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Hazard Management Area Advice: Parnella Reserve, Payeena Reserve & Samuel Thorne Reserve. Dodges Ferry & Lewisham

**Sorell Council** 

January 2024



#### Sorell Council – Hazard Management Area Advice: Parnella Reserve, Payeena Reserve & Samuel Thorne Reserve. Dodges Ferry & Lewisham

Cover photo: Samuel Thorne Reserve – Lewisham, 7173, TAS (Fire Risk Consultants)

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Any fire safety work, including but not limited to planned burning, back burning and/or fire suppression, on any property or building is specifically excluded from this report.

Where the term **"Bushfire prevention and mitigation related activities"** (or words to that effect) are used, this is to be defined as the clearance of vegetation in accordance with the Tasmanian State Government guidelines and standard, including clearing and maintenance of existing fire breaks and/or fire access for fire fighters under electricity pylons and properties that have been constructed to Australian Standard AS3959 and/or the National Construction Code.

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## Glossary

To promote the use of common terminology, the Australasian Fire and Emergency Services Authority Council (AFAC) Bushfire Glossary, and Director's Determination - Bushfire Hazard Areas version 1.1 will be used as reference in this report.

Term	Meaning
AS 3959	AS 3959 Construction of buildings in bushfire-prone areas specifies requirements for the construction of buildings in bushfire-prone areas in order to improve their resistance to bushfire attack from burning embers, radiant heat, flame contact and combinations of the three attack forms.
Asset	A term used to describe anything valued by the community that may be adversely impacted by bushfire. This may include houses, infrastructure, agriculture, production forests, industry, and environmental and heritage sites.
Bushfire	An unplanned fire burning vegetation.
Bushfire Attack level (BAL)	Bushfire attack level (BAL) means the bushfire attack level for a building site determined by a bushfire hazard practitioner in accordance with AS 3959.
Bushfire hazard	The potential or expected behaviour of a bushfire burning under a particular set of conditions, i.e., the type, arrangement and quantity of fuel, the fuel moisture content, wind speed, topography, relative humidity, temperature, and atmospheric stability.
Bushfire-prone area	<ul> <li>(a) land shown on an overlay map in the relevant Local Provisions Schedule, as within a bushfire-prone area; or</li> <li>(b) where there is no overlay map in the relevant Local Provisions Schedule, land that is within 100m of an area of bushfire-prone vegetation equal to or greater than 1ha.</li> </ul>
Bushfire risk management	A systematic process to coordinate, direct and control activities relating to bushfire risk with the aim of limiting the adverse effects of bushfire on the community.
Consequence	Impact(s) of an event on the five key areas: environment, economy, people, social setting, and public administration.
Fuel	Any material such as grass, leaf litter and live vegetation which can be ignited and sustains a fire. Fuel is usually measured using the Overall Fuel Hazard Assessment Guide 4th ed. 2010 DSE.
Fuel break	A natural or manmade change in fuel characteristics which affects fire behaviour so that fires burning into them can be more readily controlled.
Fuel management	Modification of fuels by prescribed burning or other means.
Fuel reduction burning	The planned application of fire to reduce hazardous fuel quantities; undertaken in prescribed environmental conditions within prescribed boundaries.
Hazard Management Area	The area between a habitable building or building area and bushfire-prone vegetation, which provides access to a fire front for firefighting, which is maintained in a minimal fuel condition and in which there are no other hazards present which will significantly contribute to the spread of a bushfire.
Likelihood	Chance of something happening. It is used as a general description of probability and may be expressed qualitatively or quantitatively.
Risk treatment	Process of selection and implementation of controls to modify risk. The term 'risk treatment' is sometimes used for the controls themselves.
Tolerable risk	The lowest level of likely risk from bushfire to secure the benefits of a use or development in a bushfire-prone area, and which can be managed through routine regulatory measures or by specific hazard management measures for the intended life of each use or development.

#### **Executive summary**

An assessment of Payeena Reserve, Parnella Reserve, and Samuel Thorne Reserve all managed by Sorell Council (Council) was undertaken on 15<sup>th</sup> January 2024 by Fire Risk Consultants. All three reserve are located within the human settlement areas of Dodges Ferry and Lewisham, Tasmania.

The objective of the assessments was to Identify areas suitable for hazard management area installation and provide a series of recommended hazard management area prescriptions aligned with industry best practices.

The scope of the assessments was Council owned and/or managed land only. No site assessments were undertaken on private property, nor detailed assessments of habitable buildings to identify if they were constructed to legislated bushfire requirements introduced in 2012. Some buildings however did appear to predate the legislated bushfire requirements and appeared to have minimal resistance to bushfire attack mechanisms, particularly ember attack. Formalised bushfire attack level (BAL) assessments were not undertaken as part of this report.

Locations were assessed against industry best practices including Tasmanian State Government guidelines for hazard management areas whilst understanding that Council is an asset manager and cost efficiency during establishment and perpetual maintenance of hazard management is essential.

