Bushfire Assessment Report
Proposed Residential Building Development
Lot 82 DP 866452
10 Manor Road
Ingleside NSW 2101

2 October 2024

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Reviewed by:		

Executive Summary – Achievable (Recommended) AS 3959:2018 Level of Compliance

Construction Standard	**Building Elevation**
Flame Zone	**All Elevations & Roof (New Residence)**
BAL 40	
BAL 29	
BAL 19	
BAL 12.5	
NCC Provisions Only	

Table of Contents

General Introduction

The following report outlines an assessment for the statutory compliance of the proposed residential building development to occur within 10 Manor Road, Ingleside NSW 2101 – Lot 82 DP 866452 (herewith 'the subject property'), and at least 140m beyond (herewith 'the study area'). Appendix 1 / Map 1 denote the subject property and study area.

Methodology for this site assessment for bushfire attack is based on the planning guideline '*Planning for Bush Fire Protection 2019* (*PBP 2019*)', produced by the NSW Rural Fire Service.

'Australian Standard 3959:2018 – Construction of buildings in bush fire prone areas', or alternately *'NASH Steel Framed Construction in Bush Fire Areas (NASH 2021)',* pursuant to the *'National Construction Code/Building Code of Australia 2022 (NCC/BCA 2022)'*, are the primary building compliance documents considered for this assessment.

Terrain (slope) considered by this assessment is based on the Department of Lands Online Six Viewer contours and a site inspection (26/9/2024) of the subject property.

Vegetation extent within the subject area has been derived from available online public vegetation mapping studies, aerial photo interpretation and a site inspection (26/9/2024) conducted prior to finalising this report.

The extent and location of the proposed building development are based on DA drawings by Home Design Agency (Sheet Nos. 0A – 13, Issue E, Dated 10/07/24).

Photographic evidence of the subject property and surrounds is appended to this report (Appendix 2 – Site Photos, Dated 26/9/2024).

1.0 Property Details

Applicants Name: Home Design Agency (herewith, 'the proponent')

Council: Northern Beaches Council (Northern Beaches LGA)

Council Reference: N/A

Lot: 82 **DP:** 866452 **Area:** 2.352 Hectares

Address/Location: 10 Manor Road, Ingleside NSW 2101.

Zoning: 'RU2 – Rural Landscape
Pittwater LEP 2014

Bushfire Prone Land: YES

The subject property is currently mapped as being bushfire prone as currently shown by the Northern Beaches Council LGA Bushfire Prone Land Map (*s10.3 EP&A Act 1979*). The site is constrained by vegetation classified as 'Category 1 Bushfire Vegetation'. In this regard, any new building development should conform to the specifications and requirements of the document *Planning for Bush Fire Protection 2019*, produced by the NSW Rural Fire Service, that are relevant to the development; as otherwise required under *Section 4.14 Environmental Planning & Assessment Act 1979 (EP&A Act 1979).*

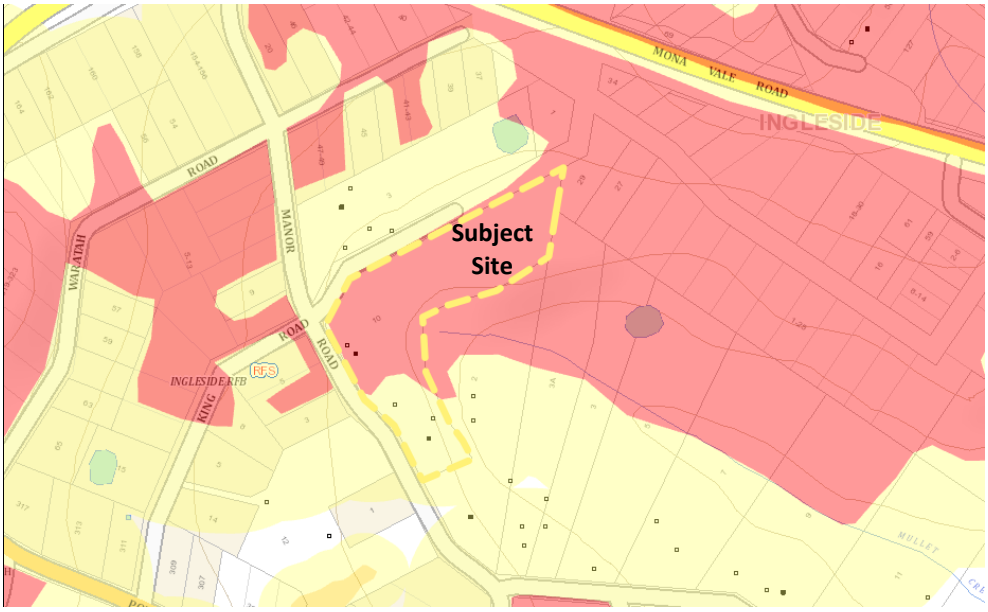
Other Known Constraints:

The new residence is proposed to be located within an area that is partially cleared. In addition, only a minimal APZ is proposed (i.e. maximum 10m) to reduce the ecological impacts of the development.

The site is partially constrained by the biodiversity overlay, and the ecological impacts will be addressed by others.

A desktop assessment of the publicly available council mapping and planning enquiry system has found no other constraints to be considered in regard to development upon the subject property.

No other known significant environmental features have been noted, recorded or advised of as part of this assessment.



Extract Northern Beaches Council LGA Bushfire Prone Land Map

2.0 Description of Proposal

☑ **New Dwelling**	☐ Urban	☐ Secondary Dwelling
☑ **Rural Residential**	☐ Alterations/Additions	☐ Isolated Rural

Proposal Description

The proposed building development is to construct a new rural residential dwelling, and all associated infrastructure. The existing residence, within the Southern section of the site, is also proposed to be demolished.

The extent and location of the proposed building development are based on DA drawings by Home Design Agency (Sheet Nos. 0A – 13, Issue E, Dated 10/07/24).

The approximate location/site of the proposed building (herewith 'the subject development') is as denoted in Appendix 1 – Map 1.

3.0 Bushfire Assessment

3.1 Vegetation (bushfire hazard) within 100m of the proposed building

The subject property is currently mapped as being bushfire prone as currently shown by the Northern Beaches Council LGA Bushfire Prone Land Map (*s10.3 EP&A Act 1979*).

The development is constrained by vegetation within the subject site, which also extends into some adjoining sites to the North East, South East and South West.

The vegetation to the North East is mapped as 'Sydney Coastal Heath', which transitions to Sydney Coastal Dry Sclerophyll Forest' to the South East – South West.

Based on a determination of vegetation formation using the Keith 2004 Identification Key, the bushfire vegetation to the North is most representative of 'Tall Heath' to the North East, and 'Forest' to the South East & South West'.

The subject development would potentially (currently) be prone to bushfire attack from the North East – South East & South West directions. The extent of the current bushfire vegetation (hazard) is clearly denoted in Appendix 1 – Map 1.

PBP 2019 (*Appendix 1 Section A1.10*) states, *'The following exclusions of AS3959 apply, and are not required to be considered for the purposes of PBP, as detailed below:*

- *Single areas of vegetation less than 1 hectare in area and greater than 100metres separation from other areas of Category 1 and 2 vegetation.*
- *Multiple areas of vegetation less than 0.25 hectares in area and not within 20m of the site, or each other or of other areas of vegetation being classified vegetation.*
- *Strips of vegetation less than 20m in width (measured perpendicular to the elevation exposed to the strip of vegetation) regardless of length and not within 20m of the site or other areas of vegetation being Category 1, 2 or 3 vegetation.*
- *Vegetation regarded as low threat due to factors such as flammability, moisture content or fuel load, including grassland managed in a minimal fuel condition, mangroves and other saline wetlands, maintained lawns, golf courses such as playing areas and fairways, maintained public reserves and parklands, sporting fields, vineyards, orchards, banana plantations, market gardens and other non-curing crops, cultivated gardens, arboretums, commercial nurseries, nature strips and windbreaks.*
- *Existing areas of managed gardens and lawns within curtilage of buildings.*
- *Non-vegetated areas including waterways, roads, footpaths, buildings and rocky outcrops.*

The proposed development is located within a well-established rural residential subdivision, with some adjoining allotments containing rural residential buildings/residences.

Some adjoining rural residential sites also contain large areas clear of persistent vegetation and these areas could be considered 'cleared and managed lands' i.e. with managed ornamental gardens etc.

