

Appendix U

Bushfire Assessment

BUSHFIRE PROTECTION ASSESSMENT

**FOR THE PROPOSED CUDGEGONG ROAD STATION PRECINCT –
SOUTH**

ON

**LOTS 13 & 14 in DP 1168129, No. 75 SCHOFIELDS ROAD;
LOT 15 in DP 1168129, No. 81 SCHOFIELDS ROAD and
LOT 10 in DP 1185116, No. 38 CUDGEGONG ROAD**

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FOR

TRANSPORT for NEW SOUTH WALES

Assessment Number	Document	Preparation Date	Issue Date	Directors Approval
B173114 - 3	Final	15.01.2018	10.05.2018	<i>G.L.Swain</i>

EXECUTIVE SUMMARY

Australian Bushfire Protection Planners Pty Limited at the request of *Landcom*, on behalf of *Transport for New South Wales [TfNSW]* has prepared a Bushfire Protection Assessment as part of the preparation of an Environmental Impact Statement (EIS) to accompany a concept State Significant Development (SSD) application for the proposed Cudgegong Road Station Precinct Town Centre South on Lots 13 & 14 in DP 1168129, No. 75 Schofields Road; Lot 15 in DP 1168129, No. 81 Schofields Road and Lot 10 in DP 1185116, No. 38 Cudgegong Road, Rouse Hill .

The Concept SSD application for the site will seek concept approval for residential and non-residential uses within the site and specifically seek approval for:

- maximum building envelopes, including street-wall and setbacks
- seven development blocks with varying building heights up to eight storeys
- maximum gross floor area (GFA) of approximately 94,000 square metres, comprising 85,000 square metres residential and 9,000 square metres of non residential GFA
- residential, commercial and retail
- an indicative residential yield of 1,100 dwellings
- a central park
- road layout
- landscape concept for public and private domain
- strategies for utilities and services provision
- strategies for managing stormwater and drainage
- a strategy for the achievement of ecologically sustainable development.

It is intended that the concept for the site will accord with Transit Oriented Development principles in that it will:

- provide mixed use development within 800 metres of the Cudgegong Road Station will provide a rapid and frequent metro rail service
- provide high density residential development around the station, supported by appropriate community and open space facilities
- provide for integrated retail, commercial, recreational and community uses therefore stimulating activity around the new station
- moderate the amount of private car parking while ensuring pedestrian and bicycle connectivity to the station and the Cudgegong Town Centre
- provide liveable and active public domain spaces for the community that integrate with proposed land uses and the metro station.

The land on which the development is proposed is zoned R3 Medium Density Residential, B4 Mixed Use and SP2 Drainage and SP2 Local Road and forms part of the Cudgegong Road (Area 20) Precinct, part of the North West Growth Centre and is located to the west of Cudgegong Road and north of Schofields Road and is adjacent to the new Cudgegong Road Train Station.

The former landuse on Lots 13 & 14 in DP 1168129, No. 75 Schofields Road; Lot 15 in DP 1168129, No. 81 Schofields Road and Lot 10 in DP 1185116, No. 38 Cudgegong Road, Schofields consisted of rural residential development. The site has been largely cleared for the construction of the rail corridor and train station.

The land to the northwest of the train station is zoned B4 Mixed Use and R3 Medium Density Residential with Development Applications lodged. The land to the northeast of Cudgegong Road contains an Electricity Substation with RE1 – Local Open Space and SP2 – Local Drainage.

The land to the southwest contains the commuter carparks. To the west are the Sydney Metro Trains Operations Control Centre and Train Stabling Facility. To the south of the site, beyond Schofields Road is The Ponds residential release area with the Second Ponds Creek Corridor located to the southeast of the site.

The development site is identified on the Blacktown Bushfire Prone Land Map as containing Category 1 Bushfire Prone Vegetation. This area of Category 1 Bushfire Prone Vegetation has been removed as part of the construction of the Train Station.

An unmapped area of unmanaged vegetation is located on the land to the northwest of the Train Station. This vegetation will be removed by the construction of the proposed residential/mixed use complex.

The Second Ponds Creek Corridor, located to the east and southeast of the site is not recorded as containing bushfire prone vegetation. However, the rehabilitation of the vegetation in the riparian corridor creates a bushfire hazard to the proposed development and is bushfire prone.

Based on the above, Section 79BA of the *EP&A Act 1979* would ordinarily apply to any development which is to occur on the site. However, by virtue of clause 1B of Section 79BA, this section does not apply to State Significant Development.

Notwithstanding, in accordance with good environmental impact assessment practice, this report has considered the provisions of Section 79BA of the EP& A Act.

Section 79BA of the *EP&A 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.

This report uses the methodology provided by *Planning for Bushfire Protection 2006* to validate the development's compliance with the Asset Protection Zone requirements of Table A2.4 of *Planning for Bushfire Protection 2006* for the residential component of the development.

(A future application lodged for the strata subdivision of the medium density residential units does not require the issue of a Bushfire Safety Authority by the Commissioner of the NSW Rural Fire Service under Section 100B of the *Rural Fires Act* provided that the development has been assessed under the provisions of Section 79BA of the *Environmental Planning & Assessment Act* and complies with *Planning for Bushfire Protection 2006*).

Planning for Bushfire Protection 2006 does not provide specific bushfire protection requirements for the retail / commercial component of the development. However, 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 -2009 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 defensible 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 defensible 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.

The Secretary has consulted with the Commissioner of the NSW Rural Fire Service and this report takes into account the comments concerning measures to be taken with respect to the development to protect persons, property and the environment from the danger that may arise from a bushfire in the RE1 Public Recreation and the SP2 Local Drainage zoned land to the east and southeast of the site.

The characteristics of the site, as discussed in this report, together with the recommendations contained in this assessment, confirm that the site is suitable in terms of its intended use.

I therefore certify that the proposed development complies with the aim and objectives of *Planning for Bushfire Protection 2006* and the deemed to satisfy requirements of Section 4.3.6(f) of *Planning for Bushfire Protection 2006* – Buildings of Class 5 to 8 and Class 10 of the Building Code of Australia.



