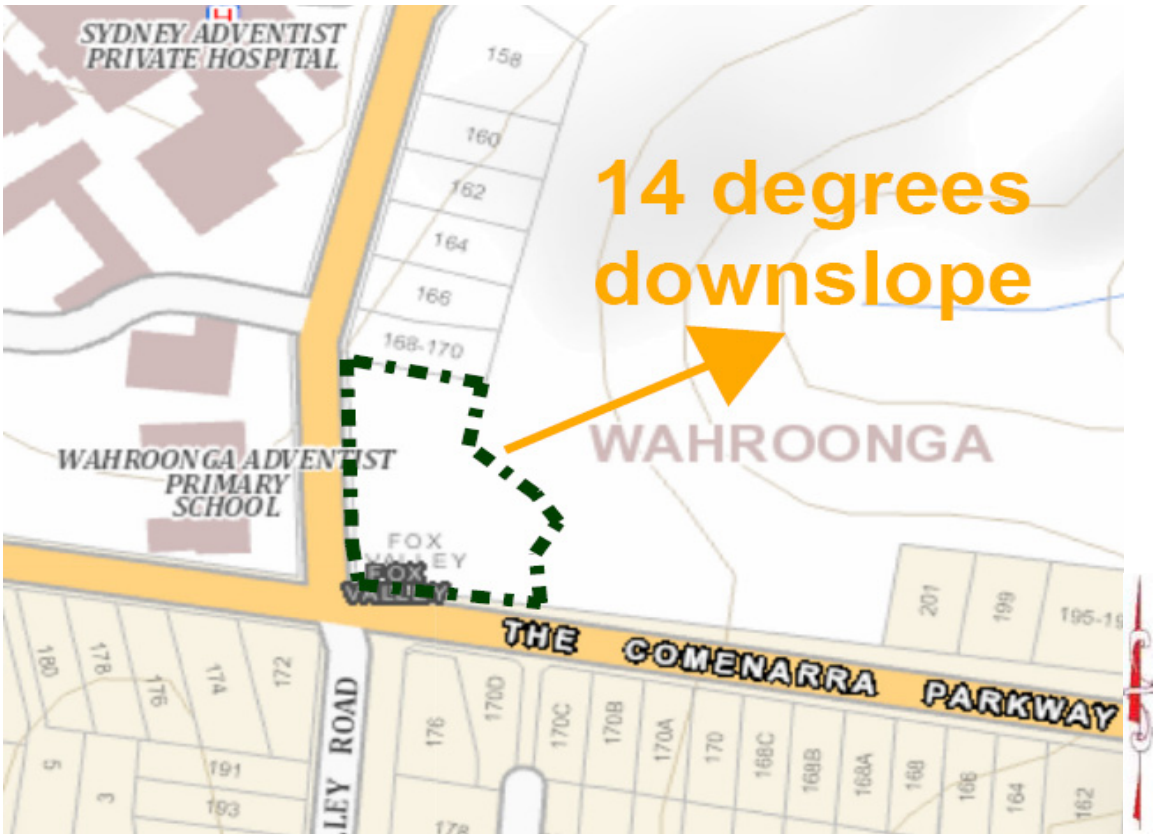
Appendix 2 of *Planning for Bushfire Protection 2006* states that slopes should be assessed, over a distance of at least 100m from a development site and that the gradient of the land should be determined which will most significantly influence the fire behaviour to the site.

The development site and surrounding development is located on the apex of a broad ridgeline which rises gently across the Hospital site to the north and falls to the east, west and south.

The landform within 100 metres to the east of the development site falls to the northeast into the head of a gully line which extends to the east. The land within this gully line falls to the northeast at 14 degrees whilst the land to the east, along The Comenarra Parkway falls to the east at less than 5 degrees.

The land to the north of the development site runs with the contours of the land towards the north/northeast.

Figure 5 – Contour Plan showing 'effective slope of the land to the northeast of the proposed building.



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2.4 Vegetation.