The broad findings of this report include:

- Five locations were assessed across three reserves. All five locations were identified to be recommended to be managed as hazard management areas;
- Of the five areas, all included some form of existing vegetation modification making installation of the recommended hazard management areas less complex;
- Two of the three reserves were either partially or entirely mapped as bushfire-prone under the Tasmanian Planning Scheme Sorell Local Provisions. If a location is not mapped within a bushfire-prone areas overlay, it does not mean that there is no bushfire risk;
- All three reserves included some low threat vegetation due to factors such as low flammability vegetation or vegetation that is managed in minimal fuel condition; and
- Four key recommendations have been included within this report to enhance Council's asset management of hazard management areas whilst allowing Council to manage each hazard management at the lowest possible price without compromising quality and safety.

Implementing each of the four key recommendations is highly achievable for Council. Each recommendation is based on industry best practice. Through implementing the key recommendations, a higher level of protection of life and property within and adjacent to each bushland area can be accomplished and should not have a detrimental impact towards biodiversity or the natural environment.

Upon request Fire Risk Consultants can support Council by planning, project managing and delivering on-ground works to install some or all the hazard management areas recommended within this report.

Fire Risk Consultants are heavily involved in on-ground vegetation and fire trail management projects for our clients, utilising tractor-mounted slashers, posi-track mulchers and forestry machines to achieve effective fuel modification outcomes and fire trails, all with ecologically suitable outcomes and complaint with State Government guidelines.

#### **1** About Fire Risk Consultants

Fire Risk Consultants offers a range of operational and strategic services in the Fire, Emergency Management, Risk and Community sectors.

Our services include nationally recognised training, fire protection planning for built and natural assets in the Australian environment, asset protection plans, bushfire fuel management plans, fire protection plans, risk management plans and land management strategies using fire as an effective management tool.

We are also heavily involved in on-ground vegetation management and fire trail management projects for our clients, utilising tractor-mounted slashers, posi-track mulchers and forestry machines to achieve effective fuel modification outcomes and fire trails all complaint with State Government guidelines.

We have experience working with Local and State Governments across Australia and continue to provide assessments of bushfire risk in high-risk locations along with ecologically suitable treatments to reduce bushfire risk.

#### 2 Purpose

This report is intended to provide information to Sorell Council (Council) in relation to Parnella Reserve, Payeena Reserve, and Samuel Thorne Reserve. It will identify recommended locations for hazard management areas to be installed to reduce bushfire risk to adjacent habitable buildings on private property.

The scope of this report is only Council owned and/or managed land known as Parnella Reserve, Payeena Reserve, and Samuel Thorne Reserve in the human settlement areas of Dodges Ferry and Lewisham. Land outside these areas or land not managed by Council is outside this report's scope.

#### **3** Introduction

This report has been prepared by Fire Risk Consultants (FRC) for Council. This report was prepared during January 2024 and is guided by information obtained through on-ground site assessments by FRC.

This report includes information on the assessment of bushfire risk and identifies and prioritises opportunities for installation of hazard management areas to reduce risk.

A hazard management area is an area of defendable space around a dwelling or other habitable building that provides access to a fire front for firefighting. Hazard management areas are maintained in a low fuel condition with no other hazards present that will significantly contribute to the spread of a bushfire.

On-ground site assessments were based on industry best practices and assessed:

- Vegetation and effective slope;
- bushfire attack mechanisms and likely direction of fire attack to adjacent habitable buildings;
- reducing long term maintenance costs to each recommended hazard management area site; and
- enhanced asset management for Council.

Hazard management areas managed by Council should be designed and maintained to industry best practices (Appendix A of this report). This includes the construction, reinstatement or maintenance of hazard management areas on Council owned and/or managed land.

This report summarises the site assessments findings and includes prioritised recommendations (Table 4) for the installation of new hazard management areas.

This report also provides four key recommendations (Section 11) to enhance Council's asset management system. By implementing these recommendations, it should allow Council to manage each hazard management area at the lowest possible price without compromising quality and safety.





#### 4 Aims and objectives

As an occupier of land Council has duties under the *Fire Service Act 1979* to take diligent steps to prevent any fire lit on its property during a fire permit period from spreading. The aim of this report is to support Council fulfilling this requirement.

The objectives of this report are:

- 1) Identify areas suitable for hazard management area installation; and
- 2) Provide a series of recommended hazard management area prescriptions aligned with industry best practices.

#### 5 The Australian bushfire environment

Bushfire has been a constant and natural phenomenon in Australia for many thousands of years. South-eastern Australia, including Tasmania, is particularly prone to fire and is regarded as one of the most bushfire-affected regions in the world. Fire is an important and natural component in the management and renewal of biodiversity and habitat. If uncontrolled, however, its effects can be catastrophic (Tasmanian State Bushfire Safety Policy, 2014).

