

**UPDATED
BUSHFIRE PROTECTION ASSESSMENT
FOR THE CONSTRUCTION OF THE PROPOSED
MILTON MEADOWS SENIORS LIVING DEVELOPMENT
ON LOT 1 in DP 780801 & LOT 1 in DP 737576
WINDWARD WAY, MILTON
FOR
ANNSCA PROPERTY GROUP**

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Assessment Number	Document	Preparation Date	Issue Date	Directors Approval
B172942 - 4	Final	4.5.2017	13.03.2020	<i>G.L.Swain</i>

EXECUTIVE SUMMARY

Australian Bushfire Protection Planners Pty Limited has been commissioned to prepare a further updated Bushfire Protection Assessment Report for the construction of the Milton Meadows Seniors Living Development on Lot 1 in DP 780801 Windward Way and Lot 1 in DP 737576, The Princes Highway, Milton.

The development proposal includes the construction of an eighty [89] bed Residential Care Facility [RACF]; Club House/Medical Centre; seven [7] Apartment Blocks containing a total of one hundred and thirty three [133] units and fifty nine [59] Duplex Independent Living Units [ILUS] containing 127 dwellings.

The development will be undertaken over three stages with proposed Stage 1 containing the RACF building, Club House and sixty five [65] dwellings.

Stage 2 will contain the remaining sixty two [62] dwellings and Stage 3 the seven [7] Apartment Block.

The proposed development occupies the vacant land to the north of Windward Way, extending north to unmade Warden Street. The eastern boundary of the development site adjoins Milton Tourist Park and the western boundary adjoins an unmade road reserve beyond which is located vacant grazing land and a rural residential development.

The Shoalhaven Bushfire Prone Land Map records a large portion of the development site as containing Category 2 Bushfire Prone Vegetation and the 30 metre wide Buffer Zone to this vegetation. The Map also records similar vegetation on the land surrounding the development site.

The Bushfire Prone Land Map triggers the integrated development provisions of Section 4.46 of the *Environmental Planning & Assessment Act 1979*. In addition, the proposed development is deemed to be a “*Special Fire Protection Purpose*” development under the provisions of Section 100B of the NSW Rural Fires Act 1997 [Amended August 2002] and requires the issue of a Bushfire Safety Authority by the Commissioner of the NSW Rural Fire Service.

A Bushfire Safety Authority was issued on the 12TH December 2018 in response to Council correspondence dated 5th June 2017 and included recommendations on the provisions of Asset Protection Zones; Water and Utilities, Access, Evacuation and Emergency Management and Design & Construction.

Condition 1 of the BFSA requires ‘the entire property’ to be managed as an inner protection area (IPA).

The original layout and the updated layout being submitted to Council identifies that the northern and north-western portion of the development site contains the riparian zone to the watercourse (Pettys Creek) and is NOT identified as part of the requirements to provide complying Asset Protection Zones to the proposed development.

Condition 3 of the BFSA provided recommendations on the access requirements which have been addressed in the updated layout. Condition 4 relates to construction standards to the proposed buildings which have been addressed in this updated report.

The amended application was submitted to the NSW Rural Fire Service (via Council).

The NSW Rural Fire Service, irrespective of the issue of the Bushfire Safety Authority, have now raised in correspondence dated 17th January 2020 issues with the definition and classification of the vegetation on the land adjoining the development site, including the vegetation on the managed properties to the south of Windward Way and on the rural land to the west of the development site.

This further amended report revisits these matters and has determined that the land to the south contains managed grazing land. To address the RFS insistence that this land is not managed the vegetation classification has been determined as 'grassland' and confirmation of complying Asset Protection Zones provided.

The land to the west also contains grazing land with Blackwattle regrowth over which an agreement has been reached with the owners of the adjoining land whereby the owners/operators of the proposed development will be permitted to undertake management of the vegetation for a minimum distance of 140 metres to the west of the western boundary of the development site.

The RFS has also questioned the efficacy of the slope assessment of the land in the north-western corner of the development site. This was examined during the site inspection undertaken by Graham Swain, using a hand held inclinometer, confirming that the land falls to the north at less than 5 degrees, increasing to 5 – 7 degrees across the narrow southern bank of the creek.



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

Fire Protection Association Member No. 48781

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SECTION 1

INTRODUCTION

1.1 Aim of this Assessment.

The aim of this Bushfire Protection Assessment is to review the proposed Seniors Living development to determine compliance with the deemed-to-satisfy provisions of *Planning for Bushfire Protection 2006* and in particular:

- Determine the formation of the vegetation on and surrounding the development footprint in accordance with the vegetation classification system contained in *Planning for Bushfire Protection 2006*;
- Undertake an assessment to determine the effective slope of the land which will cause the most insignificant fire behaviour on the facility;
- Determine the Fire Danger Index [FDI] for the site;
- Undertake an assessment to determine the adequacy of the bushfire protection measures, including the following matters:
 - (i) The provision of building setbacks (Asset Protection Zones) 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 emergency service vehicles;
 - (iv) Construction standards to be used for the future buildings within the proposed development to minimize the vulnerability of buildings to ignition from radiation and ember attack;
 - (v) Land management responsibilities; and
 - (vi) Evacuation management.

1.2 Statutory Requirements.

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

1.2.1 Legislation.

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

Planning and development within NSW is regulated by the *Environmental Planning & Assessment Act, 2017* (EPA Act).

Section 4.46 of the Act defines the subdivision of Bushfire Prone Land for residential and rural residential subdivision and the construction of special protection developments that are located in a Bushfire Prone Area as integrated development, which requires authorization under Section 100B of the *Rural Fires Act 1997*.

(b) Rural Fires Act 1997

The *Rural Fires Act* was amended in August 2002 by the *Rural Fires & Environmental Assessment Legislation Amendment Act, 2002*.

In relation to bushfire planning for new residential, rural residential and special fire protection purpose developments in bushfire prone areas in NSW, Section 100B of the Act applies. Section 100B provides for the issue, by the Commissioner of the NSW Rural Fire Service, of a Bushfire Safety Authority for development which creates the subdivision of bushfire prone land for residential and rural residential development and construction of special fire protection developments located within a Bushfire Prone Area.

An application for a Bushfire Safety Authority must be lodged as part of the development application process and must demonstrate compliance with *Planning for Bushfire Protection 2006* and other matters which are considered necessary, by the Commissioner, to protect persons, property and the environment from the impact of bushfire.

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

(c) Rural Fires Regulation 2013.

Section 44(1) & (2) of the *Rural Fires Regulation 2013* relates to planning for new residential, rural residential and special fire protection developments in bushfire prone areas in NSW and provides details of the matters that are required to be addressed for the issue of a *Bushfire Safety Authority* under Section 100B (4) of the *Rural Fires Act 1997*.

1.2.2 Planning Policies.

(a) 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 residential subdivision and Special Fire Protection Developments in bushfire prone areas.

The Commissioner may determine, under Section 100B of the *Rural Fires Act*, additional measures that are considered necessary to protect the development against the impact of bushfire.

