



Local Emergency Management Arrangements 2024

Annexure 'C'

Emergency Risk Management Study Report

LEMC endorsement date: 21 May, 2024
Full review required: 2029
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AMENDMENTS

AMENDMENT		DETAILS OF AMENDMENT	AMENDED BY INITIALS/DATE
No.	Date		
1	20 Mar, 2024	Complete LEMA Re-write	Shire of Bridgetown-Greenbushes, per Plan-it WA Consulting
2	21 May, 2024	Endorsed by LEMC	
3	25 July, 2024	Endorsed by Council ref: 176-24/25	

**ALIGNMENT WITH REMAINDER OF THE SHIRE OF
BRIDGETOWN/GREENBUSHES LEMA:**

This plan is an annexure (Annexure 'C') to the Shire of Bridgetown/Greenbushes' Local Emergency Risk Management Arrangements (LEMA). This document is to be read in conjunction with the remainder of those Arrangements.

MITIGATION PLANNING EMERGENCY RISK MANAGEMENT (ERM)

1 INTRODUCTION

As part of the redevelopment of its Local Emergency Management Arrangements, the Shire of Bridgetown/Greenbushes (SoBG) undertook a local risk analysis, by conducting surveys and a range of community workshops. It also considered historical data to determine likely hazards, risks and respective community tolerances, to inform its perception of exposure to risk. The focus of this study was Bridgetown/Greenbushes and the people and assets within the communities, within the whole of the Shire.

The ERM models were based on the [ISO 31,000:2018 Risk Management – Principles and Guidelines](#). The subsequent outputs of this process resulted in a Risk Management Register, which included the recently developed Shire of Bridgetown/Greenbushes Risk Evaluation Criteria.

In 2022, through AWARE Grant Finding, the assumptions of risk profile that populated the pre-existing Risk Register and informed the previous Risk Treatment Register, were challenged for currency. The benchmarks for this assessment process were the Risk Management Standard [ISO 31,000:2018 Risk Management – Principles and Guidelines](#), along with the implications from the [National Emergency Risk Assessment Guidelines \(NERAG\) \(2020\)](#). This latest version of the Emergency Risk Management (Annexure 'C') to Bridgetown/Greenbushes' LEMA, now includes the outcomes of that study.

Not surprisingly, the previously highest risk (bushfire) remained in that position. Bridgetown has been affected by significant fire events over the past few years and this remains topical. Other considerations that were salient included infrastructure failure (electrical supply, telecommunications, water) and these are mentioned as consequences rather than hazards, as explained later in this document. The ultimate risk register is included on page 10.

The SoBG ERM Register and SoBG Emergency Risk Management Plan, are integral parts of the SoBG LEMA.

Until the next study is completed (as required within 5 years), the newly created risk register will determine the relevant priorities for treatment during this period. Only the top 8 risks from the recent work, were used to produce the new risk register.

2 COMMUNITY ENGAGEMENT CONFIDENCE

FEEDBACK FROM THE COMMUNITY

Historical data searches were used to populate the risk assumptions in early drafts of the LEMA and associated annexures, prior to the community consultation phase of this project. This data provided the benchmarks to be challenged within the community workshop environment.

Significant staff changes within the Shire, made it challenging to gain a consensus of thought/feedback on the early LEMA drafts. It also made it very difficult for new

staff to assist in the organisation of opportunities for the author to connect with the local population. Staff were under pressure to assimilate into their new work environment and any support for this project would be an impost on that critical work requirement. Therefore, however frustrating this may have been to the timely completion of this project, the support gained from the various staff members who were able to provide their assistance, is greatly appreciated and the circumstances understood. It is considered absolutely vital to gain access to community, to ensure that risk assumptions are valid for the local community even though it has resulted in a delay in the completion of the LEMA.

Little feedback was received on the early drafts that were circulated for comment. This included little feedback from LEMC. This may be seen as sign that the assumptions were shared by that group, but that has not been rigorously tested, other than through analysis of the data that was gathered from the LEMC workshop, in the beginning of the project.

The subsequent community workshops on the 18th of March did provide validation of the existing assumptions, with some new insights to consider. However, it must be said that attendance at these workshops was not strong. Unfortunately, one of these workshops had no attendees. This has resulted in lowered confidence level in the assumptions of risk and the thresholds for tolerance, within the Community/s of Bridgetown/Greenbushes.

3 MANAGING RISK

Emergency Risk Management

A risk management approach is a critical component of the local emergency management process, used to inform the LEMA. Building a sound understanding of the hazards and risks likely to impact the community, is essential to enable local governments and LEMCs, to work together to implement controls and treatments. This process helps to build the capacity and resilience of the community and organisations, which enables them to better prepare for, work to prevent, respond to and recover from a major emergency. The process and mandate for local governments to undertake risk management is detailed in [State EM Policy Section 3.2](#).

