Bushfire Protection Assessment Denman Prospect ACT

Stromlo Reach S211 EIS Exemption

Capital Estate Developments

→ The Power of Commitment

Project name		Bushfire Protection Assessment Denman Prospect ACT					
Document title		Bushfire Protection Assessment Denman Prospect ACT | Stromlo Reach S211 EIS Exemption					
Project number		12578291					
File name		12578291 REP Draft Bushfire Protection Assessment Stromlo Reach .docx					
Status Code	**Revision**	**Author**	**Reviewer**		**Approved for issue**		
			Name	**Signature**	**Name**	**Signature**	**Date**
S3	0	M George	P de Mar	On file	P de Mar	On file	27/07/2022
S4	1	M George	P de Mar	On file	P de Mar	On file	17/08/2022
S4	2	M George	P de Mar	On file	P de Mar	On file	09/09/2022
[Status code]							
[Status code]							

GHD Pty Ltd ABN 39 008 488 373

Level 15, 133 Castlereagh Street

Sydney, NSW 2000, Australia

T +61 421 935 356 | **E** mick.george@ghd.com | **ghd.com**

Contents

Table index

Figure index

1. Introduction

Denman Prospect 2 Estate obtained an exemption in 2013 from the requirement to prepare an Environmental Impact Statement (EIS) under Section 211 (s.211) of the ACT Planning and Development Act 2007 (P&D Act). The 'deferred area' was excluded from the area covered by the 2013 exemption due to information gaps. The deferred area was considered again under the 2017 s.211 EIS exemption with that exemption providing approval for some of the area to be managed as a bushfire asset protection zone (APZ), however no urban development was proposed in the deferred area at that time. Capital Estates Development (CED) lodged a supplementary s.211 exemption application in December 2021 seeking an exemption to allow urban development of a portion of the deferred area. This consists of Block 12 (the subject land) as shown in Figure 1. The subject land is located to the north-west of existing Denman Prospect urban area.

GHD Pty Ltd (GHD) has prepared a Bushfire Protection Assessment (BPA) for CED to support the limited development in Block 12 so that the proposed future land use is in an appropriate location to minimise the risk to life and property from bush fire attack. The proposed APZ would be located within Block 12.

The entirety of the subject land is currently forested with large expanses of grasslands. The subject land along with Block 11 that will form part of the overall proposed development (see Figure 1) is zoned as Future Urban Area, with indicative zoning to that will be confirmed and finalised as part of the Estate Development Plan shown in Figure 2 (RZ5: High density residential; PRZ1: Urban open space; RZ1: Suburban and RZ4 Medium Density Residential).

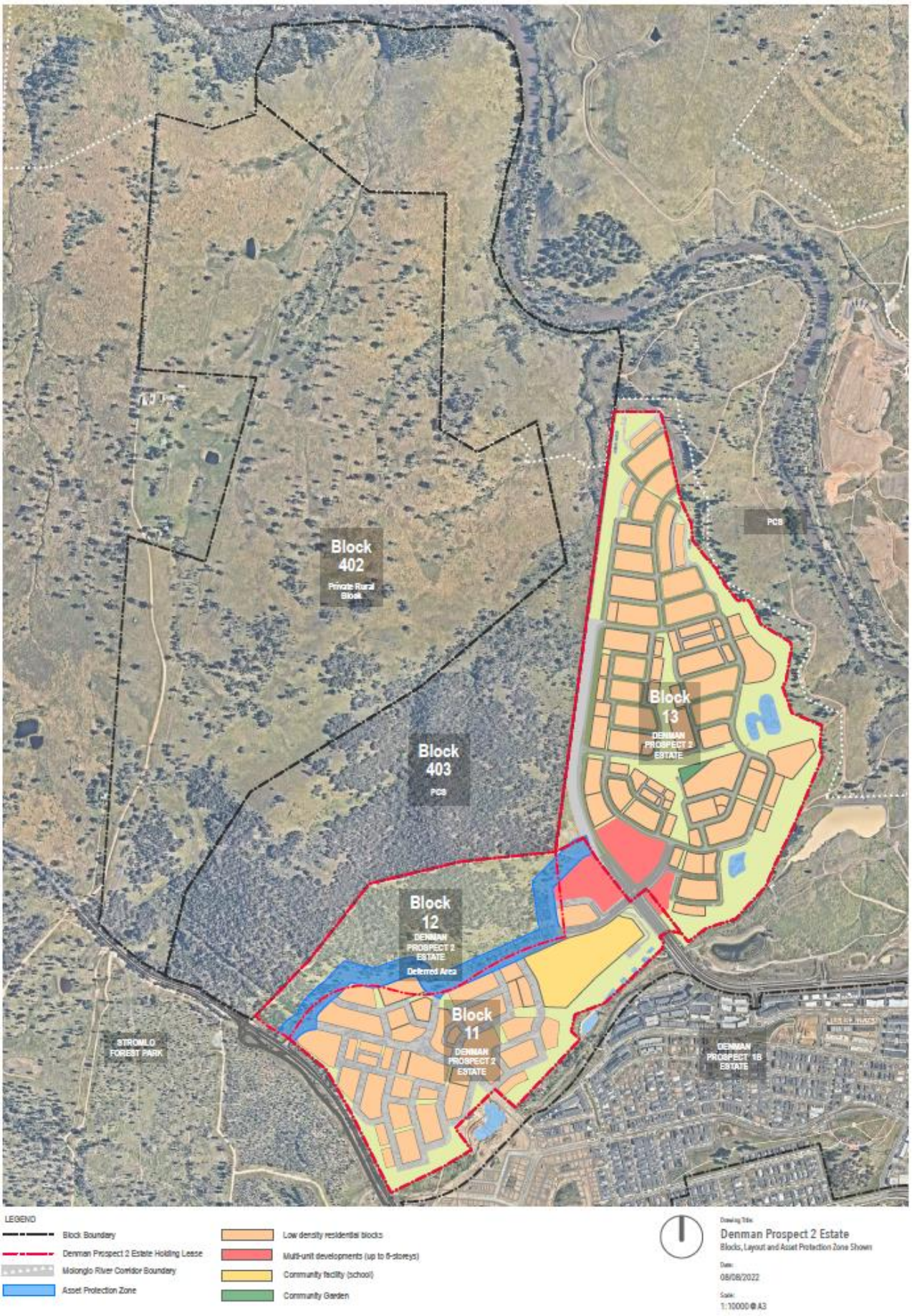

Figure 1 ***Current block boundaries for Stromlo Reach and Denman North***

1.1 Purpose of this report

The purpose of this report is to support development in Block 12 so that the proposed future land use is in an appropriate location to minimise the risk to life and property from bush fire attack and responds to the relevant Bushfire EIS agency comments received on 25th February 2022 (Attachment 1). Proposed development in Block 12 consists of residential lots, multi-unit sites and managed public open space (Figure 2). It will also include APZ, site preparation and infrastructure for this stage.