Approximately 98% of Tasmania is considered bushfire-prone meaning the likelihood is high for Tasmania to be impacted by bushfires and that management of risk is fundamental to bushfire safety; however, bushfire risk can never be completely removed and there is an increased need for enhanced community safety and resilience from bushfires.

Tasmania's high bushfire risk is the result of factors that increase the likelihood and consequences of fire. These factors include large areas of the state comprising of highly flammable dry eucalypt forest, protracted droughts, and an increasing population density in bushfire-prone areas.

While bushfire is a significant risk facing Tasmania, it is also a natural part of the environment and many plant species rely on fire to regenerate.

A variety of causes can ignite a bushfire; some bushfires result from events that are natural, such as lightning, while others result from human activity. Following ignition, the direction and speed of the fire's travel, and the height and intensity of the flames are determined by climatic and weather conditions, topography and fuel available to burn in the area.

Tasmania has two main vegetation types affecting the spread of bushfires, grass and forest. Grass fires are predominantly wind driven and spread rapidly under the influence of strong winds. Grass fires burn at a lower intensity and flame height than forest fires and burn out quickly. Grass fires can often be quickly extinguished with water.

In contrast, forests have more fuel (leaf and bark litter on the ground, shrubs, grasses and trees) available for a fire to burn. Wind speeds are lower in the forest and forest fires take some time to reach their full potential. However, once fully developed, forest fires usually have a greater flame height and intensity than grass fires, especially where the flames are burning the tree canopy. Forest fires can be difficult to extinguish, especially when they burn at higher intensities.

While the weather and topography in an area cannot be modified to reduce the fire hazard, a reduction in the flammable fuels in an area can reduce bushfire intensity. Reduced flame height and intensity makes it safer and easier for firefighters to suppress a forest fire.

Infrastructure such as roads and fire trails can also increase the speed of bushfire response, allowing firefighters to suppress a fire safely and effectively before it reaches maximum intensity and flame height.

## 6 Methodology

FRC undertook both on-ground and desktop assessments of each reserve to identify potential bushfire risks to habitable dwellings directly adjacent on private property. On-ground site assessments were undertaken on 15<sup>th</sup> January 2024.

Assessments paid particular attention to the vegetation managed by Council and its potential bushfire attack mechanisms (Section 7.1 of this report) to the habitable dwellings. This included if the vegetation within each reserve was mapped as bushfire-prone on a planning scheme overlay.

No site assessments were undertaken on private property, nor detailed assessments of habitable buildings to identify if they were constructed to legislated bushfire requirements introduced in 2012. Some buildings however did appear to predate the legislated bushfire requirements and appeared to have minimal resistance to bushfire attack mechanisms, particularly ember attack.

Formalised bushfire attack level (BAL) assessments were not undertaken as part of this report.

Distances and slope (in degrees) were measured using a Nikon Laser Forestry Pro II Laser Range Finder.

Overall fuel hazard ratings were identified using the Overall Fuel Hazard Assessment Guide 4th Edition.

Data was captured using both Theodolite AR Navigation Viewfinder, and Avenza Maps. Theodolite AR Navigation Viewfinder is a multi-function viewfinder that combines a compass, two-axis inclinometer, rangefinder, GPS, map, nav calculator, and geo-overlay photo/movie camera into one indispensable app. Avenza Maps is a mapping tool application allowing georeferenced maps to capture points of interest using GPS, attach photos, and adding information to locations.

Hazard management area suitability and recommended prescriptions were guided by industry best practices including:

- Tasmania State Government guidelines for hazard management areas; and
- Understanding that Council is an asset manager and cost efficiency during establishment and perpetual maintenance.

Potential bushfire scenarios to impact each reserve was also considered. Scenarios were both desktop and onground assessed at both the localised scale and within a 1.5km assessment zone.

## 7 Bushfire risk assessment

#### 7.1 Bushfire attack mechanisms

Bushfire attack mechanisms are the characteristics of a bushfire that have potential to impact a building where it can no longer provide a safe haven for occupants.

The four major bushfire attack mechanisms are:

- 1. wind-blown burning debris;
- 2. radiant heat which can ignite flammable materials ahead of the fire front and shatter glass;

- 3. flame contact; and
- 4. Strong winds generated or intensified by the bushfire.

Ember attack is the most common cause of building damage or loss from bushfires.

#### 7.2 Fuel layers

Fine fuels are the fuels that burn in the continuous flaming zone at the fire's edge. They contribute the most to the fire's rate of spread and flame height. Typically, they are dead plant material, such as leaves, grass, bark, and twigs thinner than 6mm thick, and live plant material thinner than 3mm thick. Once ignited, these fine fuels generally burn out within two minutes. Fuel in forests, woodlands and shrublands can be divided into four layers, each based on its position in the vegetation profile (Figure 3 of this report) (Hines, 2010).