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

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SECTION 1

INTRODUCTION

1.1 Background.

The NSW Government is currently building the Sydney Metro Northwest (SMNW) that is due to start operations in 2019. The SMNW is stage 1 of the overall Sydney Metro project and involves the construction of eight new metro stations supporting infrastructure between Cudgegong Road and Epping and converting five existing stations between Epping and Chatswood. Stage 2 will deliver a new metro rail line from Chatswood through Sydney's CBP to Sydenham (Sydney Metro City and Southwest).

Landcom and Sydney Metro Delivery Office (SMDO), part of Transport for NSW (TfNSW), are working in collaboration to develop walkable, attractive, mixed use places around the SMNW stations. This includes using surplus government owned land located around Cudgegong Road Station.

The subject site, the Cudgegong Road Station Precinct South, is located between Cudgegong Road, Tallawong Road, Schofields Road and the Metro corridor and comprises around 7.8 hectares of government owned land. It is within the southern part of the broader Cudgegong Road Station Precinct (Area 20) of the North West Priority Growth Area, a substantial land release area for homes and jobs in Sydney's northwest.

Australian Bushfire Protection Planners is engaged to carry out a Bushfire Protection Assessment to support the State Significant Development Application (SSDA) for the Station Precinct South concept proposal. The concept proposal is for approximately 1,100 dwellings and supporting retail, commercial and community uses. It also includes a central park, new streets and supporting public domain.

1.2 Aim of this Assessment.

The aim of this Bushfire Protection Assessment is to address the requirements of the SEARs; the provisions of Section 79BA of the *Environmental Planning and Assessment Act 1979 (EP&A Act)* and *Planning for Bushfire Protection 2006* and in doing so:

- Determine the formation of the vegetation on and surrounding the Proposal site 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 on and surrounding the site;

- Undertake a Bushfire Protection Assessment to determine bushfire protection strategies for the Proposal that address the following matters:
 - (i) The provision of building setbacks (Defendable Space) from vegetated areas and the siting of buildings to minimize the impact of radiant heat and direct flame contact;
 - (ii) Fire fighting water supplies;
 - (iii) Access requirements for customers/staff and emergency service vehicles;
 - (iv) Construction standards to be used for the future building within the proposed development to minimize the vulnerability of the building to ignition from radiation and ember attack;
 - (v) Land management responsibilities; and
 - (vi) Evacuation management.

1.3 Development Proposal.

The Concept SSD application for the site will seek concept approval for residential and non-residential uses within the site and specifically seek approval for:

- maximum building envelopes, including street-wall and setbacks;
- seven development blocks with varying building heights up to eight storeys;
- maximum gross floor area (GFA) of approximately 94,000 square metres, comprising 85,000 square metres residential and 9,000 square metres of non residential GFA;
- Supporting retail, commercial and community uses;
- A central park;
- Road layout;
- Landscape concept for public and private domain;
- Strategies for utilities and services provision;
- Strategies for managing stormwater and drainage;
- A strategy for the achievement of ecologically sustainable development.

Refer to Figure 1 – Aerial Photograph of the Site on Page 10, Figure 2 – Concept Plan on Page 11 and Figure 3 – Perspective on Page 12.

Figure 1 – Aerial Photograph of the Site and adjoining landuses.



Source – Landcom

Figure 2 – Concept Plan.