A detailed BPA for the overall development covering Blocks 11 and 12 will be prepared separately as part of the Estate Development Plan process.

1.2 Scope and limitations

The BPA has been prepared in accordance with the Strategic Bushfire Management Plan 2019 - 2024 (SBMP) and ACT Bushfire Management Standards (BMS), addressing the following:

– Bush fire landscape assessment
– Land use assessment
– Access and egress
– Emergency services
– Infrastructure
– Adjoining land.

The report considers the bush fire risk and the potential impact of potential development in the identified areas upon the wider infrastructure network to assess the appropriateness of the proposal in the bush fire hazard context. The report assesses the strategic implications for bush fire mitigation and management.

This report: has been prepared by GHD for Capital Estate Developments and may only be used and relied on by Capital Estate Developments for the purpose agreed between GHD and Capital Estate Developments as set out in section 1.1 of this report.

GHD otherwise disclaims responsibility to any person other than Capital Estate Developments arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.1.1

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section 1.3 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by Capital Estate Developments and others who provided information to GHD (including Government authorities)], which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

1.3 Assumptions

Information on the vegetation is based on ecological advice and mapping published on ACTMapi.

The layout on which this assessment is based has been provided by the client.

It is assumed that the site be managed lands and not revert to vegetated state unless otherwise specified.

1.4 Relevant documentation

In undertaking this bushfire risk assessment, the following has been considered:

– Planning and Development Act 2007;
– Emergencies Act 2004;
– ACT Strategic Bushfire Management Plan 2019 (SBMP v4);
– ACT Bushfire Management Standards 2014 (BMS); and
– Australian Standard 3959-2018 (AS 3959-2018) Construction of buildings in bushfire-prone areas.

1.4.1 Bushfire planning context

In the ACT the SBMP is the overarching strategic document that directs all levels of bushfire planning for the ACT. The SBMP is a 5 year plan, with the current Version 4 in effect until September 2024.Residential subdivision developments within a Bushfire Prone Area triggers the requirement for bushfire protection assessment. The Bushfire Prone Area maps are from the current strategic bushfire management plan (SBMP v4) and available online at ACTMapi (http://www.actmapi.act.gov.au).

SBMP v4 requires that new residential dwellings in a Bushfire Prone Area are to be assessed under AS 3959-2018 to determine the Bushfire Attack Level (BAL) and associated standards for bushfire construction. A minimum standard of construction to BAL-12.5 is required, and no leases for residential development will be permitted in locations rated as BAL-40 or BAL-FZ.

SBMP v4 also describes the broad area fuel reduction practices that are used to establish and maintain fuel loads across the landscape. These occur through the implementation of the Regional Fire Management Plan (RFMP) actions which balances bushfire fuel management with other values in the natural estate across the ACT.

The RFMP actions are delivered through annual Bushfire Operational Plans (BOPs) which detail the specific type, location and timing of fuel reduction, access and infrastructure activities proposed to be undertaken by the landholder.

One of the tools in broad area fuel reduction land management is through the establishment of Strategic Firefighting Advantage Zones (SFAZs). These aim to reduce the intensity and spread of fires across large areas of landscape and contribute to the success of firefighting under moderate weather conditions. Figure 3 shows that the residual land outside of the 60 m APZ in Block 12 can be classified as SFAZ.The implementation of a SFAZ in relation to proposed development is provided in Section 1.5.

1.5 Strategic Fire Advantage Zone

The SBMP states that a range of treatment strategies are applied to establish SFAZs, including:

– broad area, fuel-reduction burning, aiming to reduce fuel across multiple landscape elements
– managing green breaks in forested areas
– targeting broad area grazing
– slashing of rural and arterial roads, easements or boundary trails
– identifying naturally occurring areas of vegetation with inherent fuel loads.

SFAZs are implemented dynamically by land managers to minimise risks. The standards for treatments of SFAZs are described in the BMS. The SFAZ mitigation measure is incorporated into the Condition of Approval under the previous EIS Exemption Consideration Report (ACT Government 2017). Table 5a of the ACT BMS which specifies that the fuel management standard for broad area treatment in forest and shrubland areas is to achieve an overall fuel hazard ≤ high for a SFAZ. The SFAZ will be managed as per the 2017 Application for EIS Exemption Consideration Report, consistent with the Bushfire Risk Strategy – Molonglo Stage 3, Denman Prospect and the Molonglo River Corridor (Australian Bushfire Protection Planners, 2016) and includes planned burns, thinning and access arrangements through maintenance of fire trails for fire management purposes. The requirement for an overall fuel hazard ≤ high will be achieved through a combination of thinning and planned burning.

While the implementation of the SFAZ is not required to achieve the required bushfire protection measures as specified under SMBP v4, the implementation and management of the SFAZ to the specifications detailed in the ACT BMS will provide complimentary and enhanced bushfire protection for the proposed development in Block 12. The implementation of the SFAZ for Block 12 does not require the construction of any new fire trails. While the implementation of the SFAZ within Block 12 will be complementary with the implementation of the SFAZ within Block 403 (see Figure 3), the formalisation of Block 403 SFAZ is part of a separate process being undertaken by ACT Parks and Conservation Service.

2. Bushfire Threat Assessment

Planning the design and layout of new estates is an extremely effective way of reducing the bushfire risk facing residents. Appropriate estate design can mitigate bushfire risk and increase community resilience while assisting fire response. Bushfire-specific planning and construction requirements effectively minimise the bushfire risk in new greenfield estates. Estate design principles developed for the ACT are supported by fire management zones, which identify key areas on Territory and rural land that require specific fuel management actions to reduce risk to the urban area. Analysis of bushfire risk must consider the impact of bushfire on assets and the factors that influence how they start and spread.

A bushfire threat assessment process is required to allow for consideration of the BMS specifying widths for inner and outer asset protection zones, the fuel management requirements for fire management zones and the technical specifications for fire access roads.

