



*City of South Perth*

# Bushfire Risk Management Plan

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**2022 – 2027**

*Office of Bushfire Risk Management (OBRM) BRM Plan reviewed 12/04/2022*

*City of South Perth Council BRM Plan endorsed 28/06/2022*

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## Document Control

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## Document Endorsements

The City of South Perth Council endorses that the Bushfire Risk Management Plan (BRM Plan) has been reviewed and assessed by the Office of Bushfire Risk Management as compliant with the standard for bushfire risk management planning in Western Australia, the *Guidelines for Preparing a Bushfire Risk Management Plan*. The City of South Perth is the owner of this document and has responsibility, as far as is reasonable, to manage the implementation of the BRM Plan and facilitate the implementation of bushfire risk management treatments by risk owners. The approval of the BRM Plan by the City of South Perth Council satisfies their endorsement obligations under *State Hazard Plan*.

Local Government	Representative	Signature	Date
City of South Perth	Mark Taylor, Director Infrastructure Services		14/03/2022

## Reviewing Officers List

Version	Date	Officer Name	Business Unit	Status
V 1.0	February 2018	David Fyfe, Infrastructure Planning Officer	Infrastructure Planning	Reviewed
V 1.1	May 2020	Yulia Volobueva, Environment Coordinator	Assets and Design	Reviewed
V1.1	May 2020	Patrick Quigley, Manager Community, Culture and Recreation	Community, Culture and Recreation	Reviewed
V1.1	May 2020	Mark Taylor, Director Infrastructure services	Infrastructure Services	Reviewed
V1.1	May 2020	Bernadine Tucker, Manager Governance	Governance	Reviewed
V1.1	May 2020	Steve Atwell, Manager Programs Delivery	Programs Delivery	Reviewed
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V1.1	May 2020	Lisa Williams, Marketing Coordinator	Governance	Reviewed
V1.2	November 2021	Yulia Volobueva, Environment Coordinator	Assets and Design	Reviewed
V1.2	November 2021	Paul Reed, Natural Areas Supervisor	Programs Delivery	Reviewed
V1.2	November 2021	Michael O'Regan, Coordinator Ranger Services	Ranger Services	Reviewed

Note: This BRM Plan has been reviewed and approved by above officers. The document review and approval workflow has been recorded in the document (D-20-48413).

## **Publication Information**

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# 1. Introduction

## 1.1 Background

Under the State Hazard Plan an integrated Bushfire Risk Management Plan (BRM Plan) is to be developed for local government areas with significant bushfire risk. Despite the City of South Perth's insignificant bushfire risk classification by DFES this BRM Plan has been prepared for the City as a duty of care in accordance with the requirements of *State Hazard Plan* and in accordance with the *Guidelines for Preparing a Bushfire Risk Management Plan 2020* (Guidelines) from the Office of Bushfire Risk Management (OBRM) within the Department of Fire and Emergency Services (DFES). The risk management processes used to develop this BRM Plan are aligned to the key principles of *AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines* and those described in the *National Emergency Risk Assessment Guidelines* (NERAG 2015). This approach is consistent with State Emergency Management (SEM) policy and Mitigation Procedure 1.

This BRM Plan is a strategic document that identifies assets at risk from bushfire and their priority for treatment. The Treatment Schedule sets out a broad program of coordinated multi-agency treatments to address risks identified in the BRM Plan. Government agencies and other land managers responsible for implementing treatments participate in developing the BRM Plan and Treatment Schedule to ensure treatment strategies are collaborative and efficient, regardless of land tenure.

## 1.2 Aim and Objectives

The aim of the BRM Plan is to document a coordinated and efficient approach toward the identification, assessment and treatment of assets exposed to bushfire risk within the City of South Perth.

The objective of the BRM Plan is to effectively manage bushfire risk within the City of South Perth in order to protect people, assets and other things of local value. Specifically, the objectives of this BRM Plan are to:

- Guide and coordinate a tenure blind, multi-agency bushfire risk management program over a five year period
- Document the process used to identify, analyse and evaluate risk, determine priorities and develop a plan to systematically treat risk
- Facilitate the effective use of the financial and physical resources available for bushfire risk management activities
- Integrate bushfire risk management into the business processes of local government, land owners and other agencies
- Ensure there is integration between land owners and bushfire risk management programs and activities
- Monitor and review the implementation of treatments to ensure treatment plans are adaptable and risk is managed at an acceptable level.

### **1.3 Legislation, Policy and Standards**

The following legislation, policies and standards were considered to be applicable in the development and implementation of the BRM Plan.

#### **1.3.1 Legislation**

- Bush Fires Act 1954
- Emergency Management Act 2005
- Aboriginal Heritage Act 1972
- Biodiversity Conservation Act 2016
- Building Act 2011
- Bush Fires Regulations 1954
- Conservation and Land Management Act 1984
- Emergency Management Act 2005
- Emergency Management Regulations 2006
- Environmental Protection Act 1986
- Environmental Protection and Biodiversity Conservation Act 1999
- Fire Brigades Act 1942
- Fire and Emergency Service Act 1998
- Metropolitan Water Supply, Sewerage and Drainage Act 1909
- Planning and Development (Local Planning Scheme) Regulations 2015
- Wildlife Conservation Act 1950

#### **1.3.2 Policies, Guidelines and Standards**

- AS/NZS ISO 31000:2009 - Risk Management – Principles and Guidelines
- AS 3959-2009 Construction of Buildings in Bushfire-Prone Areas (Standards Australia 2009)
- Building Protection Zone Standards (DFES)
- Bushfire Risk Management Planning Risk Assessment Tools 2020
- City Policy P207 – Natural Areas
- City Policy P695 – Risk Management
- City of South Perth Health Local Laws 2002
- City of South Perth Local Emergency Management Arrangements (LEMA) Plan 2020
- City of South Perth Local Planning Strategy 2021
- City of South Perth Risk Management Strategy
- City of South Perth Strategic Community Plan 2020-2030
- Clontarf - Waterford - Salter Point Foreshore Masterplan 2019
- Collier Park Golf Course Environmental Management Plan 2004
- Cygnia Cove Natural Areas Management Plan 2017
- Firebreak Location, Construction and Maintenance Guidelines (DFES)
- Green Plan 2002
- Guidelines for Planning in Bushfire Prone Areas 2015
- Guidelines for Plantation Fire Protection (DFES 2011)
- Guidelines for Preparing a Bushfire Risk Management Plan 2020 (DFES 2020)
- Kwinana Freeway Foreshore Management Plan 2014
- National Emergency Risk Assessment Guidelines (NERAG) (Second Edition 2015)

- State Emergency Management Policy 2.5 – Local Arrangements
- State Emergency Management Policy 3.2: - Emergency Risk Management Planning
- State Hazard Plan Fire (Westplan Fire)
- State Planning Policy 3.7: Planning in Bushfire Prone Areas
- State Planning Policy 3.4: Natural Hazards and Disasters
- Western Australian Emergency Risk Management Guidelines (Emergency Management WA 2005)

### **1.3.3 Other Related Documents**

- A Guide to Constructing and Maintaining Fire Breaks (DFES 2018)
- A Guide to the Use of Pesticides in Western Australia (Dept. of Health 2010)
- Australian Disaster Resilience Handbook 10: National Emergency Risk Assessment Guidelines (Australian Institute for Disaster Resilience 2015)
- National Strategy for Disaster Resilience
- National Statement of Capability for Fire and Emergency Services (AFAC 2015)
- Public Service Circular No. 88 Use of Herbicides in Water Catchment Areas (Dept. of Health 2007)
- Code of Practice for Timber Plantations in Western Australia (Forest Products Commission 2006)
- Bushfire Risk Management Planning Handbook
- Bushfire Risk Management System (BRMS) User Guide v8.0 (August 2021)
- Overall Fuel Hazard Assessment Guide (2010)
- A Guide to Preventing and Suppressing Bushfires on Organic and Acid Sulphate Soils



## 2. The Risk Management Process

The risk management processes used to identify and address risk in this BRM Plan are aligned with the international standard for risk management, AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines. This process is outlined in Figure 1 below.

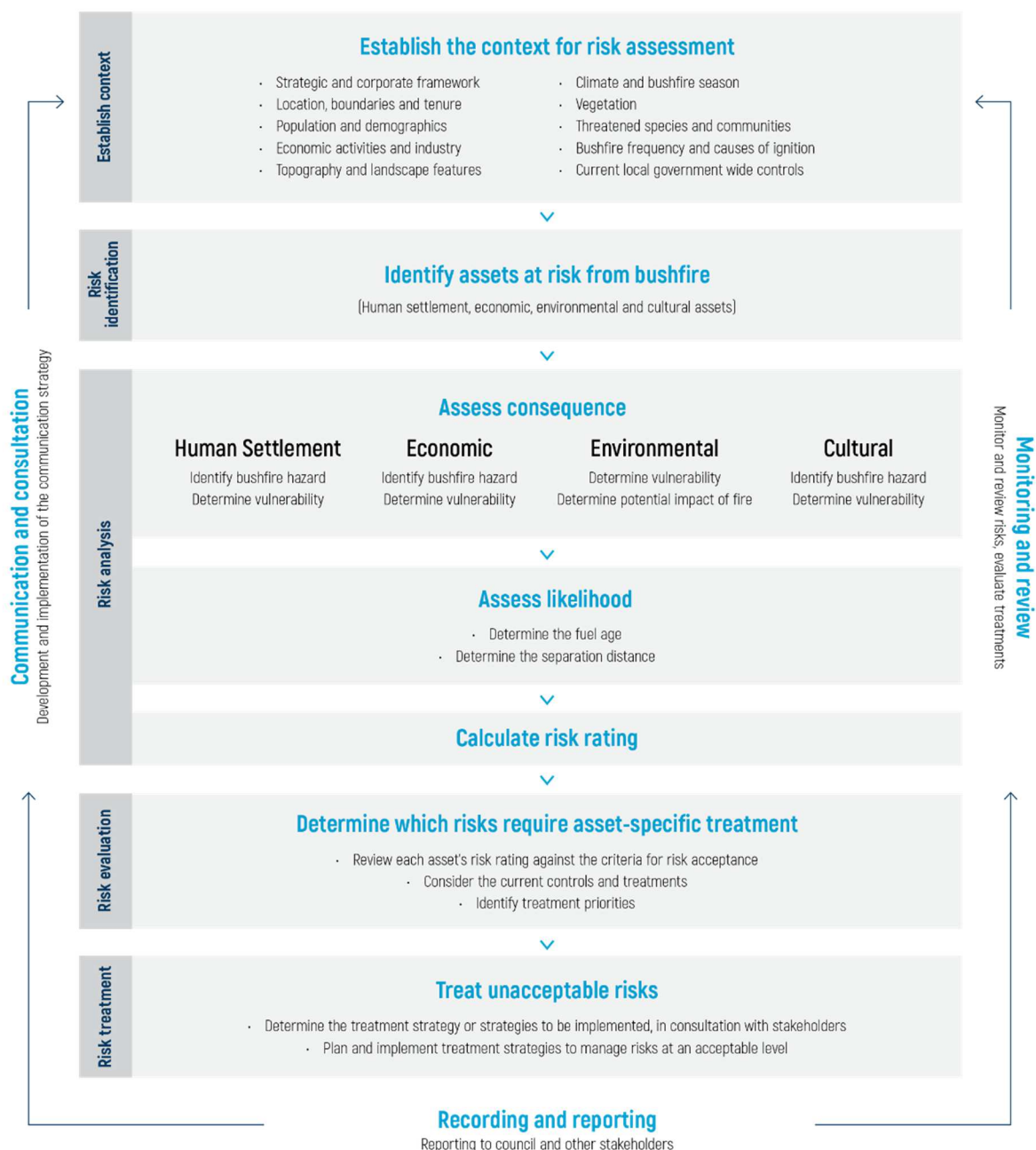


Figure 1 - An Overview of the Risk Management Process <sup>1</sup>

<sup>1</sup> Source: AS/NZS ISO 31000:2009, Figure 1, reproduced under SAI Global copyright Licence 1510-c081.

## 2.1 Roles and Responsibilities

The roles and responsibilities of the key stakeholders involved in the development of the BRM Plan are outlined in Table 1.

Table 1 – Roles and Responsibilities

Stakeholder Name*	Roles and Responsibilities
<b>Local Government</b>	<ul style="list-style-type: none"> <li>▪ As custodian of the BRM Plan, coordination of the development and ongoing review of the integrated BRM Plan</li> <li>▪ Negotiation of commitment from land owners to treat risks identified in the BRM Plan</li> <li>▪ As treatment manager, implementation of treatment strategies</li> <li>▪ As part of the approval process, submission of the draft BRM Plan to the Office of Bushfire Risk Management (OBRM) to review it for consistency with the Guidelines</li> <li>▪ As part of the approval process, submission of the final BRM Plan to council for their endorsement and adoption</li> </ul>
<b>Department of Fire and Emergency Services (DFES)</b>	<ul style="list-style-type: none"> <li>▪ Participation in and contribution to the development and implementation of BRM Plans, as per their agency responsibilities as the State Hazard Plan -Fire Hazard Management Agency for Bushfire</li> <li>▪ Support to local government through expert knowledge and advice in relation to the identification, prevention and treatment of bushfire risk</li> <li>▪ Facilitation of local government engagement with state and federal government agencies in the local planning process</li> <li>▪ Undertake treatment strategies, including prescribed burning on behalf of Department of Lands for Unmanaged Reserves and Unallocated Crown Land within gazetted town site boundaries</li> <li>▪ In accordance with Memorandums of Understanding and other agreements, implementation of treatment strategies for other landholders</li> </ul>
<b>Office of Bushfire Risk Management (OBRM)</b>	<ul style="list-style-type: none"> <li>▪ Under the OBRM Charter, to ensure bushfire risk is managed in accordance with AS/NZS ISO 31000 and reporting on the state of bushfire risk across Western Australia</li> <li>▪ Review BRM Plans for consistency with the Guidelines prior to final endorsement by Council</li> </ul>
<b>Department of Biodiversity Conservation and Attractions (DBCA)</b>	<ul style="list-style-type: none"> <li>▪ Participation in and contribution to the development and implementation of BRM Plans</li> <li>▪ Providing advice for the identification of environmental assets that are vulnerable to fire and planning appropriate treatment strategies for their protection</li> <li>▪ As treatment manager, implementation of treatment strategies on department managed land and for Unmanaged Reserves and Unallocated Crown Land outside gazetted town site boundaries</li> <li>▪ In accordance with Memorandums of Understanding and other agreements, implementation of treatment strategies for other landholders</li> </ul>
<b>Other State and Federal Government Agencies</b>	<ul style="list-style-type: none"> <li>▪ Assist the local government by providing information about their assets and current risk treatment programs</li> <li>▪ Participation in and contribution to the development and implementation of BRM Plans</li> <li>▪ As treatment manager, implementation of treatment strategies</li> </ul>

Stakeholder Name*	Roles and Responsibilities
<b>Public Utilities</b>	<ul style="list-style-type: none"> <li>▪ Assist the local government by providing information about their assets and current risk treatment programs</li> <li>▪ Participation in and contribution to the development and implementation of BRM Plans</li> <li>▪ As treatment manager, implementation of treatment strategies</li> </ul>
<b>Corporations and Private Land Owners</b>	<ul style="list-style-type: none"> <li>▪ As treatment manager, implementation of treatment strategies</li> </ul>

## 2.2 Communication & Consultation

As indicated in Figure 1, communication and consultation throughout the risk management process is fundamental to the preparation of an effective BRM Plan. To ensure appropriate and effective communication occurred with relevant stakeholders in the development of the BRM Plan, a Communication Plan was prepared. The plan is provided at Appendix 5.

## 3. Establishing the Context

The City recognises that it has a responsibility for the Prevention, Preparedness, Response and Recovery (PPRR) from a range of potential threats to the people, physical environment (both built & natural), economic and social fabric of the community, including the threat of bushfire. The City maintains a joint Local Emergency Management Committee (LEMC) with the City of Canning to oversee and advise the City in matters pertaining to Emergency Management, including Bushfire Risk Management.