Appendix A2.3 of *Planning for Bushfire Protection 2006* provides a methodology for determining the predominant bushfire prone vegetation for at least 140 metres in all directions from the future development on the site. Vegetation is classified using Table A2.1 of *Planning for Bushfire Protection 2006,* which classifies vegetation types into the following groups:

(a) Forests [wet & dry sclerophyll forests];
(b) Woodlands;
(c) Plantations – being pine plantations not native plantations;
(d) Forested Wetlands;
(e) Tall Heaths;
(f) Freshwater Heaths;
(g) Short Heaths;
(h) Alpine Complex;
(i) Semi – arid Woodlands;
(j) Arid Woodlands; and
(k) Rainforests.

2.4.1 Vegetation within the Development Site.

The development site contains landscaped gardens.

2.4.2 Vegetation within 140 metres of the Development Site.

The vegetation on the land to the northeast and east of the development site, within the Wahroonga Estate, consists of a narrow band of Sydney Sandstone Ironbark Forest [STIF], extending into Sydney Sandstone Gully Forest within the gully line. This vegetation has been recorded on the Ku-ring-gai Bushfire Prone Land Map as Category 1 Bushfire Prone Vegetation.

A small pocket of unmanaged vegetation occupies the vacant land to the southeast of the development site, beyond The Comenarra Parkway.

The 100 metre wide Buffer Zone to the unmanaged Category 1 Bushfire Prone Vegetation located to the southwest and west of the development site does not impact on the site of the proposed development.

[Refer to Figure 4 – Aerial Photograph above].

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2.5 Significant Environmental Features within the Development Site.

The land within the development site does not contain significant environmental features such as SEPP 14 Wetlands, SEPP 44 Koala Habitat, SEPP 26 Littoral Rainforests; land slip areas or National Parks Estate; areas of geological interest; steep lands [>18 degrees] or riparian corridors.

2.6 Known Threatened Species, population or ecological community within the Development Site.

There are no known threatened species, population or ecological community within the development site.

2.7 Details and location of Aboriginal relics or Aboriginal place.

There are no sites of Aboriginal heritage significance within the proposed development site.

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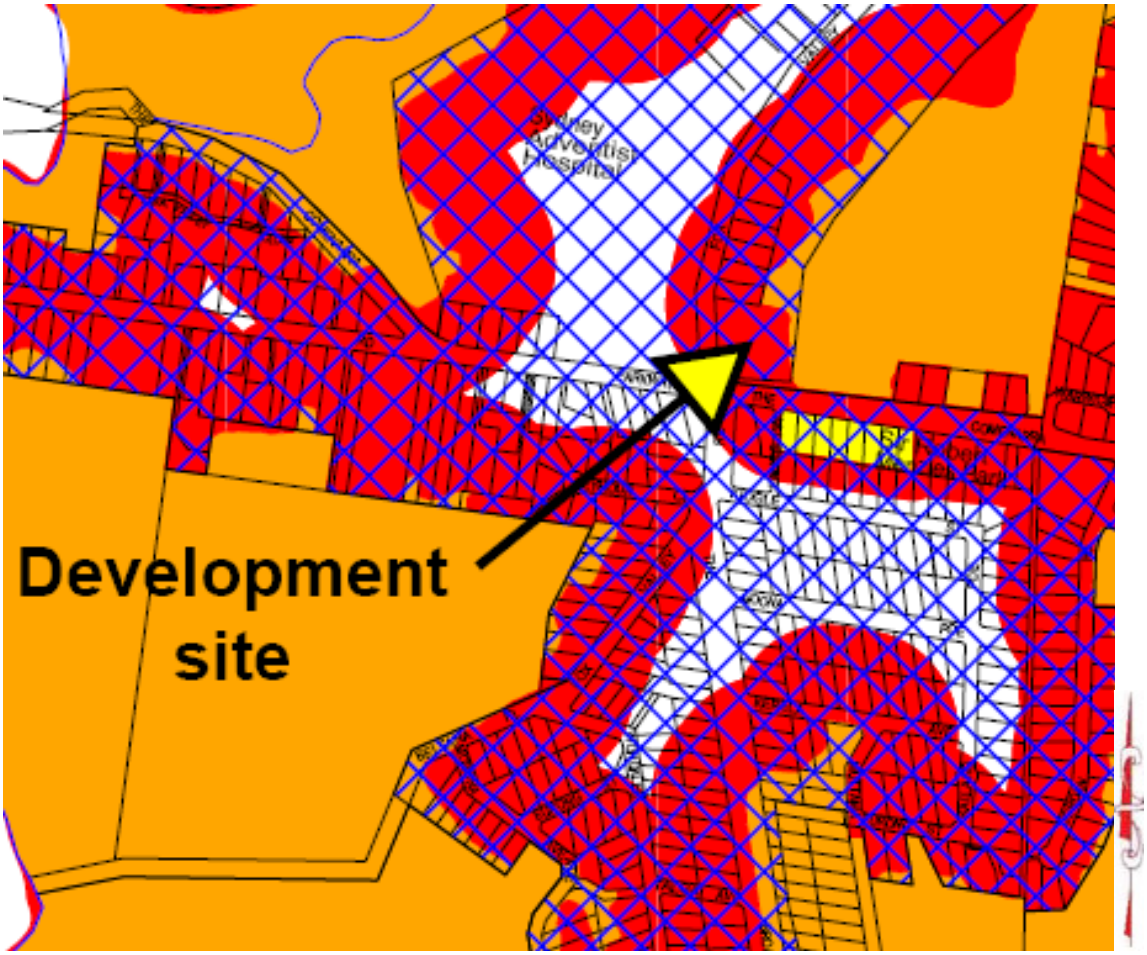
SECTION 3

