

**BUSHFIRE PROTECTION ASSESSMENT
FOR
THE FOREST HIGH SCHOOL
LOT 750 & LOT 751 in DP 1271174,
AND
LOT 6 & LOT 7 in DP 1280781
ALLAMBIE ROAD,
ALLAMBIE HEIGHTS**

Australian Bushfire Protection Planners Pty Limited

ACN 083 085 474

32 Old Dog Trap Road
SOMERSBY 2250 NSW

Phone: (02) 43622112

Email: abpp@bigpond.net.au



ABPP

Australian Bushfire
Protection Planners Pty Ltd
ABN 48 935534 462

Bushfire Mitigation Consultants

BUSHFIRE PROTECTION ASSESSMENT

FOR

THE FOREST HIGH SCHOOL

ON

LOT 750 & LOT 751 in DP 1271174,

AND

LOT 6 & LOT 7 in DP 1280781

No. 187 ALLAMBIE ROAD,

ALLAMBIE HEIGHTS

Assessment Number	Document	Preparation Date	Issue Date	Directors Approval
B213706 - 2	Final	08.12.2021	18.8.2022	<i>G.L. Swain</i>

EXECUTIVE SUMMARY

Australian Bushfire Protection Planners Pty Limited, at the request of the NSW Department of Education has undertaken the bushfire consultancy to inform the State Significant Development [SSD] – Education Establishment on the bushfire protection measures required for the construction of The Forest High School on No. 187 Allambie Road, Allambie Heights.

Legally described as Lot 750 & Lot 751 in DP 1271174, Lot 6 & Lot 7 in DP 1280781 the site is located to the south and east of Allambie Road.

This report forms part of the Environmental Impact Statement (EIS) to support a State Significant Development Application (SSDA) for the construction of The Forest High School and associated infrastructure.

The Secretary's Environmental Assessment Requirements (SEARs) for the School was issued on the 22nd September 2021 under SSD-26876801.

No. 22 of the Key Issues of the SEARs states under Bushfire Risk:

'If the development is on bushfire prone land, provide a bushfire assessment that details proposed bushfire protection measures and demonstrates compliance with Planning for Bushfire Protection'.

Correspondence to the NSW Department of Planning, Industry and Environment dated 15th September 2021 from the NSW Rural Fire Service advises that a bushfire assessment report shall be prepared which identifies the extent to which the proposed development conforms with or deviates from the relevant provisions of *Planning for Bushfire Protection 2019*.

The Northern Beaches Council Bushfire Prone Land Map indicates that the vegetation within Lot 750 & Lot 751 in DP 1271174 contains Category 1 Bushfire Prone Vegetation. The buffer zone to this vegetation extends into Lot 6 and Lot 7 in DP 1280781.

The construction of a school on land which is mapped as bushfire prone is defined under Section 100B of the Rural Fires Act 1997 as a *Special Fire Protection Purpose Development*.

Section 4.41(1) of the *Environmental Planning and Assessment Act 1979* states that a Bushfire Safety Authority under Section 100B of the Rural Fires Act 1997 is not required under a State Significant Development.

This report undertakes an assessment to examine the measures required to minimise bushfire risk on the proposed school and determines the bushfire protection requirements in accordance with the provisions of *Planning for Bushfire Protection 2019* and provides recommendations on the provision of Asset Protection Zones to the school buildings.

This report also assesses the adequacy of fire-fighting access and water supplies; construction standards of the buildings, the management of the Asset Protection Zones and evacuation protocols necessary to address the bushfire risk to the proposed school and to address the aim and objectives of *Planning for Bushfire Protection 2019*.

The report has found that the requirements of *Planning for Bushfire Protection 2019* have been met and the Key Issue – Bushfire of the Secretary’s Environmental Assessment Requirements (SEARs) has been satisfactorily addressed.



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

TABLE OF CONTENTS

EXECUTIVE SUMMARY	3
TABLE OF CONTENTS.....	5
SECTION 1	6
INTRODUCTION	6
1.1 Aim of this Report.	6
1.2 Statutory Requirements.	6
1.2.1 Legislation.	6
1.2.2 Planning Policies.....	7
1.3 Development Proposal.....	7
1.4 Documentation reviewed in this Assessment.	14
1.5 Site Inspection.	14
SECTION 2	15
PROPERTY DESCRIPTION.....	15
2.1 Location.....	15
2.2 Existing Land Use.	15
2.3 Adjoining Land Use.	15
2.4 Topography.	16
2.5 Vegetation.	18
2.6 Significant Environmental Features within the School Site.	19
2.7 Known Threatened Species, Population or Ecological Community on the School Site.	19
2.8 Details and location of Aboriginal Relics or Aboriginal Place.	19
SECTION 3	20
PRECINCT LEVEL ASSESSMENT.....	20
3.1 Certified Bushfire Prone Land Map.....	20
SECTION 4	22
BUSHFIRE PROTECTION ASSESSMENT	22
4.1 Introduction.	22
4.2 The provision of Asset Protection Zones to the School Buildings.	23
4.3 Construction Measures to the School Buildings.	26
4.4 Access Standards for Firefighting Operations.	27
4.5 Water Supplies for Firefighting Operations.....	27
4.7 Emergency Management for Fire Protection / Evacuation.	27
4.6 Bushfire Hazard Management.	28
SECTION 5	30
BUSHFIRE MANAGEMENT STRATEGIES	30
5.1 Strategy 1 – Asset Protection Zones:	30
5.2 Strategy 2 – Management of Asset Protection Zones:.....	30
5.3 Strategy 3 – Water Supplies/Utilities for Firefighting Operations:.....	30
5.4 Strategy 4 – Construction Standards to the buildings.	30
5.5 Strategy 5 – Bushfire Emergency Evacuation Plan (BEEP).....	31
SECTION 6	32
CONCLUSION	32
REFERENCES:	34
ATTACHMENT A – SHORT FIRE RUN CALCULATION.....	35

SECTION 1

INTRODUCTION

1.1 Aim of this Report.

The aim of this Bushfire Protection Assessment is to address the requirements of the Secretary's Environmental Assessment Requirements (SEARs).

To achieve the specific bushfire requirement of the SEARs the following will be examined:

- Determine the classification of the vegetation on and surrounding the site in accordance with the vegetation classification system contained in *Planning for Bushfire Protection 2019*;
- Undertake an assessment to determine the slope of the land on and surrounding the development site;
- Undertake a Bushfire Protection Assessment to determine bushfire protection strategies for the proposed development that address the following matters:
 - (i) The provision of building setbacks (Asset Protection Zones) from vegetated areas and the siting of buildings to minimize the impact of radiant heat on the school buildings;
 - (ii) Fire fighting water supplies;
 - (iii) Access requirements for emergency service vehicles;
 - (iv) Construction standards to be used for the school buildings to minimize the vulnerability to ignition from radiation and ember attack;
 - (v) Land management responsibilities; and
 - (vi) Evacuation management.

