



Community Safety –
Fire and Emergency Management

Fire Hazard Assessment Plan 2021/2022



Version control of this document is managed by the Fire and Emergency Management team and amendments are recorded below.

Document Fire Hazard Assessment Plan 2021/2022
Prepared by Senior Fire & Emergency Management Officer
Version 3
Classification Internal Public

Acknowledgment

The local government bushfire season is indicative of the declaration made under sections 17, 18 and 33 of the *Bush Fires Act 1954*, *Bush Fires Regulations 1954*, and all authorisations for local government to modify such dates determined by local conditions. Commonly, fire seasons across the Perth Metropolitan commence each year from 1 October and conclude 31 May the following year.

Amendments	Date
Acronyms and abbreviations	2021
Demographic data displayed in infographic	2021
Summary section included	2021
Introduction information updated	2021
Risk Identification update – includes environmental considerations	2021

Supporting Material	Owner	Date
2020/2021 Fire Hazard Assessment Summary report	Community Safety	2021
2020/2021 Fire Hazard Assessment Plan	Community Safety	2020
City of Kalamunda Fire Control Officer (Compliance) training program	Fire and Emergency Management	2020
City of Kalamunda Fire Hazard Reduction Notice	Community Safety	2020/2021
City of Kalamunda Enforcement Policy SM-DSO 1.2	City of Kalamunda	2014
City of Kalamunda Infringement Policy COVID-19	City of Kalamunda	2020
City of Kalamunda Work Instruction Inclement Weather	City of Kalamunda	2019
Kalamunda Advancing 2027 Strategic Community Plan	City of Kalamunda	2016
https://www.kalamunda.wa.gov.au/our-city/fire	City of Kalamunda	2021
https://www.dfes.wa.gov.au/Pages/default.aspx	DFES	2021
https://www.emergency.wa.gov.au/	Western Australia	2020
<i>Bush Fires Act 1954</i>	Western Australia	2019
<i>Bush Fires Regulations 1954</i>	Western Australia	2019
<i>Bush Fires (Infringements) Regulations 1978</i>	Western Australia	2018
<i>Fines, Penalties and Infringement Notices Enforcement Act</i>	Western Australia	2020

ACRONYMS & ABBREVIATIONS

APZ	Asset Protection Zone
BoM	Bureau of Meteorology
BRMS	Bushfire Risk Management System
CBFCO	Chief Bushfire Control Officer
CESM	Community Emergency Services Manager
CRO	Customer Relations Officer
COVID-19	Corona virus disease 2019
DBCA	Department of Biodiversity and Conservation Attractions
DFES	Department of Fire and Emergency Services
DFM	Dead Flammable Material
FCO	Fire Control Officer
FER	Fines Enforcement Registry
KBDI	Keech-Byram Drought Index
OH&S	Occupational Health and Safety
PR	Public Relations
UCL	Unclaimed crown land
UMR	Unmanaged reserve

DEFINITIONS

The following definitions are provided by the Australian Disaster Resilience Glossary (2020) in conjunction with other glossary documents nationwide.

Community: The term 'community' is dynamic and can change constantly referring to common sets of shared interests, values, beliefs, and circumstances.

Resilience: The ability of a system, community, or society exposed to hazards to resist, absorb, accommodate, adapt to, transform, and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions through risk management.

Disaster: A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability, and capacity, leading to one or more of the following: human, material, economic and environmental losses, and impacts (AIDR, 2018).

Emergency: An event, actual or imminent, which endangers or threatens to endanger life, property, or the environment, and which requires a significant and coordinated response.

Hazard: A source or situation of potential harm to people, infrastructure, or the environment. The hazard originates as something natural, from human activity, or our increased interaction with natural hazards (e.g., landslides, drought) causing loss of life, injury other health impacts.

CONTENTS

ACRONYMS & ABBREVIATIONS.....3

DEFINITIONS.....3

SUMMARY.....7

INTRODUCTION8

1. PURPOSE.....9

1. SCOPE.....9

2. OBJECTIVES10

3. CONTEXT.....11

4. LIMITATIONS.....12

5. ANTICIPATED HAZARDS.....13

 6.1 Bushfire.....13

 6.2 Fire bans & burning restrictions.....13

 6.3 Heatwave.....13

6. MEASURES OF SUCCESS.....14

PLAN EXECUTION.....16

1. PHASE 1 – Risk Identification.....17

 1.1 Bushfire Risk Management System (BRMS).....18

 1.2 Property Location.....20

 1.3 Land Management.....20

 1.3.1 Local land.....20

 1.3.2 State land.....20

 1.3.3 Environmental Considerations.....20

 1.5 Community Profile / Historic data.....21

2. PHASE 2 – Fire Hazard Reduction Notice (Jul– 31 Mar).....22

3. PHASE 3 – Variations (Jul– 31 Mar).....23

 3.2 Requests & Payments.....23

 3.3 Approvals.....23

 3.4 Rejection.....23

4. PHASE 4 – Staff & Training (Sep–Nov).....24

 4.3 Roles and Responsibilities.....25

 4.4 Operational equipment.....26

- 4.4.1 Vehicles26
- 4.4.2 Equipment & Clothing.....26
- 4.5 Safety and Welfare.....27
 - 4.5.1 Property awareness.....27
 - 4.5.2 Fires and other emergency incidents.....27
 - 4.5.3 Vehicles use27
 - 4.5.4 Animal safety and welfare27
 - 4.5.5 Officer and resident safety.....27
- 5. PHASE 5 – Fire Hazard Assessments (1 Nov – 31 Mar).....28**
 - 5.2.1 Area allocation28
 - 5.2.2 Routine fire hazard assessments29
 - 5.2.2.1 Non-compliant Outcome (Work orders).....30
 - 5.2.2.2 Work order extension requests.....30
 - 5.2.2.3 Compliant Outcome.....31
 - 5.2.2.4 Inaccessible properties31
 - 5.2.2.5 Fire hazard complaints (private property).....31
 - 5.2.2.6 State land & Reserves.....32
 - 5.2.2.7 Zonings.....32
 - 5.2.3 Follow up fire hazard assessments.....33
 - 5.2.3.1 Non-Compliant Outcome33
 - 5.2.3.2 Compliant Outcome.....33
 - 5.2.3.3 Inaccessible properties33
 - 5.2.3.4 Zoning follow ups34
- 6. PHASE 6 – Enforcement (1 Nov – 31 Mar).....35**
 - 6.2.1 Non-Compliance.....35
 - 6.2.2 Engaging Contractors.....35
 - 6.2.3 Infringement Appeals.....36
 - 6.2.4 Prosecution36
- REFERENCES.....54

City of Kalamunda in a snapshot

Total Population:



59,328



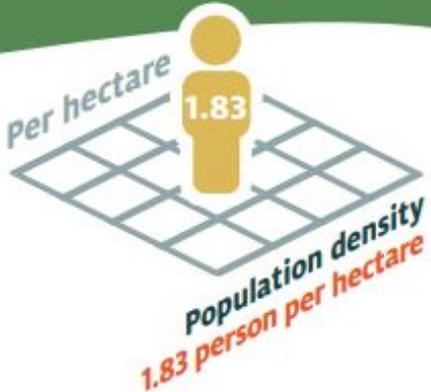
Total Land Area:
32,418 ha / 324km²

National Parks and Reserves:
> 400 ha



Population by Age group:

85+	4740
70-84	7084
60-69	11754
50-59	7843
35-49	6573
25-34	5244
18-24	922



Total Private Dwellings:
22,913

Unoccupied Dwellings:
1656

Total Local Businesses:
4295

Internet Connection:
17,722

No Internet Connection:
2098

Data obtained from Australian Bureau of Statistics (ABS) census of population and housing 2020 and 2016 compiled and presented in profile id

kalamunda.wa.gov.au

City of Kalamunda



SUMMARY

Bushfire prevention and preparedness planning is critical to the development of the City of Kalamunda (the City) strategic objectives for community safety and emergency management. This plan is developed through a collective and collaborative approach, incorporating supporting agencies such as the Department of Fire and Emergency Services (DFES).

The plan takes a holistic and proactive approach in influencing the local management of bushfire hazards through compliance and community engagement methods. The plan provides a comprehensive structure to executing the City's bushfire compliance scope across permits to burn, illegal burning and fire hazard assessments.

This plan reflects a comprehensive approach to bushfire risk and strategies that will achieve both compliance and preparedness. It also aims to provide agreed principles for current and beneficial practices, and outlines the strategic context aligned with legislation, policies, and processes.



Photo credit: Nature by Nathan 2019

INTRODUCTION

Communities across Western Australia (WA) have been experiencing increasingly intense hazards such as bushfires, storms, and cyclones. As these hazards become more frequent and the impact more severe, the prevention, preparedness, response, and recovery planning from all relevant stakeholders is essential to mitigate the risks and work toward a resilient community.

Bushfires in Western Australia are a common occurrence and with over 90% of the State being bushfire prone (DFES, 2021) including majority of the City (refer to page 17), the need to develop and prepare plans for this anticipated hazard and its impact is crucial. It is also well known that significant bushfires can have a long-term impact on people and the social fabric of our communities (National Disaster Risk Reduction Framework, 2018) and therefore highlights the focus and enduring commitment for a shared responsibility in planning, preparation, response, and recovery.



The City recognises the catastrophic impact bushfires can have on the community and the Climate Council of Australia (2020) advises the changes we are seeing in the climate will influence the frequency and intensity in which we experience bushfires. Such changes may be:

1. Extended fire seasons with hotter conditions which increase the intensity and spread of bushfires, leaving shorter timeframes for fire hazard mitigation efforts.
2. Hotter conditions and longer periods of low rainfall equal drier soil and vegetation, which contributes to higher dead fuel loads, and therefore increasing a fire's intensity, spread, and time to bring under control.
3. Extended days of warm and hot weather creating an unstable atmosphere drawing moisture and charging clouds to produce lightning strikes, resulting in fires starting across several locations.

With knowledge from the above, the City has developed this plan for its local bushfire preparedness and compliance program for strategic development and arrangements.

1. PURPOSE

The purpose of this plan is to provide a shared understanding of processes, procedures, policies, programs, and emergency management approaches for bushfire hazards. The preparedness also aligns with the City's 10-year strategic community plan outlined below.

This plan also supports the actions of the City's integrated Bushfire Risk Management Plan (BRMP). Under section 2.2.8 of the State Hazard Plan – Fire, all local governments identified as high or extreme risk are required to develop an integrated Bushfire Risk Management Plan which outlines a strategy to treat or reduce bushfire related risk across all land tenures. The Fire Hazard Assessment Plan supports one of the key actions of the BRMP which is to ensure compliance with the annual Fire Hazard Reduction Notice.

PRIORITY 1: Kalamunda Cares and Interacts

Objectives	Strategies	Success Management
1.2 To provide safe and healthy environments for community to enjoy.	1.2.1 Facilitate a safe community environment.	<ul style="list-style-type: none"> Increasing community perception of safety in the City. Increasing compliance with fire protection requirements. Increasing level of satisfaction with programs, facilities, and activities.

PRIORITY 4: Kalamunda leads

Objectives	Strategies	Success Management
4.1 To provide leadership through transparent governance.	4.1.1 Provide good governance	<ul style="list-style-type: none"> Level of compliance with legislation. Increasing satisfaction with community engagement activities. Level of external funding acquired.
4.2 To proactively engage and partner for the benefit of community.	4.2.1 Actively engage with the community in innovative ways. 4.2.2 Increase advocacy activities and develop partnerships to support growth and reputation.	

1. SCOPE

The plan will refer to compliance and preparedness, reflective of the impact a bushfire may have on the community. It will also refer to what risks can be reduced through local government, the landowner and/or occupier, community groups and other relevant stakeholders. The plan will provide clarity and consistency on agreed definitions, approaches and evaluation. Other plans listed may be the focus of other requirements. This plan identifies anticipated risks that may impact the plan and will endeavour to adapt its execution where possible to ensure the safety of residents and City officers. The plan will remain credible and provide the ability to pivot promptly and reduce the impact to the plan objectives and officer duties.

2. OBJECTIVES

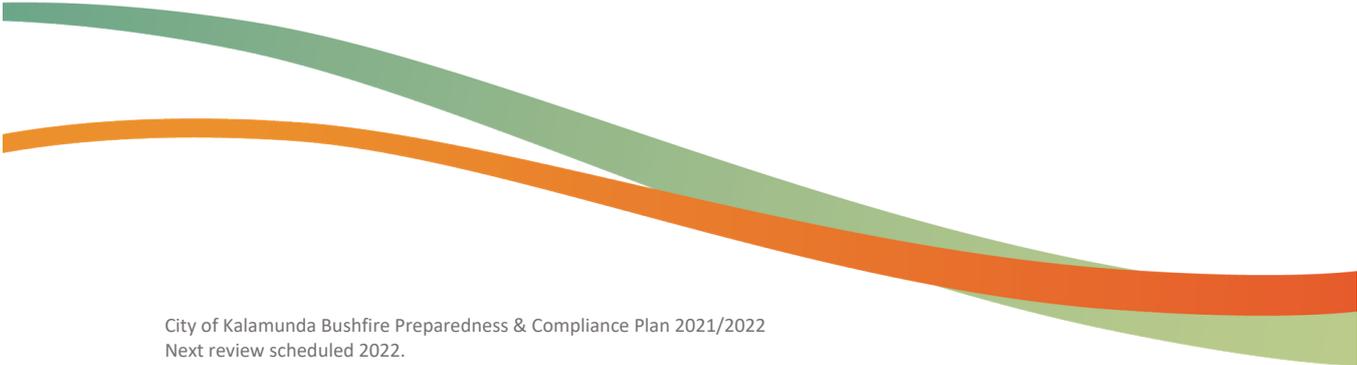
Building resilient and prepared communities in the context of bushfires is a significant component of the emergency management framework integrating the prevention, preparedness, response, and recovery (PPRR) model. As such this plan outlines the objectives both in line with the City's strategic plan (refer page 9) and DFES's strategic control priorities in their 2016-2028 strategic plan (2016):

2.1 City of Kalamunda Objectives

- To review and implement the City's Fire Hazard Reduction Notice under section 33 of the *Bush Fires Act 1954* by July 2020 to distribute with the City's rates and have gazetted in the local newspaper.
- To implement a strategic training program and conduct training prior to 1 October, assisting and enhancing appointed and authorised City Fire Control Officer's knowledge and skills throughout the local bushfire season.
- All duly authorised Fire Control Officers employed by the City will conduct quality, fair and equitable property fire hazard assessments utilising the strategy applied in this plan and abiding by established processes and procedures.
- Ensure processes and procedures across bushfire compliance are captured in line with City policy and followed throughout the bushfire season, also ensuring a review is conducted to determine any gaps and recommendations at the seasons conclusion.
- Demonstrate a fair and equitable approach towards enforcement in line with the *Bush Fires Act 1954* and *Bush Fires Regulations 1954* throughout the local bushfire season.

