



BUSHFIRE ASSESSMENT REPORT

45 PERRY LANE, BOXERS CREEK

Lot 4 DP 1094055

Installation of a Wi-Fi communications tower

Prepared for YLess4U

Ref: RM.103.25

Version 1.0



1. **INTRODUCTION AND OVERVIEW**

BACKGROUND

YLess4U has engaged EMBER Bushfire Consulting to prepare a bushfire assessment report (BFAR) for a proposed Wi-Fi communications tower (Coordinates: 149.85340 & -34.75473) at 45 Perry Lane, Boxers Creek (*the subject site*).

The development proposal is located on declared bushfire-prone land and, as a result, is subject to Section 4.14 of the Environmental Planning and Assessment Act (1979) (EP&A Act) and the NSW Rural Fire Service (NSW RFS) document *Planning for Bushfire Protection* (PBP 2019) clause 8.3.7 *Telecommunication Towers* and NSW RFS Practice Note 1/11 *Telecommunication Towers in Bush Fire Prone Areas* (2012) provides direction on the application of suitable bushfire protection measures (BPM).

This BFAR is the certification required to satisfy Section 4.14 of the EPA Act (1979).

AIM AND OBJECTIVES OF THIS BFAR

- Evaluate the potential bushfire threat to the proposed Wi-Fi tower and
- Provide recommendations on suitable BPM to comply with the broad objectives of clause 8.3.7 *Telecommunication Towers* PBP (2019) to ensure, as far as possible, that the proposed Wi-Fi tower continues to

operate during and after the passage of a bushfire in catastrophic fire weather conditions.

BPM for the proposed Wi-Fi tower is to Clause 8.3.7 Chapter 8 – Other *Development*, PBP (2019) and Practice Note 1/11 *Telecommunication Towers in Bush Fire Prone Areas* follow:

1. Provide a defensible space to be managed as an asset protection zone (APZ) to inner protection zone standards (IPA) of at least 10m around the infrastructure supporting the proposed Wi-Fi tower.
2. The proposed Wi-Fi tower is to be constructed of non-combustible material.
3. The infrastructure supporting the proposed Wi-Fi tower should be designed to be capable of withstanding 40kW/m² of radiant heat flux.
4. Ember proof the supporting infrastructure.
5. Provide suitable road access for firefighting vehicles to access the site and allow for APZ management.
6. Adapt the existing YLess4U Risk Management Plans to be site specific to the *subject site*.

These six BPM will be addresses in section 12. *Wi-Fi Tower BPM* starting on page 12 of this report.

DOCUMENT CONTROL

Information	Detail
Document Title:	Bushfire Assessment Report (BFAR)
EMBER Reference:	RM.103.25
Other Reference:	N/A
Version:	Version 1.0
Valid to date:	23.10.25
Prepared by:	Rob McGregor (BPAD- 33130)

LIMITATIONS AND DISCLAIMER

This report is primarily concerned with assessing the capacity of the proposed development to withstand the impacts of a bushfire, including ember attack, radiant heat exposure and flame contact.

Where necessary, bushfire protection measures will be recommended to afford a level of protection to the proposed Wi-Fi tower.

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

EMBER Bushfire Consulting has prepared this report with all reasonable diligence. The information in this report has been gathered from field investigations of the site, plans provided by the YLess4U designer, and discussions held with the property owner.

Report Details

Report number:	Boxers Creek.s4.14.YLess4U.RM.103.25
Report version:	Version 1.0
Site assessment date:	10.10.24
Report date:	23.10.24

Site Details

Clients:	YLess4U
Subject lot details:	Lot 4 DP 1094055
Subject lot address	45 Perry Lane
Suburb/locality:	Boxers Creek
LGA:	Goulburn Mulwaree Council
Proposed works:	Wi-Fi communications tower

Practitioner Details

Bushfire practitioner:	Robert McGregor
Accreditation number:	BPAD - 33130
Accreditation expiry:	May 2025
Signature:	



Date:	23.10.24
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2. DEVELOPMENT LOCATION