1.2 Statutory Requirements.

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

1.2.1 Legislation.

Environmental Planning and Assessment Act - 1979 (EPA Act)

Planning and development within NSW is regulated by the *Environmental Planning & Assessment Act, 1997* (EPA Act).

Section 4.41(1) of the *Environmental Planning and Assessment Act 1979* states that a Bushfire Safety Authority under Section 100B of the Rural Fires Act 1997 is not required under a State Significant Development.

1.2.2 Planning Policies.

Planning for Bushfire Protection – 2019. [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 and the construction of “*Special Fire Protection*” and Class 5 – 8 and 10 buildings in bushfire prone areas.

1.3 Development Proposal.

This report has been prepared to support a State Significant Development Application (SSDA) under Division 4.7 of the Environmental Planning and Assessment Act 1979 (EP&A Act) for the construction of The Forest High School on Lot 750 & Lot 751 in DP 1271174, Lot 6 & Lot 7 in DP 1280781, No. 187 Allambie Road, Allambie Heights.

The McLeod House buildings occupy the north-eastern corner of the school site and will be demolished.

The school complex contains an Assembly Court Quadrangle surrounded to the north by Block A, Main Entry and Block G, to the east by Block B and to the southeast by Block C, to the south by Block D, to the southwest by Block E and to the west by Block F, Cola and Games Court.

The western part of the site contains a Games Field and Games Courts located within the proposed Asset Protection Zone.

A basement Staff Carpark occupies an area beneath the southern portion of the Games Field and Games Courts, with vehicular access off the driveway to the adjoining Arranounbai School, connecting to Allambie Road.

The Main Entry is located to the north of the site and has access directly on Allambie Road. Kiss and Drop (Special needs) access is located on Allambie Road, adjacent to Block B.

A Bus Drop-Off is located on Allambie Road and Aquatic Drive.

Figure 1 – Site Plan.



Figure 4 – Upper Ground Floor Plan.

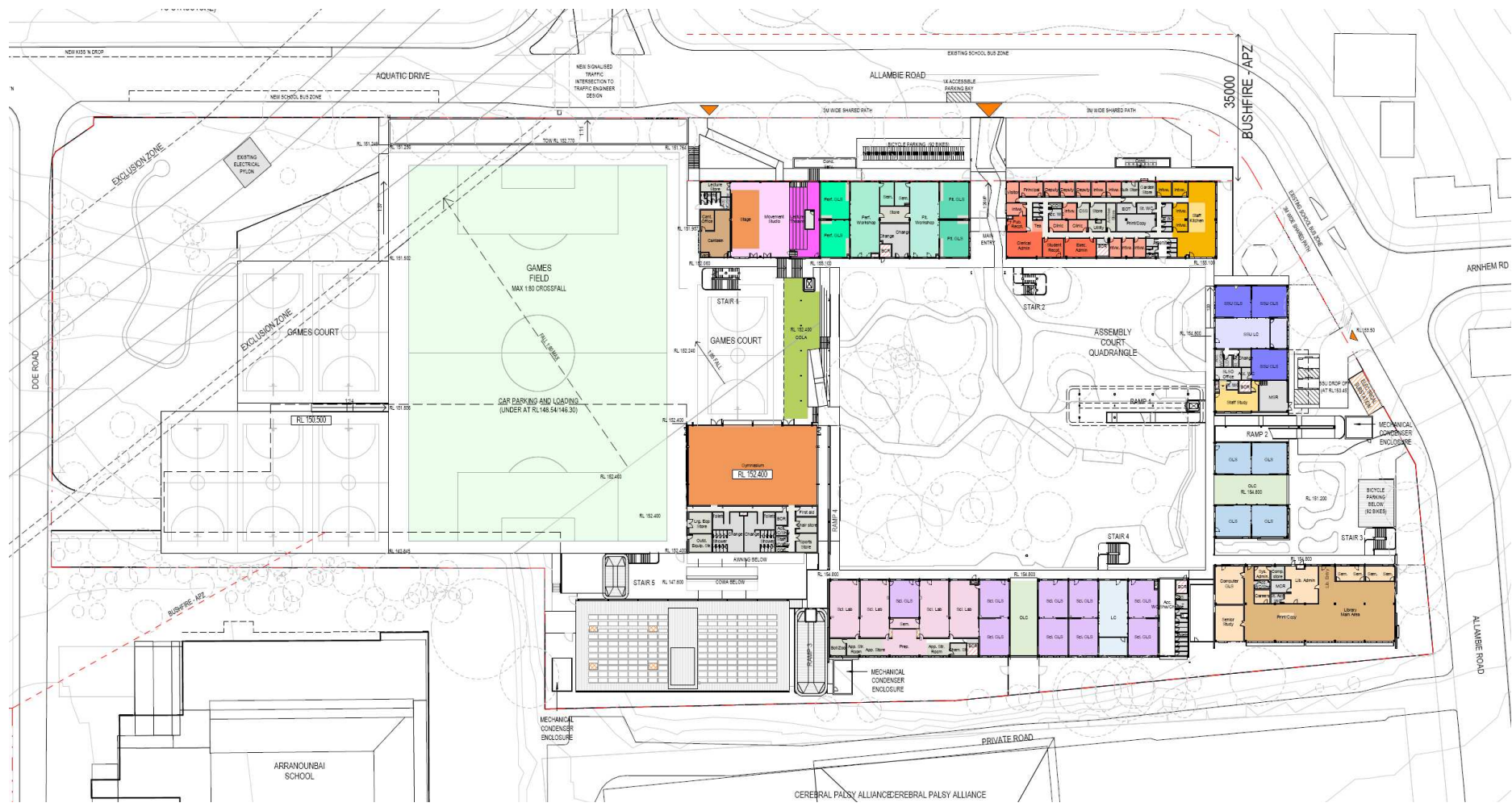


Figure 5 – Level 1 Floor Plan.