DFES's Strategic Control Priorities 2016-2028

- Protection and preservation of life
- Community warnings and information
- Protection of critical infrastructure and community assets
- Protection of residential property
- Protection of assets supporting individual livelihood and community financial sustainability
- Protection of environmental and heritage values



City of Kalamunda Bushfire Preparedness & Compliance Plan 2021/2022
 Next review scheduled 2022.

3. CONTEXT

The context of this plan sits within the larger picture of the emergency risk management framework and principles outlined in the *National Emergency Risk Assessment Guidelines (NERAG) AS/NZ ISO 31000:2019*. The State Emergency Management Committee (SEMC, 2017) defines risk management as ‘a systematic process which contributes to the wellbeing of communities and the environment’. The City through risk management workshops have risk rated the likelihood and consequences of a significant bushfire event and as a result this plan is one of the treatments in which the risk can be reduced.

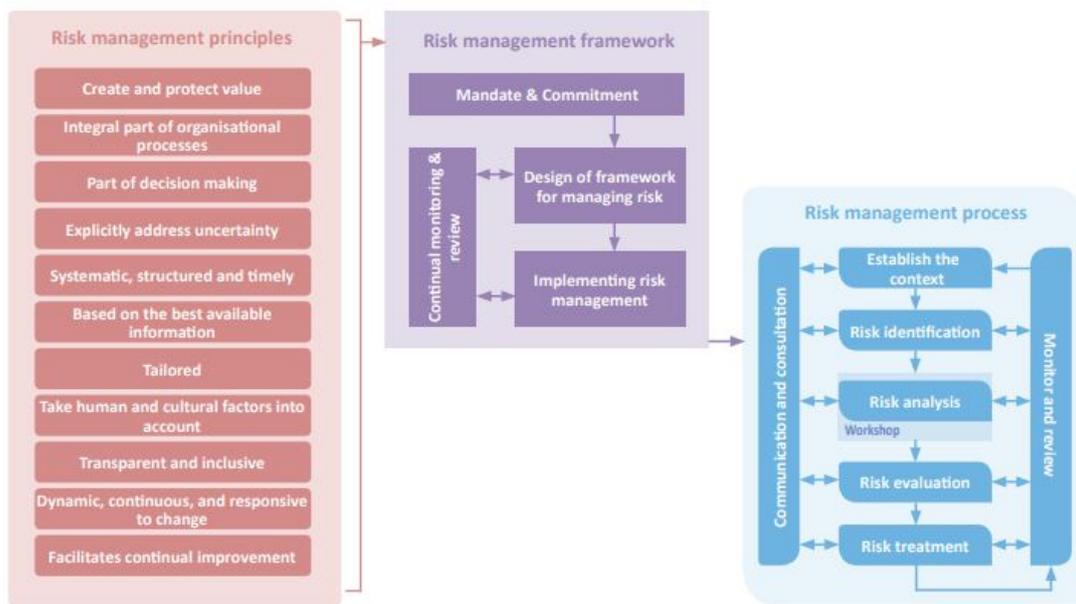
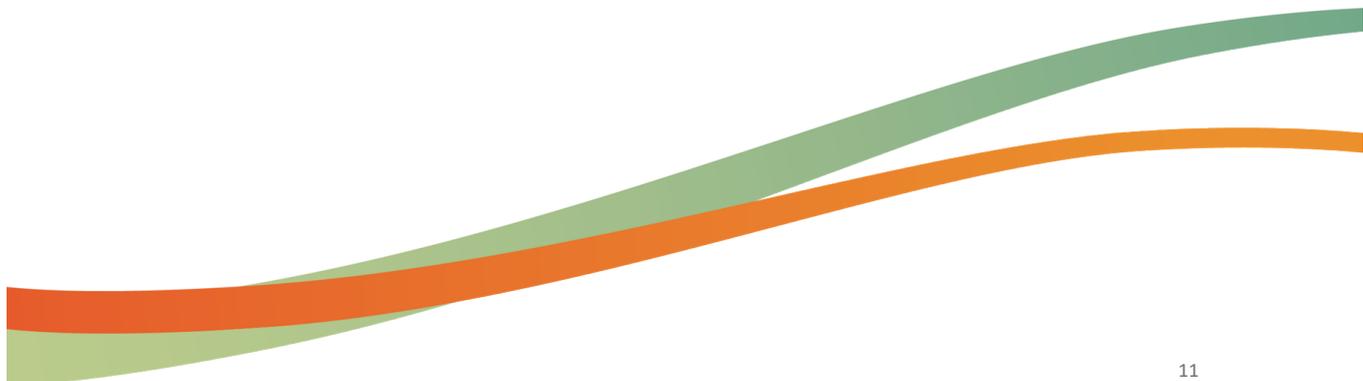


Figure 1. Emergency Risk Management principles, framework, and processes, as described by AS/NZ ISO 31000:2019



4. LIMITATIONS

The delivery of bushfire compliance, education and engagement strategies solely by the City aligns with some, but not all, of the factors that contribute to bushfire prevention and community preparedness. Limitations reflect on what aspects of bushfire risk reduction falls within legislative responsibility and within the City's influence.

Other limitations to consider are the levels of risk within the community that in context can vary. For example, personal circumstances can influence one's ability to start preparing, and reluctance to do so may be a result of a lack of knowing what to do, the level of risk, and understanding the effects that reducing fire hazards can have.

Fire hazard assessments have particular limitations including resourcing (staff), budgets and the scale of the area required for assessment. Influencing these factors may be beyond the scope or capacity of the City.

The City where possible can influence some of these limitations to achieve improved outcomes that may enhance fire hazard reduction and bushfire preparedness through a range of approaches. These are:

- Issuing a Fire Hazard Reduction Notice annually;
- Engaging with the community through community engagement and communication plans and adapt the plan each year based on community feedback and the changing climate; and
- Advocate for appropriate processes and procedures that benefit the City and community.

Whilst limitations exist, employing these approaches to maximise the City's influence and assist in delivering improved outcomes.

5. ANTICIPATED HAZARDS

Alongside the local context of disaster risk and diversity, there is a range of intersecting influences at the community level that have an impact on bushfire preparedness and compliance.

6.1 Bushfire

Bushfires impacting the community through restricted and prohibited burning periods is taken into consideration. It is expected should a bushfire emergency occur, resources will be redirected to response, emergency management and recovery efforts where and when requested.

6.2 Fire bans & burning restrictions

Imposed bans that prohibit equipment use and movement of vehicles during bushfire compliance periods may put a halt on required works to be completed, prolonging the execution timeframe. Weather conditions that further restrict burning times will reduce the opportunity to manage fuel loads across the City.

6.3 Heatwave

Other risks may involve declared heatwaves which can impact the community's health and ability to complete required work. These may also coincide with fire bans. It also reduces the officer's ability to conduct assessments as per the City's work instruction on inclement weather.

6.4 Pandemic (COVID-19)

March 2020 saw the COVID-19 outbreak. This pandemic has affected all aspects of communities state-wide. This may impact on all fire authorities and their ability to attend to fire related requests. Due to the continuing changes and restrictions, the plan will adapt and reflect any directions being imposed by State that cannot be quantified at the time of preparing this plan.



6. MEASURES OF SUCCESS

To support each local bushfire season, the City measures its outcomes in engagement and bushfire compliance to develop improved plans and strategies.

7.1 Reporting

To measure the effectiveness of this plan, a summary report is drafted at the conclusion of the local bushfire season. The summary will capture the outcomes of successes, limitations, and recommendations from the plan. This will continue to contribute to the long-term growth and improvement toward reducing bushfire hazards in line with legislation and the City's strategic objectives.



Figure 2. Local Bushfire Compliance Summary Report that was submitted for the 2020/2021 local bushfire season.

FIRE HAZARD ASSESSEMENTS 2020/2021 SEASON IN REVIEW

Fire hazard assessments commenced from 1 November 2020 and concluded on 31 March 2021. Over this period 4077 properties were assessed across the City and a total of 2844 were deemed compliant (Figure 3). This was a 6.5% improvement from the 2019/2020 season. Overall bushfire compliance improved well over 50% across private properties within the City.



Figure 3: Data comparison across fire hazard assessment outcomes.

An increase in follow up assessments occurred across 2020/2021 and was largely due to the stability of the new inspection application, Zoodata. This stability meant we achieved a significant improvement of 82.7% completed follow up fire hazard assessments. This resulted in improved evidence gathering and results on the efforts and proactive nature of residents preparing properties.

The data also accurately captured that majority of non-compliance outcomes on work orders and infringements were long standing dead grasses, dead shrubs and dead plants (Figure 4) requiring slashing below 50mm (5cm) as described in the Fire Hazard Reduction Notice.

Non-Compliance	Total Work Orders Issued	
Fire Breaks	399	39%
Fuel load (over 8 tonne p/ha)	245	24.4%
Grasses	505	50.4%
Asset Protection Zone	135	13.4%
Gutters	299	29.8%
Additional works	318	31.7%

Figure 4: Total work orders issued against individual Notice requirements.

PLAN EXECUTION

The execution of this plan takes the approach based on several factors:

- CONTEXT:** Risk assessment, landscape, community safety, area profile.
- LEGISLATION:** Informs the approach that can be taken.
- SCOPE:** Within legislation and authorisations. Workforce available to achieve fire hazard assessments.
- RESOURCES:** Current and future budget availability.

Drawing on the method taken from 2020/2021, this year’s plan will follow the same phased approach and are broken down as follows:

- PHASE 1:** Risk Identification
- PHASE 2:** Notice
- PHASE 3:** Variations
- PHASE 4:** Staff and Training
- PHASE 5:** Fire Hazard Assessments
- PHASE 6:** Enforcement

The execution will follow the City’s processes and procedures that are in place. These processes and plans are reviewed annually or at any other time the business unit considers it appropriate. The City will have in place contingencies for anticipated hazards (as noted on page 13) which will provide the ability to pivot for any emerging impacts, ensuring Fire Control Officer (FCO) duties are continued in line with any restrictions or directions imposed by the City or State.



1. PHASE 1 – Risk Identification

Due to limitations noted on page 13, it is recognised not all land/properties can be assessed for fire hazards. Prior to commencement of fire hazard assessments across the City the fire and emergency management team use multiple efforts to identify and develop an effective strategy in which to conduct fire hazard assessments.

Designated bushfire prone areas (coloured pink on the below map) have been identified by the Fire and Emergency Services (FES) Commissioner as being subject, or likely to be subject to bushfire attack (DFES, 2020). Majority of the City of Kalamunda can be seen here (Figure 5) as a bushfire prone area.

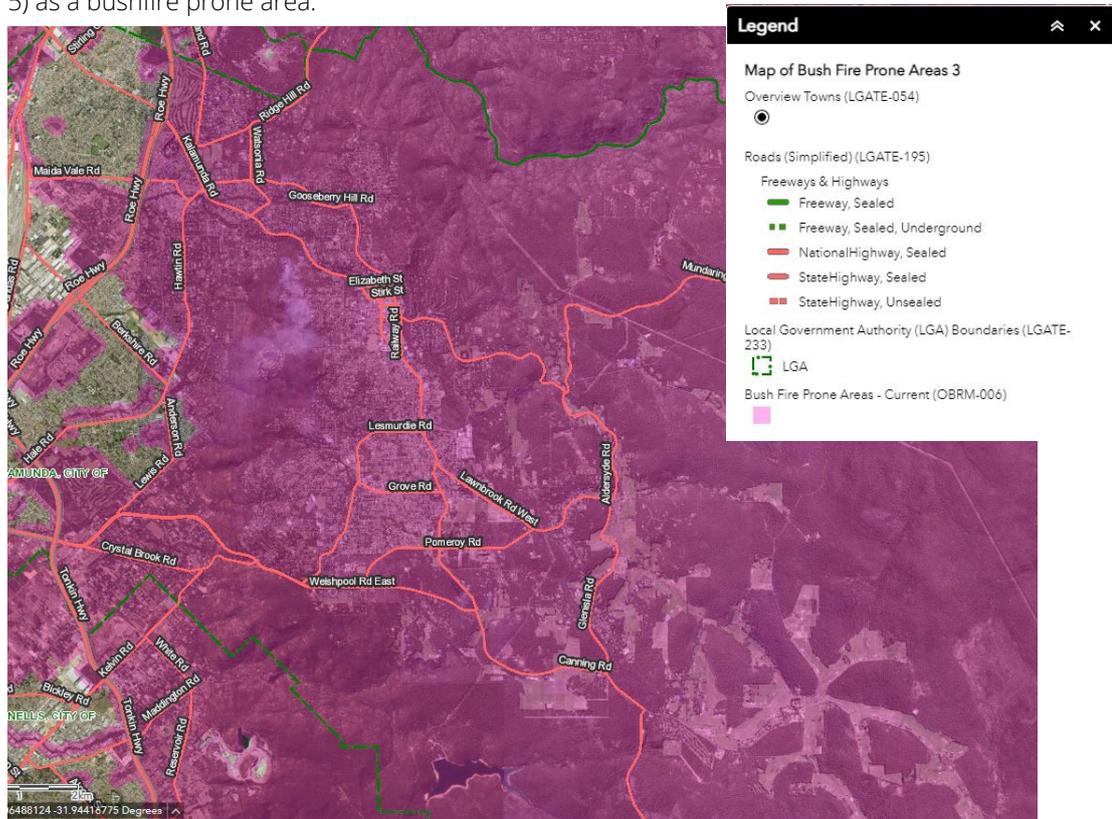


Figure 5: DFES Bushfire Prone Area Map – City of Kalamunda

With this as a foundation, efforts to ensure a fair and equitable approach to fire hazard assessment will utilise the following factors.

