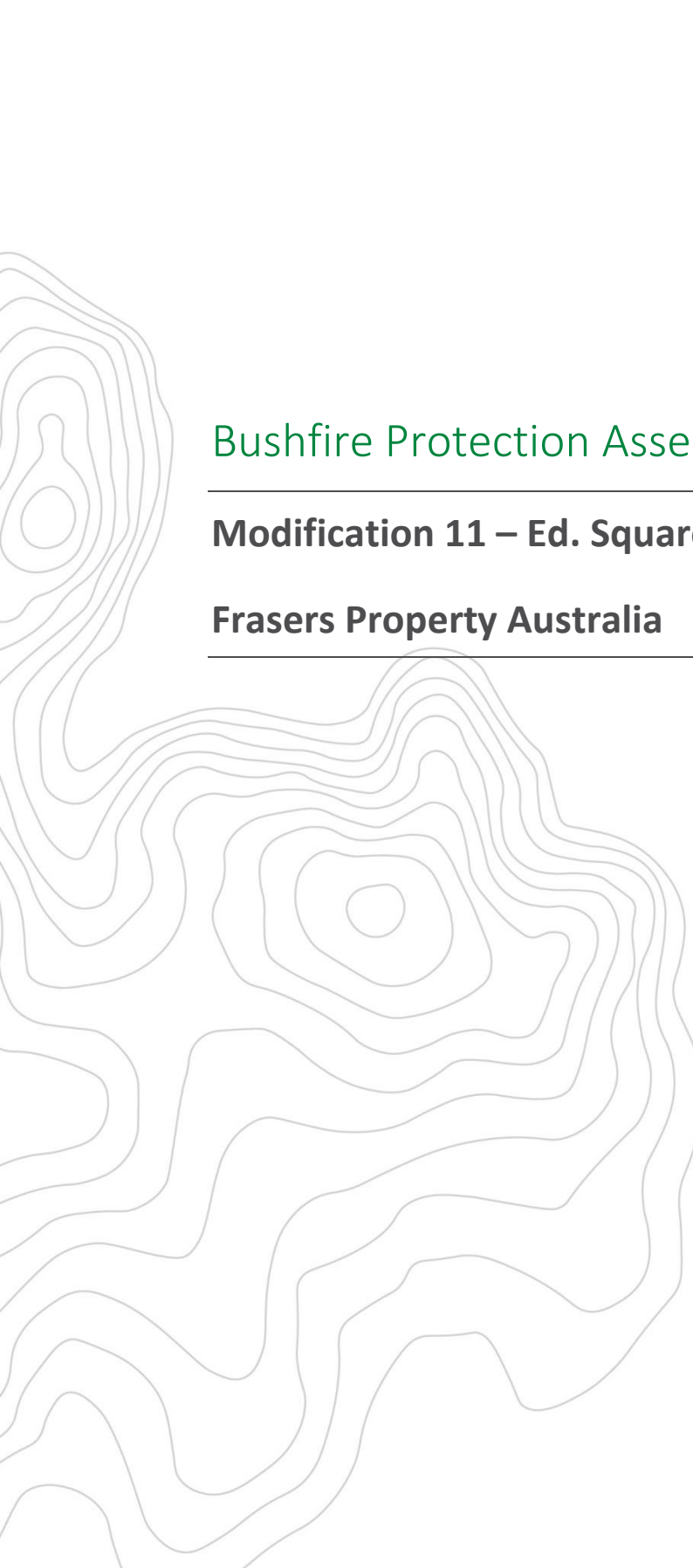


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Bushfire Protection Assessment

Modification 11 – Ed. Square Residential Precincts 2 and 3

Frasers Property Australia

DOCUMENT TRACKING

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Template 2.8.1

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Abbreviations

Abbreviation	Description
AS 3959	Australian Standard AS 3959-2018 'Construction of buildings in bushfire-prone areas'
APZ	Asset Protection Zone
BAL	Bushfire Attack Level
BFPL	Bush fire prone land
BPM	Bushfire protection measures
BFSA	Bush fire safety authority
DA	Development Application
EP&A Act	Environmental Planning and Assessment Act 1979
FDI	Fire Danger Index
FDR	Fire Danger Rating
IPA	Inner Protection Area
LCC	Liverpool City Council
NASH	National Association of Steel-framed Housing
OEH	NSW Office of Environment and Heritage
OPA	Outer Protection Area
PBP	Planning for Bush Fire Protection 2019
RF Act	Rural Fires Act 1997
RF Reg	Rural Fires Regulation 2013
RFS	NSW Rural Fire Service
SFPP	Special fire protection purpose

1. Property and proposal

Table 1 identifies the subject property and outlines the type of development proposed.