PRECINCT LEVEL ASSESSMENT

3.1 Introduction.

Figure 6 below is an extract from the Ku-ring-gai Bushfire Prone Land Map showing the extent of the Category 1 Bushfire Prone Vegetation and Buffer Zone on land which adjoins the building site.

Figure 6 – Extract of the Ku-ring-gai Bushfire Prone Land Map showing the location of the proposed Commercial Building and the location of the bushfire prone vegetation and buffer zone.



Legend: Orange – Category 1 Bushfire Prone Vegetation; Yellow – Category 2 Bushfire Prone Vegetation; Red – 30 & 100m wide Buffer Zone to the Category 1 & 2 Bushfire Prone Vegetation

The inspection of the development site confirmed that the site is located within the buffer zone to Category 1 Bushfire Prone Vegetation, located to the east.

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SECTION 4
BUSH FIRE PROTECTION ASSESSMENT

4.1 Introduction.

The development proposal is for the construction of a new Commercial Building within Lot 621 in DP 1128314, No. 172 Fox Valley Road, Wahroonga. The proposed building is classified by the Building Code of Australia [BCA] as a Class 5 building.

Chapter 4, Section 4.3.6(f) of *Planning for Bushfire Protection 2006* discusses the bushfire protection to buildings of Class 5 to 8 and 10b of the Building Code of Australia and states:

"The BCA does not provide for any bushfire specific performance requirements and as such A.S.3959 – 1999 does not apply as a set of 'deemed to satisfy provisions'.

The general fire safety construction provisions for this class of building are taken as acceptable solutions, but the aim and objective of Planning for Bushfire Protection 2006 apply in relation to access and water supply for fire-fighting operations, emergency planning [evacuation] and landscaping / vegetation management.

In circumstances where the aim and objectives of Planning for Bushfire Protection 2006 are not met, then the construction requirements for bushfire protection will need to be considered on a case-by-case basis".

Chapter 1, Section 1.1 of *Planning for Bushfire Protection 2006* states that for the construction of Class 5 – 8 buildings [Retail/Office Building] on bushfire prone land, or land impacted by bushfire prone vegetation, the aim and objectives of the document apply.

The stated aim of the document is to use the NSW development assessment system to provide for protection of human life [including fire-fighters] and to minimize impacts on property from the threat of bushfire, while having due regard to development potential, on-site amenity and protection of the environment.

