



# BUSH FIRE STRATEGIC STUDY

Lot 2 DP 1243702

Lot 13 DP 786575

Lot 14 DP 786575

Prepared for Genium Civil Engineering PTY LTD

03 June 2020

Ref: RM.o8.20



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*DOCUMENT CONTROL*

| Information      | Detail                                                                                                                    |
|------------------|---------------------------------------------------------------------------------------------------------------------------|
| Document Title:  | Bush Fire Strategic Study<br>Iceton Place, Yass                                                                           |
| EMBER Reference: | RM.o8.20                                                                                                                  |
| Other Reference: | Proposed Iceton Place Development, Preliminary<br>Investigation Report, 11 April 2019<br>Genium Civil Engineering PTY LTD |
| Version:         | Version 1.3                                                                                                               |
| Valid to date    | June 3 2020                                                                                                               |
| Prepared by:     | Rob McGregor (BPAD- 33130)                                                                                                |

## EXECUTIVE SUMMARY

EMBER Bushfire Consulting has been engaged by Genium Civil Engineering to prepare a Bush Fire Strategic Study (BFSS) for a proposed 73 lot rural residential subdivision at Iceton Place, Yass. To be known as the *subject site* throughout this study.

The *subject site* is located on land that has not been mapped or declared bushfire prone by the Yass Valley Council. The three existing lots which make up the *subject site* has boarders of grasslands, patches of remnant vegetation and managed land of adjoining rural lifestyle subdivisions. Grasslands are Category 3 vegetation which pose a potential bushfire risk to the *subject site*. NSW RFS (2015)

This BFSS follows the guidelines and recommendations found in Planning for Bushfire Protection (PBP 2019) Chapter 4 *Strategic Planning states;*

*'Strategic planning is the first stage in the planning process. It is needed to ensure that businesses and future developments are not exposed to an unacceptable risk of bushfire'. PBP (2019)*

The information, drawings and plans found in this BFSS are indicative, at the concept level and are at the pre-Development Application (DA) stage.

Genium Civil Engineering on behalf of the proponent is proposing that the minimum lot size for the *subject site* is reduced from 10ha to 1ha. This study presumes and supports the minimum lot size to be 1 ha.

The *subject site* has an acceptable level of bushfire risk to the future owners/occupiers and will not increase the existing bushfire risk to the neighborhood.

Based on this BFSS and any recommendations contained within, the *subject site* is deemed to meet the broad objectives of Chapter 4 *Strategic Planning* PBP (2019) and is capable of meeting the acceptable solutions of Chapter 5 *Residential and Rural Residential Subdivisions* PBP (2019).

## KEY DETAILS OF DEVELOPMENT

Table 1 – Development Summary

| Information                | Detail                                                                                                                                                        |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lot & DP Number            | Lot 2 DP 1243702<br>Lot 13 DP 786575<br>Lot 14 DP 786575                                                                                                      |
| Street Address             | 7 Iceton Place, Yass                                                                                                                                          |
| Local Government Area      | Yass Valley Council                                                                                                                                           |
| Zoning of subject land     | R5 – Large lot residential (10ha min lot size)<br>Proposed lot size reduced to 1ha minimum                                                                    |
| Zoning of adjoining lands  | R5 – Large lot residential<br>R1- General residential<br>Ru1 – Primary Production (southern side)<br>E3- Environmental Management<br>E4- Environmental living |
| Lot size                   | 173.3 ha                                                                                                                                                      |
| Staging issues             | TBA                                                                                                                                                           |
| Development classification | Rural residential subdivision (73 lots)                                                                                                                       |
| Type of assessment         | Bush Fire Strategic Study (BFSS)                                                                                                                              |
| Fire weather area          | Southern Ranges                                                                                                                                               |
| Fire Danger Index          | 100                                                                                                                                                           |
| Predominant vegetation     | Grasslands and remnant vegetation                                                                                                                             |
| Slope                      | Upslope to 0° - 5° downslope                                                                                                                                  |
| Environmental constraints  | Refer to associated environmental reports                                                                                                                     |
| Cultural constraints       | Nil known                                                                                                                                                     |

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|             |                                                    |           |
|-------------|----------------------------------------------------|-----------|
| <b>1</b>    | <b>INTRODUCTION</b>                                | <b>6</b>  |
| <b>1.1</b>  | <b>BACKGROUND AND AIM</b>                          | <b>6</b>  |
| <b>1.2</b>  | <b>BROAD STRATEGIC PRINCIPALS</b>                  | <b>6</b>  |
| <b>1.3</b>  | <b>LIMITATIONS AND DISCLAIMER</b>                  | <b>7</b>  |
| <b>1.4</b>  | <b>BUSHFIRE LANDSCAPE ASSESSMENT (ISSUE 1)</b>     | <b>8</b>  |
| <b>1.5</b>  | <b>BRIEF WEATHER HISTORY OF YASS AREA</b>          | <b>12</b> |
| <b>1.6</b>  | <b>FIRE HISTORY YASS REGION</b>                    | <b>14</b> |
| <b>1.7</b>  | <b>CONCLUSION TO BUSHFIRE LANDSCAPE ASSESSMENT</b> | <b>15</b> |
| <b>1.8</b>  | <b>ACCESS AND EGRESS (ISSUE 3)</b>                 | <b>18</b> |
| <b>1.9</b>  | <b>EMERGENCY SERVICES (ISSUE 4)</b>                | <b>19</b> |
| <b>1.10</b> | <b>INFRASTRUCTURE (ISSUE 5)</b>                    | <b>20</b> |
| <b>1.11</b> | <b>ADJOINING LAND (ISSUE 6)</b>                    | <b>21</b> |
| <b>2</b>    | <b>OVERVIEW OF COMPLIANCE WITH PBP (2019)</b>      | <b>23</b> |
| <b>3</b>    | <b>CONCLUSION</b>                                  | <b>24</b> |
| <b>4</b>    | <b>REFERENCES:</b>                                 | <b>25</b> |
| <b>5</b>    | <b>APPENDIX 1</b>                                  | <b>26</b> |



## 1 INTRODUCTION

### 1.1 BACKGROUND AND AIM

EMBER Bushfire Consulting has been engaged by Genium Civil Engineering to prepare a Bush Fire Strategic Study (BFSS) for a proposed 73 lot rural subdivision at 7 Iceton Place, Yass (*subject site*).

The main reference document for this study is the *Proposed Iceton Place Development, Preliminary Investigation Report*, Genium Civil Engineering (2019).

Section 1 of the BFSS adopts the six issues and assessment consideration found in Table 4.2.1 Chapter 4 *Strategic Planning*, PBP (2019) and is the basis for this study.

Section 2 is an overview of the capability of the *subject site* to meet the performance criteria and acceptable solutions of Chapter 5 *Residential and Rural Residential Subdivisions*, PBP (2019). Section 2 includes recommendations for the consideration of all stakeholders.

The aim of this BFSS is to document any potential bushfire impact to the *subject site* and assess the bushfire protection measures (BPM) afforded which address life safety, improved property protection and facilitate fire service intervention for the *subject site*.

### 1.2 BROAD STRATEGIC PRINCIPALS

The broad principals of a BFSS, page 34, PBP (2019) are:

- Ensuring that land is suitable for development in context of the bush fire risk
- Ensuring new development on Bush Fire Prone Land (BFPL) will comply with PBP (2019)
- Minimise reliance on performance-based solutions
- Providing adequate infrastructure associated with emergency evacuation and firefighting operations
- Facilitating appropriate ongoing land management practices

### 1.3 LIMITATIONS AND DISCLAIMER

This BFSS is primarily concerned with assessing the *subject site's* capability to 'ensure that businesses and future developments are not exposed to an unacceptable risk of bushfire'. PBP (2019).