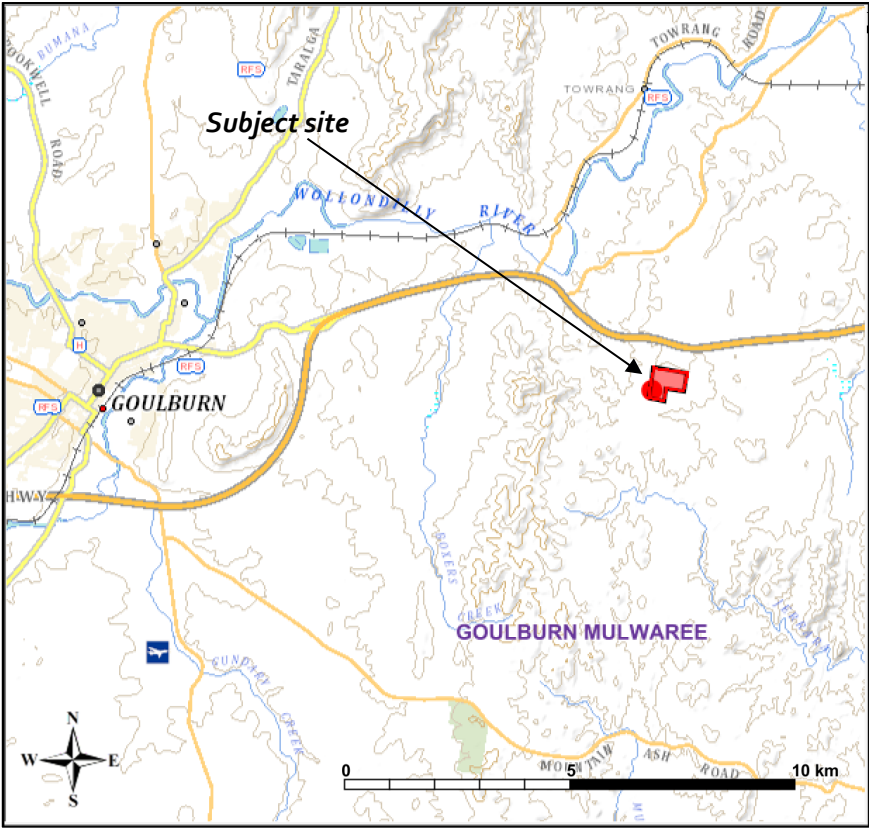


Figure 1 – Regional context of *subject site* to Goulbourn. FireMaps FPAA (2024)

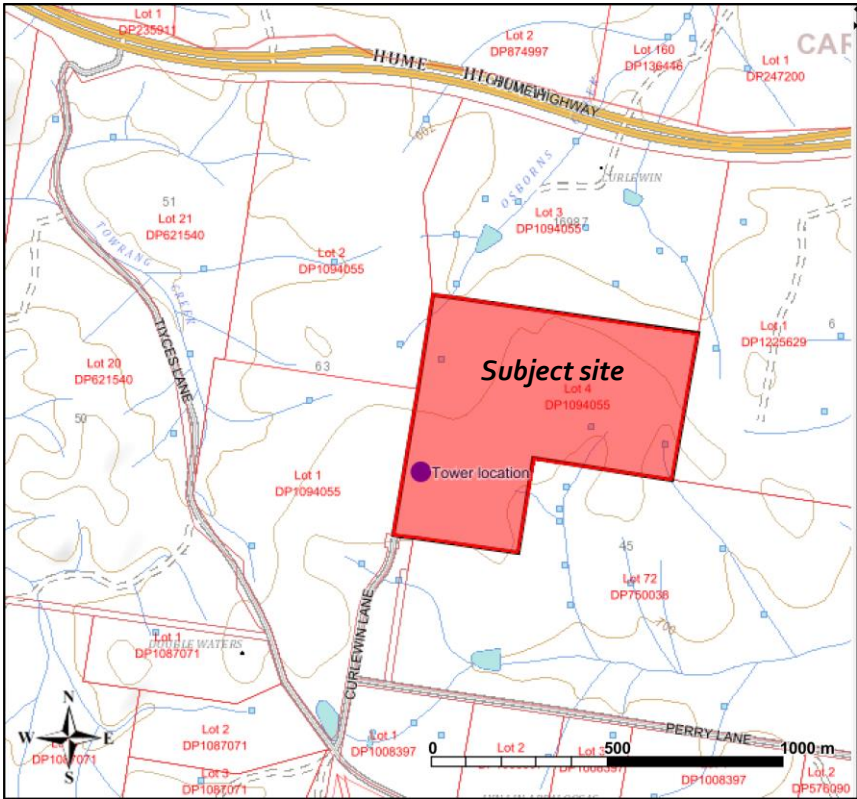


Figure 2 – Local context of *subject site* FireMaps FPAA (2024)