### 3.1 Description of the Local Government and Community Context

#### 3.1.1 Strategic and Corporate Framework

The City of South Perth has developed a suite of Local Emergency Management Arrangements (LEMA) and this Bushfire Risk Management Plan that is an integral part of LEMA Plan 2020 that includes the Local Emergency Welfare Plan, Local Recovery Plan and Crisis Communications Plan.

The BRM Plan and Bushfire Risk Management System (BRMS) outputs will be utilised in the review and refinement of existing works programs that are designed to reduce bushfire risk in the local government area. The Local Emergency Management Committee (LEMC) and Bushfire Advisory Committee (BFAC) are encouraged to utilise the BRM Plan in addressing bushfire risk throughout the City of South Perth and are encouraged to reference the BRM Plan in Local Emergency Management Arrangements (LEMAs).

Responsibility for the Bushfire Risk Management Planning process rests with a number of business units in the City, each of which have contributed to the development of this plan. They include: Governance, Community and Culture and Recreation, Rangers, Urban Planning, Strategic Planning (land use planning), Infrastructure Planning, Asset and Design and Programs Delivery.

The natural areas maintenance team, of the Program Delivery business unit, is responsible for implementing treatments aimed at managing and reducing potential fuel loads in the City's managed nature reserves and public open spaces that have been identified in the Bushfire Prone Areas in Figures 2 and 3. The City's rangers deal with various response and recovery measures in case of bushfires, they also undertake fuels load assessments and are authorised to issue firebreak notices.

The City of South Perth is an inner urban local government and, as such, does not have as significant bushfire risk as more rural local governments. For this reason, there is perceived to be a low overall propensity of bushfires in the City. In accordance with the City’s bushfire risk assessment approximately 324 residential properties, 2 private and 3 state education institutions, 3 retirement villages, 1 private and 3 state government institutions within the City are at risk of fire or designated as being in a bushfire prone area. However, it is likely that very few owners or occupiers of these properties and institutions are aware of this designation or fire risk levels, the implied threat that this recognises, or the impact and obligations imposed for future improvement or development of those properties. To address this issue the City commenced a bushfire risk awareness campaign via a direct engagement with the owners of affected properties and broad community education. The City delivers Bushfire risk messaging through the website and community sustainability education workshops.

### 3.1.2 Location, Boundaries and Tenure

The City of South Perth is an established, predominantly private residential Local Government Area in Western Australia. The City covers nearly 20 square kilometres and is situated two kilometres across the Swan River from the Perth Central Business District. Widely recognised for its aesthetic appeal and amenity, the City is bounded by the Swan and Canning Rivers, offering around 390 hectares of public open spaces. The City borders with the Town of Victoria Park and the City of Canning to the east. Major attractions include the Canning and Swan Rivers, Sir James Mitchell Park, Perth Zoo, Royal Perth Golf Club, Collier Park Golf Course, Como Beach, George Burnett Park, Milyu Nature Reserve, Neil McDougall Park, the Mindeerup piazza, Mends Street, Angelo Street and Preston Street precincts, and the Waterford Plaza Shopping Complex. The City of South Perth covers the suburbs of South Perth, Kensington, Como, Manning, Karawara, Waterford and Salter Point.

While the area is primarily residential in nature, there is a large commercial area found along the Canning Highway as well and substantial parkland areas and foreshore reserves throughout the City.

The BRM Plan area is divided into four planning areas for the purposes of the BRM Plan, as seen in Appendix 1.

The BRM Plan area is comprised of numerous land owners and managers including, but not limited to, the City of South Perth, state government departments and agencies, infrastructure managers, property developers, private land owners and corporations. Appendix 5 identifies key stakeholders and land owners to be involved in the development and/or implementation of the BRM Plan.

A brief overview of the percentage coverage of various land managers is presented in Table 2

**Table 2: Overview of Land Tenure and Management within the BRMP Area**

Land Owners and Land Managers	% of BRM Plan Area
Private and Other	69.52
Department of Biodiversity, Conservation and Attractions (DBCA)	0.01
State Housing Authority	1.16
City of South Perth	16.15
Crown Land	1.14
Water Corporation	0.06
Main Roads WA	11.96
<b>Total</b>	<b>100</b>

Source: City of South Perth IntraMaps Online Mapping

The City manages both freehold and reserve lands that are used for specific purposes, leased to community associations, or are unallocated.

Although the City is predominantly rated as a low bushfire risk there are a number of areas considered to be prone to bushfire risk, including areas along the southern foreshore in Salter Point, Manning and Waterford, in areas adjacent to the Technology Park and adjacent to smaller areas of remnant bushland, such as Davilak reserve, Curtin and Manning Primary Schools bushlands (Manning), Hogg reserve (Salter Point) and Goss reserve (Karawara). In some of these Bushfire Risk Prone areas residential and non-residential dwellings are located in a very close proximity to a heavily vegetated zone. Therefore, the City’s Local Planning Strategy provides a mechanism to minimise the development in areas considered to be bushfire prone. This includes limitation or prevention of any increases in residential density codes in areas considered to be affected by bushfires.

Bushfire risk and management are influenced by the land tenure and location. All land tenures and property location come under the scrutiny when assessing bushfire risk and identifying asset ownership. The City’s role is to identify and assess the bushfire risk within the City’s municipality, inform land owners about their bushfire risk ratings and propose risk treatments to eliminate or reduce risk of bushfire on their property. The land owner carries the risk and in charge of risk management. The City is responsible for treating bushfire risk only on its managed land.

### 3.1.3 Population and Demographics

The City of South Perth is home to approximately 44,100 residents from a diverse range of ages and cultural backgrounds with a population density of 2,224 persons per square km. It is expected that the City’s population will grow beyond 65,000 in the coming years.

Table 3 provides a detail on where this future additional population is likely to be located up to 2031.

**Table 3: Projected Population by Suburb (2016-2031)**

Suburb	2016	2031	Additional (2016-2031)
South Perth	12,857	16,517	+3,660
Como	15,098	18,899	+3,801
Waterford	2,387	3,543	+1,156
Kensington	4,455	5,147	+692
Manning	4,142	4,695	+553
Salter Point	3,011	3,395	+384
Karawra	2,151	2,086	-65
<b>Total</b>	<b>44,100</b>	<b>54,282</b>	<b>+10,182</b>

Source: City of South Perth Local Planning Strategy 2021

With expected population growth the City anticipates that the number of dwellings within the City will increase by approximately 4,784 between 2016 and 2031.

Table 4 outlines expected dwelling growth to 2031 by suburb areas.

Table 4: Projected Dwelling Growth by Suburb (2016-2031)

Suburb	2016	2031	Additional (2016-2031)
Como	7,598	9,431	+1,833
South Perth	6,812	8,571	+1,759
Waterford	843	1,256	+413
Kensington	1,688	2,029	+341
Manning	1,628	1,882	+254
Salter Point	1,029	1,196	+167
Karawra	688	705	+17
<b>Total</b>	<b>20,286</b>	<b>24,070</b>	<b>+4,784</b>

Source: City of South Perth Local Planning Strategy 2021

The City's suburbs such as Salter Point, Waterford and Manning of a particular concern in terms of future dwelling growth as there are already a number of residential properties at risk because they are prone to ember attack from bushfires or may directly be impacted by flames where interfacing with bushland reserve or the foreshore reserve. Therefore a future urban expansion in these suburbs in particular along the urban bushland interface will require a close attention when assessing bushfire risk.

The City of South Perth is an inner urban community where a residential sector dominates over non-residential that includes small to medium sized businesses, healthcare, age care and social services providers and education institutions.

There are two private boarding schools Aquinas and Clontarf Colleges within the designated bushfire prone areas. The land ownership on which these schools are located is vested with various private organisations that are responsible for land management. The student population of these schools are vulnerable in a major bushfire event as they have limited ability to evacuate, are reliant on others for their decision making and may not be familiar with the area and don't understand the bushfire risk. Therefore the City will liaise with these schools to ensure administration staff and land owners are aware of the risk and encourage them to have and exercise bushfire response plans.

The Manning and Curtin Primary State Schools have pockets of bushland that pose a bushfire risk to staff, students, buildings, and structures. Therefore the City will deal with the Department of Education and schools' management teams to inform them about the risk and ensure that adequate fuel reduction measures are undertaken and bushfire plans are in place and implemented.

There is a high student population in the areas near Curtin University, including foreign students with English as a second language. The City acknowledges that these people can be at high risk during fire events due to limited experience with bushfire and language barriers. This is something the City will consider in its planning and the work of the LEMA.

There is a number of age care facilities located in the bushfire prone areas such as Meath Care Retirement Village in Como, Alexandra Village in Kensington and Baptistcare Riverside Village in Salter Point. The City considers residents of these age care facilities as a vulnerable population that has limited mobility and relies on the facility administration during evacuation. Therefore the City will work with the facility managers to inform them about the identified bushfire risk and encourage them to develop and implement a "Prepare Act Survive Plan".

Given the urban setting it is likely that few residents and organisations recognise the presence of a bushfire threat. This is a major challenge for the City as residents are unlikely to prepare and have a bushfire plan as they don't identify with the risk. The City will undertake a bushfire awareness campaign to help address this gap in understanding of the risk particularly targeting affected residents and organisations.

### **3.1.4 Economic Activities and Industry**

The City is predominantly residential but also accommodates around 15,289 employees each day at small to medium sized businesses, specialised service providers and educational institutions. An analysis of the jobs held by the local workers in the City of South Perth in 2019/20 indicates that Healthcare and Social Assistance represents the largest industry in the City of South Perth's non-residential sector employing 2,935 people or 19.2% followed by the Professional, Scientific and Technical Services (1,993 people or 13%) and Educational and Training (1,868 people or 12.2%). In combination these three fields accounted for 6,796 people in total or 44.5% of the local workers.

Of the 15,289 local workers in the City 30 % also live in the area and approximately 80 % of the City's resident workers travel outside of the area to work. This indicates that there may be reduced occupancy levels for residential dwellings during normal working hours and dwellings may be left unattended during a bushfire. As a result, individuals may attempt accessing their dwelling during a bushfire fire or not being present to defend against a bushfire or suitably evacuate (e.g. removal of belongings and evacuation pets). The City's bushfire awareness campaign will focus on the property owner and occupiers to ensure that they are aware of potential risks and prepared to respond safely.

The bushfire risk poses a threat to operation of four educational institutions, three age care facilities, Ngala Family Resource Centre/sleep clinic, School of Dental Therapy and Technology Park Western Precinct. The City understands that closure of these facilities will cause a disruption of services to a wider community as these services are used not only by the City's local residents. Therefore, the City will liaise with property owners and managers to ensure that they understand the risk and their responsibility to manage this risk.

Southern part of the Kwinana Freeway is within designated bushfire prone area and closure of this major transport route will cause a significant impact to regional/state and district level of traffic flows. Therefore, the City will lead negotiations with affected land managers and land owners to ensure that adequate bushfire risk management and response plans are in place.

The City also identified Perth Zoo as a minor bushfire threat not only to the zoo staff, animals, buildings and structures but also to some of adjacent residential properties, despite not being mapped in the DFES's bushfire prone area mapping. The closure of the zoo will disrupt delivery of services to a wider community. The City will liaise with Perth Zoo administration to advise them about potential bushfire risks and levels of their responsibility to manage this risk.

## **3.2 Description of the Environment and Bushfire Context**

### **3.2.1 Topography and Landscape Features**

The City of South Perth is situated between the Swan River, to the north and the Canning River to the west and shares common land borders with the Town of Victoria Park and City of Canning.

The topography generally ranges from 0 to 5 m AHD along the Swan and Canning River foreshore areas, 5 to 15 m AHD over much of the central City area, with some elevated areas to approximately 30 m AHD in the northern part (JDA and Ecoscape, 2004). Most of the City's suburbs are located on the sandy and relatively flat Swan Coastal Plain, which lies between the Darling Scarp and the Indian Ocean. The soils of this area are quite infertile. The City is on generally flat, rolling land - largely due to the high amount of sandy soils and deep bedrock.

The main soil types of the Swan Coastal Plain within the City are grey Bassendean soils and yellow Karrakatta soils in the western part of the municipality. Vasse soils are found adjacent to the rivers (City of South Perth 2002).

The unique elevation profiles, slopes, soil types and broad vegetation types associated with each mapped bushfire prone zone and adjacent areas can influence a fire's rate of spread (ROS), intensity and also create limitations when implementing treatments to manage the risk of bushfire and limit suppression activities (firefighting equipment access). Particular area of concern within the City's bushfire prone area is River Way residential zone in Salter Point with foreshore reserve interfacing due to very steep up to 15 degrees downslope because this landscape feature and subsiding upper river embankment pose an access challenge and strongly affect the rate of spread and intensity of a bushfire.

### 3.2.2 Climate and Bushfire Season

Perth receives moderate though highly seasonal rainfall, making it the fourth wettest Australian capital city after Darwin, Sydney and Brisbane. Summers are generally hot and dry, lasting from December to late March, with February generally being the hottest month of the year. The bushfire season is considered to run from 1 December to 30 April each season.

The highest temperature recorded in Perth was 46.2°C on 23 February 1991. On most summer afternoons a sea breeze, known locally as the "Fremantle Doctor", blows from the southwest, providing relief from the hot north-easterly winds. Temperatures often fall below 30°C a few hours after the arrival of the wind change. In the summer, the 3 pm dew point averages at around 12°C. The rainfall pattern has changed in Perth and southwest Western Australia since the mid-1970s. A significant reduction in winter rainfall has been observed with a greater number of extreme rainfall events in the summer months.

The bushfire season for the southwest of Western Australia, including the Perth Metropolitan area runs from 1 November to 30 April the following year. The hottest month during this period, as mentioned previously, is February. Perth experiences an average of 12.8 days per season of temperatures of 37°C degrees or above and an average of 3.6 days where the temperature reaches 40°C degrees or above.

### 3.2.3 Vegetation

The City of South Perth's original vegetation was predominantly Banksia/Jarrah woodlands. The majority of this vegetation has been cleared, with remnants of Jarrah (*Eucalyptus marginata*) still occurring on higher ground and *Eucalyptus rudis*/*Melaleuca preissana* stands remaining on pale grey Bassendean sands (JDA and Ecoscape, 2004). Heavy peaty soils of the remaining wetlands support vegetation communities of Swamp Paperbark (*Melaleuca raphiophylla*), Flooded Gum, (*Eucalyptus rudis*), saltmarsh (*Sarcocornia quinqueflora*) and (*Suaeda australis*), sedgeland (*Juncus kraussii*) and grassland (*Cynodon dactylon*).



The City’s vegetation classifications are made up of five vegetation types occurring within the City of South Perth. Vegetation types are grouped on the basis of patterns in soil and geomorphology. These five vegetation types and their locations within the BRM Plan area are briefly summarised in Table 5 below. Each vegetation type will influence potential fire behaviour based on its unique vegetation structure, fuel loading and the slope under the vegetation.