Where necessary, BPM will be recommended to provide a satisfactory level of protection to the occupants and the structures themselves.

It should be kept in mind that the measures prescribed cannot guarantee that the proposed development will survive a bushfire event on every occasion. This is primarily due to a reliance on vegetation management, the unpredictable behavior of fire, and extreme weather conditions.

EMBER Bushfire Consulting has prepared this study with all reasonable diligence. The information contained in this study has been gathered from field investigations of the site as well as plans and documents provided by the developer.

Table 2 - Stakeholders

| Stakeholder                | Role                       | Contact        | Detail       |
|----------------------------|----------------------------|----------------|--------------|
| Genium Civil Engineers     | Project Manager            | Simon Cassidy  | 0418 484 138 |
| Iceton Investments Pty Ltd | Proponent/client Developer | Not given      |              |
| Hugh Dennett               | Town Planning Consultant   | Chelsea Newman | 0405 257 922 |
| Yass Valley Council        | Consent Authority          | Not Given      | 62261477     |
| NSWRFS                     | Consent Authority          | Not Given      | 02 4475 1300 |

## 1.4 BUSHFIRE LANDSCAPE ASSESSMENT (ISSUE 1)

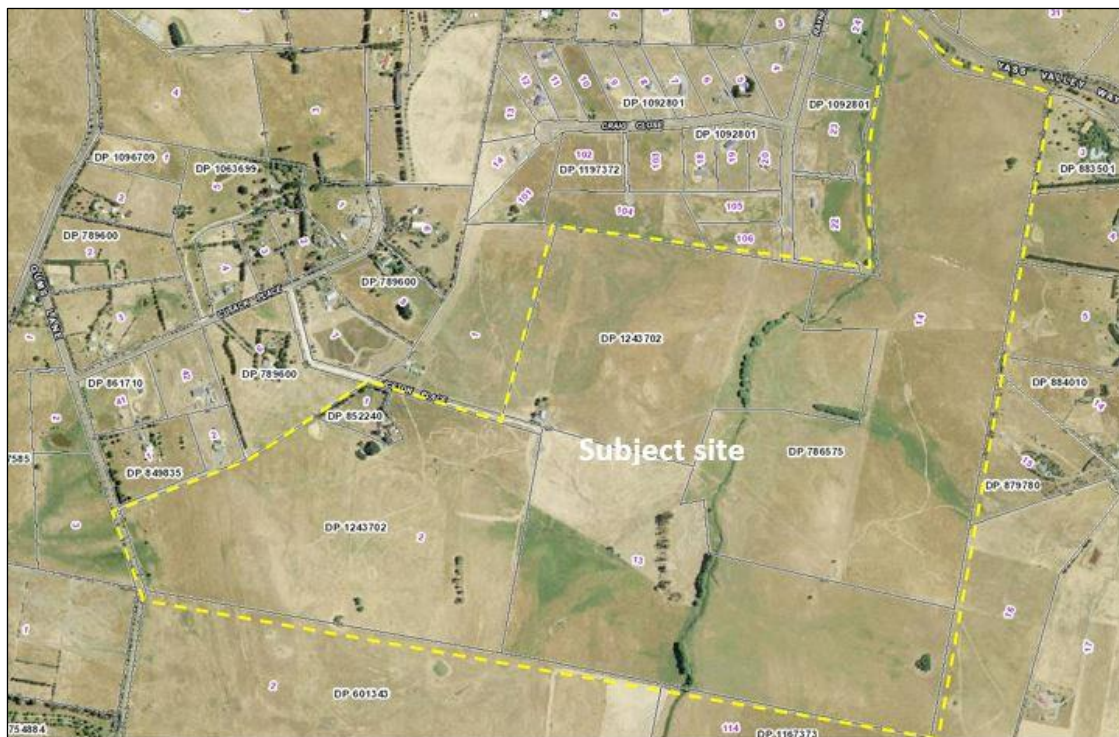


Figure 2 – Subject site (Six Maps 2020)

This bush fire landscape assessment considers the likelihood of a bush fire, its potential severity, intensity and the potential impact on life and property in the context of the broader surrounding landscape at the subject site.

**Note:** Site visits were carried out on 16.08.19 & 08.12.19.

The following assessment considerations were investigated:

### Vegetation

- Air Photos 1-4 show the predominate grasslands vegetation
- Figure 3 shows the vegetation classes of NSW (v 3.03) Keith & Simpson. Google Earth Pro (2020)
- Figure 4 shows the PBP (2019) grasslands vegetation determination.

### Topography

- Figure 4 shows the topography of the site

Weather history (page 13)

Fire history (page 14)

Bushfire landscape assessment conclusion (page 15)