Table 1: Subject site and development proposal summary

Street address:	Edmondson Park South Estate
Postcode:	2174
Lot/DP no:	Lot 2 DP 1220978 & Lot 101 DP 1238023
Local Government Area:	Liverpool City Council (LCC)
Fire Danger Index (FDI)	100
Current land zoning:	B4- Mixed Use & RE 1-Public Recreation
Type of development proposed:	Residential and Commercial Subdivision

1.1 Description of proposal

Frasers Property Australia has commissioned Eco Logical Australia Pty Ltd (ELA) to provide an update to the bushfire protection assessment (BPA) to align with Ed. Square MOD11 Concept Plan Amendment application including the Indicative Masterplan Scheme focusing on Residential Precincts (RP) 2 and 3 which is located on 25 hectares of land at Edmondson Park.

This report is an addendum to the Bushfire Protection Assessment Section 75W Modification - Frasers Edmondson Park Town Centre Edmondson Park (ELA 2016) and covers the completion of the remaining two stages of the Ed. Square Development for RP2 and RP3 residential precincts.

The proposed planning application modification 11 is for a medium density planning modification which is to be submitted to the Department of Planning Infrastructure and Energy (DPIE).

The planning modification is seeking to address the following requirements:

- The introduction of a new typology to the Residential Precincts (RP) 2 and 3; and
- Amendment to the public domain so as to accommodate the proposed new typologies.

This planning application relates to Residential Precinct 2 and Residential Precinct 3 only. The overall development yield is to remain consistent with the originally approved application.

The proposed development is located on land classified as bush fire prone on the Liverpool City Council (LCC) Bush Fire Prone Land (BFPL) map¹ which is accessible via the NSW Government's e-planning portal.