#### Figure 3: Fuel layers (Hines, 2010)

#### 7.3 Assessed overall fuel hazard ratings

Overall fuel hazard ratings were assessed within dominant vegetation most likely to contribute to bushfire attack in each reserve. Ratings were identified using the Overall Fuel Hazard Assessment Guide 4th Edition. The Overall Fuel Hazard Assessment Guide allows to make a rapid, visual assessment of fuel arrangement, and gain an understanding of how this will affect the chances of controlling a bushfire.

Each fuel layer (Section 7.2 of this report) was assessed in turn and given a hazard rating. Hazard ratings were then combined to produce an overall fuel hazard rating that could range from low to extreme. Assessments were focused particularly on the direction of likely fire attack.

Table 1 of this report summarises the assessed overall fuel hazard ratings.

Table 1: Assessed	overall fue	l hazard	ratinas	within	reserves
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	Overall Fuel Hazard Rating			
	Sample Site 1	Sample Site 2		
Parnella Reserve	Very high	Very high		
Payeena Reserve	Very high	N/A		
Samuel Thorne Reserve	Moderate	Very high		

#### 8 Bushfire-prone overlays

A location is defined as bushfire-prone if it is subject to a bushfire-prone areas overlay.

Bushfire-prone areas overlays have been developed by the Tasmanian State Government for all 29 local government areas. Bushfire-prone areas overlays applies to land that may be significantly affected by a bushfire. Approximately 98% of Tasmania's land area is designated as bushfire-prone.

A 'bushfire-prone area' for the purposes of Tasmanian planning and building legislation includes:

• Land that is within the boundary of a bushfire-prone area shown on an overlay on a planning scheme map; or

• Where there is no overlay on a planning scheme map, land that is within 100m of an area of bushfire-prone vegetation equal to or greater than 1 hectare.

If a location is mapped within a bushfire-prone areas overlay there may be mandatory bushfire safety requirements for planning or building compliance purposes. If a location is not mapped within a bushfire-prone areas overlay, it does not mean that there is no bushfire risk.

#### 9 Hazard management area assessments

#### 9.1 Hazard management area assessment Parnella Reserve

One location was assessed for hazard management area suitability within Parnella Reserve:

1. Southeast boundary adjacent to 2 Poina Street & 59 Carlton Beach Road, Dodges Ferry.

#### 9.2 Hazard management area assessment Payeena Reserve

Two locations were assessed for hazard management area suitability within Payeena Reserve:

- 1. Eastern boundary adjacent to 138 Carlton Beach Road, Dodges Ferry; and
- 2. Eastern boundary adjacent to 71 Carlton Beach Road, Dodges Ferry.

#### 9.3 Hazard management areas assessment Samuel Thorne Reserve

Two locations were assessed for hazard management area suitability within Samuel Thorne Reserve:

- 1. Northwest boundary adjacent to 135 Lewisham Scenic Drive, Lewisham; and
- 2. Southeast boundary adjacent to 143 Lewisham Scenic Drive, Lewisham.

#### **10 Results**

#### 10.1 Hazard management area assessment summary

The site assessments identified four locations at Payeena Reserve and Samuel Thorne Reserve suitable to be recommended for hazard management areas to be installed. The existing all-weather carriageway at Parnella Reserve acts as an existing hazard management area.

A common theme observed during site assessments was that some form of vegetation modification was occurring at each of the reserves where the reserves abut private property. The vegetation modification provided some form of risk reduction to adjacent habitable buildings; however, most were not complaint with industry best practices.

Table 2 summarises bushland reserves recommended to have hazard management areas installed to meet industry best practices.

Section 11 summarises recommended hazard management area works including management prescriptions and recommended financial years for hazard management area installation to support Council's budgeting.

#### **10.2 Hazard management area recommendation Parnella Reserve**

Parnella Reserve is not mapped as bushfire-prone under the Tasmanian Planning Scheme – Sorell Local Provisions. At time of assessment there is a 3-4m wide gravel all-weather construction carriageway on the southeast side of the reserve (Image 2 of report). The carriageway provides access to two habitable buildings (2 Poina Street & 59 Carlton Beach Road, Dodges Ferry). The carriageway separates the vegetation within the reserve from the habitable buildings and acts as a hazard management area. The reserve also includes some low flammability vegetation (Image 3 of report) adjacent to 59 Carlton Beach Road.

#### **Recommendation 1:**

Council to maintain the carriageway accessing 2 Poina Street & 59 Carlton Beach Road to 4m wide all-weather gravel construction with a minimum horizontal vegetation clearance of 0.5 metres from the edge of the carriageway and a minimum vertical vegetation clearance of 4 metres; and

Although not a requirement, it is recommended that the property owners of 2 Poina Street & 59 Carlton Beach Road, Dodges Ferry maintain their entire allotments as hazard management areas.