The subject site also adjoins a partially unmade road reserve along its North Western boundary (King Road) and Manor Road, along its Western boundary.

The approximate / estimated extent of these managed lands is clearly denoted in Appendix 1 – Map 1.

Relevant photos attached (Appendix 2 Site Photos).

3.2 Distance/Separation between building line and bushfire hazard

For the purposes of bushfire safety compliance, this assessment notes that the subject property does contain persistent bushfire vegetation. Considering the location of the proposed development and the extent of the bushfire vegetation, the achievable separation distance has been assessed as:

Direction	Separation Distance
North East	**>10m**
South East	**>10m**
South West	**>10m**

3.3 Effective slope that will influence bushfire behaviour

The effective slope within approximately 100m of the subject development site, which would influence bushfire behaviour, has been assessed as predominately;

Direction	Effective Slope
North East	**>5 – 10 Degrees Downslope**
South East	**>10 – 15 Degrees Downslope**
South West	**>0 – 5 Degrees Downslope**

3.4 Fire Danger Index (FDI) for Local Government Area (LGA)

☑ **100** ☐ 80 ☐ 50

Northern Beaches Council – Greater Sydney Region

(*NSW Local Government Areas Community Resilience May 2017 – NSW RFS*)

3.5 Determination of Bushfire Attack Level (Table A1.12.5 – PBP 2019)

Direction	Vegetation	Slope	Minimum Distance	BAL Exposure Level
North East	**Tall Heath**	**>5 – 10 Degrees Downslope**	**>10m**	**BAL – FZ**
South East	**Forest**	**>10 – 15 Degrees Downslope**	**>10m**	**BAL – FZ**
South West	**Forest**	**>0 – 5 Degrees Downslope**	**>10m**	**BAL – FZ**

4.0 AS 3959:2018 Construction Standard for Bushfire Attack Level (*NCC – BCA DtS*)

Elevation	Vegetation	Slope	Minimum Distance	BAL Exposure Level
NE, SE & SW	**Forest**	**>10 – 15 Degrees Downslope**	**>10m**	**BAL – FZ**
NW	**Tall Heath**	**>5 – 10 Degrees Downslope**	**>10m**	**BAL – FZ**

Considering the subject developments location and the calculated extent of the APZ area recommended by this report, the subject development is technically capable of complying with *AS 3959:2018 / NASH 2021*.

5.0 Bushfire Protection Measures

Pursuant to '*PBP 2019 – Section 7 Residential Infill Development'*, there is a requirement to address certain 'Bushfire Protection Measures' (BPM) under the *Section 4.14 EP&A Act 1979* for new residential 'infill' development in bushfire prone areas.

The intent of the BPM's *'is to minimise the risk of bushfire attack and provide protection for emergency services personnel, residents and others assisting firefighting activities'*.

It is also *noted 'where a development expectation arises from the zoning of the land to build, rebuild, alter or add to a dwelling in pre-existing subdivisions, attempts should be made to find a solution taking into account the risk present. The expectation of building or altering a house is recognised even though the ability to provide for APZs or access requirements now required for residential development may not be possible'*.

Proposals for 'infill development' are to:

- Provide a defendable space to enable unimpeded access for firefighting around the building.
- Provide better bushfire outcomes on a redevelopment site than currently exists, commensurate to the level of development.
- Provide access, services and landscaping to aid firefighting operations;
- Not impose an increased bushfire management and maintenance responsibility on adjoining land owners.
- Increase the level of bushfire protection to existing dwellings based on the scale of the proposed work and level of bushfire risk.

5.1 Asset Protection Zones

PBP 2019 acceptable solutions for Asset Protection Zones (for this specific development location) state that;

- An APZ is provided in accordance with Table A1.12.2 or A.1.12.3 in Appendix 1.
- APZs are managed in accordance with the requirements of Appendix 4 of PBP.
- APZs are wholly within the boundaries of the development site.
- APZs are located on lands with a slope less than 18 degrees.

The subject site benefits from some managed lands within the site, and external to the site (being some adjacent rural residential lands and a partially managed road reserve).

Asset Protection Zone recommendations are as listed in Section 6.1 (Bushfire Safety & Compliance Recommendations).