- Bushfire Risk Management System (BRMS)
- Property location
- Land management (including environmental factors)
- Landscape
- Community Profile / Historic data



1.1 Bushfire Risk Management System (BRMS)

Bushfire risks will vary from year to year and is captured on an ongoing basis. The City along with DFES utilise BRMS to map the risk of assets which assists in identifying an improved strategy for fire hazard reduction efforts including property assessments. The system is a digital database that assists the City in a tenure blind approach, capturing specific risk ratings for all assets within our boundaries. The data captured considers fuel load, fuel type, fuel age, fuel density, separation distance, canopy cover and slope analysis.

With all this data entered a rating of 1A through to 5C is produced which identifies the risk rating. Assets can be grouped if they are susceptible to the same risk and using the tenure blind approach means that no matter who owns the land, the data mapped is completed to the same standard.

Fire hazard assessment strategies utilise this system as a guide to assist in identifying properties deemed extreme and very high risk as a potential starting point for assessment (Figure 6 page19).

HUMAN SETTLEMENT	ECONOMIC	ENVIRONMENTAL	CULTURAL
<p>Residential areas Rural urban interface areas and rural properties.</p> <p>Places of temporary occupation Commercial, mining and industrial areas located away from towns and population centres (that is, not adjoining residential areas).</p> <p>Special risk and critical infrastructure Hospitals, nursing homes, schools and childcare facilities, tourist accommodation and facilities, prison and detention centres, government administration centres and depots, incident control centres, designated evacuation centres, police, fire and emergency services.</p>	<p>Agricultural Pasture, grazing, livestock, crops, viticulture, horticulture and other farming infrastructure.</p> <p>Commercial and industrial Major industry, waste treatment plants, mines, mills, processing and manufacturing facilities and cottage industry.</p> <p>Tourist and recreational Tourist attractions and recreational sites that generate significant tourism and/or employment within the local area.</p> <p>Commercial forest and plantations Drinking water catchments</p>	<p>Protected Rare and threatened flora and fauna, ecological communities and wetlands.</p> <p>Priority Fire sensitive species and ecological communities</p> <p>Locally important Nature conservation and research sites, habitats, species and communities, areas of visual amenity.</p>	<p>Aboriginal heritage Places of indigenous significance.</p> <p>Recognised heritage Assets afforded legislative protection through identification by the National Trust, State Heritage List of Local Planning Scheme Heritage List.</p> <p>Local heritage Assets identified in a Municipal Heritage Inventory or by community.</p> <p>Other Other assets of cultural value, for example community centres and recreation facilities.</p>

Consequence \ Likelihood	Minor	Moderate	Major	Catastrophic
Almost certain	3D (High)	2C (Very High)	1C (Extreme)	1A (Extreme)
Likely	4C (Medium)	3A (High)	2A (Very High)	1B (Extreme)
Possible	5A (Low)	4A (Medium)	3B (High)	2B (Very High)
Unlikely	5C (Low)	5B (Low)	4B (Medium)	3C (High)

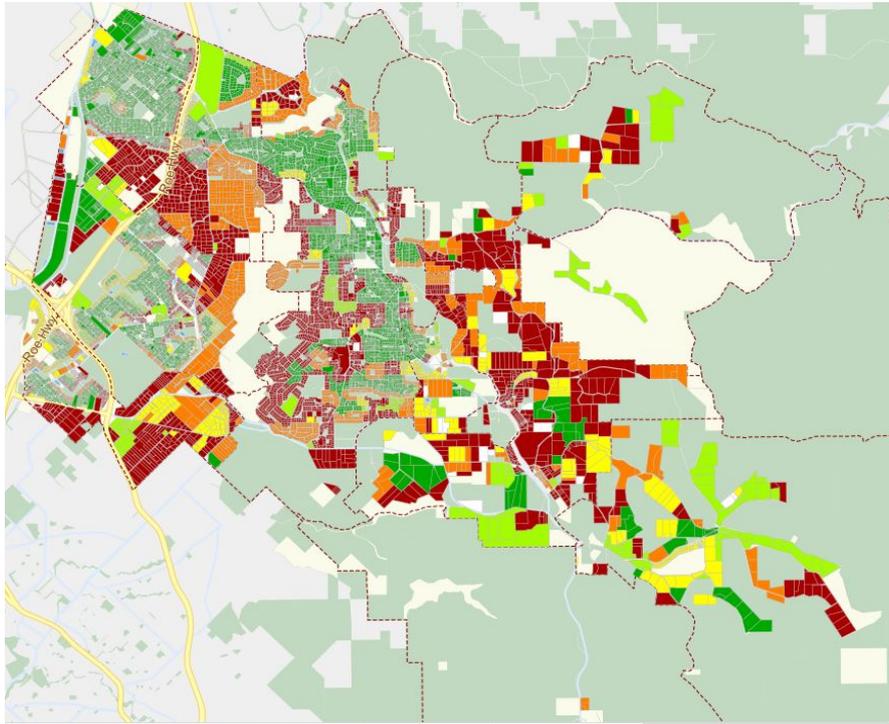


Figure 6: BRMS heat map Extreme (red) to low (green)

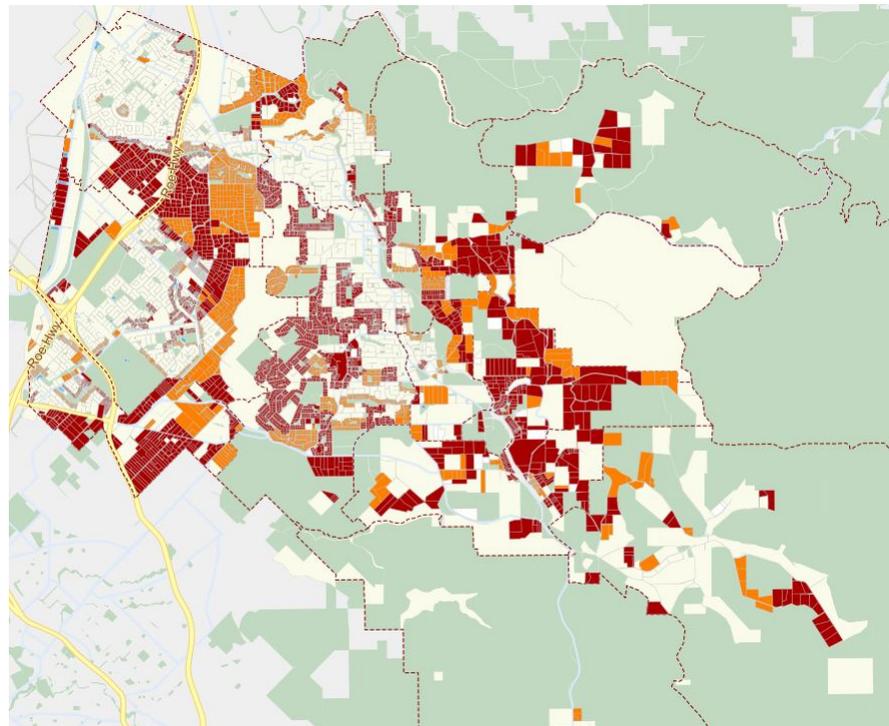


Figure 7: BRMS heat map Extreme (red) and Very High (orange)

1.2 Property Location

NOTE: *This section suggests areas that are of extreme risk with limited access on gazetted roads and by no means is definitive. Bushfires can be unpredictable and may impact several areas, roads, and people at once. All properties and road access in the City of Kalamunda is considered a risk.*

The fire and emergency management team considers the added risk to some properties across the City where egress may be limited should a bushfire overrun roads, cause road closures or road damages, potentially isolating those being impacted. It is therefore critical that properties in these positions are prepared early in case evacuation is not possible.

1.3 Land Management

Awareness of mitigation efforts occurring throughout the year is considered along with the impact it may have on the surrounding private properties and fuel loads. Mitigation can take the form of prescribed burns, mechanical works (mulching), installing firebreaks, slashing, pruning, or the reduction of any other materials deemed a fire hazard. These efforts contribute to the surrounding property risk level as it aims to reduce the fuel loading and reduce the increased potential for a fast-moving fire.

1.3.1 Local land

Mitigation of City reserves, verges and any other City owned land are conducted by combined efforts of the City's Parks and Environment team and the Fire Mitigation (Protection) team based at the City's Operations Centre in Walliston. The team utilise their own plans and strategies to manage these risks.

1.3.2 State land

State Forest, National Park, UCL, UMR and any other state-owned land is the responsibility of such managing departments. Some may include but are not limited to DFES, DBCA, Water Corporation, Department of Planning & Land Heritage, Telecommunication land parcels, WA Planning Commission and Department of Housing.

NOTE: *Parcels of Crown land are not subject to the same laws as privately owned or privately acquired blocks.*

1.3.3 Environmental Considerations

The City is home to a variety of flora, fauna and tree species that make up the local landscape. It is acknowledged that some of these flora, fauna and tree species are protected under certain legislation and require additional permits and approvals to mitigate and manage. As such, the City is endeavoring to provide education and resources to best inform residents of their options when it comes to protecting lives and assets and ensuring the environment is reasonably managed.

1.4 Landscape

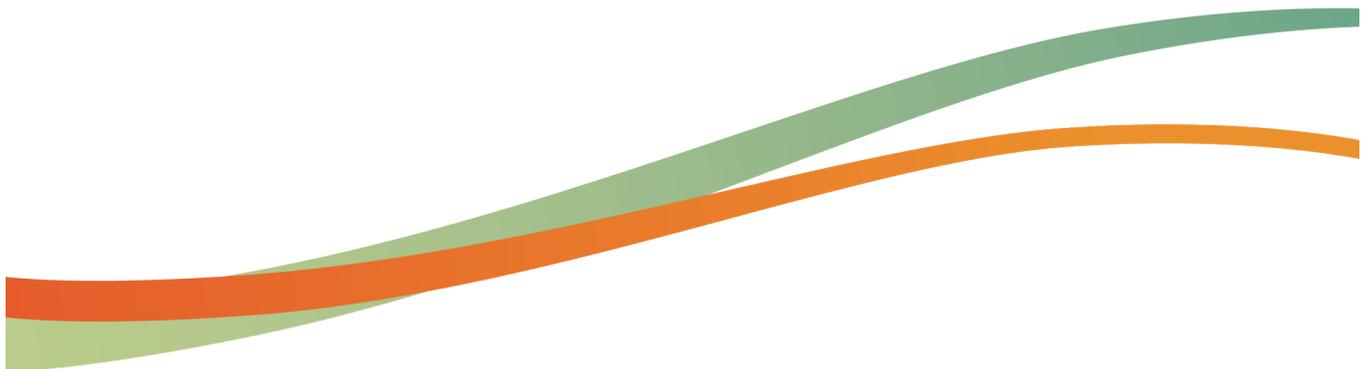
The inclusion of topography across the City is used to develop strategies along with the Bushfire Risk Management System data. It forms an understanding of fire behaviour potential and the impact to people and properties. One clear example is fire behaviour that moves uphill. The rate of a fires forward spread up a slope typically doubles for every 10 degree increase (King, 2021) . We can therefore acknowledge extreme risk to be both at the foothills or valleys where if fires start can lead to fast movement uphill, and properties at the top of the hills where direct impact from the fire travelling uphill is increased.

1.5 Community Profile / Historic data

The fire and emergency management team considers community profiling to improve understanding of the community risk and what influence FCOs may have. This may include vulnerable groups (aged care, disabilities), culturally and linguistically diverse groups, schools, places of worship, businesses, and residents (independent and/or families).

Data is reviewed from the Australian Bureau of Statistics and used to gauge an overview of the community (refer to page 6) along with outcomes from the community engagement and communication plan summary report.

Area history and local knowledge will inform learnings for future fire hazard assessments and/or FCOs in the field. It will also include any bushfire incidents that have occurred which may have caused threat or impact to residents of that area. These factors will predominantly be a focus in the off season (June – October) to assist in early preparation and awareness efforts. These efforts are also captured in the community engagement and communication planning. Property history of consistent non-compliance will factor into the actions of the FCO however is not the determining factor for any enforcement put forward.



2. PHASE 2 – Fire Hazard Reduction Notice (Jul– 31 Mar)

Bush Fires Act 1954

Part III – Prevention of bush fires

Division 6 – General restrictions, prohibitions, and offences

s. 33. Local government may require occupier of land to plough or clear fire-break

2.1 Outline

The City have a responsibility under section 33 of the *Bush Fires Act 1954* to give notice in writing to owners and/or occupiers of land within the local government area to prepare their properties against the risk of bushfire (appendix 1 page 37)

2.2 Execution

The Fire and Emergency Management team in collaboration with the Chief Bushfire Control Officer (CBFCO) produces and reviews a Fire Hazard Reduction Notice (the Notice) annually. The need for annual review ensures the bushfire preparedness remains credible and inline with the changing climate.

The notice is gazetted as required under the *Bush Fires Act 1954* and delivered alongside the City's Rates each year in July. The notice identifies the request for all owners an/or occupiers of land to install or upgrade firebreaks and to carry out any works identified in the Notice by a duly authorised FCO (appendix 3 page 41-48).

The Notice is incorporated into the community engagement and communication plan for bushfire preparedness where a range of media is used to broadcast the requirements outlined. Further details are available in the Community Engagement & Communication Plan.



3. PHASE 3 – Variations (Jul– 31 Mar)

3.1 Outline

The variation application (appendix 2 page 38) is a request to vary one or more requirements outlined in the current Notice if it is considered impractical to carry out. The application must be submitted prior to 1 October each year.

The variation is not considered an exemption to the Notice. Applicants must outline other methods to be carried out in lieu of what they wish to vary. The Notice may change yearly and therefore an approved variation is only valid until 31 March the following year.

NOTE: An administration fee of \$150.00 is enforced for any applications received after 1 October each year.

3.2 Requests & Payments

All requests for a variation will be directed to the City through the following options:

- form available on the website
[Variations | City of Kalamunda](#)
- City email address
enquiries@kalamunda.wa.gov.au
- in person at front counter administration building.

Any variation applications received after 1 October will be reviewed first by the City's Community Safety Customer Relations Officer (CRO) for confirmation of payment and forwarded on for approval to the CBFCO or their delegate. Any applications not paid for or considered incomplete will be returned to the applicant and notified to resolve.