3. BUSHFIRE PRONE MAPPING

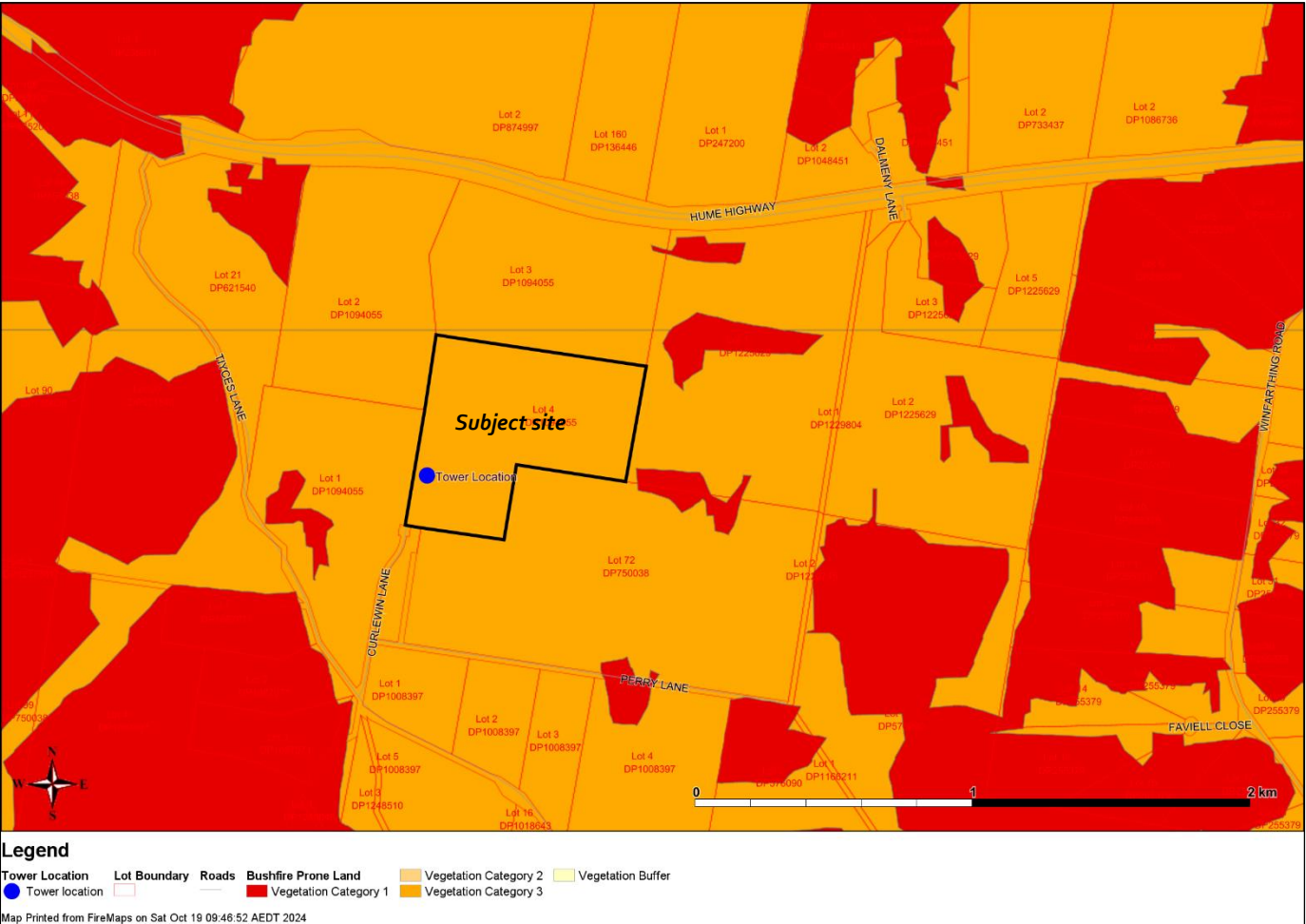
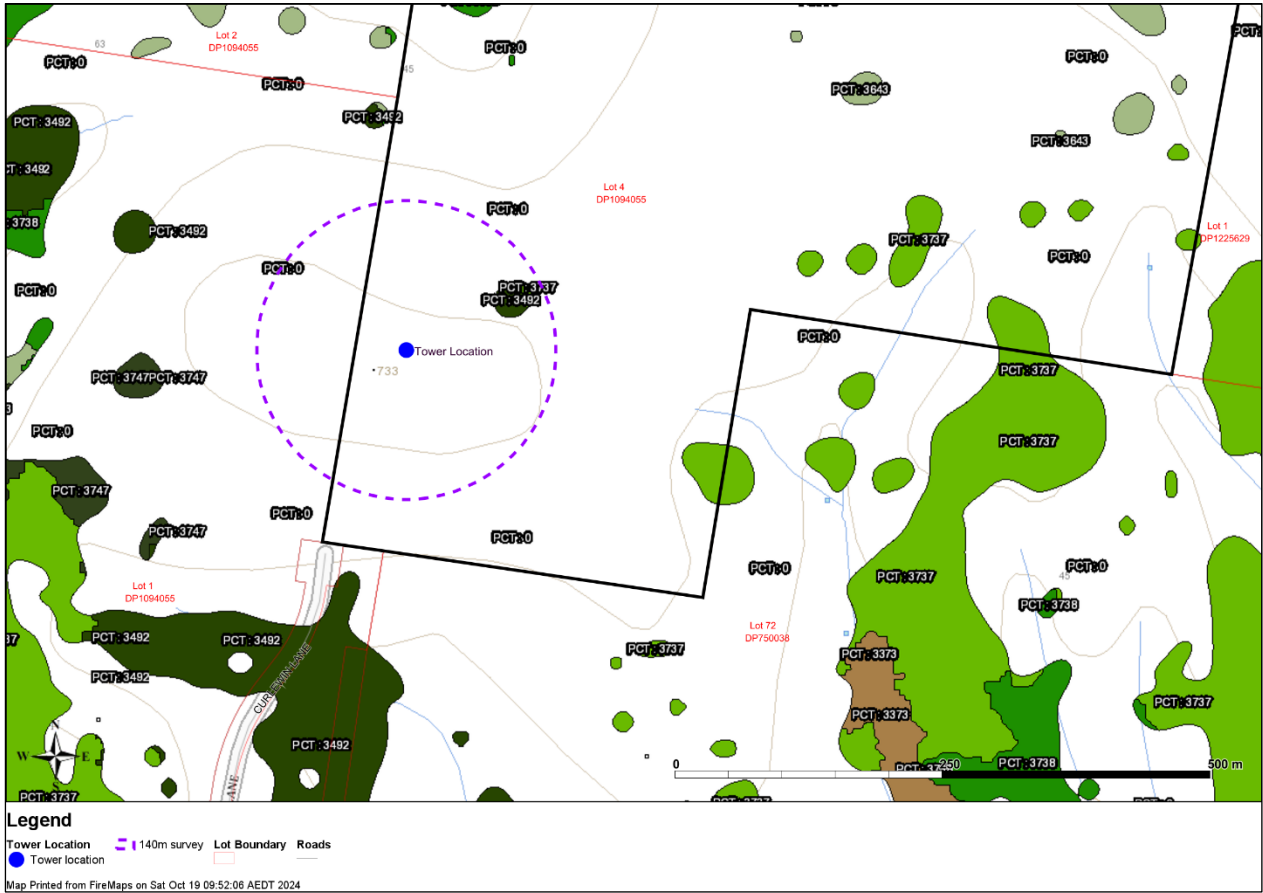