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

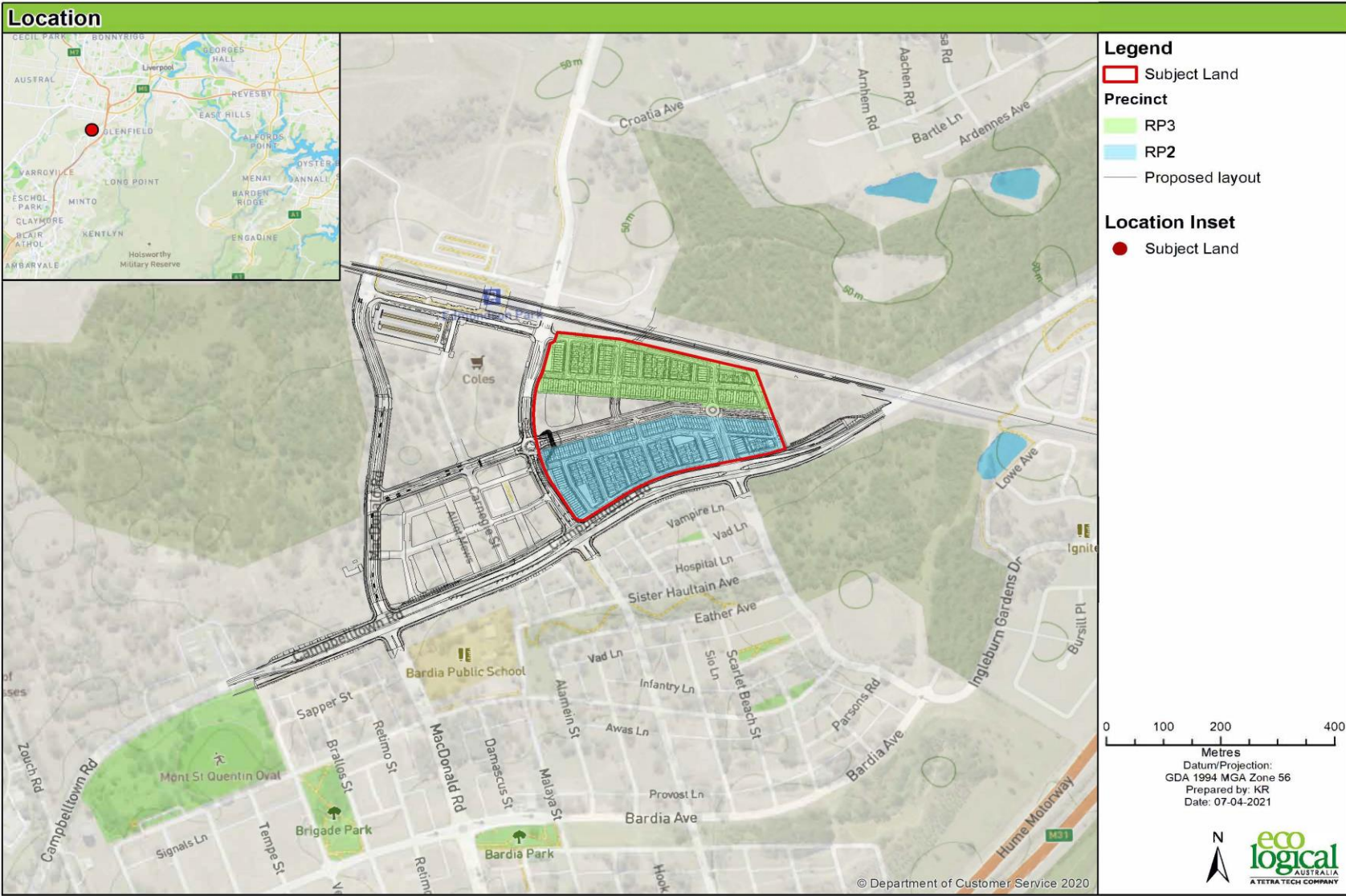


Figure 1: Location and proposed layout of RP 2 and 3

1.2 Assessment process

The proposal was assessed in accordance with Section 100B of the *Rural Fires Act 1997*, Clause 44 of the *Rural Fires Regulation 2013* and 'Planning for Bush Fire Protection' (RFS 2019), herein referred to as PBP.

This assessment is based on the following information sources:

- Background documentation provided by Frasers Property Australia;
- GIS analysis including online spatial resources (i.e. Google Earth, Google Maps, SIX Maps, Near Maps, SEED and the NSW Government Planning Portal); and
- Site inspection undertaken on 11 March 2021.

Table 2 identifies the bushfire protection measures assessed and whether an acceptable or performance solution is being proposed by the proponent.

Table 2: Summary of bushfire protection measures assessed

Bushfire Protection Measure	Acceptable Solution	Performance Solution	Report Section
Asset Protection Zones	☒	☒	3.1
Landscaping	☒	☐	3.2
Construction standard	☒	☐	3.3
Access	☒	☒	3.4
Water Supply	☒	☐	3.5
Electrical Services	☒	☐	3.6
Gas Services	☒	☐	3.7

1.3 Significant environmental features

An assessment of significant environmental features, threatened species, populations or ecological communities under the *Biodiversity Conservation Act 2016* that may potentially be affected by the proposed bushfire protection measures has not been undertaken in this report as it is covered by other parts of the approvals process.

The subject land is situated within the Sydney Growth Centres biodiversity certified areas. In August 2017, the *Biodiversity Conservation Act 2016* (BC Act) was gazetted and repealed the *Threatened Species Conservation Act 1995* (TSC Act), however under section 43 of the *Biodiversity Conservation (Savings and Transitional) Regulation 2017*, the repeal of the TSC Act does not affect the operation of part 7 or 8 of Schedule 7 to that Act. The effect is that the Biodiversity Certification of the Growth Centres continues to have effect under the new legislation. Biodiversity certification removes the need to conduct impact assessment on certified land for threatened species population and communities listed under the BC Act.

The impact footprint of the bushfire protection measures (e.g. Asset Protection Zone (APZ)) is clearly identified within this report and therefore capable of being assessed by suitably qualified persons as required.

1.4 Aboriginal cultural heritage

An assessment of any Aboriginal cultural heritage objects (within the meaning of the *National Parks and Wildlife Act 1974*) that may potentially be affected by the proposed bushfire protection measures has not been undertaken in this report as it is covered by other parts of the approval process.

The impact footprint of the bushfire protection measures (e.g. APZ) is clearly identified within this report and therefore capable of being assessed by suitably qualified persons as required.

2. Bushfire hazard assessment

2.1 Process

The site assessment methodology set out in Appendix 1 of PBP has been utilised in this assessment to determine the required APZ and Construction requirements.

Figure 2 and **Table 3** show the effective slope and predominant vegetation representing the highest bushfire threat potentially posed to the development from various directions.

2.2 Vegetation assessment

In accordance with PBP, the predominant vegetation formation has been assessed for a distance of at least 140 m from the subject land in all directions.

The predominant vegetation has been determined as ‘grassy woodland’ from the NSW Office of Environment and Heritage (OEH) vegetation mapping (OEH 2013) and revised where required by site assessment.