Any payment for variations after 1 October can be made utilising the payment section on the form or in person at the City of Kalamunda administration centre.

A reminder for variation submission is offered as a reminder to submit before 1 October to those had had approved variations from the previous season.

3.3 Approvals

Approved variations and all associated documentation are compiled and sent to notify the applicant of approval. The documents are subsequently saved with the City for record purposes.

3.4 Rejection

The CBFCO or their delegate have the authority to reject an application for variation. This may be due to the decision that works are practical to conduct on that property under the current Notice. An application will also be rejected if payment has not been made after 1 October without proof of receipt.

NOTE: If applications received after 1 October are rejected on reasonable grounds by the Chief BFCO or their delegate, the \$150 is non-refundable. Any requests made by the applicant to remove the fee will be determined by senior management.

4. PHASE 4 – Staff & Training (Sep-Nov)

Bush Fires Act 1954

Part IV – Control and extinguishment of bush fires

Division 1 – Local governments

s. 38. Local government may appoint bush fire control officer

4.1 Outline

The City will employ casual staff as required and appoint and gazette them as Fire Control Officers under the *Bush Fires Act 1954* for the purpose of carrying out fire hazard assessments from 1 November to 31 March. The Fire and Emergency Management team will provide support and leadership throughout this period ensuring execution is safely maintained.

4.2 Execution

To carry out their duties under the *Bush Fires Act 1954* and *Bush Fires Regulations 1954*, FCOs partake in the training modules provided by the Fire and Emergency Management team. This is to ensure consistency, confidence, and effective outcomes for fire hazard assessments and bushfire compliance.

Drawing on the training program that was trialled in October 2019, this year will implement an improved program and follow the same approach by including the following targets:

- Relevant legislation
- City of Kalamunda structure and policies
- OH&S (incl PPE, PPC and Vehicles)
- Administration and Customer Service
- Risk assessment overview
- Fire Hazard Reduction Notice breakdown
- Other fire hazard reduction efforts (e.g. skip bins)
- Fire hazard assessment application
- Basic fire behaviour

Training for existing staff will be in the form of refresher modules to ensure their knowledge base is current and to continue competency.

Training for newly appointed officers will commence in October and run for a period determined by the commencement of employment prior to 1 November when assessments proceed.

NOTE: *The training program is intended to only provide training specific to fire compliance within a local government setting and particularly within the City of Kalamunda. It in no way provides an official qualification or accreditation as a Fire Control Officer in the capacity of an emergency or through DFES.*

4.3 Roles and Responsibilities

Table 1 below identifies the team that have a role and/or responsibility under Community Safety regarding fire hazard assessments.

Position	Role/Responsibility
Manager Environmental Health & Community Safety	<ul style="list-style-type: none"> • Management of department • Enforcement reviews and support • Hardship (COVID-19) approvals
Coordinator Community Safety	<ul style="list-style-type: none"> • Coordination (operations) of department • Enforcement reviews and support • Hardship (COVID-19) approvals
CESM/Chief BFCO	<ul style="list-style-type: none"> • Training support • Variations review and approvals • Property assessment support
Senior Fire & Emergency Management Officer	<ul style="list-style-type: none"> • Training facilitation & delivery. • Coordination (operations) of assessments and support • Administration support • Property assessment & fire hazard complaints support • Enforcement reviews and support • Extension requests (medical) approvals
Fire & Emergency Management Officer	<ul style="list-style-type: none"> • Infield support • Property assessment & fire hazard complaints • Administration support • Enforcement reviews and support • Extension requests support
Customer Relations Officer	<ul style="list-style-type: none"> • Administration lead • Administration support (reserve)
Senior Ranger	<ul style="list-style-type: none"> • Administration support (reserve) • Property assessment support
Casual Fire Control Officers	<ul style="list-style-type: none"> • Property assessments • Extension requests
Rangers	<ul style="list-style-type: none"> • Property assessments support • Extension requests support

Table 1. Internal Roles & Responsibilities

4.4 Operational equipment

4.4.1 Vehicles

All vehicles provided to employed FCOs (casual contract) to conduct fire hazard assessments will be fit for purpose and meet the standard outlined by Community Safety management. The vehicles will be easily identified with hi visibility signage on both sides, back and bonnet of the vehicle reading:

- Fire Control Officer
- City of Kalamunda
- Fire

The vehicles will be 4WD in order to drive firebreaks safely and effectively in their entirety across the varying terrain presented across the City. They will also include suitable tyres, reversing cameras, alternating warning lights, a fire extinguisher and first aid kit.

The Fire and Emergency Management team will additionally provide a Cel-Fi 4G booster kit to improve communications and safety for the FCO along with an additional first aid kit suitable for outdoor activity.

4.4.2 Equipment & Clothing

All personal protective equipment (PPE) and personal protective clothing (PPC) will be provided by the Community Safety unit and worn as per internal procedure and policy. The following are worn and used by all appointed Officers when conducting fire hazard assessments:

- Load bearing high visibility yellow vests
- Identification cards
- Body cameras
- Navy blue, long sleeve collared shirt
- Hard toe black boots
- Cargo pants with reflective stripes
- Hat
- Kit bags
- Portable tablet device
- Two-way radio



The equipment and clothing offers full visibility to the community of any City officer in the area as well as providing full occupational health and safety measures for the officer when conducting their duties in the field.

4.5 Safety and Welfare

All authorised FCOs conducting fire hazard assessments will adhere to the following principals and will be provided training that captures the following:

4.5.1 Property awareness

FCOs will remain situationally aware when entering any parcel of land and will continually demonstrate respect and integrity towards all properties and their owners and/or occupiers (e.g. gates, animals, privacy).

4.5.2 Fires and other emergency incidents

Any emergencies the FCO identifies will immediately be reported to 000 and the City administration office. FCOs are non-operational and will not attempt any firefighting operations beyond their capacity and equipment.

NOTE: All FCOs will remain aware to work only within their scope and abilities and will not attempt any activity (e.g. first aid) if not trained or qualified to do so.

4.5.3 Vehicles use

Vehicles will be used safely and in accordance with all road rules and laws and will not enter any area marked as prohibited or sensitive without appropriate actions (e.g. biosecurity, dieback, contaminated sites). Any site entered with contamination risk will ensure the vehicle is fully washed down prior to, and after entering other land blocks.

4.5.4 Animal safety and welfare

FCOs will remain situationally aware when moving around properties that contain animals and will refrain from contact where possible to ensure safety and reduce stress to the animal/s. If a concern is raised for officer or animal safety, a Ranger will provide support.

4.5.5 Officer and resident safety

FCOs will ensure that safety of self and others is always maintained prior to and during all property assessments. The officer will not enter a property if it is not safe to do so without appropriate assistance and notification. Properties where individuals under the age of 18 are home without an adult present will be considered inaccessible and communications with the owner will be pursued.

5. PHASE 5 – Fire Hazard Assessments (1 Nov – 31 Mar)

Bush Fires Act 1954

Part III – Prevention of bush fires

Division 6 – General restrictions, prohibitions and offences

s. 33(1)(a) – to plough, cultivate, scarify, burn or otherwise clear upon the land fire-breaks in such manner, at such places, of such dimensions, and to such number, and whether in parallel or otherwise, as the local government may and is hereby empowered to determine and as are specified in the notice, and thereafter to maintain the fire-breaks clear of inflammable matter;

s. 33(1)(b) to act as and when specified in the notice with respect to anything which is upon the land, and which in the opinion of the local government or its duly authorised officer, is or is likely to be conducive to the outbreak of a bush fire or the spread or extension of a bush fire,

5.1 Outline

Assessments will occur in a staged approach starting with routines and followed by follow-ups. Routine assessments will be the initial assessment allowing a 14-day period for non-compliant properties to complete any works outlined by the issuing FCO. Follow ups will be conducted after the 14-day period. If the property is deemed non-compliant at the follow up stage further action is taken (refer page 33).

5.2 Execution

Property assessments will largely be conducted by the full time and contract casual FCOs until the conclusion of their contract. Rangers (who are also authorised FCOs) will provide support by attending to fire hazard complaints, zonings and completing any outstanding follow ups after the completion of the casual FCOs contract.

Fire hazard assessments are broken down into two categories and assessed against the following as per the Notice (appendix 1 page 37).

All land with a total area of 4000m ² or more	All land with an area of less than 4000m ²
<ul style="list-style-type: none"> - Install and/or upgrade fire breaks - Reduce Dead Flammable Material (DFM) - Slashing dead grasses, dead shrubs, dead plants - Prepare Asset Protection Zones (APZ) – incl gutters 	<ul style="list-style-type: none"> - Reduce Dead Flammable Material (DFM) - Slashing dead grasses, dead shrubs, dead plants - Remove Gutter Debris

5.2.1 Area allocation

Prior to commencement of assessments, FCOs will be allocated a zone/area (appendix 4 page 49-52) to which they will focus their attention. The zone/area scope will be dependent on FCO numbers. Rangers are allocated zones however are separate due to their duties and are supervised by the Senior Ranger.

5.2.2 Routine fire hazard assessments

Bush Fires Act 1954

Part IV – Control and extinguishment of bush fires

Division 1 – Local governments

s. 39. Special powers of bush fire control officers

Bush Fires Act 1954

Part V – Miscellaneous

s. 57. Obstructing officers

All property assessments will commence as routines where the FCO will be assigned a workload determined by the Senior Fire and Emergency Management officer. The assignment will be reflective of the initial risk identification (refer pages 17-21). The assessments will capture a street by street approach and strategically move through the area.

An average number of properties will be confirmed after the first two weeks of assessments to review assignment of properties to the FCO and anticipated progress rates.

NOTE: *If any property owner and/or occupier obstructs, resists, hinders or in any way opposes the FCO in conducting their duties authorised under the Bush Fires Act 1954 (the Act) is committing an offence under s.57 of the Act.*

NOTE: *Permission to access properties for a fire hazard assessment is not required by the authorised officer (powers under section 14 of the Bush Fires Act 1954) however, all City officers will demonstrate respect and awareness when moving around properties and will capture all movements on allocated body cameras. Appointment requests will only be accepted after notification of an inaccessible property or extenuating circumstances approved by management.*

~~Properties deemed non-compliant by the officer will be marked using a fire hazard assessment application. This application will capture all requirements under the notice that have or have not been actioned by the property owner and/or occupier. Photos will also be taken and recorded as evidence of non-compliance.~~

The FCO will have the opportunity to act on properties deemed non-compliant by issuing a work order (appendix 5 page 53). Any infringements issued in the first instance will only occur if historic evidence displays continued non-compliance and significant risk to the surrounding community.

NOTE: *The FCOs are guided by the City's Enforcement policy.*

5.2.2.1 Non-compliant Outcome (Work orders)

A work order will commit the owner and/or occupier to a 14-day timeframe to have the requirements completed. All work orders issued are delivered via registered post. This ensures recorded evidence of outgoing mail delivery.

NOTE: *The City recognises the delay with Australia Post and is therefore inclusive of the 14-day timeframe in work orders. Registered mail that is returned unclaimed is not the responsibility of the City. Returned mail will be recorded as unclaimed and if contact details are available the City will endeavour to contact the owner.*

5.2.2.2 Work order extension requests

Extension approvals will be based on the following evidence:

- **Skip bins**

Owners and/or occupiers that obtain skip bins must supply proof of booking date from the company providing the skip bins to the FCO. From the delivery date the owner and/or occupier will be provided a further 48 hours to comply with the work order.

- **Contractors**

Owners and/or occupiers that engage contractors to complete works against the work order must provide the FCO with the start and completion date that has been booked, and/or a paid invoice along with the completion date. Required work must be completed as close as possible to the 14-day timeframe outlined on the work order but cannot exceed 21 days.

- **Other extenuating circumstances**

Owners and/or occupiers that are experiencing extenuating circumstances (e.g., medical/death in immediate family etc) and believe they cannot meet the requirements in a 14-day timeframe, must in writing apply for an extension to requirements outlined in the work order. The request will be reviewed and the applicant notified with an amended date if approved.

Residents requesting work order extensions due to financial hardship relating to COVID-19 may apply in writing or email with attached evidence to the City at enquiries@kalamunda.wa.gov.au or by mail. These requests will be reviewed and approved by senior management.

NOTE: *All requests for extensions for extenuating circumstances must have attached evidence that is current. Completion dates will be determined on a case by case review. The City will endeavour to work with property owners and/or occupiers that have extenuating circumstances to be bushfire prepared.*

5.2.2.3 Compliant Outcome

Properties assessed after a routine fire hazard assessment and marked as compliant will be entered into the fire hazard assessment application and no further action will be required unless a fire hazard complaint is received.

***NOTE:** A compliant outcome is only considered compliant for that date and time the property was assessed. Continuous maintenance is required to ensure fire hazards don't accumulate.*

5.2.2.4 Inaccessible properties

Properties where access by the FCO cannot be gained will be marked in the fire hazard assessment application as non-compliant until such time it can be assessed. The property owner will be notified by letter to contact the City within 14 days to organise a time when either owner and/or occupier is on site or for access to be made available.

If no contact has been made by the owner, normal process will be followed and a follow up assessment will be conducted to determine if access is possible (refer page 33).

***NOTE:** Non-compliance from the owner either verbally or in writing, denying access for a fire hazard assessment may constitute an obstruction offence under section 57 of the Bush Fires Act 1954.*

5.2.2.5 Fire hazard complaints (private property)

All complaints received by the Community Safety team will be subject to the same approach of routine and follow up assessments by an FCO. The property will be assessed and actioned appropriately maintaining a fair and equitable approach.