1.3 Documentation reviewed in this Assessment.

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

- Plan showing spot levels and contours over Lot 1 in DP 780801 and Lot 1 in DP 737576 prepared by Rygate West Consulting Surveyors;

- Shoalhaven LEP 2014 – Zoning Map;
- Rezoning Application - Lot 1 in DP 780801 and Lot 1 in DP 737576 prepared by SdMasterplan & AJM Environmental Planning & Management – August 2005;
- Plan of Vegetation and Riparian Management Zones/APZ prepared by Cumberland Ecology;
- Plan of Vegetation Communities prepared by Cumberland Ecology;
- Shoalhaven Bushfire Prone Land Map;
- Amended Architectural plans of the proposed Milton Meadows Seniors Living Development prepared by Stephen Jones Associates – 07.06.2019;
- Landscape Plans prepared by Zenith Landscape Design;
- *Planning for Bushfire Protection 2006*;
- Australian Standard AS3959 - 2009 *Construction of Buildings in Bushfire Prone Areas*;
- *Rural Fires Regulation 2013*;
- *Bushfire Safety Authority* – dated 12th December 2018.

1.4 Development Proposal.

The development proposal includes the construction of an eighty [89] bed Residential Care Facility [RACF]; Club House/Medical Centre; seven [7] Apartment Blocks containing a total of one hundred and thirty three [133] units and fifty seven [57] Duplex Independent Living Units [ILUS] containing 127 dwellings.

The development will be undertaken over three stages with proposed Stage 1 containing the RACF building, Club House and sixty five [65] Dwellings. Stage 2 will contain the remaining sixty two [62] Dwellings and Stage 3 the seven [7] Apartment Blocks.

Figure 1 – Survey Plan of the Development Site.

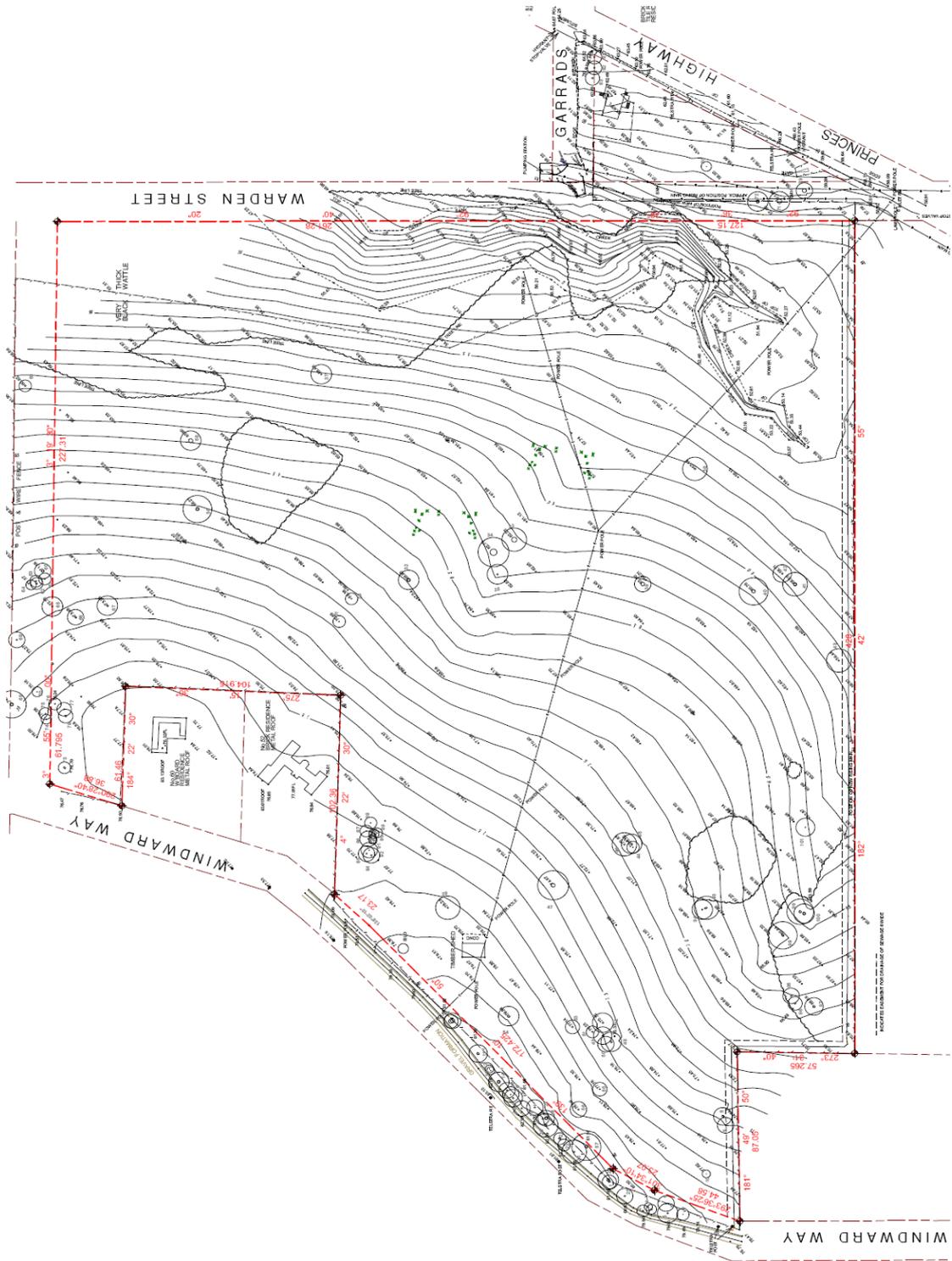


Figure 2 – Site Plan of the Development Site.