#### 10.3 Hazard management area recommendation Payeena Reserve

Only a very small aggregate (approx. 0.004<sup>ha</sup>) of Payeena Reserve is mapped as bushfire-prone under the Tasmanian Planning Scheme – Sorell Local Provisions. The remainder is not mapped as bushfire-prone.

A time of assessment there is some vegetation management occurring within the reserve adjacent to 138 Carlton Beach Road (Image 5) and adjacent to 71 Carlton Beach Road (Image 8 & 9).

#### **Recommendation 2:**

Council establishes and maintains perpetually a 4m wide hazard management area within the reserve adjacent to 138 Carlton Beach Road so that fuels are reduced sufficiently, and other hazards are removed such that the fuels and other hazards do not significantly contribute to bushfire attack.

The hazard management area should be:

• 4m wide x 20m long (refer to Figure 5 for location);

- Maintained in low fuel condition; low fuel condition means low overall fuel hazard rating as assessed using the Overall Fuel Hazard Assessment, 4<sup>th</sup> Addition (or most recent); and
- Cleared of vegetation leaving only grasses and succulent ground covers and maintained at less than 100mm height.

Council establishes and maintains perpetually a 4m wide hazard management area within the reserve adjacent to 71 Carlton Beach Road so that fuels are reduced sufficiently, and other hazards are removed such that the fuels and other hazards do not significantly contribute to bushfire attack.

The hazard management area should be:

- 4m wide x 32m long (refer to Figure 5 for location);
- Maintained in low fuel condition; low fuel condition means low overall fuel hazard rating as assessed using the Overall Fuel Hazard Assessment, 4<sup>th</sup> Addition (or most recent); and
- Cleared of vegetation leaving only grasses and succulent ground covers and maintained at less than 100mm height.

Although not a requirement, it is recommended that the property owners of 71 Carlton Beach Road & 138 Carlton Beach Road maintain their entire allotments as hazard management areas.

#### **10.4 Hazard management area recommendation Samuel Thorne Reserve**

Samuel Thorne Reserve is mapped as bushfire-prone under the Tasmanian Planning Scheme – Sorell Local Provisions.

A time of assessment there is some vegetation management occurring within the reserve including:

- An internal aggregate including a picnic table and park bench (Image 12 of this report) is perpetually mowed by Council and managed in minimal fuel condition. This aggregate is considered low threat vegetation as per Section 2.2.3.2 (f) of AS3959:2018 Construction of Buildings in Bushfire-prone areas;
- An existing approx. 3m wide clearing along the southeast boundary adjacent to 143 Lewisham Scenic Drive (Image 11 of this report); and
- An existing approx. 2m wide clearing along the northwest boundary adjacent to 135 Lewisham Scenic Drive (Image 13 of this report).

#### **Recommendation 3:**

Council establishes and maintains perpetually a 2m wide hazard management area within the reserve adjacent to 135 Lewisham Scenic Drive so that fuels are reduced sufficiently, and other hazards are removed such that the fuels and other hazards do not significantly contribute to bushfire attack.

The hazard management area should be:

- 2m wide x the entire northwest boundary of the reserve (refer to Figure 6 for location);
- Maintained in low fuel condition; low fuel condition means low overall fuel hazard rating as assessed using the Overall Fuel Hazard Assessment, 4<sup>th</sup> Addition (or most recent); and
- Cleared of vegetation leaving only grasses and succulent ground covers and maintained at less than 100mm height.

Council establishes and maintains perpetually a 3m wide hazard management area within the reserve adjacent to 143 Lewisham Scenic Drive so that fuels are reduced sufficiently, and other hazards are removed such that the fuels and other hazards do not significantly contribute to bushfire attack.

The hazard management area should be:

- 3m wide x the entire southeast boundary of the reserve (refer to Figure 6 for location);
- Maintained in low fuel condition; low fuel condition means low overall fuel hazard rating as assessed using the Overall Fuel Hazard Assessment, 4<sup>th</sup> Addition (or most recent); and
- Cleared of vegetation leaving only grasses and succulent ground covers and maintained at less than 100mm height.

Although not a requirement, it is recommended that the property owners of 135 Lewisham Scenic Drive & 143 Lewisham Scenic Drive maintain their entire allotments as hazard management areas.

**Recommendation 4:** 

Council's Asset Management Register is updated to include the recommended hazard management areas once installed. This recommendation includes creating awareness internally at Council of hazard management area locations and maintenance specifications.