2.1 Assessment requirements

The subject land is currently mapped as a Bushfire Prone Area by the ACT ESA (http://www.actmapi.act.gov.au) and the following assessment is undertaken in accordance with the BMS and Method 1 of AS 3959-2018.

As development progresses within the region, the Bushfire Prone Area map will be reviewed and updated as required to reflect changes in land use, tenure and the removal of bushfire hazards due to development. Future amendments may remove the requirement for dwellings to comply with bushfire construction measures (i.e. AS 3959-2018).

Determination of Asset Protection Zone (APZ) dimensions is guided by BMS, which defines the measurable outcomes of strategies detailed in the SBMP v4. The two stage process consists of an initial risk assessment matrix (Asset Interface Classification (AIC)) and the APZ determination matrix. The result determines the minimum size of the APZ.

2.2 Asset Interface Classification

The initial risk assessment, utilising the AIC matrix, provides a risk ranking used to determine the size of the APZ. The asset interface is classified as either Primary, Secondary or Lee based on the aspect (direction of fire threat) and potential length of fire run towards the asset. Table 1 shows the AIC matrix with the results highlighted, being primary to the north and west and lee to the south and east as a result of existing residential areas or areas under development.

Table 1 Asset Interface Classification Matrix

Length of fire run to asset interface (meters)			
Aspect of fire	<100	100 - 350	>350
North			Primary
East	Lee		
South	Lee		
West			Primary

Source: ACT Bushfire Management Standards (2014)

2.3 Vegetation

The existing mapped vegetation for the site and surrounding land is shown in Figure 2. Capital Ecology (2022) prepared an Ecological Impact Assessment (EIA) for the proposed development that included vegetation mapping. The mapping found that the study area supports two Plant Community Types (PCTs), PCT-ACT16 – *Eucalyptus melliodora* – *E.blakleyi* Tableland Grassy Woodland (classified as 'Woodland' vegetation for bushfire assessment purposes) and PCT-ACT25 *E. macrorhynca* Tableland Grass/Shrub Forest (classified as 'Forest' vegetation for bushfire assessment purposes). Additionally there are extensive areas of grassland vegetation to the west and south-west of the site.

Block 12 has minor areas of proposed development footprint (Figure 2). All other areas within Block 12 are not subject to residential development and will be managed as APZ or as a Strategic Fire Advantage Zone (SFAZ) (see Figure 3).

Details on the proposed APZ and SFAZ are provided in Sections 3.1 and 1.5 respectively.

