

**UPDATED
BUSHFIRE PROTECTION ASSESSMENT REPORT
FOR THE
PLANNING PROPOSAL FOR THE REZONING OF
LAND AND THE RESIDENTIAL SUBDIVISION
OF
LOTS 21, 22, 23 & 24 in DP 714096
WARRAH ROAD & GYPSY POINT ROAD,
NORTH NOWRA**

Australian Bushfire Protection Planners Pty Limited

Bushfire Mitigation Consultants

ACN 083 085 474

32 Old Dog Trap Road
SOMERSBY 2250 NSW

Phone: (02) 43622112 Fax: (02) 43622204



ABPP

Australian Bushfire
Protection Planners Pty Ltd
ABN 48 935534 462

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**BUSHFIRE PROTECTION ASSESSMENT
REPORT**

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**WARRAH ROAD & GYPSY POINT ROAD,
NORTH NOWRA**

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|--------------------------|-----------------|-----------------------------|-----------------------|---------------------------|
| Report Number | Document | Preparation Date | Issue Date | Directors Approval |
| B183179 - 3 | Final | 14.08.2018 | 14.12.2021 | <i>G.L.Swain</i> |

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BACKGROUND TO THIS UPDATED REPORT

Australian Bushfire Protection Planners Pty Limited has been commissioned by *Southbank Land Pty Ltd* and *Huntingdale Developments Pty Ltd* to undertake the Bushfire Consultancy for the Planning Proposal for the rezoning of the land and future residential subdivision of the land within Lots 21, 22, 23 & 24 in DP 714096, Warrah Road & Gypsy Point Road at North Nowra.

Australian Bushfire Protection Planners Pty Limited previously prepared a Bushfire Constraints Report for the rezoning of the land.

In a letter dated 18th October 2021 the NSW Rural Fire Service provided the following response to a Planning Proposal for the land:

Shoalhaven City Council
PO Box 42
NOWRA NSW 2541

Your reference: (REF-882) PP005
Our reference: SPI20211011000171

ATTENTION: Eric Hollinger

Date: Monday 18 October 2021

Dear Sir/Madam,

Strategic Planning Instrument
LEP Amendment - Planning Proposal
Planning Proposal to rezone land to a mix of E2 - Environmental Conservation, RU2 - Rural Landscape R5 - Large Lot Residential, and R2 - Low Density Residential.

I refer to your correspondence dated 11/10/2021 inviting the NSW Rural Fire Service (NSW RFS) to comment on the above Strategic Planning document.

The NSW RFS has considered the information submitted and provides the following comments.

The NSW Rural Fire Service has reviewed the revised concept subdivision plan by Allen, Price & Scarratts P/L ref: N26956-02 Revision 8 dated 16/09/2021.

The NSW RFS recognises that the proposal has been part of discussions since 2018 and can be considered somewhat of a legacy proposal. The proposal seeks to amend the current zoning and provides a concept subdivision plan with surrounding perimeter roads to all hazard interfaces, construction of public access within the Crown Road Reserve and public access roads to the north of the site, in the centre of the site and to the south east of the site connecting to Pitt Road. In recognition of the history of the site and recent amendments to the concept plan – the proposal is considered to be generally consistent with subdivision requirements of *Planning for Bush Fire Protection 2019* (PBP 19).

Prior to any public exhibition of the proposal the following shall be addressed:

- Bush Fire Assessment report by Australian Bushfire Protection Planners P/L dated 14/8/2018 should not be included in exhibition documents as it predates *Planning for Bush Fire Protection 2019* and the current concept subdivision plan supersedes the layout shown in the previous bush fire report.
- An updated bush fire report shall be prepared that considers the relevant bush fire protection measures of PBP 2019 and noting the following:

- The NSW RFS has not undertaken specific APZ calculations, as this should be done as part of the bush fire report, given it appears a number of lots located at the perimeter of the developed site may require portions of the future residential lots to be managed as an APZ in order to achieve a radiant heat level of 29KW/m².
- Given the location in the landscape and level of risk at the site, the NSW RFS would recommend that both the perimeter roads and secondary egress to the south east be located within a minimum of 20 metre wide public road reserves, which are entirely managed as Asset Protection Zones.
- As confirmed by Council the proposed zone boundaries will be revised to align with the current concept subdivision plan dated 16/09/2021.

The NSW Rural Fire Service's comments/recommendations have been incorporated into the revised subdivision layout which includes:

- The creation of residential lots, new roads and Asset Protection Zones outside the E2 zoned land with no requirement for the E2 zoned land to be managed to reduce the bushfire risk to the estate;
- A lot layout which provides for Asset Protection Zone widths which comply with the requirement to satisfy BAL 29 construction to the future dwellings and complies with Table A1.12.5 of *Planning for Bushfire Protection 2019*;
- A perimeter road network which is located within a 20 metre wide public road reserve which is entirely managed as Asset Protection Zones;
- Public access roads within the estate connecting to Pitt Road.

The Shoalhaven Council Bushfire Prone Land Map records that the development site contains Category 1 Bushfire Prone Vegetation.

The proposed subdivision application is therefore integrated development under the provisions of Section 4.46 and Section 4.47 of the *Environmental Planning & Assessment Act 2017* and requires the issue of a Bushfire Safety Authority under Section 100B of the *Rural Fires Act*.

This report uses the methodology provided by *Planning for Bushfire Protection 2019* to validate the proposed subdivision's compliance with *Planning for Bushfire Protection 2019* and examines the requirements of Section 44 of the *Rural Fires Regulation 2013*, necessary to provide compliance with Section 100B of the *Rural Fires Act 1997 (Amended)*.

Recommendations are made for the provision of Asset Protection Zones to the future dwellings, fire fighting access and water supplies, management of the landscape within the curtilage to the future dwelling on each lot and the perimeter road reserve and building construction standards to the future dwellings, so as to satisfy the deemed-to-satisfy specifications of *Planning for Bushfire Protection 2019* as a prerequisite for the issue of a *Bushfire Safety Authority* under Section 100B (4) of the *Rural Fires Act*.



Graham Swain
Managing Director,
Australian Bushfire Protection Planners Pty Limited.
14.12.2021

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SECTION 1

INTRODUCTION

1.1 Aim of this Assessment.

The aim of this Bushfire Protection Assessment is to:

- Determine the formation of the vegetation on and surrounding the future dwelling site on each lot, in accordance with the vegetation classification system contained in *Planning for Bushfire Protection 2019*;
- Undertake an assessment to determine the effective slope of the land on and surrounding the dwelling sites;
- Determine the Fire Danger Index [FDI] for the site;
- Undertake an assessment to determine bushfire protection strategies for the proposed subdivision, including the preferred location of the dwelling sites, 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 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 Development Proposal.

This Bushfire Protection Assessment has been prepared the Planning Proposal to rezone the land for the proposed residential subdivision of Lots 21, 22 & 23 & 24 in DP 714096 Warrah Road and Gypsy Pint Road, North Nowra.

The subdivision of the land within Lot 24 in DP 714096 creates:

| | |
|--|---|
| 1. Central Portion: 700m ² + x 19 lots; 2000m ² + x 9 lots | 2. East Portion: 2000m ² + x 3 lots; 700m ² + x 16 lots; 500m ² + x 101lots |
|--|---|

Residue Lots

| | |
|---|--|
| 1. East Portion: Approximately 11.62ha – Lot 421 | 2. West & Central: Approximately 45.5ha – Lot 422 |
|---|--|

The subdivision of the land within Lots 21, 22 & 23 in DP 714096 creates:

| |
|--|
| 1. East Portion: 2000m ² x 9 lots; 500m ² x 47 lots. |
|--|

Access to the proposed residential estate is via Warrah Road, north to Illaroo Road. Fire-fighting access to the proposed lots is provided via a perimeter road with an emergency access link to Pitt Street, to the south.

The development proposal establishes Asset Protection Zone setbacks from the retained vegetation within the E2 zoned land which comply with or exceed the widths required to satisfy Table A1.12.5 of *Planning for Bushfire Protection 2019* and the widths required to satisfy BAL 29 constructions pursuant to A.S. 3959 – 2018 – ‘*Construction of Buildings in Bushfire Prone Areas*’.