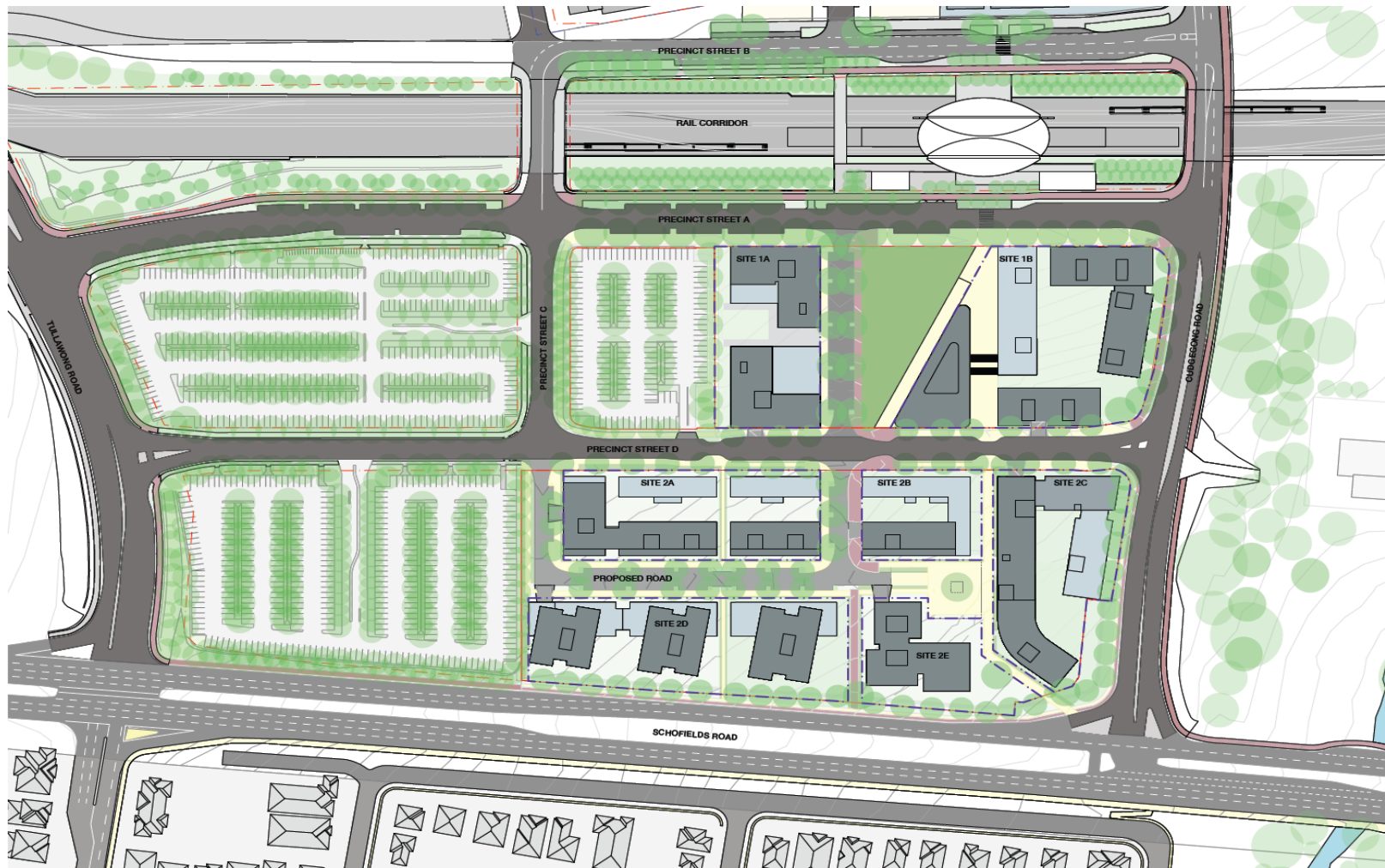


Figure 3 – Perspective of Concept Plan layout – looking to the south from the Train Station.



1.4 Statutory Requirements.

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

1.4.1 Legislation.

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

Planning and development within NSW is regulated by the EP&A Act. In relation to bushfire planning for new developments (including Industrial Development) in bushfire prone areas in NSW, the following section of the EP&A Act applies:

(i) 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)*

(ii) Section 79BA of the EP&A Act requires that a development comply with the specifications of *Planning for Bushfire Protection 2006*.

However, by virtue of clause 1B of Section 79BA, this section does not apply to State Significant Development. Notwithstanding, in accordance with good environmental impact assessment practice, this report has considered the provisions of Section 79BA of the EP&A Act.

(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.

The *Rural Fires Act 1997* 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, Section 100B of the Act applies.

In relation to the management of bushfire fuels on public and private lands within NSW, the following section of the Act applies:

- 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.

1.5 Planning Policies.

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

This document provides guidance on the planning and development control processes in relation to bushfire protection measures for rural residential and residential subdivision; ‘*Special Protection Purpose Developments*’ and other developments [Industrial / Commercial] in bushfire prone areas.

1.6 Documentation Reviewed in this Assessment.

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

- Sydney Metro Northwest – Cudgegong Town Centre South – Request for Secretary’s Environmental Assessment Requirements;
- *Planning for Bushfire Protection 2006* prepared by the NSW Rural Fire Service;
- Australian Standard AS3959 *Construction of Buildings in Bushfire Prone Areas*;
- Blacktown Council Certified Bushfire Prone Land Map;
- Blacktown LEP;
- Cudgegong Road Structure Plan;
- SEARs – Application No. SSD 9063 dated 16.2.2018;
- NSW Rural Fire Service advice to Department of Planning & Environment dated 9th February 2018.

1.7 Site Inspection.

Graham Swain of Australian Bushfire Protection Planners Pty Limited inspected the site and surrounding areas on the 30th November 2017 to assess the topography, slopes and vegetation classification within and adjoining the development property and to validate the future development’s compliance with the requisite Asset Protection Zones and access provisions.

Adjoining properties were also inspected to determine the surrounding land use / land management.

SECTION 2

PROPERTY DESCRIPTION

2.1 Site Location & Description.

The development site occupies the land within Lots 13 & 14 in DP 1168129, No. 75 Schofields Road; Lot 15 in DP 1168129, No. 81 Schofields Road and Lot 10 in DP 1185116, No. 38 Cudgegong Road, Rouse Hill.

The land on which the development is proposed is zoned R3 Medium Density Residential, B4 Mixed Use and SP2 Drainage and SP2 Local Road and forms part of the Cudgegong Road (Area 20) Precinct, part of the North West Growth Centre and is located to the west of Cudgegong Road and north of Schofields Road and is adjacent to the new Cudgegong Road Train Station.

The former landuse on Lots 13 & 14 in DP 1168129, No. 75 Schofields Road; Lot 15 in DP 1168129, No. 81 Schofields Road and Lot 10 in DP 1185116, No. 38 Cudgegong Road, Schofields consisted of rural residential development. The site has been largely cleared of for the construction of the rail corridor and train station.

The land to the northwest of the train station is zoned B4 Mixed Use, B2 Local Centre and R3 Medium Density Residential with Development Applications lodged. The land to the northeast of Cudgegong Road contains an Electricity Substation with RE1 – Local Open Space and SP2 – Local Drainage.

The land to the southwest contains the commuter carparks. To the west are the Sydney Metro Trains Operations Control Centre and Train Stabling Facility. To the south of the site, beyond Schofields Road is The Ponds residential release area with the Second Ponds Creek Corridor located to the southeast of the site.

Refer to Figure 4 – Location of Development Site on Page 16; Figure 5 – Landuse Zoning Plan on Page 17 and Figure 6 – Aerial photograph of the site on Page 17.

Figure 4 – Location of Development Site.