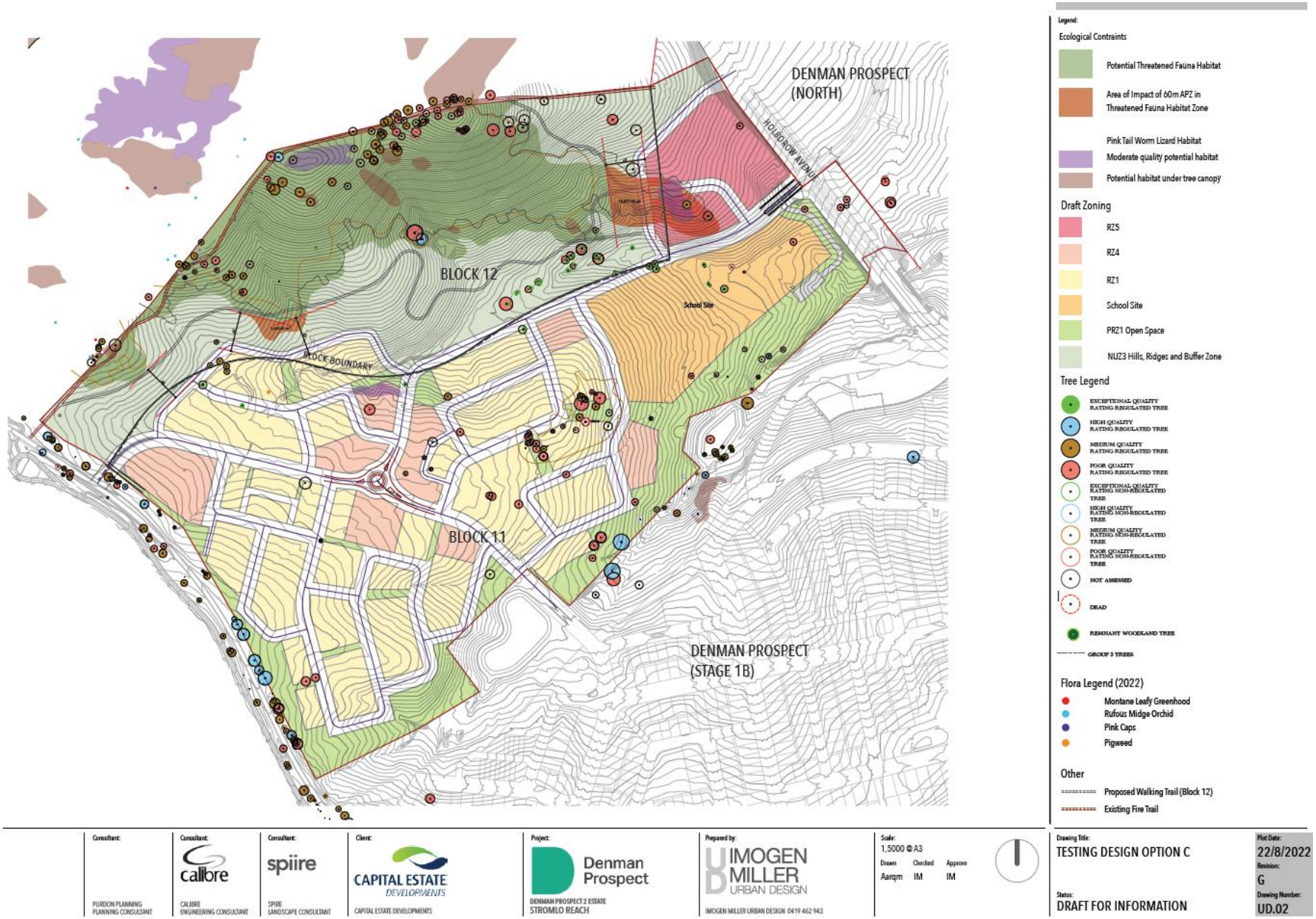

Figure 2 Proposed development design

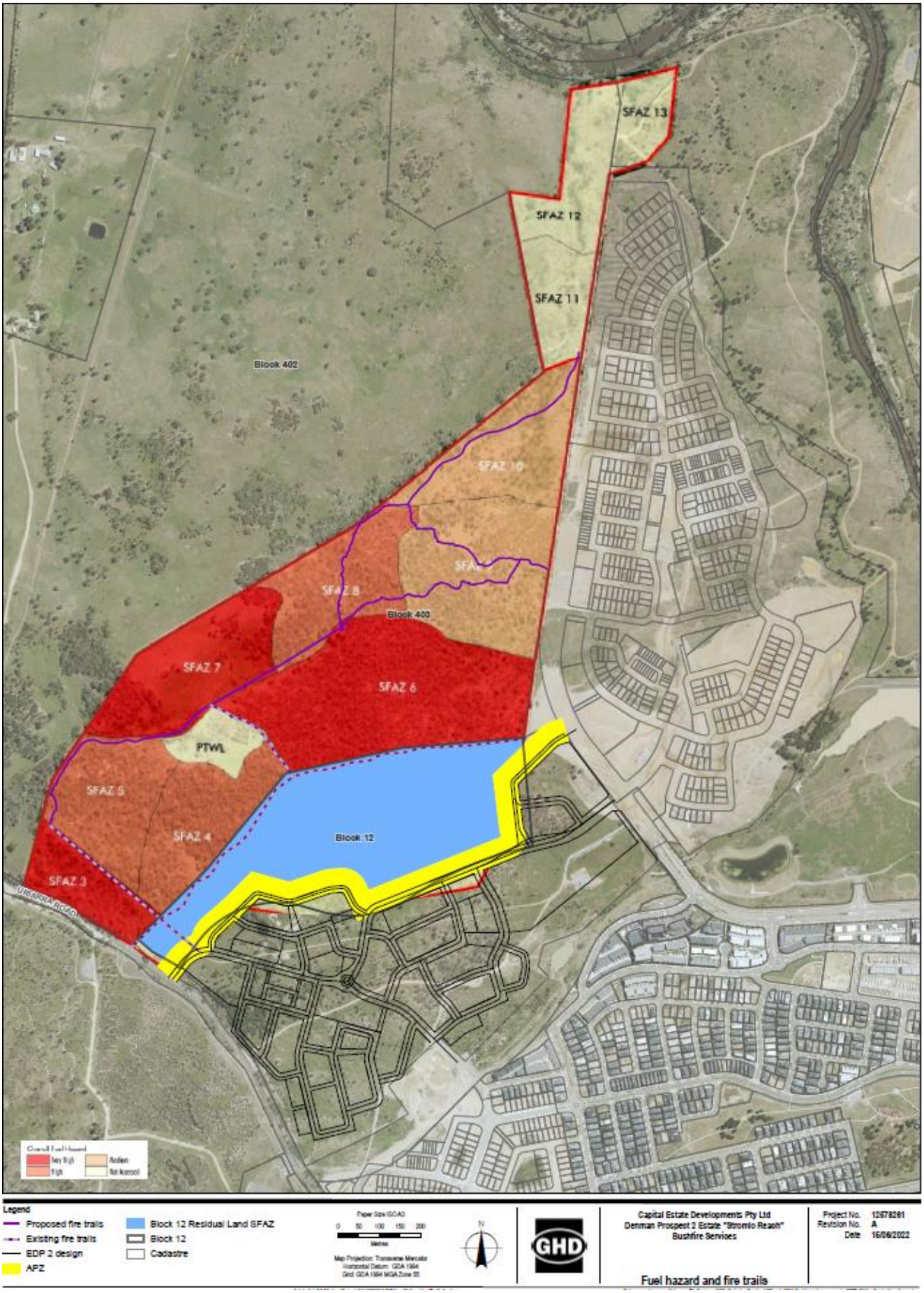

Figure 3 *Proposed SFAZ and APZ in Block 12*

3. Bushfire Protection Measures

The design and layout of subdivisions and developments must reduce the vulnerability of dwellings and residents from the impact of a bushfire. New greenfield estates in the ACT must provide that all blocks on which residential uses are permitted must not face a Bushfire Attack Level (BAL) greater than BAL-29, and also provide suitable access arrangements, services (water, electricity, gas) that consider bushfire requirements and landscaping so that a bushfire hazard is not created. As a standard approach, any intensively managed APZs required to achieve that level must be located within the footprint of the area to be developed. This section provides the recommended bushfire protection measures required to support urban development in Block 12. Due to the design of the proposed development and intersection with development within Block 11, the assessment of required measures addresses the footprint as a whole.

3.1 Asset Protection Zones

APZs are typically determined by AIC and vegetation type, being forest / woodland or grass and open woodland. They can either contain an Inner APZ (IAPZ) and Outer APZ (OAPZ) or an Inner only APZ. Where both Inner and Outer APZs are utilised, the IAPZs is to be located within the development site while the OAPZ may be located on adjacent lands. Where the adjacent land cannot provide the required OAPZ management e.g. because of operational constraints, conflict with management of high conservation value ecological assets, financial resources or other land management constraints, the IAPZ only option may be used.

The application of these zones has been discussed with ACT Government agencies (ESA and PCS) and provides the following APZs based on the BMS and AS 3959:2018.

For the north western and northern boundaries, a 60 m IAPZ as identified in a Bushfire Risk Strategy Molonglo Stage 3, Denman Prospect and the Molonglo River Corridor (Australian Bushfire Protection Planners Pty Ltd, 2016) has been applied. This 60 m APZ is applied for the full length of the boundary.

For the south western boundary, a 10 m IAPZ is applied from the BMS based on grass and open woodland vegetation and a lee AIC. The adjoining development to the east and south east has resulted in the bushfire hazard from this aspect being permanently removed, with any open spaces under management.

Figure 4 displays the required IAPZ based on the classification system from Table 2 and Table 3 or as specified in the Bushfire Risk Strategy Molonglo Stage 3, Denman Prospect and the Molonglo River Corridor (Australian Bushfire Protection Planners Pty Ltd, 2016).

