

11 October 2022

## Cover Letter

The General Manager,  
Environment & Building  
Mid-Western Regional Council  
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Email: [council@midwestern.nsw.gov.au](mailto:council@midwestern.nsw.gov.au)

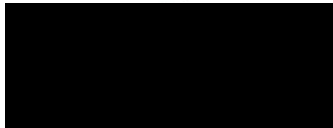
Cheryl Nielsen & Michael Nielsen  
Franks Breakaway  
253 Coricudgy Road Olinda NSW 2849  
E: nielsens@gmail.com

Dear Sir/ Madam,

Attached is a copy of the environmental site plan for bushfire assessment, prepared to support the development application for the new dwelling house that is proposed ([Attachment A](#)).

The drawing presents the site plan for bushfire assessment with reference to the Planning for Bushfire Protection documentation published in 2019 by the NSW Rural Fire Service. The recommendation based on the mapping and our site visit are BAL 12.5.

Once the proposal is accepted, our recommendations should form part of the owner's development application. Please feel completely free to contact me should you require further information. My office number is mobile 0407 990 613.



Project Lead, CPSS, CEnvP,  
Consulting & Environmental Services



**Environment & Building Department: Development Application**

**NEW TWO-BEDROOM HOUSE**

**LOT 14, DP 755775, 253 CORICUDGY ROAD OLINDA NSW 2849**

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**PLANNING FOR BUSHFIRE**

**Introduction**

Consulting & Environmental Services have undertaken environmental mapping to support the development application for the new dwelling house proposed ([Attachment A](#)). The drawing presents a site plan for bushfire assessment with reference to the Planning for Bushfire Protection documentation published in 2019 by the NSW Rural Fire Service. The property is Lot 14, DP 755775 at 253 Coricudgy Road Olinda ([Figure 1](#)). The application is for Mrs Cheryl Nielsen and Mr Michael Nielsen. The House proposal is noted in [Figure 2](#).

**Review**

We note that Lot 14 is totally within bushfire-prone land. The forest fire danger index (FFDI) for Olinda is 80. The building is sited in a cleared area adjacent to access roads through the property.

The highest risk for bushfire is the classification of Vegetation Category 1 and this covers the northeastern corner of the Lot as well as a small patch on the southern boundary near the proposed dwelling. This patch marks the beginning of forest vegetation which connects to a large forested area in the south.



The new dwelling proposal sites the building on land with Vegetation Category 2. Category 2 has a lower bushfire risk than categories 1 and 3 and Vegetation Buffer. Vegetation Buffer is classified as land directly adjoining bushland and extends for 100 m from Category 1 areas.

For this proposal, the predominant fire hazard is from the south and southeast. This direction will determine the bushfire attack level of the proposed dwelling, as this is the closest to the proposed dwelling. The slope is upslope and the predominant vegetation is forest in this direction. Figures 3, 4, 5 and 6 show the views taken from the proposed house site in the north, east, south and west directions respectively.

The mapping provided shows an outline of the land noted as terrestrial biodiversity and this adequately represents the extent of the forest vegetation, except for one little area with mapping (Environment Protection Instruments) (Mid-Western Regional Council, 2012), which is not actually vegetation with forest. On the plan ([Attachment A](#)), the edge of the hazard vegetation is symbolised by a dark green squiggly line.

We have applied a BAL rating determined by the distance to the vegetation according to Table ([Table A1.12.6](#)). The buffer area around the proposed dwelling shows that a BAL-12.5 is appropriate according to the factual data presented here as the minimum distance of 40 m to vegetation can be achieved. The 40 m minimum distance from the dwelling to the vegetation is achieved as shown by the plan presented.

Performance criteria and acceptable solutions for residential infill development are outlined in [Table 7.4a](#) of (NSW Rural Fire Services, 2019) and the Table A1.12.3 prescribes the minimum distances for Asset Protection Zones, residential development FFDI 80 areas.

According to [Table A1.12.3](#) the APZ for the proposed dwelling is to be 20 m wide towards the south and east, and 11 m wide toward the north and west. The APZ area shall be managed according to Appendix 4 of (NSW Rural Fire Services, 2019) ([Attachment B](#)) of this report.

## Close

This report is prepared for the purpose of development approval for the proposed new two-bedroom dwelling at 253 Coricudgy Road. It is time and site-specific and must not be used for any other purpose<sup>1</sup>. The recommendation based on the mapping and review is BAL 12.5.