Figure 3 – *Subject site* bushfire prone land map. FireMaps FPAA (2024)

4. SUBJECT SITE VEGETATION FORMATIONS



PCT Key

- 1.PCT 3373:** Goulburn Tableland Box-Gum Grassy Forest. **Formation:** Grassy Woodlands
- 2.PCT 3492:** Wollondilly-Shoalhaven Quartz Hills Forest. **Formation:** Dry Sclerophyll Forests (Shrubby sub-formation)

Figure 4 – Subject site vegetation classification in the vicinity. SEED (NSW Gov. 2024) FireMaps FPAA (2024)

5. EXAMPLE WI-FI TOWER



Roadside Cabinet – 19"RU 1375H x 750W x 620D with 2 x fans & 2 x Filters Fitted – Concrete base measurements are approx.. 850 mm wide x 750 mm high and the concrete thickness will be approx.. 90 mm to 100 mm in depth.



Figures 5 & 5a- An example the proposed Wi-Fi tower and associated infrastructure. (YLess4U, 2024)

6. TOWER LOCATION AND PHOTO POINTS

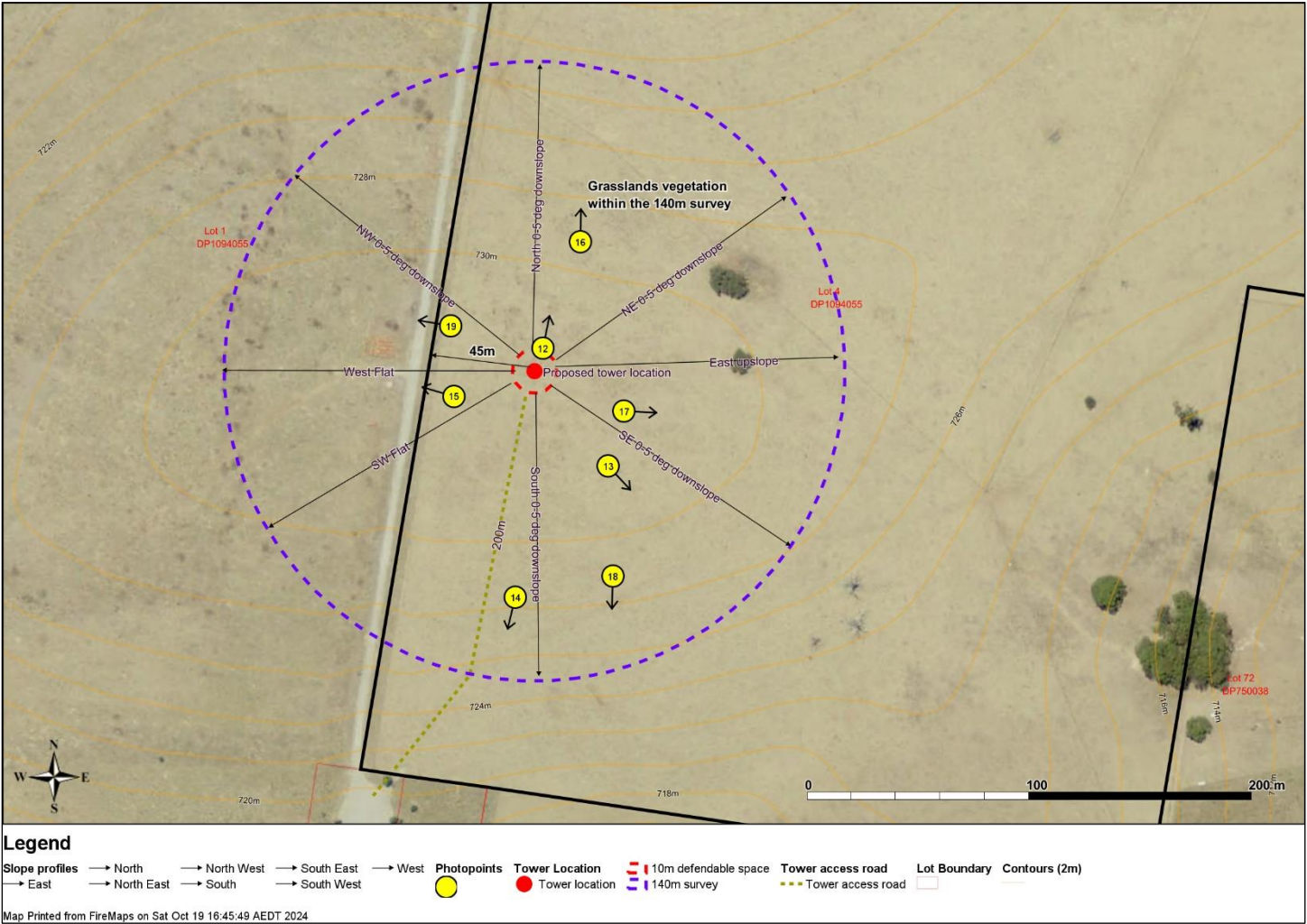


Figure 6 - Showing the proposed tower location, grasslands vegetation and effective slope. FireMaps FPAA (2024) (McGregor, 2024). Photo points 12-19 relate to Figures 12-19 below.

7. PROPOSED TOWER ACCESS ROAD



Figure 7 – Proposed tower access road. Fire Maps (FPAA 2024) McGregor (2024). Photo points 8-11 relate to Figures 8-11 below.

8. ACCESS PHOTOS



Figure 8 – Looking east on the proposed tower access road. (McGregor, 2024)



Figure 10 – Entry off Curlewin Lane. (McGregor, 2024)



Figure 9 – Looking east on the proposed tower access road. (McGregor, 2024)



Figure 11 – Looking down Curlewin Lane towards Perry Lane intersection.

9. SITE PHOTO



Figure 12 – Looking north over grasslands. (McGregor, 2024)



Figure 14 – Looking southeast, over grasslands (McGregor, 2024)



Figure 13 – Looking east, over grasslands. (McGregor, 2024)



Figure 15 – Looking west to closest boundary fence (red dashes) ~45m to the west of the proposed Wi-Fi tower. (McGregor, 2024)

10. THEODOLITE PHOTOS



Figure 16 – Looking north, showing 0-5° downslope upslope (McGregor 2024)



Figure 18 – Looking south, showing 0-5° downslope. (McGregor, 2024)



Figure 17 – Looking east, showing upslope (McGregor, 2024)



Figure 19 – Looking west showing upslope. (McGregor, 2024)

11. THE BUSHFIRE THREAT