Table 5 – Vegetation types

Vegetation Type	Description	City of South Perth Owned or Manged Natural Areas	State and Private Owned or Manged Natural Areas	Fuel Loads and Fire behaviour
Low Woodland	Low trees and shrubs 2-10 metres high; foliage cover less than 10%. Dominates by Eucalyptus and Acacias. Often have a grassy understory of low shrubs.	Salter Point Lagoon to Sea Scout Hall; foreshore side of Andrew Thompson Conservation Reserve, Cygnia Cove foreshore reserve and constructed wetland, Redmond Street reserve.	Curtin and Manning Primary Schools’ bushland.	High fuel loads consist of dry vegetation material with a spread of fine fuel from the bottom to the top layer and near surface fuel. Elevated and near surface fuels contribute significantly to the rate of spread of fire.
Woodland	Trees 10-30 metres high; 10-30% foliage cover dominated by Eucalyptus; understory low trees to tall shrubs typically Acacia and Casuarina	Hogg reserve, North and South parts of Goss reserve, parts of Cygnia Cove foreshore, Cloisters foreshore, Mount Henry Peninsula, parts of Clontarf foreshore reserve.	Clontarf Aboriginal College Cats Island managed by Indigenous Land and Sea Corporation,  Mt Henry Peninsula remnant bushland managed by Aquinas College on behalf of Trustees of the Christian Brothers and Trustees of Edmund Rice Education Australia,  Dental Therapy School and Clinic remnant bushland managed by the Department of Health.	High fuel loads consist of dry vegetation material with a spread of fine fuel from the bottom to the top layer and near surface fuel. Elevated and near surface fuels contribute significantly to the rate of spread of fire.
Low Shrubland	Shrubs <2 metres high; grater that 30% foliage cover.	Andrew Thompson Conservation Reserve;		High fuel loads consist of dry vegetation material

	Understory can contain grasses, Acacia and Casuarina often in the arid and semi-arid zones.	Cygnia Cove foreshore reserve.		with a spread of fine fuel from the bottom to the top layer and near surface fuel. Elevated and near surface fuels contribute significantly to the rate of spread of fire.
Open Scrub	Shrubs greater than 2 metres high, 10-30% foliage cover with a mixed species composition.	Parts of Goss reserve, Davilak reserve, Mount Henry Spit.		Medium fuel loads consist of dry vegetation material with a spread of fine fuel from the bottom to the top layer and near surface fuel. Elevated and near surface fuels contribute significantly to the rate of spread of fire.
Closed Scrub	Found in wet areas or areas affected by poor soil fertility or shallow soils >30% foliage cover.	Cygnia Cove foreshore reserve, Andrew Thompson Conservation reserve, Clontarf foreshore reserve.		Fuel loads consist of minimal dry vegetation material with most of fine fuel at the top of the layer and limited near surface fuel. Elevated fuels contribute to patchy increases in the flame height and the rate of spread of fire.

Majority of the dryland reserves listed in the above table are made up of mature Eucalyptus species and Casuarinas with a mid-story of acacia and banksia species and a reach understory of native grasses and herbs. These reserves have high fine fuel loads with deep leaf litter and large amounts of dry dead fuels, which will contribute to easy fire start and quick spreading into a nearby residential and non - residential zones. Fires in these reserves may quickly reach the canopy due to the horizontal distribution of fuels creating high intensity fires which may not be suitable for direct attack.

Some Paperbark trees in the foreshore reserves have fine fibrous lose bark which easily ignites and can be blown by the winds creating a large number of embers which are carried towards adjacent residential dwellings, private education institutions and age care facilities, this is a risk as many of the building are older and not built to a standard to withstand embers. An escarpment topography, strong

winds, difficult access and high fuel load of the Redmond Street reserve slope can contribute to a very intense and fast-moving fires towards close by River Way, Sulman Avenue, Unwin Crescent and Redmond Street residential properties in Salter Point and City's infrastructure.

The City of South Perth has categorised three classes of bushfire vegetation risk in the City and considers each category to be a discrete planning area for asset identification and risk assessment. They are:

- Riverine and wetland scrub bordering the Canning River system on the southern and south-western boundaries of the City
- Preserved natural bush areas and pockets of remnant pine plantation at several locations within the City and two in adjoining local government areas that may impact on the City of South Perth residents, ratepayers or infrastructure
- Grasses on vacant blocks and stormwater drainage sumps at various locations throughout the City.

### 3.2.4 Threatened Species and Communities

The remnant vegetation of the City is largely confined to State foreshore reserves, poorer Bassendean soil areas and wetland areas which have survived early drainage and urban development. Foreshore fringing vegetation has a significant role in foreshore stability. Saline wetlands and samphire flats fringing the estuary are key waterbird feeding areas and provide important bank and foreshore stabilisation, as well as habitats of very high ecological value.

There are two Bush Forever Sites within the City of South Perth:

- Canning River Foreshore, Salter Point to Wilson, site 333

The foreshore is part of the Swan-Canning Estuary which is listed as a wetland of national importance in the Directory of Important Wetlands in Australia and is subject to protection under the Commonwealth EPBC Act, 1999 (Government of Western Australia, 2000).

- Mount Henry Bushland, Salter Point, site 227

This site contains the most inland vegetated knoll and area of Spearwood Dunes on the Swan-Canning Estuary and is of a particular value in providing fauna habitat (Government of Western Australia, 2000)

The state and federal database searches as well as the flora survey of the Cygnia Cove foreshore area have confirmed the presence of a Threatened Ecological Community - Subtropical and Temperate Coastal Saltmarsh at southern foreshore in Salter Point and Waterford. This community is protected under the EPBC Act and is placed in vulnerable category. The community is classed as a Priority 3 vegetation community at the state level (Syrinx, 2017).

In 2018 a healthy population of Carter's Freshwater Mussel (*Westralunio carteri*), which is native to South-Western Australia was spotted hiding from predators within the sedges of Bodkin Park leaving stream in Waterford. These mussels are red-listed as 'vulnerable' by the International Union for Conservation of Nature (ICUN) and are the primary food source of the red-listed native mammal Rakali (*Hydromys chrysogaster*). The finding of the mussels may indicate that the Rakali's population, which has been sighted further west at Redmond Reserve, also extends into the Bodkin Park Living Stream.

Also spotted thriving in the living stream was the native Western Pygmy Perch (*Nannoperca vittata*), another species that due to reducing habitat is threatened and has been placed on the ICUN Red List. The Western Pygmy Perch is native to South-Western Australia and can tolerate fresh to brackish

water, preferring to live amongst vegetation in relatively shallow water. A primary food source of the Western Pygmy Perch is mosquito larvae and is essential to keeping numbers in check.

Bushfires can have a positive or negative effects on plants and animals. Appropriate bushfire management activities can minimise the ecological impact on wildlife and vegetation.

Positive effects of the bushfires are:

- heating the soil, cracking seed coats and triggering germination
- triggering woody seed pods held in the canopy to open, releasing seed onto a fresh and fertile ash bed
- clearing thick understorey and reducing competition for seedlings
- encouraging new growth that provides food for many animals
- creating hollows in logs and trees that can be used by animals for nesting and shelter.

Negative effects of the bushfires are:

- burning and damaging vegetation communities, that take many years to recover (for example threatened saltmarsh communities at Salter Point and Waterford foreshore reserves can be affected by the fire)
- killing or injuring individual plants or animals
- causing erosion and subsequent sedimentation of creeks and wetlands
- impacting on water quality of the local waterways due to formation of excessive ash and sediment after fires (for example populations of vulnerable and threatened fauna such as Carter's Freshwater Mussel, Western Pygmy Perch and Rakali can be impacted due to reduced water quality).
- opening up areas to the impacts of weed and feral animal invasion as well as human access and vandalism.

To manage bushfire risk the City follows DFES's established standards and guidelines for urban bushfire management activities such as mechanical hazard reduction and bushfire suppression operations. However, the protection of human life and properties remains the City's primary focus.

In the City's urban setting prescribed burning is prohibited by the local law. However, the City will be seeking an expert advice to change its local law to allow controlled burns in the large nature reserves with a focus to reduce significantly fuel load and minimise environmental impacts.

### **3.2.4 Bushfire Frequency and Causes of Ignition**

The City's records indicate that there have been 6 bushfires within the City since 2008 at Cloisters and Andrew Thompson Conservation foreshore reserves, Hogg and Mt Henry Peninsula remnant bushlands. It is believed that they have all been carelessly lit by juveniles. In addition, in February 2015, there was a significant bushfire in the Kensington Bushland adjoining the City in the Town of Victoria Park. This fire resulted in a Bushfire Alert for residents in parts of Como and Kensington. It is believed this fire was started by a discarded cigarette butt by students from a nearby school. For the past 10 years the City's ranges and natural areas maintenance team increased policing of the foreshores and inland reserves to reduce the risk of arson or accidental ignitions. This approach resulted in removal of illegal foreshore campers, cabby structures and furniture and flammable items

such as gas bottles, petrol canisters and drug paraphernalia (bongs) before any fires started. The City's rangers monitor littering under the Litter Act 1979 and can impose on-the-spot fines for offenders. The Department of Water and Environmental Regulation investigates and prosecutes for illegal dumping under the Environmental Protection Act.

The City's fire history data influences the decision-making process by identifying potential areas where fires are more likely to start and why, contributing to the implementation of appropriate treatments and delivery of the targeted education and prevention campaigns in the BRM Plan areas where, for example, an arson and or accidental ignitions are occurring most.

### **3.2.5 Current Bushfire Risk Management Activities**

The intent of the WA Government's Bushfire Prone Planning Policy is to implement effective risk based land use planning and development to preserve life and reduce the impact of bushfire on property and infrastructure. The State Planning Policy 3.7 – Planning for Bushfire Prone Areas ensures bushfire risk is given due consideration in all future planning and development decisions. This policy does not apply retrospectively, however the BRM Plan can help address this risk for existing development and establishing an effective treatment plan to manage the broader landscape and any unacceptable community risks. The City of South Perth Bushfire Prone Area is delineated in pink colour in Figures 2 and 3.

According to DFES 2016 and 2021 mapping there are a number of the natural areas considered to be prone to bushfire risk, including areas of southern foreshore in Salter Point and Waterford, southern parts of Kwinana Freeway Foreshore, smaller areas of remnant bushland, such as Davilak and Goss Reserves and Manning Primary School bushland in Manning and Hogg Reserve and adjacent school of dental therapy bushland in Salter Point. The City should seek to minimise the development pressure existent in areas considered to be bushfire prone (see Figures 2 and 3). This could include limiting or preventing any increases in residential density codes in areas considered to be affected by bushfire risk and adjacent areas. This is a way that the City continues to work to manage the Bushfire Risk but not increasing the exposure of people and property to this risk.

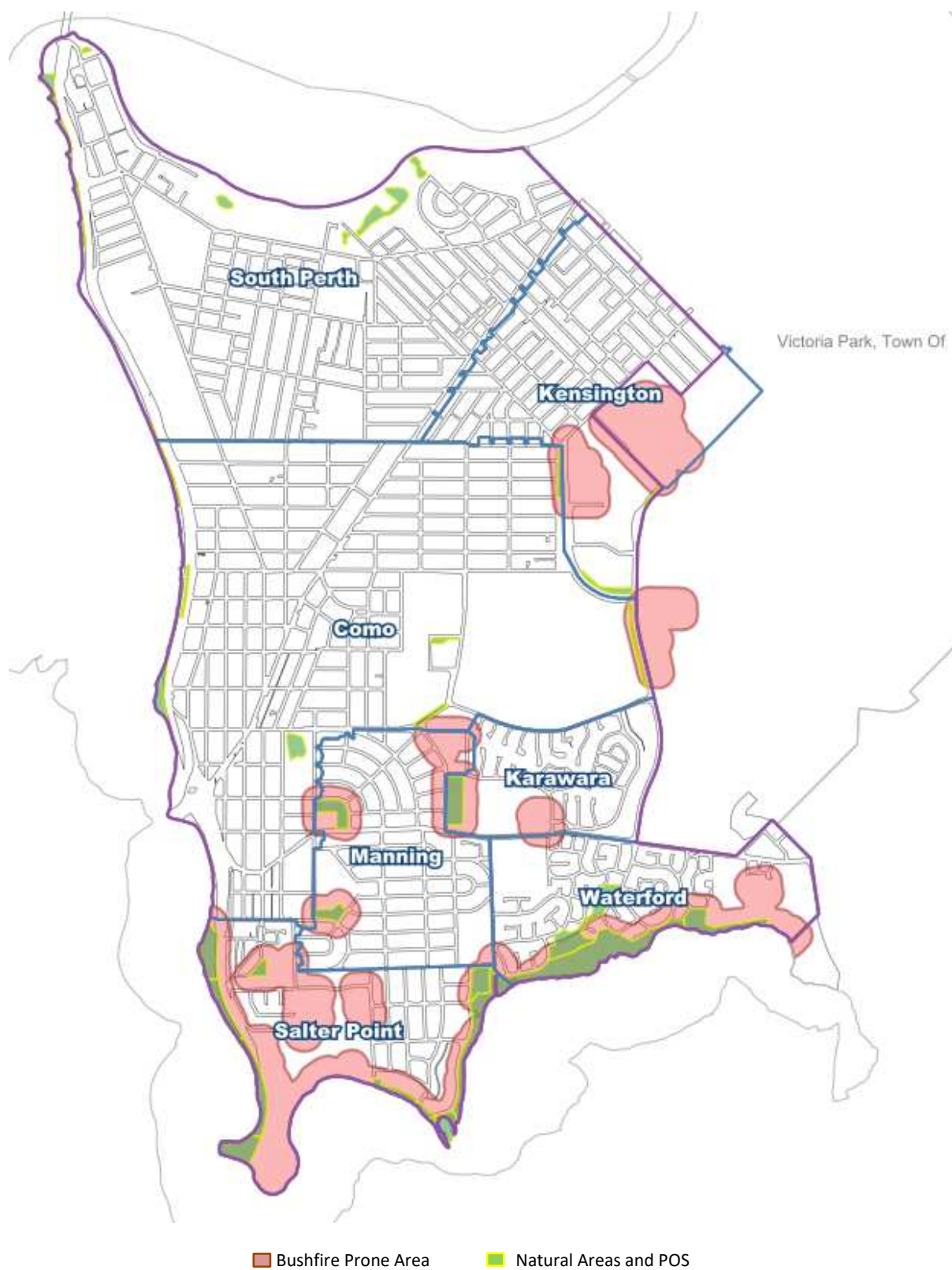


Figure 2 - City of South Perth Bushfire Prone Area Mapping by DFES in 2016



Figure 3 - City of South Perth Bushfire Prone Area Mapping by DFES in 2021

As a measure for preventing the outbreak of a bushfire, or for preventing the spread or extension of a bushfire which may occur the City of South Perth issues an annual Fire Break Notice. The notice requires all owners and occupiers to undertake property preparations to reduce bushfire risk before the commencement of fire restrictions. The requirements are specific to the size and risk of the land but aim to ensure that all properties have undertaken appropriate preparations.

The City of South Perth has in place a range of controls that are broadly applied across the City to manage bushfire risk that do not target protection of specific assets. The effectiveness of these control measures and their ability to manage bushfire risk at an adequate level has been considered during risk evaluation. If current controls are inadequate to manage identified risk, then asset specific treatments will be undertaken to further reduce the risk to the asset as part of implementation of the Risk Treatment Schedule.

The Table 6 demonstrates a range of maintenance activities that are already undertaken by the City in the normal course of business that contribute to the mitigation of non- asset specific bushfire risk.

**Table 6 – Current Bushfire Risk Management Activities and Wide Controls**

Activity	Program	Goal or Outcome	Responsible Business Unit	KPI for the City's Annual Report Items
Weed mapping	Annually	To locate and identify non-indigenous weed & plant species with no environmental value and which contribute to potential fuel load	Programs Delivery	Weed mapped area (ha)
Weed control	As required but not less than annually	Remove unwanted weeds and fuel load. May be chemical, mechanical or manual removal	Programs Delivery	Weed treated area in bush fire prone zone (ha)
Dry debris and leaf litter removal	Annually	Removal of fuel load	Programs Delivery	Approximate volumes of removed material from bush fire prone zone (tonne)
Plant selection	During regular maintenance and annual revegetation works	Planting of fire resistant vegetation	Programs Delivery	Quantity of plants and revegetated area (sq m)
Application of fire-resistant mulch in the City's reserves and natural areas	As required	Reduced fire risk in the City's POS	Programs Delivery	Mulched area (sq m)
Review, monitoring and enforcement	As required but not less than annually	Property owners served with notices under the Bush Fires Act 1954 section 33, requiring occupiers to clear any inflammable materials and maintain cultivated lawns to a height of under 50mm	Ranger Services	Number of issued notices and number of properties



Activity	Program	Goal or Outcome	Responsible Business Unit	KPI for the City's Annual Report Items
Fire breaks	Annually prior to the bushfire season	Creation and maintenance of fire breaks where required	Ranger Services	List areas where fire breaks were maintained or created
Application of Total Fire Bands to reduce ignition risk	All year around	In accordance with the City's Health Local Laws 2002, burning off is not permitted	Ranger Services	Number of warning notices issued
Minimise the development pressure existent in bushfire prone area (see Figures 2 and 3)	During planning approval and development assessment processes	Planners to limit or prevent any increases in residential density codes in areas considered to be affected by bushfire risk	Strategic and Statutory Planning	Number of approved development cases that resulted in decreased density approvals
Community awareness program	Annually	To raise community bushfire risk awareness and resilience	Asset and Design  and Ranger Services	Number of conducted community education workshops and information sessions

Further information about the City's broad bushfire risk controls and how they will support the treatment of bushfire risk can be found in section 6.1 Local Government Wide Controls.