5.2 Access (Property Access)

PBP 2019 acceptable solutions for access (for this specific development location) state that;

- Minimum 4m carriageway width.
- A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches.
- Property access must provide a suitable turning area in accordance with Appendix 3 – PBP 2019.
- Curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress.
- The minimum distance between inner and outer curves is 6m.
- The cross fall is not more than 10 degrees.
- Maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads.

Access to the subject property will be by way of an all-weather access road / driveway, directly off the unmade portion of King Road, which is part of the public road system.

The driveway will be a minimum of 4m wide and <200m in length.

King Road is an unmade public road, which contains a private sealed all weather road that is approx. 4m in width, within road reserve of 20m. The local speed limit is 60 kph.

The public road system servicing the proposed development is able to provide safe operational access for emergency services and egress in varying directions for evacuating residents from Manor Road.

Property access recommendations are as listed in Section 6.3 (Bushfire Safety & Compliance Recommendations).

5.3 Water Supplies (Non-reticulated)

☑ **Yes** ☐ No ☑ **Proposed**

Some surrounding areas have access to reticulated water supplies, however due to hydrant travel distances (i.e. >90m travel distances through to Manor Road) this development will rely on a non-reticulated water supply for the purposes of firefighting operations.

PBP 2019 acceptable solutions for a non-reticulated water supply area (relevant to the subject development) state that:

- Where no reticulated water supply is available, water for firefighting purposes is provided in accordance with **Table 5.3d (which specifies 20,000L in this instance).**
- A connection for firefighting purposes is located within the IPA or non-hazard side and away from the structure; 65mm Stortz outlet with a ball valve is fitted to the outlet.
- Ball valve and pipes are adequate for water flow and are metal.
- Supply pipes from tank to ball valve have the same bore size to ensure flow volume.
- Underground tanks have an access hole of 200mm to allow tankers to refill direct from the tank.
- A hardened ground surface for truck access is supplied within 4m.
- Above-ground tanks are manufactured from concrete or metal.
- Raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber (Appendix F of AS 3959).
- Unobstructed access can be provided at all times.
- Tanks on the hazard side of the building are provided with adequate shielding for the protection of firefighters.
- All exposed water pipes external to the building are metal, including any fittings.
- Where pumps are provided, they are a minimum 5hp or 3kW petrol or diesel powered pump, and are shielded against bushfire attack; any hose and reel for firefighting connected to the pump shall be 19mm internal diameter.

Table 5.3d

Water supply requirements for non-reticulated developments or where reticulated water supply cannot be guaranteed.

DEVELOPMENT TYPE	WATER REQUIREMENTS
Residential lots (<1,000m²)	5,000L/lot
Rural-residential lots (1,000-10,000m²)	10,000L/lot
Large rural/lifestyle lots (>10,000m²)	20,000L/lot
Multi-dwelling housing (including dual occupancies)	5,000L/dwelling

Firefighting water supply recommendations are as listed in Section 6.4 (Bushfire Safety & Compliance Recommendations).

5.4 Electricity Services

PBP 2019 acceptable solutions for electrical services (relevant to the subject development) state that:

- *Where practicable, electrical transmission lines are located underground; and*
- *Where overhead electrical transmission lines are proposed, as follows:*
    - *Lines are installed with short pole spacings (30m), unless crossing gullies, gorges or riparian areas; and*
    - *No part of a tree is closer to a power line than the distance set out in accordance with the specifications in 'ISSC3 Guideline for Managing Vegetation Near Power Lines'.*

The subject development site is currently serviced by the local aboveground electrical supply grid.

New development within the site will benefit from a supply that is relocated underground, from a point on the Western boundary.

Electrical service recommendations are as listed in Section 6.5 (Bushfire Safety & Compliance Recommendations).

5.5 Gas Services

Reticulated Gas: ☐ Yes ☑ **No**

Bottled Gas: ☑ **Yes** ☐ No

PBP 2019 acceptable solutions for gas services (relevant to the subject development) state that:

- Reticulated or bottled gas is installed and maintained with AS/NZ 1596:2014 and the requirements of relevant authorities, and metal piping is used.
- All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side.
- Connections to and from gas cylinders are metal.
- Polymer-sheathed flexible gas supply lines are not used.
- Above-ground gas service pipes are metal, including up to any outlets.