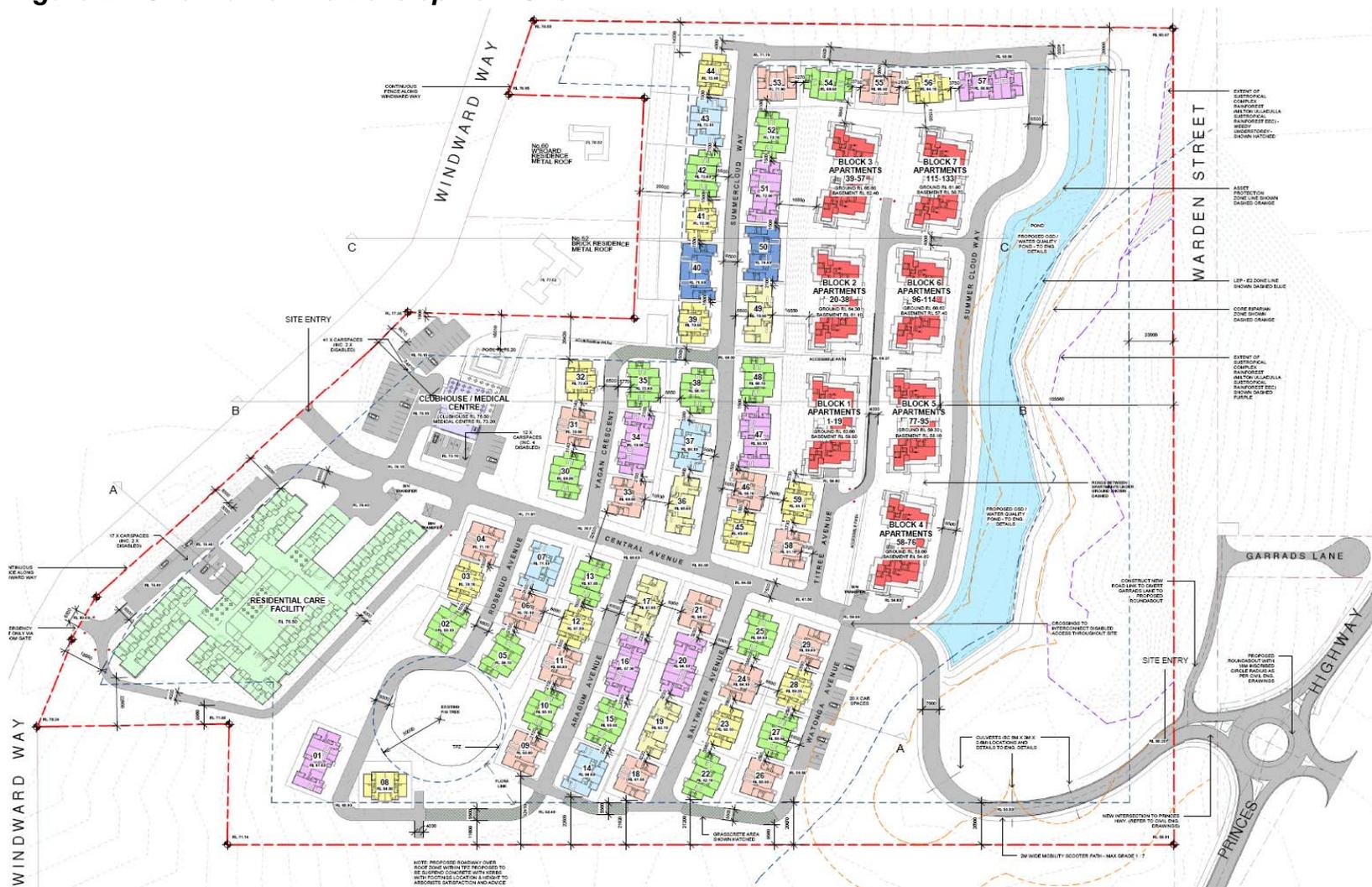
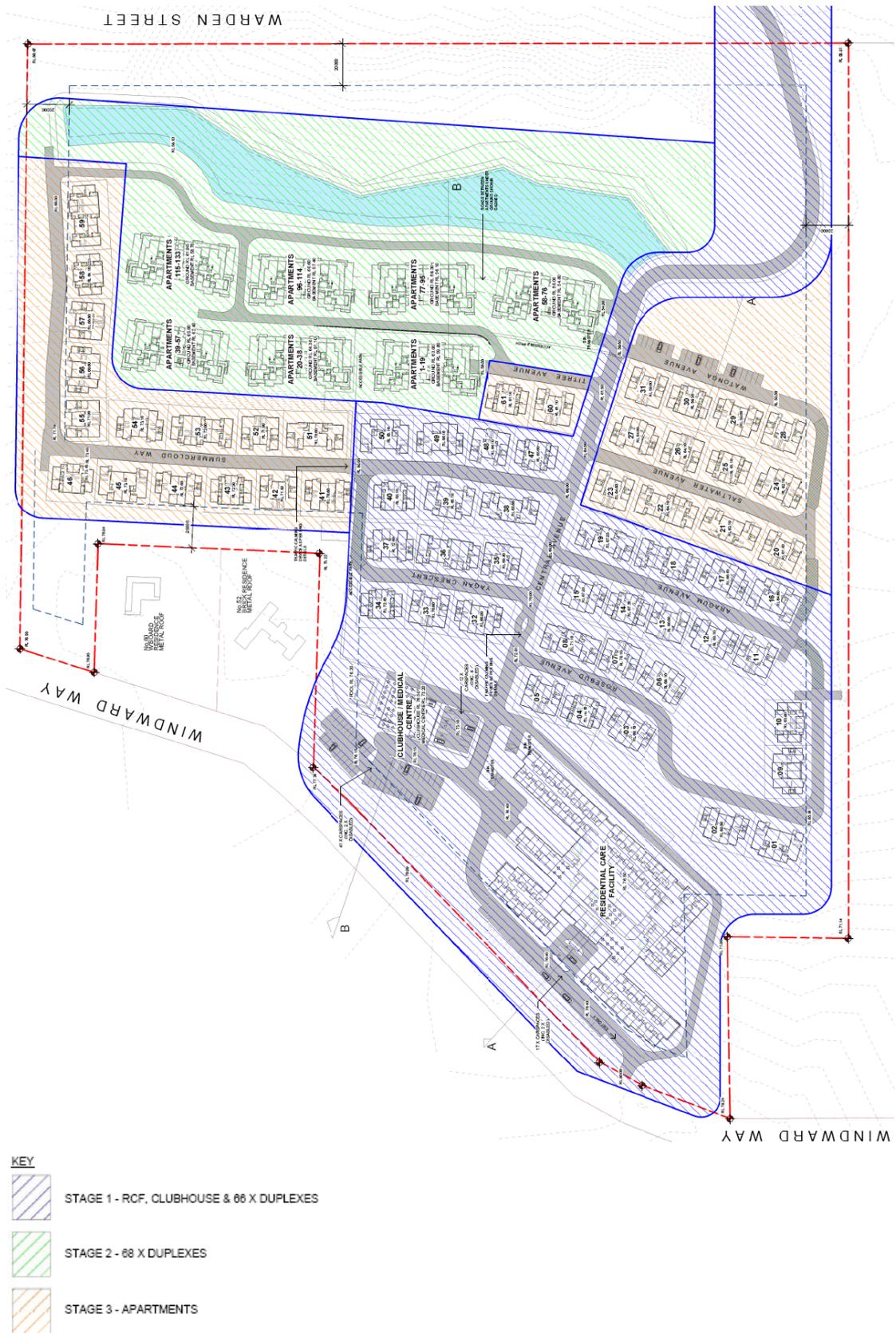


Figure 3 – Staging Plan of the Development.



1.5 Site Inspection.

Graham Swain of ***Australian Bushfire Protection Planners Pty Limited*** inspected the development site on the 9th of April 2017 to assess the topography, slopes and vegetation classification within and adjoining the development property, existing bushfire mitigation measures and a visual assessment of bushfire threat.

Adjoining properties were also inspected to determine the surrounding land use / land management and extent of bushfire prone vegetation.

SECTION 2

PROPERTY DESCRIPTION

2.1 Location & Description.

The proposed Milton Meadows Seniors Living development occupies Lot 1 in DP 780801, Windward Way, Milton.

The development site occupies the vacant land to the north of Windward Way, extending north to unmade Warden Street.

The eastern boundary of the development site adjoins Milton Tourist Park and the western boundary adjoins an unmade road reserve beyond which is located vacant grazing land and a rural residential development.

Figure 4 – Location of the Milton Meadows Seniors Living Development.



2.2 Existing Land Use.

The development site contains vacant land.