## 4. Asset Identification and Risk Assessment

### 4.1 Planning Areas

The City of South Perth BRM Plan area has been divided into four planning areas including Mill Point, Como, Moresby and Manning. These planning areas boundaries are based on the City's ward boundaries that are depicted in Appendix 1 ward boundary map.

The Planning Area Assessment Tool was applied to each planning area to determine the priorities for asset identification and assessment. Using the tool, each planning area was rated against six risk factors, with the highest scoring planning area being the first priority for asset identification and risk assessment.

### 4.2 Asset Identification

Asset identification and risk assessment has been conducted at the local level using the methodology described in the Guidelines using BRMS. Identified assets are categorised into the following categories and subcategories provided in Table 7:

Table 7 – Asset Categories and Subcategories

Asset Category	Asset Subcategories
<p><b>Human Settlement</b></p>	<p><b>Residential areas</b> Residential properties, including flats, adjoining bushfire prone vegetated areas</p> <p><b>Places of temporary occupation</b> Commercial and industrial areas, mining sites or camps and other locations where people may work or gather</p> <p><b>Special risk and critical facilities</b> Locations and facilities where occupants may be especially vulnerable to bushfire for one or more of the following reasons:</p> <ul style="list-style-type: none"> <li>• Occupants may have limited knowledge about the impact of bushfires;</li> <li>• Occupants may have a reduced capacity to evaluate risk and respond adequately to bushfire event</li> <li>• Occupants may be more vulnerable to stress and anxiety arising from a bushfire event or the effects of smoke</li> <li>• There may be significant communication barriers with occupants</li> <li>• Relocation and/or management of occupants may present unique challenges or difficulties, such as transportation, or providing alternative accommodation, healthcare or food supplies or</li> <li>• Facilities that are critical to the community during a bushfire emergency (e.g. Aged care &amp; nursing homes, schools and childcare facilities)</li> </ul>
<p><b>Economic</b></p>	<p><b>Commercial and industrial</b> Major industry, waste treatment plants, mines (economic interest), mills, processing and manufacturing facilities and cottage industry (e.g. Parts of Technology Park Western Precinct)</p> <p><b>Critical infrastructure</b> Power lines and substations, water pumping stations tanks/bores and pipelines, gas pipelines, telecommunications infrastructure, railways, bridges port facilities and waste-water treatments plants.</p> <p><b>Tourist and recreational</b> Tourist attractions, day-use areas and recreational sites that generate significant tourism and/or employment within the local area. These assets are different to tourist accommodation described as a Human Settlement Asset (see above).</p> <p><b>Commercial forests and plantations</b> Plantations and production native forests.</p> <p><b>Drinking water catchments</b> Land and infrastructure associated with drinking water catchments.</p>
<p><b>Environmental</b></p>	<p><b>Protected</b> Flora, fauna and ecological communities that are listed as a:</p> <ul style="list-style-type: none"> <li>• Critically Endangered, Endangered or Vulnerable species under the Environmental Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act 1999) (including associated critical habitat)</li> <li>• Critically Endangered, Endangered or Vulnerable species under the Biodiversity Conservation Act 2016</li> <li>• Critically Endangered, Endangered or Vulnerable ecological community under the EPBC Act 1999 (Cth)</li> <li>• Critically Endangered, Endangered or Vulnerable Threatened</li> </ul>

Asset Category	Asset Subcategories
	<p>Ecological Community (TEC) endorsed by the Minister for Environment (WA)</p> <ul style="list-style-type: none"> <li>• Fauna protected under international conventions and</li> <li>• Ramsar wetlands of international importance</li> </ul> <p>(e.g. Rare and threatened flora and fauna, ecological communities and wetlands)</p> <p><b>Priority</b> Flora, fauna and ecological communities that are a:</p> <ul style="list-style-type: none"> <li>• Priority species listed on the Priority Flora or Priority Fauna Lists held by DBCA (Priority 1-5).</li> <li>• Priority Ecological Community (PEC) (Priority 1-5); and</li> <li>• Wetlands of national or state importance.</li> </ul> <p>(e.g. Fire sensitive species and ecological communities)</p> <p><b>Locally important</b> Species, populations, ecological communities or habitats that the local community or independent scientific experts consider important for the area and for which there is some scientific evidence that protection would be beneficial. Wetlands of local importance. Sites being used for scientific research. (e.g. Nature conservation and research sites, habitats, species and communities, areas of visual amenity)</p>
<b>Cultural</b>	<p><b>Aboriginal heritage</b> Places of indigenous significance identified by the DPLH or the local community</p> <p><b>European heritage</b> Non-Indigenous heritage assets afforded legislative protection through identification by the National Trust, State Heritage List or Local Planning Scheme Heritage List</p> <p><b>Local heritage</b> Assets identified in a Municipal Heritage Inventory or by the local community as being significant to local heritage</p> <p><b>Other</b> Other assets of cultural value, for example community halls, centres, churches, clubs and recreation facilities.</p>

### 4.3 Assessment of Bushfire Risk

The City’s bushfire risk assessment was guided by the process set in the DFES’s Bushfire Management Plan 2020 Preparation Guidelines. The City also considered DFES 2016 and 2021 Bushfire Prone Areas mapping during the bushfire risk assessment process. Risk assessments have been undertaken for each asset or group of assets identified as been at bushfire risk using the methodology described in the Guidelines.

The Asset Risk Register in Appendix 2 shows the consequence and likelihood ratings assigned to each asset or group of assets identified and the subsequent risk rating.

The percentage of assets at risk from bushfire within the City of South Perth in each asset category at the time of BRM Plan endorsement is shown in Table 8.

Table 8 – Asset Category Proportions

Asset category	Percentage of identified assets
<b>Human Settlement</b>	77%
<b>Economic</b>	11%
<b>Environmental</b>	9%
<b>Cultural</b>	3%

#### 4.3.1 Likelihood Assessment

Likelihood is described as the chance of a bushfire igniting, spreading and reaching an asset. The approach used to determine the likelihood rating is the same for each asset category: Human Settlement, Economic, Environmental and Cultural.

There are four possible likelihood ratings: almost certain, likely, possible, and unlikely. Table 9 below shows a description for each likelihood rating.

Table 9 – Likelihood Ratings

Likelihood Rating	Description
<b>Almost Certain</b> (Sure to Happen)	<ul style="list-style-type: none"> <li>Is expected to occur in most circumstances</li> <li>High level of recorded incidents and/or strong anecdotal evidence, and/or</li> <li>Strong likelihood the event will recur, and/or</li> <li>Great opportunity, reason or means to occur</li> <li>May occur more than once in 5 years</li> </ul>
<b>Likely</b> (Probable)	<ul style="list-style-type: none"> <li>Regular recorded incidents and strong anecdotal evidence, and /or</li> <li>Considerable opportunity, reason or means to occur</li> <li>May occur at least once in 5 years</li> </ul>
<b>Possible</b> (feasible but < probable)	<ul style="list-style-type: none"> <li>Should occur at some stage, and/or</li> <li>Few, infrequent, random recorded incidents or little anecdotal evidence, and/or</li> <li>Some opportunity, reason or means to occur</li> </ul>
<b>Unlikely</b> (Improbable, not likely)	<ul style="list-style-type: none"> <li>Would only occur under exceptional circumstances</li> </ul>

#### 4.3.2 Consequence Assessment

Consequence is described as the outcome or impact of a bushfire event. The approach used to determine the consequence rating is different for each asset category: Human Settlement, Economic, Environmental and Cultural.

There are four possible consequence ratings: minor, moderate, major and catastrophic. Table 10 below shows a description for each consequence rating.

Table 10 – Consequence Ratings

Consequence Rating	Descriptions
<b>Minor</b>	<ul style="list-style-type: none"> <li>No fatalities</li> <li>Near misses or minor injuries with first aid treatment possibly required</li> <li>No persons are displaced</li> <li>Little or no personal support (physical, mental, emotional) required</li> </ul>

Consequence Rating	Descriptions
	<ul style="list-style-type: none"> <li>• Inconsequential or no damage to an asset, with little or no specific recovery efforts required beyond the immediate clean-up</li> <li>• Inconsequential or no disruption to community</li> <li>• Inconsequential short-term failure of infrastructure or service delivery (Repairs occur within 1 week, service outages last less than 24 hours)</li> <li>• Inconsequential or no financial loss. Government sector losses managed within standard financial provisions. Inconsequential business disruptions</li> </ul>
<b>Moderate</b>	<ul style="list-style-type: none"> <li>• Isolated cases of serious injuries, but no fatalities. Some hospitalisation required, managed within normal operating capacity of health services</li> <li>• Isolated cases of displaced persons who return within 24 hours</li> <li>• Personal support satisfied through local arrangements</li> <li>• Localised damage to assets that is rectified by routine arrangements</li> <li>• Community functioning as normal with some inconvenience</li> <li>• Isolated cases of short to mid-term failure of infrastructure and disruption to service delivery (repairs occur within 1 week to 2 months, service outages last less than 1 week)</li> <li>• Local economy impacted with additional financial support required to recover. Government sector losses require activation of reserves to cover loss. Disruptions to businesses lead to isolated cases of loss of employment or business failure</li> <li>• Isolated cases of damage to environmental or cultural assets, one-off recovery efforts required, but with no long term effects to asset</li> </ul>
<b>Major</b>	<ul style="list-style-type: none"> <li>• Isolated cases of fatalities</li> <li>• Multiple cases of serious injuries. Significant hospitalisation required, leading to health services being overstretched</li> <li>• Large number of persons displaced (more than 24 hours duration)</li> <li>• Significant resources required for personal support</li> <li>• Significant damage to assets, with ongoing recovery efforts and external resources required</li> <li>• Community only partially functioning. Widespread inconvenience, with some services unavailable</li> <li>• Mid to long-term failure of significant infrastructure and service delivery affecting large parts of the community. Initial external support required. (Repairs occur within 2 to 6 months, service outages last less than a month)</li> <li>• Local or regional economy impacted for a significant period of time with significant financial assistance required. Significant disruptions across industry sectors leading to multiple business failures or loss of employment</li> <li>• Significant damage to environmental or cultural assets that require major rehabilitation or recovery efforts</li> <li>• Localised extinction of native species. This may range from loss of a single population to loss of all of the species within the BRM Plan area</li> </ul>

Consequence Rating	Descriptions
	(for a species which occupies a greater range than just the BRM Plan area)
<b>Catastrophic</b>	<ul style="list-style-type: none"> <li>• Multiple cases of fatalities</li> <li>• Extensive number of severe injuries</li> <li>• Extended and large number requiring hospitalisation, leading to health services being unable to cope</li> <li>• Extensive displacement of persons for extended duration</li> <li>• Extensive resources required for personal support</li> <li>• Extensive damage to assets that will require significant ongoing recovery efforts and extensive external resources</li> <li>• Community unable to function without significant support</li> <li>• Long-term failure of significant infrastructure and service delivery affecting all parts of the community. Ongoing external support required. (Repairs will take longer than 6 months, service outages last more than 1 month)</li> <li>• Regional or State economy impacted for an extended period of time with significant financial assistance required. Significant disruptions across industry sectors leading to widespread business failures or loss of employment</li> <li>• Permanent damage to environmental or cultural assets</li> <li>• Extinction of a native species in nature. This category is most relevant to species that are restricted to the BRM Plan area, or also occur in adjoining areas and are likely to be impacted upon by the same fire event. 'In nature' means wild specimens and does not include flora or fauna bred or kept in captivity</li> </ul>

The methodology used to determine the consequence rating for each asset category is based on the following:

- **Consequence Rating - Human Settlement and Cultural Assets**

The outcome or impact of a bushfire event on the asset, or a group of assets, measured by the threat posed by the hazard vegetation and the vulnerability of the asset.

- **Consequence Rating - Economic Assets**

The outcome or impact of a bushfire event on the asset, or a group of assets, measured by the level of economic impact and the recovery costs.

- **Consequence Rating - Environmental Assets**

The outcome or impact of a bushfire event on the asset, or a group of assets, measured by the vulnerability of the asset and the potential impact of a bushfire or fire regime.

### 4.3.3 Assessment of Environmental Assets

Using available biological information and fire history data, environmental assets with a known minimum fire threshold were assessed to determine if they were at risk from bushfire, within the five year life of the BRM Plan. Environmental assets that would not be adversely impacted by bushfire within the five year period have not been included and assessed in the BRM Plan. The negative impact

of a fire on these assets (within the period of this BRM Plan) was determined to be minimal and may even be of benefit to the asset and surrounding habitat.

#### 4.3.4 Asset Risk Summary

A risk profile for the City of South Perth is provided in Table 11. This table shows the proportion of assets at risk from bushfire in each risk category at the time the BRM Plan was endorsed.

Table 11 – Asset Risk Summary

Asset Category	Risk Rating				
	Low	Medium	High	Very High	Extreme
Human Settlement	3%	11%	23%	9%	31%
Economic	0%	3%	0%	5%	3%
Environmental	0%	3%	0%	0%	6%
Cultural	0%	0%	0%	3%	0%

## 5. Risk Evaluation

### 5.1 Evaluating Bushfire risk

The purpose of evaluating risk is to:

- Confirm that the risk ratings for each asset are appropriate
- Identify treatment priorities
- Identify which assets require treatment.

The risk rating for each asset has been assessed against the likelihood and consequence descriptions to ensure:

- The rating for each asset reflects the relative seriousness of the bushfire risk to the asset
- Likelihood and consequence ratings assigned to each asset are appropriate
- Local issues have been considered.

### 5.2 Treatment Priorities

The treatment priority for each asset has been automatically assigned by BRMS and recorded in the Treatment Schedule (Appendix 3), based on the asset's risk rating. Table 12 identifies risk rating and subsequent treatment priority for an asset.

No organization has limitless resources to deal with adverse risk. It is therefore necessary to define priorities. The bushfire risk ratings determined were used to prioritise the risk treatment, i.e. areas of extreme risk were considered first for treatment, then very high, then high, then medium, then low. It was also necessary to prioritise within the risk levels, i.e. determining which of the higher priority risks was the most serious. This was done on the basis of the consequence and likelihood ratings and the type of asset at risk (i.e Human Settlement, Economic, Cultural or Environmental).

Table 12 – Treatment Priorities

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)

### 5.3 Risk Acceptability

It is not possible, or practical to treat all bushfire risks. Some risks may be acceptable without the need for specific treatment. Assets with a low to moderate risk rating are likely to be adequately managed through routine wide controls, so committing resources to further reduce the risk may not be justifiable but regular monitoring for any significant change in risk is required. Extreme, very high and high risk rated assets will require additional resources for site specific treatments to reduce the risk to acceptable level.

In most circumstances risk acceptability and treatment will be determined by the land owner, in collaboration with the City and fire agencies. However, as a general rule, the following courses of action have been adopted for each risk rating. These risks are not transferable to the City and all risks and required treatments remain the responsibility of the land holder.

Table 13 – Criteria for Acceptance of Risk and Course of Action

Risk Rating	Criteria for Acceptance of Risk	Course of Action
Extreme (Priorities 1A, 1B, 1C)	Only acceptable with excellent controls. Urgent treatment action is required. Treatment plans to be explored and recommended.	Routine controls are not enough to adequately manage the risk. Immediate attention is required as a priority. Asset owners need to be informed about risk status and understand their responsibilities in risk treatment process. Specific action is required in the first year of the plan. These assets and treatments are to be reviewed biannually for any significant changes.
Very High (Priorities 2A, 2B, 2C)	Only acceptable with excellent controls. Treatment action is required.	Routine controls are not enough to adequately manage the risk. Specific action is required during the period covered by the plan. These assets and treatments are to be reviewed annually for any significant changes.



