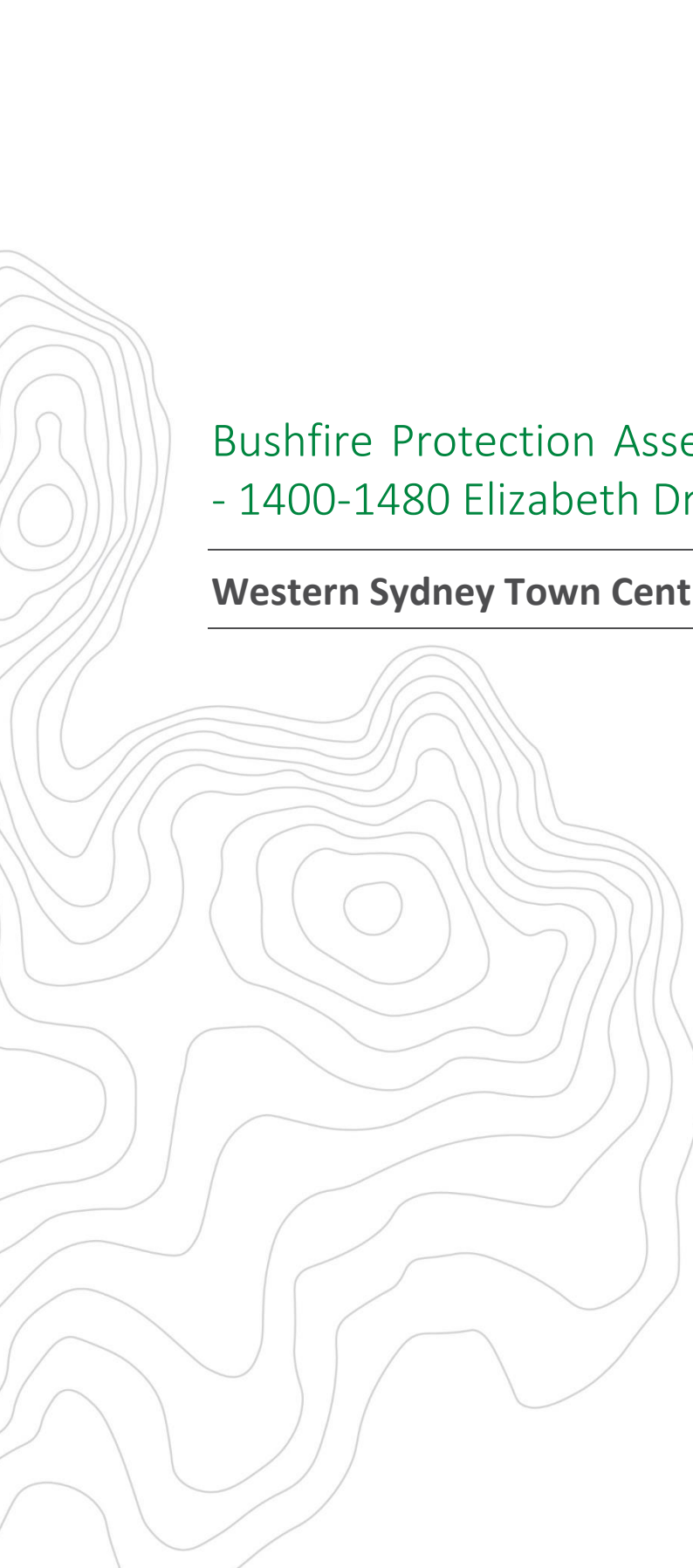


A stylized topographic map with green contour lines is positioned on the left side of the page, extending from the top left towards the bottom left.

Bushfire Protection Assessment: Proposed Rezoning - 1400-1480 Elizabeth Drive, Cecil Park

Western Sydney Town Centre

DOCUMENT TRACKING

Project Name	Bushfire Protection Assessment: Proposed rezoning - 1400-1480 Elizabeth Drive, Cecil Park
Project Number	19SYD_12737
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Approved by	Mick George
Status	Final
Version Number	1
Last saved on	20 March 2019

This report should be cited as 'Eco Logical Australia. 2019 Bushfire Protection Assessment: Proposed rezoning - 1400-1480 Elizabeth Drive, Cecil Park. Prepared for Western Sydney Town Centre.'

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Template 2.8.1

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1. Property and proposal

Table 1: Subject site summary

Street address or property name:	1400-1480 Elizabeth Drive		
Suburb, town or locality:	Cecil Park	Postcode:	2178
Lot/DP no:	Lots 1-9 DP 1054778		
Local Government Area:	Liverpool City Council		
Zoning:	RU4 – Primary Production Small Lots		
Type of development:	Rezoning – Industrial.		

1.1 Description of proposal

This Planning Proposal has been prepared on behalf of Western Sydney Town Centre (WSTC) to prepare a Bushfire Protection Assessment (BPA) for a proposed industrial rezoning of 1400-1480 Elizabeth Drive, Cecil Park (hereafter known as the 'subject land') located as shown in Figure 1.

The subject site is currently zoned as RU4 Primary Production Small Lots under the Liverpool Council Local Environmental Plan (LEP). The Planning Proposal proposes to rezone the subject land to IN2 Light Industrial to allow for light industrial / commercial uses.