Should a property owner have a concern with the manner in which an assessment has been conducted and/or the requirements of a work order that has been issued, the assessment will be reviewed by the Senior Fire and Emergency Management Officer. A request for a review should be provided in writing to enquiries@kalamunda.wa.gov.au

***NOTE:** Fire hazard complaints for City reserves, parks or state managed land will be actioned under a different process.*

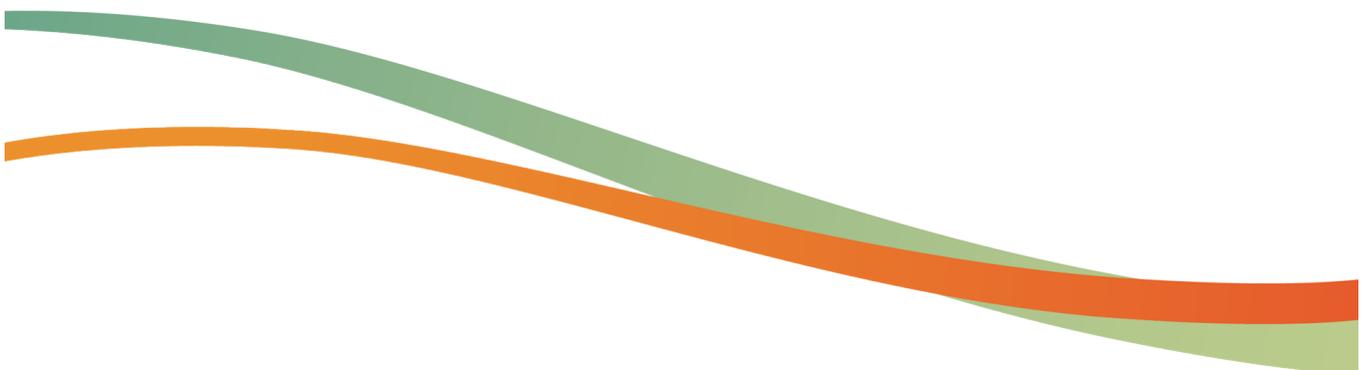
5.2.2.6 State land & Reserves

City reserves and verges are managed by the Parks and Environment team and hold their own strategies and mitigation plans. These parcels of land are not subject to a routine fire hazard assessment unless the FCO sights fire hazards as extreme or very high. Any complaints received regarding these parcels of land will be forwarded to the relevant contact for their action.

State land and UCL/UMR are subject to comply with the *Bush Fires Act 1954* and *Bush Fires Regulations 1954* however not routinely assessed by a City FCO due to the ongoing management and mitigation by state departments. Any complaints received will be requested to forward their concern or complaint direct to the department managing the land. If further requests are made for the City to action, the complaint will be forwarded to the relevant department contact for their action.

5.2.2.7 Zonings

Zonings are captured with properties in the process of a sale or division and are subject to a fire hazard assessment between 1 November to 31 March. Zoning assessments will be largely completed by the Ranger team, who are also authorised FCOs. Zoning assessments will be checked prior to assignment to ensure it has not already been completed by an FCO in their allocated area to avoid assessment duplication.



5.2.3 Follow up fire hazard assessments

Bush Fires Act 1954

Part III – Prevention of bush fires

Division 6 – General restrictions, prohibitions and offences

s. 33(3). The owner or occupier of land to whom a notice has been given under subsection (1) and who fails or neglects in any respect duly to comply with the requisitions of the notice is guilty of an offence.

Bush Fires (Infringements) Regulations 1978

First Schedule

Item 21

s. 33(3) Failure of owner or occupier of land to comply with a notice requiring him to take action to plough or clear firebreaks or take other action to prevent the outbreak or spread of bush fires

Follow up fire hazard assessments will be conducted after a 14-day timeframe outlined on issued work orders. Further action will be determined by the level of remaining fire hazards and works completed at the property.

5.2.3.1 Non-Compliant Outcome

Properties still deemed non-compliant after assessment will receive a second work order and infringement. A further 14 days will be provided to complete works as stated on the second work order.

5.2.3.2 Compliant Outcome

Properties assessed after a follow up and marked as compliant will be entered into the fire hazard assessment application and no further action will be required unless a fire hazard complaint is received (refer to page 31). *NOTE: A compliant outcome is only considered compliant for that date and time the property was assessed. Continuous maintenance is required to ensure fire hazards don't accumulate.*

5.2.3.3 Inaccessible properties

Properties where access was not achieved in the initial (routine) assessment and again after a follow up an infringement may be considered for obstruction under section 57 of the *Bush Fires Act 1954*. A letter notifying the owner to contact the City within 14 days is also sent to organise a time when either owner and/or occupier is on site or for access to be made available.

Properties where access was gained at the initial (routine), but not at a follow up will be marked in the fire inspection app as non-compliant until such time it can be assessed. The property owner will be notified by letter to contact the City within 14 days to organise a time when either owner and/or occupier is on site or for access to be made available.

If no contact has been made by the owner after 14 days a second follow up will be conducted and an infringement considered for obstruction.

NOTE: Non-compliance from the owner either verbally or in writing, denying access for a fire hazard assessment may constitute an obstruction offence under section 57 of the Bush Fires Act 1954.

5.2.3.4 Zoning follow ups

After a follow up is completed and if the property is still deemed non-compliant, an infringement will be issued to the current owner listed in the City's record. New owners that receive an infringement will either be required to take the matter to the property agent, pay the infringement and complete the works, or appeal on reasonable grounds for time to complete the works within 14 days.

NOTE: New owners that occupy the property will be issued a work order if deemed non-compliant to ensure fire hazards are actioned as per the Notice.



6. PHASE 6 – Enforcement (1 Nov – 31 Mar)

Bush Fires Act 1954

Part III – Prevention of bush fires

Division 6 – General restrictions, prohibitions and offences

s. 33 (4)(a) – the local government may direct its bush fire control officer, or any other officer of the local government, to enter upon the land of the owner or occupier and to carry out the requisitions of the notice which have not been complied with.

s. 33 (4)(b) – the bush fire control officer or other officer may, in pursuance of the direction, enter upon the land of the owner or occupier with such servants, workman, or contractors, and with such vehicles, machinery, and appliances as he deems fit, and may do such acts, matter and things as may be necessary to carry out the requisitions of the notice

6.1 Outline

FCOs will continue their follow ups on non-compliant properties until compliance is achieved. Generally at the third follow up assessment, an FCO may seek approval to proceed to engage a contractor to complete the works that haven't been actioned. Further action to proceed to prosecution will be determined by the City.

NOTE: *Infringements cannot be issued twice and the next available action should be considered.*

6.2 Execution

6.2.1 Non-Compliance

The infringement is issued under section 33(3) of the *Bush Fires (Infringements) Regulations 1978* reflective of section 33 of the *Bush Fires Act 1954*. If a follow up identifies the property is still non-compliant, a contractor may be engaged by the City and at the property owner and/or occupier's expense, as stated under the *Bush Fires Act 1954* s.33(5).

6.2.2 Engaging Contractors

The request to engage contractors to conduct requirements against a work order will be forwarded to senior management for review and approval. On approval, the contractor's invoice will be followed up through the finance team's internal processes. A completion date should follow the same 14-day timeframe for completion with no more than 21 days in total.

6.2.3 Infringement Appeals

Property owners and/or occupiers that are issued a section 33 bushfire infringement have the right to appeal. The request can be made online or by completing the infringement appeal form available at [Infringements Payment \(kalamunda.wa.gov.au\)](https://www.kalamunda.wa.gov.au/infringements-payment) or downloaded and emailed to enquiries@kalamunda.wa.gov.au.

On completion of the review process the outcome will be communicated to the infringement holder. If the infringement holder disagrees with the review outcome they can request to have the matter heard in court. This request must be presented in writing to the City.

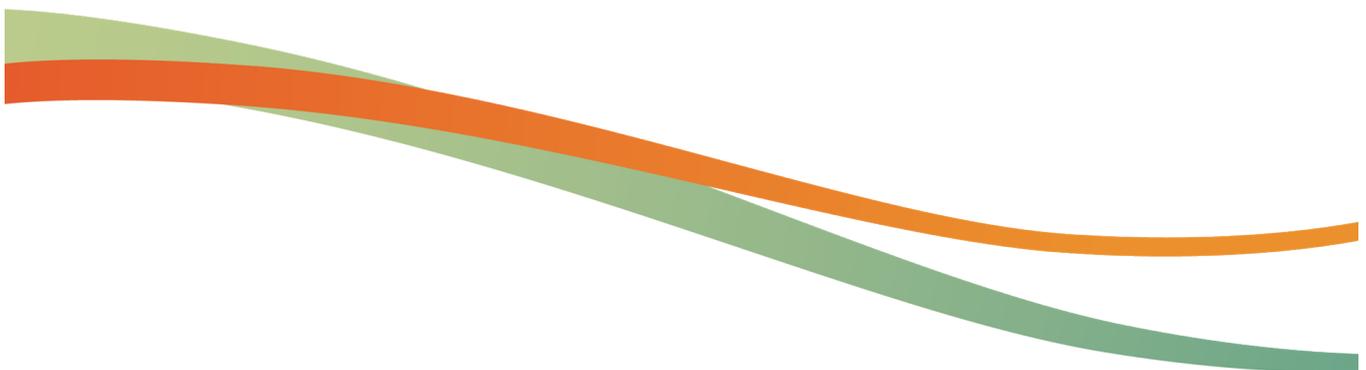
NOTE: *All bushfire infringement appeals must be made within a 21-day period. Any request for review after the 21-day period will be rejected unless evidence for reasonable grounds is given. If the infringement is not actioned it will proceed to the Fines and Enforcement Register (FER) and out of the City's control.*

If a property owner and/or occupier that has received a bushfire infringement but has in writing and with sufficient evidence requested assistance regarding payment due to COVID-19 financial hardship it will be forwarded to senior management for review and approval.

NOTE: *The COVID-19 infringement policy is in place to ensure a fair approach is taken.*

6.2.4 Prosecution

Any further action regarding bushfire matters heard in court will be at the discretion and approval of senior management.



APPENDIX 1 – Fire Hazard Reduction Notice



COMPLIANCE DUE BY: 1 NOV 2021

ASSESSMENTS COMMENCE FROM: 1 NOV 2021

FIRST AND FINAL NOTICE

FIRE HAZARD REDUCTION NOTICE

2021/2022

NOTICE TO ALL OWNERS AND OCCUPIERS OF LAND WITHIN THE CITY OF KALAMUNDA

Pursuant to Section 33 of the *Bush Fires Act 1954 (WA)*, the City of Kalamunda (City) gives written notice to act as specified in this notice to land that you own and/or occupy and with respect to any matter which is upon the land that you own and/or occupy within the City. Failure or neglect to comply with this notice is an offence and can result in a penalty of up to \$5000. The City advises that its officers, servants, workmen, contractors, vehicles, machinery, and appliances (as the officers deem fit) may carry out the requisitions of this notice that are not complied with by the date specified above, and any costs and expenses incurred may be recovered from you as the owner and/or occupier of the land.

ALL LAND WITH A TOTAL AREA OF 4000m² OR MORE

❑ FIRE BREAKS
Install or upgrade a **3-metre-wide by 4-metre-high clearance, bare mineral earth, continuous** (no dead ends) **trafficable** fire break as close as possible inside the entire perimeter of the land. Maintained, reticulated living lawns that are kept completely green is acceptable in conjunction with, or in lieu of, a mineral earth fire break/s (see definition FIRE BREAK).

❑ DEAD FLAMMABLE MATERIAL (DFM)
Reduce and/or maintain all dead flammable material below 8 tonne per hectare (see definition FUEL LOAD).

❑ SLASHING
Slash, mow, or trim dead grasses, dead shrubs, and dead plants to a height no greater than 50mm and remove cuttings/swath across the entire property.

❑ ASSET PROTECTION ZONE (APZ)
Maintain a fuel reduced zone around all buildings or assets which extends 20 metres from the outermost point of the building or asset.

- Gutters, roofs, and walls of all buildings to be free of flammable matter and maintained.
- Fuel load within the 20-metre zone is reduced and maintained to no more than 2 tonne per hectare.
- Trees over 5 metres in height within the 20-metre zone to be under pruned up to 2 metres.
- Trees or shrubs within 2 metres of the asset shall be pruned to a height no greater than 2 metres and/or pruned away from the asset to a distance no greater than 2 metres.

ALL LAND WITH A TOTAL AREA LESS THAN 4000m²

❑ DEAD FLAMMABLE MATERIAL
Reduce and/or maintain all dead flammable material below 8 tonne per hectare (see definition FUEL LOAD).

❑ SLASHING
Slash, mow, or trim dead grasses, dead shrubs, and dead plants to a height no greater than 50mm and remove cuttings/swath across the entire property.

❑ CLEAN GUTTER DEBRIS
Gutters, roofs, and walls of all buildings to be free of flammable matter and maintained.

VARIATION TO THE FIRE HAZARD REDUCTION NOTICE
If you consider it impractical to meet a requirement/s of this Notice, you may apply to the City for a variation **no later than 1 October 2021**.

Note: A variation is not an exemption but an application to employ other methods of property preparedness to land that you own and/or occupy.

An administration fee of \$150 applies for applications received after 1 October 2021.
If your application is not granted you must comply with all requirements outlined in the Fire Hazard Reduction Notice 2021/2022.

Variation request application forms are available before 1 October 2021 on the City's website at:
www.kalamunda.wa.gov.au/our-city/fire/variations

ADDITIONAL WORKS

You may be required to carry out further bushfire property preparedness works on your land to reduce any fire hazards considered necessary by a Fire Officer. If required, these will be outlined in a 'work order' and sent to the address of the owner and/or occupier.

EMERGENCY MANAGEMENT PLANS AND CITY APPROVED TREATMENT PLANS

All properties and/or land subject to a Bushfire Management Plan, Emergency Management Plan, or an approved Bushfire Attack Level assessment (BAL), as a result of subdivision, development application or a City approved treatment plan, must comply with the listed requirements in their entirety. **Compliance with any additional plans does not constitute compliance with this Notice.**

ENVIRONMENTAL CONDITIONS

Any property subject to environmental value such as, but not limited to, Threatened Ecological Communities (TEC), Bush Forever sites, Declared Rare Flora and Fauna (DRF) sites etc, should seek further information about what can or cannot be done prior to carrying out requirements under this Notice.

DEFINITIONS

FIRE BREAK: A strip of land free of all flammable material with the intention of minimising the spread or extension of a bushfire and provide safe access on the property for emergency vehicles and other firefighting operations.

- » Clearance must be no less than 3-metres wide and 4-metres in height inside and along all boundaries (including boundaries adjacent to roads, rail and drain reserves and all public open space reserves).
- » Must not be more than 4-metres wide (further width extensions may be considered upon written application for approval to the City).
- » Maintained, reticulated living lawns are lawns considered to be kept completely green. Driveways may be acceptable in conjunction with, or in lieu of, mineral earth fire breaks. Contact a City Fire Officer for further assistance.
- » Must have a corner turning radius of up to 10 metres.
- » Must be a mineral earth break with a continuous trafficable surface for a 4WD vehicle, be clear of any obstructions and must not terminate in a cul-de-sac (dead end).