Air photo 1- Looking ~North



Air photo 3- Looking ~South



Air photo 2- Looking ~ East



Air photo 4- Looking ~West

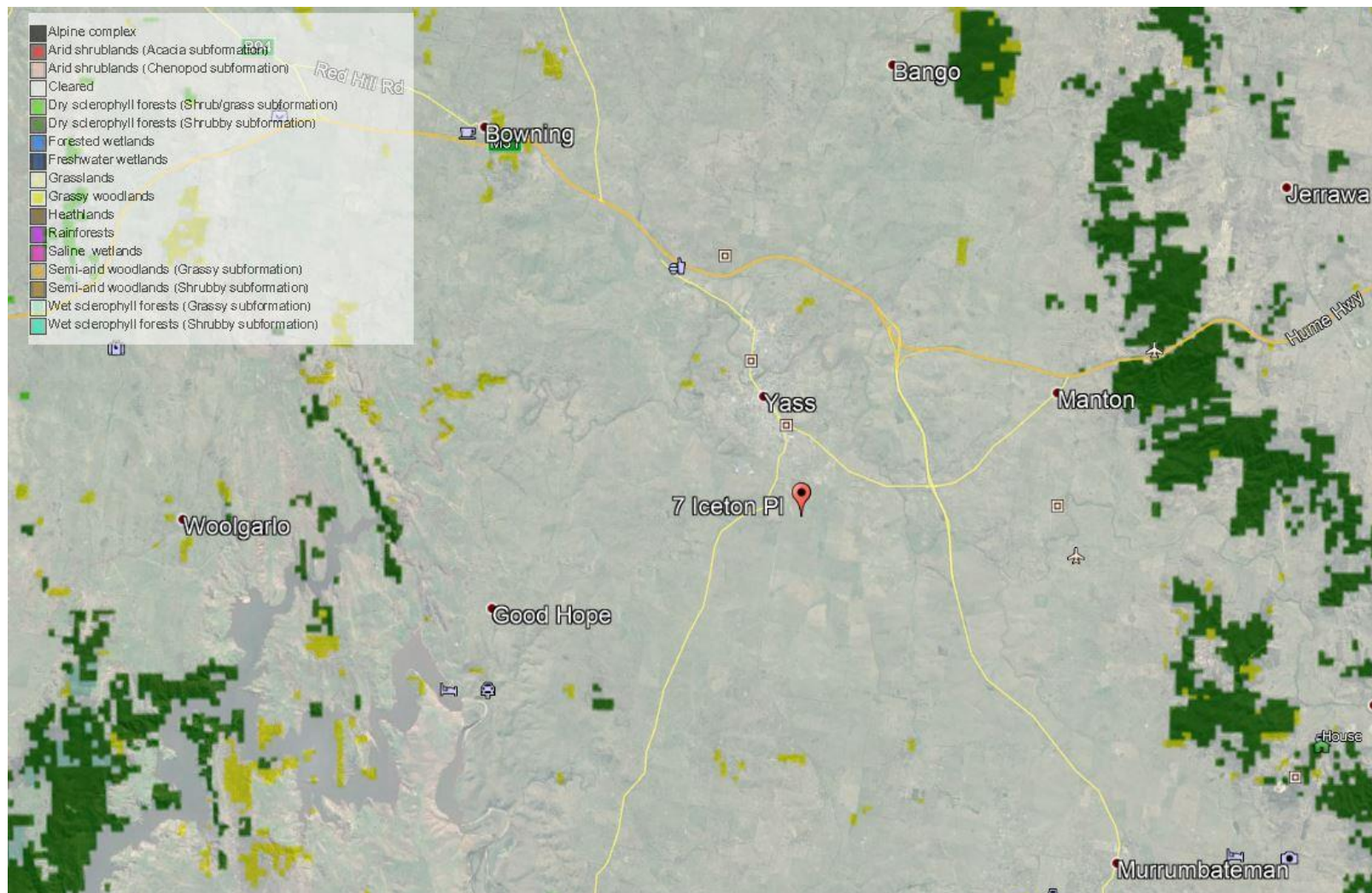


Figure 3- Keith map of vegetation classes, (Google Earth Pro 2019)

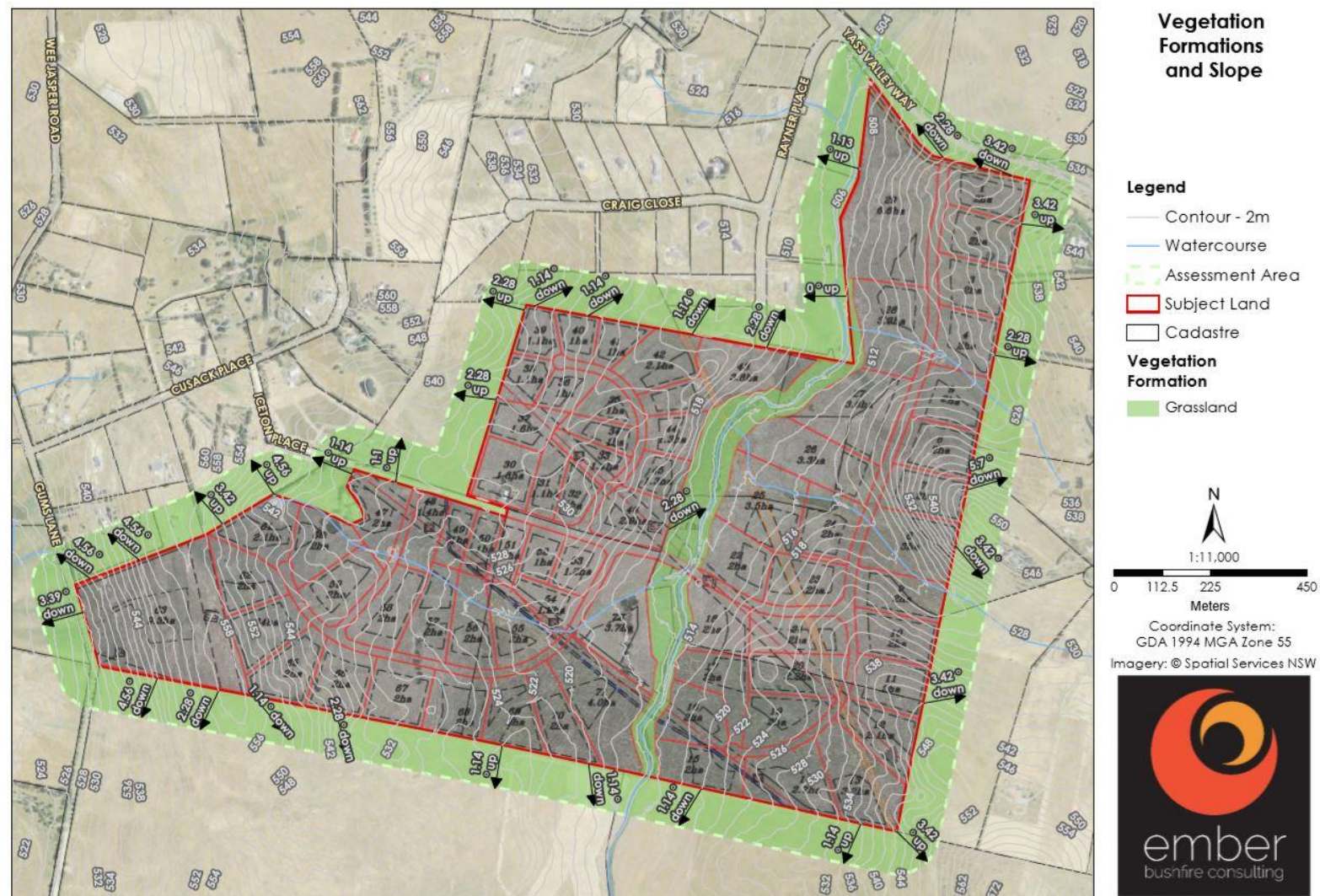


Figure 4- Map of predominate vegetation and effective slope (DKGIS 2020)