Gas service recommendations are as listed in Section 6.6 (Bushfire Safety & Compliance Recommendations).

6.0 Bushfire Safety & Compliance Recommendations

6.1 Defendable Space / Asset Protection Zone (APZ) Recommendations

Recommendation 1.

Inner Protection Area

As denoted in Appendix 1 – Map 1, the area identified as **'Inner Protection Area' (IPA)** is to be managed / maintained as an APZ for the life of the development.

The IPA is the area closest to the building and creates a fuel managed area which can minimise the impact of direct flame contact and radiant heat on the development and act as a defendable space. Vegetation within the IPA should be kept to a minimum level. Litter fuels within the IPA should be kept below 1cm in height and be discontinuous.

In practical terms the IPA is typically the curtilage around the building, consisting of a mown lawn and well maintained gardens. When establishing and maintaining an IPA the following requirements apply.

Trees

- Tree canopy cover should be less than 15% at maturity;
- Trees at maturity should not touch or overhang the building;
- Lower limbs should be removed up to a height of 2m above the ground;
- Tree canopies should be separated by 2m to 5m; and
- Preference should be given to smooth barked and evergreen trees.

Shrubs

- Create large discontinuities or gaps in the vegetation, to slow down or break the progress of fire towards buildings;
- Shrubs should not be located under trees
- Shrubs should not form more than 10% ground cover; and
- Clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.

Grass

- Grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and
- Leaves and vegetation debris should be removed.

6.2 Construction Standard Recommendations

Construction standards have been determined from the following sections of the planning guidelines and are based on the relevant bushfire assessment as discussed above.

AS 3959:2018 Section 3 Construction General
(See Recommendation 2)

AS 3959:2018 Section 9 Construction for Bushfire Attack Level Flame Zone (BAL – FZ)
(See Recommendation 3)

Steel Framed Construction in Bushfire Areas (NASH 2021)

Recommendation 2.

Where any part of a garage, carport, veranda or similar roofed structure is attached to, or shares a common roof space with, or is within 6m of, a building required to comply with the standard, the entire structure shall comply with the construction requirements of the standard (as per Recommendation 3), as applicable to the subject building.

Alternatively, the structure may be separated from the subject building by a wall complying with *AS 3959:2018 Section 3.2.1 a) or b)* i.e. fire rated construction as specified.

Recommendation 3.

Predicated upon the maintenance of the APZ area as per Recommendation No. 1 of this report, it is recommended the proposed development incorporate, as a minimum, the following levels of construction as per *AS 3959:2018 Construction of buildings in bushfire prone areas;*

All Elevations (& Roof)

Construction for Bushfire Attack Level Flame Zone (BAL – FZ) – Section 9 (AS 3959:2018)

Alternately, the relevant sections of '*NASH Standard – Steel Framed Construction in Bushfire Areas (NASH 2021)*' may be applied.

Recommendation 4.

Sarking

All sarking used shall be:

- Non-combustible, **or**
- Breather type sarking complying with AS/NZS 4200.1 and with a flammability index of not more than 5 (see AS 1530.2) and sarked on the outside of the frame, **or**
- An insulation material conforming to the appropriate Australian Standard for that material.

Fences & Gates

All new fences and gates should be constructed of a non-combustible material

Retaining Walls

All new retaining walls should be constructed of a non-combustible material.

6.3 Vehicle Access / Egress Recommendations

Recommendation 5.

The building development will continue to incorporate an all-weather driveway area for vehicle access and parking within the subject property. The access road / driveway will continue to provide direct access from Manor Road & King Road and will be maintained as follows:

- Minimum 4m carriageway width.
- A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches.
- Property access must provide a suitable turning area in accordance with Appendix 3 – PBP 2019.
- Curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress.
- The minimum distance between inner and outer curves is 6m.
- The cross fall is not more than 10 degrees.
- Maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads.

6.4 Water Supplies Recommendations

Recommendation 6.