The Preliminary Concept Plan (Figure 2) identifies that:

- part of the site to be acquired by Roads and Maritime Services (RMS) for the M12;
- the balance of land would include a mix of warehouse and distribution facilities, light industries and highway retail (take away food premises / service stations).

Eco Logical Australia (ELA) has been engaged to investigate the current bushfire risk of the study area and the appropriate combination of bushfire protection measures to mitigate this risk in support of the rezoning. Specifically, this analysis responds to the requirements of the NSW Rural Fire Service (RFS) Pre-release *Planning for Bush Fire Protection 2018* (PBP).

PBP 2018 was released in early September 2018 however, the legislation enacting PBP 2018 will not be changed until May 2019 to coincide with the release of the 2019 National Construction Code and updated version of Australian Standard (AS) 3959-2009 'Construction of buildings in bushfire-prone areas'. Until this legislation change occurs, the 2006 version of PBP is the legislated version of PBP and the basis for compliance. However, as this assessment is for constraints purposes and it is assumed a development application is unlikely before the 1 May 2019, the advice is based on Pre-Release PBP 2018 requirements. The 2019 version of PBP is not expected to make significant changes but an update of this advice may be wise following the gazettal of PBP 2019.

The overarching objective of this report is to identify all potential bushfire constraints to the future urban development of the subject site. The results of this assessment will directly support the preparation of necessary planning documentation. It is to include the following strategic assessment considerations in PBP (RFS 2018):

- ensuring land is suitable for development in the context of bush fire risk;

- ensuring new development on Bush Fire Prone Land (BFPL) will comply with PBP 2018;
- minimising reliance on performance-based solutions;
- providing infrastructure associated with emergency evacuation and firefighting operations;
and
- facilitating appropriate ongoing land management practices.

Commercial and industrial development is addressed through the aims and objectives of PBP 2018. A suitable package of bushfire protection measures is to be proposed in line with the level of risk assessed for the proposed development.

Service stations are identified under Section 8.3.9 of PBP 2018 as a hazardous industry and require prior consultation with the NSW Rural Fire Service and the preparation of a performance-based solution, potentially including a Bush Fire Design Brief (BFDB). In preparation of a performance-based solution or BFDB, a Fire Study prepared under the Department of Planning and the Environment Hazardous Industries Planning and Assessment Papers should be considered. This study provides details of all credible fire hazards and the associated fire prevention and mitigation measures for the development. The BFDB should ensure that compatible fire-fighting measures are adopted.

This report assesses the potential bushfire hazard across the subject site, in the context of existing vegetation (see Figure 3 for vegetation coverage). Management of future Asset Protection Zones (APZ) and environmental areas are also considered.

Future subdivision of land and the construction of buildings will require an assessment against the legislated version of PBP. As such the provisions of this report are to be considered in the planning and design of any development following the rezoning process.

1.2 Subject site

The subject site is located approximately 6 km to the east of Badgerys Creek within the South West Growth Area. The subject site is predominantly vegetated with no existing rural residential dwellings / structures present.

The subject site consists of nine (9) large land parcels, being:

- 1400-1480 Elizabeth Drive, Cecil Park; consisting of:
 - Lots 1-9 DP1054778

The subject site comprises one combined 'parcel' of land, bound by Elizabeth Drive to the north and Range Road to the east and south. Elizabeth Drive will provide the main access to the existing lots and local roads / proposed rezoning area.

It is assumed the entirety of the vegetation within the subject site will be cleared for future development purposes.