## References

Mid-Western Regional Council (2012). Mid-Western Regional Local Environmental Plan 2012. NSW Government, NSW legislation.

NSW Rural Fire Services (2019). Planning for Bush Fire Protection. (N. R. F. Services, ed.). RFS, New South Wales.

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<sup>1</sup> Copyright remains with Consulting & Environmental Services Pty Ltd, and the plan remains the intellectual property of this company.



FIGURES

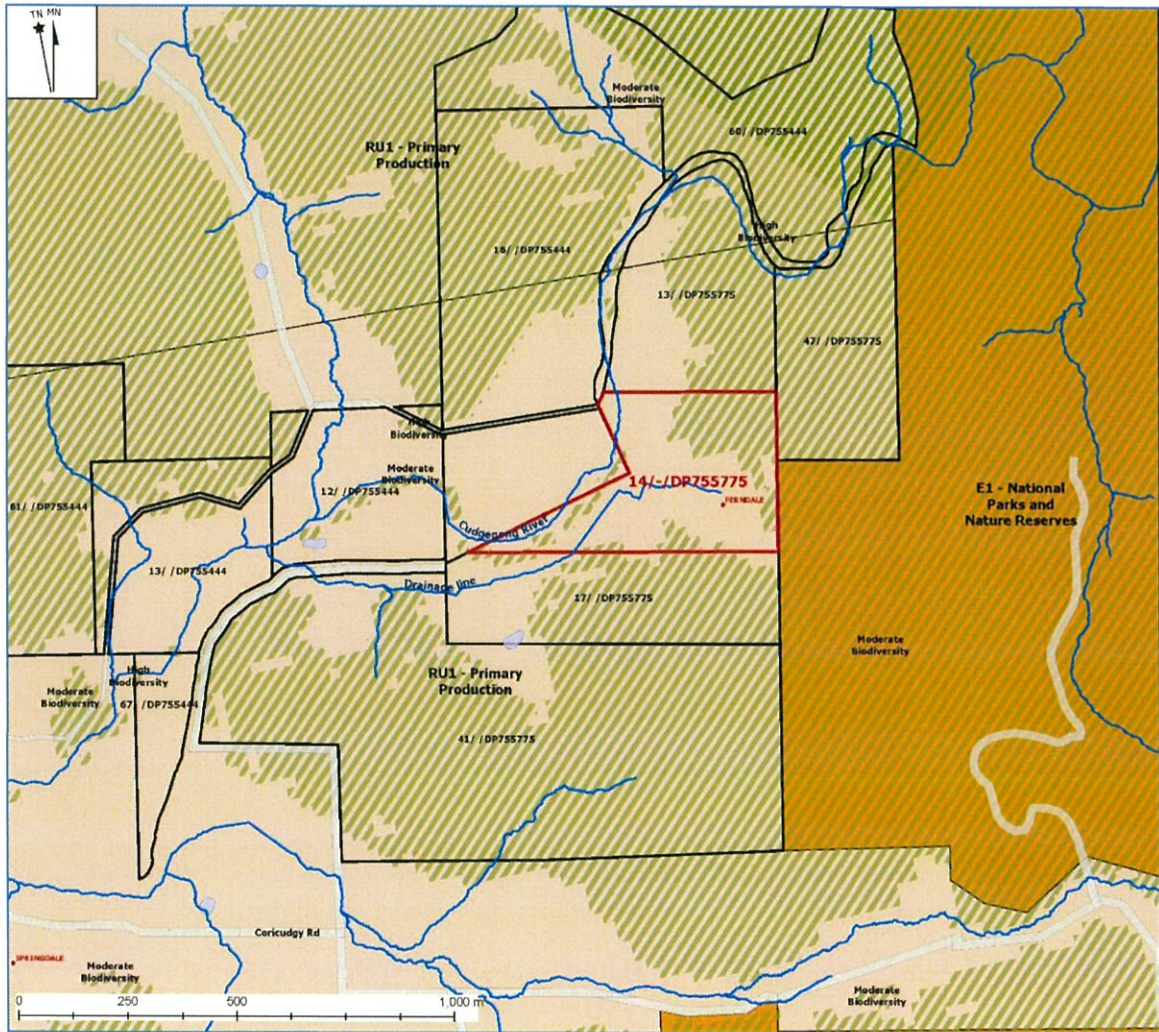


Figure 1 Location Plan (Cessoils.com.au)