Risk Rating	Criteria for Acceptance of Risk	Course of Action
High (Priorities 3A, 3B, 3C, 3D)	Only acceptable with adequate controls. Treatment action may be required.	Routine controls are not be enough to adequately manage the risk. Specific action is required during the period covered by the plan. These assets and treatments are to be reviewed annually for any significant changes.
Medium (Priorities 4A, 4B, 4C)	Acceptable with adequate controls. Treatment action is not required, but risk must be monitored regularly.	Specific action may be required. Risk may be managed with routine controls and monitored periodically throughout the life of the BRMP.
Low (Priorities 5A, 5B, 5C)	Acceptable with adequate controls. Treatment action is not required, but risk must be monitored.	Need for specific action is unlikely. Risk will be managed with routine controls and monitored as required.

## 6. Risk Treatment

The purpose of risk treatment is to reduce the likelihood of a bushfire occurring and/or the potential impact of a bushfire on the community, economy and environment. This is achieved by implementing treatments that modify the characteristics of the hazard, the community or the environment.

There are many strategies available to treat bushfire risk. The treatment strategy (or combination of treatment strategies) selected will depend on the level of risk and the type of asset being treated. Not all treatment strategies will be suitable in every circumstance.

Table 14 – Hierarchy of Controls for Bushfire Risk Mitigation Treatments

Bushfire Risk Mitigation Treatments Hierarchy of Control	
<b>Eliminate</b>	Land clearing Sub-division development Removal of non-approved children’s play & camp sites from bushland areas
<b>Substitute</b>	Plant selection (fire resistant vegetation) Fire resistant materials & infrastructure
<b>Engineering Controls</b>	Weeding (chemical, mechanical, manual) Dry debris & leaf litter removal Plant selection (fire resistant vegetation) Spacing of plants Fire safety zones Maintenance of safety zones around habitable buildings Fire breaks Controlled burn fuel reduction Controlled or restricted access to bushfire prone vegetation areas Public open space & reserve reticulation & sprinkler systems Building codes DFES Bushfire response Ensure adequate available water sources for fire fighting Ensure adequate access for fire fighting vehicles Safe residential storage of chemicals
<b>Administrative Controls</b>	Appointment of a Chief Bush Fire Control Officer (Coordinator Ranger Services)

## Bushfire Risk Mitigation Treatments Hierarchy of Control

	Appointment of a Deputy Bush Fire Control Officer (Senior Ranger) Declaration and management of prohibited burning times, restricted burning times and total fire bans State-wide arson prevention plans developed in conjunction with WA Police & DFES BRMP performance monitoring and reporting annually Weed mapping Land use planning Building planning & permit processes Bushfire attack level assessments (BAL's) Fire break inspection & enforcement Bushfire mitigation planning Bushfire response planning Public education programs & bushfire ready groups Individual bushfire action plans Fire Chat web site Bushfire alerts & warnings, fire bans, vehicle movement bans, hot work bans Fire fighter training Bushfire ready community groups
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The City of South Perth is justifiably proud of its public open spaces, natural area reserves and riverine wetlands. The natural area reserves and riverine wetlands are recognised as environmentally significant and support threatened or endangered species. Elimination of bushfire threat in these areas by removal of the existing native vegetation or substitution with different non-native vegetation is not supported. Nor is controlled fuel reduction burns considered to be a viable or realistic strategy to reduce bushfire risk within the City. The City, in accordance with the Health Local Laws 2002, does not permit burning off.

A range of risk mitigation treatment strategies have been identified to reduce and mitigate the risk of bushfire within specific assets that are under ownership of the City, state and private landholders and mangers. These strategies are listed in Appendix 3.

The proposed bushfire risk treatments were negotiated with the Department of Fire and Emergency Services (DFES), Department of Biodiversity, Conservation and Attractions (DBCA) and relevant risk managers to ensure treatments are reasonable and comply with current local and state legislations.

Some of the treatment zones proposed for bushfire mitigation are located within the DBCA Development Control Area (DCA) that limits and regulates the extent of mechanical treatment works to preserve foreshore reserves' integrity and environmental values Therefore, risk managers are required to obtain a permit from DBCA to undertake some recommended mechanical treatments in these zones, prior to commencement of any scheduled works.

Risk managers carry responsibility to mitigate bushfire risk but affected property owners and land holders and land managers are also required to undertake DFES recommended property upkeep measures to reduce the spread of fire.

## 6.1 Local Government-Wide Controls

Local government-wide controls are activities that reduce the overall bushfire risk within the City of South Perth. These types of treatment activities are not linked to specific assets and are applied across all or part of the local government as part of normal business or due to legislative requirements. The following controls are currently in place across the City of South Perth:

- Bush Fires Act 1954 Section 33 notices, including applicable fuel management requirements, firebreak standards and annual enforcement programs
- Declaration and management of Prohibited Burn Times, Restricted Burn Times and Total Fire Bans for the local government
- Public education campaigns and the use of DBCA and DFES state-wide programs, tailored to suit local needs
- State-wide arson prevention and awareness programs developed in conjunction with WA Police and DFES
- State planning framework and local planning schemes, implementation of appropriate land subdivision and building standards in line with DFES, Department of Planning and Building Commission policies and standards (includes Fire Management Plans and BAL Assessments and compliance with these)
- Monitoring performance against the BRM Plan and reporting annually to the local government council and OBRM
- City of South Perth's Local Planning Strategy 2021 where, in accordance with strategy text, the City is planning to develop appropriate provisions through the Scheme and/ or policies to ensure development allows for the impact of flood risk, high water tables and bushfire risk
- The City of South Perth's Programs Delivery team annual works programs such as mechanical, chemical and manual weed control (e.g. slashing, chemical application, mechanical and manual clearing and firebreaks)
- The City of South Perth's rangers' team routine tasks (such as property compliance inspections, enforcing fire restrictions, issuing of the notices under the Bush Fires Act 1954)
- The Department of Fire and Emergency Services (DFES) is responsible for the management of fire prevention on Unallocated Crown Land and Unmanaged Reserves within gazetted town site boundaries under a memorandum of understanding with the Department of Planning, Lands and Heritage.
- Water Corporation Bushfire Risk Mitigation Program (Water Corporation sites due to be assessed within the City of South Perth by Water Corporation staff. Risk mitigation works on 'High' to 'Extreme' risk sites will be communicated to City of South Perth once complete).

A multi-agency work plan has been developed and included in Appendix 4. The plan details work to be undertaken as a part of normal business, to improve current controls or to implement new controls to better manage bushfire risk across the City of South Perth.

## 6.2 Asset-Specific Treatment Strategies

Asset-specific treatments are implemented to protect an individual asset or group of assets, identified and assessed in the BRM Plan as being at risk from bushfire. There are six asset specific treatment strategies:

- **Fuel management** - Treatment reduces or modifies the bushfire fuel through manual, chemical and prescribed burning methods
- **Ignition management** - Treatment aims to reduce potential human and infrastructure sources of ignition in the landscape
- **Preparedness** - Treatments aim to improve access and water supply arrangements to assist firefighting operations
- **Planning** - Treatments focus on developing plans to improve the ability of firefighters and the community to respond to bushfire
- **Community Engagement** - Treatments seek to build relationships, raise awareness and change the behaviour of people exposed to bushfire risk
- **Other** - Local government-wide controls, such as community education campaigns and planning policies, will be used to manage the risk. Asset-specific treatment is not required or not possible in these circumstances.

## 6.3 Development of the Treatment Schedule

The treatment schedule is a list of bushfire risk treatments recorded within BRMS. The treatment schedule will evolve and develop throughout the life of the BRM Plan. The City of South Perth will be focusing on developing a program of works that identifies treatment activities to be undertaken within the first year of BRM Plan implementation. The initial treatment schedule (first year) is presented in Appendix 3 and includes treatments of assets rated at Extreme, Very High and High risk. Two treatments for Medium rated assets have been also included in treatment schedule of Appendix 3.

This treatment schedule was developed in broad consultation with land owners and other key stakeholders including DFES, Water Corporation and DBCA.

Land owners are ultimately responsible for treatments implemented on their own land. This includes any costs associated with the treatment and obtaining the relevant approvals, permits or licences to undertake an activity. Where agreed, another agency may manage a treatment on behalf of a land owner. However, the onus is still on the land owner to ensure treatments detailed in this BRM Plan's treatment schedule are completed.

## 7. Monitoring and Review

Monitoring and review processes are in place to ensure that the BRM Plan remains current and valid. These processes are detailed below to ensure outcomes are achieved in accordance with the Communication Strategy (see Appendix 5) and Treatment Schedule (see Appendix 3).

### 7.1 Review

A comprehensive review of this BRM Plan will be led by the City's rangers and undertaken in collaboration with other key staff (see reviewing officer list on page 4) at least once every five years, from the date of Council endorsement. Significant circumstances that may warrant an earlier review of the BRM Plan include:

- Changes to the BRM Plan area, organisational responsibilities or legislation
- Changes to the bushfire risk profile of the area
- Following a major fire event.

## **7.2 Monitoring**

The City's rangers in partnership with the Programs Delivery staff will use Bushfire Risk Management System (BRMS) to monitor the risk ratings for each asset identified in the BRM Plan and record the treatments implemented. Risk ratings will be reviewed on an annual basis as described in Table 13 – Criteria for Acceptance of Risk and Course of Action. New assets will be added to the Asset Risk Register when they are identified.

## **7.3 Reporting**

The City of South Perth rangers in consultation with relevant Programs Delivery staff will submit an annual report to OBRM and the City's Council each year, summarising progress made towards implementation of the BRM Plan and provide the status on bushfire risk mitigation treatment activities included in Appendix 3.

## 8. Glossary

<b>Asset</b>	A term used to describe anything of value that may be adversely impacted by bushfire. This may include residential houses, infrastructure, commercial, agriculture, industry, environmental, cultural and heritage sites
<b>Asset Category</b>	There are four categories that classify the type of asset – Human Settlement, Economic, Environmental and Cultural
<b>Asset Owner</b>	The owner, occupier or custodian of the asset itself. Note: this may differ from the owner of the land the asset is located on, for example a communication tower located on leased land or private property
<b>Asset Register</b>	A component within the Bushfire Risk Management System used to record the details of assets identified in the Bushfire Risk Management Plan
<b>Asset Risk Register</b>	A report produced within the Bushfire Risk Management System that details the consequence, likelihood, risk rating and treatment priority for each asset identified in the Bushfire Risk Management Plan
<b>Bushfire</b>	Unplanned vegetation fire. A generic term which includes grass fires, forest fires and scrub fires both with and without a suppression objective <sup>2</sup>
<b>Bushfire Management Plan</b>	A document that sets out short, medium and long term bushfire risk management strategies for the life of a development <sup>3</sup>
<b>Bushfire risk management</b>	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
<b>Bushfire Threat</b>	The threat posed by the hazard vegetation, based on the vegetation category, slope and separation distance
<b>Consequence</b>	The outcome or impact of a bushfire event
<b>Draft Bushfire Risk Management Plan</b>	The finalised draft Bushfire Risk Management Plan (BRM Plan) is submitted to the OBRM for review. Once the OBRM review is complete, the BRM Plan is called the 'Final BRM Plan' and can be progressed to local government council for endorsement
<b>Emergency Risk Management Plan</b>	A document (developed under <i>State Emergency Management Policy 2.9</i> ) that describes how an organisation(s) intends to undertake the activities of emergency risk management based on minimising risk. This plan helps inform the ongoing development of Local Emergency Management Arrangements (LEMA) and Westplans

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<sup>2</sup> Australasian Fire and Emergency Service Authorities Council 2012, *AFAC Bushfire Glossary*, AFAC Limited, East Melbourne.

<sup>3</sup> Western Australian Planning Commission 2015, *State Planning Policy 3.7: Planning in Bushfire Prone Areas*, WAPC, Perth.

<b>Geographic Information System (GIS)</b>	A data base technology, linking any aspect of land-related information to its precise geographic location <sup>4</sup>
<b>Geographic Information System (GIS) Map</b>	The mapping component of the Bushfire Risk Management System. Assets, treatments and other associated information is spatially identified, displayed and recorded within the GIS Map
<b>Land Owner</b>	The owner of the land, as listed on the Certificate of Title; or leaser under a registered lease agreement; or other entity that has a vested responsibility to manage the land
<b>Likelihood</b>	The chance of something occurring. In this instance, the chance of a bushfire igniting, spreading and reaching the asset
<b>Locality</b>	The officially recognised boundaries of suburbs (in cities and larger towns) and localities (outside cities and larger towns)
<b>Planning Area</b>	A geographic area determine by the local government which is used to provide a suitable scale for risk assessment and stakeholder engagement
<b>Priority</b>	See Treatment Priority
<b>Recovery Cost</b>	The capacity of an asset to recover from the impacts of a bushfire
<b>Responsible Person</b>	The person responsible for planning, coordinating, implementing, evaluating and reporting on a risk treatment
<b>Risk acceptance</b>	The informed decision to accept a risk, based on the knowledge gained during the risk assessment process
<b>Risk analysis</b>	The application of consequence and likelihood to an event in order to determine the level of risk
<b>Risk assessment</b>	The systematic process of identifying, analysing and evaluating risk
<b>Risk evaluation</b>	The process of comparing the outcomes of risk analysis to the risk criteria in order to determine whether a risk is acceptable or tolerable
<b>Risk identification</b>	The process of recognising, identifying and describing risks
<b>Risk Manager</b>	The organisation or individual responsible for managing a risk identified in the Bushfire Risk Management Plan; including review, monitoring and reporting
<b>Risk Register</b>	A component within the Bushfire Risk Management System used to record, review and monitor risk assessments and treatments associated with assets recorded in the Bushfire Risk Management Plan
<b>Risk treatment</b>	A process to select and implement appropriate measures undertaken to modify risk

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<sup>4</sup> Landgate 2015, *Glossary of terms*, Landgate, Perth

<b>Rural</b>	Any area where in residences and other developments are scattered and intermingled with forest, range, or farm land and native vegetation or cultivated crops <sup>5</sup>
<b>Rural Urban Interface (RUI)</b>	The line or area where structures and other human development adjoin or overlap with undeveloped bushland <sup>6</sup>
<b>Slope</b>	The angle of the ground's surface measured from the horizontal
<b>Tenure Blind</b>	An approach where multiple land parcels are consider as a whole, regardless of individual ownership or management arrangements
<b>Treatment</b>	An activity undertaken to modify risk, for example a prescribed burn
<b>Treatment Objective</b>	The specific aim to be achieved or action to be undertaken, in order to complete the treatment. Treatment objectives should be specific and measurable
<b>Treatment Manager</b>	The organisation, or individual, responsible for all aspects of a treatment listed in the Treatment Schedule of the Bushfire Risk Management Plan, including coordinating or undertaking work, monitoring, reviewing and reporting
<b>Treatment Priority</b>	The order, importance or urgency for allocation of funding, resources and opportunity to treatments associated with a particular asset. The treatment priority is based on an asset's risk rating
<b>Treatment Schedule</b>	A report produced within the Bushfire Risk Management System that details the treatment priority of each asset identified in the Bushfire Risk Management Plan and the treatments scheduled
<b>Treatment Strategy</b>	The broad approach that will be used to modify risk, for example fuel management
<b>Treatment Type</b>	The specific treatment activity that will be implemented to modify risk, for example a prescribed burn
<b>Vulnerability</b>	The susceptibility of an asset to the impacts of bushfire

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<sup>5</sup> Australasian Fire and Emergency Service Authorities Council 2012, *AFAC Bushfire Glossary*, AFAC Limited, East Melbourne

<sup>6</sup> Australasian Fire and Emergency Service Authorities Council 2012, *AFAC Bushfire Glossary*, AFAC Limited, East Melbourne



## 9. Common Abbreviations

APZ	Asset Protection Zone
BRMP	Bushfire Risk Management Planning
BRMS	Bushfire Risk Management System
CALD	Culturally and Linguistically Diverse
DEMC	District Emergency Management Committee
DFES	Department of Fire and Emergency Services
ERMP	Emergency Risk Management Plan
FFDI	Forest Fire Danger Index
FMP	Fire Management Plan
GFDI	Grassland Fire Danger Index
GIS	Geographic Information System
HSZ	Hazard Separation Zone
JAFFA	Juvenile and Family Fire Awareness
LEMA	Local Emergency Management Arrangements
LEMC	Local Emergency Management Committee
LG	Local Government
LMZ	Land Management Zone
OBRM	Office of Bushfire Risk Management
P&W	Parks and Wildlife (Department of)
SEMC	State Emergency Management Committee
SLIP	Shared Land Information Platform
WAPC	Western Australian Planning Commission