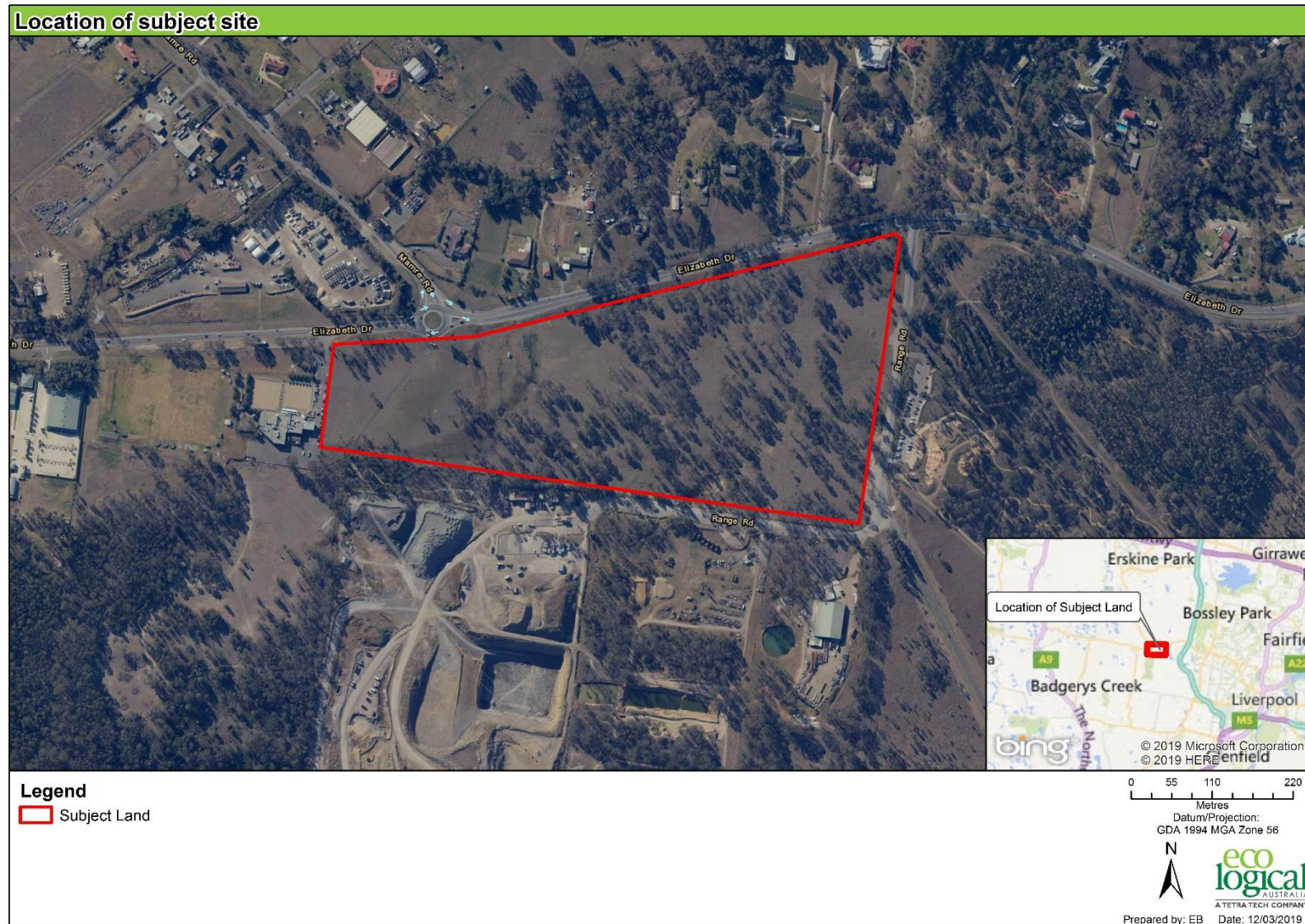


Figure 1: Location of subject site

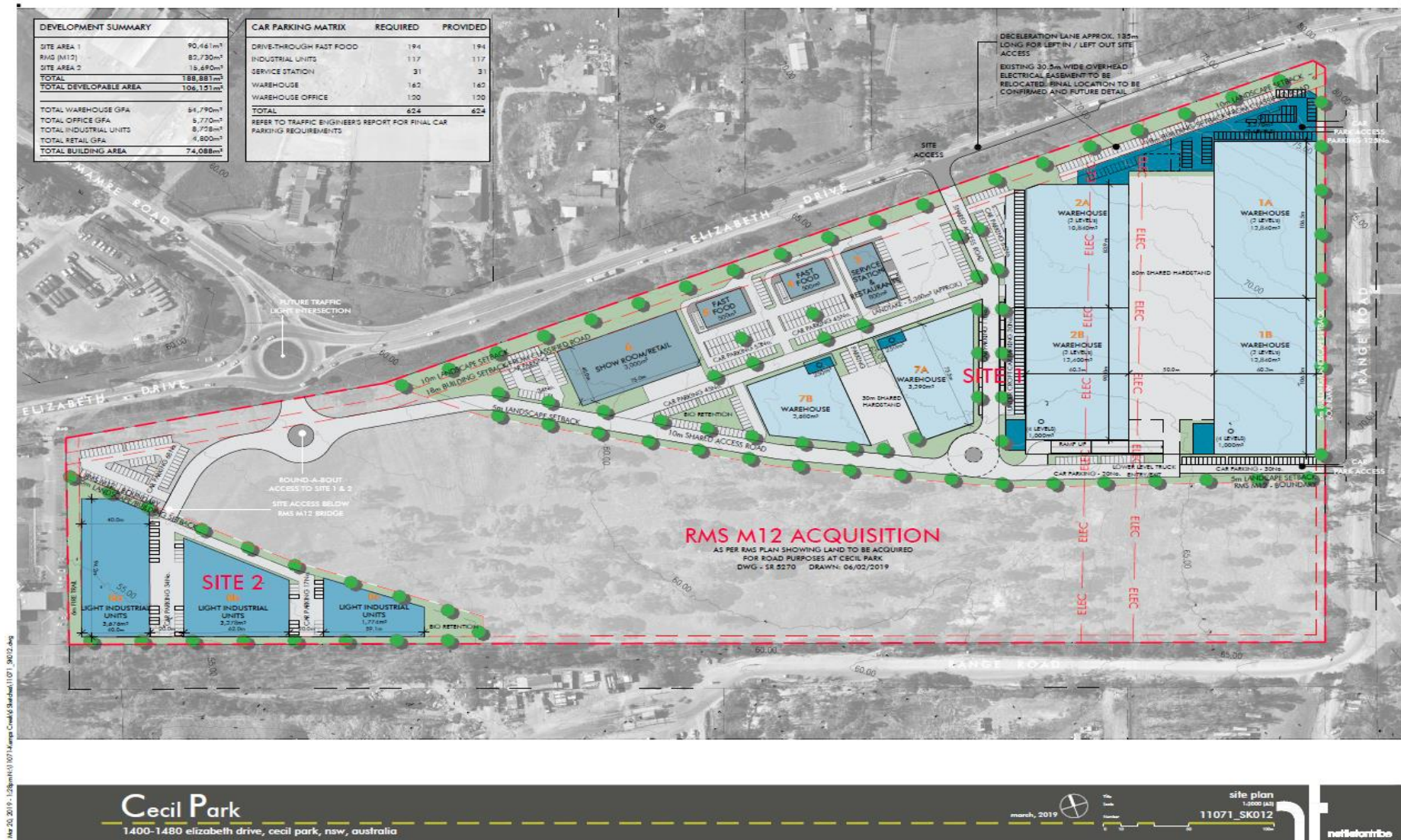


Figure 2: Preliminary concept plan

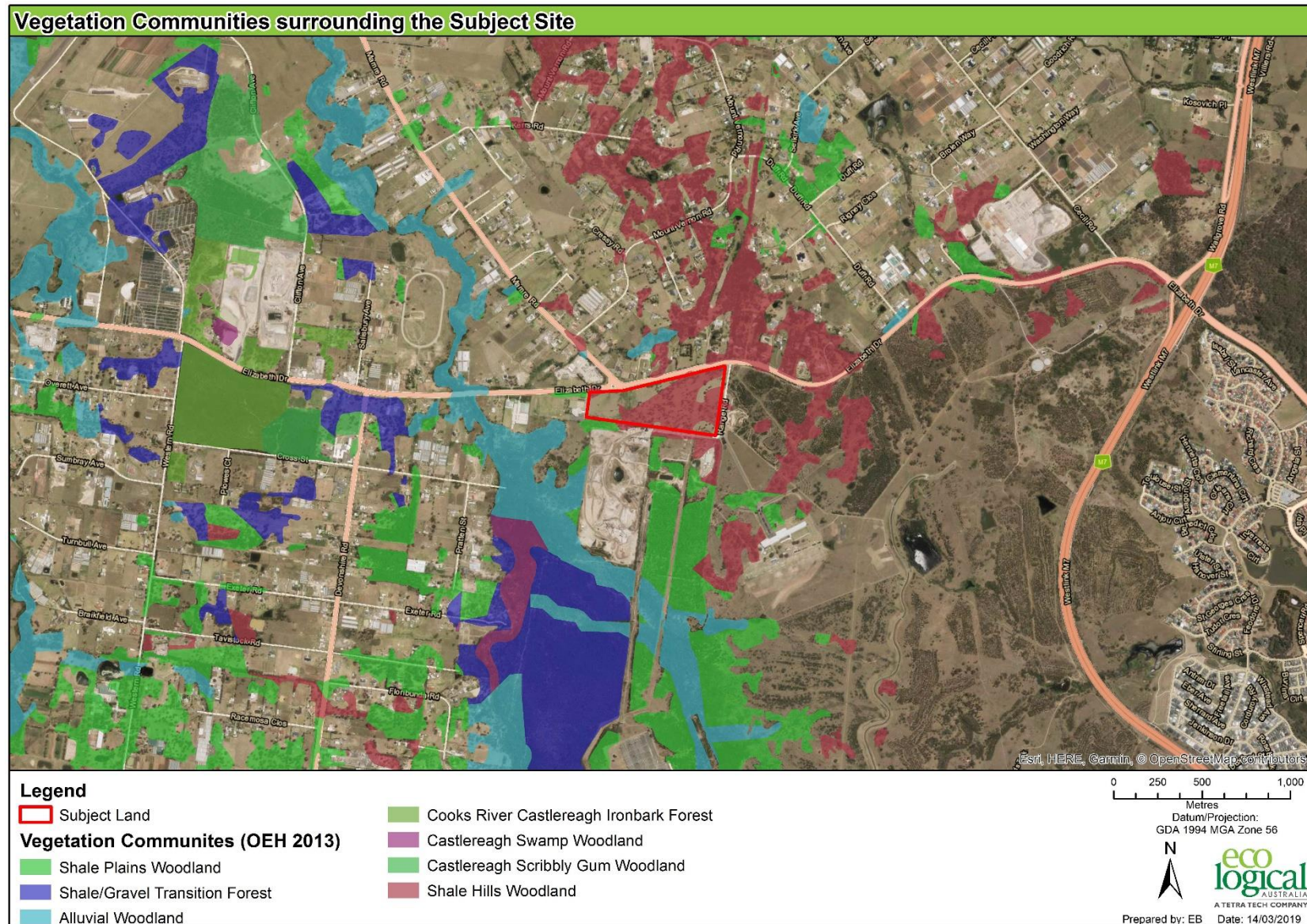


Figure 3: Vegetation Communities surrounding the Subject Site

2. Bushfire Risk assessment

2.1 Bushfire Hazard

This assessment confirms the subject land is mapped bushfire prone by Liverpool City Council's Bushfire Prone Land (BFPL) Map¹, and is located within a wider landscape of bushfire prone land.

An assessment of the bushfire hazard is necessary to determine the application of bushfire protection measures such as APZ location and dimensions. This section provides a detailed account of the vegetation communities (bushfire fuels) and the topography (effective slope) that combine to create the bushfire hazard that may affect bushfire behaviour impacting the subject site. Bushfire hazard has been classified using the PBP methodology through assessment of vegetation, slope and weather data.

Strategic regional bushfire risk management frameworks, such as the Macarthur Bush Fire Risk Management Plan (BFRMP) (Macarthur Bush Fire Management Committee 2012) should be updated following development of the rezoning subject site (Figure 4).