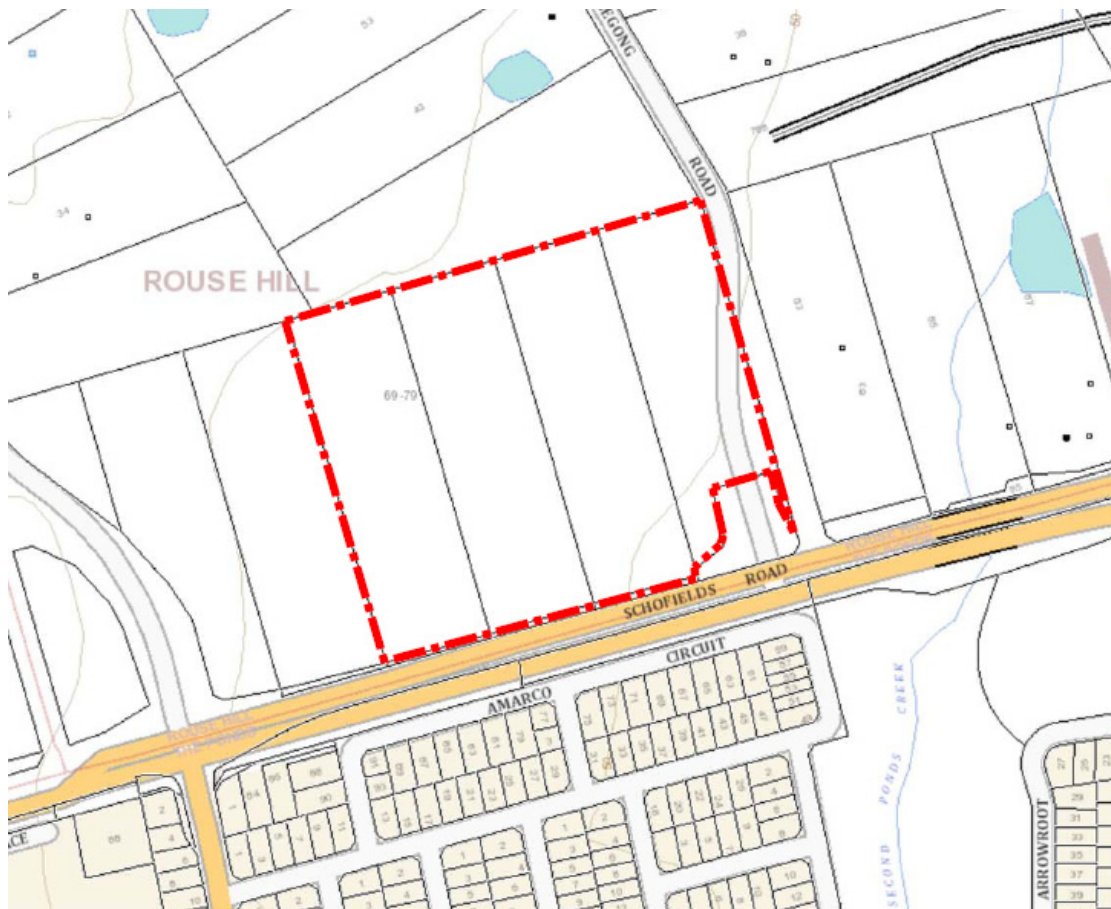


Figure 5 – Blacktown City Council Landuse Zoning Map.

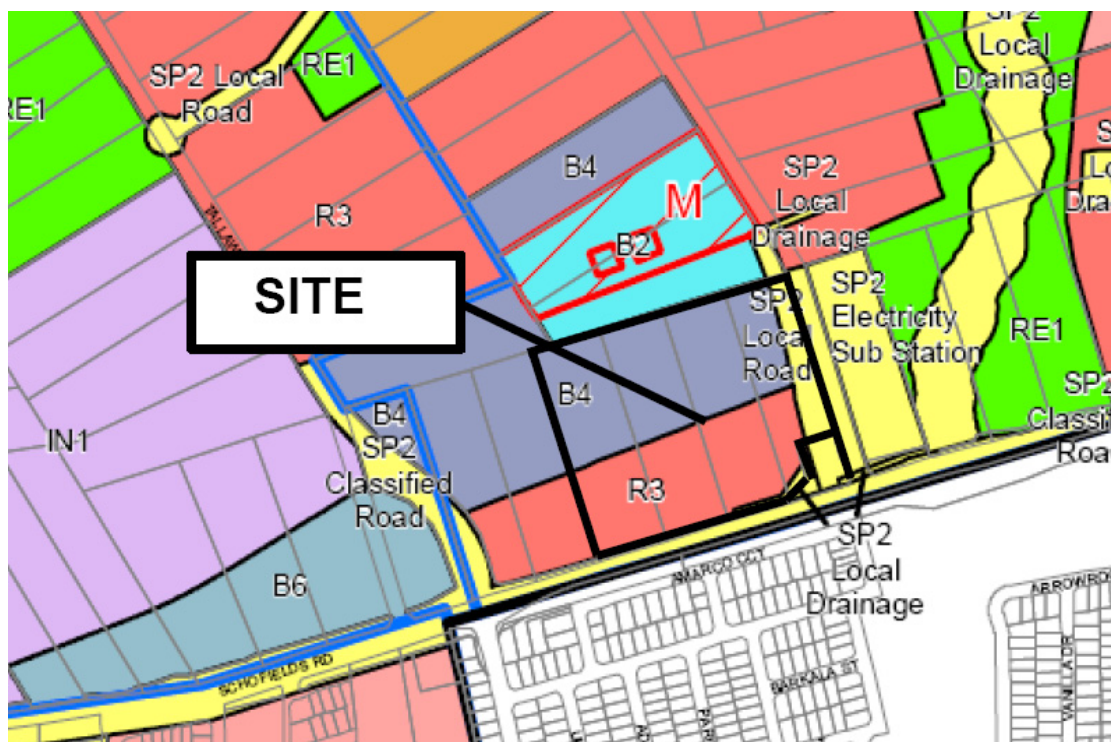


Figure 6 – Aerial photograph of development site and adjoining land.



2.4 Topography.

Appendix 2 of *Planning for Bushfire Protection 2006* states that on land which contains bushfire prone vegetation, the gradient of the land 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.