Bushland Reserve	Recommended Hazard Management Area Location (Internal to Reserve)	Recommended Hazard management Area Width (m)	Recommended Hazard management Area Length (m)
Parnella Reserve	Council to maintain carriageway accessing 2 Poina Street & 59 Carlton Beach Road to 4m wide all-weather gravel construction with a minimum horizontal vegetation clearance of 0.5 metres from the edge of the carriageway and a minimum vertical vegetation clearance of 4 metres	5m total (4m carriage way, 0.5m either side)	60m
Payeena Reserve	Eastern boundary adjacent to 138 Carlton Beach Road (Figure 5)	4m	20m
Payeena Reserve	Eastern boundary adjacent to 71 Carlton Beach Road (Figure 5)	4m	32m
Samuel Thorne Reserve	Entire northwest boundary of reserve adjacent to 135 Lewisham Scenic Drive	2m	70m
Samuel Thorne Reserve	Entire southeast boundary of reserve adjacent to 143 Lewisham Scenic Drive	3m	55m

Table 2: Summary of hazard management areas recommended within reserves



Image 1: Example of hazard management area





Figure 5: Recommended hazard management areas Payeena Reserve

Recommended hazard management area 2m wide x 70m long HAZARD MANAGEMENT AREA RECOMMENDATIONS Recommended hazard management Maintain hazard management areas in low fuel area 3m wide x 55m long condition by: Clear vegetation leaving only grasses and succulent ground covers; and
Maintain at less than 100mm height. Low fuel condition means low overall fuel hazard rating as assessed using the Overall Fuel Hazard Assessment Guide, 4th Addition. Legend: 10 20 m 0 Samuel Thorne Reserve SAMUEL THORNE RESERVE BOUNDARY

Figure 6: Recommended hazard management areas Samuel Thorne Reserve

**Recommended Hazard** Management Area Map

Map creation: January 2024

PARCEL BOUNDARY CONTOUR (5m) RECOMMENDED HAZARD MANAGEMENT AREA

Scale 1:450 @A3 GPS Projection: GDA94/MGA zone 55 EPSG:28355

Disclaimer: While all efforts have been taken to ensure the accuracy of this product, there may be omissions in the data accuracy. Users are advised to independently verify all data for accuracy and completeness prior to use.





Image 2: Parnella Reserve: All weather construction carriageway

Image 3: Parnella Reserve: Low flammability plus high flammability vegetation adjacent to dwelling Image 4: Parnella Reserve: Average very high overall fuel hazard rating throughout reserve



Image 8: Payeena Reserve: Existing fuel management adjacent to 138 Carlton Beach Road

Image 9: Payeena Reserve: Existing fuel management adjacent to 138 Carlton Beach Road

Beach Road





Image 10: Payeena Reserve: Low flammability near surface fuels adjacent to 138 Carlton

Image 13: Samuel Thorne Reserve: Recommended location for 2m wide hazard management



#### 11 Recommendation summary

#### **Recommendation 1:**

Council to maintain the carriageway accessing 2 Poina Street & 59 Carlton Beach Road to 4m wide all-weather gravel construction with a minimum horizontal vegetation clearance of 0.5 metres from the edge of the carriageway and a minimum vertical vegetation clearance of 4 metres; and

Although not a requirement, it is recommended that the property owners of 2 Poina Street & 59 Carlton Beach Road, Dodges Ferry maintain their entire allotments as hazard management areas.

#### **Recommendation 2:**

Council establishes and maintains perpetually a 4m wide hazard management area within the reserve adjacent to 138 Carlton Beach Road so that fuels are reduced sufficiently, and other hazards are removed such that the fuels and other hazards do not significantly contribute to bushfire attack.

The hazard management area should be:

- 4m wide x 20m long (refer to Figure 5 for location);
- Maintained in low fuel condition; low fuel condition means low overall fuel hazard rating as assessed using the Overall Fuel Hazard Assessment, 4<sup>th</sup> Addition (or most recent); and
- Cleared of vegetation leaving only grasses and succulent ground covers and maintained at less than 100mm height. •

Council establishes and maintains perpetually a 4m wide hazard management area within the reserve adjacent to 71 Carlton Beach Road so that fuels are reduced sufficiently, and other hazards are removed such that the fuels and other hazards do not significantly contribute to bushfire attack.

The hazard management area should be:

- 4m wide x 32m long (refer to Figure 5 for location);
- Maintained in low fuel condition; low fuel condition means low overall fuel hazard rating as assessed using the Overall Fuel Hazard Assessment, 4<sup>th</sup> Addition (or most recent); and
- Cleared of vegetation leaving only grasses and succulent ground covers and maintained at less than 100mm height.

Although not a requirement, it is recommended that the property owners of 71 Carlton Beach Road & 138 Carlton Beach Road maintain their entire allotments as hazard management areas.

#### **Recommendation 3:**

Council establishes and maintains perpetually a 2m wide hazard management area within the reserve adjacent to 135 Lewisham Scenic Drive so that fuels are reduced sufficiently, and other hazards are removed such that the fuels and other hazards do not significantly contribute to bushfire attack.