4 EVALUATION OF HAZARD IMPACT

4.1 General Risk Evaluation Criteria

General discussion with the participants during the various elements of this study, informed the development of the following generalised Risk Evaluation Criteria (REC). The function of these REC is to articulate the thresholds of tolerance to the consequences of any Hazard Impacts within the Shire. In other words, these REC describe a 'tipping point' whereby hazard impacts represent a significant emergency, a 'Disaster', as distinct to a more routine 'emergency' event. If these REC are met or exceeded, it can be expected that community would be struggling to cope and require significant external support to recover.

Criteria 1

Any reasonably preventable accident/incident resulting in loss of local human life is unacceptable.

Criterion 2

Any reasonably preventable accident/incident resulting in serious injury to a local person, is unacceptable.

Criterion 3

Any reasonable preventable event that will cause an outage of 24 hours (or greater) of power, communications and/or potable water supply, would be considered unacceptable.

Criterion 4

Any reasonably preventable activity, or incident, that would cause arterial roads to be closed, isolating a community for more than 24 hours, would be considered to be unacceptable.

Criterion 5

Any reasonably preventable activity or incident, that would cause closure of 10% of community businesses, for more than one working day, would be considered to be unacceptable.

Criterion 6

Any reasonably preventable activity, or incident, that would cause the ambulance and/or the Bridgetown hospital to be over-loaded, would be considered to be unacceptable.

Criterion 7

Any reasonably preventable activity or incident, that would cause more than 5% of a local community's population to be evacuated for more than 24 hours, would be considered to be unacceptable.

Criterion 8

Any reasonably preventable activity or incident, that would cause emergency response communications and/or power supply infrastructure to be not available to emergency services during an incident, would be considered unacceptable.

Criteria 9

The destruction of the main bridge over the Blackwood River (south of town), due to any event would be considered to be unacceptable.

4.2 Identified Community Risks

The ten most salient assumptions of the risks, hazards and resilience thresholds for the local community/s are collated and recorded in the table, below.

- Column 2 (Hazard) rates the community perception of the typical frequency of a hazard interacting with the Bridgetown-Greenbushes community/s.
- Column 3 indicates the community's assumptions (in aggregate) of when the impact of that Hazard exceeds the community tolerance to that event and becomes a disaster that would require significant effort for the community to recover.
- Column 4 indicates the combined assumptions of the Likelihood of that trigger being met locally and is used to determine a treatment priority for the Shire's Risk register.

Notes:

1. Dust (8) and air crash (9) were both raised at community workshops, as a concern to community. When formally considered however, the groups could not reach a consensus on where they may sit in a risk register. The uncertainty on dust was due in the main to the observation that it was a localised concern and a consequence of local industrial activities. Air crash risk

was raised by a workshop participant who had subject matter expertise in air traffic controlling. That person raised the matter as a discussion point. The ensuing discussion considered that while any consequence may be very high, the likelihood determinant would likely result in that the hazard not figuring as a priority on the Shire's risk register.

Salient Shire Risks Table

#	Hazard	'Disaster' level when...	Likelihood
1	Fire	<ul style="list-style-type: none"> A. Response resulting in more than one agency consuming all relevant resources within the Shire (or DBCA operational District) for over one day. B. Incident response requires evacuation of 5% of population of community (or greater), for periods exceeding 24 hours. C. Loss of one, or more local lives. D. Loss of 5 homes, or more. E. Loss of critical infrastructure, for 3 days or more. 	2/3 (Likely to Unlikely)
2	Road Traffic Crash	<ul style="list-style-type: none"> A. Main arterial roads closed for >24 hours (whole of community totally isolated by road). B. More than one local human fatality occurs. C. Multiple school children involved with serious injuries resulting. D. Significant (not defined) number of persons impacted through injury &/or death. E. More than 1 home, or critical asset destroyed. 	2 (Likely)
3	Hazardous Material spill/incident	<ul style="list-style-type: none"> A. Any incident that results in 1 (or more) local fatalities. B. Any incident that required the evacuation of persons for >24 hours. C. Any incident that required closure of 10% of community businesses for one business day, or greater. D. Local ambulances and/or the Bridgetown Hospital, are unable to cope with presentations for medical aid. 	3 (Rare)
4	Storm	<ul style="list-style-type: none"> A. Response requires more than 1 agency accessing resources from outside of the Shire. 	3 (Unlikely)