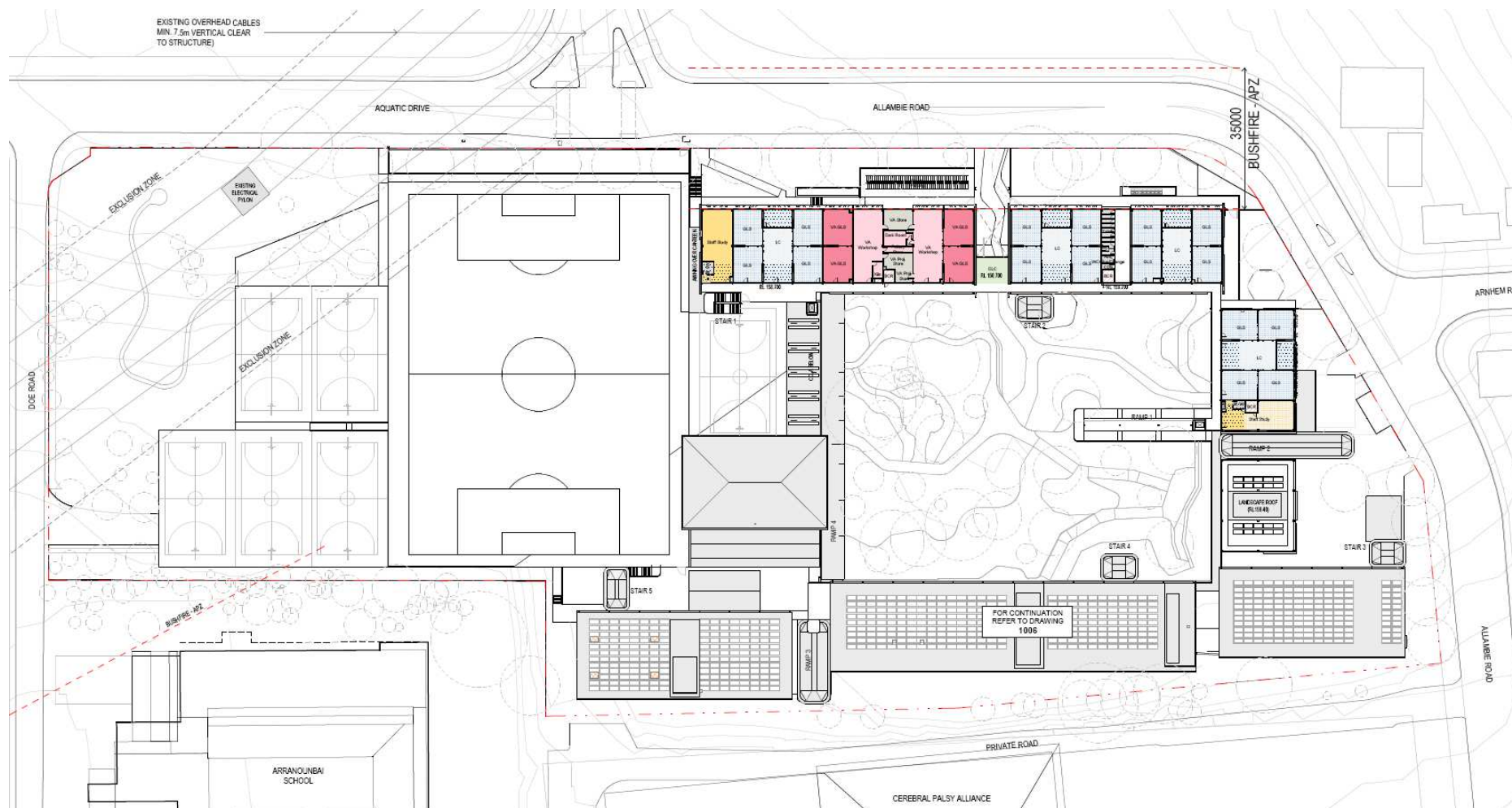
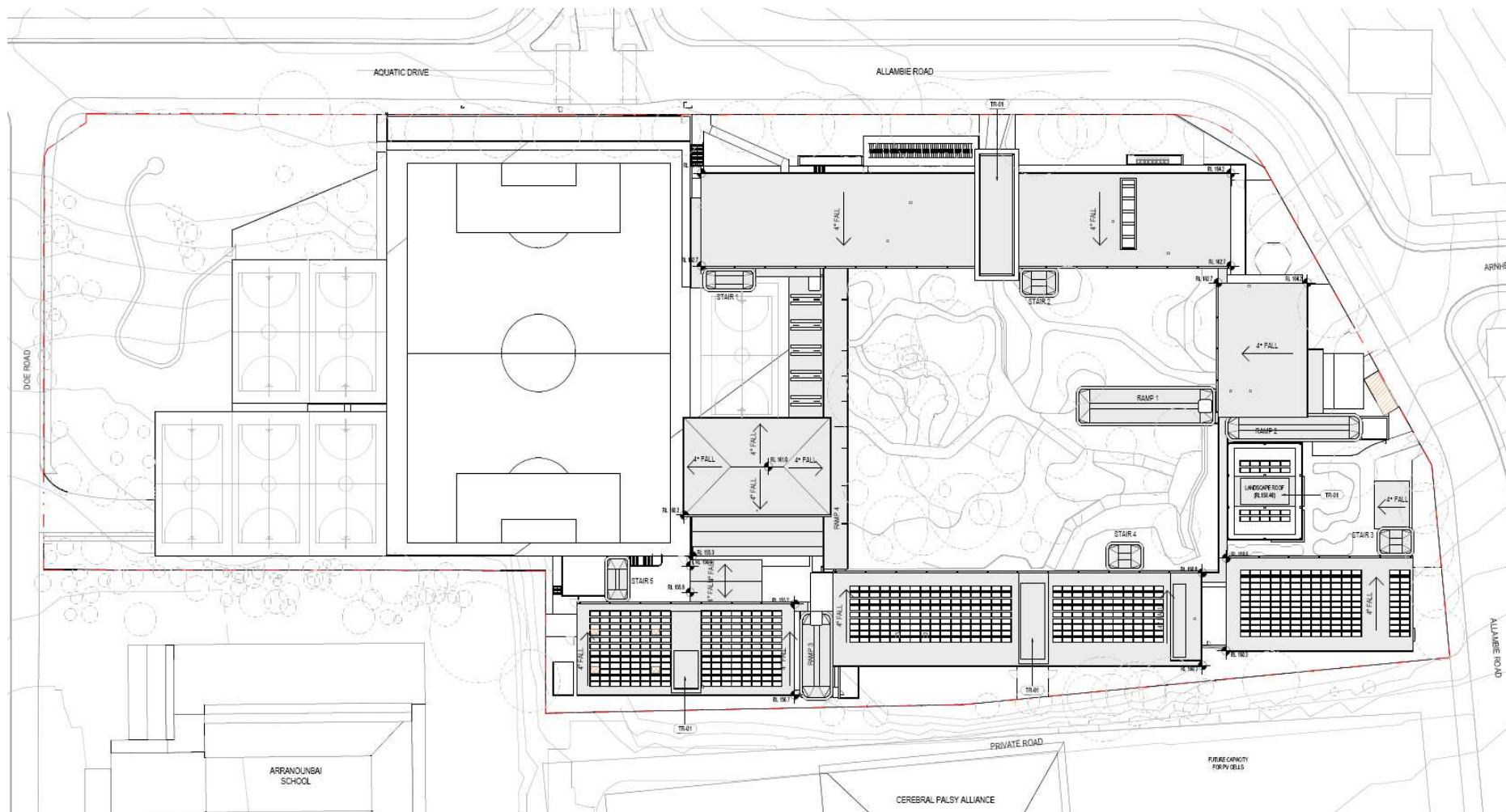


Figure 6 – Roof Plan.