Refer to Figures 1 - 4 – Plans of Development Proposal on Pages 9 - 13.

1.3 Site Inspection.

Graham Swain of Australian Bushfire Protection Planners Pty Limited inspected the site and surrounding areas on the 22nd October 2013, as part of the rezoning application, to assess the topography, slopes and vegetation classification within and adjoining the development property and to validate the future subdivision's compliance with the requisite Asset Protection Zones and access provisions.

Extensive investigations were also undertaken to determine a development layout that provided a design which addressed safe access to the future dwellings; location of the dwelling sites and the provision of the Asset Protection Zones to the future buildings and retention of the vegetation in the Environmental Zone. Adjoining properties were also inspected to determine the surrounding land use / land management.

Figure 1 – Overall Lot Layout.

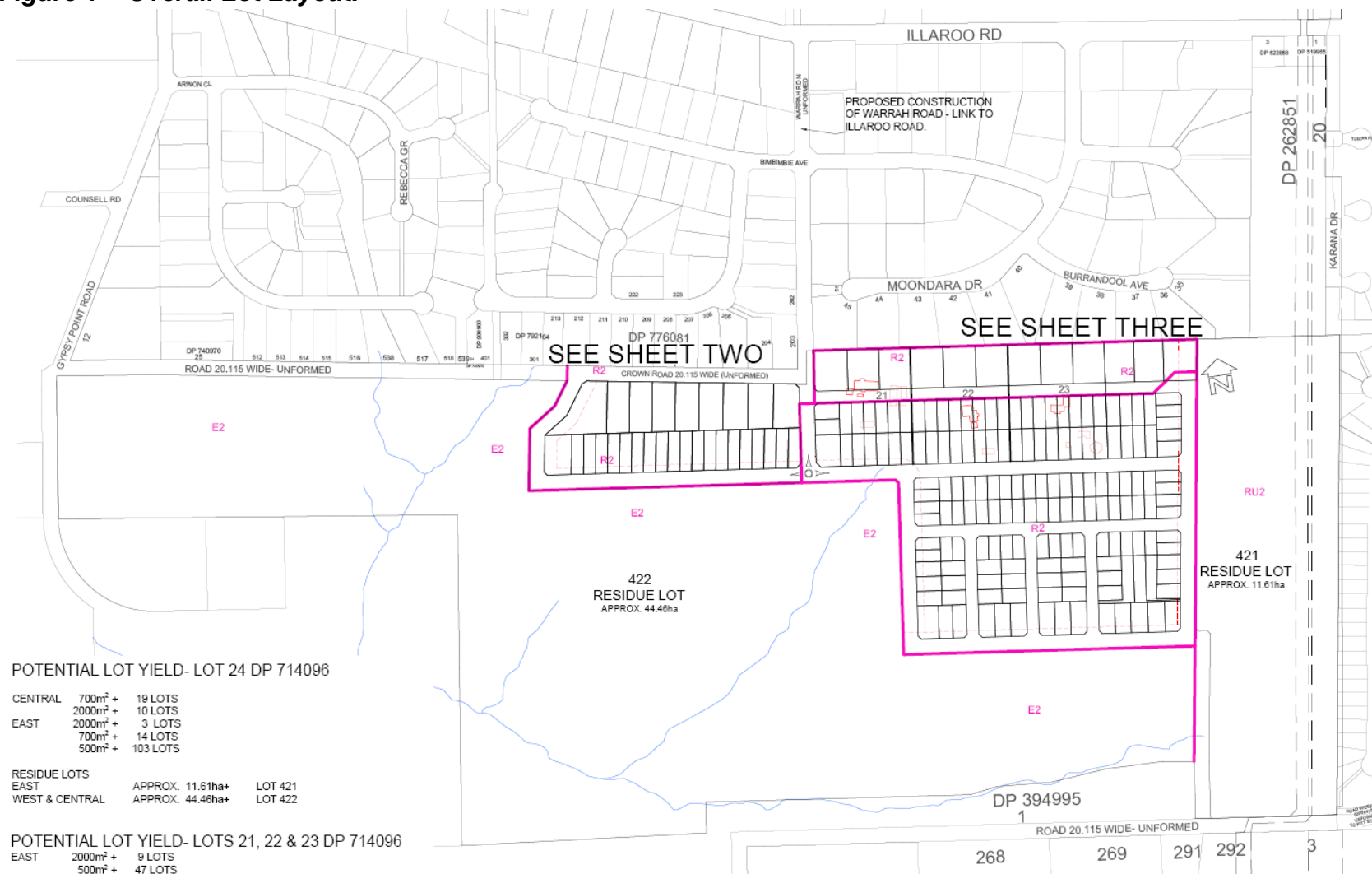


Figure 2 – Overall Layout over Aerial Photograph.

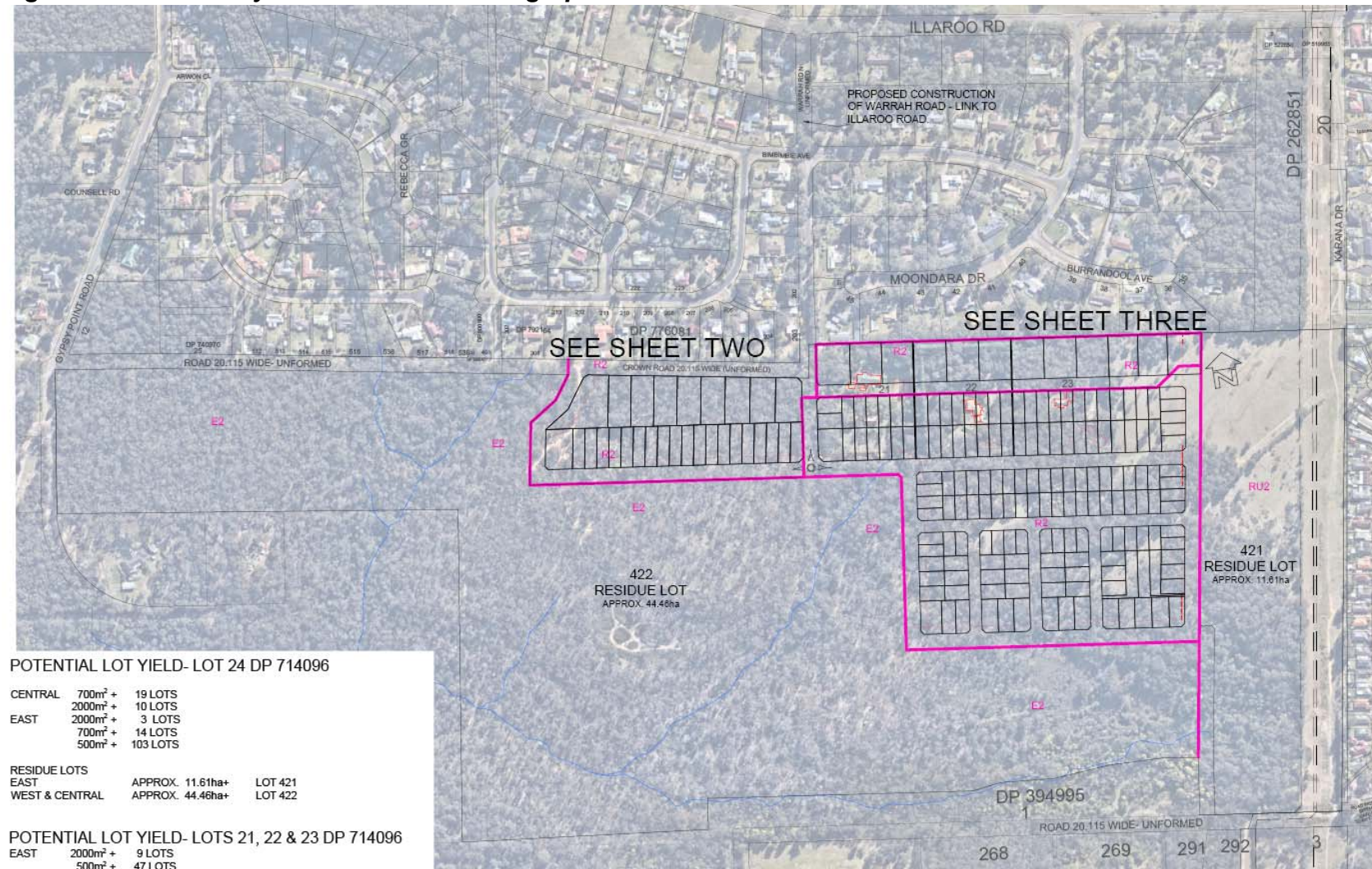


Figure 3 – Central Area Layout over Aerial Photograph.