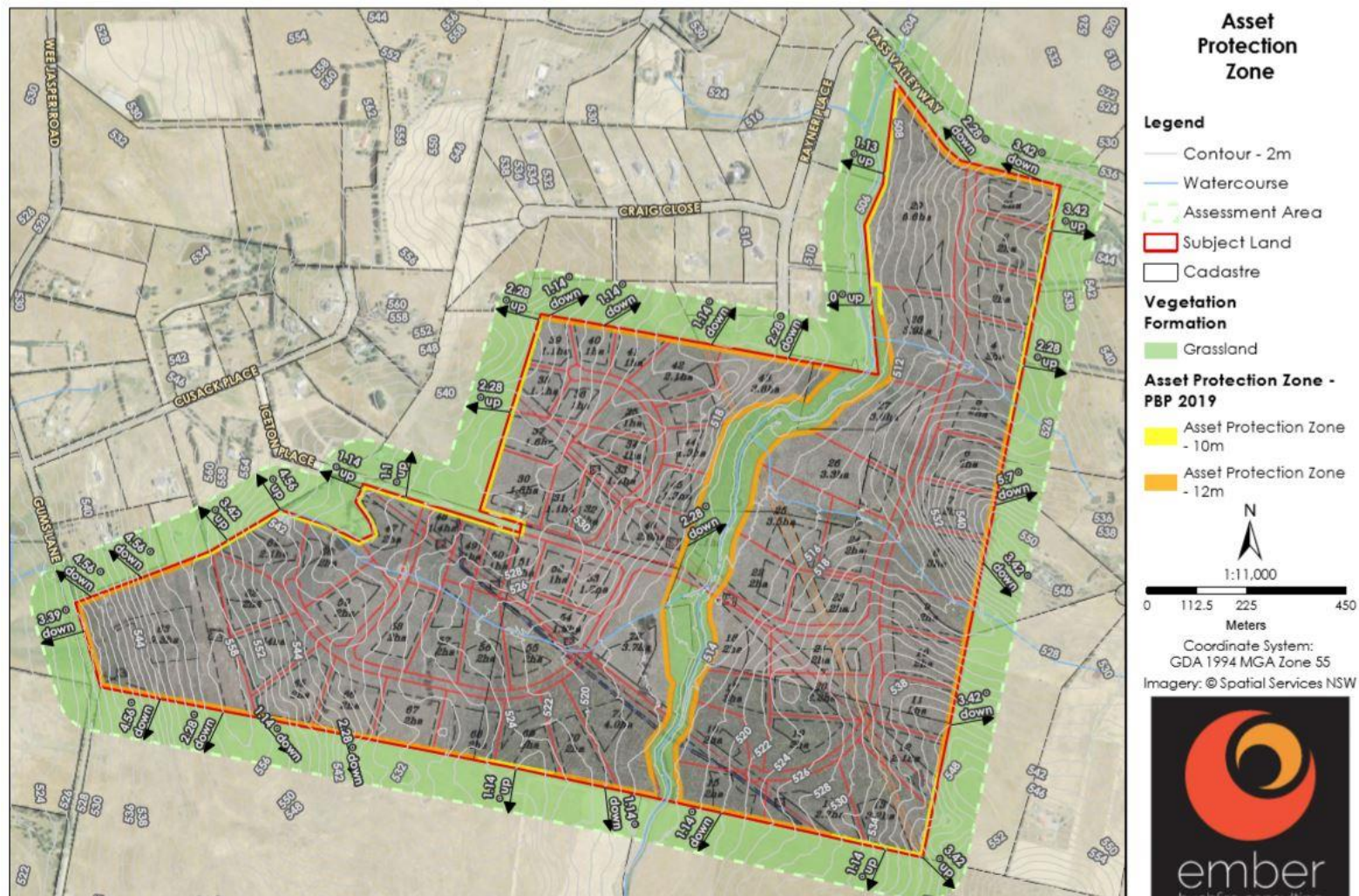


Figure 5- Map of BAL-29 APZ (DKGIS 2020)

## 1.5 BRIEF WEATHER HISTORY OF YASS AREA

Mean rainfall and temperature

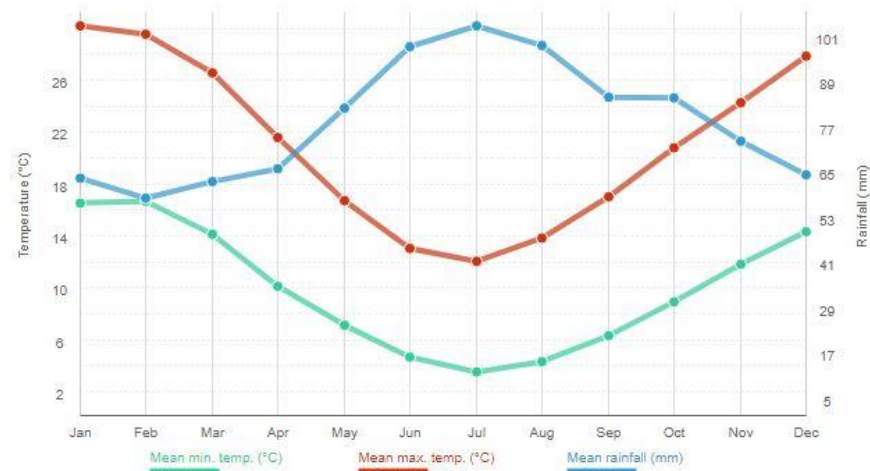


Figure 6 –Weather graph (Meteorology.com.au)

Fire weather district: Southern Ranges

Presumed max Fire Danger Index: FDI 100

Data over default Bush Fire Danger Period: October to March

Table 3- 3pm conditions (BOM weather data)

|                           | October | November | December | January | February | March |
|---------------------------|---------|----------|----------|---------|----------|-------|
| Mean temp (°C)            | 18.9    | 22.4     | 25.8     | 28      | 27.4     | 24.5  |
| Mean wind speed (km/h)    | 13.7    | 14.8     | 15.1     | 14.2    | 12.4     | 11.8  |
| Prevailing wind direction | West    | West     | West     | West    | West     | West  |

## 1.6 FIRE HISTORY YASS REGION

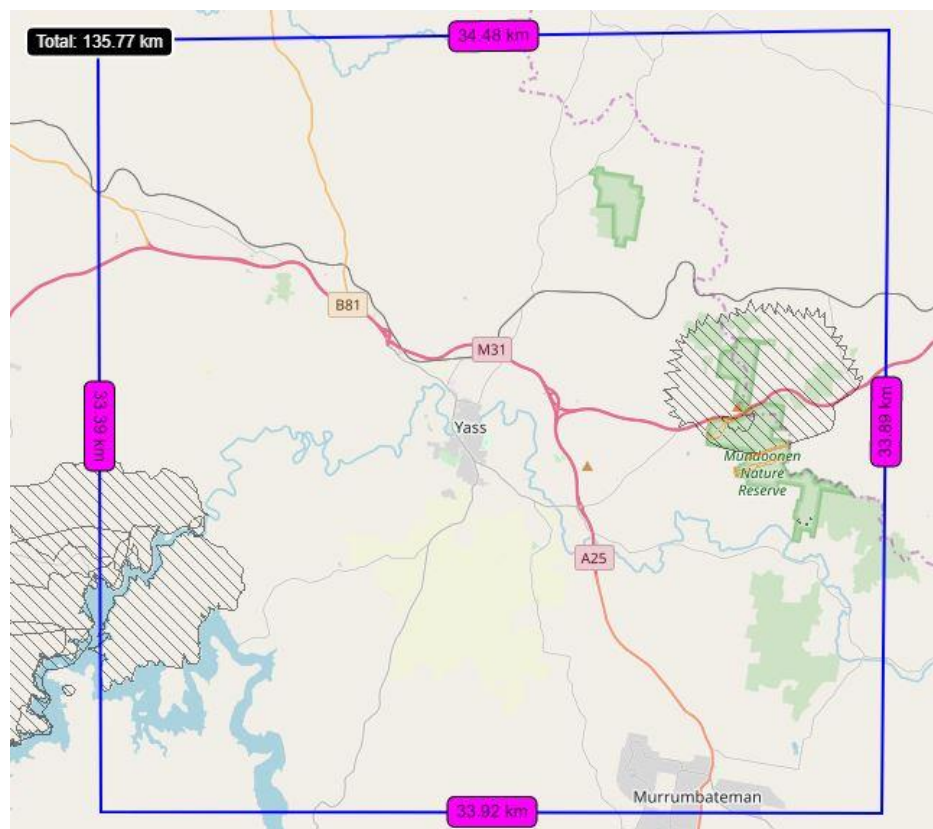


Figure 7 – Fire history (NSW Gov. SEED NPWS Fire History 2020)

Figure 7 shows the fire history recorded by the NSW Parks and Wildlife Service (NPWS) since 2000. There has been a major bushfire to the east of Yass and more importantly several in the Lake Burrinjuck area to the west of the *subject site*.

The prevailing winds during the bushfire danger period are westerly. Therefore, the most likely fire run to the subject site would be from this direction. That is not to say that fire runs cannot come from other directions particularly during periods of high Fire Danger Index (FDI) and wind shift that are common during bushfires.

The vegetation within and surrounding the *subject site* is mostly grasslands. Figure 3 shows remnant vegetation, patches of woodlands and forest in the general district.

The intensity of any potential fire run to the subject site would depend upon the conditions of the fuel and weather on the day.