The objectives of the document are:

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(1) *Afford occupants of any building adequate protection from exposure to the impacts of a bushfire;*

(2) *Provide for a defendable space to be located around buildings;*

(3) *Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition;*

(4) *Ensure that safe operational access/egress for emergency service personnel and occupants relocating is provided and/or available;*

(5) *Provide for ongoing management and maintenance of bushfire protection measures, including fuel loads within the Asset Protection Zone/s;*

(6) *Ensure that utility services are adequate to meet the needs of fire-fighters [and others assisting in bushfire fighting operations].*

The following section of this report examines the proposed development's compliance with the objectives of *Planning for Bushfire Protection 2006.*

4.2 Bushfire Protection Assessment for the proposed Commercial Building:

The performance criteria for the proposed development are:

Objective (i):
Afford occupants of any building adequate protection from exposure to the impacts of a bushfire:

The bushfire hazard to the proposed building is from the vegetation located to the northeast and east of the development site. This vegetation consists of Low Open Forest on land which falls to the northeast at 14 degrees into a gully line that runs to the east across the eastern portion of the Wahroonga Estate.

Whilst this vegetation has an area of more than one hectare and is therefore deemed-to-be bushfire prone, it does not connect to additional bushfire prone vegetation as the adjacent land to the east contains residential development.

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In addition to the benefit gained through the lack of connectivity to larger areas of bushfire prone vegetation, the only fire path which could present a spread of fire towards the proposed building is from the northeast – under 'milder' moisture laden on-shore sea breezes. This weather condition increases the humidity in the atmosphere and reduces the rate of spread and fire behaviour of the fire, decreasing the bushfire risk to the building.

Similarly, the small unmanaged pocket of vegetation on the land to the southeast of the development site, within the former B2 – B3 freeway extension to the south of The Comenarra Parkway, presents a low risk to the proposed Commercial Building and is identified on the Ku-ring-gai Bushfire Prone Land Map as Category 2 vegetation.

These mitigating effects, aided by the siting and construction methods of the building, afford occupants of the building adequate protection from exposure to the impacts of a bushfire.

Objective (ii):
Provide for a defendable space located around the proposed building:

The siting of the proposed building provides for a minimum defendable space width of 10.00 metres, measured from the north-eastern wall of Building 1 and the eastern wall of Building 3, to the closest point of the retained forest vegetation.

In addition to the defendable space, perimeter access is provided for fire-fighting operations.

Objective (iii):
Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent direct flame contact and material ignition:

The approved Wahroonga Estate Concept Plan recommended the provision of a defendable space width of 10.00 metres to the future Commercial Building located in the precinct to the northeast of the Fox Valley Road/The Comenarra Parkway intersection.

This width does not ensure that the building will not be impacted by direct flame contact. However, the construction of Building 1 and Building 3 ensures that this non-compliance is addressed through the use of materials which will not be subject to material ignition.

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The curtain wall to the north-eastern elevation of Building 1; the eastern wall of Building 3, including the glazing between this building and Building 1 and the north-western wall of Building 1 are constructed to withstand direct flame contact [i.e. fire rated].

The shielding provided by Building 1 and Building 3 ensures that Building 2 is not exposed to direct flame contact. The Plant area on top of Building 1 and over the Atrium will be constructed to minimise damage to equipment by flame contact and the glass roof of the Atrium will utilise fire rated wired glass [or similar].

All remaining elevations are shielded from direct exposure to radiant heat/flame contact and will only be exposed to potential ember attack. Therefore these elevations have been designed to comply with BAL 12.5 construction standards pursuant to A.S. 3959 – 2009 – *'Construction of Buildings in Bushfire Prone Areas'.*

Objective (iv):
Ensure that safe operational access/egress for emergency service personnel and occupants relocating is provided and/or available:

- ***Public Roads:***

The development site has frontage to Fox Valley Road and The Comenarra Parkway which are both arterial roads that provide access for heavy rigid and articulated vehicles and therefore safe access for fire-fighting appliances.

- ***Fire Trail Access.***

There are no fire trails provided or required within the development proposal as a private perimeter road has been provided between the proposed building and the bushfire prone vegetation.

- ***Emergency Response Access / Egress.***

The existing access/egress to the current building on the site is provided off The Comenarra Parkway.