VEGETATION FORMATIONS

Predominant vegetation formations within 140 m of the proposed Wi-Fi tower are identified and classified in accordance with Appendix A1.2 of PBP (2019). A bushfire-prone land vegetation determination of vegetation category 3 can be seen in Figure 3, and cleared, with a patch of woodland and forest PCT formations within the 140m survey (SEED 2024) can be seen in Figure 4. Figure 6 shows the determined grassland formation.

RELEVANT FIRE DANGER INDEX

The NSW Rural Fire Service has determined the site's fire danger index.

NSW Fire Weather District	Fire Danger Index (FDI)
Southern Ranges	100

SLOPE, APZ AND BUSHFIRE ATTACK LEVEL (BAL) ASSESSMENT

The highest bushfire threat predominant vegetation formations and effective slope, determined under Table A1.12.5 of PBP (2019).

Table 1 - Slope assessment, vegetation, separation distance and radiant heat flux.

Aspect	Predominate Vegetation Formation	Effective Slope	Defendable space (APZ)	kW/m ²
North	Grasslands	0-5° downslope	10m	40
NE	Grasslands	0-5° downslope	10m	40
East	Grasslands	Flat/Upslope	10m	40
SE	Grasslands	0-5° downslope	10m	40

South	Grasslands	0-5° downslope	10m	40
SW	Grasslands	Flat/Upslope	10m	40
West	Grasslands	Flat/Upslope	10m	40
NW	Grasslands	0-5° downslope	10m	40

12. WI-FI TOWER BPM

Discussion:

BPM for the proposed Wi-Fi tower is to Clause 8.3.7 Chapter 8 – *Other Development*, PBP (2019) and Practice Note 1/11 *Telecommunication Towers in Bush Fire Prone Areas* follow:

Provide a defendable space to be managed as an asset protection zone (APZ) to inner protection zone standards (IPA) of at least 10m around the infrastructure supporting the proposed Wi-Fi tower.

Recommendation:

1. Continue to slash or graze grasslands to a minimum of 10m around the supporting infrastructure and manage as an APZ to IPA standards in perpetuity.

The proposed Wi-Fi tower is to be constructed of non-combustible material.

Recommendation:

2. Construct the WIFI tower of non-combustible material and consider the possibility of flame impact.

The infrastructure supporting the proposed Wi-Fi tower should be designed to be capable of withstanding 40kW/m² of radiant heat flux.