The hazard management area should be:

- 2m wide along the entire northwest boundary of the reserve (refer to Figure 6 for location);
- Maintained in low fuel condition; low fuel condition means low overall fuel hazard rating as assessed using the Overall Fuel Hazard Assessment, 4<sup>th</sup> Addition (or most recent); and
- Cleared of vegetation leaving only grasses and succulent ground covers and maintained at less than 100mm height. ٠

Council establishes and maintains perpetually a 3m wide hazard management area within the reserve adjacent to 143 Lewisham Scenic Drive so that fuels are reduced sufficiently, and other hazards are removed such that the fuels and other hazards do not significantly contribute to bushfire attack.

The hazard management area should be:

- 3m wide along the entire southeast boundary of the reserve (refer to Figure 6 for location);
- Maintained in low fuel condition; low fuel condition means low overall fuel hazard rating as assessed using the Overall Fuel Hazard Assessment, 4<sup>th</sup> Addition (or most recent); and

• Cleared of vegetation leaving only grasses and succulent ground covers and maintained at less than 100mm height.

Although not a requirement, it is recommended that the property owners of 135 Lewisham Scenic Drive & 143 Lewisham Scenic Drive maintain their entire allotments as hazard management areas.

#### **Recommendation 4:**

Council's Asset Management Register is updated to include the recommended hazard management areas once installed. This recommendation includes creating awareness internally at Council of hazard management area locations and maintenance specifications.

Bushland Reserve	Recommended Hazard Management Area Location	Recommended Hazard Management Area Width (m)	Recommended Hazard Management Area Length (m)	Recommendation Priority	Recommended Financial Year for Works	Summary of Recommended Wo
Parnella Reserve	Carriageway accessing 2 Poina Street & 59 Carlton Beach Road	5m total (4m carriage way, 0.5m either side)	60m	Medium	2024/2025	Council to maintain carriageway accessing 2 Poina Street & 59 wide all-weather gravel construction with a minimum horizor 0.5m from the edge of the carriageway and a minimum vertic
Payeena Reserve	Eastern boundary adjacent to 138 Carlton Beach Road (Figure 5 of this report)	4m	20m	Medium	2024/2025	<ul> <li>Maintain in low fuel condition; low fuel condition merating as assessed using the Overall Fuel Hazard Asserecent); and</li> <li>Clear vegetation leaving only grasses and succulent gat less than 100mm height.</li> </ul>
Payeena Reserve	Eastern boundary adjacent to 71 Carlton Beach Road (Figure 5 of this report)	4m	32m	Medium	2024/2025	<ul> <li>Maintain in low fuel condition; low fuel condition merating as assessed using the Overall Fuel Hazard Asserecent); and</li> <li>Clear vegetation leaving only grasses and succulent grat less than 100mm height.</li> </ul>
Samuel Thorne Reserve	Entire northwest boundary of reserve adjacent to 135 Lewisham Scenic Drive (Figure 6 of this report)	2m	70m	Medium	2024/2025	<ul> <li>Maintain in low fuel condition; low fuel condition merating as assessed using the Overall Fuel Hazard Asserecent); and</li> <li>Clear vegetation leaving only grasses and succulent gat less than 100mm height.</li> </ul>
Samuel Thorne Reserve	Entire southeast boundary of reserve adjacent to 143 Lewisham Scenic Drive	3m	55m	Medium	2024/2025	<ul> <li>Maintain in low fuel condition; low fuel condition merating as assessed using the Overall Fuel Hazard Asserecent); and</li> <li>Clear vegetation leaving only grasses and succulent grat less than 100mm height.</li> </ul>

#### Table 3: Recommended hazard management area works summary

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#### **12 Conclusion**

This report was prepared to support Council identify opportunities for installation of hazard management areas on Council owned and/or managed land to reduce bushfire risk to adjacent habitable buildings on private property.

This report identifies five new locations recommended to be managed by Council as hazard management areas. The hazard management areas recommended within this report should be kept in low fuel condition perpetually by Council.

One location recommended for hazard management area installation at Parnella Reserve uses an existing allweather access gravel carriageway. By using the carriageway asset management of the hazard management should be minimal. Four locations at Payeena Reserve and Samuel Thorne Reserve are recommended for new installation of hazard management areas. Payeena Reserve and Samuel Thorne Reserve have some form of existing vegetation modification on the bushland urban interface.

It is recommended that hazard management areas recommended within this report are installed during the 2024/2025 financial year, if not sooner.

Four key recommendations have been included within this report to enhance Council's asset management of hazard management areas whilst allowing Council to manage each hazard management at the lowest possible price without compromising quality and safety.

Implementing each key recommendation is highly achievable for Council and based on industry best practice. Through implementing the key recommendations, a higher level of protection of life and property within and adjacent to each bushland area can be accomplished and should not have a detrimental impact towards biodiversity or the natural environment.

Upon request Fire Risk Consultants can support Council by planning, project managing and delivering on-ground works to install some or all the hazard management areas recommended within this report.

Fire Risk Consultants are heavily involved in on-ground vegetation and fire trail management projects for our clients, utilising tractor-mounted slashers, posi-track mulchers and forestry machines to achieve effective fuel modification outcomes and fire trails all with ecologically suitable outcomes and complaint with State Government guidelines.