The Commercial Building proposal also provides access/egress via The Comenarra Parkway however the private internal road also provides access/egress via Fox Valley Road, therefore creating a two-way traffic flow for fire appliances. The private access road has been designed to address access for heavy rigid fire appliances and provides safe operational access/egress for emergency service personnel, the public and staff and satisfies item (iv) of the Objectives and the deemed-to-satisfy access provisions of *Planning for Bushfire Protection 2006* – Refer to Figure 7 below.

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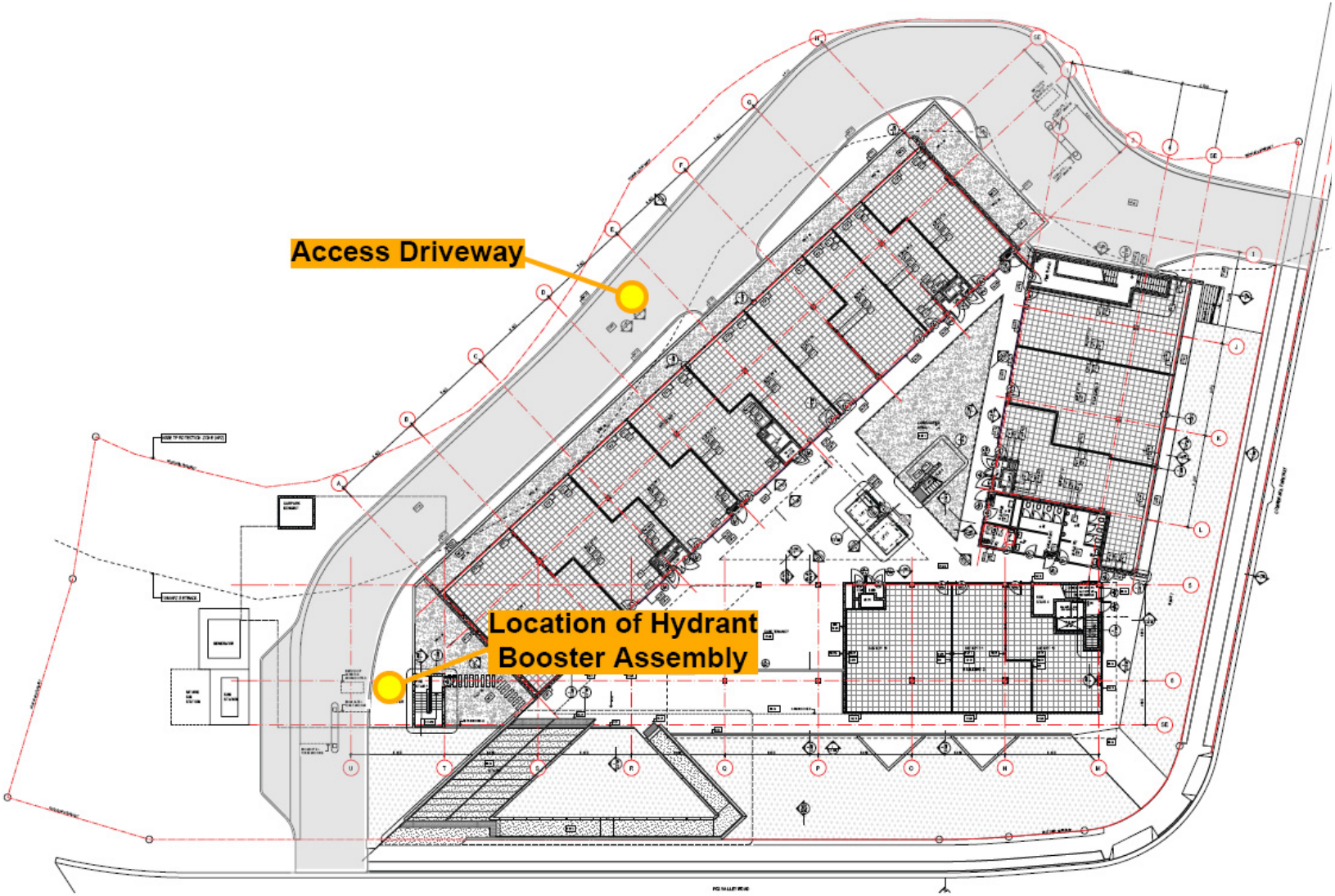
Figure 7 – Ground Floor Plan showing proposed vehicle access/egress arrangements.