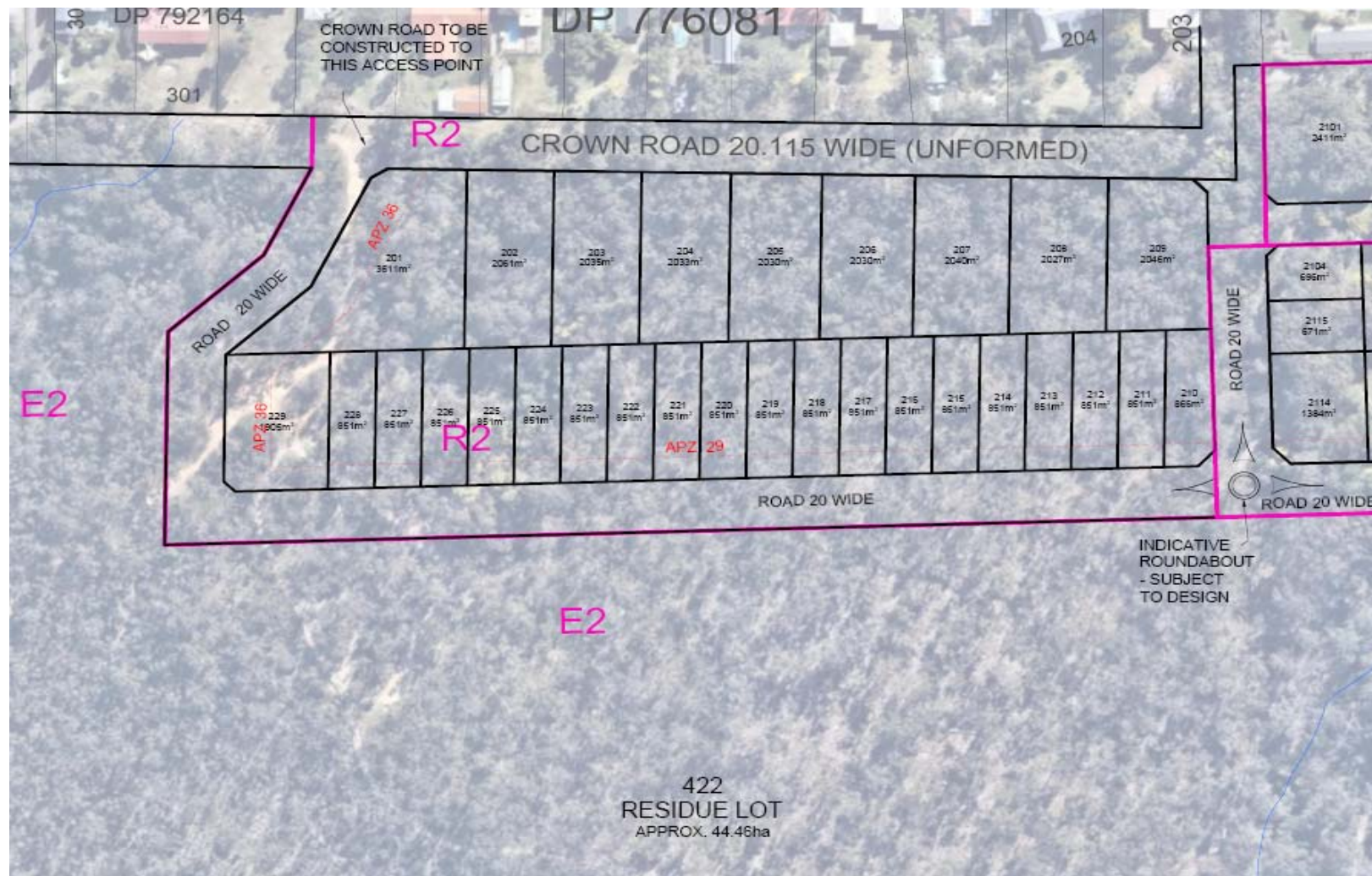
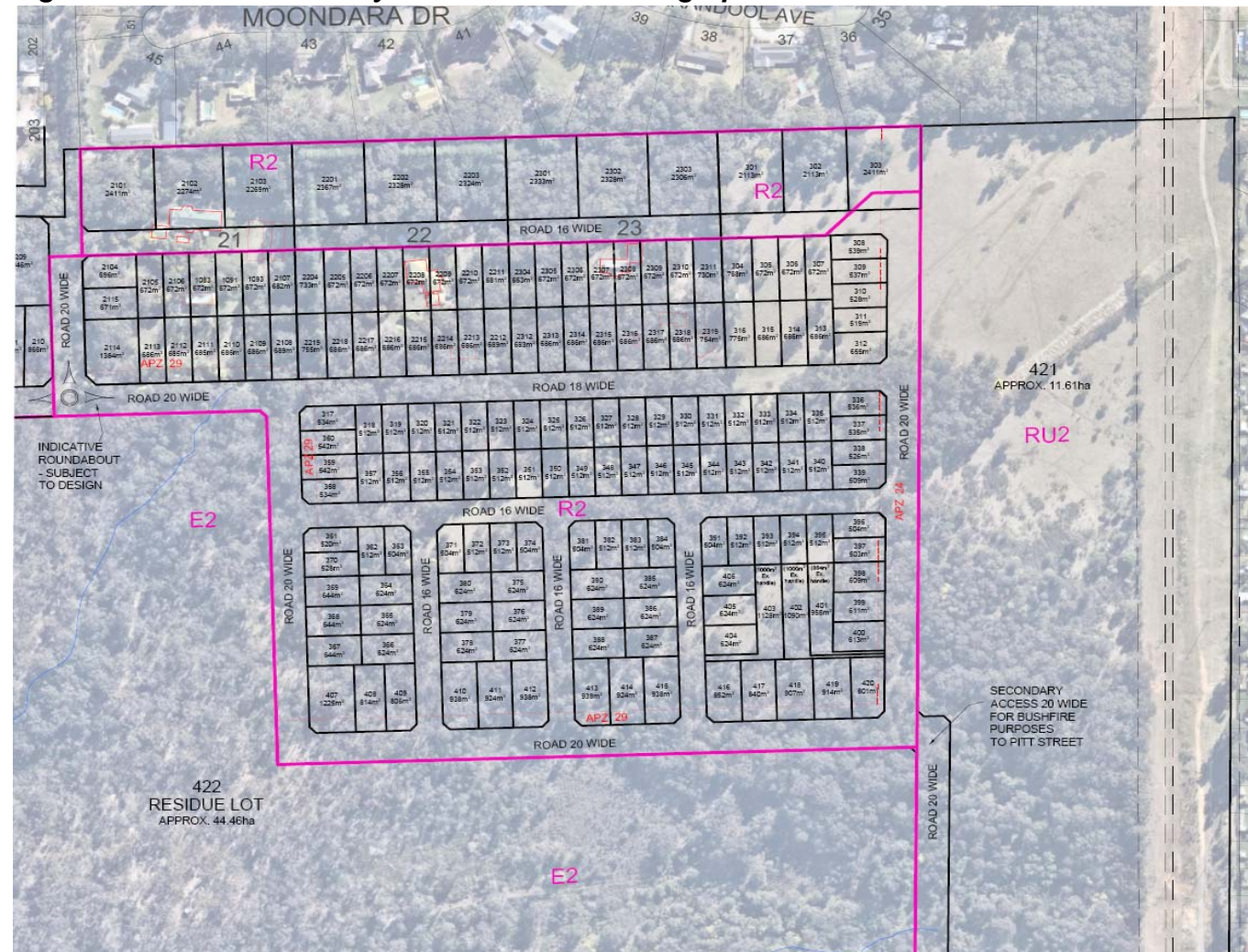


Figure 4 – Eastern Area Layout over Aerial Photograph.