2.2 Vegetation types

The subject land is located within a landscape of rural residential and light industrial/commercial development with patches of native vegetation and grassland areas to the north, east and west. A larger area of native vegetation occurs to the south of the subject land, beyond an existing industrial site that is cleared land that directly adjoins the subject land. Vegetation mapping (Figure 3) shows the following vegetation communities present within and adjoining the subject site, and is further detailed within Table 2 below.

Table 2: PBP bushfire protection measures

Vegetation Community	Equivalent PBP / Keith Vegetation Class – Hazard Structure
<i>Broad-leaved Ironbark - Grey Box - Melaleuca decora grassy open forest on clay/gravel soils of the Cumberland Plain, Sydney Basin Bioregion</i>	Dry Sclerophyll Forests (Shrub/grass sub-formation)
<i>Broad-leaved Ironbark - Melaleuca decora shrubby open forest on clay soils of the Cumberland Plain, Sydney Basin Bioregion</i>	Dry Sclerophyll Forests (Shrub/grass sub-formation)
<i>Derived shrubland on Tertiary Gravels of the Cumberland Plain</i>	Dry Sclerophyll Forests (Shrub/grass sub-formation)
<i>Forest Red Gum - Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain, Sydney Basin Bioregion</i>	Forested Wetlands
<i>Grey Box - Forest Red Gum grassy woodland on flats of the Cumberland Plain, Sydney Basin Bioregion</i>	Grassy Woodlands
<i>Grey Box - Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion</i>	Grassy Woodlands
<i>Hard-leaved Scribbly Gum - Parramatta Red Gum heathy woodland of the Cumberland Plain, Sydney Basin Bioregion</i>	Dry Sclerophyll Forests (Shrub/grass sub-formation)

¹ <https://www.planningportal.nsw.gov.au/find-a-property>

Vegetation Community	Equivalent PBP / Keith Vegetation Class – Hazard Structure
<i>Parramatta Red Gum woodland on moist alluvium of the Cumberland Plain, Sydney Basin Bioregion</i>	Dry Sclerophyll Forests (Shrub/grass sub-formation)

The remaining vegetation within the vicinity of the subject site consists of land that is managed from other rural / industrial uses.

The spatial distribution and continuity of the vegetation means that high intensity and large landscape fires are unlikely to impact the subject land.

2.3 Topography and slope

In accord with PBP 2018, the slope that would most significantly influence fire behaviour was determined over a distance of 100 m from the boundary of the subject site where the vegetation was found (measuring the worst-case scenario). This assessment was made with 2 m contours and applicable slope classes are listed in Table 3 and shown in Figure 4.

The land slopes gently down in the majority of directions, with a small area of effective upslope are situated to the north of the subject site, adjacent to the Motorway Link road. There is some localised variation in slopes across the site and within the bushfire hazard, but the effective slope generally falls within the range all upslopes / flat land and >0-5 degrees downslope, as shown in Figure 4.

Table 3: PBP slope classes

Upslope or Downslope	PBP Slope Class
Upslope / Flat Land	Flat land and all upslope land leading away from the development
Downslope	>0-5 degrees downslope leading away from the development

2.4 Bushfire Weather

The Macarthur Bush Fire Management Committee (BFMC) area of responsibility generally experiences a warm temperate climate, with high summer rainfalls between January and March, low relative humidity with little variation throughout the year, and predominant northwest to southerly winds in summer. Local climatic conditions are influenced by topography and rainfall patterns reflect elevation and distance from the coast.

The warmest months are November to March, with May to August being the cooler, drier months. The greatest period of fire danger occurs after a dry winter and spring, before the onset of rain in summer. Occasional strong winds with cold fronts during summer can lead to extreme fire danger. During the fire season, weather conditions of concern are hot, dry winds, particularly from the north-west, accompanied by temperatures above 30 degrees and low relative humidity. These conditions are sometimes followed by a rapid change producing strong southerly winds and high intensity storms, with concentrated periods of lightning with little rain. In most years, summer rainfall and slightly higher relative humidity in the latter months of summer generally characterises the end of the fire season.

2.5 Bushfire History

The Macarthur BFRMP (BFMC 2012) identifies that the main sources of ignition in the Macarthur BFMC area are varied in nature, but anecdotal evidence suggests that deliberate misuse of fire and arson related activities form a majority of the ignitions within the area.

The area has on average 417 bush fires per year, of which annually 5 on average can be considered to be major fires.

2.6 Summary of landscape bushfire risk assessment

Although fire history indicates the probability of a landscape wide fire or major fire attack on the subject land is low, it remains feasible as it is for any part of the urban/bushland interface.

The Study shows no evidence that the development proposal is in an inappropriate bushfire landscape given the fire history, landscape fire advantages and the preliminary concept design enabling appropriate bushfire protection measures.

The landscape risk analysis indicates a risk level where it is feasible to design and build resilience into the community that matches or exceeds the bushfire risk in this landscape. The total elimination of bushfire risk is however not necessary or feasible; as is the situation for any bushfire prone land.

2.7 Risk profile

The feasibility of the proposal to comply with the bushfire protection measures within PBP (RFS 2018) is fundamental to the Study. Whilst bushfire protection measures and their performance requirements are a benchmark for approval of a development, a strategic level study needs also to evaluate these measures within the landscape risk context. This Study has therefore considered the:

- Footprint within the bushfire landscape and the need for adjustment of the protection measures given the landscape risks;
- Pattern and potential bushfire resilience of the development bushland interface;
- Potential cumulative risk associated with the protection measures;
- Risk profile of different areas and their appropriate landuse; and
- Potential for application of innovative or emerging bushfire protection measures.