In assessing the bushfire hazard to the direct east of the subject land, a conservative approach was undertaken in assessing the overall vegetation formation as ‘grassy woodland’. The likely outcome is that the future bushfire hazard is considered to be more reflective of a low hazard classification due to its isolated nature and future use as a public reserve which will be fragmented and discontinuous in nature with numerous access trails and other surrounding infrastructure including Campbelltown Road, the Edmondson Township railway corridor, carparking allotments together with adjoining managed landscape areas to reduce the overall bushfire hazard footprint.

The final bushfire hazard assessment for future Development Applications is likely to change over time with ongoing development of the area and could differ to this assessment.

2.3 Slope assessment

In accordance with PBP, the slope that would most significantly influence fire behaviour was determined over a distance of 100 m from the boundary of the proposed development under the classified vegetation.

The effective slope has been determined from 2 m contour data and revised where required by site assessment.

2.4 Summary of assessment

As shown in **Figure 2**, the vegetation to the north-east, east, and south-east of the proposed RP2 and RP3 residential precincts is classified as ‘woodland’ under PBP on slopes that fall into the PBP slope category ‘>0° to 5° degrees downslope.’

In all other directions, there are managed lands in the form of land cleared and managed within existing residential development and commercial development.

Photographs of the site and adjoining land are contained in **Section 7** of this report.

Table 3: Bushfire hazard assessment

Transect #	Slope	Vegetation Formation	Required APZ	Available APZ	Comments
1 North-east	>0° to 5° downslope	Woodland	16 m	≥16 m	Asset Protection Zone formed by managed railway line and associated infrastructure.
2 East	>0° to 5° downslope	Woodland	16 m	≥16 m	Asset Protection Zone provided by proposed road, parking bays together with appropriate building setbacks.
3 South-east	>0° to 5° downslope	Woodland	16 m	≥16 m	Asset Protection Zone provided by adjoining existing public road system external to property (Campbelltown Road).
All other directions			Managed land		