1.4 Statutory Requirements.

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

1.4.1 Legislation.

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

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

Section 4.46 of the *EPA Act* identifies that authorization is required under Section 100B of the *Rural Fires Act 1997* in respect of bushfire safety of the subdivision of land that could lawfully be used for residential or rural residential purposes.

Section 4.47(2) of the *EPA Act* states that before granting development consent to an application for consent to carry out the development, the consent authority must obtain from each relevant approval body the general terms of any approval proposed to be granted by the approval body in relation to the approval.

(b) *Rural Fires Act 1997*

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

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

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 2019* 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 of the *Rural Fires Regulation* provides details of the matters that are required to be addressed for the issue of a *Bushfire Safety Authority* under Section 100B of the *Rural Fires Act*.

1.4.2 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 Special Protection Developments in bushfire prone areas.

The Commissioner may determine additional measures that are considered necessary to protect the development against the impact of bushfire.

1.5 Documentation Reviewed in this Assessment.

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

- Plan of proposed subdivision of Lot 21, 22, 23 & 24 in DP 714096 Warrah Road and Gypsy Point Road, North Nowra, prepared by Allen Price & Scarratts Pty Ltd [Drawing No. N26956-02 Sheets 1 – 4 Revision P9 dated 23.11.2021];
- Bushfire Constraints Report for the rezoning of the land, prepared by Australian Bushfire Protection Planners Pty Limited – Reference No. B132086 – dated 16.06.2014;
- Bushfire Constraints Report for the rezoning of the land, prepared by Australian Bushfire Protection Planners Pty Limited – Reference No. B183179 – dated 24.09.2018;
- Correspondence from the NSW Rural Fire Service dated 18th October 2021;
- *Planning for Bushfire Protection 2019* prepared by the NSW Rural Fire Service;
- Australian Standard AS3959 - 2018 *Construction of Buildings in Bushfire Prone Areas*;
- *Rural Fires Regulation 2013*;
- Shoalhaven Bushfire Prone Land Map.

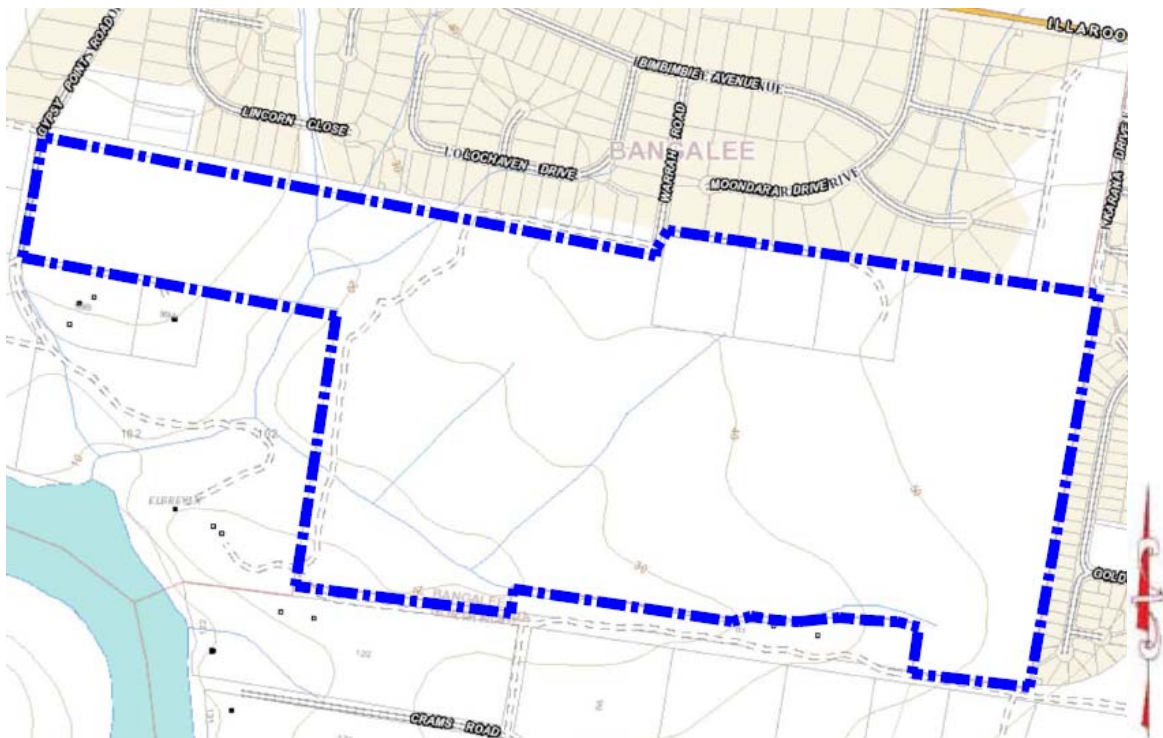
SECTION 2

PROPERTY DESCRIPTION

2.1 Location.

The subdivision proposal is over land within Lots 21, 22, 23 & 24 on DP 714096 Warrah Road and Gypsy Pint Road, North Nowra.

Figure 5 – Location of Development Site.



2.2 Existing Land Use.

Lot 24 in DP 714096 contains vacant land. Lots 21, 22 & 23 in DP 714096 contain existing residential dwellings and associated structures.

2.3 Surrounding Land Use.

The land to the north contains existing large lot residential and residential development. The land to the east of the development site contains residential development having access to Coconut Drive.

The land to the south and west of the development site contains rural residential development which contains managed, partially managed and unmanaged vegetation – refer to Figure 6 – Aerial Photograph of Development site.

Figure 6 – Aerial Photograph of the Development Site.



2.4 Topography.

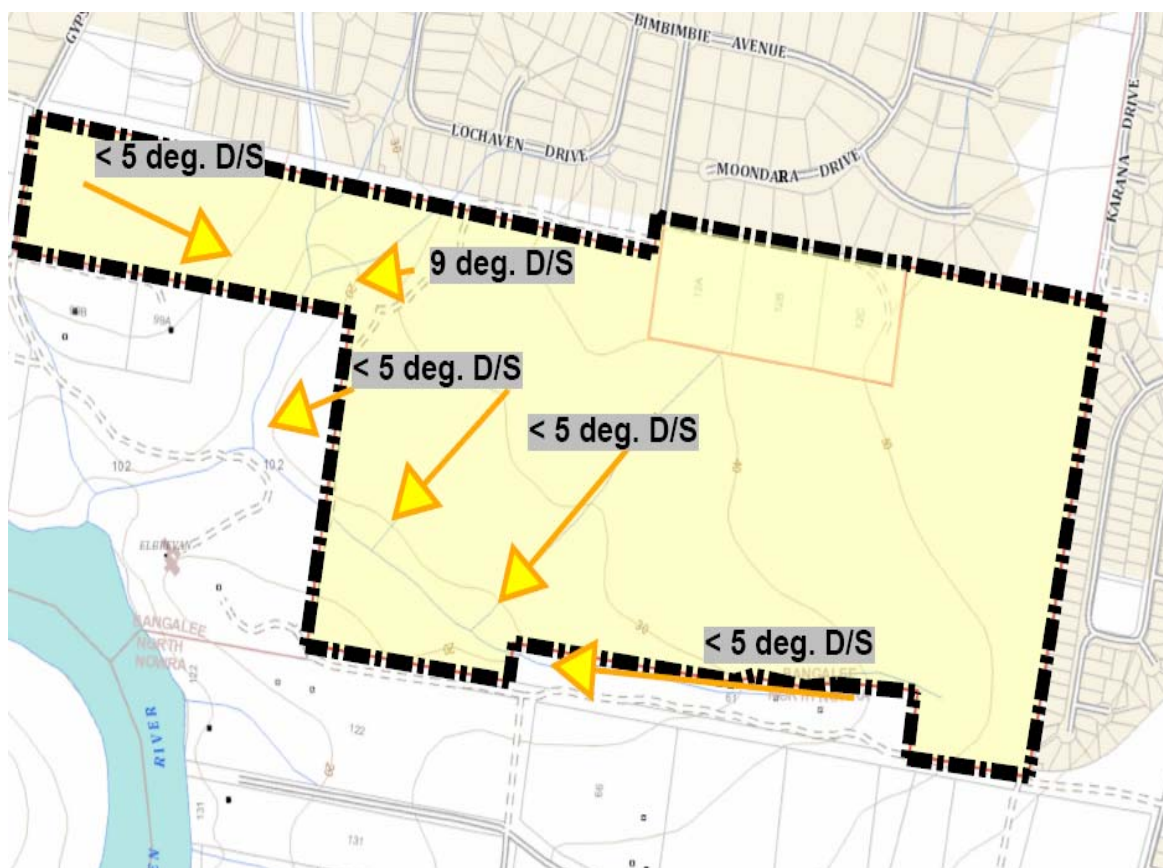
Appendix A1.5 of *Planning for Bushfire Protection 2019* establishes the protocols for determining the effective slope of under the classified bushfire prone vegetation.