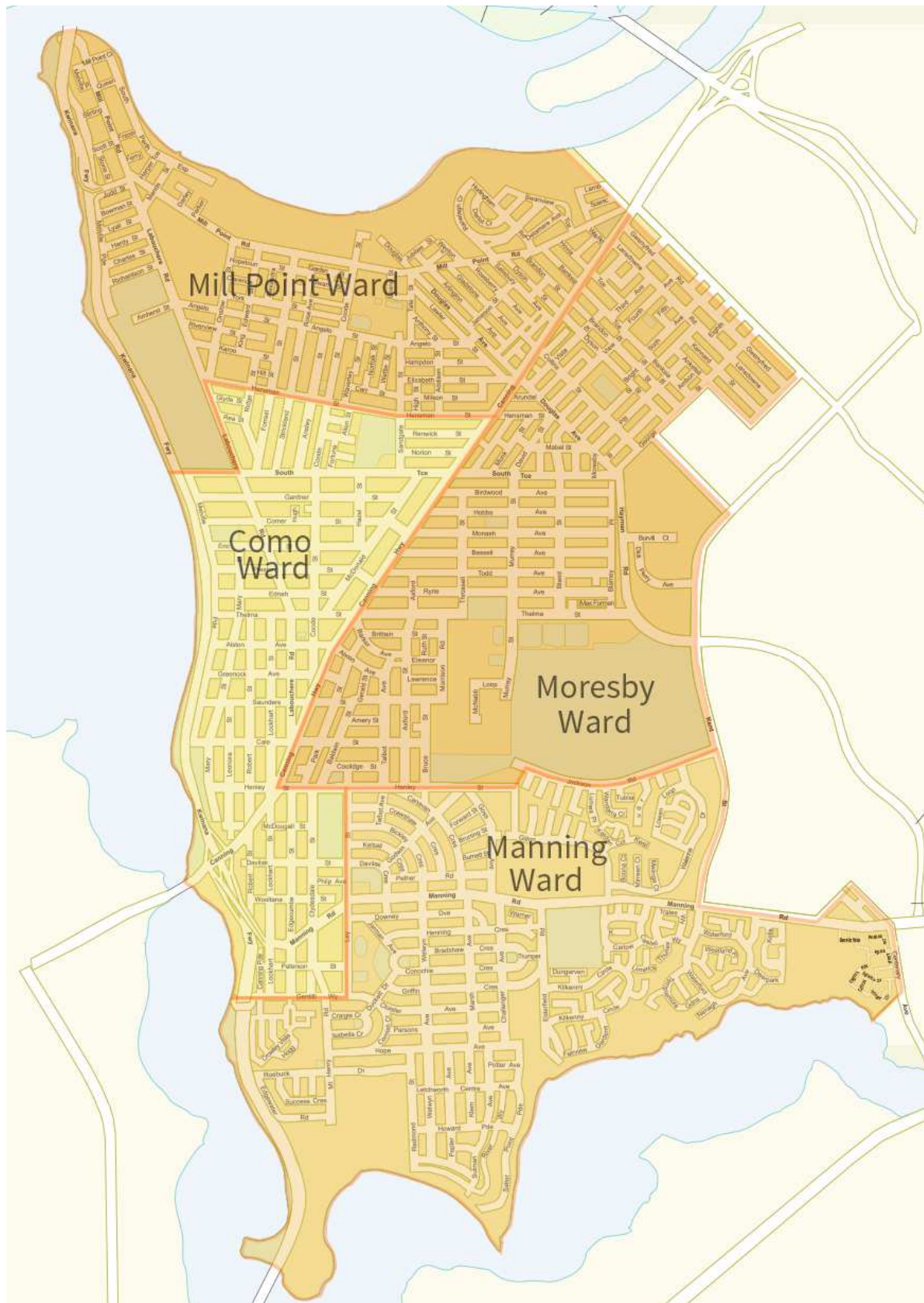
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# Appendices

## 1 Planning Area Map

City of South Perth Ward Boundaries



## 2 Asset Risk Register

Note: Special risk and critical facility assets are not assessed as low vulnerability. This is due to the nature of the occupants that reside at, or temporarily occupy, such facilities, including schools, hospitals and aged care facilities.

Table 15 – Asset Risk Register

Asset ID	Asset Category	Asset Sub Category	Asset Name	Location Description	Asset Owner	Risk Rating and Priority
STHMP0006	Economic, Environmental, Human Settlement	Special Risk and Critical Facilities	Perth Zoo	South Perth - 20 Labouchere Rd	Dept of Biodiversity, Conservation and Attractions	Medium (4C)
STHMBY0032	Human Settlement	Special Risk and Critical Facilities	Como Secondary College	Como – 20 Bruce St	Dept of Education	Medium (4A)
STHMBY0005	Economic	Critical Infrastructure	Technology Park Western Precinct	Como - 50 Hayman Rd	Dept of Biodiversity, Conservation and Attractions	Very High (2A)
STHMBY0004	Human Settlement	Special Risk and Critical Facilities	NGALA Early Childhood Centre	Kensington - 9 George St	Private	Extreme (1C)
STHMBY0003	Human Settlement	Special Risk and Critical Facilities	Alexandra Retirement Village	Kensington - 15 George St	Private	Very High (2C)
STHMBY0002	Human Settlement	Special Risk and Critical Facilities	Kensington Primary School	Kensington - 73 Banksia Tce	Dept of Education	Medium (4A)
STHMAN0033	Human Settlement	Residential	Residential Properties	Manning - Goss Av 5-13 and Forward St 19	Private	High (3B)
STHMAN0031	Human Settlement	Residential	Residential Properties	Waterford - Treacy Way 1-15	Private	Extreme (1A)

Asset ID	Asset Category	Asset Sub Category	Asset Name	Location Description	Asset Owner	Risk Rating and Priority
STHMAN0030	Human Settlement	Residential	Residential Properties	Waterford - Tringa Circle 21-31	Private	Extreme (1A)
STHMAN0029	Human Settlement	Residential	Residential Properties	Waterford - Deerpark Gdns 7-17	Private	Medium (4A)
STHMAN0028	Human Settlement	Residential	Residential Properties	Waterford - Nenagh Gr 2-8 and Waterford Ave 52 -68	Private	High (3A)
STHMAN0027	Human Settlement	Residential	Residential Properties	Waterford - Templemore Gdns 8 -10 and Nenagh Gr 10-12	Private	Extreme (1A)
STHMAN0026	Human Settlement	Residential	Residential Properties	Waterford - Templemore Gdns 13-23	Private	Extreme (1C)
STHMAN0025	Human Settlement	Residential	Residential Properties	Waterford - Galway Gr 1-11 and Templemore Gdns 4 and 6	Private	Extreme (1A)
STHMAN0024	Human Settlement	Residential	Residential Properties	Waterford - Galway Gr 2-6	Private	High (3A)
STHMAN0023	Human Settlement	Residential	Residential Properties	Waterford - Fairview Gdns 5-15 and Roscrea Cl 3-7	Private	High (3A)
STHMAN0022	Economic	Commercial and Industrial	Telstra Facility	Manning - 54 Manning Rd	Private	Medium (4C)
STHMAN0021	Human Settlement	Residential	Residential Properties	Manning - Davilak Crescent 2-30	Private	Medium (4A)
STHMAN0020	Human Settlement	Residential	Residential Properties	Salter Point - Salter Point Pde 1-9 and River Way 74-84	Private	High (3A)

Asset ID	Asset Category	Asset Sub Category	Asset Name	Location Description	Asset Owner	Risk Rating and Priority
STHMAN0019	Environmental, Human Settlement	Residential	Redmond Street Reserve - 2 River Way and nearby Residential Properties	Salter Point - River Way 1-72,79 and 81; Redmond St 50; Unwin Cr 1-27; Sulman Av 47,49,56 and 60	South Perth	Extreme (1A)
STHMAN0018	Cultural, Economic	Other	Old Manning Library	Manning - 144 Manning Rd	South Perth	Very High (2C)
STHMAN0017	Economic	Tourist and Recreational	South Perth Leagues Club (George Burnett Club Rooms)	Karawara -180 Manning Rd	South Perth	Very High (2C)
STHMAN0016	Human Settlement	Special Risk and Critical Facilities	Curtin Primary School	Manning - 20 Goss Av	Dept of Education	Very High (2A)
STHMAN0015	Human Settlement	Residential	Residential Properties	Manning - Goss Av 23-33 and Pether Rd 42	Private	High (3B)
STHMAN0014	Human Settlement	Special Risk and Critical Facilities	Meath Care Retirement Village	Como - 80 Henley St	Private	High (3B)
STHMAN0011	Human Settlement	Residential	Residential Properties	Salter Point - Roebuck Dr 34-52; Hope Av 1-23 and Mount Henry Rd 36-38	Private	High (3B)
STHMAN0009	Human Settlement	Special Risk and Critical Facilities	Aquinas College	Salter Point - 58 Mount Henry Rd	Private	Extreme (1B)
STHMAN0001	Human Settlement	Special Risk and Critical Facilities	Manning Primary School	Manning - 60-80 Ley Street	Dept of Education	Medium (4A)
STHCOM0013	Environmental, Human Settlement	Residential	Residential Properties	Salter Point - Kenneally CCT 15, Crowley Vista 1-21 and Hogg Ave 3-28	Private	Extreme (1A)

Asset ID	Asset Category	Asset Sub Category	Asset Name	Location Description	Asset Owner	Risk Rating and Priority
STHCOM0012	Economic, Environmental	Critical Infrastructure	School of Dental Therapy	Salter Point - 43 Mt Henry Rd	Dept of Health	Extreme (1C)
STHCOM0010	Human Settlement	Residential	Residential Properties	Salter Point -Mount Henry Rd 57-79; Batavia Way 2-10; Roebuck Dr 29-33; Success Cr 30-39; Edgewater Rd 44-49	Private	Very High (2A)
STHCOM0008	Human Settlement	Special Risk and Critical Facilities	Baptistcare Riverside Retirement Village	Salter Point - 10 Roebuck Dr	Private	Extreme (1B)
STHCOM0007	Human Settlement	Residential	Residential Properties	Salter Point - Stitford Promenade 1-31	Private	Low (5A)

### 3 Treatment Schedule

The purpose of risk treatment is to reduce the likelihood of a bushfire occurring and/or the potential impact of a bushfire on the community, economy and environment. This is achieved by implementing treatments that modify the characteristics of the risk, the community or the environment.

A range of risk mitigation treatment strategies have been identified and initiated to reduce and mitigate the risk of bushfire within the City.

Table 16 – Bushfire Risk Management Plan Treatment Schedule

Asset ID	Asset Name	Location Description	Treatment Strategy	Treatment Type	Treatment Objective	Recommended Treatment within Treatment Zone	Treatment Rating and Priority	Treatment Manager	Date Scheduled	Frequency of Works
STHMAN0011	Residential Properties	Salter Point - Roebuck Dr 34-52; Hope Av 1-23 and Mount Henry Rd 36-39	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to residential properties. To increase separation distance and reduce fuel load.	Tree crown uplifting and thinning out of high-density tree stands, removal of non-native trees and shrubs, dry grasses slashing and dead vegetation material removal. Maintain more than 20 m separation zone between site vegetation and nearby residential properties.	High (3B)	Aquinas College and Trustees of Edmund Rice Education Australia	30-04-2023	Annual
STHMAN0011	Residential Properties	Salter Point - Roebuck Dr 34-52; Hope Av 1-23 and Mount Henry Rd 36-38	Fuel Management	Chemical Works	To mitigate overall bushfire risk to residential properties. To increase separation distance and reduce fuel load.	Chemical weed control.	High (3B)	Aquinas College and Trustees of Edmund Rice Education Australia	30-09-2023	Annual
STHMAN0014	Meath Care Retirement Village	Como - 80 Henley St	Planning	Evacuation / Relocation Planning	To communicate to Meath Care Retirement Village management associated bushfire risk and protect vulnerable residents and staff.	Develop and implement Prepare Act Survive Plan.	High (3B)	Meath Care Retirement Village	30-09-2023	N/A



Asset ID	Asset Name	Location Description	Treatment Strategy	Treatment Type	Treatment Objective	Recommended Treatment within Treatment Zone	Treatment Rating and Priority	Treatment Manager	Date Scheduled	Frequency of Works
STHMAN0014	Meath Care Retirement Village	Como - 80 Henley St	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to Meath Care retirement Village residential and administration buildings. To reduce fuel load and increase separation distance.	Tree crown uplifting (from the path 10m into the reserve) and removal of woody weeds and dead vegetation material.	High (3B)	Department of Education	30-04-2023	Annual
STHMAN0014	Meath Care Retirement Village	Como - 80 Henley St	Fuel Management	Chemical Works	To mitigate overall bushfire risk to Meath Care retirement Village residential and administration buildings. To reduce fuel load and increase separation distance.	Chemical weed control.	High (3B)	Department of Education	30-09-2023	Annual
STHMAN0033	Residential Properties	Manning - Goss Av 5-13 and Forward St 20	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Tree crown uplifting (from the path 10m into the reserve) and removal of woody weeds and dead vegetation material.	High (3B)	Department of Education	30-04-2023	Annual
STHMAN0033	Residential Properties	Manning - Goss Av 5-13 and Forward St 19	Fuel Management	Chemical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Chemical weed control.	High (3B)	Department of Education	30-09-2023	Annual
STHMAN0018	Old Manning Library	Manning - 144 Manning Rd	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to Old Manning Library. To increase separation distance and reduce fuel load.	Tree crown uplifting (from the library building path 30m into the reserve) and removal of woody weeds and dead vegetation material removal.	Very High (2C)	Water Corporation	30-04-2023	Annual
STHMAN0018	Old Manning Library	Manning - 144 Manning Rd	Fuel Management	Chemical Works	To mitigate overall bushfire risk to Old Manning Library. To increase separation	Chemical weed control.	Very High (2C)	Water Corporation	30-09-2023	Annual

Asset ID	Asset Name	Location Description	Treatment Strategy	Treatment Type	Treatment Objective	Recommended Treatment within Treatment Zone	Treatment Rating and Priority	Treatment Manager	Date Scheduled	Frequency of Works
					distance and reduce fuel load.					
STHMBY0004	NGALA Early Childhood Centre	Kensington - 9 George St	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to the NGALA Early Childhood Centre administration buildings.	Slashing or mowing.	Extreme (1C)	NGALA Early Childhood Centre	30-04-2023	Annual
STHMBY0004	NGALA Early Childhood Centre	Kensington - 9 George St	Fuel Management	Chemical Works	To mitigate overall bushfire risk to the NGALA Early Childhood Centre administration buildings.	Chemical weed control.	Extreme (1C)	NGALA Early Childhood Centre	30-09-2023	Annual
STHMBY0005	Technology Park Western Precinct	Como - 50 Hayman Rd	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to the Technology Park Precinct properties. To increase separation distance and reduce fuel load.	Slashing or mowing.	Very High (2A)	Dept of Biodiversity, Conservation and Attractions	30-04-2023	Annual
STHMBY0005	Technology Park Western Precinct	Como - 50 Hayman Rd	Fuel Management	Chemical Works	To mitigate overall bushfire risk to the Technology Park Precinct properties.	Chemical weed control.	Very High (2A)	Dept of Biodiversity, Conservation and Attractions	30-09-2023	Annual
STHCOM0010	Residential Properties	Salter Point -Mount Henry Rd 57-79; Batavia Way 2-10; Roebuck Dr 29-33; Success Cr 30-39; Edgewater Rd 44-49	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Tree crown uplifting and thinning out of high-density tree stands, removal of non-native trees and shrubs, dry grasses slashing and dead vegetation material removal. Maintain more than 20 m separation zone between site vegetation and nearby residential properties.	Very High (2A)	Aquinas College and Trustees of Edmund Rice Education Australia	30-04-2023	Annual