Recommendation:

3. Design the supporting infrastructure to withstand 40kW/m² of radiant heat flux.

Ember-proof the supporting infrastructure.

Recommendation:

4. Ember-proof any opening in the supporting infrastructure with bushfire mesh.

Provide suitable road access for firefighting vehicles to access the site and allow for APZ management.

Recommendation:

5. Ensure the proposed Wi-Fi tower access road complies with the applicable acceptable solutions shown in Table 2.

Table 2 - Access compliance report from Table 7.4a PBP (2019)

Acceptable Solution	Compliance
Property access roads are two-wheel drive, all-weather roads.	Yes

The capacity of road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes), bridges and causeways are to clearly indicate load rating	Yes
Hydrants are provided in accordance with the relevant clauses of AS 2419.1:2005	N/A
There is suitable access for a Category 1 fire appliance to within 4m of the static water supply where no reticulated supply is available	N/A
At least one alternative property access road is provided for individual dwellings or groups of dwellings that are located more than 200 metres from a public through road	N/A
There are no specific access requirements in an urban area where an unobstructed path (no greater than 70m) is provided between the most distant external part of the proposed dwelling and the nearest part of the public access road (where the road speed limit is not greater than 70kpm) that supports the operational use of emergency firefighting vehicles. In circumstances where this cannot occur, the following requirements apply: Minimum 4 m carriageway width	NA
In forest, woodland and heath situations, rural property roads have passing bays every 200m that are 20m long by 20m wide, making a minimum trafficable width of 6m, at the passing bay	N/A
A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches	Yes
Property access must provide suitable turning area in accordance with Appendix 3	Yes
Curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress	Yes
The crossfall is not more than 10 degrees	Yes
The minimum distance between inner and outer curves is 6m	Yes
Maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads	Yes
A development comprising more than three dwellings has formalised access by dedication of a road and not by right of way	NA

▶ Adapt the existing YLess4U Risk Management Plans to be site-specific to the *subject site*.

Recommendation:

6. Adapt the existing YLess4U Risk Management Plans to be site-specific during construction and in perpetuity.

Note: The closest static water supply is an existing dam, as shown in Figure 9.

13. CONCLUSION

YLess4U has engaged EMBER Bushfire Consulting to prepare a bushfire assessment report (BFAR) for a proposed Wi-Fi communications tower (Coordinates: 149.82351 & -34.71935) at 139 Towrang Road, Towrang.

This BFAR finds that the development proposal is capable of meeting the broad objectives of PBP (2019) clause 8.3.7 Telecommunication Towers that are built on bushfire-prone land.

On this basis, the development proposal is fit for DA approval from a bushfire protection perspective.

METHODOLOGY

- The methodology adopted for this assessment is based on the development proposal following a complete Development Application (DA) process. *Planning for Bushfire Protection* PBP (2019) and
- *Telecommunication Towers* and NSW RFS Practice Note 1/11 *Telecommunication Towers in Bush Fire Prone Areas* (2012).
- All distance and slope measurements were taken during an on-site survey of the block using a "Tru-Pulse 200" laser range finder and further validated using plans, data from NSW Spatial Services, FireMaps FPAA (2021) and Google Earth tools.

14. COPYRIGHT

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▶ **15. RECOMMENDATIONS BPM**

Recommendation 1:

Continue to slash or graze grasslands to a minimum of 10m around the supporting infrastructure and manage as an APZ to IPA standards in perpetuity.

Recommendation 2:

Construct the WIFI tower of non-combustible material and consider the possibility of flame impact.

Recommendation 3:

Design the supporting infrastructure to withstand 40kW/m² of radiant heat flux.

Recommendation 4:

Ember-proof any opening in the supporting infrastructure with bushfire mesh.

Recommendation 5:

Ensure the proposed Wi-Fi tower access road complies with the applicable acceptable solutions shown in Table 2.

Recommendation 6:

Adapt the existing YLess4U Risk Management Plans to be site-specific during construction and in perpetuity.

16. REFERENCES

- Keith D. (2004) "Ocean Shores to Desert Dunes", Department of Environment and Conservation, Sydney.
- NASH (2014), *Steel Framed Construction in Bushfire Areas (2014)*, National Association of Steel Framed Housing Inc.
- SEED, NSW Government, (2024) viewed on 15.10.24
https://geo.seed.nsw.gov.au/Html5Viewer412/index.html?viewer=SEED.SEED&local=en-au&runWorkflow=AppendLayerCatalog&CatalogLayer=SEED_Catalog.317.Plant%20Community%20Type%20with%20object%20labels,SEED_Catalog.318.Flora%20Sites,SEED_Catalog.317.NSW_VegetationFormation_5m,SEED_Catalog.317.NSW_VegetationClass_5m,SEED_Catalog.317.NSW_PlantCommunityType_5m,SEED_Catalog.317.Plant%20Community%20Type%20with%20labels
- NSW Rural Fire Service. (2019) "Planning for Bushfire Protection". Sydney
- NSW Rural Fire Service, 0914, *Upgrading of Existing Buildings*, Sydney
http://www.rfs.nsw.gov.au/_data/assets/pdf_file/0018/4365/Building-Best-Practice-Guide.pdf
- NSW RFS (2012) Practice Note 1/11 *Telecommunication Towers in Bush Fire Prone Areas*.