The following landuse risk profile has been identified in the Study:

- There is ample area to locate APZ and other bushfire protection measures to meet the aims and objectives of PBP 2018;
- The placement and juxtaposition of building envelopes and their APZ can reduce the risk of bushfire spread through adjoining rural residential properties.
- No unusual cumulative risks have been identified. Complementary and consistent risk management through landscape and building design can be proposed that will increase bushfire resilience.

3. Bushfire protection measures

PBP 2018 requires the assessment of a suite of bushfire protection measures that in total afford an adequate level of protection. The measures required to be assessed for rezoning are listed in Table 4 and are discussed in detail below. The subject site has the capability to accommodate the required bushfire protection measures specified in PBP 2018.

Table 4: PBP 2018 bushfire protection measures

Bushfire Protection Measure	Considerations
Asset Protection Zones (APZ)	Location and dimension of APZ setbacks from vegetation including prescriptions of vegetation management within the APZ.
Access	Assessment to include access and egress in and out of a developable area such as alternate access, operational response and evacuation options. APZ perimeter access to be considered as is design standards of public roads and any fire trails.
Water supply and other utilities	List requirements for reticulated water supply and hydrant provisions, and any static water supplies for fire fighting.
Building construction standards	Provide a guide on the application of construction standards for future buildings.

3.1 Asset Protection Zone (APZ)

Table A1.12.2 of PBP 2018 has been used to indicate the required APZ dimensions for future industrial development, with Table A1.12.1 used for the service station given its status as a hazardous industry (based on requirements by the NSW RFS for past assessments of service station sites, but noting this will need to be confirmed through consultation with the NSW RFS) within the subject site using the vegetation and slope data identified in Section 2. The APZ calculation is tabulated below and shown in Figure 4. APZ is based on RMS acquisition and management of part of the land as shown in Figure 4. Should RMS not acquire that part of the land or should that part of the land not be managed, temporary APZ as shown in Figure 5 will be required until such time the land is managed.

All commercial / industrial development is required to be assessed in accordance with the aims and objectives of PBP 2018. The construction proposed is to be non-combustible - in accordance with the provisions of the Building Code of Australia (BCA) for constructing buildings in bushfire prone areas.

Table 5 lists the current minimum APZ and best practice APZ related to BAL-29 (refer to Section 4 for more information on AS 3959-2018).

It is important to note that the APZ calculations quoted in this assessment are indicative only and have been determined at a landscape scale. This level of detail is suitable for a rezoning assessment where the aim is to demonstrate whether a parcel of land can accommodate the bushfire hazard, the expected APZ and future development. The final APZ dimensions for any future subdivision or development depends on the accuracy of a site-specific assessment. The APZ dimensions quoted in this assessment should not be relied on to approve a future subdivision; they may be used as a guide only.

Table 5: Threat assessment, APZ and category of bushfire attack

Direction from development boundary	Transect	Slope ¹	Vegetation ²	PBP 2018 required APZ ³	SFPP required APZ (PBP 2018) ⁴	PBP 2018 BAL (non SFPP) ⁵	Comment
Requirements assuming management/development of RMS land							
East	1	All upslopes and flat land	Grassy Woodlands	12 m	42 m	BAL-29	APZ provided within boundaries of subject land and adjoining managed road reserve.
South-east	2	Downslope >0 to 5 degrees	Grassland	12 m	40 m	BAL-12.5	As above.
South-west	3	Downslope >0 to 5 degrees	Grassy Woodlands	16 m	50 m	BAL-29	APZ provided by adjoining managed road reserve (Range Road).
Requirements assuming <u>NO</u> management/development of RMS land							
East	1	All upslopes and flat land	Grassy Woodlands	12 m	42 m	BAL-29	APZ provided within boundaries of subject land and adjoining managed road reserve.
South-east	2	Downslope >0 to 5 degrees	Grassland	12 m	40 m	BAL-12.5	As above.
South-west	3	Downslope >0 to 5 degrees	Grassy Woodlands	16 m	50 m	BAL-29	APZ provided by adjoining managed road reserve (Range Road).
North-east of Site 2	4	All upslopes and flat land	Grassy Woodlands	12 m	42 m	BAL-29	APZ provided within boundaries of Site 2.
South-west of Site 1	5	Downslope >0 to 5 degrees	Grassy Woodlands	16 m	50 m	BAL-29	APZ provided within boundaries of Site 1.

¹ Slope most significantly influencing the fire behaviour of the site having regard to vegetation found. Slope classes are according to PBP.² Predominant vegetation is identified, according to PBP and "Where a mix of vegetation types exist the type providing the greater hazard is said to be predominate".³ Assessment according to Table A1.12.2 of PBP 2018.⁴ Assessment according to Table A1.12.1 of PBP 2018.⁵ Assessment according to Table A1.12.5 of PBP 2018.