1.4 Documentation reviewed in this Assessment.

To achieve the aim of this report, a review of information relevant to the property and proposed development was undertaken. Information sources reviewed included the following documents:

- Secretary's Environmental Assessment Requirements (SEARs) – SDD-26876801 – dated 22nd September 2021;
- Letter from the NSW Rural Fire Service dated 15th September 2021;
- The Forest High School Schematic Design Report prepared by Architectus – November 2021;
- Architectural Documentation prepared by Architectus – August 2022;
- *Planning for Bushfire Protection 2019* prepared by the NSW Rural Fire Service/Planning N.S.W;
- Australian Standard AS3959 - 2018 *Construction of Buildings in Bushfire Prone Areas*;
- *Rural Fires Regulation 2022*;
- Northern Beaches Council *Certified Bushfire Prone Land Map*.

1.5 Site Inspection.

Graham Swain of **Australian Bushfire Protection Planners Pty Limited** inspected the development site in June 2021 to assess the topography, gradients of the land within and external to the site and vegetation classification within and adjoining the development property, existing bushfire mitigation measures and a visual assessment of bushfire threat.

The land adjoining the development site was also inspected to determine the surrounding land use / land management practices and extent of bushfire prone vegetation.

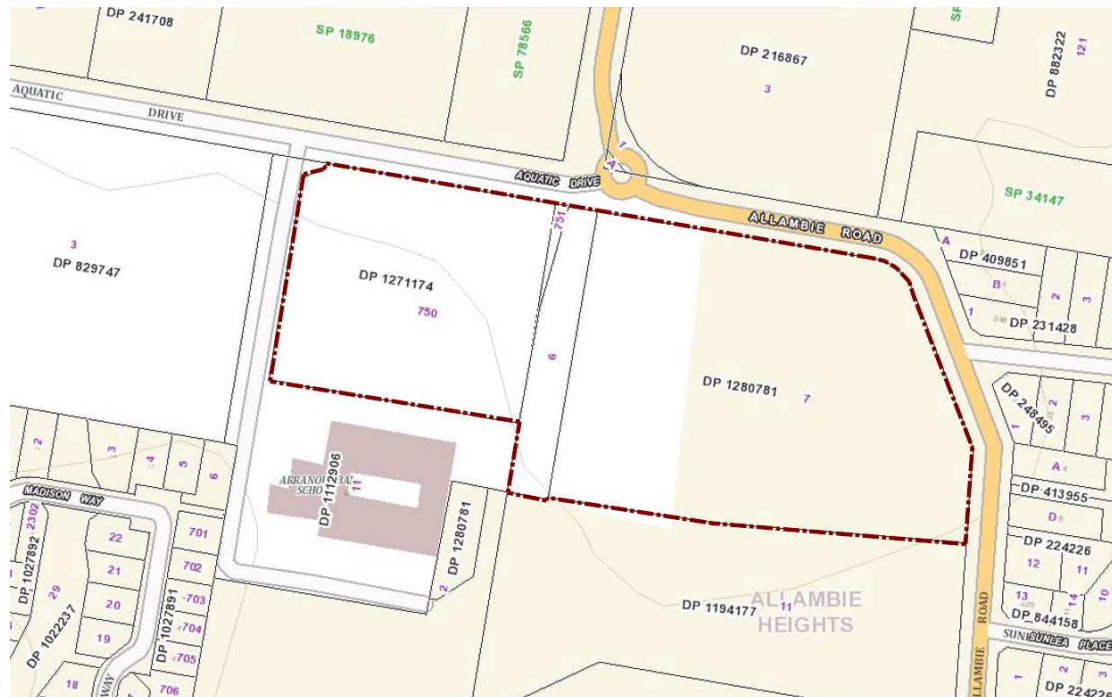
SECTION 2

PROPERTY DESCRIPTION

2.1 Location.

The School occupies Lot 750 & Lot 751 in DP 1271174, Lot 6 and Lot 7 in DP 1280781 No. 187 Allambie Road, Allambie Heights and is in the Local Government Area [LGA] of the Northern Beaches Council.

Figure 7 – Location of The Forest High School.



2.2 Existing Land Use.

The school site contains the existing buildings known as McLeod House, which is proposed to be demolished.

The remainder of the site contains vacant land.

2.3 Adjoining Land Use.

The adjoining landuse to the east of the school site consists of residential development.

The landuse to the northeast of the school site consists of industrial / commercial development.

The land to the north of the eastern portion of the school site contains an Ausgrid Electrical Substation and Switch Yard. The land to the north of the western portion of the school site contains industrial development.

Figure 9 – Site Topography - Source: Oculus

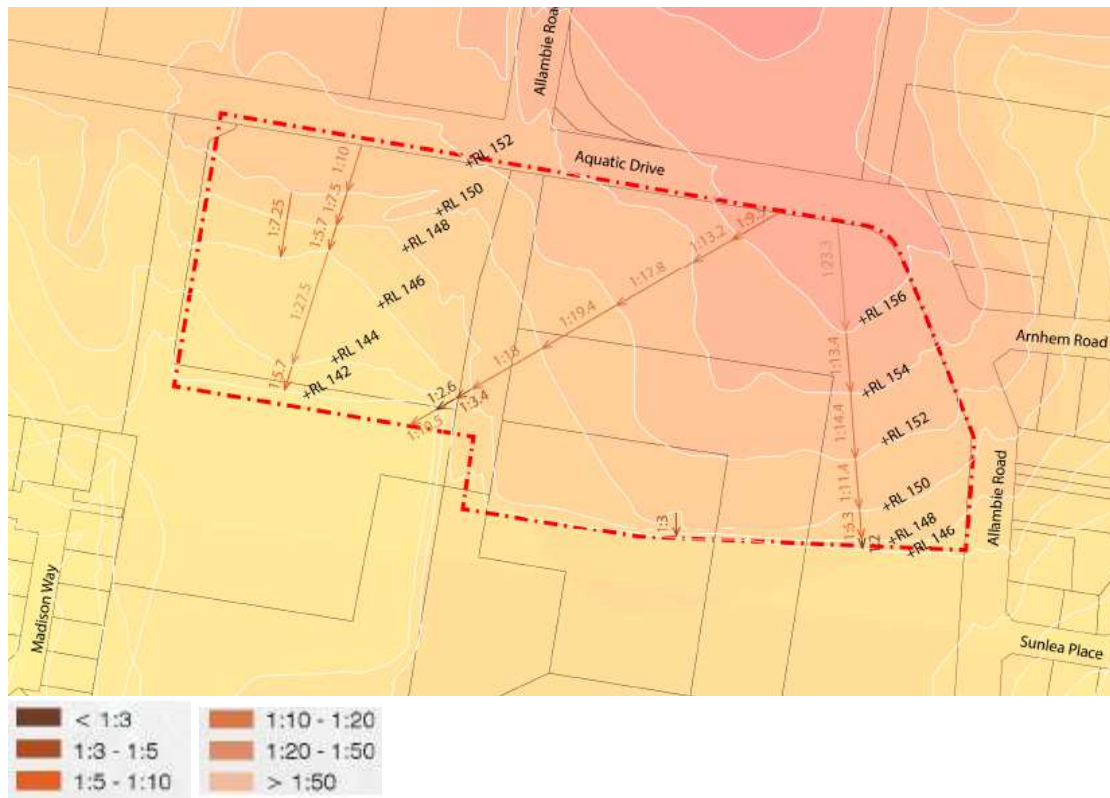


Figure 10 – Topographic Map showing the location of the School site.