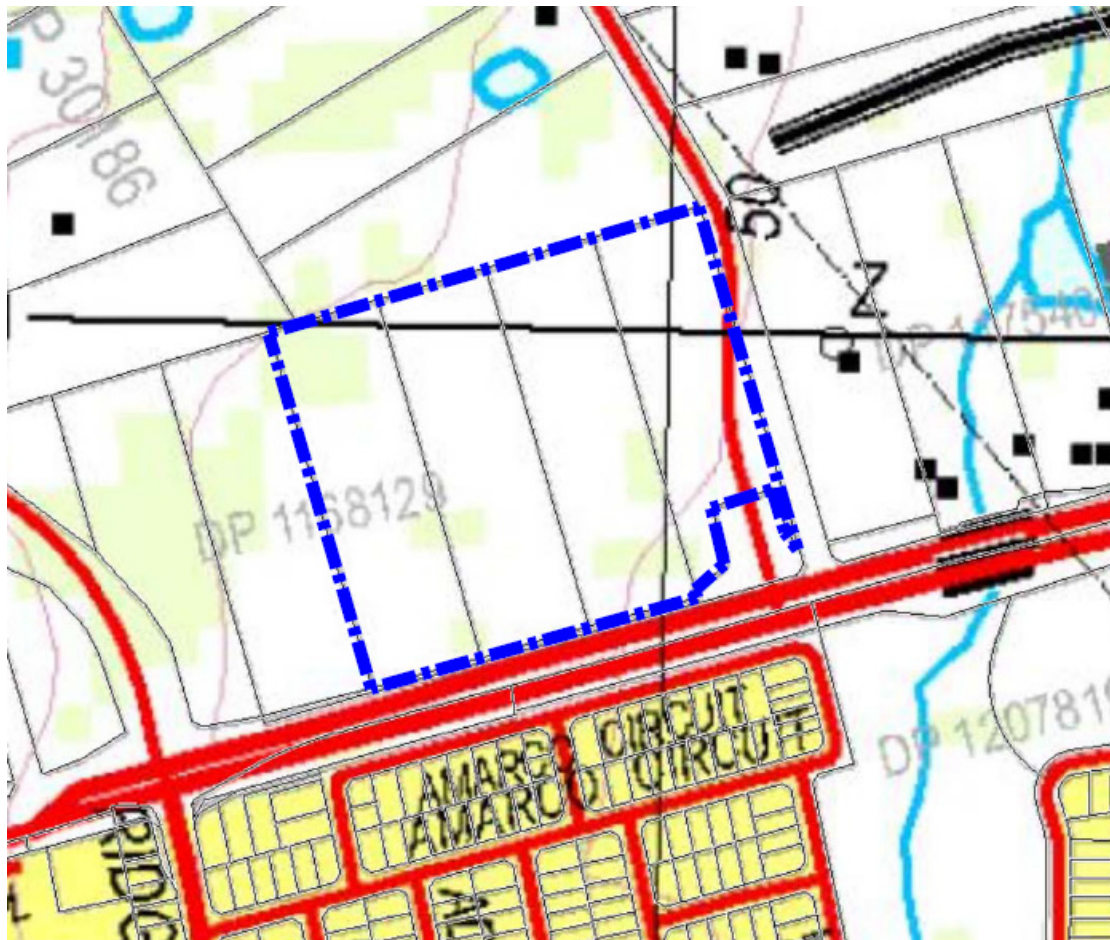
The land within the development site slopes downward from the north to the south.

The land within the Second Ponds Creek riparian corridor to the east and southeast of the development site [being the land which contains the vegetation which creates the hazard to the proposed development] falls 0 – 5 degrees into the creek corridor.

Note – Lot 73 in DP 30186, being the land containing the vegetation on Cudgong Road, is located more than 140 metres from the proposed development and therefore not included in the gradient assessment.

Refer to Figure 7 – Topographic Map on Page 18.

Figure 7 – Topographic Map of development site showing contours.



2.5 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.

The original vegetation within the development site has been removed as part of the construction works for the rail corridor and Train Station.

The only vegetation which constitutes a potential bushfire hazard to the development site is within the riparian corridor to Second Ponds Creek. This corridor has a nominal width of 80 metres as shown on the Blacktown City Council Landuse Zoning Map as SP Drainage – refer to Figure 5 on Page 15.

RE1 – Local Open Space zoned land forms a buffer to both sides of the riparian corridor, to the east of the development site. It is unknown what this land may contain by way of unmanaged vegetation. Therefore, for the purpose of examining the bushfire protection measures to the proposed development this report classifies the vegetation in the riparian corridor as 'forest'.

2.6 Significant Environmental Features on the Property.

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

2.7 Known Threatened Species, Population or Ecological Community within the Development Site.

There are no known threatened species, population or ecological communities on the development site.

2.8 Details and location of Aboriginal relics or Aboriginal place.

There are no known Aboriginal relics within the development site.

SECTION 3

FIRE MANAGEMENT RESPONSIBILITIES

Fire management within the development site is the responsibility of:

3.1 Blacktown Council.

Blacktown Council has responsibility, under Section 66 of the *Rural Fires Act*, to issue a notice in writing requiring an owner / occupier of any land within the LGA to carry out bushfire hazard reduction works on that land. Section 100E of the *Rural Fires Act* requires Council to issue bushfire hazard reduction certificates for hazard reduction to be undertaken on private lands.

3.2 New South Wales Rural Fire Service.

The NSW Rural Fire Service (RFS) has the responsibility for undertaking fire suppression activities, hazard management activities and other functions relative to emergency management, within its areas of operation. Section 73 of the *Rural Fires Act (1997)* enables the Commissioner to carry out bush fire hazard reduction works on any land as required by a bush fire risk management plan if the work has not been carried out satisfactorily. Incurred costs can be recovered as a debt owed to the Crown.

3.3 Fire & Rescue NSW.

Fire & Rescue NSW has the responsibility for undertaking fire suppression activities, and other functions relative to emergency management, within its area of operation and through Mutual Aid Agreements, provide assistance to the NSW Rural Fire Service, particularly for structural fire operations within the NSW Rural Fire Brigade Districts. Hazmat management within New South Wales is the responsibility of the NSW Fire Brigade.

The proposed development falls under the NSW Fire Brigade jurisdiction for fire fighting operations.

3.4 Cumberland Bushfire Management Committee.

The Cumberland Bushfire Management Committee has the responsibility for planning for coordinated fire fighting activities / hazard management activities on a local government level. It is not an operational organization, a fire fighting organization or a funding source for fire management activities.