ATTACHMENT A – APZ

APPENDIX 4

ASSET PROTECTION ZONE STANDARDS

In Australia, bush fires are a natural and essential aspect of the landscape as many plants and animals have adapted to fire as part of their life cycle. However, development adjacent to bush land areas has increased the risk of fire impacting on people and their assets. The impact on property and life can be reduced with responsible preparation and management of bush fire hazards.

In combination with other BPMs, a bush fire hazard can be reduced by implementing simple steps in reducing vegetation levels. This can be done by designing and managing landscaping to implement an APZ around the property.

This Appendix sets the standards which need to be met within an APZ.

A4.1 Asset protection zones

An APZ is a fuel-reduced area surrounding a built asset or structure.

For a complete guide to APZs and landscaping, download the NSW RFS document *Standards for Asset Protection Zones* at: www.rfs.nsw.gov.au/resources/publications.

An APZ provides:

- a buffer zone between a bush fire hazard and an asset
- an area of reduced bush fire fuel that allows suppression of fire
- an area from which backburning or hazard reduction can be conducted,
- an area which allows emergency services access and provides a relatively safe area for firefighters and home owners to defend their property.

Potential bush fire fuels should be minimised within an APZ. This is so that the vegetation within the planned zone does not provide a path for the transfer of fire to the asset either from the ground level or through the tree canopy.

An APZ, if designed correctly and maintained regularly, will reduce the risk of:

- direct flame contact on the asset
- damage to the built asset from intense radiant heat
- ember attack.

The APZ should be located between an asset and the bush fire hazard.

The methodology for calculating the required APZ distance is contained within Appendix 1. The width of the APZ required will depend upon the development type. APZs for new development are set out within Chapters 5, 6 and 7 of this document.

In forest vegetation, the APZ can be made up of an inner protection area (IPA) and an outer protection area (OPA).

Inner protection areas (IPAs)

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

In practical terms the IPA is typically the curtilage around the dwelling, consisting of a mown lawn and well maintained gardens.

When establishing and maintaining an IPA the following requirements apply:

Trees:

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

Shrubs:

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

Grass:

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

Outer protection areas (OPAs)

An OPA is located between the IPA and the unmanaged vegetation. Vegetation within the OPA can be managed to a more moderate level. The reduction of fuel in this area substantially decreases the intensity of an approaching fire and restricts the pathways to crown fuels; reducing the level of direct flame, radiant heat and ember attack on the IPA.

Because of the nature of an OPA, they are only applicable in forest vegetation.

In practical terms the OPA is an area where there is maintenance of the understorey and some separation in the canopy.

When establishing and maintaining an OPA the following requirements apply:

Trees:

- tree canopy cover should be less than 30%
- trees should have canopy separation
- canopies should be separated by 2 to 5m

Shrubs:

- shrubs should not form a continuous canopy
- shrubs should form no more than 20% of ground cover

Grass:

- should be kept mown (as a guide grass should be kept to no more than 100mm in height)
- leaf and other debris should be mown, slashed or mulched.

An APZ should be maintained in perpetuity to ensure ongoing protection from the impact of bush fires. Maintenance of the IPA and OPA to the standards given above should be undertaken on an annual basis, in advance of the fire season, as a minimum.

ATTACHMENT B – SERVICES

Table 7.4a *Continued*

WATER SUPPLIES	PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
	The intent may be achieved where:	
	➤ an adequate water supply is provided for firefighting purposes.	➤ reticulated water is to be provided to the development, where available; and ➤ a static water supply is provided where no reticulated water is available.
	➤ water supplies are located at regular intervals; and ➤ the water supply is accessible and reliable for firefighting operations.	➤ fire hydrant spacing, design and sizing comply with the relevant clauses of AS 2419.1:2005; ➤ hydrants are not located within any road carriageway; and ➤ reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads.
	➤ flows and pressure are appropriate.	➤ fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1:2005.
	➤ the integrity of the water supply is maintained.	➤ all above-ground water service pipes external to the building are metal, including and up to any taps.
	➤ a static water supply is provided for firefighting purposes in areas where reticulated water is not available.	➤ where no reticulated water supply is available, water for firefighting purposes is provided in accordance with Table 5.3d; ➤ a connection for firefighting purposes is located within the IPA or non-hazard side and away from the structure; 65mm Storz outlet with a ball valve is fitted to the outlet; ➤ ball valve and pipes are adequate for water flow and are metal; ➤ supply pipes from tank to ball valve have the same bore size to ensure flow volume; ➤ underground tanks have an access hole of 200mm to allow tankers to refill direct from the tank; ➤ a hardened ground surface for truck access is supplied within 4m; ➤ above-ground tanks are manufactured from concrete or metal; ➤ raised tanks have their stands constructed from non-combustible material or bush fire-resisting timber (see Appendix F of AS 3959); ➤ unobstructed access can be provided at all times; ➤ underground tanks are clearly marked; ➤ tanks on the hazard side of a building are provided with adequate shielding for the protection of firefighters; ➤ all exposed water pipes external to the building are metal, including any fittings; ➤ where pumps are provided, they are a minimum 5hp or 3kW petrol or diesel-powered pump, and are shielded against bush fire attack; any hose and reel for firefighting connected to the pump shall be 19mm internal diameter; and ➤ fire hose reels are constructed in accordance with AS/NZS 1221:1997, and installed in accordance with the relevant clauses of AS 2441:2005.