The topography of the land within the site is characteristic of the undulating hilly landform extending to the north from the Shoalhaven River. The proposed residential precinct contains two watercourses which flow to the southwest, connecting to a third watercourse which flows to the west along the southern boundary of the site. The gradient within these watercourses is less than 5 degrees downslope with a similar side slope.

A fourth watercourse bounds the north-western corner of the residential precinct. The side slope to the watercourse is nine [9] degrees downslope to the northwest of the residential precinct.

Except for the 9 degree downslope to the northwest, the effective slope to the remainder of the south and south-western edge of the residential precinct is less 5 degrees downslope and less than 5 degrees upslope to the eastern edge.

Figure 7 – Topographic Map.



2.5 Vegetation.

Appendix A1.2 of *Planning for Bushfire Protection 2019* provides a methodology for determining the predominant bushfire prone vegetation for at least 140 metres in all directions from the future development on the site. Vegetation is classified using Figure A2.1 of *Planning for Bushfire Protection 2019*, which classifies vegetation types into the following groups:

- (a) *Rainforest;*
- (b) *Wet Sclerophyll Forest;*
- (c) *Dry Sclerophyll Forest;*
- (d) *Woodland;*
- (e) *Tall Heath;*
- (f) *Short Heath;*
- (g) *Grassland.*

2.5.1 Vegetation within the proposed residential precinct.

The vegetation within Lots 21, 22 & 23 in DP 714096 consists of managed landscaped gardens beneath a remnant tree canopy. The vegetation within the proposed residential precinct on Lot 24 in DP 714096 consists of Scribbly Gum Woodland with some previous thinning and disturbance – refer to Figure 8 – Vegetation Communities on Page 20 prepared by OMVI.

2.5.2 Vegetation on the land adjoining the proposed residential precinct.

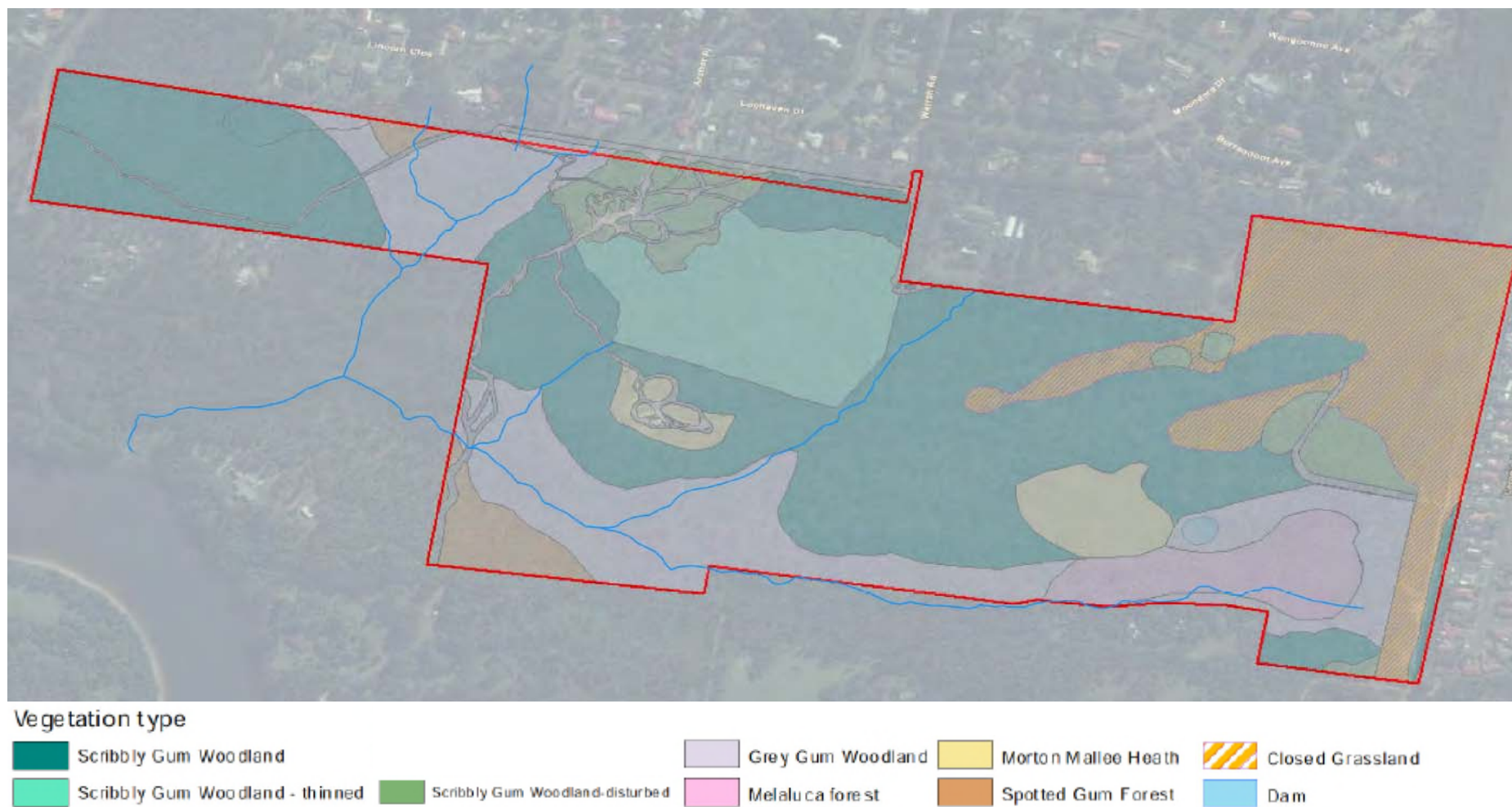
The residual lots created by the subdivision of the land contain Scribbly Gum Woodland.

The future road corridor located within the eastern portion of Lot 24 in DP 714096, to the east of the eastern residential precinct, contains an area of Grey Gum Forest, Melaleuca Forest, Grey Gum Woodland and Closed Grassland.

The vegetation within the riparian corridors to the creek lines within Lot 24 in DP 714096 consists of unmanaged Grey Gum Woodland.

For the purpose of determining Asset Protection Zones to the future residential development 'forest' vegetation classification has been used.

Figure 8 – Vegetation Communities Plan.



2.6 Significant Environmental Features on the Property.

The development site does not contain significant environmental features such as SEPP 14 Wetlands; SEPP 26 Littoral Rainforests; Areas of Geological interest; Steep Lands [>18 degrees]; Land slip areas or National Parks Estate.

Lot 24 in DP 714096 contains the leaders to a creek line that flows to the south/southwest into the Shoalhaven River. The riparian corridors to these leaders will be preserved in the subdivision layout.

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

The OMVI Ecological Report and the subsequent review undertaken by NGH identified the Grey Gum Woodland and Spotted Gum Forest within parts of Lot 24 in DP 714096 to most closely align with threatened Currumbene – Batemans Lowlands Forest.

The OMVI Ecological Report and the subsequent review undertaken by NGH identified numerous threatened species likely to occupy Lot 24 in DP 714096 with the High Conservation Value areas, as shown in the subdivision layout, set aside to conserve these species.

2.8 Details and location of Aboriginal relics or Aboriginal place.

Mary Dallas Consulting Archaeologists undertook a study into the potential Aboriginal heritage on the site and found five artefacts on Lot 24, located beside a gravel quarry in the south-eastern corner of the lot. A second disturbed site was located adjacent to transmission lines at the eastern end of the lot.