2.3 Land Use Adjoining the Development Site.

a) North

The land to the north of the development site contains the unmade Warden Road. Beyond the road reserve the land contains existing residential development.

b) East

The land to the east of the development site contains the Milton Tourist Park within Lot 20 in DP 628614 and an existing residential development on Lot 1 in DP 552776, located on the north-western intersection of Windward Way and Slaughterhouse Road.

c) South

The land to the south of the development site, beyond Windward Way, contains existing rural residential and rural development.

d) West

The land to the west of the development site initially contains a 20 metre wide unmade crown road reserve beyond which is an existing rural residential development within Lot 1 in DP 742763 and vacant rural land within Lot 3 in DP 785757, to the north Lot 1 in DP 785757.

Figure 5 – Aerial Photograph of the Milton Meadows Seniors Living Development site.



2.4 Topography.

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

(i) ***Within the Development Site.***

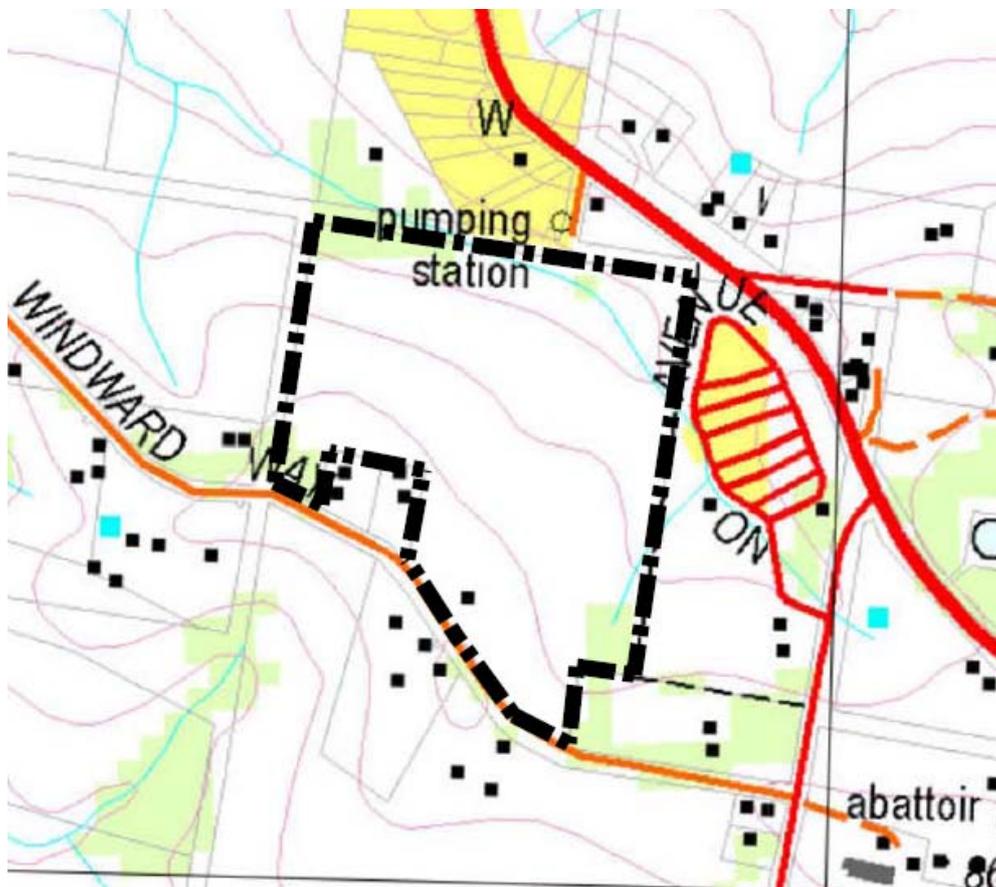
The land within the development site falls to the north at less than 5 degrees, towards Pettys Creek. The gradient on the narrow southern bank of the tributary to Pettys Creek increases to 5 - 7 degrees at the western end, flattening to less than 5 degrees in an easterly direction.

(ii) ***Beyond the Development Site.***

The topography of the land to the north of the development site rises at 5 – 6 degrees across the land to the north of the watercourse. The land to the west and east of the development site follows the contours of the land whilst falling to the northwest and northeast, respectively, towards the watercourse.

The land to the south, beyond Windward Way, falls to the southwest at 4 – 9 degrees.

Figure 6 – Topographic Map of Development Site & surrounding land.



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 proposed building.

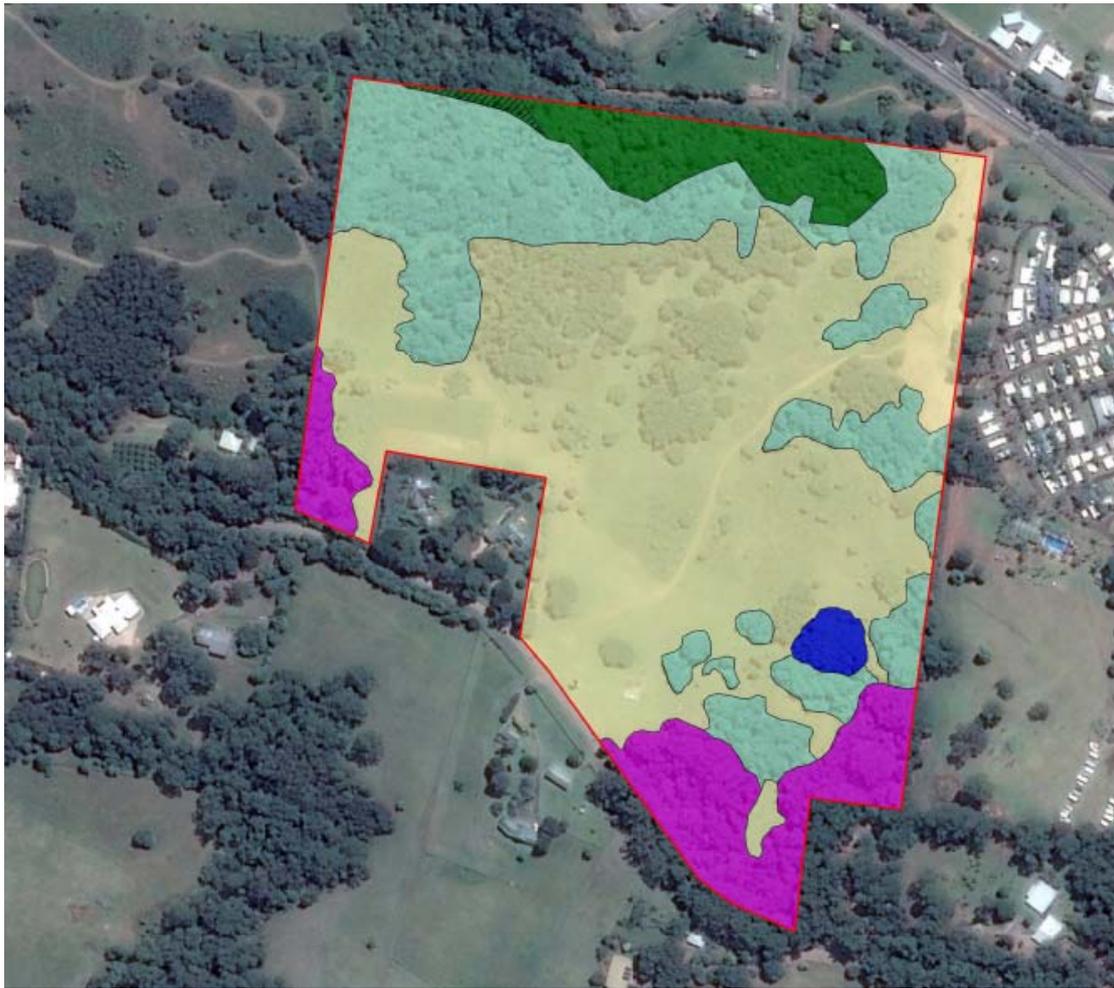
Vegetation is classified using Table A2.1 of *Planning for Bushfire Protection 2006*, which classifies vegetation types into the following groups:

- (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 vegetation within the development site has been examined by Cumberland Ecology with six [6] vegetation communities found. These include:

1. Subtropical Complex Rainforest [Milton Ulladulla Subtropical Rainforest EEC] within the riparian corridor to the tributary to Pettys Creek – in the northern portion of the development site;
2. Subtropical Complex Rainforest [Milton Ulladulla Subtropical Rainforest EEC] with a weedy understorey – being a western extension to Community 1.
3. Clyde Gully Wet Forest located as a small pocket in the south-western and a larger pocket in the south-eastern corners of the development site;
4. Native Fig with Rainforest Understorey consisting of a small pocket adjacent to the eastern boundary of the development site;
5. Native Regrowth and Exotic Weeds occupying a large area of the northern portion and smaller pockets of the development site;
6. Exotic Grassland which occupies the remainder of the development site.

Figure 7 – Plan of Vegetation Communities within the Development Site.



Vegetation Community	
	Subtropical Complex Rainforest (Milton Ulladulla Subtropical Rainforest EEC)
	Subtropical Complex Rainforest (Milton Ulladulla Subtropical Rainforest EEC) (weedy understorey)
	Clyde Gully Wet Forest
	Native Fig with Rainforest Understorey
	Native Regrowth and Exotic Weeds
	Exotic Grassland

2.6 Vegetation within 140 metres of the Development Precinct.

(a) North

The vegetation to the north of the development precinct consists of the Subtropical Complex Rainforest within the tributary to Pettys Creek.

The land to the north of the tributary contains managed vegetation on the existing residential properties. The property to the north of the north-western corner of the development site contains an existing dwelling located beneath Subtropical Complex Rainforest with a managed curtilage to the existing assets.

(b) East

The Milton Caravan Park to the east of the development precinct contains managed landscaped gardens and open parkland. The property to the east of the southeast corner of the development precinct contains an existing dwelling with a managed curtilage which includes retained canopy trees.

(c) South

The rural residential/rural properties to the south of Windward Way contain managed pasture grass (with shade trees) and managed landscaped gardens within the curtilages to the buildings.

(d) West

The land to the west of the development precinct contains rural residential and rural landuses with the rural residential properties containing managed curtilages, including retained canopy trees.

The rural landuse has clumps of retained trees and pasture grass which is grazed. An agreement has been reached with the landowner of the rural land for the establishment of a Positive Covenant for the management of a 140 metre wide strip of land adjoining the development site to be maintained as managed grassland.

Refer to Figure 8 on Page 19.

2.7 Significant Environmental Features on the Development Site.

The development precinct, including the Asset Protection Zones, does not contain areas of Geological interest; Land slip areas or National Parks Estate, SEPP 14 Wetland, SEPP 44 Koala Habitat or Steep Lands [>18 degrees].

The northern portion of the development site contains the riparian corridor to a tributary of Pettys Creek. This area has been excluded from the development precinct – including the Asset Protection Zone to the north of the proposed buildings.

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

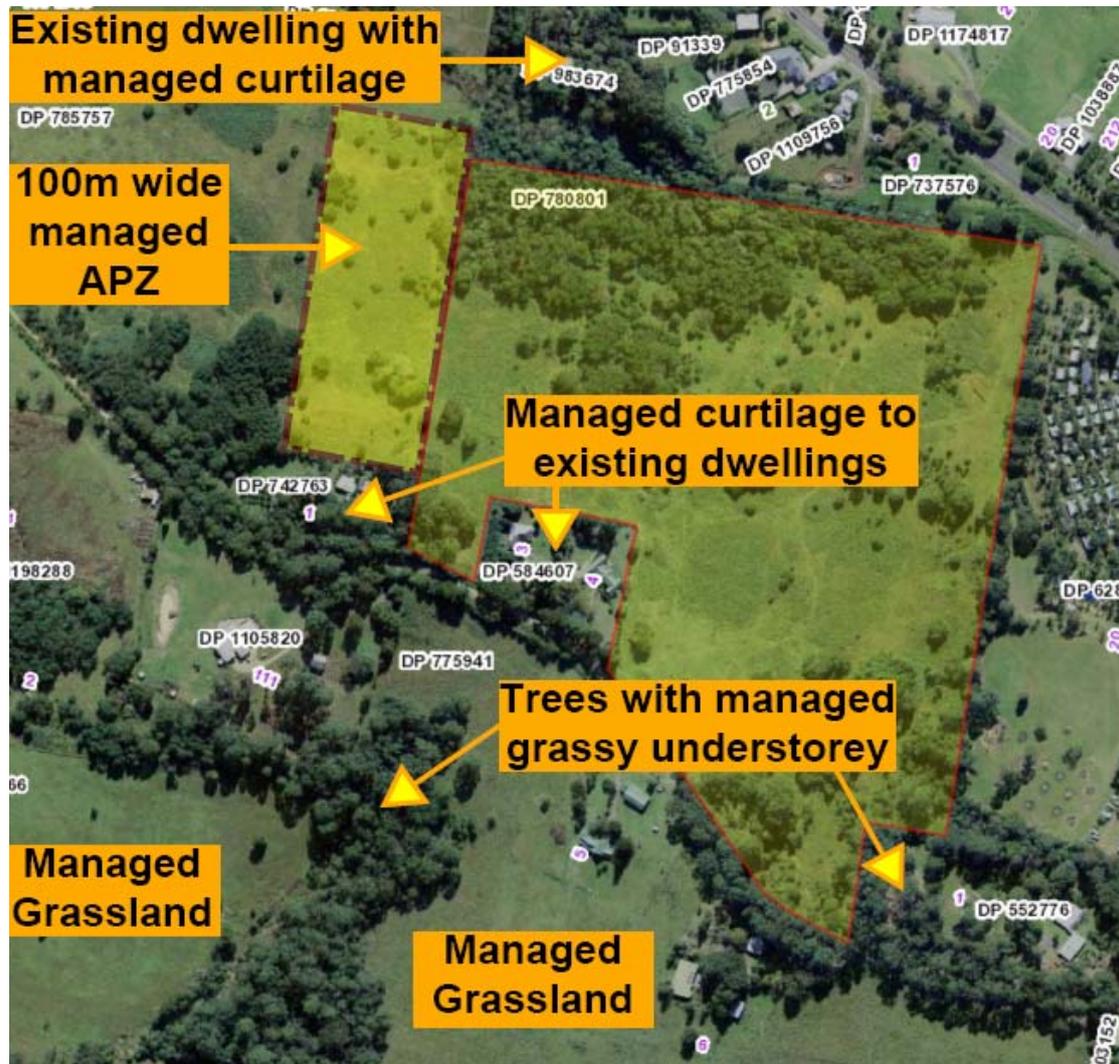
Cumberland Ecology have identified that the northern portion of the development site contains Subtropical Complex Rainforest [Milton Ulladulla Subtropical Rainforest EEC.