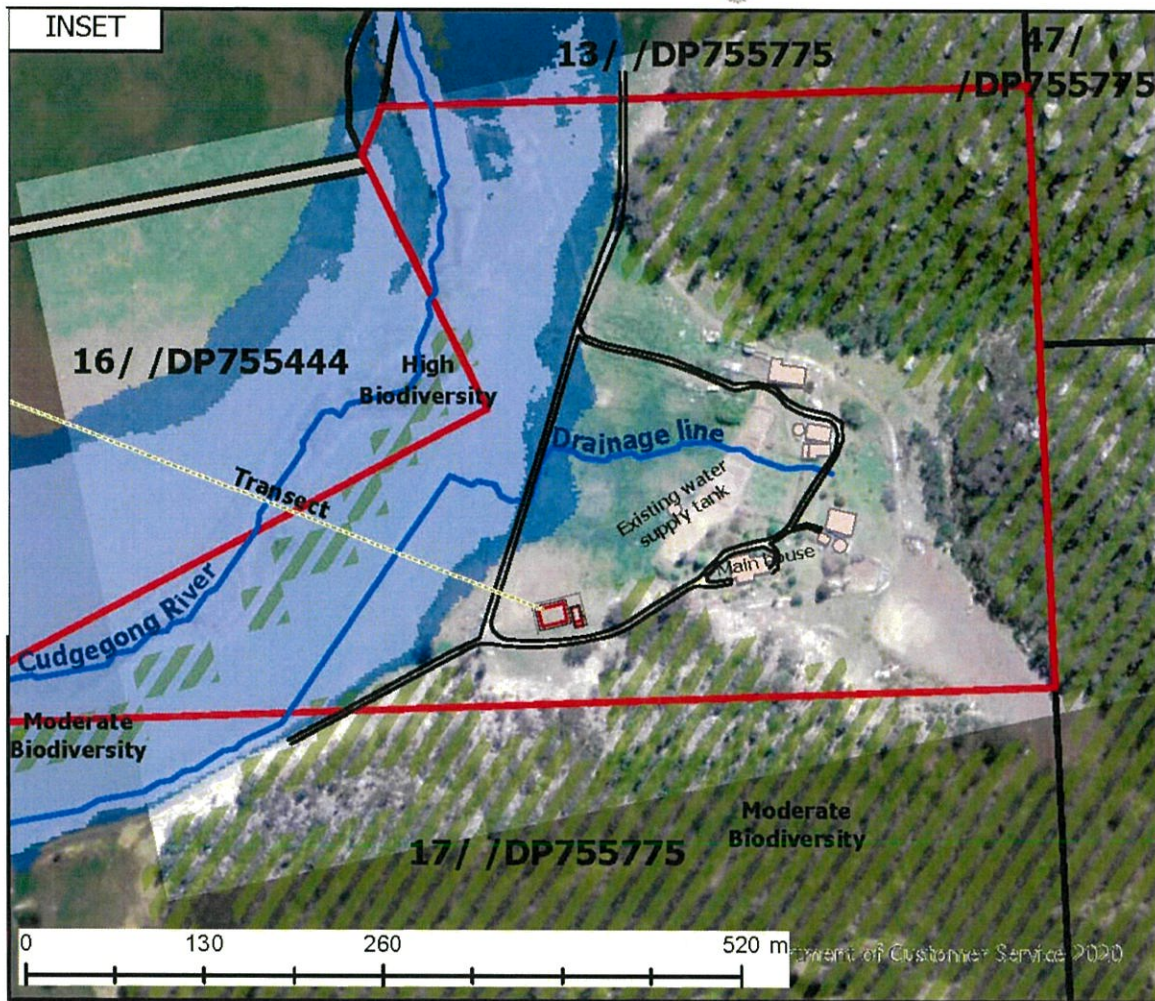


Figure 2 Detailed site information transect on flood mapping, drainage lines and vegetation