The Bush Fire Management Committee is supported by the following provisions of the Rural Fires Act 1997:

- **Section 52** requires each Bush Fire Management Committee to prepare a draft bush fire management plan for their local areas which includes a plan of operations and a bush fire risk management plan.

- **Section 54** of the Act specifies that a draft bush fire risk management plan is to 'set out schemes for the reduction of bush fire hazards in the rural fire district or other part of the State'. A draft bush fire risk management plan may also restrict or prohibit the use of fire or other fire hazard reduction activities in all or specified circumstances or places to which the plan applies.

3.5 Public Authorities & owners/occupiers of land.

The Rural Fires Act, 1997 provides several legislative opportunities to require Public Authorities, land owners and occupiers to manage hazardous fuels. These are listed below:

- **Section 63(1)** states that it is the duty of a public authority to take any practicable steps to prevent the occurrence of bushfires on, and to minimise the danger of the spread of a bushfire on or from:
 - (a) any land vested in or under its control or management, or
 - (b) any highway, road, street, land or thoroughfare, the maintenance of which is charged on the authority.
- **Section 63(2)** states that 'it is the duty of the owner or occupier of land to take the notified steps (if any) and any other practicable steps to prevent the occurrence of fires on, and to minimise the danger of the spread of fires on or from that land'.
- **Section 65A** states that the 'Commissioner may nominate a member of the Service as a hazard management officer'.
- **Section 65(2)** states that 'an authorised person may, with the permission of the fire fighting authority or other authority responsible for unoccupied Crown land or managed land or a person nominated by the authority to give such permission, enter the land and carry out bushfire hazard reduction work with the assistance of such other persons as the authorised person considers to be necessary for the purpose'.
- **Section 65(3)** states that 'the authority responsible for unoccupied Crown land or managed land is to be taken to have given the permission under this section to the extent necessary to give effect to a bushfire risk management plan'.
- **Section 65(4)** states that 'if permission under this section is given subject to conditions, the conditions must be complied with'.

- **Section 66(1)** states that *‘a hazard management officer may, by notice in writing, require the owner or occupier [not being a public authority] of any land to carry out bushfire hazard reduction work specified in the notice on the land’.*
- **Section 66(2)** states that *‘a hazard management officer must serve a notice under this section if required to do so by a bushfire risk management plan applicable to the land that is in force’.*
- **Section 66(3)** states that *‘a hazard management officer must issue a bushfire hazard reduction certificate in respect of any bushfire hazard reduction work required by a notice issued in accordance within section (2)’.*
- **Section 66(6)** states that *‘the requirements and conditions so specified must include any requirements in a bushfire risk management plan that is applicable to the land and is in force and may include a requirement or condition that the burning of fire breaks or of combustible material;*
(a) must in fire district constituted under the Fire Brigades Act 1989 be carried out by or under the supervision of the fire brigade or an officer in charge of the fire brigade;
(b) must outside a fire district, be carried out by or under the supervision of the rural fire brigade specified in the notice or an appropriate officer of the rural fire brigade or any hazard management officer.
- **Section 66(7)** states that *‘a notice requiring the establishment of a firebreak cannot require an occupier or owner to kill or remove any trees that are reasonably necessary for shade, shelter, windbreak or fodder purposes or the protection of threatened species, populations, ecological communities or critical habitats within the meaning of the ‘Threatened Species Conservation Act 1995’.*
- **Section 66(8)** states that *‘an occupier or owner to whom a bushfire hazard reduction notice is given must, despite the fact that a fire permit has not been granted under Division 5, comply with the requirements specified in the notice’.*
- **Section 70(2)** states that *‘if within the time specified in the relevant notice the owner or occupier to whom it is given fails to comply with any requirement of the notice, the Commissioner may, without prejudice to liability of the owner or occupier, enter on the land and carry out the bushfire hazard reduction work the owner or occupier was required to do under the notice’.*

- **Section 70(3)** states that *‘any costs incurred by the Commissioner in carrying out such work may be recovered from the owner or occupier of the land as a debt due to the Crown in a court of competent jurisdiction’*.
- **Section 87** allows the removal of hazards in the bush fire danger period by the provision of a permit system. The permits are valid for 21 days, excluding TOBAN days.

Section 10 permits are not required to adhere to *Part V* provisions of the EPA Act 1979 in the assessment of impact, except for public authorities. An owner/occupier of private land must obtain from the NSW Rural Fire Service, a bushfire hazard reduction certificate before undertaking hazard reduction works on that land (Section 100E of the *Rural Fires Act 1997*).

3.6 Bushfire Hazard Management within the development site.

The completed development will not contain vegetation which is bushfire prone.

SECTION 4

PRECINCT LEVEL ASSESSMENT

4.1 Certified Bushfire Prone Land Map

Figure 8 is a copy of an extract of Blacktown Bushfire Prone Land Map showing the extent of the Category 1 Bushfire Prone Vegetation recorded to be within the development site and on adjoining lands.

Figure 8 – Plan of Bushfire Prone Land.



Legend: Red hatching – Category 1 Bushfire Prone Vegetation.

Yellow hatching – 100 metre wide buffer zone to the Category 1 Bushfire Prone Vegetation

4.2 Precinct Level Assessment of Bushfire Prone Vegetation.

Planning for Bushfire Protection 2006 provides the following procedure for assessing a development at a defined precinct level in order to determine whether the development is bushfire prone and if so, be the need to provide appropriate setbacks [Asset Protection Zones]:

(a) *Determine vegetation distance, type and class as follows:*

Identify all vegetation in each direction from the site for a distance of at least 140 metres, and then consult Table A2.1 to determine the vegetation formation which predominates;

(b) *Determine the average slope of the land between the predominant vegetation class and the development.*

Table 1 summarises the information provided in Section 2 of this report, to undertake a precinct level assessment to determine those aspects of the development that require provision of Asset Protection Zones.