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Objective (v):
Provide for ongoing management and maintenance of bushfire protection measures, including fuel loads within the Asset Protection Zones / Defendable Space:

The whole of the development site, to the extent indentified by the Concept Plan and land zoning, is to be landscaped to provide a managed defendable space maintained as an Inner Protection Area [IPA], as defined by Appendix 5 of *Planning for Bushfire Protection 2006* and the NSW Rural Fire Service's *'Specifications for Asset Protection Zones'.*

The management of the landscaped gardens [defendable space] shall be maintained under the terms of a positive covenant, pursuant to Section 88B of the *Conveyancing Act of 1909*.

Objective (vi):
Ensure that utility services are adequate to meet the needs of fire-fighters [and others] assisting in bushfire fighting operations]:

A reticulated water supply, with hydrants, is located within the verge to Fox Valley Road and The Comenarra Parkway.

The proposed building will contain complying fire hydrants/hose reels with a Booster Valve Assembly located at the entry point off Fox Valley Road. A vehicle lay-by has been provided adjacent to the Booster Valve assembly so as to provide un-obstructed access during fire-fighting operations.

4.3 Emergency Management for Fire Protection / Evacuation:

The evacuation of the premises due to the threat of a bushfire occurrence in the unmanaged vegetation to the northeast and east should not be required as the fire protection measures included in the proposed development, including a defendable space and construction of the building to withstand direct flame contact, will mitigate the potential bushfire impact on the building.

However, should evacuation be considered necessary, the safety of the occupants can be achieved with relocation of the public/staff to the Hospital precinct located to the west of Fox Valley Road.

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SECTION 5

BUSHFIRE MANAGEMENT STRATEGIES

Strategies to address the aim and objectives of *Planning for Bushfire Protection 2006* are as follows:

Strategy 1 – Defendable Space:

There shall be maintained a minimum 10.0 metre wide Defendable Space between the north-eastern elevation of Building 1 and the eastern wall of Building 3 and the unmanaged vegetation located within the Environmental Protection zoned land.

Strategy 1 – Landscape Management:

The design and maintenance of the landscaped gardens to the building, including the vegetation within the Defendable Space, shall comply with the prescriptions of an Inner Protection Area [IPA] pursuant to the specifications of Appendix 5 of *Planning for Bushfire Protection 2006* and the NSW Rural Fire Services document *'Specifications for Asset Protection Zones'.*

The management of the landscaped gardens [defendable space] shall be maintained under the terms of a positive covenant, pursuant to Section 88B of the *Conveyancing Act of 1909*.

Strategy 2 – Water Supplies for Firefighting Operations:

The existing Sydney Water reticulated service shall be extended to the development with hydrants, fire hose reels and Booster Valve Assembly installed in accordance with A.S. 2419.1 – 2005. A vehicle parking layout shall be provided adjacent to the Booster Valve assembly.

Strategy 3 – Access for Fire-fighting Operations:

The private access road shall be designed and constructed to allow access by a heavy rigid fire appliance with a GVM of 15 tonnes. The minimum width of the access road shall be 6.5 metres, face of kerb to face of kerb with 'No Parking' to both sides of the carriageway.

Inner corners shall have a minimum radius of 6.0 metres and a minimum outer radius of 12.0 metres.

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Strategy 4 – Bushfire Construction Standards:
The curtain wall to the north-eastern elevation of Building 1; the eastern wall of Building 3 [including the glazing between this building and Building 1] and the north-western wall of Building 1 shall be constructed to withstand direct flame contact [i.e. fire rated].

The Plant area on top of Building 1 and over the Atrium shall be constructed to minimise damage to equipment by flame contact and the glass roof of the Atrium shall be glazed with fire rated wired glass [or similar].

All remaining elevations shall be designed and constructed to comply with BAL 12.5 construction standards pursuant to A.S. 3959 – 2009 – *'Construction of Buildings in Bushfire Prone Areas'.*

Strategy 5 – Evacuation Plan:
There shall be prepared an Evacuation Plan which incorporates protocols for defined emergencies, including bushfire occurrences.