Table 7.4a *Continued*

ELECTRICITY SERVICES	PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
	The intent may be achieved where:	
	➤ location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings.	➤ where practicable, electrical transmission lines are underground; and ➤ where overhead, electrical transmission lines are proposed as follows: ➤ lines are installed with short pole spacing (30m), unless crossing gullies, gorges or riparian areas; and ➤ no part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC3 <i>Guideline for Managing Vegetation Near Power Lines</i> .
	➤ location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.	➤ reticulated or bottled gas is installed and maintained in accordance with AS/NZS 1596:2014 and the requirements of relevant authorities, and metal piping is used; ➤ all fixed gas cylinders are kept clear of all flammable materials to a distance of 10m and shielded on the hazard side; ➤ connections to and from gas cylinders are metal; ➤ polymer-sheathed flexible gas supply lines are not used; and ➤ above-ground gas service pipes are metal, including and up to any outlets.
	➤ the proposed building can withstand bush fire attack in the form of embers, radiant heat and flame contact.	➤ BAL is determined in accordance with Tables A1.12.5 to A1.12.7; and ➤ construction provided in accordance with the NCC and as modified by section 7.5 (please see advice on construction in the flame zone).
	➤ proposed fences and gates are designed to minimise the spread of bush fire.	➤ fencing and gates are constructed in accordance with section 7.6.
	➤ proposed Class 10a buildings are designed to minimise the spread of bush fire.	➤ Class 10a buildings are constructed in accordance with section 8.3.2.
	➤ Home-based child care: the proposed building can withstand bush fire attack in the form of wind, localised smoke, embers and expected levels of radiant heat.	➤ an APZ is provided in accordance with Table A1.12.2 or A1.12.3 in Appendix 1 of this document around the entire building or structure; and ➤ the existing dwelling is required to be upgraded to improve ember protection. This is to be achieved by enclosing or covering openings with a corrosion-resistant steel, bronze or aluminium mesh with a maximum aperture of 2mm. Where applicable this includes the openable portion of the windows, vents, weepholes and eaves, but does not include roof tile spaces. Weather strips, draught excluders or draught seals shall be installed at the base of side hung external doors as per AS 3959. The subfloor space must be enclosed.

Attachment C – Access

Table 7.4a Continued

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
The intent may be achieved where:	
› firefighting vehicles are provided with safe, all-weather access to structures and hazard vegetation.	› property access roads are two-wheel drive, all-weather roads.
› the capacity of access roads is adequate for firefighting vehicles.	› the capacity of road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles (up to 23 tonnes), bridges and causeways are to clearly indicate load rating.
› there is appropriate access to water supply.	› hydrants are provided in accordance with the relevant clauses of 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.
› firefighting vehicles can access the dwelling and exit the property safely.	› at least one alternative property access road is provided for individual dwellings or groups of dwellings that are located more than 200 metres from a public through road; › There are no specific access requirements in an urban area where an unobstructed path (no greater than 70m) is provided between the most distant external part of the proposed dwelling and the nearest part of the public access road (where the road speed limit is not greater than 70kph) that supports the operational use of emergency firefighting vehicles. In circumstances where this cannot occur, the following requirements apply: › minimum 4m carriageway width; › in forest, woodland and heath situations, rural property roads have passing bays every 200m that are 20m long by 2m wide, making a minimum trafficable width of 6m, at the passing bay; › a minimum vertical clearance of 4m to any overhanging obstructions, including tree branches; › property access must provide a suitable turning area in accordance with Appendix 3; › curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress; › the minimum distance between inner and outer curves is 6m; › the crossfall is not more than 10 degrees; › maximum grades for sealed roads do not exceed 15 degrees and not more than 10 degrees for unsealed roads; and › a development comprising more than three dwellings has formalised access by dedication of a road and not by right of way. Note: Some short constrictions in the access may be accepted where they are not less than 3.5m wide, extend for no more than 30m and where the obstruction cannot be reasonably avoided or removed. The gradients applicable to public roads also apply to community style development property access roads in addition to the above.

ATTACHMENT D-TURNING HEADS

A3.3 Vehicle turning head requirements

Dead ends that are longer than 200m must be provided with a turning head area that avoids multipoint turns. "No parking" signs are to be erected within the turning head.

The minimum turning radius shall be in accordance with Table A3.2. Where multipoint turning is proposed the NSW RFS will consider the following options:

Figure A3.3

Multipoint turning options.