2.5 Vegetation.

The vegetation within the curtilage to the existing Mcleod House consists of planted landscaped gardens and scattered trees. The vegetation within the western portion of the school site (Lot 750 & Lot 751 in DP 1271174) consists of Duffys Forest (EEC).

The vacant land to the west of the school site contains Duffys Forest. The Ausgrid land to the north of Allambie Road also contains remnant Duffys Forest vegetation broken by patches of managed (slashed) grassland.

The Cerebral Palsy and School complex to the south of the school site contain managed landscaped gardens with a small pocket of trees located within the western portion of the Cerebral Palsy complex. This vegetation has a managed understorey.

Figure 11 – Aerial Photograph of School Site showing the vegetation on adjoining lands.



2.6 Significant Environmental Features within the School Site.

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

2.7 Known Threatened Species, Population or Ecological Community on the School Site.

The western portion of the school site contains Duffys Forest – an Endangered Ecological Community (EEC).

2.8 Details and location of Aboriginal Relics or Aboriginal Place.

There are no known Aboriginal relics or Aboriginal places on the school site.

SECTION 3

PRECINCT LEVEL ASSESSMENT

3.1 Certified Bushfire Prone Land Map.

Section 10.3 of the *Environmental Planning & Assessment Act 1979* requires councils, where a Bushfire Risk Management Plan applies, to prepare a Bushfire Prone Land Map in consultation with the Commissioner of the NSW Rural Fire Service.

The Commissioner will designate lands to be Bushfire Prone within an area and, when satisfied that the lands have been recorded on a map, will certify the map as a Bushfire Prone Land Map for the purposes of this or any other Act.

Figure 12 provides an extract from the Northern Beaches Bushfire Prone Land Map.

Figure 12 – Extract from the Northern Beaches Bushfire Prone Land Map.



The Northern Beaches Council Bushfire Prone Land Map indicates that the only bushfire prone vegetation located within 140 metres of the school site is located within the western portion of the school site and on the vacant land to the west of the access road to the adjoining Arranounbai School.

The map does not identify the remnant vegetation on the Ausgrid land to the north of Allambie Road as constituting a bushfire hazard to the school.

However, this report adopts a precautionary approach and examines the Asset Protection Zone setbacks from this vegetation.

SECTION 4

BUSHFIRE PROTECTION ASSESSMENT

4.1 Introduction.

The Northern Beaches Council Bushfire Prone Land Map indicates that the western portion of the school site and adjacent lands to the west contain Category 1 Bushfire Prone Vegetation.

Therefore, the construction of the proposed school is required to comply with the provisions of *Planning for Bushfire Protection 2019*.

The aim of *Planning for Bushfire Protection 2019* is to 'provide for the protection of human life and minimise impacts on property from the threat of bushfire while having due regard to development potential and protection of the environment'.

Bushfire protection can be achieved through a combination of strategies which are based on the following principles:

- (i) Control the types of development permissible in bushfire prone areas;
- (ii) Minimise the impact of radiant heat and direct flame contact by separating development from bushfire hazards;
- (iii) Minimise the vulnerability of buildings to ignition and fire spread from flames, radiant heat and embers;
- (iv) Enable appropriate access and egress for the public and fire-fighters;
- (v) Provide adequate water supplies for bushfire suppression and operations;
- (vi) Focus on property preparation, including emergency planning and property maintenance requirements; and
- (vii) Facilitate the maintenance of Asset Protection Zones (APZs), fire trails, access for fire-fighting and onsite equipment for fire suppression.

Section 6 of *Planning for Bushfire Protection 2019* provides the following specific objectives for a *Special Fire Protection Purpose Development* (i.e. School) located in a bushfire prone area:

- (i) *Minimise levels of radiant heat, localised smoke and ember attack through increased Asset Protection Zones, building design and siting;*
- (ii) *Provide an appropriate operational environment for emergency service personnel during fire-fighting and emergency management;*
- (iii) *Ensure the capacity of existing infrastructure (such as roads and utilities) can accommodate the increase in demand during emergencies as a result of the development; and*
- (iv) *Ensure emergency evacuation procedures and management which provides for the special characteristics and needs of the occupants.*

Section 4.2 of this report examines the provision of Asset Protection Zones to the proposed school.

Bushfire construction standards to the school buildings is examined in Section 4.3 and the provision of access and water supplies for fire-fighting operations management of the Asset Protection Zone are examined in Section 4.4 – 4.6 of this report.

Evacuation planning is examined in Section 4.7 of this report.

4.2 The provision of Asset Protection Zones to the School Buildings.

The examination of the bushfire hazard to the school buildings determined that the vegetation on the land to the northeast (within the industrial development) and to the east (within the residential development) consist of managed landscaped vegetation.

The examination also determined that the vegetation on the land to the south and southwest (within the adjoining Cerebral Palsy and Arranounbai School complexes) consists of managed landscaped vegetation. Similarly, the examination determined that the vegetation on the industrial land to the north of Aquatic Drive (western portion of the school site) consists of managed landscaped vegetation.

The Northern Beaches Bushfire Prone Land Map confirms the validity of this assessment.

The Northern Beaches Bushfire Prone Land Map also identifies that the vegetation on the Ausgrid land to the north of the eastern portion of the school site as non-hazard vegetation. However, as a precautionary measure this report assesses the possible hazard and uses a Short Fire Run (due to the short length of fire run) calculation to determine the width of the Asset Protection Zone to the north of Blocks A & G.

The Northern Beaches Bushfire Prone Land Map identifies that Duffys Forest vegetation on the western part of the school site is Category 1 Bushfire Prone Vegetation, extending to the west across the adjoining vacant land.

The site inspection confirmed the accuracy of this mapping.

The majority of the mapped Category 1 Bushfire Prone Vegetation within the school site is proposed to be removed to enable construction of the Games Field and Games Courts.

The predominant vegetation to the west of the proposed buildings is 'forest'.

The probable fire path is from the west, burning across level land. The alternate fire path from the southwest will burn upslope towards Aquatic Drive and not impact on the proposed buildings.

Figure 13 – Fire Paths.