Suitable Asset Protection Zones (APZ) will be calculated using an FDI of 100, which relates to a Fire Danger Rating (FDR) of Catastrophic to minimise the bushfire risk to the future residences and infrastructure of the *subject site*.

## 1.7 CONCLUSION TO BUSHFIRE LANDSCAPE ASSESSMENT

The subject site is not declared to be bushfire prone land by the Yass Valley Council. Air photos 1-4 show the predominate vegetation to be grasslands. Grasslands are considered to carry a **medium** bushfire risk and are classified as Category 3 vegetation, which poses a potential bushfire risk to the *subject site*.

The topography of the subject site in general is an open landscape gently sloping from the existing rural residential developments to O'Brians Creek. O'Brians Creek runs south to north through the *subject site* and to the Yass River (cover photo and Air Photo 1). The terrain then runs gently upslope in an easterly direction from there.

The effective slope of the site is shown Figure 4. Downslopes from the subject site are a contributing factor to bushfire intensity. Effective slopes are in the range from upslope to 0-5° (one slope measured at 5.7° on the central eastern boundary). APZs are increased in size as the slope range increases, determined by Table A1.12.2 PBP (2019).

APZ shown in Figure 5 are indicative only, a more detailed analyses of APZ would be developed for the future DA as a component in a Bush Fire Assessment Report. APZ are to be managed by the individual land owner/occupiers.

The weather history over the bush fire danger period (October to March), potential effects of climate change, fire history particularly to the west, changing fuel loads and unpredictable human behaviour are some of the contributing factor to the bushfire risk to the *subject site*.

The risk of bushfire impacting on life and property at the *subject site* is a combination of the likelihood and the consequence of a bushfire given the FDI is 100 (FDR-Catastrophic). An example Risk Matrix is shown in Attachment 1. The following risk rating presumes that the all suitable BPM (PBP 2019) are in place and maintained, and Emergency Services are within reason available to respond..

Likelihood: Possible

Consequence: Medium

Risk rating: **Moderate**

## 1.8 LAND USE ASSESSMENT (ISSUE 2)

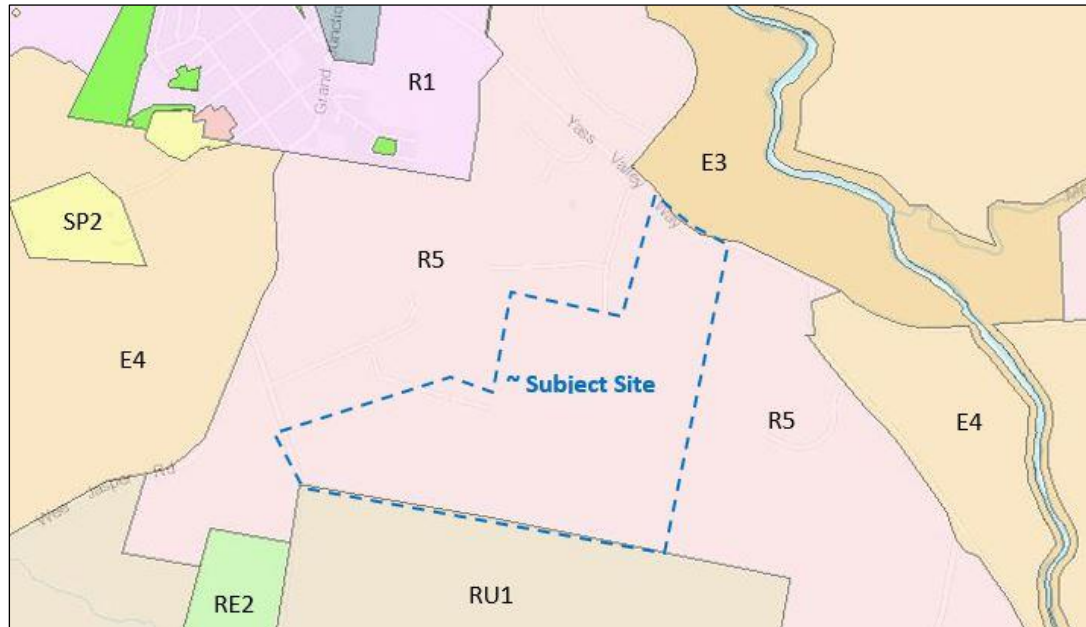


Figure 8 – Map of land use zones (NSW ePlanning 2020)

Key:

R5- Large Lot Residential, R1- General residential, RU1 – Primary Production RE-2 Private Recreation

E3-Environmental Management, E4 Environmental Living SP2- Infrastructure

The *subject site* is surrounded by;

- R5-Large lot residential is to the North, East and West
- E3- Environmental management is a small section to the north across Yass Valley Way
- RU1 – Primary Production is on the southern side
- R1-is the edge of general residential area of Yass

The risk profile for the R5 areas is similar to the risk profile (moderate) for the proposed *subject site*, based on the bushfire landscape assessment.

RU1 land is currently being used for agriculture purposes and consisting mainly of well grazed grasslands. Most of the proposed lots will have a good visual range across this land.

The proposed land use for the *subject site* is 73 x 1ha or greater rural residential blocks, like the existing R5 land use zones. There are no proposed Special Fire Protection Purpose (SFPP) developments planned.

All APZ will be located on the individual sites and will comply with the requirements of PBP (2019).