*Figure 3 View North from Building Site*



*Figure 4 View East from Building Site*





Figure 5 View South from Building Site



Figure 6 View West from Building Site



**TABLES**

*Table A1.12.6 Determination of BAL, FFDI 80 – residential development*

**Table A1.12.6**

Determination of BAL, FFDI 80 – residential development

KEITH VEGETATION FORMATION	BUSH FIRE ATTACK LEVEL (BAL)				
	BAL-FZ	BAL-40	BAL-29	BAL-19	BAL-12.5
	Distance (m) asset to predominant vegetation class				
Rainforest	< 7	7 -< 9	9 -< 14	14 -< 20	20 -< 100
Forest (wet and dry sclerophyll) including Coastal Swamp Forest, Pine Plantations and Sub-Alpine Woodland	< 15	15 -< 20	20 -< 29	29 -< 40	40 -< 100
Grassy and Semi-Arid Woodland (including Mallee)	< 8	8 -< 11	11 -< 16	16 -< 22	22 -< 100
Forested Wetland (excluding Coastal Swamp Forest)	< 6	6 -< 8	8 -< 12	12 -< 18	18 -< 100
Tall Heath	< 12	12 -< 16	16 -< 23	23 -< 32	32 -< 100
Short Heath	< 7	7 -< 9	9 -< 14	14 -< 20	20 -< 100
Arid-Shrublands (acacia and chenopod)	< 5	5 -< 6	6 -< 9	9 -< 14	14 -< 100
Freshwater Wetlands	< 4	4 -< 5	5 -< 7	7 -< 11	11 -< 100
Grassland	< 7	7 -< 10	10 -< 14	14 -< 20	20 -< 50

*Table 7.4a Performance criteria and acceptable solutions for residential infill development*

**Table 7.4a**

Performance criteria and acceptable solutions for residential infill development.

	PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
	The intent may be achieved where:	
ASSET PROTECTION ZONES	<ul style="list-style-type: none"> <li>APZs are provided commensurate with the construction of the building; and</li> <li>A defensible space is provided.</li> </ul>	<ul style="list-style-type: none"> <li>an APZ is provided in accordance with Table A1.12.2 or A1.12.3 in Appendix 1.</li> </ul>
	<ul style="list-style-type: none"> <li>APZs are managed and maintained to prevent the spread of a fire to the building.</li> </ul>	<ul style="list-style-type: none"> <li>APZs are managed in accordance with the requirements of Appendix 4 of PBP.</li> </ul>
	<ul style="list-style-type: none"> <li>the APZ is provided in perpetuity.</li> <li>APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.</li> </ul>	<ul style="list-style-type: none"> <li>APZs are wholly within the boundaries of the development site.</li> <li>APZ are located on lands with a slope less than 18 degrees.</li> </ul>
	<p><b>Home-based child care:</b> the building must not be exposed to radiant heat levels exceeding 29kW/m<sup>2</sup> (1090K).</p>	<ul style="list-style-type: none"> <li>an APZ is provided in accordance with Table A1.12.2 or A1.12.3 in Appendix 1.</li> </ul>



*Table A1.12.3 Minimum distances for APZs – residential development, FFDI 80 areas*

**Table A1.12.3**

Minimum distances for APZs – residential development, FFDI 80 areas (<29kW/m<sup>2</sup>, 1090K)

KEITH VEGETATION FORMATION	EFFECTIVE SLOPE				
	Up slopes and flat	>0°-5°	>5°-10°	>10°-15°	>15°-20°
	Distance (m) from the asset to the predominant vegetation formation				
Rainforest	9	12	15	20	25
Forest (wet and dry sclerophyll) including Coastal Swamp Forest, Pine Plantations and Sub-Alpine Woodland	20	25	31	39	48
Grassy and Semi-Arid Woodland (including Mallee)	11	13	17	21	27
Forested Wetland (excluding Coastal Swamp Forest)	8	10	13	17	22
Tall Heath	16	18	20	22	25
Short Heath	9	10	12	13	15
Arid-Shrublands (acacia and chenopod)	6	7	8	9	10
Freshwater Wetlands	5	6	6	7	8
Grassland	10	11	12	14	16



**ATTACHMENT A- SITE PLAN FOR BUSHFIRE ASSESSMENT**



**Legend**

- Lot 14 /- /DP755775 (16.61 ha; Land zoning: RU1 - Primary Production)
- Lot
- Road
- Hydroline
- Contour 2m
- EPI Terrestrial Biodiversity
- Driveways
- Existing buildings
- Proposed buildings
- Bushfire attack level assessment lines (140m into four cardinal directions (magnetic declination))
- Vegetation boundary (from aerial imagery)
- Bush fire prone land (BFPL)
- Vegetation Buffer
- Vegetation Category 1
- Vegetation Category 2
- Minimum distance to vegetation to achieve BAL-12.5 (>40m)
- Proposed Asset Protection Zone (APZ)
- Existing 22,000 L fire fighting tank connected to existing water supply

**NOTES:**

Lot 14 is totally within bushfire prone land. The forest fire danger index (FFDI) for Olinda is 80.