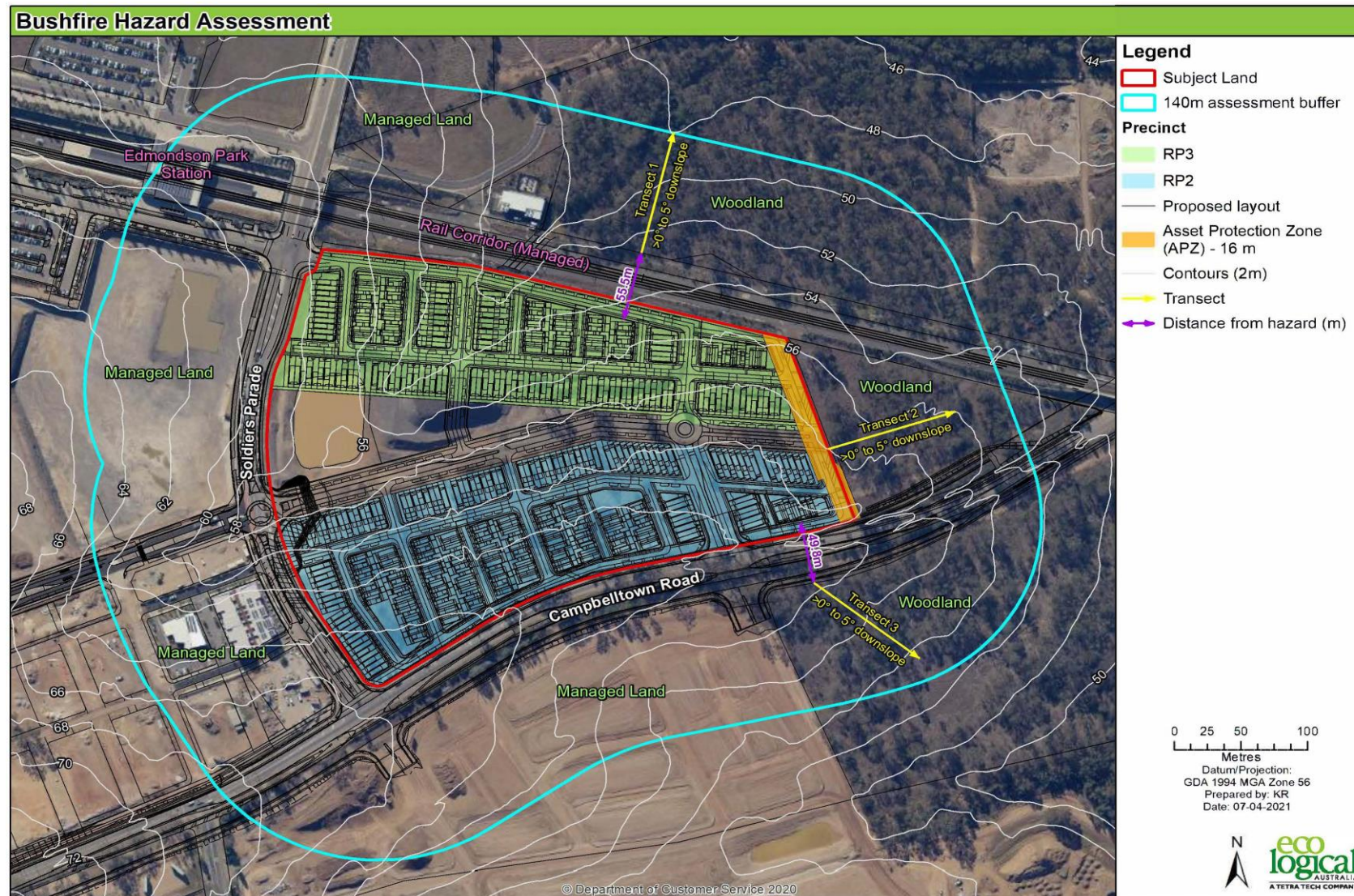


Figure 2: Bushfire hazard assessment

3. Bushfire protection measures

3.1 Asset Protection Zones

Table 3 shows the dimensions of the required APZ and where relevant, information on how the APZ is to be provided is included. The footprint of the APZ is also shown on **Figure 2**.

The compliance of the proposed APZ with regards to Section 5.3.1 of PBP, is detailed in **Table 4**.

Table 4: APZ requirements and compliance (adapted from Table 5.3a of PBP)

Performance Criteria	Acceptable Solutions	Compliance Notes
The intent may be achieved where:		
Potential building footprints will not be exposed to radiant heat levels exceeding 29 kW/m ² on each proposed lot.	APZs are provided in accordance with Tables A1.12.2 and A1.12.3 based on the FDI.	To Comply APZ provided in accordance with Table A1.12.2 as shown in Table 3 and Figure 2 .
APZs are managed and maintained to prevent the spread of a fire towards the building.	APZs are managed in accordance with the requirements of Appendix 4 of PBP.	To Comply The APZ within the subject land to be managed in accordance with the Inner Protection Area (IPA) requirements of PBP. Fuel management specifications provided in accordance with Appendix A .
The APZ is provided in perpetuity.	APZs are wholly within the boundaries of the development site.	Partially complies – Performance criterion met Portions of APZ within the subject land to be managed in accordance with the Inner Protection Area (IPA) requirements of PBP. Fuel management specifications provided in accordance with Appendix A . APZ adjoining the property consists of established and managed railway corridor to the north-east and existing road infrastructure (Campbelltown Road) to the south-east. APZ adjoining the development to the east of the building footprints to be managed for 16 m (including 10 m off building setbacks & road carriageway and 6 m within carparking / managed landscaping on the Edmondson Park Reserve). Once the Reserve is transferred back to LCC this will require an ongoing Plan of Management (PoM) to be established in perpetuity for management of this portion of the APZ.
APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.	APZs are located on lands with a slope less than 18 degrees.	Complies APZ is not located on slopes greater than 18°.

3.2 Landscaping

All landscaping within the proposed development is to be managed in accord with the Inner Protection Area (IPA) APZ standards as outlined in **Appendix A**.

3.3 Construction standards

No new dwellings (including Class 10a and fencing) are proposed to be constructed as part of this proposal as it is a planning application for revised dwelling and road typologies.

3.4 Access

Existing public road access to the proposed RP2 and RP3 is provided by Soldiers Parade to the west and Campbelltown Road to the south. Future access will include an access road from the railway, the eastern end of Campbelltown road and the 'general boulevard' will also be a major boulevard.

Both of these roads are sealed, two-way roads that provide access and egress away from the 'woodland' bushfire hazard vegetation located on the north-east, east, and south-east of the development as well as providing a total of four separate access/egress routes to/from the proposed RP2 and RP3 residential precincts. It should be noted also that the internal perimeter road on the eastern portion of the RP2 and RP3 development adjoining the bushfire hazard (Edmondson Park Town Centre) has a total of six access / egress points in which the general public and/or emergency services can utilise in the event of a bushfire incident.