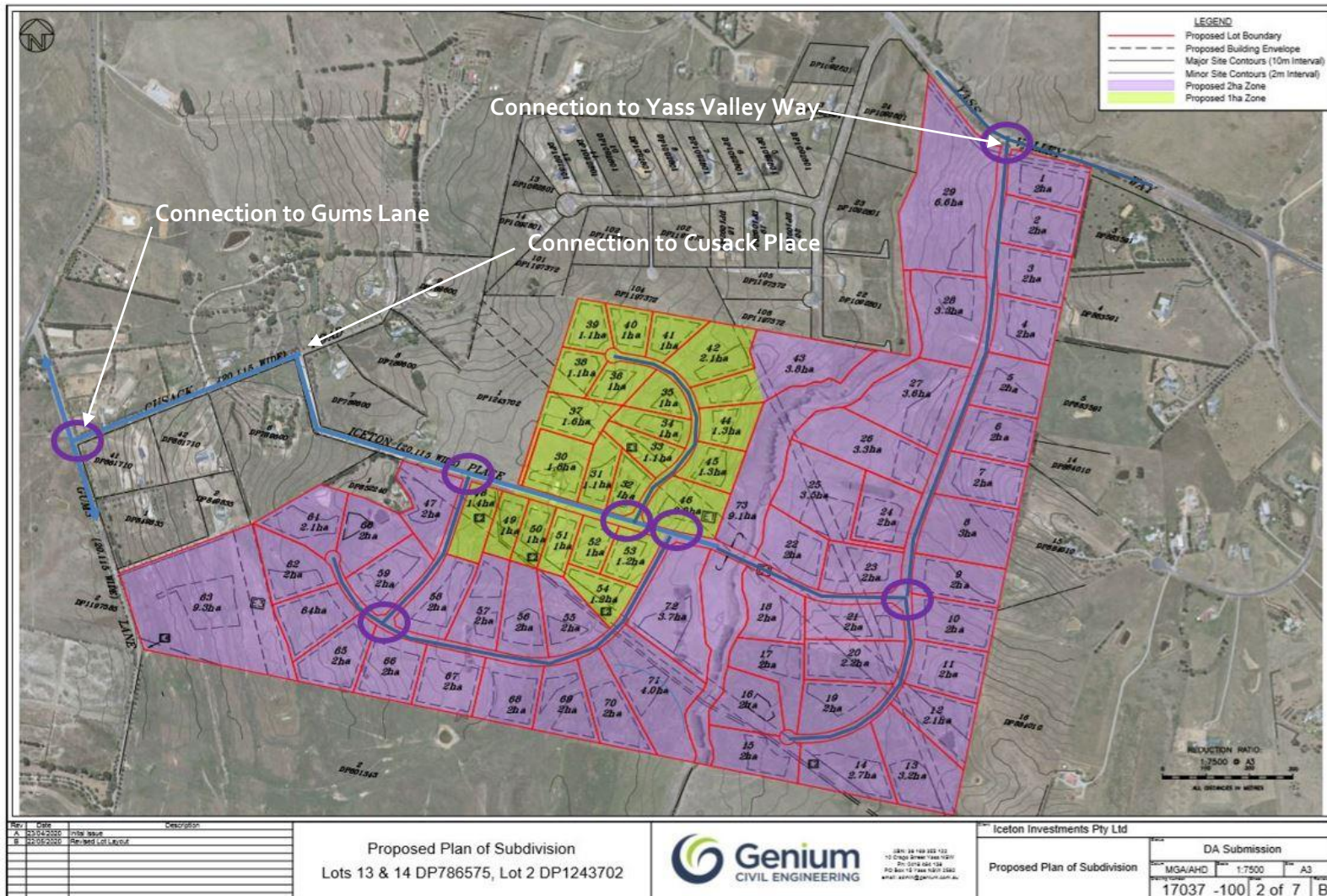


Figure 9-Proposed Road System. The purple ovals are points where travel in two directions is available.(McGregor 2020)

## 1.9 ACCESS AND EGRESS (ISSUE 3)

Figure 9 shows the proposed access and egress road network throughout the *subject site* and the connection to the existing road network.

All roads are proposed to be constructed to the Yass Valley Council's road standards policy. The main road running off Iceton Place, across the creek and through to Yass Valley Way will be an 8m wide two-way road with 7m side seal. All other internal roads will be two-way 7m wide with 6.5m wide side seal.

When completed the road system will be ~ 5.1kms in length with predicted traffic movements of 695 per day. Genium Civil Engineering (2019).

All roads are through roads except for three dead end roads which will have suitable turnarounds.

**Table 4- Dead end road distances**

| Location (Lot number near turnaround) | Road length to travel in two directions |
|---------------------------------------|-----------------------------------------|
| 1. Lots 60/61/62                      | ~200m                                   |
| 2. Lots 58/39                         | ~550m                                   |
| 3. Lots 15/16/17                      | ~500m                                   |

Figure 9 shows 7 points where travel in two directions is an option. Existing properties to the west of the subject site will have increased travel direction options during an emergency.

The majority of the individual lot property access roads will be 200m or less in length.

The proposed road network design will be able to deal with evacuating residents, responding emergency services and will not become isolated in the event of a bushfire.

The minimum lot size of 1ha will allow firefighting vehicles access around the lots to assist with fire suppression activities.

### 1.10 EMERGENCY SERVICES (ISSUE 4)

The following information is an assessment on the future impact of the *subject site* on emergency services.

Emergency Services in the Yass district include;

|                 |              |         |
|-----------------|--------------|---------|
| • NSWRFs        | Volunteer    | On call |
| • FRNSW         | Retained     | On Call |
| • NSW Police    | Professional | 24/7    |
| • NSW Ambulance | Professional | 24/7    |
| • SES           | Volunteer    | On call |

#### Assessment consideration:

1. Consideration for the increase demand for emergency services responding to emergencies.

The following examples are common, but not limited to, emergencies in the area;

- Bushfire
- Property Fire
- Motor vehicle accident (MVA)
- Medical emergency
- Storm damage

The Yass Valley Shire is in the South Eastern Emergency Management Region (SEEMR). The SEEMR Emergency Management Committee meetings would be the ideal forum for each Emergency Service to discuss if their service will be able to provide adequate coverage of services, with the potential increased load on their resources posed by the *subject site*.

The SEEMR Emergency Management Committee should develop a Bushfire Management Plan for the subject site and the impact on the existing neighbourhood.

The subdivision design incorporating the BPM including asset protection zones (APZ), building construction and design (BAL construction standards), access, landscaping, emergency management arrangements, water supplies and utilities in combination, will allow emergency services to operate efficiently and effectively during a bushfire.

The *subject site* will increase the number of residences in the area by ~72 over an area of 173.3Ha.

## 1.11 INFRASTRUCTURE (ISSUE 5)



Figure 10 – Photos of existing infrastructure

The following information is an assessment of the issues associated with the existing and proposed infrastructure at the *subject site*.

### Existing

The closest two existing hydrants are located at the Iceton Place entry gate to the *subject site* (bottom right photo) and Rayner Place (top left photo). See Figure 10.

O'Brien's Creek offers the potential for a static water supply.

There are several overhead power lines & easements running through the subject site (photos top right and bottom left). Arcing and/or breaking power lines are a potential ignition source for a bushfire.

### Proposed

There is no proposed town water supply to the *subject site*. Each block will have its own water supply on site using suitable water tanks and a 20,000L static firefighting water supply will be required.

Electricity and Gas supplies (if used) will be required to comply with PBP (2019).



Figure 11 – Map of adjoining land (Six maps 2020)

### 1.12 ADJOINING LAND (ISSUE 6)

The following information is an assessment of the impact the *subject site* would have on the adjoining landowners and their ability to undertake bush fire management.

Figure 11 shows interfaces between the *subject site* and the adjoining land:

1. Managed land being existing rural residential blocks (Blue)
2. Land with bushfire hazard vegetation (Red)

#### Considerations of the implications of a change in land use on adjoining land follows:

- BPM as required in PBP (2019) will be implemented through the *subject site*. This may be a higher level of protection than the existing adjoining subdivisions currently have.
- There should be no additional management and maintenance responsibilities on adjoining landowners.
- Rural residential lifestyle blocks are usually well maintained by owners and are usually determined to be managed land in bushfire vegetation determinations.
- The existing rural residential developments will have the *subject site* between them and the grassland vegetation hazards. This will potentially reduce their bushfire risk level due to the increased managed separation distances.

- Farmers managing the RU1 land to the south of the *subject site* will be able to continue to manage the grasslands by grazing or slashing.
- The proposed Bushfire Management Plan should consider any emergency impacts on the existing subdivisions from the *subject site*.

#### Ability of the adjoining land to carry a bushfire:

The prevailing winds during the bushfire danger period are from the west.

There is the possibility of fire runs greater than 20kms distance in length from the North, West and South directions. The vegetation in these directions is mostly grasslands with sections of dry sclerophyll forest, grassy woodland, and patches of remnant vegetation. The topography is relatively gentle sloping grazing lands.

## 2 OVERVIEW OF COMPLIANCE WITH PBP (2019)

### Chapter 5 – Residential and Rural Residential Subdivisions

#### Rural residential purposes

##### 1. Asset Protection Zones

Section 1.4, 1.7 and Figure 5 demonstrates the capability of the proposed development to provide suitable APZs to satisfy the Performance Criteria and Acceptable Solutions found in Table 5.3a PBP (2019).

##### 2. Bushfire Attack Level (BAL) Construction Standards

APZ shown Figure 5 ensure all BAL construction standards within the building envelopes or sites (15m x 15m building envelope will be assumed) will be no higher than BAL-29. The BAL construction may reduce due to the location of a structure within the building envelope. All construction is to comply with AS3959-(2018) or NASH standard and Clause 7.5 *Additional construction requirements* PBP (2019).