Table 2 Asset Protection Zone requirements

Aspect	Vegetation type (BMS)	Asset Interface Classification	Inner APZ (m)
North	Forest and woodland	Primary	60
East	Developed/under development (Grass and open woodland)	Lee	NA
South-west	Grass and open woodland	Lee	10
North-west	Forest and woodland	Primary	60

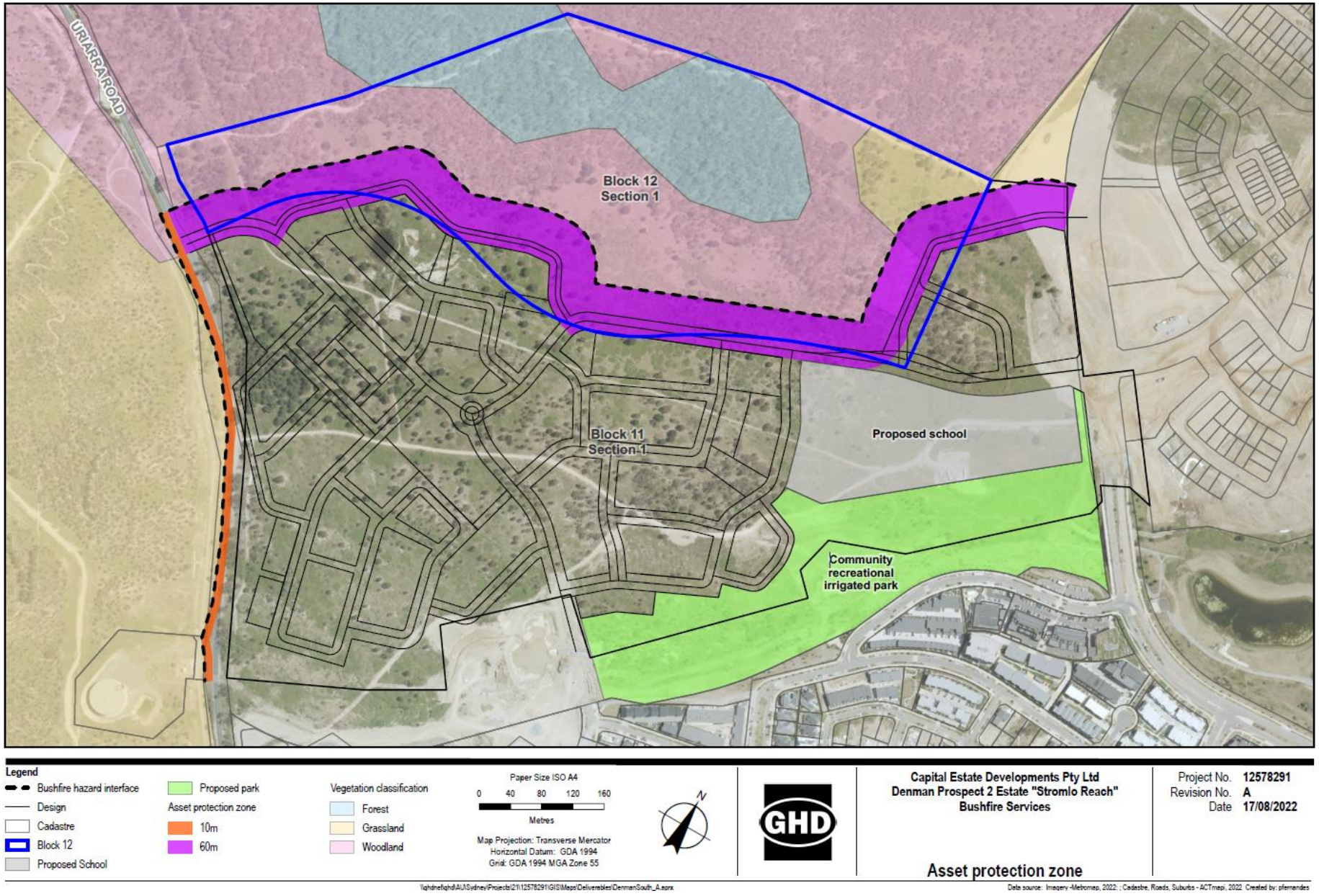

Figure 4 Asset Protection Zones

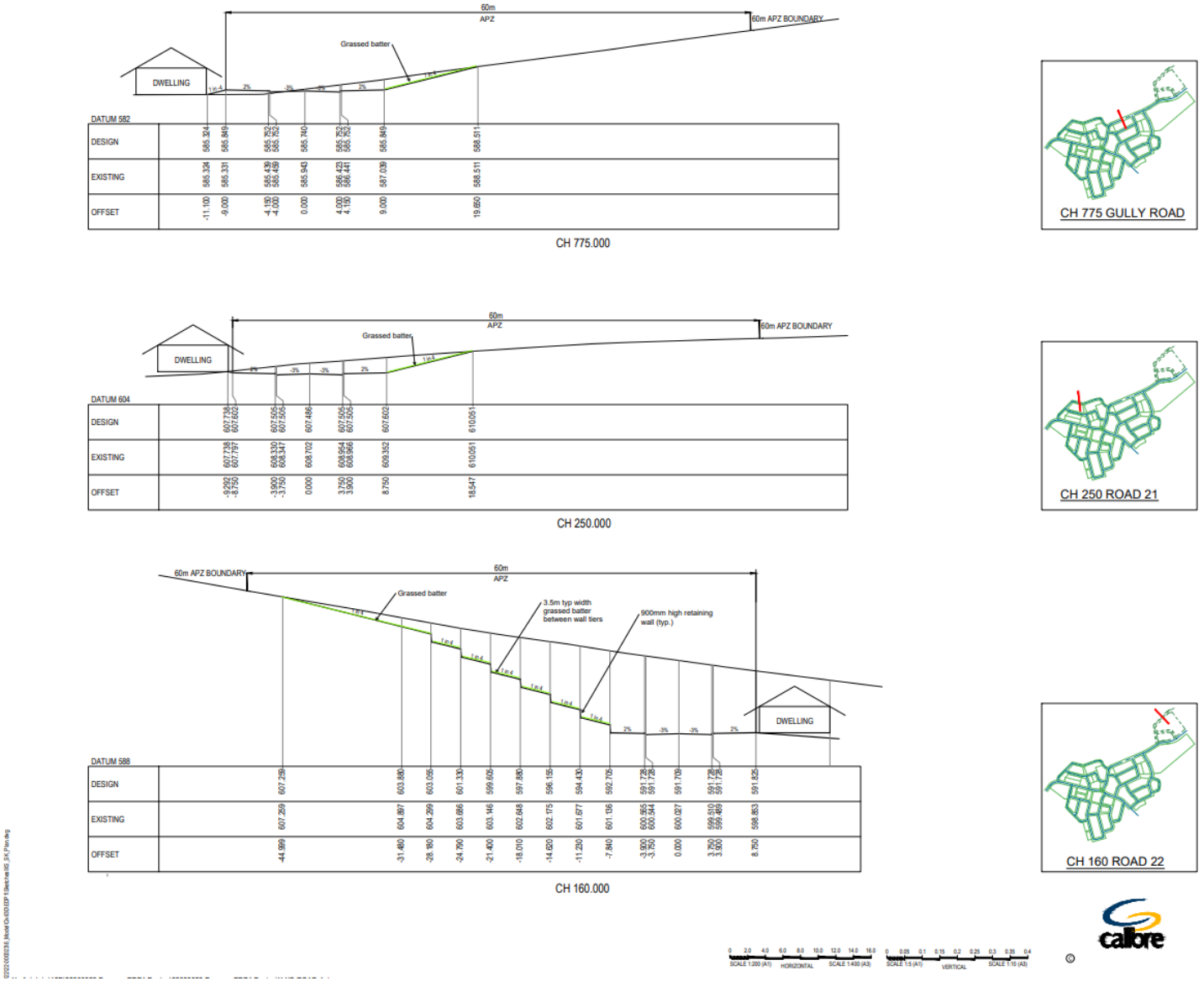

Figure 5 Cross sections showing APZ slope

3.2 APZ maintenance plan

The design and location of the proposed IAPZ has been undertaken to avoid any slopes exceeding 18 degrees so that maintenance to the required standards can be applied. Figure 5 shows various cross sections at the urban edge interface demonstrating that the slope within the APZ does not exceed 18 degrees.

The fuel management practices to be implemented within the APZ shall be as follows in accord with the ACT BMS:

– For forest and woodland – maintained at an overall fuel hazard ≤ low, with 3 – 5 m canopy separation or fuel gap to crown > 3 m maintained;

or

– For grass and open woodland - All APZs will require regular slashing of grass fuels to a maximum height of 200 mm before the start of the bushfire season (generally 1st October) and maintained at this maximum height when grassland curing is ≥ 70 per cent.

When establishing and maintaining an APZ the following requirements should also apply as applicable:

– 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;
– preference should be given to smooth barked and evergreen trees;
– avoid connective pathways across the ground toward a building;
– small, isolated clumps needs to be site specific in design;
– avoid creating fuel ladders (shrubs, bark, dropped branches, leaves etc.);