- Water for firefighting purposes will be provided in accordance with Table 5.3d **(i.e. 20,000 L in this instance)**.
- A connection for firefighting purposes is located within the IPA or non-hazard side and away from the structure; 65mm Stortz outlet with a ball valve is fitted to the outlet.
- Ball valve and pipes are adequate for water flow and are metal.
- Supply pipes from tank to ball valve have the same bore size to ensure flow volume.
- Underground tanks have an access hole of 200mm to allow tankers to refill direct from the tank.
- A hardened ground surface for truck access is supplied within 4m.
- Above-ground tanks are manufactured from concrete or metal.
- Raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber (Appendix F of AS 3959).

- Unobstructed access can be provided at all times.
- Tanks on the hazard side of the building are provided with adequate shielding for the protection of firefighters.
- All exposed water pipes external to the building are metal, including any fittings.
- Where pumps are provided, they are a minimum 5hp or 3kW petrol or diesel powered pump, and are shielded against bushfire attack; any hose and reel for firefighting connected to the pump shall be 19mm internal diameter.

6.5 Electricity Services Recommendations

Recommendation 7.

As the electricity supply will be relocated underground, no additional electricity supply conditions (above and beyond standard Council and Energy Supplier conditions) are required for *PBP 2019* compliance.

6.6 Gas Services Recommendations

Recommendation 8.

- Any future / new bottled gas is installed and maintained with AS/NZ 1596:2014 and the requirements of relevant authorities.
- All fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side.
- Connections to and from gas cylinders are metal.
- Polymer-sheathed flexible gas supply lines are not used.
- Above-ground gas service pipes are metal, including up to any outlets.

6.7 Bush Fire Survival Plan Recommendations

Recommendation 9.

Discuss and prepare a simple 'Bush Fire Survival Plan' pursuant to the NSW Rural Fire Service's advice (https://www.rfs.nsw.gov.au/plan-and-prepare/bush-fire-survival-plan).

7.0 Compliance or non-compliance with PBP 2019 Specific Objectives for Infill Development (as per *PBP 2019 Section7.3*)

Specific Objective	Comment
Provide a defendable space to enable unimpeded access for firefighting around the building	A complying APZ (defendable space) has been recommended. This space consists of an area maintained as an IPA.
Provide better bushfire outcomes on a redevelopment site than currently exists, commensurate with the scale of works proposed.	Bushfire fuel management, and other bushfire protection measures, contained within the subject property will effectively reduce the risk to both the subject property and adjoining premises.
Design and construct buildings commensurate with the bushfire risk.	Recommendations, relating to the construction of the residence include BAL FZ building construction standards.
Provide access, services and landscaping to aid firefighting operations.	The recommendations (above) relating to the design and construction of the development include a range of 'bushfire protection measures' that will enhance the chances of occupant and building survival.
Not impose an increased bushfire management and maintenance responsibility on adjoining landowners.	The subdivision is pre-existing. The construction of this development will not increase the bushfire risk to adjoining land, nor increase bushfire management and maintenance responsibility on adjoining landowners.
Increase the level of bushfire protection to existing dwellings based on the scale of the proposed work and level of bushfire risk.	The existing residence is to be demolished.

8.0 Compliance or non-compliance with PBP 2019 Performance Criteria and intent for bushfire safety protection measures for infill development.

Performance Criteria	**Comment**
APZ APZs are provided commensurate with the construction of the building.	**Can Comply** – Recommendation No. 1 A minimal defendable space will be provided within the site and this will be maintained as an IPA.

A defendable space is provided. APZs are managed and maintained to prevent the spread of fire to the building. The APZ is provided into perpetuity. APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.	This is complimented by 'cleared and managed lands' on adjoining properties.
Access Firefighting vehicles are provided with safe all-weather access to structures and hazard vegetation. The capacity of access roads is adequate for firefighting vehicles. There is appropriate access to water supply. Firefighting vehicles can access the dwelling and exit the property safely.	**Can Comply** – Recommendation No. 5 Access is provided from Manor Road & King Road. The access arrangements are sufficient for operational firefighting and emergency egress.
Water Supplies An adequate water supply is provided for firefighting purposes. Water supplies are located at regular intervals. The water supply is accessible and reliable for firefighting operations. Flows and pressures are appropriate. The integrity of the water supply is maintained.	**Can Comply** – Recommendation No. 6
Electrical Services Location of the electrical services limits the possibility of ignition of surrounding bushland or the fabric of the buildings.	**Can Comply** – Recommendation No. 7
Gas Services Location and design of the gas services will not lead to of ignition of surrounding bushland or the fabric of the buildings.	**Can Comply** – Recommendation No. 8