Asset ID	Asset Name	Location Description	Treatment Strategy	Treatment Type	Treatment Objective	Recommended Treatment within Treatment Zone	Treatment Rating and Priority	Treatment Manager	Date Scheduled	Frequency of Works
STHCOM0010	Residential Properties	Salter Point -Mount Henry Rd 57-79; Batavia Way 2-10; Roebuck Dr 29-33; Success Cr 30-39; Edgewater Rd 44-50	Fuel Management	Chemical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Chemical weed control.	Very High (2A)	Aquinas College and Trustees of Edmund Rice Education Australia	30-09-2023	Annual
STHMAN0009	Aquinas College	Salter Point - 58 Mount Henry Rd	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to Aquinas College residential buildings, reduce fuel load and increase separation distance.	Tree crown uplifting and thinning out of high-density tree stands, removal of non-native trees and shrubs, dry grasses slashing and dead vegetation material removal. Maintain more than 20 m separation zone between site vegetation and nearby residential properties.  <b>Treatment zone is in the DBCA Development Control Area.</b>  <b>Some prescribed mechanical treatments are subject to DBCA permit.</b>	Extreme (1B)	Aquinas College and Trustees of Edmund Rice Education Australia	30-04-2023	Annual
STHMAN0009	Aquinas College	Salter Point - 58 Mount Henry Rd	Fuel Management	Chemical Works	To mitigate overall bushfire risk to Aquinas College residential buildings, reduce fuel load and increase separation distance.	Chemical weed control.  <b>Treatment zone is in the DBCA Development Control Area.</b>  <b>Prescribed chemical treatments do not require DBCA permit.</b>	Extreme (1B)	Aquinas College and Trustees of Edmund Rice Education Australia	30-09-2023	Annual

Asset ID	Asset Name	Location Description	Treatment Strategy	Treatment Type	Treatment Objective	Recommended Treatment within Treatment Zone	Treatment Rating and Priority	Treatment Manager	Date Scheduled	Frequency of Works
STHCOM0012	School of Dental Therapy	Salter Point - 43 Mt Henry Rd	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to School of Dental Therapy and Baptistcare Riverside retirement village buildings, reduce fuel load and increase separation distance.	Tree crown uplifting and removal of leaf litter, woody weeds and dead vegetation material.	Extreme (1C)	Dept of Health	30-04-2023	Annual
STHCOM0012	School of Dental Therapy	Salter Point - 43 Mt Henry Rd	Fuel Management	Chemical Works	To mitigate overall bushfire risk to School of Dental Therapy and Baptistcare Riverside retirement village buildings, reduce fuel load and increase separation distance.	Chemical weed control.	Extreme (1C)	Dept of Health	30-09-2023	Annual
STHCOM0008	Baptistcare Riverside Retirement Village	Salter Point - 10 Roebuck Dr	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to retirement village buildings, reduce fuel load and increase separation distance.	Tree crown uplifting (from the path 10 m into the reserve) and removal of woody weeds and dead vegetation material.	Extreme (1B)	City of South Perth	30-04-2023	Annual
STHCOM0008	Baptistcare Riverside Retirement Village	Salter Point - 10 Roebuck Dr	Fuel Management	Chemical Works	To mitigate overall bushfire risk to retirement village buildings, reduce fuel load and increase separation distance.	Chemical weed control.	Extreme (1B)	City of South Perth	30-09-2023	Annual
STHCOM0008	Baptistcare Riverside Retirement Village	Salter Point - 10 Roebuck Dr	Planning	Evacuation / Relocation Planning	To communicate to Baptistcare Riverside Retirement Village management associated bushfire risk and protect vulnerable residents and staff.	Develop and implement Prepare Act Survive Plan.	Extreme (1B)	Baptistcare Riverside Retirement Village	30-09-2023	N/A

Asset ID	Asset Name	Location Description	Treatment Strategy	Treatment Type	Treatment Objective	Recommended Treatment within Treatment Zone	Treatment Rating and Priority	Treatment Manager	Date Scheduled	Frequency of Works
STHCOM0013	Residential Properties	Salter Point - Kenneally CCT 15, Crowley Vista 1-21 and Hogg Ave 3-28	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Tree crown uplifting and removal of woody weeds and dead vegetation material.	Extreme (1A)	City of South Perth	30-04-2023	Annual
STHCOM0013	Residential Properties	Salter Point - Kenneally CCT 15, Crowley Vista 1-21 and Hogg Ave 3-29	Fuel Management	Chemical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Chemical weed control.	Extreme (1A)	City of South Perth	30-09-2023	Annual
STHMAN0025	Residential Properties	Waterford - Galway Gr 1-11 and Templemore Gdns 4 and 6	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Tree crown uplifting (from the path 3m into reserve) and fringing vegetation slashing (from the path 0.5 m into the reserve) and dead vegetation material removal.  <b>Treatment zone is in the DBCA Development Control Area.</b>  <b>Some prescribed mechanical treatments are subject to DBCA permit.</b>	Extreme (1A)	City of South Perth	30-04-2023	Annual
STHMAN0025	Residential Properties	Waterford - Galway Gr 1-11 and Templemore Gdns 4 and 7	Fuel Management	Chemical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Chemical weed control.  <b>Treatment zone is in the DBCA Development Control Area.</b>  <b>Prescribed chemical treatments do not require DBCA permit.</b>	Extreme (1A)	City of South Perth	30-09-2023	Annual

Asset ID	Asset Name	Location Description	Treatment Strategy	Treatment Type	Treatment Objective	Recommended Treatment within Treatment Zone	Treatment Rating and Priority	Treatment Manager	Date Scheduled	Frequency of Works
STHMAN0026	Residential Properties	Waterford - Templemore Gdns 13-23	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Tree crown uplifting and fringing vegetation slashing (from the path 0.5 m into the reserve) and dead vegetation material removal.  <b>Treatment zone is in the DBCA Development Control Area.</b>  <b>Some prescribed mechanical treatments are subject to DBCA permit.</b>	Extreme (1C)	City of South Perth	30-04-2023	Annual
STHMAN0026	Residential Properties	Waterford - Templemore Gdns 13-23	Fuel Management	Chemical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Chemical weed control.  <b>Treatment zone is in the DBCA Development Control Area.</b>  <b>Prescribed chemical treatments do not require DBCA permit.</b>	Extreme (1C)	City of South Perth	30-09-2023	Annual
STHMAN0027	Residential Properties	Waterford - Templemore Gdns 8 -10 and Nenagh Gr 10-12	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Tree crown uplifting and fringing vegetation slashing (from the path 0.5 m into the reserve) and dead vegetation material removal.  <b>Treatment zone is in the DBCA Development Control Area.</b>	Extreme (1A)	City of South Perth	30-04-2023	Annual

Asset ID	Asset Name	Location Description	Treatment Strategy	Treatment Type	Treatment Objective	Recommended Treatment within Treatment Zone	Treatment Rating and Priority	Treatment Manager	Date Scheduled	Frequency of Works
						<b>Some prescribed mechanical treatments are subject to DBCA permit.</b>				
STHMAN0027	Residential Properties	Waterford - Templemore Gdns 8 -10 and Nenagh Gr 10-13	Fuel Management	Chemical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Chemical weed control.  <b>Treatment zone is in the DBCA Development Control Area.</b>  <b>Prescribed chemical treatments do not require DBCA permit.</b>	Extreme (1A)	City of South Perth	30-09-2023	Annual
STHMAN0030	Residential Properties	Waterford - Tringa Circle 21-31	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Tree crown uplifting and thinning out of high-density tree stands and dead vegetation material removal.	Extreme (1A)	City of South Perth	30-04-2023	Annual
STHMAN0030	Residential Properties	Waterford - Tringa Circle 21-31	Fuel Management	Chemical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Chemical weed control.	Extreme (1A)	City of South Perth	30-09-2023	Annual
STHMAN0031	Residential Properties	Waterford - Treacy Way 1-15	Fuel Management	Chemical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Chemical weed control.  <b>Treatment zone is in the DBCA Development Control Area.</b>  <b>Prescribed chemical treatments do not require DBCA permit.</b>	Extreme (1A)	City of South Perth	30-09-2023	Annual
STHMAN0031	Residential Properties	Waterford - Treacy Way 1-15	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to residential properties,	Tree crown uplifting and removal of woody weeds	Extreme (1A)	City of South Perth	30-04-2023	Annual

Asset ID	Asset Name	Location Description	Treatment Strategy	Treatment Type	Treatment Objective	Recommended Treatment within Treatment Zone	Treatment Rating and Priority	Treatment Manager	Date Scheduled	Frequency of Works
					reduce fuel load and increase separation distance.	(including weedy trees) and dead vegetation material. Revegetation with native plant species only in open areas 3 m from the path into reserve.  <b>Treatment zone is in the DBCA Development Control Area.</b>  <b>Some prescribed mechanical treatments are subject to DBCA permit.</b>				
STHMAN0019	Redmond Street Reserve - 2 River Way and nearby Residential Properties	Salter Point - River Way 1-72,79 and 81; Redmond St 50; Unwin Cr 1-27; Sulman Av 47,49,56 and 60	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to Redmond Street Reserve and nearby residential properties, reduce fuel load and increase separation distance.	Tree crown uplifting and removal of woody weeds and dead vegetation material. Revegetation with native plant species (midstory, shrubs and groundcover).  <b>Treatment zone is in the DBCA Development Control Area.</b>  <b>Some prescribed mechanical treatments are subject to DBCA permit.</b>	Extreme (1A)	City of South Perth	30-04-2023	Annual
STHMAN0019	Redmond Street Reserve - 2 River Way and nearby	Salter Point - River Way 1-72,79 and 81; Redmond St 50; Unwin	Fuel Management	Chemical Works	To mitigate overall bushfire risk to Redmond Street Reserve and nearby residential properties,	Chemical weed control.	Extreme (1A)	City of South Perth	30-09-2023	Annual



Asset ID	Asset Name	Location Description	Treatment Strategy	Treatment Type	Treatment Objective	Recommended Treatment within Treatment Zone	Treatment Rating and Priority	Treatment Manager	Date Scheduled	Frequency of Works
	Residential Properties	Cr 1-27; Sulman Av 47,49,56 and 60			reduce fuel load and increase separation distance.	<b>Treatment zone is in the DBCA Development Control Area.</b>  <b>Prescribed chemical treatments do not require DBCA permit.</b>				
STHMAN0020	Residential Properties	Salter Point - Salter Point Pde 1-9 and River Way 74-84	Fuel Management	Chemical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Chemical weed control.  <b>Treatment zone is in the DBCA Development Control Area.</b>  <b>Prescribed chemical treatments do not require DBCA permit.</b>	High (3A)	City of South Perth	30-09-2023	Annual
STHMAN0016	Curtin Primary School	Manning - 20 Goss Av	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to Curtin Primary School administration buildings and structures, reduce fuel load and increase separation distance.	Tree crown uplifting (from the path 20m into the reserve) and removal of woody weeds and dead vegetation material.	Very High (2A)	Department of Education	30-04-2023	Annual
STHMAN0016	Curtin Primary School	Manning - 20 Goss Av	Fuel Management	Chemical Works	To mitigate overall bushfire risk to Curtin Primary School administration buildings and structures, reduce fuel load and increase separation distance.	Chemical weed control.	Very High (2A)	Department of Education	30-09-2023	Annual
STHMAN0015	Residential Properties	Manning - Goss Av 23-33 and Pether Rd 42	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to residential properties,	Tree crown uplifting, (from the verge 20m into the reserve) and removal of	High (3B)	City of South Perth	30-04-2023	Annual

Asset ID	Asset Name	Location Description	Treatment Strategy	Treatment Type	Treatment Objective	Recommended Treatment within Treatment Zone	Treatment Rating and Priority	Treatment Manager	Date Scheduled	Frequency of Works
					reduce fuel load and increase separation distance.	woody weeds and dead vegetation material.				
STHMAN0015	Residential Properties	Manning - Goss Av 23-33 and Pether Rd 42	Fuel Management	Chemical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Chemical weed control.	High (3B)	City of South Perth	30-09-2023	Annual
STHMAN0017	South Perth Leagues Club (George Burnett Club Rooms)	Karawara -180 Manning Rd	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to South Perth Leagues Club building and structures, reduce fuel load and increase separation distance.	Tree crown uplifting (from the path 20m into the reserve) and removal of woody weeds and dead vegetation material.	Very High (2C)	City of South Perth	30-04-2023	Annual
STHMAN0017	South Perth Leagues Club (George Burnett Club Rooms)	Karawara -180 Manning Rd	Fuel Management	Chemical Works	To mitigate overall bushfire risk to South Perth Leagues Club building and structures, reduce fuel load and increase separation distance.	Chemical weed control.	Very High (2C)	City of South Perth	30-09-2023	Annual
STHMAN0023	Residential Properties	Waterford - Fairview Gdns 5-15 and Roscrea Cl 3-7	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Tree crown uplifting, fringing vegetation slashing (from the path 0.5 m into the reserve) and removal of thick stands of Casuarina glauca and dead vegetation material. <b>Treatment zone is in the DBCA Development Control Area.</b> <b>Some prescribed mechanical treatments are subject to DBCA permit.</b>	High (3A)	City of South Perth	30-04-2023	Annual

Asset ID	Asset Name	Location Description	Treatment Strategy	Treatment Type	Treatment Objective	Recommended Treatment within Treatment Zone	Treatment Rating and Priority	Treatment Manager	Date Scheduled	Frequency of Works
STHMAN0023	Residential Properties	Waterford - Fairview Gdns 5-15 and Roscrea Cl 3-7	Fuel Management	Chemical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Chemical weed control.  <b>Treatment zone is in the DBCA Development Control Area.</b>  <b>Prescribed chemical treatments do not require DBCA permit.</b>	High (3A)	City of South Perth	30-09-2023	Annual
STHMAN0024	Residential Properties	Waterford - Galway Gr 2-6	Fuel Management	Chemical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Chemical weed control.  <b>Treatment zone is in the DBCA Development Control Area.</b>  <b>Prescribed chemical treatments do not require DBCA permit.</b>	High (3A)	City of South Perth	30-09-2023	Annual
STHMAN0028	Residential Properties	Waterford - Nenagh Gr 2-8 and Waterford Ave 52 -68	Fuel Management	Mechanical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Tree crown uplifting and fringing vegetation slashing (from the path 0.5 m into the reserve) and dead vegetation material removal.  <b>Treatment zone is in the DBCA Development Control Area.</b>  <b>Some prescribed mechanical treatments are subject to DBCA permit.</b>	High (3A)	City of South Perth	30-04-2023	Annual

Asset ID	Asset Name	Location Description	Treatment Strategy	Treatment Type	Treatment Objective	Recommended Treatment within Treatment Zone	Treatment Rating and Priority	Treatment Manager	Date Scheduled	Frequency of Works
STHMAN0028	Residential Properties	Waterford - Nenagh Gr 2-8 and Waterford Ave 52 -68	Fuel Management	Chemical Works	To mitigate overall bushfire risk to residential properties, reduce fuel load and increase separation distance.	Chemical weed control.  <b>Treatment zone is in the DBCA Development Control Area.</b>  <b>Prescribed chemical treatments do not require DBCA permit.</b>	High (3A)	City of South Perth	30-09-2023	Annual
STHMBY0003	Alexandra Retirement Village	Kensington - 15 George St	Planning	Evacuation / Relocation Planning	To communicate to Alexandra Retirement Village management associated bushfire risk and protect vulnerable residents and staff.	Develop and implement Prepare Act Survive Plan.	Very High (2C)	Alexandra Retirement Village	30-09-2023	N/A
STHMAN0029	Residential Properties	Waterford - Deerpark Gdns 7-17	Fuel Management	Mechanical Works	To reduce the overall bushfire risk to Waterford - Deerpark Gdns 7-17 residential properties.	Tree crown uplifting and thinning out of high-density tree stands. Removal of non-native trees and shrubs and dead vegetation material. Slashing of dry grasses and bracken. Maintain where possible more than 20 m setback between site vegetation and nearby residential properties.	Medium (4A)	Indigenous Land and Sea Corporation	31-12-2022	Completed
STHMAN0001	Manning Primary School	Manning - 60-80 Ley Street	Fuel Management	Mechanical Works	Lower overall bushfire risk to the school.	Mechanical weed control.	Medium (4A)	Dept of Education	30-04-2023	Annual