Vegetation Category 1 (considered to be the highest risk for bushfire) covers the north-eastern corner of the Lot as well as a small patch on the southern boundary near the proposed dwelling. This patch marks the beginning of forest vegetation which connects to a large forested area in the south.

The remaining land is covered by Vegetation Category 2 (lower bush fire risk than categories 1 and 3) and Vegetation Buffer which is classified as land directly adjoining bushland and extends for 100m from Category 1 areas.

The predominant fire hazard is from the south and south-east. This direction will determine the bushfire attack level of the proposed dwelling as the hazard vegetation is the closest to the proposed dwelling. The slope is upslope and the predominant vegetation is forest in this direction.

The outline of the EPI Terrestrial Biodiversity adequately represents the extent of the forest vegetation, except for one little area east of the dwelling which is not actually vegetated; the edge of the hazard vegetation is symbolised by a dark green squiggly line.

The BAL is determined by the distance to the vegetation according to PBP 2019 Table A1.12.6. The buffer area around the proposed dwelling show that a BAL-12.5 is appropriate according to the factual data presented here as the minimum distance of 40m to vegetation can be achieved.

Performance criteria and acceptable solutions for residential infill development are outlined in Table 7-4a of PBP 2019. Table A1.12.3 prescribes the minimum distances for APZs - residential development, FFDI 80 areas. According to Table A1.12.3, the APZ for the proposed dwelling is to be 20m wide towards the south and east, and 11m wide towards the north and west. This area shall be managed according to Appendix 4 of PBP 2019. A complete guide to APZs and landscaping, can be downloaded from the NSW RFS website: Standards for Asset Protection Zones.

Cadastrre - Department of Customer Service, 2018.

BFPL - State Government of NSW and NSW Rural Fire Service 2022.

PBP 2019. Planning for Bush Fire Protection. State of New South Wales through the NSW RURAL FIRE SERVICE 2019.

Contours and creek location calculated from 1m DEM from Spatial Services, NSW Government (August 2011).

This design plan proposed must be verified accurately when used for construction purposes. Map produced in ArcGIS Pro 2.9. Scale 1:1,500 at A3. Map orientation to magnetic north. GDA 2020 MGA Zone 56.



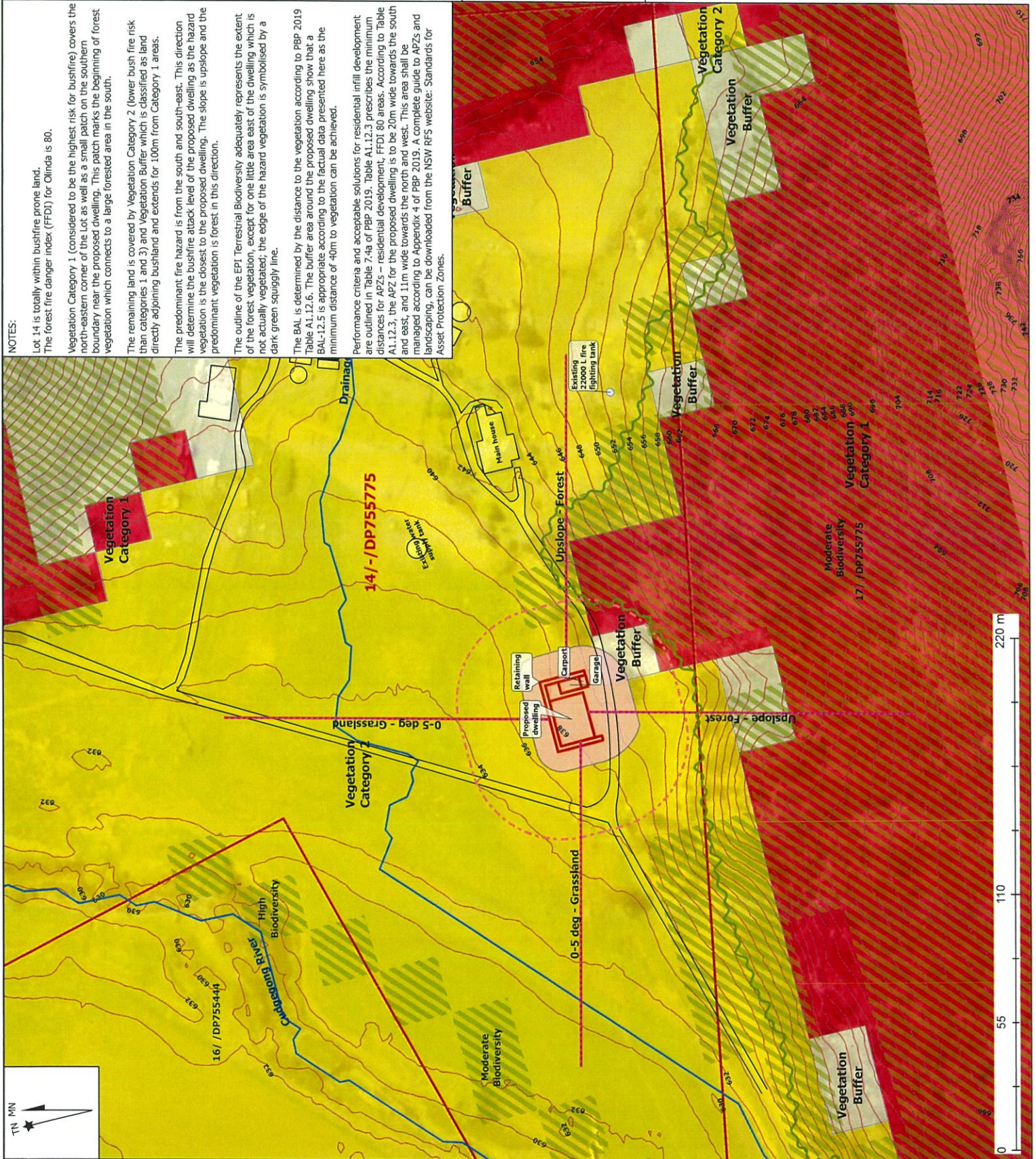
Consulting & Environmental Services  
cessolls.com.au - on behalf of the client.