Construction Standards The proposed building can withstand bushfire attack in the form of embers, radiant heat and flame contact. Proposed fences and gates are designed to minimise the spread of bushfire. Proposed Class 10a buildings are designed to minimise the spread of bushfire.	**Can Comply** – Recommendation Nos. 2 – 4 Predicated upon the recommended APZ areas and siting requirements, BAL FZ building construction standards can achieve the performance requirements of the planning legislation.
Landscaping Landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind driven embers to cause ignitions.	**Can Comply** – Recommendation No. 1

9.0 Statement assessing the environmental impact of any proposed bushfire protection measures.

Bushfire Protection Measure	Likely Environmental Impact	Comment
APZ (Rec. No. 1)	Moderate	The recommended IPA within the subject property will require further vegetation management.
Construction Standard (Rec. Nos. 2 - 4)	Insignificant	Building to be constructed within an approved building envelope.
Water Supply for fire fighting (Rec. No. 6)	Insignificant	A static water supply will service the proposed development, which will be located within the IPA.
Utility service protection (Rec. Nos. 6 - 8)	Insignificant	Utilities are currently located within the APZ or will be redirected underground.
Vehicle Access (Rec. No. 5)	Insignificant	Direct access to public road system will be by way of a short cleared driveway.

10.0 Conclusion/Summary

Based on the above assessment and the 9 recommendations to protect persons and property from danger that may arise from a bushfire, the Consent Authority should determine that this development proposal can comply with *Planning for Bush Fire Protection 2019* as required under *Section 4.14 of the Environmental Planning and Assessment Act 1979.*

As a considered opinion, the recommended mitigation measures and construction requirements as stated in this report would reasonably address the aims and objectives of *PBP 2019*, consistent within the relative and current bushfire risk to the subject development site.

As infill development, the residence will be able to fully comply with the Acceptable Solutions provided within *PBP 2019*.

In this regard, the subject development can reasonably facilitate *PBP 2019* objectives in as far as:

- Afford buildings and their occupants protection from exposure to a bushfire;
- Provide for a defendable space to be located around buildings;
- Provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely spread to buildings;
- Ensure the appropriate operational access and egress for emergency service personnel and residents is available;
- Provide for ongoing management and maintenance of bushfire protection measures; and
- Ensure that utility services are adequate to meet the needs of firefighters.

Should any of the above information require clarification or further discussion, please contact the author.

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(Note: Scott Jarvis is a recognised / suitably qualified consultant pursuant to Rural Fire Service of NSW requirements - Community Resilience Fact Sheet - Requirements for Suitably Qualified Consultants 8/15, Fast Fact 5/10 Version 3 Dated 7 March 2011 & Development Control Practice Note 1/10 Version 2 Dated 4 February 2011)

References/Further Reading

Australian Standard 3959:2018, Construction of buildings in bushfire prone areas – Standards Australia.

Building Best Practice Guide – Upgrading of Existing Buildings (Development Assessment & Planning, NSW Rural Fire Service, Reference 0914).

NASH Standard – Steel Framed Construction in Bushfire Areas (2021) – National Association of Steel-Framed Housing Inc.

National Construction Code/Building Code of Australia (2022) – Australian Building Codes Board, Canprint.

Environmental Planning and Assessment Act (1979) – NSW Government Printer.

- Section 4.14 Consultation and Development Consent Certain Bushfire Prone Land
- Section 10.3 Bushfire Prone Land