Table 1. Precinct Level Assessment

Aspect	Existing Land Use	Predominant Vegetation within 140 m of Development	Predominant vegetation class [Table A2.1 BfBFP]	Effective Slope of land for 100m.	Comments
<i>Northwest</i>	Rural Residential – future medium density development	Managed land	Nil	0 – 5 degrees upslope	The managed vegetation is not bushfire prone.
<i>Northeast</i>	Electrical Substation plus riparian corridor to Second Ponds Creek	Managed land + unmanaged forest in the riparian corridor	Forest	< 3 degrees downslope to the northeast	The vegetation within the riparian corridor to Second Ponds Creek creates a hazard to the site.
<i>South West</i>	Carpark	Managed land	Nil	Level	The managed vegetation is not bushfire prone.
<i>Southeast</i>	Residential development plus riparian corridor to Second Ponds Creek	Managed land + unmanaged forest in the riparian corridor	Forest	< 3 degrees downslope to the southeast	The vegetation within the riparian corridor to Second Ponds Creek creates a hazard to the site.

Note:

The Bushfire Prone Vegetation shown to be located within the development site has been removed. The only remaining potential hazard to the proposed development will be from a fire burning in the revegetated forest in the riparian corridor to Second Ponds Creek – to the east and southeast of the development site.

SECTION 5

BUSHFIRE PROTECTION ASSESSMENT

5.1 Introduction.

Chapter 1, Section 1.3 of *Planning for Bushfire Protection 2006* states that the construction of Class 5 – 8 buildings [Retail/Commercial development] on bushfire prone land, or land impacted by bushfire prone vegetation, must meet the aim and objectives of the document.

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:

- (1) *Afford occupants of any building adequate protection from exposure to the impacts of a bushfire;*
- (2) *Provide for a defensible 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].*

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”.

The proposed residential component of the development is defined as “infill development” by *Planning for Bushfire Protection 2006*.

Section 4.3.2 of *Planning for Bushfire Protection 2006* provides the following specific objectives for infill development:

- (1) Ensure that the bushfire risk to adjoining lands is not increased;*
- (2) Provide a minimum defensible space;*
- (3) Provide better bushfire protection, on a re-development site, than the existing situation. This should not result in new works being exposed to greater risk than an existing building;*
- (4) Ensure that the footprint of the proposed building does not extend towards the hazard beyond existing building lines on neighbouring land;*
- (5) Not result in an increased bushfire management & maintenance responsibility on adjoining land owners unless they have agreed to the development; and*
- (6) Ensure building design, and construction, enhance the chances of occupant and building survival.*

The Rural Fire Service states:

“Ideally, APZs, access and service supply standards for infill developments should be provided in accordance with the acceptable solutions applied to residential subdivision.

However, in most cases, infill development proposals will be constrained by pre-existing subdivision patterns and existing built forms surrounding the development site.

Consequently, each proposal must be considered on its merits and in accordance with the intent and performance criteria for infill development” [Section 4.3.5 of PfBFP 2006].

The performance criteria for Infill Development is summarised below:

Asset Protection Zones:

- A defensible space is provided onsite;
- An Asset Protection Zone is provided and maintained for the life of the development.

Siting & Design:

Buildings are sited and designed to minimise the risk of bushfire attack

Construction Standards:

It is demonstrated that the proposed building can withstand bushfire attack in the form of wind, smoke, embers, radiant heat and flame contact.

Access:

Safe, operational access is provided [and maintained], for emergency services personnel in suppressing a bushfire while residents are seeking to relocate, [satisfying the intent and performance criteria for access roads in Sections 4.1.3 & 4.2.7 of *PfBFP 2006*].

Water & Utility Services:

- Adequate water and electricity services are provided for fire fighting operations
- Gas & electricity services are located so as not to contribute to the risk of fire to a building.

Landscaping:

Landscaping is designed and managed to minimise flame contact and radiant heat impact on buildings, and the potential for wind driven embers to cause ignitions.

The performance criteria for the proposed Retail/Commercial are examined in Section 5.2 of this report.

The performance criteria for the proposed residential infill development are examined in Section 5.3 of this report.

5.2 Bushfire Protection Assessment for the proposed Retail / Commercial Development:

The performance criteria for the proposed Retail/Commercial development component of the development are:

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

The proposed retail and commercial component of the Town Centre development will be located more than 90 metres from the vegetation in the Second Ponds Creek riparian corridor and therefore not exposed to the direct impacts of a bushfire.

(2) Provide for a defensible space to be located around buildings.

A defensible space of more than 90 metres is provided to the Commercial/Retail complex.

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

A defensible space of more than 100 metres is provided to the Commercial/Retail complex.

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

❖ Public Roads:

The Town Centre precinct includes the establishment of an internal street network.

These roads will be designed and constructed to provide access for Fire & Rescue NSW Appliances. Cudgegong Road will also be upgraded.

❖ Fire Trail Access.

There are no fire trails provided or required within the development proposal.

❖ Emergency Response Access / Egress.

The development proposal provides for vehicular access/egress off the proposed new streets into the carparking components of the development.

Emergency response access/egress is available via the existing and new public road network and internally to the residential towers via lifts and fire stairs providing safe operational access for emergency service personnel and safe egress is available for emergency service personnel and customers/staff of the retail development and satisfies item (iv) of the Objectives of *Planning for Bushfire Protection 2006*.

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

The proposed retail and commercial component of the Town Centre development will not be exposed to the direct impacts of a bushfire. Therefore there is no requirement to provide and manage bushfire protection measures.

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

The retail/commercial component of the proposed development will have a reticulated water supply connected to the Sydney Water Supply main/s.

The fire fighting system to the development will include a fire main with Booster Valves and sprinklers/hydrants installed in compliance with Australian Standard A.S. 2419.1 – 2005.

(7) *Emergency Management for Fire Protection / Evacuation.*

The proposed retail and commercial component of the Town Centre development will not be exposed to the direct impacts of a bushfire.

Therefore, no specific emergency management planning for bushfires is required.