3.2 APZ maintenance plan

The following fuel management specifications will need to be considered in the provision of APZ within the subject site:

- No tree or tree canopy is to occur within 2 m of the building roofline.
- The presence of a few shrubs or trees in the APZ is acceptable provided that they:
 - are well spread out and do not form a continuous canopy
 - are not species that retain dead material or deposit excessive quantities of ground fuel in a short period or in a danger period
 - are located far enough away from the building so that they will not ignite the building by direct flame contact or radiant heat emission.
- Any landscaping or plantings should preferably be local endemic mesic species or other low flammability species.

3.3 Staging of development for APZ

Any proposed staging of future development should give consideration to the provision of an APZ to manage any potential bushfire hazard within adjoining future development areas to ensure that future buildings are not impacted by unnecessary construction standards. This could occur through the provision of temporary APZ for earlier stages which will be automatically extinguished once the land where the APZ operates is developed and the hazard is permanently removed. This may also include the provision of a temporary APZ until construction of the M12 through the central section of the subject land.

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Figure 5: Bushfire hazard assessment and Asset Protection Zones (APZ) assuming RMS M12 acquisition land is not managed

4. Construction standard

The application of building construction standards for bushfire protection under *AS 3959-2018 Construction of buildings in bushfire-prone areas* (Standards Australia 2018) is to be considered at the development application stage for individual buildings. An assessment under AS 3959-2018 is not required at the rezoning or subdivision stages. The following is a brief introduction on AS 3959-2018.

AS 3959-2018 contains six Bushfire Attack Levels (BAL), each with a prescribed suite of design and construction specifications aimed at preventing ignition during the passing of a bushfire front. The BAL are outlined below:

- **BAL-Low:** The threat does not warrant application of construction standards. Developments with BAL-Low are generally not within bushfire prone land (greater than 100 m from bushland);
- **BAL-12.5:** Addresses background radiant heat at lower levels and ember attack;
- **BAL-19:** Addresses mid-range radiant heat and ember attack;
- **BAL-29:** Addresses high range radiant heat and ember attack;
- **BAL-40:** Addresses extreme range of radiant heat and potential flame contact and ember attack; and
- **BAL-FZ:** Addresses construction within the flame zone. New subdivided lots are not permitted within the flame zone in NSW.

5. Access and egress

All bushfire prone areas should have an alternate access or egress option. This is usually achieved by providing more than one public road into and out of a precinct. The need for an alternative road and its location depends on the bushfire risk, the density of the development, and the chances of the road being cut by fire. This is achieved in the preliminary concept proposal (Figure 2) with access points to the subject land from Mamre Road and Elizabeth Drive (both left in/left out) and also two access points off Range Road.

Internal access is provided through shared access roads, shared hardstand areas, and carparking areas as indicated on Figure 2. The design details (PBP 2018 acceptable solutions) of public roads are shown in Table 6.

Table 6: Performance criteria for proposed public roads

Performance Criteria	Acceptable Solutions
The intent may be achieved where:	
ACCESS (GENERAL REQUIREMENTS) • firefighting vehicles are provided with safe, all-weather access to structures and hazard vegetation	• property access roads are two-wheel drive, all-weather roads; and • perimeter roads are provided for residential subdivisions of three or more allotments; and • subdivisions of three or more allotments have more than one access in and out of the development; and • traffic management devices are constructed to not prohibit access by emergency services vehicles; and

Performance Criteria	Acceptable Solutions
	• maximum grades for sealed roads do not exceed 15 degrees and an average grade of not more than 10 degrees or other gradient specified by road design standards, whichever is the lesser gradient; and • all roads are through roads. Dead end roads are not recommended, but if unavoidable, dead ends are not more than 200 metres in length, incorporate a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end; and • where kerb and guttering is provided on perimeter roads, roll top kerbing should be used to the hazard side of the road; and • where access/egress can only be achieved through forest, woodland or heath vegetation, secondary access shall be provided to an alternate point on the existing public road system. • the capacity of perimeter and non-perimeter road surfaces and any bridges/causeways • is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes); bridges/causeways are to clearly indicate load rating. • hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression; • hydrants are provided in accordance with AS 2419.1:2005; • there is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available.
PERIMETER ROADS • the capacity of access roads is adequate for firefighting vehicles • there is appropriate access to water supply • access roads are designed to allow safe access and egress for medium rigid emergency vehicles where residents are evacuating as well as providing a safe operational environment for emergency service personnel during firefighting and emergency management on the interface	• perimeter roads are two-way sealed roads; and • 8m carriageway width kerb to kerb; and • parking provided outside of the carriageway width; and • hydrants are located clear of parking areas; and • there are through roads, and these are linked to the internal road system at an interval of no greater than 500m; and • curves of roads have a minimum inner radius of 6m; and • the maximum grade road is 15° and average grade is 10°; and • the road crossfall does not exceed 3°; and • a minimum vertical cleared of 4m to any overhanging obstructions, including tree branches, is provided.
NON-PERIMETER ROADS • access roads are designed to allow safe access and egress for medium rigid firefighting vehicles while residents are evacuating	• minimum 5.5m width kerb to kerb; and • parking is provided outside of the carriageway width; and • hydrants are located clear of parking areas; and • roads are through roads, and these are linked to the internal road system at an interval of no greater than 500m; and

Performance Criteria	Acceptable Solutions
	• curves of roads have a minimum inner radius of 6m; and • the road crossfall does not exceed 3°; and • a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.