##### 3. Landscaping

Future landscaping is to comply with Appendix 4 Asset Protection Zone Requirements. Fencing is to comply with section 7.6 Fences and Gates, PBP (2019).

##### 4. Access

Section 1.6 demonstrates the capability of the proposed development to provide suitable access provisions to satisfy the Performance Criteria and Acceptable Solutions found in Table 5.3b PBP (2019).

##### 5. Services-Water, Electricity and Gas

Section 1.8 demonstrates the capability of the proposed development to provide suitable services provisions to satisfy the Performance Criteria and Acceptable Solutions found in Table 5.3c & d PBP (2019).

##### 6. Emergency Management

Section 1.9 demonstrates the capability of the proposed development to provide suitable adequate emergency management provisions for the *subject site*. Individual landowners and occupiers will need to develop a NSWRFs Bushfire Survival Plan on occupation of any new residence.

Recommendations for Stakeholder consideration:

- Emergency Management Committee to discuss additional load on individual services and develop a Bushfire Management Plan for the subject site.

### 3 CONCLUSION

This BFSS documents the findings carried out on the *subject site, 7 Iceton Place, Yass*. A minimum lot size of 1ha was presumed and supported.

Section 1 investigated the six issues and assessment consideration found in Table 4.2.1 Chapter 4 *Strategic Planning, PBP* (2019).

Section 2 investigated the capability of the *subject site* to meet the solutions of Chapter 5 *Residential and Rural Residential Subdivisions, PBP* (2019).

The predominate vegetation is classified as grasslands. Grasslands are considered to carry a medium risk NSW RFS (2015)

The risk analyses from a grassfire during a period of FDI-100 was determined to be moderate. A moderate bushfire risk level should be acceptable and no higher than the risk that exists with the adjoining rural residential subdivisions.

To protect life and property, suitable BPM to mitigate the medium bushfire threat include:

- APZ to allow a maximum BAL-29 construction standard within the building envelope

- Road design that allows for efficient evacuation and Emergency Services access
- Property access roads less than 200m in length
- Bushfire considerate landscaping throughout the subject site
- Suitable water supplies and utilities

Although not guaranteed in every bushfire incident, Fire Service intervention to suppress a grassfire at or before the interface is possible.

Based on this BFSS and any recommendations contained within, the *subject site* is deemed to meet the broad objectives of Chapter 4 *Strategic Planning PBP* (2019) and is capable of meeting the acceptable solutions of Chapter 5 *Residential and Rural Residential Subdivisions PBP* (2019).

A Section 100B of the Rural Fires Act and the Rural Fire Regulations 2013 Bushfire Assessment Report (BFAR) will need to be developed to support the DA and assess the adequacy for bushfire protection of the proposed subdivision of the *subject site*.

Be advised that the NSW RFS may alter recommendations and/or impose additional conditions as it feels is necessary to offer further protection to the occupants, structures, and fire fighters during a bush fire.

## 4 REFERENCES:

Australian Building Codes Board (ABCB), 2019, *National Construction Code - Building Code of Australia Volume 1 & 2*, Canberra

Genium Civil Engineering (2019), Preliminary Investigation report, Version 1, 11 April, 2019

Google Earth Pro (2020), Vegetation Classes of NSW (V3.03 200m Raster) Keith D and Simpson

Keith D, 2004, *Ocean Shores to Desert Dunes: the native vegetation of NSW and the ACT*, Dept of Environment and Conservation, NSW Government.

NSW Rural Fire Service, 2005, *Standards for Asset Protection Zones*. Sydney

NSW Rural Fire Service, 2015, Guide for Bush Fire Prone Land Mapping, V5b, Sydney

NSW Rural Fire Service, 2019, *Planning for Bushfire Protection*. Sydney

Standards Australia, 2018, AS 3959-2009 *Construction in Bushfire Prone Areas* (amended 2011) SAI Global, Melbourne.

## Web sites:

### Bureau of Meteorology:

<https://weather.bom.gov.au/>

### NSW Gov ePlanning

<https://www.planningportal.nsw.gov.au/spatialviewer/#/find-a-property/lga>

### NSW Gov SEEDS NPWS History:

[https://geo.seed.nsw.gov.au/Public\\_View/index.html?viewer=Public\\_View&locale=en-AU&runWorkflow=AppendLayerCatalog&CatalogLayer=SEED\\_Catalog.203.NPWS%20Fire%20History](https://geo.seed.nsw.gov.au/Public_View/index.html?viewer=Public_View&locale=en-AU&runWorkflow=AppendLayerCatalog&CatalogLayer=SEED_Catalog.203.NPWS%20Fire%20History)

### Meteorology. com.au:

<http://www.meteorology.com.au>

### Six Maps:

<https://maps.six.nsw.gov.au/>

## 5 ATTACHMENT 1: RISK MATRIX

| LIKELIHOOD RATING |                                                                                                                                                                                                                                                                       |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DESCRIPTOR        | COMMENT                                                                                                                                                                                                                                                               |
| Almost certain    | <ul style="list-style-type: none"> <li>The event is expected to occur in most circumstances (every year).</li> <li>High level of known incidents (records/experience).</li> <li>Strong likelihood of re-occurring, with high opportunities/means to occur.</li> </ul> |
| Likely            | <ul style="list-style-type: none"> <li>The event will probably occur in most circumstances (2 to 5 years).</li> <li>Regular incidents known (recorded/experienced).</li> <li>Considerable opportunity and means to occur.</li> </ul>                                  |
| Possible          | <ul style="list-style-type: none"> <li>The event should occur at some time (5 to 10 years).</li> <li>Few infrequent, random occurrences (recorded/experienced).</li> <li>Some opportunity and means to occur.</li> </ul>                                              |
| Unlikely          | <ul style="list-style-type: none"> <li>The event could occur at some time (&gt;10 years).</li> <li>No known incidents recorded or experienced.</li> <li>Little opportunity and means or reason to occur.</li> </ul>                                                   |
| Rare              | <ul style="list-style-type: none"> <li>The event may occur only in exceptional circumstances (&gt;30 years?).</li> <li>Unheard of.</li> <li>Almost no opportunity to occur.</li> </ul>                                                                                |

Likelihood Rating

| RISK RATING MATRIX |              |          |          |               |               |
|--------------------|--------------|----------|----------|---------------|---------------|
| LIKELIHOOD         | CONSEQUENCE  |          |          |               |               |
|                    | Catastrophic | High     | Medium   | Low           | Very Low      |
| Almost certain     | EXTREME      | EXTREME  | MAJOR    | MODERATE      | MINOR         |
| Likely             | EXTREME      | MAJOR    | MODERATE | MODERATE      | MINOR         |
| Possible           | EXTREME      | MAJOR    | MODERATE | MINOR         | INSIGNIFICANT |
| Unlikely           | MAJOR        | MODERATE | MODERATE | MINOR         | INSIGNIFICANT |
| Rare               | MAJOR        | MODERATE | MINOR    | INSIGNIFICANT | INSIGNIFICANT |