		B. Incident response requires evacuation of 5% of population of community (or greater) for periods exceeding 24 hours.	
5	Heat Wave	Response requirements exceed capacity of Bridgetown Hospital to cope with the needs.	2/3 (Likely to Unlikely)
6	Flood	A. Flooding results in isolation of community members and/or arterial road closures, for periods of greater than 24 hours. B. Response requiring more than agency to access resources from outside Shire. C. Incident response requires evacuation of 5% of population of community (or greater), for periods exceeding 24 hours. D. Loss of one life, or more.	3/4 (Unlikely to Rare)
7	Drought	A. Extended period without rain leads to unusual level of water use restrictions (50% of water available for normal use). B. On-farm stock reduction occurs to 50% or less, of traditional numbers)	2/3 (Likely to Unlikely)
8	Dust	This was later agreed not to be a 'Hazard' per se, but an inconvenience and largely localised to mining areas of activity. Therefore, it is noted as a community concern, but excluded from the 'Risk Treatment Register'.	
9	Air Crash	Again, while such an event would undoubtedly have significant consequences, the likelihood part of the risk equation resulted in it being an incident to note, but not included within the Risk Treatment Register. Local knowledge at one of the workshops (ex Air Traffic Controller) raised this as an issue, given that there are now commercial passenger aircraft over-flying Bridgetown numerous times/week.	
10	Earthquake	A. Any earthquake to have it's epicentre within the Shire boundary AND to be deemed to have magnitude 5, or greater. B. Impact damage results in arterial road closures for periods of greater than 24 hours. C. Response requires more than agency to access resources from outside Shire. D. Incident response requires evacuation of 5% of population of community (or greater) for periods exceeding 24 hours.	3 (Unlikely)

General Notes from all workshop discussions:

There were further emergency-related matters that concerned participants during the workshop discussions. These were quarantined as 'matters of concern'. It was agreed that these should be considered 'consequences' that may result from any number of hazards impacting upon the community/s of Bridgetown-Greenbushes, rather than discreet hazards themselves. Additionally, it was agreed that they would also not be unique to any one hazard, so for more general consideration.

Therefore, it was agreed that the following table would be contained within the LEMA- Emergency Risk Management Register, to be used during incident response. The purpose being that this would enable the community to inform any 'Controlling Agency' of these identified vulnerabilities.

These are described in the table below:

4.3 CONSEQUENCE VULNERABILITY IDENTIFICATION TABLE

#	Vulnerability	Determined Community Tolerance Threshold
1	Electricity Supply Disruption	A. Any outage lasting greater than 24 hours would be intolerable. B. Any outage that caused emergency communication networks to fail, would be intolerable. C. Any outage that resulted in failure of critical infrastructure, effecting emergency response capacity, would be intolerable.
2	Communications Network Failure	A. Any outage lasting greater than 24 hours, would be intolerable. B. Any outage that caused emergency communications networks to fail, would be intolerable. C. Any outage that resulted in failure of critical infrastructure, effecting emergency response capacity, would be intolerable.

3	Potable Water Supply	Any incident that shut down (or contaminated) the potable water supply to 25% (or greater) of a community, would be intolerable.
3	Main Traffic Bridge (Bridgetown)	The loss of the main bridge leading south of Bridgetown, would be an unacceptable loss.
4	"Tree Changers"	The increasing numbers of persons from urban environments moving into the area, was discussed (at length and on multiple occasions) as a vulnerability across the Shire. In previous decades, generations of locals who understood local risks and behaved/acted accordingly, acted to reduce net local risk. (ie bush fire risk reduction activities, by persons used to using fire as a tool, reduced net community risk). These persons also understood the benefit of supporting each other in a crisis, whereas increasingly, many residents no longer really know their neighbours, in some parts.

RESULTANT RISK TREATMENT REGISTER

After completing the analysis of the hazards, using the processes indicated within the National Emergency Risk Assessment Guidelines (NERAG:2020) along with the community inputs, the following risk register was populated for the Shire of Bridgetown-Greenbushes. The pre-existing risk register (LEMA:2016) had the risks rated in a different order of priority, with the greatest changes being the elevation of flooding and road transport emergency (crash), plus the inclusion of earthquake, drought and heatwave. An additional observation that was surprising (given our recent past experience), was the low concern raised during the discussions about Human Pandemic.

As noted in the table above, this version of the LEMA also contains some consequences from any, or all of the Hazards, that the community considered important considerations for Hazard Management/Controlling Agencies to consider (Section 5 – below).