Both sites are located outside the proposed subdivision.

SECTION 3

PRECINCT LEVEL ASSESSMENT

3.1 Precinct Level Assessment of Bushfire Prone Vegetation.

Section 10.3 of the *Environmental Planning & Assessment Act 2017* requires councils, where a Bushfire Risk Management Plan applies, request the Commissioner of the NSW Rural Fire Service to designate land within the area that the Commissioner considers, having regard to the bushfire risk management plan, to be bushfire prone land and must record any land so designated on a map.

Figure 9 below provides an extract from the Shoalhaven Council Bushfire Prone Land Map which shows the Category 1 Bushfire Prone Vegetation on the land within and adjoining the development site.

Figure 9 – Extract from the Shoalhaven Bushfire Prone Land Map.



Legend: Orange – Category 1 Bushfire Prone Vegetation; Red – Buffer Zone.

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;*
- *the construction standards to be used for building elements.*

Planning for Bushfire Protection 2019 provides a methodology to determine the Asset Protection Zones and Bushfire Attack / Construction Standards required for habitable buildings in rural residential and residential subdivisions that are designated as bushfire prone.

Section 4.2 of this report utilises the methodology provided by *Planning for Bushfire Protection 2019* to determine the Asset Protection Zones to the future dwellings erected within the proposed subdivision.

The remaining items identified by Section 44(1) of the *Rural Fires Regulation 2013* are examined in Sections 4.3 – 4.8 of this report.

4.2 Determination of Asset Protection Zones.

Appendix 1 of *Planning for Bushfire Protection 2019* provides a site assessment methodology to determine the widths of Asset Protection Zones and Bushfire Attack Levels for residential and rural residential development which is deemed to be bushfire prone. This includes the following assessment process:

- (a) *Determine vegetation formations as follows:*
- Identify all vegetation in all directions from the site for a distance of 140 metres;
 - Consult Table A1.2 to determine the predominant vegetation type.
- (b) *Determine the effective slope of the land under the predominant vegetation Class.*
- (c) *Determine the appropriate fire [weather] areas.*
- (d) *Consult Table A1.12.5 and determine the appropriate setback [Asset Protection Zone] for the assessed land use, vegetation formation and slope range.*

The Shoalhaven Bushfire Prone Land Map identifies that Lot 24 in DP 714096 within the subdivision precinct contains Category 1 Bushfire Prone Vegetation with similar vegetation on the rural residential land to the west, south and partially to the east of the proposed residential subdivision precinct.

For the purpose of determining the bushfire protection measures the predominant vegetation is 'forest. The Fire Danger Index (FDI) for the area is 100.

Except for the 9 degrees downslope adjacent to the north-western corner of the central residential precinct, the effective slope of the land to the south of the residential precinct is less than 5 degrees downslope and the effective slope of the land to the east of the eastern residential precinct is less than 5 degrees upslope, to the east.

Table A.1.12.5 of *Planning for Bushfire Protection 2019* identifies that for forest vegetation with an effective slope under the vegetation of 9 degrees downslope the width of Asset Protection Zone is 36 metres.

Table A.1.12.5 of *Planning for Bushfire Protection 2019* identifies that for forest vegetation with an effective slope under the vegetation of less than 5 degrees downslope the width of Asset Protection Zone is 29 metres.

Table A.1.12.5 of *Planning for Bushfire Protection 2019* identifies that for forest vegetation with an effective slope under the vegetation of 5 degrees upslope (to the east) the width of Asset Protection Zone is 24 metres.

Figure 10 – Central Precinct Detail Asset Protection Zones – based on the predominant vegetation being forest.

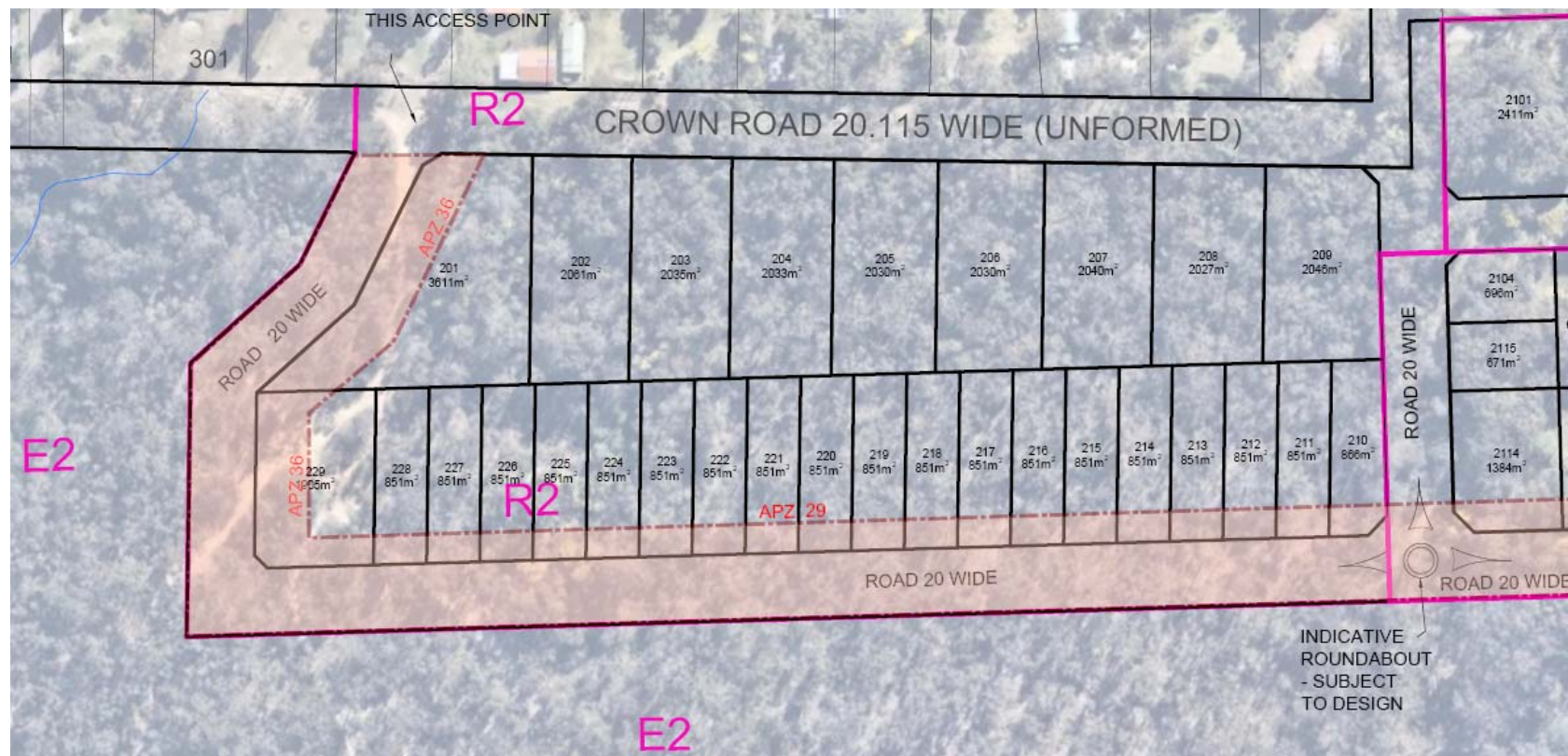
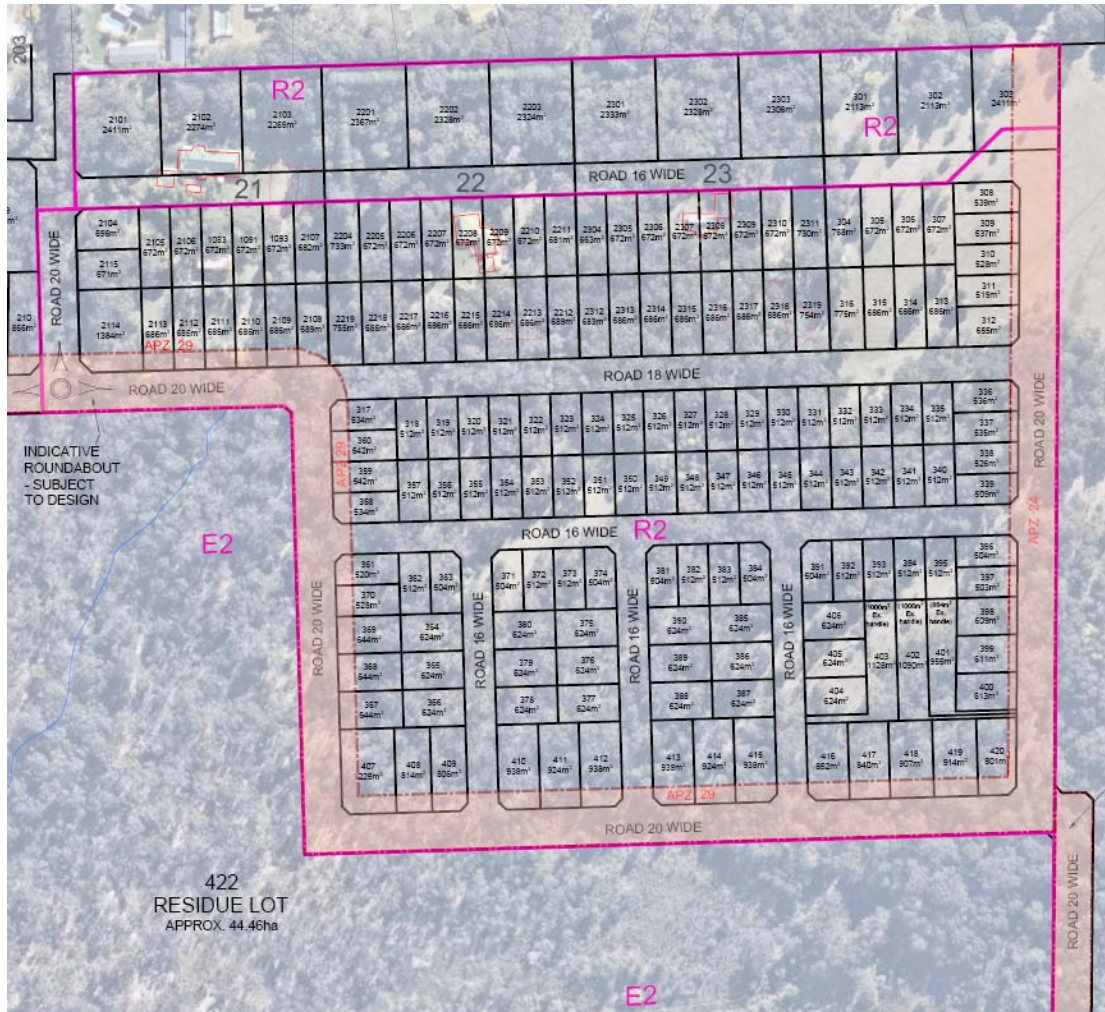