– select suitable plants (low flammability, avoid dense and elevated fine fuels);
– no plants near vulnerable building components (windows, decks); and
– leaves and vegetation debris should be removed.

All managed open space within Block 12 will require vegetation design and management to meet IAPZ or low hazard standards under the BMS and AS 3959-2018, including those open space areas not identified as IAPZ on Figure 4**.** Failure to achieve this standard may result in higher bushfire protection standards and costs being required.

3.3 Construction Standard

If a building is to be constructed without complying with the AS 3959-2018 standard, it will need to be located outside of any mapped Bushfire Prone Area. This mapping is undertaken and reviewed by ESA; consultation should occur to discuss the progressive removal of this as Denman Prospect is developed. This will ensure future buildings located more than 100 m from a bushfire hazard are not constructed to an unnecessary standard.

Figure 6 shows preliminary BAL mapping required for varying distances from the subject site boundary using the fuel loads for forest and grassland vegetation from AS 3959-2018 based on vegetation communities mapping identifying the predominant vegetation as Forest and Grassland. The preliminary BAL assessment assumes that any public open space within the subject site is either managed or separated from residential development in a manner that it does not constitute a future bushfire hazard under AS 3959-2018 or the SBMP v4.

Over time, as future residential development occurs internally and externally to the site, APZ and BAL requirements will change. The final BALs will require approval by ESA.