#### **13 References**

Hines F, Tolhurst KG, Wilson AA, McCarthy GJ (2010) Overall Fuel Hazard Assessment Guide. In. (Ed. DoSa Environment). (Victorian Government Dept of Sustainability and Environment: Melbourne, VIC, Australia)

Standards Australia Limited. (2018). AS 3959-2018 Construction of buildings in bushfire-prone areas (incorporating Amendments Nos 1, 2 and 3). Sydney: SAI Global Limited.

Tasmania Fire Service, (2017). Building for Bushfire, Hazard Management Area, State Fire Commission, Hobart.

## **Appendices**

Appendix A: State Government hazard management area guidelines

# BUILDING FOR BUSHFIRE

Hazard Management Area



A hazard management area is an area of defendable space around a dwelling or other habitable building. The size of the hazard management area and the distance to the bushfire-prone vegetation has a direct bearing on the Bushfire Attack Level (BAL) determined by an Accredited Bushfire Hazard Practitioner. The assessor will nominate specific dimensions and conditions for the HMA which must be maintained to ensure ongoing protection.

The dimensions of the hazard management area are presented within a bushfire hazard management plan, prepared by an Accredited Bushfire Hazard Practitioner. A hazard management area has two important roles. Firstly, it is much easier to defend your home when most flammable material close to your home has been removed. Secondly, it aids the protection of occupants and fire fighters who may be defending your home. The inclusion of this defendable space forms part of a consolidated approach, which together with building construction standards, provision of firefighting water supplies and good property access, are designed to make living in bushfire prone areas safer.

The definition of a hazard management area is provided as follows:

A hazard management area means the area, between a habitable building or building area and an area of bushfire prone vegetation, which provides access to a fire front for firefighting, which is maintained in a minimal fuel condition and in which there are no other hazards present which will significantly contribute to the spread of a bushfire.

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A hazard management area must be maintained in a low fuel condition throughout the bushfire season. This will include a number of strategies such as:

- Removing of fallen limbs, sticks, leaf and bark litter
- Maintaining grass at less than a 100mm height
- Removing pine bark and other flammable mulch (especially from against buildings)
- Thinning out understory vegetation to provide horizontal separation between fuels
- Pruning low-hanging tree branches (<2m from the ground) to provide vertical separation between fuel layers
- Pruning larger trees to maintain horizontal separation between canopies
- Minimize the storage of flammable materials such as firewood

- Maintaining vegetation clearance around vehicular access and water supply points
- Use of low-flammability species for landscaping purposes where appropriate
- Clearing out any accumulated leaf and other debris from roof gutters.

Additional site specific fuel reduction or management may be required. An effective hazard management area does not require removal of all vegetation. Rather, vegetation must be designed and maintained in a way that limits opportunity for vertical and horizontal fire spread in the vicinity of the building being protected. Retaining some established trees can even be beneficial in terms of protecting the building from wind and ember attack.



## **GLOSSARY OF TERMS**

Accredited person – in this context means an Accredited Bushfire Hazard assessor, holding the appropriate qualifications and insurances and being accredited in accordance with the requirements in the *Fire Service Act 1979*.

Bushfire attack level (BAL) – the bushfire attack level as defined in AS3959 – 2009 Construction of Buildings in Bushfire Prone Areas as 'a means of measuring the severity of a building's potential exposure to ember attack, radiant heat and direct flame contact, using increments of radiant heat expressed in kilowatts per metre squared, and the basis for establishing the requirements for construction to improve protection of building elements from attach by bushfire'.

**Bushfire hazard management plan** – a plan showing means of protection from bushfires in a form approved in writing by the Chief Officer of the Tasmania Fire Service

#### Bushfire-prone area:

- (a) land that is within the boundary of a bushfireprone area shown on an overlay on a planning scheme map; and
- (b) (i) where there is no overlay on a planning scheme map; or
  - (ii) where the land is outside the boundary of a bushfire-prone area shown on an overlay on such a map, land that is within 100m of an area of bushfire-prone vegetation equal to or greater than 1 hectare.

Bushfire-prone vegetation – contiguous vegetation including grasses and shrubs but not including maintained lawns, parks and gardens, nature strips, plant nurseries, golf courses, vineyards, orchards or vegetation on land that is used for horticultural purposes.

Habitable building – a building of Class 1-9 of the Building Code of Australia.

Hazard management area – the area, between a habitable building or building area and bushfireprone vegetation, which provides access to a fire front for firefighting, which is maintained in a minimal fuel condition and in which there are no other hazards present which will significantly contribute to the spread of a bushfire.

**Property access** – the carriageway which provides vehicular access from the carriageway of a road onto land, measured along the centre line of the carriageway, from the edge of the road carriageway to the nearest point of the building area.

Management

Area

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