Importantly, access requirements under PBP do not apply where roads are located greater than 100m away from identified bush fire hazards.

Figure 3 and **Figure 4** show the non-perimeter and perimeter road access within the residential precinct. A summary of the compliance approach can be found in **Table 5** below whilst all access performance solutions are detailed in **Table 6**.

The performance criteria and acceptable solutions for each of these types are shown in Appendix B (**Table 12**, **Table 13**, **Table 14**, and **Table 15**) along with comment on the design compliance or otherwise.

Table 5: Access summary of compliance

Access type	Compliance approach	Further details
General	Partially compliant with acceptable solutions. See Table 6 and Table 12 for performance solution.	Table 12
Perimeter road	Partially compliant with acceptable solutions. See Table 6 and Table 13 for performance solution.	Table 13
Non-perimeter road	Partially compliant with acceptable solutions. See Table 6 and Table 13 for performance solution.	Table 14
Property Access	Can comply with all acceptable solutions	Table 15

Table 6: Access performance solution

Access Type	Description	Performance criteria	Comments
Perimeter Roads	Perimeter road located on the eastern extent of the	Access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating as well as providing a safe operational	Satisfies performance criterion The perimeter road adjoins grassy woodland vegetation which to the east contains predominately a grassy understorey which is a lower hazard

Access Type	Description	Performance criteria	Comments
	RP2 and RP3 development adjoining Edmondson Park Reserve does not meet the 8 m road carriageway width and a small portion is only one-way access.	environment for emergency service personnel during firefighting and emergency management on the interface.	classification but is over 1ha in area. The reserve is largely fragmented by walking tracks, and adjoining infrastructure including the railway corridor and Campbelltown Road. • The perimeter road will have a total carriageway of 6 m with two way access, roll top curving (along entire hazard side), verge areas and adjoining parking bays / managed landscaping areas (along entire hazard side) for emergency service vehicles. • The perimeter road also provides direct access away from the bushfire hazard by members of the public as well as access into the site for emergency services via multiple access egress points along the road network (6 m wide for two way roads and 3.5 m wide for one way roads) within the proposed residential precincts linking to the external public road network (see Figure 3 and Figure 4). The one-way road on the southern portion of the perimeter road is a short section of road being less than 30 m in length and only serves a limited number of potential dwellings.



Figure 3: Indicative Concept Plan showing road network

3.5 Water Supplies

The compliance of the proposed water supply with regards to Section 5.3.3 of PBP is detailed in **Table 7**.

Table 7: Water supply requirements (adapted from Table 5.3c of PBP)

Performance Criteria	Acceptable Solution	Compliance Notes
Adequate water supplies are provided for firefighting purposes.	Reticulated water is to be provided to the development where available; A static water supply and hydrant supply is provided for non-reticulated developments or where reticulated water supply cannot be guaranteed; and Static water supplies shall comply with Table 5.3d of PBP.	Can comply Proposal to be serviced by reticulated water supply.
Water supplies are located at regular intervals; and The water supply is accessible and reliable for firefighting operations.	Fire hydrant, spacing, design and sizing complies with the relevant clauses of Australian Standard AS 2419.1 (SA 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.	Can comply The advice of a relevant authority or suitably qualified professional should be sought, for certification of design and installation in accordance with relevant legislation, Australian Standards and Table 5.3c and Table 5.3d of PBP.
Flows and pressure are appropriate.	Fire hydrant flows and pressures comply with the relevant clauses of AS 2419.1 (SA 2005).	
The integrity of the water supply is maintained.	All above-ground water service pipes are metal, including and up to any taps; and Above-ground water storage tanks shall be of concrete or metal.	Can comply Not applicable

3.6 Electricity Services

The compliance of the proposed supply of electricity services with regards to Section 5.3.4 of PBP is detailed in **Table 8**.

Table 8: Requirements for the supply of Electricity services (adapted from Table 5.3c of PBP)

Performance Criteria	Acceptable Solution	Compliance Notes
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; Where overhead, electrical transmission lines are proposed as follows: Lines are installed with short pole spacing (30 m), 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 ISSC3 Guide for the Management of Vegetation in the Vicinity of Electricity Assets (ISSC3 2016).	Can Comply Electricity services are recommended to be located underground. Can comply The advice of a relevant authority or suitably qualified professional should be sought, for certification of design and installation in accordance with relevant legislation, Australian Standards and Table 5.3c of PBP.