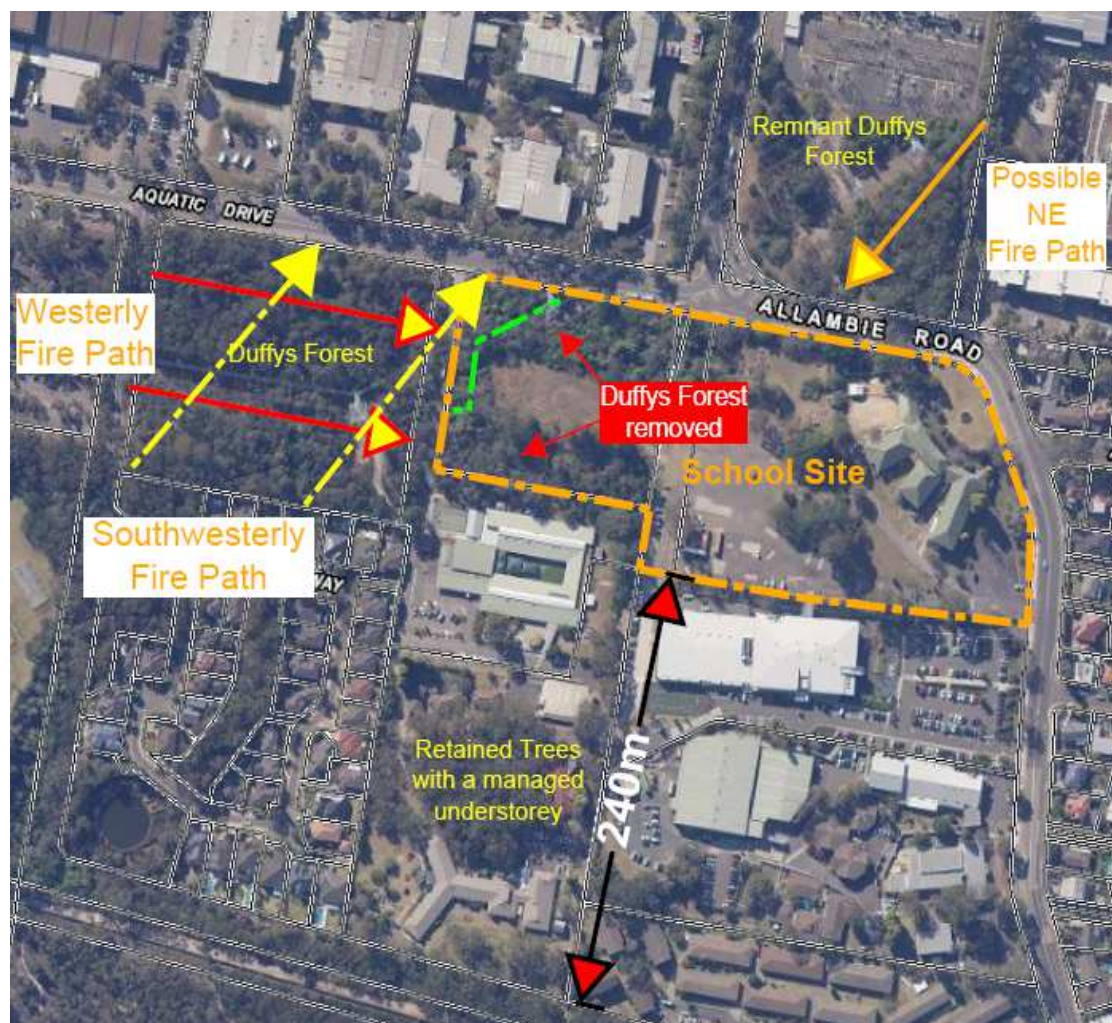
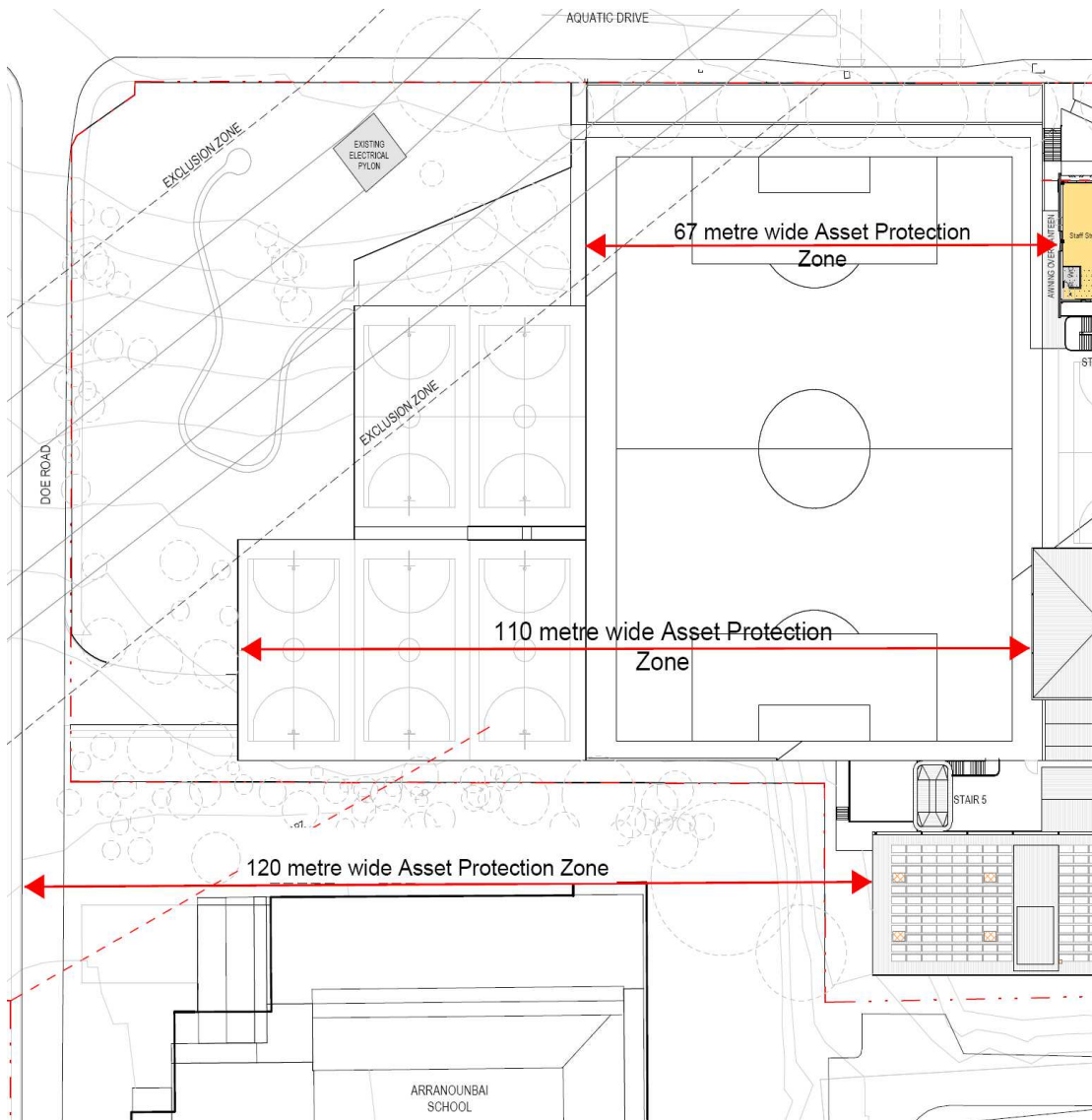


Figure 15 – Plan of Asset Protection Zone – Westerly Fire Path.