The Evacuation Plan shall be prepared in accordance with Australian Standard A.S. 3745-2002 *"Emergency Control Organisation and Procedures for dwellings, structures and workplaces"* and the Rural Fire Service's "*Bushfire Evacuation Plan Guideline"* and will remain in draft format until completed by the management committee.

A copy of the completed document shall be provided to Ku-ring-gai Council, Fire & Rescue NSW, the NSW Rural Fire Service and the Local Emergency Management Officer prior to the occupation of the building.

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SECTION 6

CONCLUSION

This amended report has been prepared, on behalf of the Sydney Adventist Church, to accompany a Development Application to Ku-ring-gai Council seeking consent for the construction of a proposed Commercial Building on Lot 621 in DP 1128314, No. 172 Fox Valley Road, Wahroonga.

The development site [Lot 621 in DP 1128314], is recorded on the Ku-ring-gai Bushfire Prone Land Map to contain the buffer zone to Category 1 Bushfire Prone Vegetation, triggering the requirements under Section 79BA of the *Environmental Planning & Assessment Act 1979* which requires a consent authority to determine if the proposed development complies with the provisions of *Planning for Bushfire Protection 2006.*

The proposed development, being the construction of a Class 5 building, as defined by the Building Code of Australia [BCA], has no specific bushfire protection requirements pursuant to the deemed-to-satisfy provisions of *Planning for Bushfire Protection 2006,* other than the need to address the objectives of the planning document.

This report has examined the proposed development's compliance with the objectives of *Planning for Bushfire Protection 2006* in relation to the provision of bushfire protection measures to a Class 5 building located in a bushfire prone area and has found that the objectives, in general, can be met.

Table 1 below provides a summary of compliance with the specific objectives provided by *Planning for Bushfire Protection 2006*.

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Table 1. Compliance with the specific objectives of *Planning for Bushfire Protection 2006.*

Objective	Compliance with deemed-to-satisfy provisions of *Planning for Bushfire Protection 2006.*
(i) Afford occupants of any building adequate protection from exposure to a bushfire.	The separation between the building and the bushfire prone vegetation combined with appropriate building protection measures provides adequate protection from exposure to bushfire.
(ii) Provide for a defendable space to be located around the building	The managed curtilage to the proposed building provides an adequate defendable space between the building and the bushfire hazard.
(iii) Provide appropriate separation between a hazard and buildings, which, in combination with other measures, prevent direct flame contact and material ignition.	The width of the defendable space provided between the building and the bushfire prone vegetation does not comply with the recommendations of the RFS. However, the building location complies with the Concept Plan layout, and in combination with other protection measures [construction standards] prevents material ignition.
(iv) Ensure that safe operational access and egress for emergency service personnel and residents is available.	Safe, alternate egress from the proposed building is provided in the form of a private perimeter access road designed to comply with the public road provisions of Section 4.3 of *Planning for Bushfire Protection 2006.*
(v) Provide for ongoing management and maintenance of bushfire protection measures, including fuel loads in Asset Protection Zones.	The management of the curtilage to the proposed building will remain in place under the terms of a positive covenant, pursuant to Section 88B of the *Conveyancing Act of 1909*.
(vi) Ensure that utility services are adequate to meet the needs of fire-fighters and others assisting in bushfire fighting.	Power, telephone and gas supplies are located underground. Fire Service water supply installed to comply with A.S. 2415.9 – 2005.