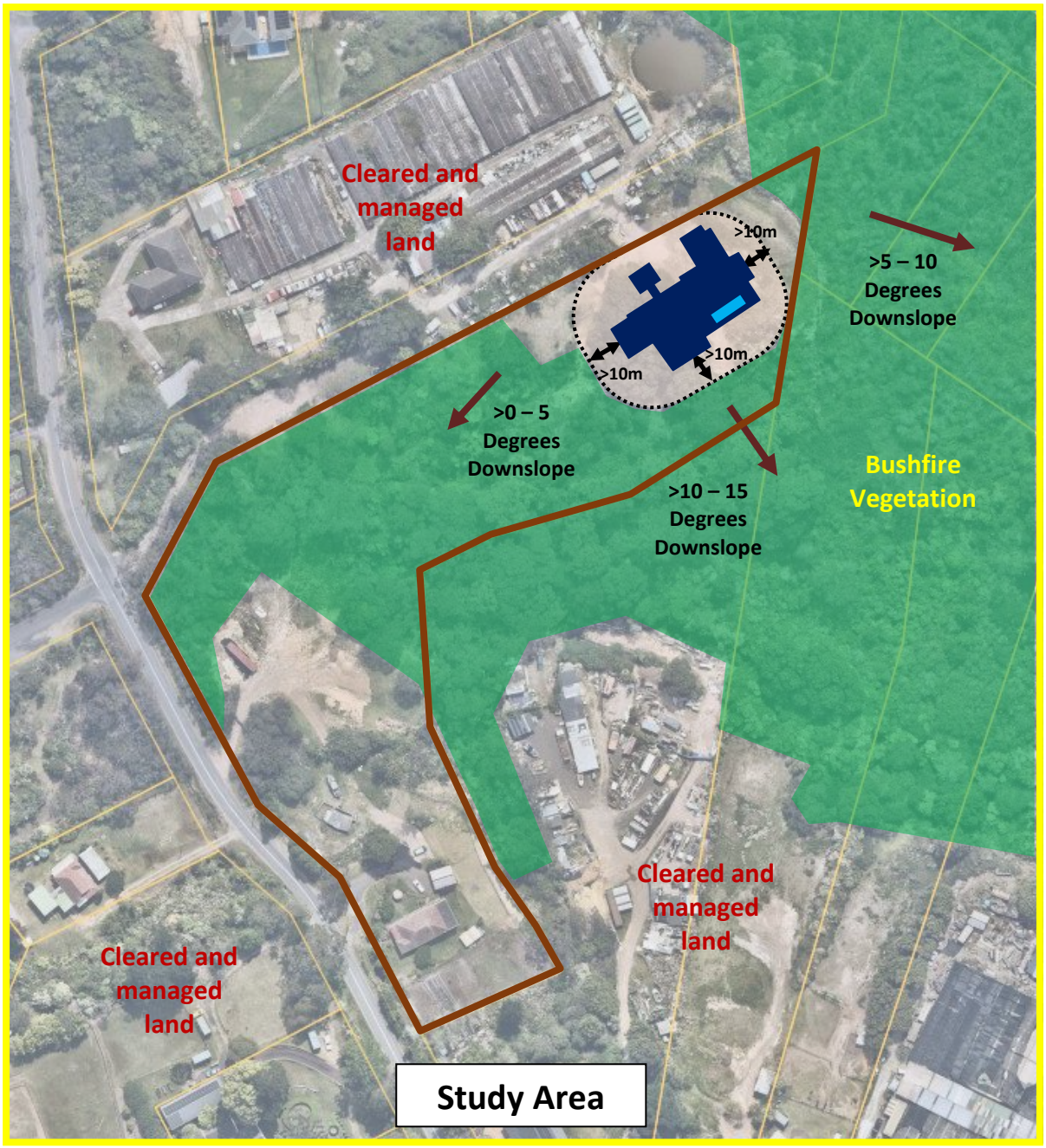
Rural Fires Act (1997) – NSW Government Printer

Landscape and building design for bushfire areas (2003) – Ramsay G C & Rudolf L, CSIRO Publishing, Collingwood Victoria.

Ocean shores to desert dunes: the native vegetation of NSW and the ACT (2004) – Keith D, NSW Dept of Environment and Conservation, Hurstville NSW.

Planning for Bush Fire Protection. A guide for councils, planners, fire authorities and developers (November 2019) – NSW Rural Fire Service.

Appendix 1 – Study Area / Subject Lot / Slopes / APZ extent



Proposed Development (approximate)

Inner Protection Area (IPA)

Subject Property Lot 82 DP 866452

Slope Direction

Appendix 2 – Site Photos (26/9/2024)

Existing residence, looking North East

Proposed envelope, looking North East

Manor Road, looking North

Manor Road, looking South

King Road, looking West

King Road, looking East

Tall Heath, looking North

Tall Heath, looking North East

Typical forest vegetation, within gullies, looking North East over central section of site

Typical forest vegetation within North Western section of site