4.3 Construction Measures to the School Buildings.

The width of the Asset Protection Zone to the west (67 metres) of Block G has been determined from Table A1.12.1 to achieve a radiant heat loading of 10kW/m^2 on the western elevation of Block G.

The Short Fire Run Calculation for the possible northeast fire run identifies that the 35 metre wide Asset Protection Zone achieves a radiant heat loading of 9.33kW/m^2 on the northern elevation of Block A & G.

The required level of bushfire construction is therefore BAL 12.5, pursuant to A.S. 3959 – 2018. This construction standard applies to buildings within 100 metres of the hazard on the Ausgrid land to the north of Allambie Road and 100 metres to the east of the Duffys Forest vegetation within the western portion of the school site.

However, to protect against ember attack, all buildings shall be constructed to comply with Section 3 and Section 5 (BAL 12.5) of A.S. 3959-2018 – ‘Construction of Buildings in Bushfire Prone Areas’.

The walls of the Carpark shall be constructed of non-combustible materials with a one-hour fire-rated roller shutter provided to the entry to the carpark.

The roller shutter door shall be fitted with a Vesta activation sensor to close the door in the event of a bushfire occurring in the vegetation on the western side of the driveway to the Arranounbai School.

4.4 Access Standards for Firefighting Operations.

Table 6.8b of *Planning for Bushfire Protection 2019* provides performance requirements and acceptable solutions for ‘Special Fire Protection Purpose Developments’.

The school site is adjoined to the east and north by existing public (perimeter) roads, providing two-wheel drive all-weather access for heavy vehicles including fire-fighting appliances. Fire-fighting access to the west of the school site is provided by the existing driveway to the Arranounbai School.

4.5 Water Supplies for Firefighting Operations.

A reticulated water supply is located in Allambie Road and Aquatic Drive.

The fire-fighting water supply to the proposed school shall comply with the Building Code of Australia [BCA] and A.S. 2419.1 – 2022 with a hydrant supply installed to provide coverage to all buildings.

An additional hydrant shall be provided at the western end of Block G and in the Carpark. A Booster Valve Assembly shall also be provided, located on Allambie Road between the Entry and Exit points to the Loading Area.

4.7 Emergency Management for Fire Protection / Evacuation.

The new school is located more than 240 metres from the primary bushfire hazard in the Manly Dam Reserve to the south and more than 300 metres to the hazard to the southwest.

The protection to the school is provided to south by the existing Cerebral Palsy complex, Alliance Disability Support complex, the Sunnyfield Disability Services complex and the Fred Hutley Village and to the southwest by the existing Cerebral Palsy complex and adjoining residential estate.

These separation widths reduce the bushfire impact on the proposed school to possible ember attack, which is addressed in the requirement to construct the buildings to address BAL 12.5 standards whilst the impact of smoke has been addressed by the inclusion of air-conditioning to the buildings.

The width of the Asset Protection Zone to the west of Block G reduces the exposure on the western wall of this building to less than 10kW/m².

The requirement to relocate the students and staff during bushfire events is unlikely as Block F (GYM) has the capacity to provide shelter-in-place accommodation, more than 110 metres from the hazard in the western portion of the school site.

If evacuation is deemed to be required, students can be transported from the school via Allambie Road, north to Warringah Road using buses with pick-up points to the east of the Entry – more than 130 metres from the hazard in the western portion of the school site.

Access to the Staff Carpark is via the driveway to the Arranounbai School which will be impacted by bushfire. Alternate safe pedestrian access is available from the carpark to the Assembly Court Quadrangle.

It is recommended that a Bushfire Emergency and Evacuation Plan (PEEP) be prepared for the school.

4.6 Bushfire Hazard Management.

The intention of bushfire hazard management is to prevent flame contact with a structure, reduce radiant heat to below the ignition thresholds for various elements of a building, to minimize the potential for wind driven embers to cause ignition and to reduce the effects of smoke on occupants and fire-fighters.

The management of the Asset Protection Zones to the west and north of the buildings and the landscape gardens across the remainder of the school site shall comply with the standards contained in Appendix 4 of *Planning for Bushfire Protection 2019* and the NSW Rural Fire Services' Publication – '*Standards for Asset Protection Zones*'.

Asset Protection Zones shall comply with the standards provided by Appendix A4.1.1 – Inner Protection Area (IPA) of *Planning for Bushfire Protection 2019*.

The remainder of the school site (except for the retained Duffys Forest vegetation) shall comply with the standards provided by Appendix A4.1.2 – Outer Protection Area (OPA) of *Planning for Bushfire Protection 2019*.

Figure 16 – Bushfire Protection Planting Strategy.



Site Area: 41,443m²
 Existing Canopy Retained: 6851m²
 New Canopy Cover: 3490m²
 Total Tree Canopy Cover: 10,341m²
 Coverage Rate: 25%

The landscape design for the school will need to comply with the performance objectives of an Inner Protection Area to the northern boundary and as an Outer Protection Area to all other landscape areas, as described by section A4.1.1 of Planning for Bushfire Protection.

Bushfire Protection Zones:

IPA: 14.5%

LZ: 40%

*Approximate calculations. To be finalised once full Arborist Report is issued.

LEGEND

- Existing Canopy
- New Canopy
- Landscape Zone (LZ)
- Inner Protection Area (IPA)
- Site Boundary

Source: Oculus

SECTION 5

BUSHFIRE MANAGEMENT STRATEGIES

Bushfire management strategies for the estate are as follows:

5.1 Strategy 1 – Asset Protection Zones:

There shall be provided a minimum 67 metre wide Asset Protection Zone to the west of Block G. There shall be provided a 35 metre wide Asset Protection Zone to the north of Block A & G.

5.2 Strategy 2 – Management of Asset Protection Zones:

The management of the Asset Protection Zones to the west and north of the buildings and the landscape gardens across the remainder of the school site shall comply with the standards contained in Appendix 4 of *Planning for Bushfire Protection 2019* and the NSW Rural Fire Services' Publication – '*Standards for Asset Protection Zones*'.

Asset Protection Zones shall comply with the standards provided by Appendix A4.1.1 – Inner Protection Area (IPA) of *Planning for Bushfire Protection 2019*.