6. Emergency Services

In relation to the objectives and strategic planning principles of PBP 2018 relating to emergency management, the following is recommended for strategic land use planning:

- Mechanisms are established, and early consultation with emergency service organisations is undertaken, to ensure for the provision of adequate emergency management resources can be afforded to future development;
- Strategic emergency management planning is undertaken in collaboration with emergency service organisations within the strategic land use planning process, to establish preferred future outcomes (i.e. emergency evacuation) that have implications for land use planning, including:
 - a. Emergency evacuation planning;
 - b. Evacuation adequacy assessment.

The proximity of emergency services to the precinct are considered adequate, subject to the timing of completion of all access roads. The Kemps Creek RFS brigades is within 2 km (5 minutes travel time) of the subject site.

Consultation with the NSW RFS will ensure adequate emergency response during all phases of construction and occupation of development on the subject land.

7. Infrastructure

7.1 Water

Future lots will likely be serviced by reticulated water infrastructure suitable for fire fighting purposes. The furthest point from any future buildings to a hydrant is to be less than 70 m (with a tanker parked in-line) in accordance with *Australian Standard 2419.1 – 2017 Fire Hydrant Installations - System Design, Installation and Commissioning* (Standards Australia 2017). The reticulated water supply is to comply with the following acceptable solutions within Section 5.3 of PBP 2018:

- Reticulated water supply to use a ring main system for areas with perimeter roads;
- Fire hydrant spacing, sizing and pressures comply with AS 2419.1 – 2017;
- Hydrants are not located within any road carriageway;
- All above ground water and gas service pipes external to the building are metal, including and up to any taps; and
- The PBP provisions of parking on public roads are met.

The PBP acceptable solution requirements for water is achievable.

7.2 Electricity

Electricity supply to / within the subject site should be located underground, as per Section 5.3 of PBP 2018.

Where it is necessary for the electricity supply to / within the subject site to be located aboveground, the proposed overhead electrical transmission lines shall be compliant with Section 5.3 of PBP 2018, subject to the following specifications:

- Lines with short pole spacing (30 m) are required, unless crossing gullies, gorges or riparian areas; and
- No part of a tree is closer to a power line than the distance set out in accordance with the specifications in 'Guide for the Management of Vegetation in the Vicinity of Electricity Assets' issued by the Industry Safety Steering Committee 3 (ISSC3 2016).

7.3 Gas

Gas services (reticulated or bottle gas) shall be compliant with Section 5.3 of PBP 2018, subject to the following specifications:

- Any gas services are to be installed and maintained in accordance with Australian Standard AS/NZS 1596 *The storage and handling of LP Gas* (SA 2014). Metal piping is to be used;
- All fixed gas cylinders are kept clear of all flammable materials to a distance of 10 m and shielded on the hazard side of the installation;
- If gas cylinders need to be kept close to the building, the release valves are directed away from the building and at least 2 m away from any combustible material, so that they do not act as a catalyst to combustion. Connections to and from gas cylinders are metal; and
- Polymer sheathed flexible gas supply lines to gas meters adjacent to buildings are not used.

8. Adjoining land

Future development will not be reliant on any off-site bushfire mitigation measures. All buildings and use will be designed to be resilient to bushfire attack in circumstances where no additional fuel management occurs outside of APZs etc.

The Local Bushfire Management Committee will be updated annually of the bushfire protection measures in-built and proposed for the development.

The proposed land uses should not have a significant deleterious impact on the ability for bushfire management activities to be undertaken on adjoining land. Given the adherence to PBP 2018 and other land use planning requirements, the proposed land uses should not increase bushfire management needs for retained and/or adjoining bushfire prone vegetation.

9. Conclusion

Bushfire hazard has been assessed across the subject site and found to be acceptable based on the ability to provide compliant APZ within the subject site. On the basis of this assessment, indicative APZ requirements have been mapped across the proposed rezoning area.

A number of strategies have been provided in the form of planning controls such that the risk from bushfire can be minimised and future rezoning or development approval processes can be streamlined. Further, it has been found that development of the anticipated land uses within the subject site, from a bushfire planning perspective, are considered suitable.

A number of strategies have been provided in this report such that the risk from bushfire can be mitigated. The main strategies suggested include:

- Ensure adequate setback from bushfire prone vegetation (APZs);
 - This will include requiring consultation with the NSW RFS on the required APZ for the proposed service station as a hazardous industry;
- Integrate non-combustible infrastructure within APZs such as roads, easements and parking areas. The majority of APZs should be contained within perimeter roads and building setbacks;
- Ensure adequate access and egress from the subject site through a well-designed road system;
- Consider the adequacy of water supply and the delivery of other services (gas and electricity);
- Provide temporary APZs during any staged development;
- Provide for effective and ongoing management of APZ;
- Consider construction standards (AS 3959-2018) implications for future developments (; and
- Emergency response planning.

In relation to the furthering of the planning processes as they relate to the future uses of the subject site, it is considered appropriate that more detailed assessment and consideration of the relevant bushfire protection strategies should be undertaken at the Development Application stage. This further assessment should include a comprehensive review of the road and lot layout and subsequent planning controls, to ensure they are well designed in terms of bushfire protection outcomes.

9.1 Statement of capability

This bushfire assessment demonstrates that the subject site is capable of accommodating future development and associated land use with the appropriate bushfire protection measures and bushfire planning requirements prescribed by PBP 2018.



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10. References

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