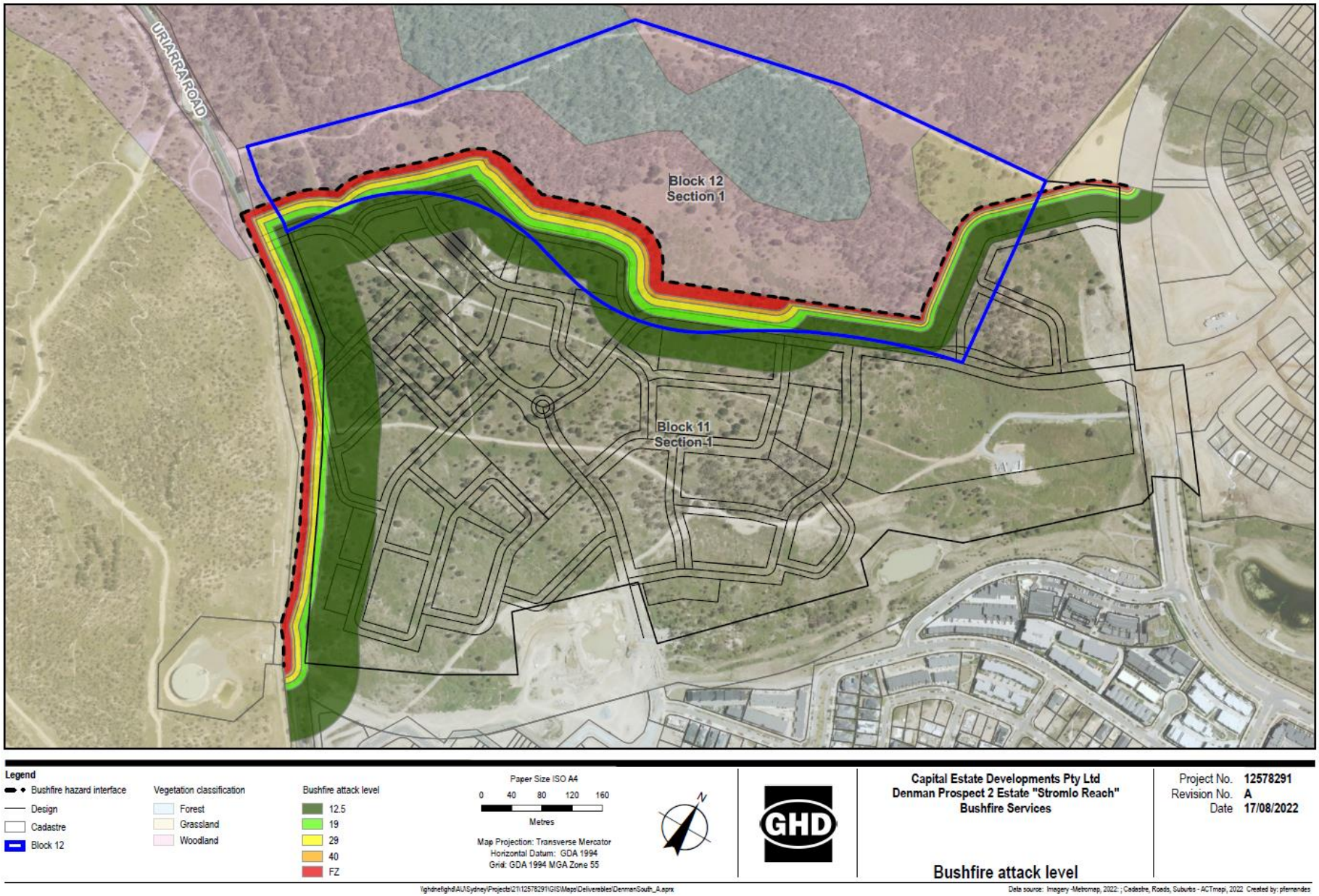

Figure 6 Bushfire Attack Level assessment

3.4 Water Supply

The site will be serviced by reticulated water. Requirements for utility services in urban areas are described in BMS (Table 12) and are addressed below in Table 3.

Table 3 Performance criteria for water supply

Performance criteria	Acceptable solutions	Compliance
Water supplies are easily accessible and located at regular intervals	The Water and Sewerage Network (Design and Maintenance) Code of the Utilities Act 2000 requires the fire-fighting requirements are able to be met. A deed of agreement exists between ICON and ACTF&R in relation to water supply in the built up area. This agreement details operative provisions which cover: • Fire Hydrants – general provisions • Flow rates • Fire risk classification and fire hydrant spacings • Fire hydrant testing and maintenance • Fire hydrant system shutdown / isolation • Connection to domestic supplies • Water usage by ACTF&R and ACTRFS • Provision of plans showing location of fire hydrants on the water network • Amendments to water supply standards The deed of agreement is currently under review by both parties. Exposed pipes - All aboveground water pipes shall be metal as specified in AS 3959-2018	Can comply. Reticulated

3.5 Utilities

Any aboveground gas pipes shall be metal as specified in AS 3959-2018. This can be achieved within the proposed site.

There are no criteria to be addressed for electrical supplies however, they should be underground where possible.

3.6 Access and egress

As indicated on Figure 2, there are 4 entry and exit points proposed for the site, two on Holborow Avenue to the east, one onto Uriarra Road to the west and into existing development to the south. Multi-unit sites will be required to meet ACT Fire and Rescue Access Requirements for Rear Lanes and Unit Complexes as specified in ESA Reference 2020032.

The performance criteria requirements for access standards for public roads for new estate development are specified in Table 10 of the ACT (provide below as Table 4) and form the basis for the assessment of the proposed access arrangements for the proposed development.

Table 4: Access standards for public roads for new estate development

Performance criteria requirement	Acceptable solutions
Firefighters are provided with safe all-weather access to Bushfire Prone Areas and assets.	Refer to ESDD Estate Development Code March 2012. Public roads are two-wheel drive, all-weather roads.
Public roads widths and design allow safe access and egress for firefighters while residents are evacuating an area. Public road widths allow firefighting crews to work with firefighting equipment around the vehicle, and to allow other vehicles to pass with safety.	Edge road required for all new subdivisions and developments. Alternate solutions will be considered on merits of safety to public and emergency service personnel. Urban edge roads are two-way – that is, at least two traffic lane widths (carriageway 7.5m minimum kerb to kerb), allowing traffic to pass in opposite directions, with parking provided in designated parking bays clear of the carriageway. Hydrants are located clear of parking bays. The edge road is linked to the internal road system at an interval of no greater than 500m in urban areas. Traffic management devices are constructed to facilitate access and egress by emergency services vehicles. Public roads have a cross-fall not exceeding 6%. All roads are through roads. Dead-end roads are not recommended but, if unavoidable, dead ends are not more than 200m in length, incorporate a minimum 24-m-diameter unobstructed turning circle, and are clearly signposted as a dead end and direct traffic away from the hazard. Curves of roads (other than perimeter roads) are a minimum inner radius of 6m and minimal in number, to allow for rapid access and egress. The minimum distance between inner and outer curves is 6m. Maximum grades for sealed roads do not exceed 28%, and an average grade of not more than 18% or other gradient specified by road design standards, whichever is the lesser gradient. There is a minimum vertical clearance to a height of 4.2m above the road at all times. Roads are clearly signposted (with easily distinguishable names), and buildings and properties are clearly numbered. In designated Bushfire Prone areas, cul-de-sac road design is generally not encouraged. Where they are used, however, they should not exceed 200m in length. In some instances, it may be possible to provide emergency access between cul-de-sac heads so that residents and firefighters have two-way access and egress. In this case and provided it does not service more than 8 lots, the maximum length of a cul-de-sac can be increased to 600m. Turnaround areas should allow fire appliances to turn around safely and should be available at cul-de-sac heads, house sites and at 250m intervals along driveways and fire service accesses. Emergency accesses may be used to link up with roads to allow alternative access and egress during emergencies where traffic flow designs do not allow for two-way access. The access should comply

Performance criteria requirement	Acceptable solutions
	with minimum standards for roads and should be signposted. If gates are used to control traffic flow during non-emergency periods, they must not be locked.
The capacity of road surfaces and bridges is sufficient to carry fully loaded firefighting vehicles.	The capacity of road surfaces and bridges is sufficient to carry fully loaded firefighting vehicles (approximately 30 tonnes for aerial appliances and 25 tonnes for tankers.). Bridges shall be signposted to clearly indicate load rating.
There is clear access to reticulated water supply.	Internal public roads 6.5m wide provide parking within parking bays, and locate services outside of the parking bays to ensure accessibility to reticulated water for fire suppression. Internal public roads between 6.5m and 7.5m are signposted as 'No Parking' on one side, with the services (hydrants) located on this side to ensure accessibility to reticulated water for fire suppression. One-way only public access roads are no less than 3.5m wide and provide parking within parking bays, and locate services outside of the parking bays to ensure accessibility to reticulated water for fire suppression.
Parking does not obstruct the minimum paved width.	Parking bays are a minimum of 2.6m wide from kerb edge to road pavement. No services or hydrants are located within the parking bays. Public roads directly interfacing the bushfire hazard vegetation shall provide roll-top kerbing to the hazard side of the road.