FUEL LOAD: Can be live and dead vegetation that accumulates over time.

This Notice refers only to dead vegetation.

Fine fuels include = leaf litter, grasses, twigs (up to 6mm diameter), bark etc.

Heavy (course) fuels include = branches, logs, stumps etc.

- » A fuel load depth of 15mm (fine fuels) to the mineral earth is indicative of approximately 8 tonne per hectare. The more fuel load, the higher the flame height and increased fire intensity.
- » Mulch piles, stored firewood and burn piles can contribute to fuel loading on land and must be stored safely away from assets, removed from the property, or actioned as directed by a Fire Officer.

If you require any further information, please contact the City of Kalamunda Community Safety team on (08) 9257 9999, email at enquiries@kalamunda.wa.gov.au or visit www.kalamunda.wa.gov.au/fire

Rhonda Hardy
CHIEF EXECUTIVE OFFICER

kalamunda.wa.gov.au

T 9257 9999 F 9293 2715 E enquiries@kalamunda.wa.gov.au
2 Railway Road KALAMUNDA WA 6076 PO Box 42, KALAMUNDA WA 6926
ABN 60 741 095 678

APPENDIX 2 – Variation application

Request for Fire Hazard Reduction Notice Variation



Please complete and return this form which must be received no later than 1 October annually if you consider for any reason that it is impractical to meet a requirement of the current Fire Hazard Reduction Notice.

Applicant's Full Name: Date:

Postal Address:

Daytime Phone:

Email Address:

I consider it impractical to clear or construct firebreaks and/or carry out other bush fire prevention work in accordance with the City of Kalamunda Fire Hazard Reduction Notice issued in pursuant to section 33 of the Bush Fires Act 1954 at:

Variation Address:

Suburb: Post Code:

Property Size in m²:

Property Use (tick one): Vacant Residential Farming Orchard Cleared

Detailed Reason for Application

Attached a property map outlining the varied fire-break or preparation work to be conducted.
 You can obtain aerial maps from: <https://www.google.com.au/maps>

I have read and understood the requirements/conditions of a Variation to the Fire Hazard Reduction Notice and that an administration fee of \$150 applies for any application received later than 1 October

Some reasons the application may not be approved –

- There are dead-end fire breaks without sufficient turn around bays and signage.
- Application document is not filled out in its entirety.
- The applicant has the ability to achieve the requirements of the current Fire Hazard Reduction Notice as deemed by the Chief Bushfire Control Officer.
- No attempt of alternative works has been provided in the application.

NOTE: If permission is not granted for this application you must comply with all the relevant requirements of the current Notice.
If a variation is approved, the applicant must adhere to the approved works up until the 31 March. If the applicant fails to adhere to the specified conditions, the applicant may be subjected to non-compliance penalties.

Submission
 A variation is only valid for the current fire hazard assessment season. If a property requires a variation, applicants are required to apply every year before 1 October, requirements of the Notice may be subject to change. Residents are advised to refer to the current Fire Hazard Reduction Notice to determine if they still require a variation.
 An administration fee of \$150 applies for applications received after 1 October.

NOTE: If the form is submitted after 1 October and the administration fee is outstanding, the application will not be reviewed until the payment is received.

Property sale
 A variation belongs to the applicant. If a property is sold (new owners), the current variation becomes void. The new owner will have to apply for a new variation if they believe the current Notice requirement/s are impractical, or complete the requirements of the current Fire Hazard Reduction Notice in full. The City may not automatically approve a variation based on a previous application.
 For more information, visit the City's website and download the variation information sheet [here](#).

Application forms can be obtained by:

- Applying online 'Apply for a Variation' at the City of Kalamunda website at www.kalamunda.wa.gov.au/our-city/fire/reduction-notice.
- Downloading the form from the City of Kalamunda website at www.kalamunda.wa.gov.au/our-city/fire/reduction-notice and saving it to your computer.
- Requesting a form in person at the City of Kalamunda Offices.

Once complete:

- Email your completed application to enquiries@kalamunda.wa.gov.au
- Send via post to
 PO Box 42, KALAMUNDA WA 6926
 (accounting for any postal delays)
- In person visit the City of Kalamunda Offices at
 2 Railway Road, Kalamunda

Payment Method

<p> In Person 2 Railway Road, Kalamunda (Cash, Cheque, Money Order, Credit Card or EFTPOS)</p>	<p> Credit Card Payment Only Mastercard or Visa will be accepted (a surcharge of 0.46% is payable on all credit transactions).</p>
---	---

Payment by Credit or Debit Card

Cardholders Name: Mastercard Visa

Card Number:

Expiry Date: CVC:

Amount \$ 0.46% surcharge applies

Signature: Date:

kalamunda.wa.gov.au
 T 9257 9999 F 9293 2715 E enquiries@kalamunda.wa.gov.au
 2 Railway Road KALAMUNDA WA 6076 PO Box 42, KALAMUNDA WA 6926
 ABN 60 741 095 678

Appendix 3 – Fire hazard breakdown

FIRE BREAKS

Fire breaks are strips of bare mineral earth free of flammable material along the boundaries of properties or blocks of land. Fire breaks are installed and utilised for several important reasons.

- Safe access for firefighting vehicles to park or move around a property.
- Supports fuel load management such as planned burning.
- Supports firefighting operations such as back burning.
- Forms an effective break in both vertical and horizontal continuity of the vegetation, which reduces flame height and making suppression safer and easier.
- May slow or stop the spread of a low intensity fire.

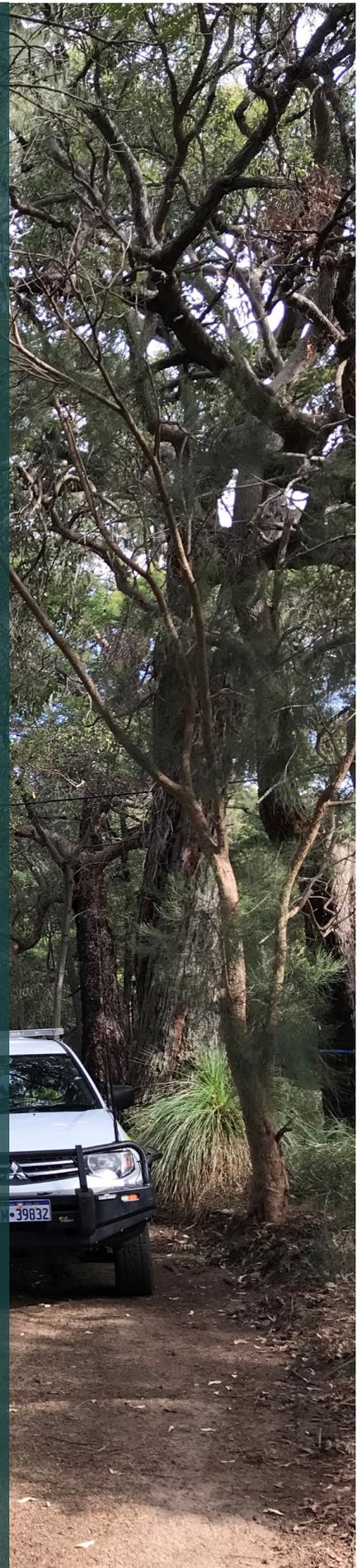


Fire breaks can often be installed using some of these methods:

1. Machinery such as dozers, front end loaders, skid steers, graders, or tractors.
2. Hand tools, such as rakehoes.
3. Ploughing.



Example of a good fire break



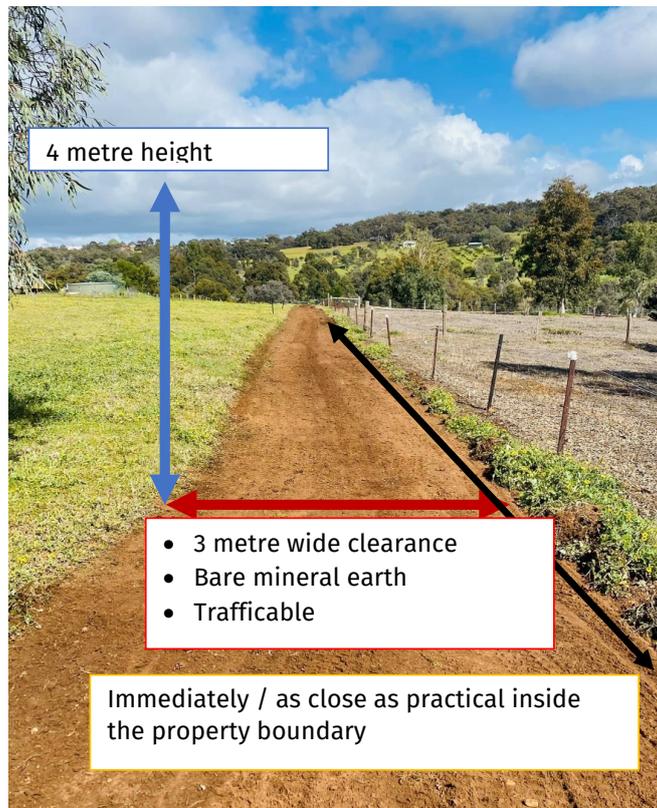
UNDERSTANDING FIRE BREAK REQUIREMENTS

All land with a total area of 4000m² or more

Install or upgrade a fire break that is 3 metres wide by 4 metre high clearance. This width means a firefighting appliance (like that on page 10) needs sufficient clearance to manoeuvre around bends and trees when driving fire breaks on properties. This height clearance ensures any low overhanging branches or bushes are trimmed reducing flame length making the chance for suppression easier and allowing good clearance for firefighters when on the back of firefighting vehicles.

Install or upgrade a fire break down to bare mineral earth, is trafficable and immediately (or as close as practical) inside the property boundary. This reduces a fire's ability to spread. It also provides a clear safe track for vehicles to follow and work from, especially when smoke reduces visibility.

A maintained, reticulated and living lawn that's kept completely green all year around is acceptable in lieu of and/or in conjunction of a mineral earth fire break. Dead fuels including grass provides easy fuel for fires to burn and spread at faster rates. A green lawn although will still burn, will burn slower and at a less intensity, allowing the ability to suppress easier.



GRASS, SHRUBS, PLANTS

Generally, grass growth across the winter and spring months (depending on seasonal conditions) is high and when the months start to heat up, we see this growth period end meaning plants and grass lose the ability to draw moisture from the soil.

As moisture slowly disappears from grasses and other vegetation we see the risk of fire potential increase and in turn creates the risk for fast moving fires across any terrain.

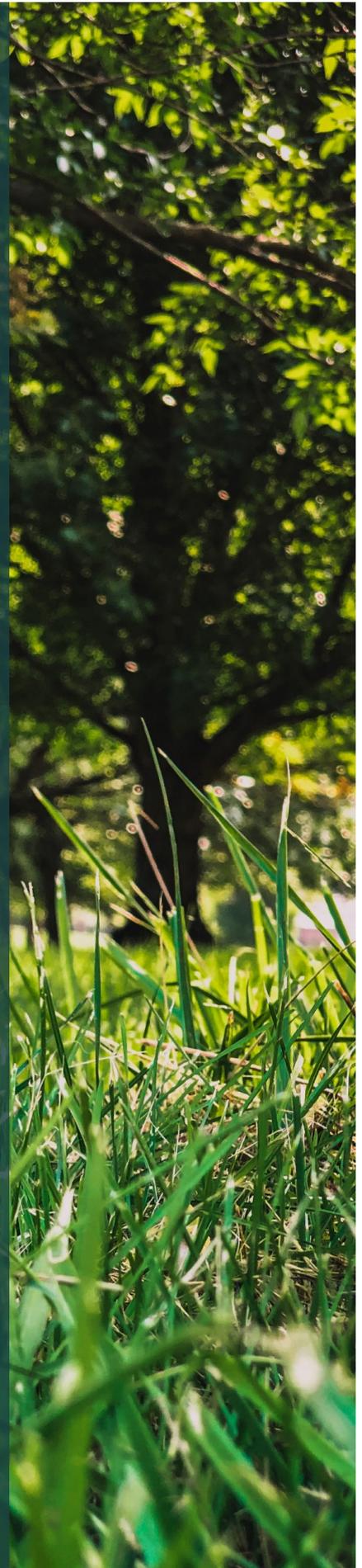
Grass is considered a fine fuel meaning it burns faster than bush or forests and can generate large amounts of radiant heat.



Grassfire - CFA Victoria 2021



Example of non-compliant grass



UNDERSTANDING SLASHING REQUIREMENTS

All land with a total area of 4000m² or more + All land with a total area less than 4000m²

Slash, mow, or trim dead grasses, dead shrubs and dead plants to a height no greater than 50mm. Managing dead grasses, dead shrubs and dead plants aids in reducing dead flammable material across the entire property. It also reduces flame height potential and rate of spread, particularly across open land where fire is driven by wind. The combination of fire breaks and short grass can mean a better defensible space around the home and other assets, limiting the ability of igniting the building through direct flame contact or radiant heat.

The 50 mm requirements is a common measurement for most grasses to be mown down to whether dead or living (Bunnings, 2021).

Remove cuttings/swath across the entire property. This means once you've slashed or mowed the grass the clippings need to be removed. Cuttings from dead grass creates another fire hazard and contributes to the overall fuel load on the property. Leaving clumps of dead grass clippings means fine fuels sit on the surface of the ground increasing the risk of flame height and radiant heat.

DEAD FLAMMABLE MATERIAL (DFM)

For fires to burn they need some sort of fuel to sustain it. For bushfires it's the 'fuel' found on the surface of the ground and 'fuels' elevated from the ground such as shrubs and bushes. Fuel is the only factor in the fire triangle that we can control meaning we have the ability to reduce the chance of a fires intensity particularly around the home.

Reducing fuel loads can be conducted in various ways, such as:

Hazard reduction burns which aims to reduce the amount of surface litter and elevated fuels. It is best achieved by conducting a low intensity (cool) burn.