The remainder of the school site (except for the retained Duffys Forest vegetation) shall comply with the standards provided by Appendix A4.1.2 – Outer Protection Area (OPA) of *Planning for Bushfire Protection 2019*.

5.3 Strategy 3 – Water Supplies/Utilities for Firefighting Operations:

The fire-fighting water supply to the proposed school shall comply with the Building Code of Australia [BCA] and A.S. 2419.1 – 2022 with a hydrant supply installed to provide coverage to all buildings. An additional hydrant shall be provided at the western end of Block G and in the Carpark.

A Booster Valve Assembly shall also be provided, located on Allambie Road between the Entry and Exit points to the Loading Area.

Electricity and gas supplies shall be laid underground.

5.4 Strategy 4 – Construction Standards to the buildings.

All buildings shall be constructed to comply with Section 3 and Section 5 (BAL 12.5) of A.S. 3959-2018 – '*Construction of Buildings in Bushfire Prone Areas*'.

The walls of the Carpark shall be constructed of non-combustible materials with a one-hour fire-rated roller shutter provided to the entry to the carpark.

The roller shutter door shall be fitted with a Vesta activation sensor to close the door in the event of a bushfire occurring in the vegetation on the western side of the driveway to the Arranounbai School.

5.5 Strategy 5 – Bushfire Emergency Evacuation Plan (BEEP)

A Bushfire Evacuation and Emergency Plan (PEEP) shall be prepared for the school.

The BEEP shall establish protocols for the relocation of students and staff initially to the on-site safe refuge (Block F – GYM) and protocols for the evacuation of the school, from the on-site safe refuge via buses using Allambie Road, travelling north to Warringah Road, if advised by the Emergency Services.

SECTION 6

CONCLUSION

A State Significant Development Application [SSDA] is being lodged for the construction of The Forest High School on Lot 750 & Lot 751 in DP 1271174 and Lot 6 and Lot 7 in DP 1280781 No. 187 Allambie Road, Allambie Heights.

Part 22 of the SEARs, issued under SSD-26876801 on the 22nd September 2021, requires the preparation of a Bushfire Assessment to address the potential bushfire risk to the school.

The school is located more than 240 metres from the hazard in the Many Dam Reserve to the south and more than 300 metres from the hazard in the Manly Dam Reserve to the southwest and is therefore deemed to have a low level of risk from the primary bushfire hazard.

The vegetation within the western portion of the school site consists of Duffys Forest and a 67 metre wide Asset Protection Zone has been provided to address the requirement to limit the radiant heat on the exterior of Block G to less than 10kW/m². The hazard to the west occurs under a westerly fire, across a short length of bushfire prone vegetation. The risk from a fire burning across this vegetation is deemed to be low – moderate and is addressed with the provided width of Asset Protection Zone and construction standards to the buildings.

The Northern Beaches Council Bushfire Prone Land Map does not record the vegetation on the Ausgrid land to the north of the eastern portion of the school site as bushfire prone.

However, as a precautionary measure, a 35 metre wide Asset Protection Zone has been provided to the north of Block A & G. The potential level of risk from a fire occurring in this vegetation is low.

This report has examined the objectives of *Planning for Bushfire Protection 2019* in relation to the provision of bushfire protection measures to the proposed school and concludes that overall there will be a low level of bushfire impact on the students, staff and buildings.

Table 1 summarises the extent to which the development conforms with or deviates from the relevant provisions of *Planning for Bushfire Protection 2019*.

Table 1. Compliance with the relevant provisions of *Planning for Bushfire Protection 2019*.

Bushfire Protection Measure	Compliance with the aim and objectives of <i>Planning for Bushfire Protection 2019</i>.
Asset Protection Zone setbacks/construction standards to future school buildings	The combination of Asset Protection Zones and construction standards to the school buildings addresses the requirement that the students and staff are afforded adequate protection from exposure to a bushfire and that the buildings will not be exposed to a radiant heat flux of more than 10kW/m ² radiant heat.
Access for fire-fighting operations	The proposed school is accessed from the existing public road network which provides satisfactory emergency access for fire-fighting appliances and evacuation purposes.
Water supplies for fire fighting	Hydrant supply to be installed in accordance with AS 2419.1 – 2022 with hydrants located within the school grounds and supplied from a Hydrant Booster located on Allambie Road, adjacent to the Loading Bay
Management of the fire protection measures, including the Asset Protection Zones	NSW Department of Education will be responsible for the maintenance of the recommended fire protection measures, including the Asset Protection Zones and landscaped gardens in accordance with Appendix 4 of <i>Planning for Bushfire Protection 2019</i> .
Emergency Management	The separation distance between the primary bushfire hazard in the Manly Dam Reserve and the proposed buildings reduces the risk to the students and staff. The requirement to relocate students and staff due to bushfire risk is unlikely. However, if required, safe egress can be achieved to the north via Allambie Road. The preparation of a Bushfire Emergency and Evacuation Plan (PEEP) is recommended.

I confirm that the proposed development complies with the aim and objectives of *Planning for Bushfire Protection 2019* and the deemed to satisfy requirements of Section 6 of *Planning for Bushfire Protection 2019*.



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

Fire Protection Association Australia Member No: 48781

REFERENCES:

- N.S.W Rural Fire Service – *Planning for Bushfire Protection 2019*;
- *Environmental Planning & Assessment Act – 1979*;
- *Rural Fires Act – 1997*;
- *Rural Fires Regulation 2022*;
- NSW Rural Fire Service – *Guideline for Bushfire Prone Land Mapping 2015*;
- *Bushfire Environmental Assessment Code 2022*;
- Building Code of Australia;
- Australian Standard A.S 3959-2018 “*Construction of Buildings in Bushfire Prone Areas*”;
- *Northern Beaches Council Bushfire Prone Land Map*.

ATTACHMENT A – SHORT FIRE RUN CALCULATION



ABPP

Australian Bushfire
Protection Planners Pty Ltd

ACN 083085474

Bushfire Mitigation Consultants

Australian Bushfire Protection Planners Pty Ltd

Property Address:

LGA:

Date:

Inputs:

Effective Slope:	-3	degrees
Site Slope:	5	degrees
Elevation of Receiver:	5	metres
Surface & Elevated Fuels:	21.3	tph
Overall Fuel load:	27.42	tph
Elevated fuel Height:	1.2	
FDI:	100	
Flame Temperature:	1200	Kelvin
Dist. To Vegetation:	35	metres

Outputs:

SFR Flame Angle:	82	degrees
SFR Flame Height:	10.42	metres
Peak elevation of receiver:	5.209	metres
Wind Speed:	30	kph
SFR Intensity:	22869	kWm
FROS:	2.078	metres
SFR Head Width:	53.441	metres
SFR Flame Transmissivity:	0.804764	

Veg Reference:

Vegetation Type:
 Average fuel Height:

Short Fire Run Length: metres Calculated Radiant Heat: kW/m²