[Refer to Flora & Fauna Assessment undertaken by Cumberland Ecology].

2.9 Details and location of Aboriginal relics or Aboriginal place.

There are no known Aboriginal relics or Aboriginal places within the development precinct.

Figure 8 – Aerial Photograph of Development Site showing the vegetation communities on the adjoining land.



SECTION 3

PRECINCT LEVEL ASSESSMENT

3.1 Certified Bushfire Prone Land Map.

Figure 9 below is a copy of an extract of the Shoalhaven Bushfire Prone Land Map showing the extent of the Category 2 Bushfire Prone Vegetation mapped as occupying the land within and adjoining the development site.

Figure 9 – Extract of the Shoalhaven Bushfire Prone Land Map showing the mapped Category 2 Bushfire Prone Vegetation within and external to the development site.



Legend

-  Bush Fire Prone Land - Vegetation Category 1
-  Bush Fire Prone Land - Vegetation Category 2
-  Bush Fire Prone Land - Vegetation Buffer - 100m & 30m

The site inspection undertaken on the 9th April 2017 investigated the extent of unmanaged vegetation on the development site and adjoining properties and confirmed that the Shoalhaven Bushfire Prone Land Map is NOT accurate.

Whilst the development site currently contains some areas of unmanaged regrowth vegetation, the proposed development will remove this vegetation, leaving the Subtropical Rainforest in the creek corridor as the only bushfire hazard to the north of the proposed development. This vegetation community also occupies the land to the north of the north-western corner of the development site.

The Milton Tourist Park, to the east of the development site contains managed vegetation with a retained tree canopy – this vegetation is NOT bushfire prone. Similarly, the residential property located to the east of the south-eastern corner of the development site contains a managed curtilage to the dwelling, with a retained tree canopy – this vegetation is NOT bushfire prone.

The vegetation on the land to the south of Windward Way is managed and is NOT bushfire prone. Similarly, the rural residential and rural land to the west of the development site contains managed vegetation which is NOT bushfire prone.

An agreement has been reached with the landowner of the rural land for the establishment of a Positive Covenant for the management of a 140 metre wide strip of land adjoining the development site to be maintained as managed grassland.

The Shoalhaven Bushfire Prone Land Map does not accurately record the actual extent of unmanaged vegetation within 140 metres of the development site.

SECTION 4

BUSHFIRE PROTECTION ASSESSMENT

4.1 Introduction.

Section 44(1) of the *Rural Fires Regulation 2013* requires that an application for a *Bushfire Safety Authority* must include a bushfire assessment for the proposed development (including the methodology used in the assessment) that addresses the extent to which the development provides:

- *Asset protection zones;*
- *The siting and adequacy of water supplies for fire fighting operations;*
- *Capacity of public roads to handle increased volumes of traffic during a bushfire emergency;*
- *Whether or not public roads link with the fire trail network and have two way access;*
- *The adequacy of access and egress for the purposes of emergency response;*
- *The adequacy of bushfire maintenance plans and fire emergency procedures; and*
- *The construction standards to be used for building elements.*

4.2 Asset Protection Zones.

Planning for Bushfire Protection 2006 provides a methodology to determine the Asset Protection Zones required for buildings in a development that is defined as a “*Special Fire Protection Purpose Development*” [i.e. Seniors Living Development] that is located in a designated bushfire prone area.

The Shoalhaven Bushfire Prone Land Map records that the development site and adjoining properties contain Category 2 [Low Hazard] Bushfire Prone Vegetation and/or the buffer zone to bushfire prone vegetation.

An examination of the site and surrounding land has identified that most of the mapped Category 2 Bushfire Prone Vegetation is in fact managed vegetation with the only hazard to the proposed Seniors Living Complex being from the small pocket of Subtropical Complex Rainforest vegetation in the riparian corridor to the tributary to Pettys Creek.

This vegetation community has a total area of approximately 2.5 hectares and is restricted to the northern part of the development site, part of the unmade section of Warden Road and part of Lot 11 in DP 983674, being the property containing the existing dwelling to the northwest of the development site.

The map is therefore not accurate in identifying the location and extent of bushfire prone vegetation within 140 metres of the proposed Seniors Living Development.

The risk of a bushfire in the small pocket of rainforest vegetation in the Pettys Creek corridor is negligible due to the fact that the vegetation is an isolated pocket adjoined by existing residential and rural properties which have managed non-bushfire prone vegetation.

This isolation means that the only possible fire path that may burn in the creek corridor is from the north-west, resulting in the fire burning along the riparian corridor and therefore creating a 'flank' fire to the proposed development – travelling along the contours rather than up the creek bank.

The resultant effective slope of the fire path is less than 5 degrees, upslope to the east.

Appendix 2 of *Planning for Bushfire Protection 2006* provides the following procedure for determining setback distances (Asset Protection Zones):

- (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 A2.6 and determine the appropriate setback [Asset Protection Zone] for the assessed land use, vegetation formation and slope range.*

Table 1 utilises the methodology provided by *Planning for Bushfire Protection 2006* to examine the Asset Protection Zone requirements to the proposed Seniors Living complex.

Table 1. Examination of Asset Protection Zone requirements to the proposed Milton Meadows Seniors Living Development. Fire Danger Index [FDI] for the site is 100

Aspect	Vegetation within 140m of development	Predominant Vegetation Formation (Table A2.1)	Effective Slope of Land	Width of Asset Protection Zone [Table A2.6 of Pf BFP 2006]	Width of Asset Protection Zone Provided	Compliance with Table A2.6.
North & North West	Subtropical Complex Rainforest	Rainforest	5 degrees downslope [along creek corridor]	40 metres	> 50 metres	Yes
East	Managed land	Nil	NA	NA	> 100 metres	NA
South	Managed land	Nil	NA	NA	> 100 metres	NA
West	Managed land	Nil	NA	NA	> 100 metres	NA

Assessment Results:

The assessment to determine the requisite width of Asset Protection Zones to the proposed Seniors Living complex has been undertaken using the identified effective slope for the land within the riparian corridor [< 5 degrees west to east with the building setbacks exceeding the width determined from Table A2.6 of *Planning for Bushfire Protection 2006*.

A fire which may occur in the riparian corridor will burn along the contours of the creekline from the northwest, reducing the effective slope to that used in Table 1 above.

Note 1:

The formal access to the site is via a new local road from the Princes Highway, extending onto the site to provide a private road which passes the 'top', eastern end of the of the riparian corridor and has therefore been provided with a 20 metre wide Asset Protection Zone to the north-western side and a 10 metre wide Asset Protection Zone to the eastern side of the road. An alternate emergency exit is also provided to Windward Way, to the south of the site.

Note 2:

The RFS have questioned the accuracy of the assessment of vegetation on the land to the south and west of the development site.

The land to the south contains rural residential development with managed landscaped gardens and managed grassland. Should this grassland vegetation not be managed, as claimed by the RFS, the available Asset Protection Zone to the southern aspect of the complex is 40 metres. This width is available within the managed road reserve and the building setback to Windward Way.