## 4 Local Government-Wide Controls, Multi-Agency Treatment Work Plan

Table 17 – Multi Agency Treatment Work Plan

Target	Process	Responsibility
Public Education	Fire Chat web site DFES web site	Department of Fire & Emergency Services (DFES)
Fire break notices and enforcement	Compliance & Inspection	Ranger Service, CoSP
Planning and building permits, BAL's	Compliance & Inspection	Statutory Planning, CoSP
Building Codes	Compliance & Inspection	Statutory Planning, CoSP
Schools (student) education program	Engagement	DFES
Special risks	Engagement	DFES Ranger Service, CoSP
Bushfire prone properties	Engagement & awareness	DFES, Ranger Service, CoSP

Control	Action or Activity Description	Led Agency	Other Stakeholder (s)	Notes and Comments	
1	City of South Perth Bushfire Risk Management Plan 2022 - 2027	BRM Plan Extreme and Very High risks priority for treatment	DFES & Local Government	DFES and landowners/managers	Implementation of risk mitigation treatments
		Maintain and refine BRM Plan	Local Government	DFES and landowners/managers	Maintenance of BRM Plan and BRMS. BRM Plan performance monitoring and reporting progress to local government council and OBRM
2	Bushfire prone private properties	Issue separate treatment plans to property owners to reduce risk and increase awareness	Local Government	Cygnia Cove residential estate, Aquinas College, Clontarf College, Alexandra and Baptistcare Riverside Retirement Villages, Waterford residential zone near Andrew Thompson Conservation Reserve, Salter Point foreshore residents, Redmond Street Reserve residential zone	Implementation of treatments, ensuring compliance, monitoring risk, reporting on progress
3	<i>Bush Fire Act 1954</i>	Annual Firebreak Notice published	Local Government	-	Ensuring compliance with Annual Fire Control Notice, Fire Management Plans and other required works (i.e. issuing of infringement notices, work orders, abatement notices and education letters)
		Review of Annual Firebreak Notice		-	Review the effectiveness of the Annual Fire Control Notice
		Annual inspection target		-	Implementation of any changes to increase effectiveness and volume of inspections
		Total fire bans, prohibited and restricted burning times		DFES	Enforcing restrictions where required or deemed necessary

Control	Action or Activity Description	Led Agency	Other Stakeholder (s)	Notes and Comments	
4	City of South Perth Local Planning Strategy 2021	Mechanism to perform works related to bushfire mitigation treatments	Local Government and Land Managers	-	In accordance with scheme text, property owners can implement strictly defined types of bushfire mitigation on their property based on zoning
5	State Planning Policy 3.7: Planning in Bushfire Prone Areas  Planning and Development (Local Planning Scheme) Regulations 2015  Australian Standard 3959 – Construction of Buildings in Bushfire-Prone Areas	Implementation and compliance with SPP3.7 and the Bushfire Protection Criteria of the <i>Guidelines for Planning in Bushfire Prone Areas</i> where required	Local Government	WAPC	State planning framework and local planning schemes, implementation of appropriate subdivision and building standards in line with DFES, WAPC and Building Commission policies, guidelines and standards
6	City of South Perth Programs Delivery Services annual works	Management of road reserves, public open space and other local government owned lands	Local Government	-	Include the reduction of fuels through various annual works programs such as slashing, clearing, or chemical application. The installation of firebreaks
7	Department of Biodiversity, Conservation and Attractions annual mitigation works	DBCA conduct appropriate treatments to reduce fuel load or provide fire access	DBCA	DFES, LG	No formal plan exists however; works are completed as required, upon request or when identified
8	Water Corporation Bushfire Risk Management Program	Water Corporation is the custodian of a Bushfire Risk Management Plan that identifies areas for risk reduction treatment	Water Corporation	DFES, LG	Risk areas are identified and treatments planned
9	Western Power annual asset inspection and	Western Power is the custodian of a Bushfire Risk Management Plan that	Western Power, Private Landowners	DFES, LG	Risk areas are identified and treatments planned

Control		Action or Activity Description	Led Agency	Other Stakeholder (s)	Notes and Comments
	vegetation management program	identifies and prioritises areas for bushfire risk reduction treatments to be implemented			
		Tree and power line safety information			
<b>10</b>	Telstra annual asset inspection and vegetation management program	Telstra is the custodian of a Bushfire Risk Management Plan that identifies and prioritises areas for bushfire risk reduction treatments to be implemented	Telstra	DFES, LG	Risk areas are identified and treatments planned
<b>11</b>	Main Roads WA	Main Roads WA have road 'Design Objectives', 'Design Requirements' and 'Design Considerations' that incorporate management objectives for landscaping and revegetation zones	Main Roads WA	DFES, LG	The management objectives for Main Roads landscaping and revegetation zones includes removal of hazards, maintaining clearances to utilities, weed control and fire control. All of which may be acknowledged and utilised when implementing bushfire risk reduction strategies
<b>12</b>	State-wide arson prevention programs	Police infringement and reward schemes to prevent arson. Also various awareness campaigns and available information packages	DFES, WAPOL	DFES, WAPOL	Utilisation of the <i>Bush Fire Act 1954</i> , Criminal Code 444 & 554. Programs developed by DFES and WAPOL such as Bushfire season 'Are You Ready?' Campaign and Bushfire Action Month. Prepare Act Survive information package
<b>13</b>	Plant Guide within the Building Protection Zone for the Swan Coastal Plain of Western Australia, to guide revegetation and planting where relevant	Reduce spread of fire to assets	Local Government	-	Landscaping considerations for the LG and private developments to incorporate the guide



## 5 Bushfire Risk Management Communication Plan

### Document Control

<b>Document Name</b>	Bushfire Risk Management Communication Plan	<b>Current Version</b>	1.2
<b>Document Owner</b>	City of South Perth CEO	<b>Issue Date</b>	14/03/2022
<b>Document Location</b>	W300752 (D-20-23574)	<b>Next Review Date</b>	14/03/2027

### Related Documents

Title	Version	Date
Bushfire Risk Management Plan	1.2	14/03/2022

### Amendment List

Version	Date	Author	Business Unit
V 1.0	July 2021	Yulia Volobueva, Environment Coordinator	Asset and Design

### Reviewing Officers List

Version	Date	Officer Name	Business Unit	Status
V1.0	May 2020	Patrick Quigley, Manager Community, Culture and Recreation	Community, Culture and Recreation	Reviewed
V1.0	May 2020	Mark Taylor, Director Infrastructure services	Infrastructure Services	Reviewed
V1.0	May 2020	Bernadine Tucker, Manager Governance	Governance	Reviewed
V1.0	May 2020	Steve Atwell, Manager Programs Delivery	Programs Delivery	Reviewed
V1.0	May 2020	Chris Jansen, Manager Asset and Design	Assets and Design	Reviewed
V1.0	May 2020	Dene Lawrence, Coordinator Ranger Services	Ranger Services	Reviewed
V1.0	May 2020	Lisa Williams, Marketing Coordinator	Governance	Reviewed

Note: This BRM Communication Plan has been reviewed and approved by above officers. The document review and approval workflow has been recorded in the document (D-20-48413).

## 1. Introduction

The Bushfire Risk Management Plan (BRM Plan) is a strategic document that outlines the approach to the identification, assessment and treatment of assets exposed to bushfire risk within the City of South Perth. This Communication Plan accompanies the BRM Plan for the City of South Perth. It documents the communication objectives for the BRM Plan, roles and responsibilities for communication, key stakeholders, target audiences and key messages at each project stage, communication risks and strategies for their management, and communication monitoring and evaluation procedures.

## 2. Communications Overview

### Communication Objectives

The communication objectives for the development, implementation and review of the BRM Plan for the City of South Perth are as follows:

1. Key stakeholders understand the purpose of the BRM Plan and their role in the bushfire risk management planning process
2. Stakeholders who are essential to the bushfire risk management planning process, or can supply required information, are identified and engaged in a timely and effective manner
3. Relevant stakeholders are involved in decisions regarding risk acceptability and treatment
4. Key stakeholders engage in the review of the BRM Plan as per the schedule in place for the local government area
5. The community and other stakeholders engage with the bushfire risk management planning process and as a result are better informed about bushfire risk and understand their responsibilities to address bushfire risk on their own land.

### Communication Roles and Responsibilities

The City of South Perth is responsible for the development, implementation and review of the Communication Plan. Key stakeholders support local government by participating in the development and implementation of the Communications Strategy as appropriate. An overview of communication roles and responsibilities follows:

- CEO, City of South Perth, responsible for the endorsement of the BRM Communication Plan
- Director, Infrastructure Services and Director Development and Community Services, City of South Perth, responsible for monitoring and reporting on the BRM Plan and Communications Strategy
- Coordinator Ranger Services, City of South Perth, responsible for operational-level communication between the City and Stakeholders
- Coordinator Ranger Services, City of South Perth, responsible for communication between City departments and external stakeholders
- Coordinator Ranger Services and Senior Ranger, City of South Perth, responsible for communicating BRM Plan to Bushfire Brigades
- Marketing Coordinator, Coordinator Ranger Services, City of South Perth, responsible for external communication within the local government area.

## Key Stakeholders for Communication

The following table identifies key stakeholders in bushfire risk management planning. These are stakeholders that are identified as having a significant role or interest in the planning process or are likely to be significantly impacted by the outcomes. Stakeholders can be added to the table over time.

Stakeholder	Role of Interest	Level of Impact of Outcomes	Level of Engagement
<b>Major Landholder/ Manager</b>			
Department of Biodiversity, Conservation and Attractions	Major landholder, environmental assets	Medium	Inform, Collaborate
Department of Planning, Lands and Heritage	Major landholder, environmental assets	Medium	Inform, Collaborate
DFES	Major landholder	Medium	Inform, Collaborate
State Housing Authority	Major landholder	Medium	Inform, Collaborate
Main Roads Western Australia	Major landholder, critical infrastructure	Medium	Inform, Collaborate
Private Developers	Major landholder	Medium	Inform, Educate, Collaborate
Telstra	Major landholder, critical infrastructure	Medium	Inform, Collaborate
Atco Gas	Major landholder, critical infrastructure	Medium	Inform, Collaborate
NBN Ltd	Major landholder, critical infrastructure	Medium	Inform, Collaborate
Water Corporation	Major landholder, critical infrastructure	Medium	Inform, Collaborate
Western Power	Major landholder, critical infrastructure	Medium	Inform, Collaborate
<b>Community</b>			
Private Land Owners (Residential, Special Residential and Commercial)	Landholder,	High	Inform, Educate, Collaborate
<b>Education Institutions</b>			
Aquinas College	Land manager	High	Inform, Educate, Collaborate
Clontarf College	Land manager	High	Inform, Educate, Collaborate
Manning Primary School	Land manager	High	Inform, Educate, Collaborate
Curtin Primary School	Land manager	High	Inform, Educate, Collaborate
School of Dental Therapy	Land manager	High	Inform, Educate, Collaborate
<b>Community Groups and Community Interest Groups</b>			

Mount Henry Peninsula Conservation Group	Private land manager and interested party	High	Inform, Educate, Collaborate
City of South Perth Environment Association (COSPEA)	Interested party	Low	Inform, Educate, Collaborate
Salter Point Community Group (SPCG)	Interested party	Low	Inform, Educate, Collaborate
<b>Local Government</b>			
City of South Perth	Project Owner, major land owner and manager	High	Inform
City of Canning	Neighbouring LGA	Medium	Inform
City of Melville	Neighbouring LGA	Low	Inform
City of Perth	Neighbouring LGA	Low	Inform
Town of Victoria Park	Neighbouring LGA	Medium	Inform
<b>Bushfire Brigades and Bushfire Ready Volunteer Groups</b>			
Kensington Fire Station Brigade	Interested party	Medium	Inform, Collaborate

## Communication Plan

Timing of Communication	Stakeholder (s)	Communication Objective (s)	Communication Method	Key Message or Purpose	Responsibility	Identified Risk to Communication	Strategy to Manage Risks	Monitoring and Evaluation Method
<b>Development of the BRM Plan</b>								
<i>What is the timeframe or date for this communication?</i>	<i>Who is the stakeholder(s) or target audience?</i>	<i>Which communication objective(s) does this activity support or achieve?</i>	<i>How are you communicating (e.g. email, meetings) and how often? What resources are required?</i>	<i>What is the key message or purpose that needs to be understood?</i>	<i>Who is responsible for planning and undertaking the communication activity?</i>	<i>What could reduce the effectiveness of the communication?</i>	<i>What will be done to reduce the likelihood of this happening?</i>	<i>How will you know if your communication was successful?</i>
During 2019-2022	City of South Perth CEO, Senior Leadership Team and Staff	All (1-5)	Emails Meetings City Website	Informed, consulted, accountable or responsible. Review and input into Plan	Marketing Coordinator; and Coordinator Ranger Services	Time constraints, No clear message, Incorrect audience	Careful planning and time management	Feedback, questions and level of support received
During 2019-2021	Bushfire Advisory Committee (BFAC)	All (1-5)	Meetings (Quarterly) Face to Face (presentation to executive management team)	Engaged in process of BRM Plan Treatment Schedule and Risk Analysis	Coordinator Ranger Services and Senior Ranger	Plan not complete, Treatments not negotiated, Time constraints	Prepare presentation for each BFAC Give updates as required	Feedback, treatments negotiated and supported by committee
During 2020-2022	Land Owners Land Managers & Interest groups or businesses	1 and 2	Emails City Website Face to face meetings	Inform of the BRM Plan process Identify valued Assets, Identify existing controls	Marketing Coordinator; Coordinator Ranger Services and Senior Ranger	Website not reaching majority, Face to face meetings could get abstracted by other agendas	Website details, Chair meetings with strict agenda and purpose	Engaged throughout process, Feedback received, Success of outcomes.
During 2020-2022	State Agencies, Service providers and other Stakeholders (WP, WC, etc.)	All (1-5)	Emails Face to Face Meetings Telephone	Inform of BRM Plan process Identify assets at risk Identify existing controls/programs	Coordinator Ranger Services, Manager Program Delivery; Director Infrastructure Services; City's communications team	Time constraints and travel Level of interest and engagements in process	Select appropriate channel of communication; Prepare materials and good planning	Selected appropriate channel of communication; Prepared materials and good planning
<b>Implementation of the BRM Plan</b>								
Life of Plan	City of South Perth CEO, Senior Leadership Team and Staff	All (1-5)	Emails Meetings (Quarterly) City Website and Intranet	Informed, consulted, accountable or responsible. Review and input into Plan.	Coordinator Ranger Services, Senior Ranger	Time constraints Availability Lack of understanding Budget (for LG mitigation)	Careful planning and time management; Clear purpose; Clear communication and regular updates	Feedback, questions and level of support received
Life of Plan	Bushfire Advisory Committee (BFAC)	All (1-5)	Meetings (Quarterly) Face to Face (presentations in council chambers)	Report on progress to plan; Report issues/constraints	Coordinator Ranger Services, Senior Ranger	Poor communication from stakeholders and LG on completion of works	Collate data and report on success to plan; Compliance to plan	Feedback, treatments negotiated and supported by committee
Life of Plan	Stakeholder group	All (1-5)	Emails Website Telephone	Informed, consulted, accountable or responsible. Review and input into Plan.	Coordinator Ranger Services, Senior Ranger	Availability Located out of local/district area Commitment lost	Well planned and executed sharing of information. Negotiations conducted	Good feedback received on works

				Progress to plan				
<b>Review of the BRM Plan</b>								
Yearly (City) 5 Yearly (City, DFES and OBRM)	City of South Perth CEO, Councillors and Staff OBRM and DFES	All (1-5)	Meetings Emails	Review, Monitor and Reporting Endorse plan Compliance to plan and acceptance of risk	Coordinator Ranger Services	Poor reporting and recording of information  Review not completed by the City and OBRM	Coordinator Ranger Services and Programs Delivery relevant officers to record data and information appropriately Approved by OBRM for the City's endorsement	Feedback from Council received; Work completed as a result of plan; Good reporting
Annual	City of South Perth	All (1-5)	City's annual report	Report on actions and key performance indicators for BRM Plan process	Coordinator Ranger Services	Objectives not clearly set out Key actions not identified	Discuss with CEO and Director Infrastructure Services Clear objectives set	Good reporting and feedback from CEO and Director Infrastructure Services on work completed