Vegetation modification. Burning may not always be the best option to reduce fuel loads as burning too frequently can encourage weeds which consequently creates a fire hazard. Modification can be more economical and environmentally sustainable and can include:

- Raking,
- weed slashing,
- pruning,
- ploughing and other mechanical means.



Mechanical removal of the skirt from grass trees



UNDERSTANDING DEAD FLAMMABLE MATERIAL REQUIREMENTS

All land with a total area of 4000m² or more & All land with an area less than 4000m²

Reduce and/or maintain all dead flammable material below 8 tonner per hectare. 8 tonne is calculated as an average amount of fuel loading where bushfires can be safely and effectively suppressed by machines, tankers, water bombers and direct attack by firefighters (roughly 2000kW/m - 3000kW/m or less). This means a properties chance of defendability is increased (but not gurenteed).

This requirement is not asking property owners or residents to clear or remove all available dead flammable material but instead reduce it to a level that aids firefighting operations and reduces the severity of fire behaviour.

ASSET PROTECTION ZONE (APZ)

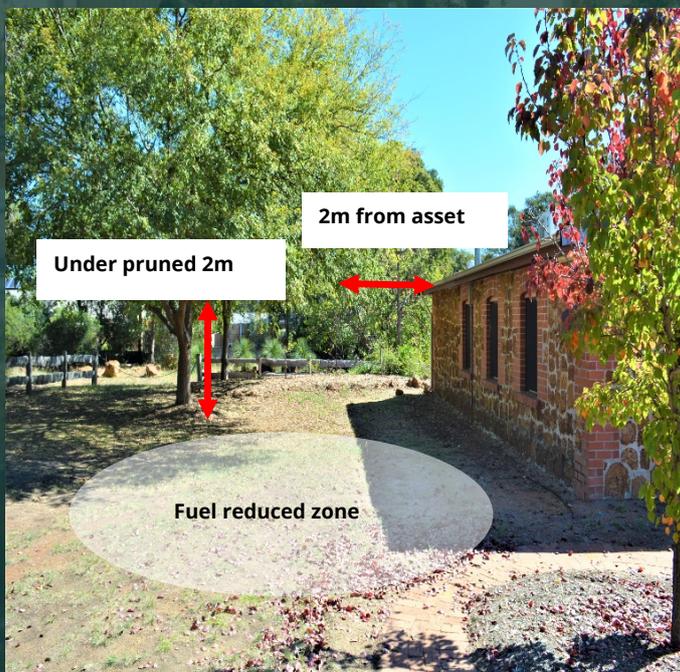
Rural-urban interface is the area where structures and other human development adjoin or overlap with undeveloped bushland. This is where the degree of risk to life and property is most pronounced, and historically where the greatest losses have occurred.

Life and property protection in the urban-rural interface (RUI) is best achieved through a combination of risk management strategies, such as pruning trees and shrubs, reducing fuel loads and removing any dangerous or flammable materials (eg fuels) from around the asset.

An asset protection zone (APZ) is commonly a 20 metre area surrounding any asset or home on the property and involves certain measures to ensure its preparedness against a bushfire threat.

The objectives of an APZ is to:

- Provide separation between buildings and the bushfire hazard to reduce the level of bushfire attack on buildings or other assets.
- Minimise the likelihood and impact of direct flame contact, radiant heat, and ember attack from a bushfire.



Example of required work within an APZ



UNDERSTANDING ASSET PROTECTION ZONE REQUIREMENTS (incl gutters)

All land with a total area of 4000m² or more + All land with an area less than 4000m²

Keep gutters, roofs and walls of buildings free of flammable matter and maintain them in this state. Keeping gutters free of flammable material reduces the likelihood of embers during a fire landing in or under gutters causing fires to spread into roof spaces. Embers can travel for kilometres so even if a bushfire isn't threatening the area directly embers can still be a threat to the home.

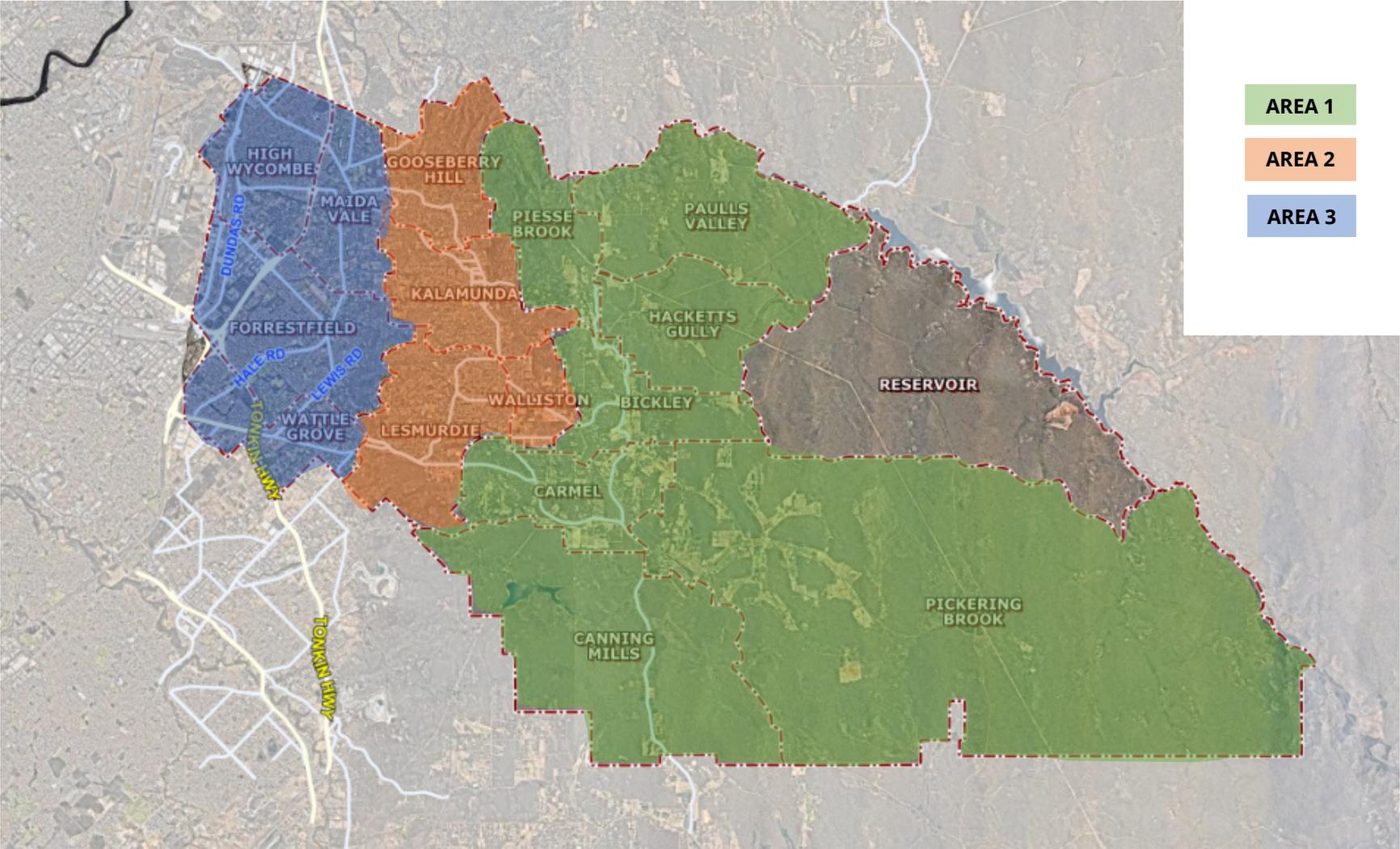
Keep fuel loads within the 20 metre APZ reduced and maintained no more than 2 tonner per hectare. 2 tonne is calculated the same as how 8 tonne per hectare is. It's an average amount of fuel loading where bushfires can be safely and effectively suppressed. This means a properties chance of defendability is increased (but not gurenteed).

This requirement is not asking property owners or residents to clear or remove all available dead flammable material but instead reduce it to a level that aids firefighting operations and reduces the severity of fire behaviour.

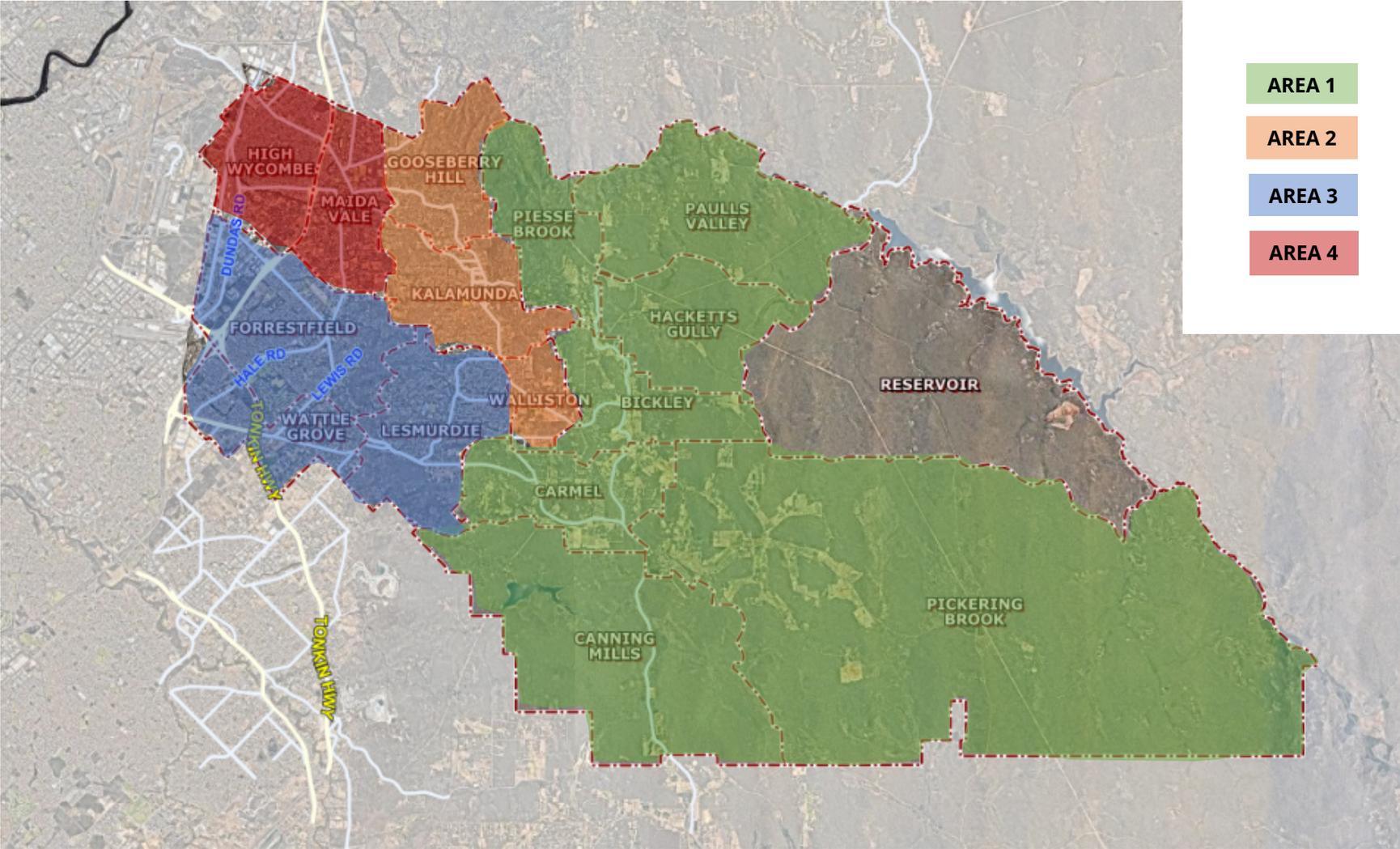
Within the 20 metre APZ any tree over 5 metres in height must be under pruned up to a height of 2 metres. Underpruning large trees within the 20 meter asset protection zone means less fuel for a fire to burn and travel.

Within 2 metres of the building any trees or shrubs need to be pruned away from the building no less than 2 metres away and pruned down to a height no more than 2 metres. Pruning shurbs, branches and smaller trees within the 2 meters of the asset or home means less fuel for a fire to burn and travel. This also means a reduction in flame height that can impact a home directly.