3.7 Landscaping and bushfire maintenance plans

For all areas excluding the SFAZ as identified in Figure 3 within Block 12, any proposed landscaping and management of open spaces or residual areas is required to consider bushfire risk in determining location, species, density, extent and ongoing maintenance. This should be incorporated into the detailed landscaping plan so as to avoid increasing future bushfire risks. All open space within the site will require vegetation design and management to meet IAPZ or low hazard standards under AS3959.

4. Recommendations and Conclusion

4.1 Recommendations

The proposed development is required to address bushfire prevention measures identified within this report and summarised below:

Recommendation 1- Asset Protection Zones are to be provided in accord with Figure 4 and Table 2 Asset Protection Zone requirements;

Recommendation 2- Access to meet the specifications detailed in Section 3.6

Recommendation 3- Water supply is required to meet the Utilities Act 2000 as detailed in Table 3;

Recommendation 4- Electrical services should be underground;

Recommendation 5- Any gas services are to be installed and maintained in accordance with Section 5.8 of AS 3959-2018;

Recommendation 6- APZ landscaping is to comply with the ACT BMS fuel management standards for Inner APZ (see Section 3.2) and be guided by the fuel management principles listed in Section 3.7 of this report.

4.2 Conclusion

In the author's professional opinion, the minor extent of urban development and APZ in Block 12 is in an appropriate location to minimise the risk to life and property from bush fire attack. The proposed development can comply with all bushfire planning requirements if the above recommendations are incorporated into the proposed development.

5. References

ACT Strategic Bushfire Management Plan 2019-2024 (SBMP v4) ACT Emergency Services Authority, Canberra.

ACT Government. 2014. ACT Bushfire Management Standards 2014 (BMS) ACT Emergency Services Authority, Canberra.

ACT Government. (2017). Denman Prospect Deferred Area and Bushfire Protection Zone Application for EIS Exemption Consideration Report, March 2017.

Australian Bushfire Protection Planners Pty Ltd (ABPP). (2016). Bushfire Risk Strategy Molonglo Stage 3, Denman Prospect and the Molonglo River Corridor. Prepared for the Land Development Agency.

Capital Ecology. (2022). Denman Prospect 'Deferred Area' Ecological Impact Assessment. Draft 05 – August 2022 Prepared for Capital Estate Developments Capital. Authors: C Ross and R Speirs. Project No. 3072

Standards Australia. 2018. Construction of buildings in bushfire-prone areas, AS 3959-2018, Standards Australia International Ltd, Sydney

Attachments

Attachment 1

Summary of comments on Draft EIS report from EPSDD

Table 5: Summary of comments on Draft EIS report from EPSDD in letter dated 25 February 2022 from Dominic Riches and Combined entity comments.

No.	Comment	May 2022 Updated response	Section
	EPSDD Comments		
	Proposal Details		
3	The report simply notes the site is characterised by steep north to south slopes. Provide additional details of the topography of the site, such as calculations of the average slope across the entire site, for the proposed Strategic Fire Advantage Zone (SFAZ) and Asset Protection Zones (APZs) and the urban area. When addressing entity comments from the Emergency Services Agency (ESA), consideration should be given to the ability for bushfire protection activities (such as maintenance of APZs) to be undertaken in these areas.	Section 3 of the report details the bushfire protection measures to be applied. Please see Figure 5 for detailed cross sections of proposed APZ indicating that no slopes will exceed 18 degrees.	Section 3.1, 3.2, 1.5
5	Note that any impacts beyond the northern and western boundaries of the deferred area are not covered by existing Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) approval. Any impacts to matters of national environmental significance outside the Molonglo Strategic Assessment area (including APZ/SFAZ) may require consideration under the EPBC Act.	The establishment of the SFAZ within Block 403 is required irrespective of this project and is not being considered as part of this project. The 2017 s211 assessed the impacts of establishing the SFAZ. Works to establish the SFAZ may be subject to separate DA.	

No.	Comment	May 2022 Updated response	Section
	Assessing Impacts for the Preliminary Risk Assessment (PRA)		
16	Bushfire It is noted that a supplementary bushfire statement prepared by EcoLogical Australia reviewing the conditions of the 2017 EIS exemption was provided with the application. This statement does not outline the bushfire risks and associated environmental impact of the current development proposal. Please provide a full bushfire assessment for the project, conducted by an appropriately qualified person with relevant expertise and experience. The assessment must outline the bushfire risk of the proposal and recommend appropriate mitigation measures, including the indicative location and management standards for all APZs and SFAZs. Further information on bushfire risk and mitigation measures is required. Refer to comments from the ESA (see attached entity comments).	This report (Bushfire Protection Assessment GHD 2022) details the bushfire risk (threat) of the proposal (Section 2), recommend appropriate mitigation measures (Section 3), including the indicative location (Figure 3) and management standards for all APZs (Section 3.2) and SFAZs (Section 1.5)	All
	Conservator		
21	The management of the Strategic Fire Advantage Zone (SFAZ) adjacent Denman Prospect should be undertaken in zones delineated by different vegetation and habitat assemblages. If fuel treatments are to be undertaken at different times and intensities across this area then there will be a requirement for a trail that allows for discontinuous fuel management and access for firefighting appliances. The impacts of such trails will need to be considered by this process as these fire management activities would not be undertaken if not for the Denman Prospect estate.	This proposal does not require the establishment any new fire trails to establish the SFAZ within Block 12 as existing fore trails will be utilised to meet management standards.	Section 1.5

No.	Comment	May 2022 Updated response	Section
	ESA		
23	Layout of proposed development stage including definition of lots proposed for Asset Protection Zones (APZs) Proposed Construction level of dwellings under AS 3959 Design incorporating an edge road, and APZs < 18 degree slope, which are accepted by TCCS as maintainable by normal practices (mowing or slashing rather than brush cutting on steep slopes).	This report (Bushfire Protection Assessment GHD 2022) details the bushfire risk (threat) of the proposal (Section 2), recommend appropriate mitigation measures (Section 3), including the indicative location (Figure 3) and management standards for all APZs (Section 3.2) and SFAZs (Section 1.5). An indicative Bushfire Attack Level (BAL) assessment (Section 3.3) has been undertaken and indicates that the proposed development can achieve a maximum BAL-19 exposure due to the 60m APZ. Figure 5 illustrates that the APZ and road design will be <18 degree slope.	Section 2; Section 3

ghd.com

The Power of Commitment