The land to the west contains rural landuse which has been traditionally managed by grazing. An agreement has been reached with the landowner to permit the establishment and management of a 100 metre wide Asset Protection Zone to the west of the western boundary of the development site, providing a 120 metre wide managed Asset Protection Zone to this aspect of the proposed buildings.

This addresses the RFS's claim that this land is not being managed and will return to vegetation which has a higher classification as managed grassland.

4.3 Management of Asset Protection Zones.

Management of the vegetation within the proposed development, including the Asset Protection Zones and landscaped gardens shall comply with the recommendations of Appendix A5.4 & Appendix A5.5 of *Planning for Bushfire Protection 2006* and the Rural Fire Service "*Standards for Asset Protection Zones*".

Management of the landscaped gardens shall comply with the following:

- Maintain a clear area of low cut lawn or pavement adjacent to the buildings;
- Utilise non-flammable materials such as Scoria, pebbles and recycled crushed bricks as ground cover to landscaped gardens in close proximity to buildings;
- Landscape species selection shall be drawn from those that are considered to be species which are "*fire retardant*" and do not promulgate the spread of fire.

It is recommended that a Section 88B Instrument, under the provisions of the Conveyancing Act of 1919, shall be created on the title of the land to ensure that the landscaped gardens and Asset Protection Zones are managed to the standards of an Inner Protection Area [IPA].

A Section 88B Instrument, under the provisions of the Conveyancing Act of 1919, shall be created on the title of Lot 3 in DP 785757, being the land to the west of the development site. This is to ensure that the grassland vegetation will be managed and not allowed to revegetate.

4.4 Assessment of Bushfire Attack (Construction Standards).

Due to the development site being designated as containing Category 2 Bushfire Prone Vegetation, construction standards to the buildings are required to be considered.

The width of the Asset Protection Zone between the Subtropical Rainforest vegetation in the northern portion of the site and the proposed buildings has been established to limit the radiant heat exposure on the northern buildings to less than 10kW/m².

It is recommended therefore that Building No. 57, Building No. 58 and Block 7 are designed and construction to comply with Section 3 and Section 5 [BAL 12.5] of Australian Standard A.S. 3959 – 2009.

4.5 Design and Sitting of the Development.

The proposed Seniors Living complex is located on the southern outskirts of the village of Milton, within the safety provided by the existing managed land to the east, south and west with the only risk of bushfire being from the low hazard rainforest vegetation in the tributary to Pettys Creek, located along the northern boundary of the development site and is therefore not located in an area which will be subjected to extreme, direct bushfire attack.

The site provides a safe location [from bushfire impact] in which to locate the intended landuse.

4.6 Water Supplies for Fire Fighting Operations.

The proposed Seniors Living Development will be connected to the existing reticulated water supply.

Due to the low risk from bushfire, no additional fire fighting resources are required, other than a hydrant/hose reel supply to the buildings in accordance with the Building Code of Australia provisions, installed in accordance with the specifications of Australian Standard A.S 2419.1 - 2005 and have a minimum flow rate of 10 litres / second.

Fire hydrants shall be accessible and located such that a fire appliance can park within a maximum distance of 20 metres from the hydrant and the building/s must be located such that a fire at the furthest extremity can be attacked by fire-fighters using two 30 metre hose lines and a 10 metre water jet. A clear unobstructed path between the hydrant and the most distant point of the building cannot exceed 90 metres.

Hydrant locations shall be delineated by blue markers placed on the hydrant side of the centreline of the road pavement.

4.7 Access for Fire Fighting Operations.

4.7.1 Adequacy of Public Roads.

The proposed Seniors Living Development will access onto the Princes Highway via a new road connection (Central Avenue) which will be designed and constructed as a local road dedicated to Council and therefore addressed the public road design requirements of Chapter 4 of *Planning of Bushfire Protection 2006*.

4.7.2 Emergency Response Access / Egress.

Emergency response access/egress to the buildings within the proposed development shall comply with Section 4.2.7 "Access – Internal Roads" [and subsequently Section 4.1.3 "Access – Public Roads" of Chapter 4 of *Planning of Bushfire Protection 2006*.

The minimum pavement width of the internal road network shall be 6.5 metres and provide "No Parking" with parking bays provided clear of the road width.

Services shall not be located within the parking bays/parking areas and shall be located so as to permit easy access for attending fire crews.

The inner radii to corners shall be 6.0 metres with and outer radii of 12.0 metres and turning heads of 12.0m radius shall be provided to permit fire appliances to exit the site in a forward direction.

A layby parking bay shall be provided at the internal hydrant points located adjacent to the internal road.

Note 3: *The proposed layout provides for internal fire access links for fire-fighting operations, including an emergency access point onto Windward Way. The minimum trafficable width of this access link shall be 4.0 metres with 'No Standing' to both sides. The Emergency Exit shall be secured via a 'Boom Gate' operated from the Residential Care Facility.*

The carrying capacity of these access links shall be 15 tonnes GVM.

4.7.3 Fire Trail Access

No fire trail is provided in the design of the village nor is the provision of fire trails required as internal fire access links have been provided.

4.8 Adequacy of bushfire maintenance plans and fire emergency procedures.

As the potential bushfire risk to the proposed Seniors Living complex is considered to be low there is no requirement for the establishment of bushfire maintenance and fire emergency procedures.

4.9 Emergency Management for Fire Protection / Evacuation.

Evacuation of the Seniors Living Development due to the impacts of direct bushfire threat will not be required.

However, an Evacuation Plan shall be prepared to address the management of emergencies within the complex.

SECTION 5

RECOMMENDATIONS

Recommendation 1:

Management of Asset Protection Zone/Landscaping:

The landscape gardens and recommended Asset Protection Zone within the development [to the extent as shown on the Site Plan] shall be maintained as an Inner Protection Area/Outer Protection Area in accordance with Appendix 5 of *Planning for Bushfire Protection 2006* and the NSW Rural Fire Service's "*Specifications for Asset Protection Zones*".

Management of the landscaped gardens shall comply with the following:

- Maintain a clear area of low cut lawn or pavement adjacent to the buildings;
- Utilise non-flammable materials such as Scoria, pebbles and recycled crushed bricks as ground cover to landscaped gardens in close proximity to buildings;
- Landscape species selection shall be drawn from those that are considered to be species which are "*fire retardant*" and do not promulgate the spread of fire.

Recommendation 2:

Easement for Management of Asset Protection Zone:

A Section 88B Instrument, under the provisions of the Conveyancing Act of 1919, shall be created on the title of the land to ensure that the landscaped gardens and Asset Protection Zone is managed to the standards of an Inner Protection Area [IPA].

A Section 88B Instrument, under the provisions of the Conveyancing Act of 1919, shall be created on the title of Lot 3 in DP 785757, being the land to the west of the development site. This is to ensure that the grassland vegetation will be managed and not allowed to revegetate.

Recommendation 3:

Water Supplies for Firefighting Operations:

A hydrant/hose reel supply shall be provided in accordance with the Building Code of Australia provisions, installed in accordance with the specifications of Australian Standard A.S 2419.1 – 2005 and have a minimum flow rate of 10 litres / second.