3.7 Gas Services

The compliance of the proposed supply of gas services (reticulated or bottle gas) with regards to Section 5.3.4 of PBP is detailed in **Table 9**:

Table 9: Requirements for the supply of gas services (adapted from Table 5.3c of PBP)

Performance Criteria	Acceptable Solution	Compliance Notes
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 – ‘The storage and handling of LP gas’, 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 10 m 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.	Can comply The advice of a relevant authority or suitably qualified professional should be sought, for certification of design and installation in accordance with relevant legislation, Australian Standards and Table 5.3c of PBP.

3.8 Staged Development

The proposed application involves the introduction of new dwelling and road typologies for two Precincts of the Ed. Square Indicative Concept Plan, Residential Precinct 2 and Residential Precinct 3. Staged development will be addressed in future DA's.



Figure 4: Indicative Concept Plan layout

4. Conclusion

The proposed modification for new dwelling typologies and road types within RP2 and RP3 was assessed against the specifications and requirements of 'Planning for Bush Fire Protection 2019', as outlined in **Table 10** below.

Table 10: Development Bushfire Protection Solutions and Recommendations

Bushfire Protection Measures	Recommendations	Acceptable Solution	Performance Solution	Report Section
Asset Protection Zones	APZ provided in accordance with Table A1.12.2 as shown in Table 3 and Figure 3 and in conjunction with the specifications within Appendix A	☒	☒	3.1
Landscaping	All landscaping is to be managed in accord with Inner Protection Area (IPA) APZ standards as outlined in Appendix A .	☒	☐	3.2
Construction standard	No new dwellings are proposed to be constructed as part of this proposal. Bushfire construction standards for future dwellings will be determined at a future stage and APZs can be provided to commensurate with no greater than BAL-29 construction.	☒	☐	3.3
Access	Access to meet both the acceptable and performance specifications outlined in Section 3.4 .	☒	☒	3.4
Water supply	Reticulated water supply to meet PBP acceptable solution specifications.	☒	☐	3.5
Electricity Service	Electricity supply is recommended to be located underground.	☒	☐	3.6
Gas services	Gas supply is to be installed in accordance with PBP.	☒	☐	3.7

5. Recommendations

It is recommended that this planning modification for the introduction of new dwelling typologies and road types for RP2 and RP3 be approved based on the above assessment.



John Norris
Senior Bushfire Consultant



Bruce Horkings
Senior Bushfire Consultant
BPAD Number: 29962 Level 3



6. References

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Standards Australia (SA). 2018. *Construction of buildings in bushfire-prone areas*, AS 3959:2018. SAI Global, Sydney.

7. Photos



Photo 1: Photo representative of woodland vegetation assessed for Transect 1 (north-east) looking south-east along railway corridor (Courtesy Google Maps)



Photo 2: Photo representative of woodland vegetation assessed for Transect 2 (east) for Edmondson Park Reserve looking north-west.



Photo 3: Photo representative of woodland vegetation assessed for Transect 3 (south-east) across Campbelltown Road.

Appendix A - Asset protection zone and landscaping standards

The following APZ management specifications in **Table 11** apply to the APZs specified in **Table 3** and shown in **Figure 3**. These APZ management specifications should be considered for any landscaping and ongoing management within the subject land.

The APZs identified in **Table 3** are to be maintained in perpetuity and management undertaken on an annual basis (as a minimum) and prior to the commencement of the fire season.

Further details on APZ implementation and management can be found on the NSW RFS website (<https://www.rfs.nsw.gov.au/resources/publications>).

Table 11: APZ management specifications

Vegetation Strata	Inner Protection Area (IPA)	Outer Protection Area (OPA)
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 2 m above ground; Canopies should be separated by 2 to 5 m; and Preference should be given to smooth barked and evergreen trees.	Tree canopy cover should be less than 30%; and Canopies should be separated by 2 to 5 m.
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.	Shrubs should not form a continuous canopy; and 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 100 mm in height); and Leaves and vegetation debris should be removed.	Should be kept mown to a height less than 100 mm; and Leaf and other debris should be removed.