| CONSEQUENCE RATING |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DESCRIPTOR         | COMMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Very Low           | <ul style="list-style-type: none"> <li>No injuries or fatalities, little or no personal support required.</li> <li>Inconsequential or no physical damage, short duration.</li> <li>Little or no disruption to the community.</li> <li>No measurable impact on the environment.</li> <li>Little or no financial loss.</li> <li>Negligible impact on image.</li> </ul>                                                                                                                     |
| Low                | <ul style="list-style-type: none"> <li>Minor injuries, no fatalities, first aid treatment required.</li> <li>Some physical damage.</li> <li>Some community disruption for duration less than 24 hours.</li> <li>Small impact on environment, on-site release contained immediately.</li> <li>Some financial loss.</li> <li>Marginal decrease in support by stakeholders.</li> </ul>                                                                                                      |
| Medium             | <ul style="list-style-type: none"> <li>Medical treatment, but no fatalities.</li> <li>Localised physical damage which is rectified in a routine fashion.</li> <li>Normal community functioning with some inconvenience for 24 to 48 hours.</li> <li>Some environmental impact, short-term, requires outside help on-site.</li> <li>Major financial loss – assistance required.</li> <li>Attracts media attention.</li> </ul>                                                             |
| High               | <ul style="list-style-type: none"> <li>Extensive injuries, hospitalisation, possible fatalities, long-term disabilities.</li> <li>Significant physical damage requiring external assistance.</li> <li>General and widespread community impact on functioning.</li> <li>Some environmental impact/permanent damage.</li> <li>Major financial loss – can only continue with substantial and ongoing financial assistance.</li> <li>Media concern.</li> </ul>                               |
| Catastrophic       | <ul style="list-style-type: none"> <li>Many injuries, fatalities and widespread medical attention required.</li> <li>Extensive physical damage requiring extended external assistance.</li> <li>Community impact severe and lasting, not functioning without support.</li> <li>Heavy environmental impact/permanent damage/extinction of species.</li> <li>Huge financial loss – can only continue with significant and ongoing financial assistance.</li> <li>Media outrage.</li> </ul> |

Consequence rating



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# Revision of Subdivision Plan

Annexure to BFSS RM.08.20 v1.3

Version 1.0

## **Development Location Details:**

Ice-ton Place, Yass

Ember job#: RM.69.21

## **Stakeholders:**

| Stakeholder                 | Role                       | Contact        | Detail       |
|-----------------------------|----------------------------|----------------|--------------|
| Genium Civil Engineers      | Project Manager            | Simon Cassidy  | 0418 484 138 |
| Ice-ton Investments Pty Ltd | Proponent/client Developer | Not given      |              |
| Hugh Dennett                | Town Planning Consultant   | Chelsea Newman | 0405 257 922 |
| Yass Valley Council         | Consent Authority          | Not Given      | 62261477     |
| NSWRFS                      | Consent Authority          | Not Given      | 02 4475 1300 |

**Date:** 29.04.21

## **Introduction**

Attachment 1 shows the revised subdivision plan and ecology determination. There are now 71 lots with building envelopes, down one from the subdivision plan shown in the Bush Fire Strategic Study (BFSS). Lot 72 is the corridor along O'Brian's Creek.

The proposed road network design has not changed.

The ecology mapping shows the confirmed habitats of the striped legless lizard and golden sun moth.

Any impact to these habitats by the development is to be managed by the Biodiversity Offsets Scheme (BOS).

Attachment 2 is an updated predominate vegetation and effective slope map.

Attachment 3 is an updated asset protection zones (APZ) map.

## Conclusion

The altered subdivision plan shown is Attachment 1 does not alter the conclusion found in the BFSS.

The Ecologist has advised that they will not be recommending any planting of trees and shrubs in O'Brian's Creek corridor.

The predominate grasslands vegetation determination will remained unchanged.

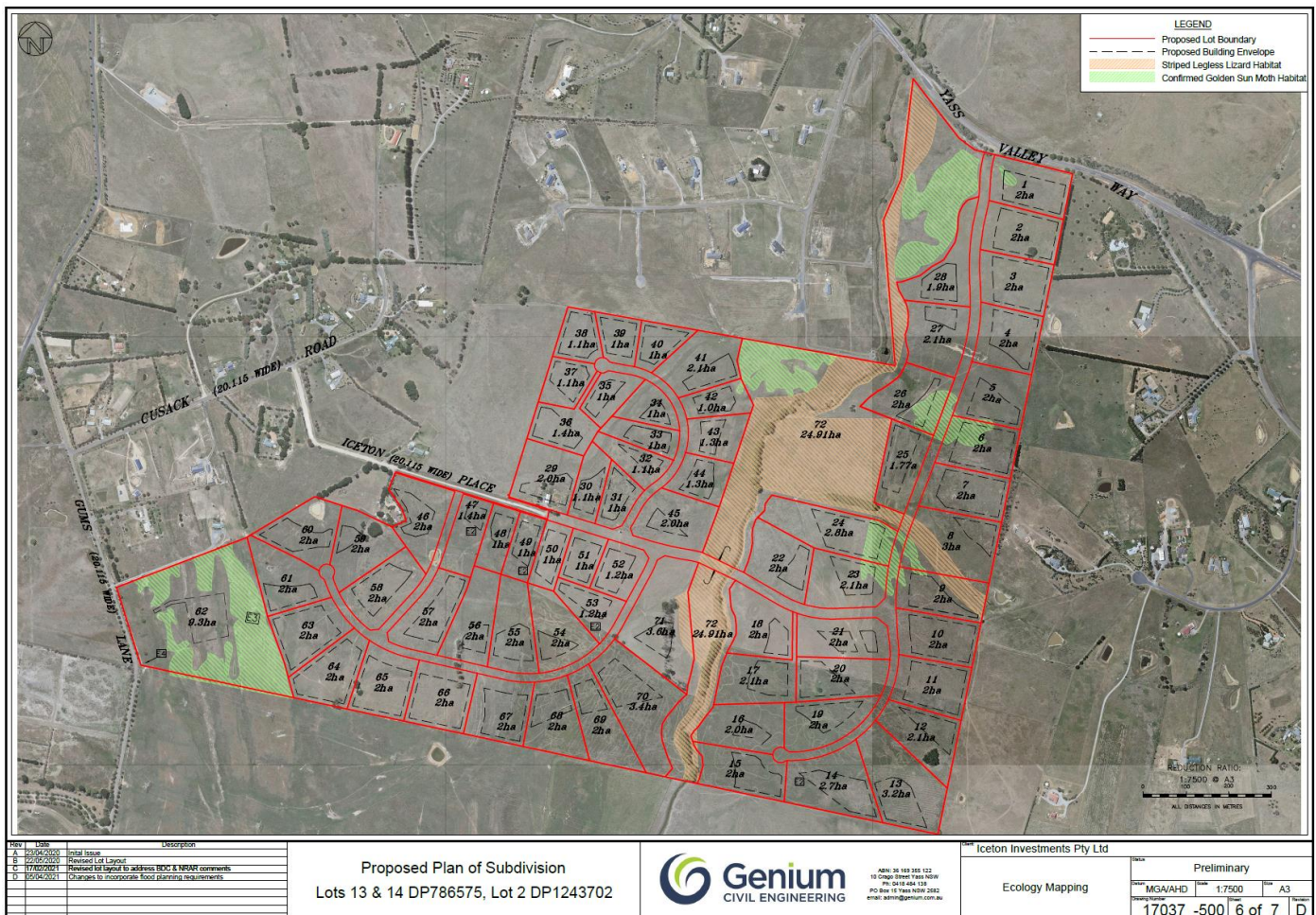
APZ have been revised and are shown in Figure 3.

Regards



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## Attachment 1: Subdivision Plan & Ecology Mapping



## Attachment 2: Predominant vegetation and effective slope



## Attachment 3: Asset Protection Zones (APZ)