Graham Swain,
Managing Director,
Australian Bushfire Protection Planners Pty Ltd

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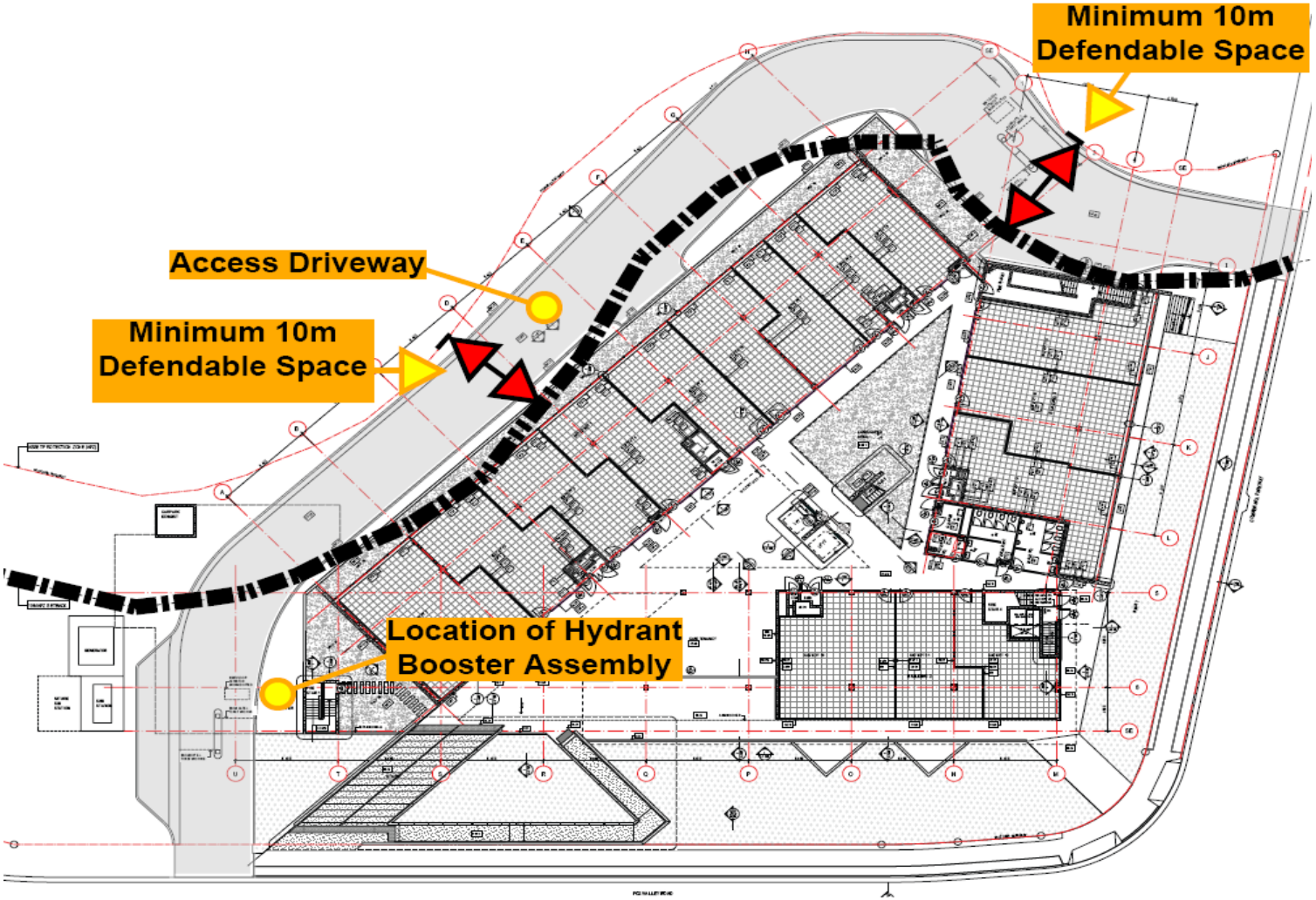
SECTION 7 – PLAN OF DEFENDABLE SPACES



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REFERENCES:

- N.S.W Rural Fire Service – *Planning for Bushfire Protection 2006*;
- *Environmental Planning & Assessment Act – 1979;*
- *Rural Fires Act – 1997;*
- *Rural Fires and Environmental Assessment Legislation Amendment Act 2002;*
- *Rural Fires Regulation 2008;*
- NSW Rural Fire Service – *Guideline for Bushfire Prone Land Mapping 2006;*
- *Threatened Species Conservation Act 1995;*
- *Native Vegetation Act;*
- *Bushfire Environmental Assessment Code 2006;*
- Building Code of Australia;
- Australian Standard A.S 3959-2009 "*Construction of Buildings in Bushfire Prone Areas";*
- *Ku-ring-gai Bushfire Prone Land Map.*

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