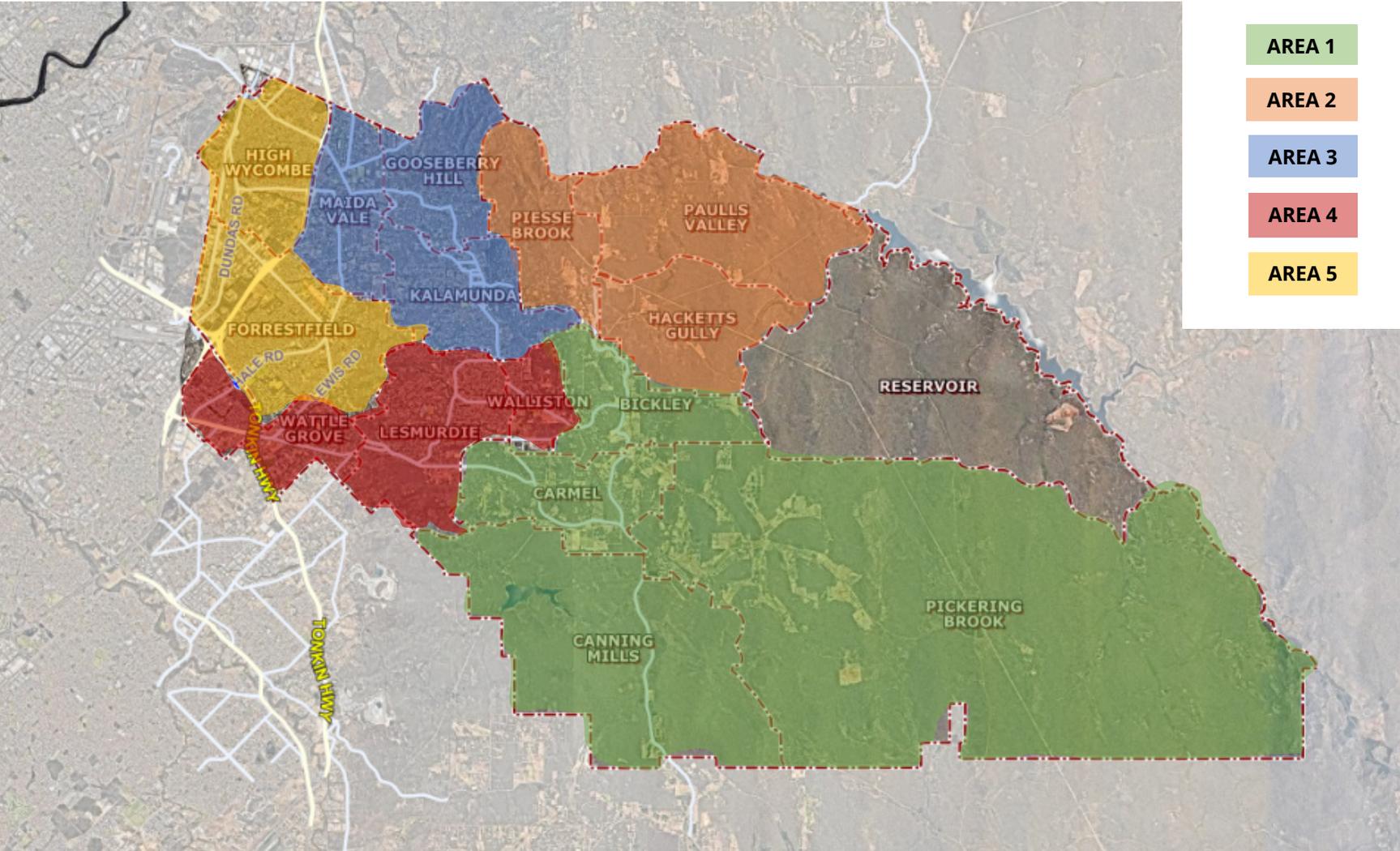
Appendix 4 – Area Allocation – 3 FCOs



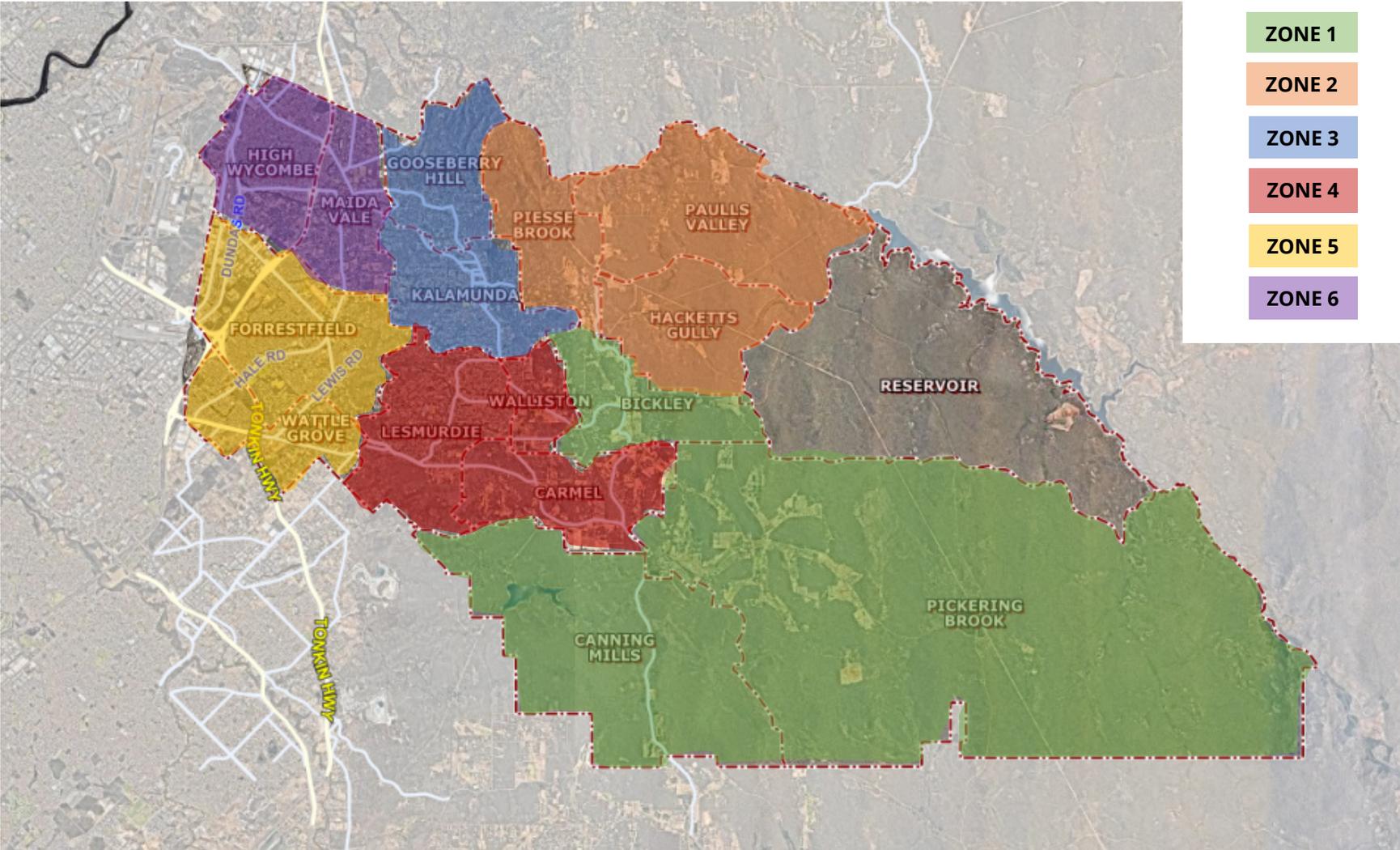
Area Allocation – 4 FCOs



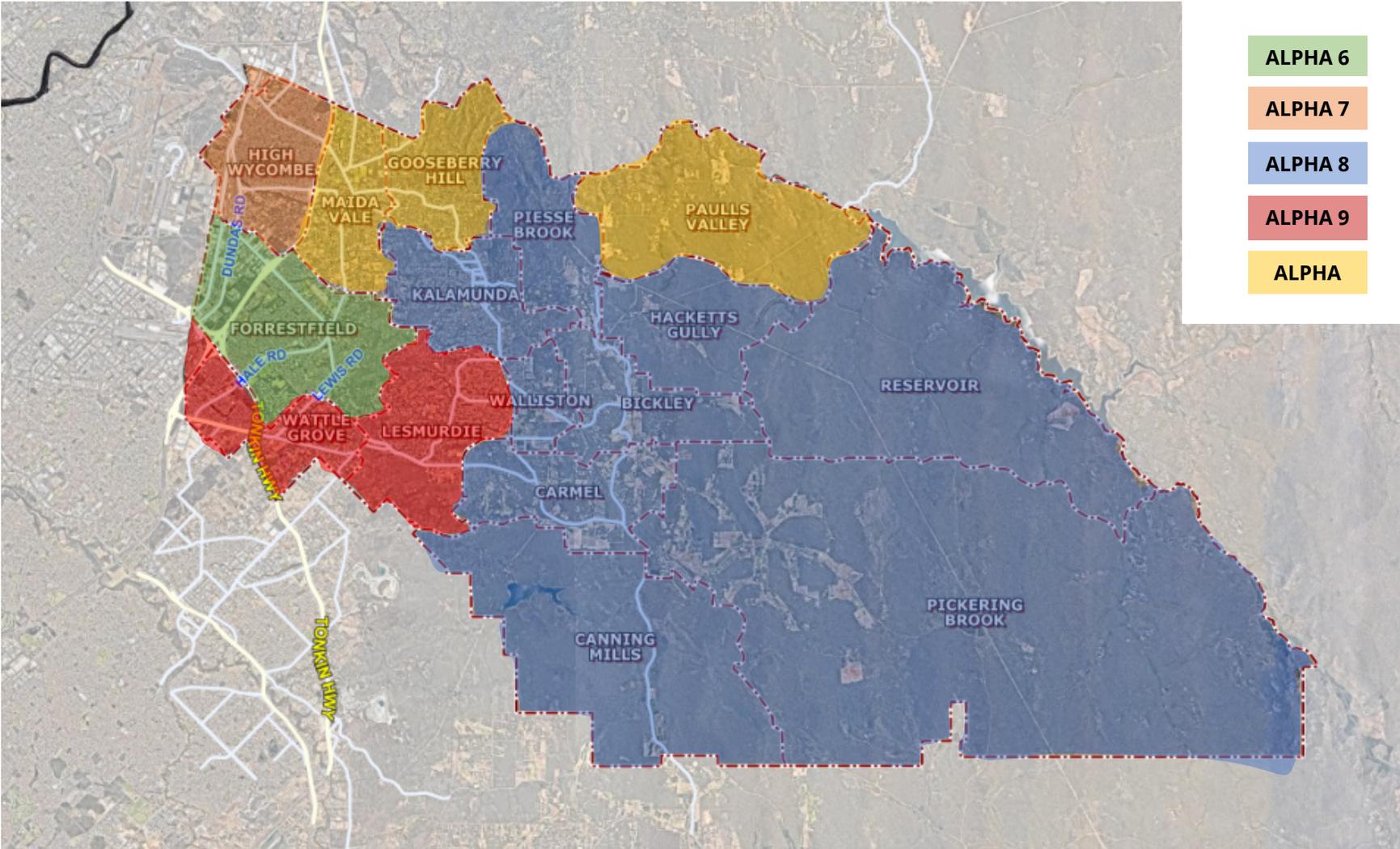
Area Allocation – 5 FCOs



Area Allocation – 6 FCOs



Zone Allocation – Rangers



APPENDIX 5 – Work order letter



Fire Hazard Assessment Work Order

Owner: Full Name
Address: xx ROAD/STREET
 SUBURB WA POSTCODE

Assessment No.: Axxxxxx
Result: **NON-COMPLIANT**
Time & Date: 0:00 PM Day Month Year
Fire Control Officer: First name Last name

IMPORTANT: The requirements in this work order must be completed by the date noted below and maintained in this state up to and including 31 March 2021.

Dear Property Owner,

Fire hazard reduction requirements are set out in the 2020/2021 Fire Hazard Reduction Notice and must be in place by 1 November of each year and maintained until 31 March of the following year. A recent property assessment has revealed that your property LOT XXX, ADDRESS SUBURB POSTCODE is non-compliant against the requirements set out in the 202x/202x Fire Hazard Reduction Notice. The following are required to be **actioned** in accordance with the *Bush Fires Act 1954*, section 33 and **completed by** Date.

- Install and/or upgrade all fire breaks around the property boundaries to reflect the minimum standards of being trafficable, bare mineral earth, 3 metres wide by 4 metre height clearance and free of all flammable matter.
- Slash, mow or trim down all dead grass, dead shrubs, and dead plants to a height no greater than 50mm across the entire property.
-

If you wish to discuss concerns with Work Orders issued, please contact the City on 9257 9999.

Yours sincerely,

Officer Name
Fire Control Officer

kalamunda.wa.gov.au
 T 9257 9999 F 9293 2715 E enquiries@kalamunda.wa.gov.au
 2 Railway Road KALAMUNDA WA 6076 PO Box 42, KALAMUNDA WA 6926
 ABN 60 741 095 678

REFERENCES

- AFAC Community Engagement Technical Group., Bushfire and Natural Hazard CRC. *Resilience through Community Risk Reduction*. (2019). [PDF] (v1., pp. 2-5). AFAC: Melbourne. Retrieved from, <https://www.afac.com.au/insight/doctrine/article/current/resilience-through-community-risk-reduction>
- Australian Institute for Disaster Resilience Glossary. (2020) Retrieved from, <https://knowledge.aidr.org.au/glossary/?wordOfTheDayId=&keywords=&alpha=C&page=1&results=500&order=AZ>
- Commonwealth of Australia. (2018). *National Disaster Risk Reduction Framework* [PDF] (pp. 4-5). Australian Capital Territory. Retrieved from, <https://www.homeaffairs.gov.au/emergency/files/national-disaster-risk-reduction-framework.pdf>
- Department of Fire and Emergency Services. (2016). *DFES Strategic Plan 2016 - 2028* [PDF] (pp. 5-6). Western Australia. Retrieved from, <https://www.dfes.wa.gov.au/publications/Pages/default.aspx>
- Department of Fire and Emergency Services. Map of Bush Fire Prone Areas. (2021). Retrieved from, [Map of Bush Fire Prone Areas \(slip.wa.gov.au\)](http://slip.wa.gov.au)
- Hughes, L., Steffen, W., Mullins, G., Dean, A., Weisbrot, E., Rice, M. (2020). [PDF] (pp. 1-7). *Summer of Crisis*. Climate Council of Australia. Retrieved from, <https://www.climatecouncil.org.au/wp-content/uploads/2020/03/Crisis-Summer-Report-200311.pdf>
- Nolan, D., Thornton, D., Clarke, D., & Cruz, D. (2017). How does fire move through the landscape?. Retrieved from, <https://www.science.org.au/curious/earth-environment/things-you-need-know-about-bushfire-behaviour>
- Nogrady., B. (2015). Bushfire basics: what you need to know. Retrieved from <https://blog.csiro.au/bushfire-basics/>
- Country Fire Authority Victoria. Grassfires – Rural. (2021). Retrieved from <https://www.cfa.vic.gov.au/plan-prepare/am-i-at-risk/grassfires-rural>
- Department of Biodiversity, Conservation and Attractions. Fuel loads and fire intensity. (2013). Retrieved from <https://www.dpaw.wa.gov.au/management/fire/fire-and-the-environment/51-fuel-loads-and-fire-intensity?fbclid=fbclid=IwAR3KmGOVmU-IJRH1vQqJu4758IPqQHciAOnRCQEWL3x747P-mypyKnt0N8>

Bushfire emergency information is available from



EMERGENCY WA
Emergency.wa.gov.au



13 3337
1800 555 677 (**National relay service**) – hearing impaired



LOCAL RADIO
Check the frequency in the area.



CALL TRIPLE ZERO (000)
Fire and/or life threatening emergencies



City of Kalamunda
2 Railway road, KALAMUNDA, WA 6076
PO Box 42, Kalamunda WA 6926
T: 08 9257 9999
E: enquiries@kalamunda.wa.gov.au
Kalamunda.wa.gov.au