5.3 *Bushfire Protection Assessment for the proposed Medium Density Residential Development.*

The performance criteria for the proposed medium density residential [infill] component of the development are:

(1) *Asset Protection Zones:*

Appendix 2 of *Planning for Bushfire Protection 2006* provides the following procedure for determining setback distances (Asset Protection Zones) for residential development located in a bushfire prone area:

- (a) *Determine vegetation formations as follows:*
 - Identify all vegetation in all directions from the site for a distance of 140 metres;
 - Consult Table A2.1 to determine the predominant vegetation type; and
 - Select the predominant vegetation formation as described in Table A2.1.
- (b) *Determine the effective slope of the land under the predominant vegetation Class.*
- (c) *Determine the appropriate fire [weather] area in Table A2.2.*

- (d) Consult Table A2.5 and determine the appropriate setback [Asset Protection Zone] for the assessed land use, vegetation formation and slope range.

Table 2 provides a summary of this assessment and the resultant widths of the Asset Protection Zones for the proposed medium density residential component of the complex.

Table 2. Determination of Asset Protection Zones to the proposed Medium Density Residential Unit Development.
Fire Danger Index [FDI] for the site is 100.

Aspect	Predominant Vegetation Formation within 140m of development (Table A2.1 of <i>PfBFP</i>)	Effective Slope of Land	Recommended Width of Asset Protection Zone - Table A2.4 of <i>PfBFP</i> & FDI of 100	Width of Asset Protection Zone Provided	Compliance with Table A2.4.
Northwest	Nil	0 – 5 degrees upslope	N.A.	N.A.	N.A.
Northeast	Forest	< 3 degrees downslope to the northeast	25 metres	> 160 metres	Exceeds width required
South west	Nil	Level	N.A.	N.A.	N.A.
Southeast	Forest	< 3 degrees downslope to the southeast	25 metres	> 130 metres	Exceeds width required

Note:

The Cudgong Road Station Precinct South complex is located more than 100 metres from the potential hazard in the Second Ponds Creek riparian corridor and therefore not exposed to a bushfire threat.

(2) Siting & Design:

The Cudgong Road Station Precinct South complex is not exposed to a bushfire hazard therefore the siting and design of the building/s is not relevant.

(3) Construction Standards:

As the Cudgong Road Station Precinct South complex is located more than 100 metres from the bushfire hazard in the Second Ponds Creek riparian corridor there is no requirement to apply bushfire construction standards to the building/s, pursuant to A.S. 3959 2009 – *Construction of Buildings in Bushfire Prone Areas*.

(4) Access:

The emergency access/egress within the development provides safe operational access for emergency service personnel and safe egress is available for emergency service personnel and occupants of the residential complex and satisfies the intent and performance criteria for access roads in Sections 4.1.3 of *PfBFP 2006*].

(5) Water & Utility Services:

The medium density residential component of the proposed development will have a reticulated water supply connected to the Sydney Water Supply mains.

The fire fighting system to the development will include a fire main with Booster Valves and sprinklers/hydrants installed in compliance with A.S. 2419.1 – 2005.

Gas & electricity services are located underground.

(6) Landscaping:

No specific bushfire protection requirements apply to the landscaping within the Cudgegong Road Station Precinct South complex.

SECTION 6

RECOMMENDATIONS

Recommendation 1:

Fire Fighting Water Supplies:

A hydrant supply shall be installed in the complex, complete a booster valve manifold. The hydrant supply shall have a minimum flow rate of 10 litres / second.

Hydrants and fire hose reels shall be provided within the complex to comply with A.S. 2419. 1 – 2005.

Recommendation 2:

Access for Fire Fighting Operations:

Fire fighting access shall comply with Fire & Rescue NSW access provisions for medium rigid Pumper Appliances and Aerial Appliances.

SECTION 7

CONCLUSION

The proposed development consists of the construction of a Retail/Commercial and multi-unit medium density residential complex and associated road infrastructure on land within Lots 13 & 14 in DP 1168129, No. 75 Schofields Road; Lot 15 in DP 1168129, No. 81 Schofields Road and Lot 10 in DP 1185116, No. 38 Cudgegong Road, Rouse Hill.

The development site forms part of the North-western Growth Centre and is part zoned B4 – Mixed Use, R3 – Medium Density Residential Development and SP2 – Local Road.

The Blacktown Bushfire Prone Land Map records a small pocket of vegetation within the development site as Category 1 Bushfire Prone Vegetation. This vegetation has been removed by the construction of the Cudgegong Road Train Station complex.

With the removal of the mapped bushfire prone vegetation, the development site is not deemed to be bushfire prone and the requirements of the *Environmental Planning & Assessment Act* and the *NSW Rural Fires Act* do not apply.

However, the rehabilitation of the 80 metre wide riparian corridor to the Second Ponds Creek introduces unmanaged vegetation within 90 metres of the southeast corner and to the east of the development site.

This report therefore examines the likely impact that this vegetation will have on the proposed development and has found that the available separation distances between the riparian corridor and the mixed use and residential land use removes the bushfire threat to the buildings.

Therefore, the proposed development is free of the encumbrances of Section 79BA of the *Environmental Planning & Assessment Act 1979* and the bushfire protection measures pursuant to *Planning for Bushfire Protection 2006*.



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REFERENCES:

- N.S.W Rural Fire Service – *Planning for Bushfire Protection 2006*;
- NSW Rural Fire Service – *Guideline for Bushfire Prone Land Mapping 2015*;
- N.S.W Rural Fire Service – Threatened Species Hazard Reduction List for the Bushfire Environmental Code (2006);
- *Environmental Planning & Assessment Act – 1979*;
- *Rural Fires Act – 1997*;
- *Rural Fires and Environmental Assessment Legislation Amendment Act 2002*;
- *Rural Fires Regulation 2013*;
- *Biodiversity Management Act 2017*;
- *Native Vegetation Act*;
- *Bushfire Environmental Assessment Code 2006*;
- *Blacktown Council Bushfire Prone Land Map*;
- Building Code of Australia;
- Australian Standard A.S 3959-2009 “*Construction of Buildings in Bushfire Prone Areas*”.