Figure 11 – Eastern Precinct Detail Asset Protection Zones – based on the predominant vegetation being forest.



4.3 Assessment of Bushfire Attack (Construction Standards).

Part 2.3.4 of the Building Code of Australia states that a Class 1 building that is constructed in a *designated bushfire prone area* must be designed and constructed to reduce the risk of ignition from a bushfire while the fire front passes.

The Asset Protection Zones provided to the future dwellings, as shown on Figures 10 & 11 [based on forest being the predominant vegetation classification], have been determined to mitigate the impact of bushfires to the extent that radiant heat levels will be less than 29 kW/m².

The future dwellings and ancillary buildings directly exposed to the bushfire hazard shall be constructed to comply with Section 3 and Section 7 [BAL 29] specifications, pursuant to A.S. 3959 – 2018 – ‘Construction of Buildings in Bushfire Prone Areas’.

All remaining dwellings not directly exposed to the bushfire hazard shall be constructed to comply with Section 3 and Section 5 [BAL 12.5] specifications pursuant to A.S. 3959 – 2018 – ‘Construction of Buildings in Bushfire Prone Areas’.

In addition, roof gutters and valleys shall have fitted a non-combustible protection device which minimises the accumulation of combustible materials in the gutter/valley.

4.4 Water Supplies for Firefighting Operations & Utility Services.

The proposed subdivision will be serviced by a reticulated mains water supply installed to meet the fire hydrant spacing, sizing and pressures to comply with the requirements of A.S. 2419.1 – 2021 in respect to the provision of fire-fighting water supplies.

No additional bushfire fighting water supplies are required for the estate.

Electrical supply lines are proposed to be laid underground.

Liquid Petroleum Gas [LPG] installations shall comply with A.S. 1596 and all fixed cylinders shall be kept clear of flammable materials for a distance of 10 metres and located in a position which is not exposed to the bushfire hazard.

Release valves shall be directed away from the building and at least 2 metres away from combustible materials.

All exposed pipes, fixtures, fittings and hose connections above ground or less than 300mm below ground, shall be metal [plastic, PVC or polythene fittings are not permitted].

4.5 Access for Fire Fighting Operations.

4.5.1 Adequacy of Public Roads:

The subdivision of the land will create lots which will have vehicular access directly off the new internal public road network.

The design and construction of the proposed roads shall comply with the specifications of Table 5.3b of Section 5.3.2 and Appendix 3 of *Planning for Bushfire Protection 2019*.

The minimum pavement width of the perimeter roads shall be 8.0 metres, kerb to kerb with parking provided outside the carriageway. Hydrants shall be located clear of the parking bays.

The perimeter road reserve width shall be 20 metres.

Internal roads shall have a minimum carriageway width of 5.5 metres, kerb to kerb with parking provided outside of the carriageway width. Hydrants shall be located clear of the parking bays.

4.5.2 Public Road Link to Pitt Street.

The proposed public road access link to Pitt Street shall be contained in a 20 metre wide road reserve and have a pavement width of 8 metres kerb to kerb with 'No Parking' to both sides of the carriageway.

4.5.3 Emergency Response Access / Egress.

The subdivision layout provides for a road network designed to provide fire appliance access via complying perimeter and internal roads.

The subdivision layout also incorporates works within Warrah Road which will permit direct access to the north, to Illaroo Road.

Alternate access is provided via the proposed public road link to Pitt Street, to the south.

4.6 Adequacy of Bushfire Maintenance Plans and Fire Emergency Procedures.

It is recommended that the future owners of the new lots prepare an *Emergency Fire Plan* that identifies those emergencies that are likely to impact upon the estate, and identify appropriate responses to those emergencies.

This may include protocols for the early removal of non-active/young/sick and frail members of the family to safer areas within Nowra, prior to the arrival of any potential major fire event.

4.7 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 residents and fire-fighters.

Careful attention shall be given to species selection of landscaping near the future dwellings, their location relative to their flammability, avoidance of continuity of vegetation [separation horizontally and vertically] and ongoing maintenance to remove flammable fuels. Methods of bushfire hazard management include mowing of lawns within the immediate curtilage to the dwelling, slashing within the road reserves.

4.7.1 Fuel Management:

A diligent approach to the management of bushfire fuel levels is required to the land within the future development.

Management of the vegetation within the Asset Protection Zones shall comply with the recommendations of Appendix 4 of *Planning for Bushfire Protection 2019* and the Rural Fire Service “*Standards for Asset Protection Zones*”.

Management of the landscaped gardens within the curtilage to the future dwellings shall comply with the following:

- Maintain a clear area of low cut lawn or pavement adjacent to the buildings;
- Keep areas under fences, fence posts, gates & trees raked and clear of combustible fuels;
- Utilise non-combustible fencing and retaining wall structures near buildings;
- Separate future tree canopy and shrub connectivity with defined landscaped garden beds;
- Maintain tree canopies and shrubs so that they are clear of the building by at least five metres;
- Utilise non-flammable materials such as Scoria, pebbles and recycled crushed bricks as ground cover to landscaped gardens in close proximity to buildings;
- Maintain minimal fine fuel loading at ground level within the Inner Protection Area and landscaped area (nominally 3 tonnes / hectare);
- Trees and shrubs are acceptable provided that they are spread out and do not form a continuous canopy, are not species that retain dead material and are located away from the buildings to minimize radiant heat and direct flame attack;
- 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;

4.7.2 Management Responsibilities:

Section 63(2) of the *Rural Fires Act* states that *'it is the duty of the owner or occupier of land to take the notified steps (if any) and any other practicable steps to prevent the occurrence of fires on, and to minimise the danger of the spread of fires on or from that land'*.