Fire hydrants shall be accessible and located such that a fire appliance can park within a maximum distance of 20 metres from the hydrant and the building/s must be located such that a fire at the furthest extremity can be attacked by fire-fighters using two 30 metre hose lines and a 10 metre water jet. A clear unobstructed path between the hydrant and the most distant point of the building/s cannot exceed 90 metres.

Hydrant locations shall be delineated by blue markers placed on the hydrant side of the centreline of the road pavement.

Recommendation 4:

Internal Access Roads:

The access/egress to the complex shall comply with Section 4.2.7 “Access – Internal Roads” [and subsequently Section 4.1.3 “Access – Public Roads” of Chapter 4 of *Planning of Bushfire Protection 2006*].

The minimum pavement width of the internal road network shall be 6.5 metres and provide “No Parking” with parking bays provided clear of the road width.

Services shall not be located within the parking bays/parking areas and shall be located so as to permit easy access for attending fire crews.

The inner radii to corners shall be 6.0 metres with and outer radii of 12.0 metres and turning heads of 12.0m radius shall be provided to permit fire appliances to exit the site in a forward direction.

A layby parking bay shall be provided at the internal hydrant points located adjacent to the internal road. Similarly, a lay-by parking bay shall be provided at the Hydrant Booster Valve assembly.

Recommendation 5:

Fire Fighting Access Links:

The minimum trafficable width of the fire access links shall be 4.0 metres with ‘No Standing’ to both sides.

The carrying capacity of these access links shall be 15 tones GVM.

The western access link onto Windward Way shall have a minimum width of 4.0 metres and secured by a locked gate. The eastern Emergency Exit shall be secured via a ‘Boom Gate’ operated from the Residential Care Facility.

Recommendation 6:

Bushfire Construction Standards to the proposed Buildings:

Building No. 57, Building No. 58 and Block 7 shall be designed and construction to comply with Section 3 and Section 5 [BAL 12.5] of Australian Standard A.S. 3959 – 2009.

Recommendation 7:

Evacuation Plan:

An Evacuation Plan shall be prepared and include protocols for the safe relocation of the occupants of the development and include the following information:

- (a) Under what circumstances will the facility are evacuated;
- (b) Where will the persons be relocated to;
- (c) The roles & responsibilities of person co-ordinating the evacuation;
- (d) Roles & responsibilities of persons remaining with the complex after evacuation;
- (e) A procedure to contact the Emergency Services to inform them of the evacuation and where the occupants will be evacuated to.

SECTION 6

CONCLUSION

A further amended Application is being lodged with Shoalhaven Council for the construction of the proposed Milton Meadows Seniors Living complex on Lot 1 in DP 780801, Windward Way, Milton.

The Milton Meadows Seniors Living Development site and adjoining land is shown on the Shoalhaven Bushfire Prone Land Map as containing Category 2 Bushfire Prone Vegetation.

The site inspection confirmed that the Bushfire Prone Land Map does not accurately record the bushfire prone vegetation on the development site and adjoining properties.

The inspection also confirmed that, once the development site has been cleared for construction of the complex, the only hazard remaining will be the Subtropical Rainforest vegetation in the narrow riparian corridor to the tributary to Pettys Creek, located along the northern boundary of the development site.

Due to the limited area of rainforest vegetation, the separation distance to other bushfire prone vegetation and the limited potential for fire spread along the creek corridor, from the northwest to east, the risk to the complex is low with the impact being from a 'flank fire' rather than a 'head fire'.

The provided setback from the rainforest vegetation lowers the risk further and satisfies the widths required to comply with Table A2.6 of *Planning for Bushfire Protection 2006*.

The remaining aspects of the proposed development are not exposed to bushfire threat therefore the development proposal addresses the aim and objectives of *Planning for Bushfire Protection 2006* and meets the deemed-to-comply standards for a "special fire protection development" as required by Chapter 4 of *Planning for Bushfire Protection 2006*.

The recommendations contained within this report address the requirements of the Rural Fire Service's Bushfire Safety Authority and of Section 44(1) of the *Rural Fires Regulation 2013*, as a prerequisite for the issue of an updated Bushfire Safety Authority.

The following table summarises the extent to which the proposed development conforms with, or deviates from, the requirements of Section 44(1) of the *Rural Fires Regulation 2013* and the deemed-to-satisfy specifications of *Planning for Bushfire Protection 2006*.

Table 2. Compliance with Section 44(1) of the Rural Fires Act

Requirements of Section 44(1) of Rural Fires Regulation	Compliance with deemed-to-satisfy provisions of <i>Planning for Bushfire Protection 2006</i> .
(I) Asset Protection Zone setbacks	YES – Complies to the widths required under Table A2.6 of <i>Planning for Bushfire Protection 2006</i> for Rainforest vegetation
(II) The siting and adequacy of water supplies for fire fighting	YES – Hydrant supply provided in accordance with BCA provisions
(III) Capacity of public roads to handle increased volumes of traffic in the event of a bushfire emergency	YES – Warden Road constructed to comply with the Public Road provisions of Chapter 4 of <i>Planning for Bushfire Protection 2006</i>
(IV) Public roads that link with the fire trail network have two - way access	Not Applicable
(V) Adequacy of emergency response access and egress	YES – Will comply with Section 4.2.7 of <i>Planning for Bushfire Protection 2006</i>
(VI) Adequacy of bushfire maintenance plans and fire emergency procedures	YES – Evacuation Plan to the prepared for the complex
(VII) Building construction standards	YES – BAL 12.5 construction recommended to the buildings.
(VIII) Adequacy of sprinkler systems and other fire protection measures to be incorporated into the development	None required

The proposed development complies with the “Deemed-to-Satisfy” specifications set out in Chapter 4 (Performance Based Control) and the aim and objectives of *Planning for Bushfire Protection 2006* for a Special Fire Protection Development.

This further amended report examines the issues raised by the NSW Rural Fire Service in correspondence dated 17th January 2020. These issues relate to the classification of vegetation on the land to the south and west of the development site contained within the original bushfire report.

These matters have been re-assessed and the vegetation classification included in the original report found to be correct.

However, to placate the RFS, an easement is to be established on Lot 3 in DP 785757, being the rural land to the west of the development site. The re-examination of the vegetation on the land to the south of Windward Way has also confirmed the original assessment to be correct and determined that IF the grassland vegetation was NOT managed then a 40 metre wide Asset Protection Zone is provided within the Windward Way road reserve and the building setback from the Windward Way boundary.



Graham Swain,
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Australian Bushfire Protection Planners Pty Limited.

FPA Member No. 48781

REFERENCES:

- N.S.W Rural Fire Service – *Planning for Bushfire Protection 2006*;
- *Environmental Planning & Assessment Act – 1979*;
- *Rural Fires Act – 1997*;
- *Rural Fires and Environmental Assessment Legislation Amendment Act 2002*;
- *Rural Fires Regulation 2013*;
- NSW Rural Fire Service – *Guideline for Bushfire Prone Land Mapping 2015*;
- *Bushfire Environmental Assessment Code 2006*;
- Building Code of Australia;
- Australian Standard A.S 3959-2009 “*Construction of Buildings in Bushfire Prone Areas*”;
- Shoalhaven Bushfire Prone Land Map;
- NSW Rural Fire Service Bushfire Safety Authority – 12th December 2018;
- NSW Rural Fire Service correspondence dated 17th January 2020.