Drawing title:  
SITE PLAN FOR BUSHFIRE ASSESSMENT

Lot 14, DP 755775  
Client: Michael Nielsen  
Site address: 253 Corcudgy Road  
Olinda 2849 NSW

Project number: 130-2205  
Drawing number: 67-2205  
Date: 27/09/2022, Version: 4

Drawn by: M.H. Environmental Drafting.





**ATTACHMENT B      ASSET PROTECTION ZONE REQUIREMENTS**

# APPENDIX 4

## ASSET PROTECTION ZONE REQUIREMENTS

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

Careful attention should be paid to species selection, their location relative to their flammability, minimising continuity of vegetation (horizontally and vertically), and ongoing maintenance to remove flammable fuels (leaf litter, twigs and debris).

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 building or structure. It is located between the building or structure and the bush fire hazard.

For a complete guide to APZs and landscaping, download the NSW RFS document *Standards for Asset Protection Zones* at the NSW RFS Website [www.rfs.nsw.gov.au](http://www.rfs.nsw.gov.au).

An APZ provides:

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

Bush fire fuels should be minimised within an APZ. This is so that the vegetation within the zone does not provide a path for the spread of fire to the building, 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 building;
- damage to the building asset from intense radiant heat; and
- ember attack.

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 and bush fire threat. 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).



#### A4.1.1 Inner Protection Areas (IPAs)

The IPA is the area closest to the building and creates a fuel-managed area which can minimise the impact of direct flame contact and radiant heat on the development and act as 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 building, consisting of a mown lawn and well maintained gardens.

When establishing and maintaining an IPA the following requirements apply:

##### Trees

- tree 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 the ground;
- tree canopies should be separated by 2 to 5m; and
- 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 should be provided;
- shrubs should not be located under trees;
- shrubs should not form more than 10% ground cover; and
- clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.

##### Grass

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

#### A4.1.2 Outer Protection Areas (OPAs)

An OPA is located between the IPA and the unmanaged vegetation. It is an area where there is maintenance of the understorey and some separation in the canopy. The reduction of fuel in this area aims to decrease the intensity of an approaching fire and restricts the potential for fire spread from crowns; 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.

When establishing and maintaining an OPA the following requirements apply:

##### Trees

- tree canopy cover should be less than 30%; and
- canopies should be separated by 2 to 5m.

##### Shrubs

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

##### Grass

- grass should be kept mown to a height of less than 100mm; and
- leaf and other debris should be removed.

An APZ should be maintained in perpetuity to ensure ongoing protection from the impact of bush fires. Maintenance of the IPA and OPA as described above should be undertaken regularly, particularly in advance of the bush fire season.



**Figure A4.1**

Typical Inner and Outer Protection Areas.