In this section; '*notified steps*' means:

- (a) any steps that a bush fire risk management plan (or the Coordinating Committee) advises a person to take;
- (b) that are included in a bush fire risk management plan applying to the land.

The owners of each lot will be responsible for the maintenance of the curtilages to the dwellings to reduce the potential for fires to ignite and spread across their land and to escape onto the adjacent lands.

4.8 Adequacy of Sprinkler Systems & other Fire Protection Measures.

There are no sprinkler systems required or recommended.

SECTION 5

RECOMMENDATIONS

Recommendation 1 – Asset Protection Zones to future dwellings:

The Asset Protection Zones to the widths as shown on Figures 10 & 11 shall be maintained in accordance with the prescriptions of Appendix 4 of *Planning for Bushfire Protection 2019* and the NSW Rural Fire Service “Standards for Asset Protection Zones”.

Recommendation 2 – Positive Covenant:

A Positive Covenant, created under Section 88B of the Conveyancing Act of 1919, shall be established on the lots burdened by the provision of the Asset Protection Zones, for the management of the Asset Protection Zones.

Recommendation 3 – Construction Standards to future dwellings:

The future dwellings and ancillary buildings directly exposed to the bushfire hazard shall be constructed to comply with Section 3 and Section 7 [BAL 29] specifications pursuant to A.S. 3959 – 2018 – ‘Construction of Buildings in Bushfire Prone Areas’.

All remaining dwellings not directly exposed to the bushfire hazard shall be constructed to comply with Section 3 and Section 5 [BAL 12.5] specifications pursuant to A.S. 3959 – 2018 – ‘Construction of Buildings in Bushfire Prone Areas’.

In addition, roof gutters and valleys shall have fitted a non-combustible protection device which minimises the accumulation of combustible materials in the gutter/valley.

Recommendation 4 – Public Road Design:

The design and construction of the internal public roads shall comply with the specifications of Section 5.3.2 of *Planning for Bushfire Protection 2019*.

The minimum pavement width of the perimeter roads (and access link to Pitt Street) shall be 8.0 metres, kerb to kerb with ‘No Parking’ on both sides with parking bays provided outside the carriageway width. Hydrants shall be located outside the parking bays.

The perimeter road shall be designed and constructed to carry a fully laden Rural Fire Service Bulk Water Tanker with a GVM of 28 tonnes.

Internal roads shall be designed and constructed with a minimum pavement width of 5.5 metres, kerb to kerb and no parking to both sides. Parking shall be in designated parking bays clear of the carriageway width and hydrants located clear of the parking bays.

Recommendation 5 – Firefighting Water Supplies & Utility Services.

The proposed subdivision shall be serviced by a reticulated mains water supply installed to meet the fire hydrant spacing, sizing and pressures to comply with the requirements of A.S. 2419.1 – 2021 in respect to the provision of fire-fighting water supplies.

Liquid Petroleum Gas [LPG] installations shall comply with A.S. 1596 and all fixed cylinders shall be kept clear of flammable materials for a distance of 10 metres and located in a position which is not exposed to the bushfire hazard.

Release valves shall be directed away from the building and at least 2 metres away from combustible materials. All exposed pipes, fixtures, fittings and hose connections above ground or less than 300mm below ground, shall be metal [plastic, PVC or polythene fittings are not permitted].

Recommendation 6 – ‘Bushfire Survival Plan’:

It is recommended that the future owners of the lots prepare a ‘*Bushfire Survival Plan*’ that identifies those emergencies that are likely to impact upon the estate and appropriate responses to those emergencies.

This may include protocols for the safe removal of persons to safer areas, including Nowra, prior to the arrival of any potential major fire.

SECTION 6

CONCLUSION

This report has been prepared for the Planning Proposal for the rezoning of land within the R2 Lots 21, 22, 23 & 24 in DP 714096 Warrah Road and Gypsy Point Road, North Nowra to permit the future subdivision of the land into Torrens Title lots.

The Planning Proposal rezones the land into R2 Low Density Residential Development and E2 – Environmental Conservation.

The future subdivision of the R2 Low Density Residential zoned land includes the construction and dedication of the public road network and the provision and management of Asset Protection Zones to the extent as shown on Figures 10 & 11 of this report.

The vegetation within the site has been mapped as Bushfire Prone Vegetation, therefore Sections 4.46 & 4.47 of the *Environmental Planning & Assessment Act* applies to the residential subdivision of the R2 zoned land and a *Bushfire Safety Authority* is required under Section 100B of the *Rural Fires Act*.

The recommendations contained within this report address the requirements of Section 44(1) of the *Rural Fires Regulation 2013* as a prerequisite for the issue of a *Bushfire Safety Authority* under Section 100B (4) of the *Rural Fires Act* for the future subdivision application.

The report also examines and addresses to matters raised in the NSW Rural Fire Service's letter dated 18th October 2021.

The following table summarises the extent to which the development proposal conforms with [or deviates from] the requirements of Section 44(1) of the *Rural Fires Regulation 2013* and the deemed-to-satisfy provisions of *Planning for Bushfire Protection 2019* relating to the provision of:

- Asset Protection Zones to the future dwellings in the estate;
- The provision of safe access;
- The provision of water supplies for fire-fighting operations;
- Construction standards to the future buildings; and
- The management of bushfire fuels within the Asset Protection Zones.

Table 1. Compliance with the deemed-to-satisfy provisions of *Planning for Bushfire Protection 2019*.

| Bushfire Protection Measure | Compliance with deemed-to-satisfy provisions of <i>Planning for Bushfire Protection 2019</i>. |
|--|--|
| Asset Protection Zone setbacks | The widths of the Asset Protection Zones comply with Table A1.12.5 of <i>Planning for Bushfire Protection 2019</i> . |
| Siting & adequacy of water supplies for firefighting operations | Reticulated water supply provided complete with hydrants installed to satisfy the specifications of A.S. 2419.1 – 2021. |
| Capacity of public roads to handle increased volumes of traffic in the event of a bushfire emergency | The proposed and existing public roads provide for increased volumes of traffic in the event of the bushfire emergency. |
| Fire trail network | No. Fire Trails are provided or required. |
| Adequacy of emergency response access and egress | Complying emergency access is provided to each lot directly from the internal road network, connecting to Warrah Road. An alternate access link is provided to Pitt Street, to the south |
| Adequacy of Bushfire Maintenance Plans and fire emergency procedures | A Bushfire Maintenance Plan is not required as the proposed fire protection measures do not extend onto adjoining properties or E2 zoned land. A ' <i>Bushfire Survival Plan</i> ' shall be prepared by each property owner. |
| Building construction standards | Asset Protection Zones recommended reduce the expected level of radiant heat on the future dwellings to less than 29kW/m ² . The dwellings on the lots directly exposed to the hazard shall be constructed to comply with Section 3 and Section 7 [BAL 29] of A.S. 3959 – 2018. All remaining dwellings shall be constructed to comply with Section 3 and Section 5 [BAL 12.5] of A.S. 3959 – 2018. |
| Adequacy of sprinkler systems & other fire protection measures | Not applicable |

The proposed subdivision layout, as represented by the subdivision layout prepared by *Allen Price & Scarratts Pty Ltd*, achieves compliance with the acceptable solutions of Chapter 4 and the aim and objectives of *Planning for Bushfire Protection 2018* and the recommendations of the NSW Rural Fire Service contained in the letter dated 18th October 2021.



Graham Swain,
Managing Director,
Australian Bushfire Protection Planners Pty Ltd
14.12.2021

REFERENCES:

- N.S.W Rural Fire Service – *Planning for Bushfire Protection 2019*;
- *Environmental Planning & Assessment Act – 1979*;
- *Rural Fires Act – 1997*;
- *Rural Fires Regulation 2013*;
- *Biodiversity Conservation Act 2016*;
- *Shoalhaven Bushfire Prone Land Map*;
- Building Code of Australia;
- Australian Standard A.S 3959-2018 “*Construction of Buildings in Bushfire Prone Areas*”.