Appendix B - Access Standards

Table 12: General access requirements (adapted from Table 5.3b of PBP)

Performance Criteria	Acceptable Solutions	Compliance notes
The intent may be achieved where:		
Firefighting vehicles are provided with safe, all-weather access to structures.	Property access roads are two-wheel drive, all-weather roads;	Can comply
	Perimeter roads are provided for residential subdivisions of three or more allotments;	Complies
	Subdivisions of three or more allotments have more than one access in and out of the development;	Complies
	Traffic management devices are constructed to not prohibit access by emergency services vehicles;	To comply
	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;	Can comply
	All roads are through roads;	To comply
	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;	Not applicable
	Where kerb and guttering is provided on perimeter roads, roll top kerbing should be used to the hazard side of the road;	To comply
	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;	Not applicable
The capacity of access roads is adequate for firefighting vehicles.	One way only public access roads are no less than 3.5 metres wide and have designated parking bays with hydrants located outside of these areas to ensure accessibility to reticulated water for fire suppression.	To Comply- Carriageway of proposed one way roads is 3.5m with allocated parking bays and water hydrants are located within designated service areas to ensure access to reticulated water supply is provided.
	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.	To comply
There is appropriate access to water supply.	Hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression;	To comply
	Hydrants are provided in accordance with the relevant clauses of AS 2419.1:2005 – ‘Fire hydrant installations system design, installation and commissioning’; and	To comply
	There is suitable access for a Category 1 fire appliance to within 4 m of the static water supply where no reticulated supply is available.	Not applicable – subdivision serviced by reticulated water

Table 13: Perimeter road requirements (adapted from Table 5.3b of PBP)

Performance Criteria	Acceptable Solutions	Compliance Notes
The intent may be achieved where:		
Access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating as well as providing a safe operational environment for emergency service personnel during firefighting and emergency management on the interface.	Are two-way sealed roads;	Satisfies performance criterion- Only a small part of the perimeter road is one way. Performance solution provided in Table 6 .
	Minimum 8 m carriageway width kerb to kerb;	Satisfies performance criterion – Perimeter road on eastern end of the RP2 and RP3 stages adjoining bushfire hazard (Edmondson Park Town Centre Reserve) complies with the performance criterion. Performance solution provided in Table 6 .
	Parking provided outside of the carriageway width;	To comply
	Hydrants are located clear of parking areas;	To comply
	There are through roads, and these are linked to the internal road system at an interval of no greater than 500m;	Complies
	Curves of roads have a minimum inner radius of 6m;	To comply
	The maximum grade road is 15 degrees and average grade is 10 degrees;	The advice of a relevant authority or suitably qualified professional should be sought, for certification of design and installation in accordance with relevant legislation, Australian Standards and Table 5.3b of PBP.
	The road crossfall does not exceed 3 degrees;	
	A minimum vertical cleared of 4m to any overhanging obstructions, including tree branches, is provided.	

Table 14: Non-perimeter road requirements (adapted from Table 5.3b of PBP)

Performance Criteria	Acceptable Solutions	Compliance notes
The intent may be achieved where:		
Access roads are designed to allow safe access and egress for firefighting vehicles while residents are evacuating.	Minimum 5.5m width kerb to kerb;	Complies.
	Parking is provided outside of the carriageway width;	To comply
	Hydrants are located clear of parking areas;	To comply
	Roads are through roads, and these are linked to the internal road system at an interval of no greater than 500m;	Complies
	Curves of roads have a minimum inner radius of 6m	To comply
	The road crossfall does not exceed 3 degrees;	The advice of a relevant authority or suitably qualified professional should be sought, for certification of design and installation in accordance with relevant legislation, Australian Standards and Table 5.3b of PBP.
	A minimum vertical clearance of 4m to any overhanging obstructions, including tree branches, is provided.	

Table 15: Property access requirements (adapted from Table 5.3b of PBP)

Performance Criteria	Acceptable Solutions	Compliance notes
The intent may be achieved where:		
Firefighting vehicles can access the dwelling and exit the property safely.	There are no specific access requirements in an urban area where an unobstructed path (no greater than 70 m) 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 70 kph) that supports the operational use of emergency firefighting vehicles.	Complies
	In circumstances where this cannot occur, the following requirements apply:	
	Minimum 4 m carriageway width;	Not applicable
	In forest, woodland and heath situations, rural property access roads have passing bays every 200 m that are 20 m long by 2 m wide, making a minimum trafficable width of 6 m at the passing bay;	Not applicable
	A minimum vertical clearance of 4 m to any overhanging obstructions, including tree branches;	Not applicable
	Provide a suitable turning area in accordance with Appendix 3 of PBP;	Not applicable
	Curves have a minimum inner radius of 6m and are minimal in number to allow for rapid access and egress;	Not applicable
	The minimum distance between inner and outer curves is 6 m;	
	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;	
	A development comprising more than three dwellings has access by dedication of a road and not by right of way.	Not applicable
	Note: Some short constrictions in the access may be accepted where they are not less than the minimum (3.5m), 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.	Not applicable