Hazard	Likelihood	Consequence	Treatment Priority	
Fire	Almost Certain	Major	Extreme	1
Road Crash	Likely	Moderate	High	2
Flood	Unlikely	Moderate	Medium	3
Drought	Unlikely	Moderate	Medium	4
Hazardous Material Spill	Rare	Minor	Low	5
Storm	Unlikely	Minor	Low	6
Earthquake	Unlikely	Minor	Low	7
Heatwave	Unlikely	Minor	Low	8

5 IDENTIFIED CONSEQUENCES TO CONSIDER

5.1 ELECTRICAL SUPPLY/CRITICAL INFRASTRUCTURE DISRUPTION

Much of the concern expressed within the discussions at the workshops, focussed on the impacts of any electrical supply disruption upon the greater community. Concerns were raised with respect to the resultant disruption of the potable water supply, sewerage and/or communications networks and the impact that would have on commercial and residential activities. It is recognised that there is an identified HMA (*Emergency Management Regulation r23(B)*) being the Coordinator of Energy, who would have carriage of this responsibility.

It was generally agreed to treat this issue as a consequence of a Hazard impacting upon the subject community, rather than a discreet Hazard. It was also agreed that any such disruption, could be a consequence to *any* hazard. Therefore, it does not appear in the hazard table as a Hazard to be treated. However, the view of the participants within the community engagement, was that the issue needs to be considered, when working to manage community vulnerabilities.

5.2 “TREE CHANGERS”

Another interesting topic to be raised (on several occasions) was a perceived increase in community vulnerability, due to the changing local community demographics. It was considered that in past decades, most community members grew up in the local environment where local hazards were better understood and intrinsic resilience measures existed, culturally. Recent years has seen a measurable increase in newcomers to towns within the Shire, predominately from urban environments. It was considered that his is diluting the local hazard resilience culture, increasing the vulnerability of the whole community.

An example cited, was with the hazard of bushfire, for example. Where most people within the Shire had grown up using fire as a land management tool and/or as bushfire fighters, they would manage local risks through a suite of mitigation measures, almost intuitively. They also had a culture of mutual reliance, where all chipped in to assist the others.

In this example, it was discussed that newcomers have become somewhat of a burden on the existing fire brigade members, whilst increasing net risk to the rest of the community. This was due to the newcomers being less likely to undertake the same measure of mitigation activity, as was traditionally the norm.

This comment is included within this report, as the discussions indicated a strong desire of the participants of the workshops, for community education and engagement to be used as an urgent risk treatment option, in concert with the existing enforcement of compliance to the Shire’s Bush Fire Order.

Similar comment was made with other discussed hazards.

6 DISCREET HAZARD RELATED RISK EVALUATION CRITERIA

The following paragraphs detail the Risk Evaluation Criteria (REC) that were developed for each of the top 8 risks that were determined within the consultation phase of the ERM Study. The purpose of these REC is to provide insight into what the community thought to be the threshold consequence levels, where the results of that hazard impacting upon the community became significant (ie a Community Disaster)

6.1 FIRE

The community discussions on fire almost universally focussed on bushfire. There was empathy for a resident/s whom may lose their home and valuables to a structure fire, but generally the conversations centred on bushfire.

- A. Any fire response that requires all relevant resources from **more than one** agency within the Shire (or DBCA operational District) for over one day, would be considered to be unacceptable.
- B. Any incident response requiring the evacuation of 5% of a community's population (or greater), for periods exceeding 24 hours, would be unacceptable.
- C. Any incident that resulted in the loss of one, or more a local lives would be considered unacceptable.
- D. Any fire incident that resulted in the loss of 5 homes or more, would be considered unacceptable.
- E. Any fire incident that resulted in an outage of critical infrastructure for 3 days or more, would be considered to be unacceptable.

6.2 ROAD CRASH

- A. Any road crash emergency that resulted in main arterial roads being closed for 24 hours, or more (where the whole of a community becomes totally isolated by road), would be considered to be unacceptable.
- B. Any road crash emergency that leads to more than one local human fatality, would be considered to be unacceptable.
- C. Any road crash emergency that leads to multiple school children involved, with serious injuries resulting, would be considered to be unacceptable.
- D. Any road crash emergency that leads to a two, or more local persons becoming seriously injured and/or permanently incapacitated, would be considered to be unacceptable.
- E. Any road crash emergency that leads to more than 1 home, or critical asset being destroyed, would be considered to be unacceptable.

6.3 FLOOD

- A. Any flooding event that results in arterial road closures and/or isolating community members for periods of greater than 24 hours, be considered to be unacceptable.

- B. Any flood emergency response that requires **more than one agency** to expend all available local resources requiring support from outside of the Shire, would be considered to be unacceptable.
- C. Any flood incident response that requires the evacuation of 5% of a local community population (or greater), for periods exceeding 24 hours, would be considered to be unacceptable.
- D. Any flood emergency that leads to the loss of a life would be considered to be unacceptable.

6.4 DROUGHT

- A. Any extended period without rain, that leads to an unusual level of water use restrictions (less than 50% of water available for normal use), would be considered to be unacceptable.
- B. On-farm stock reduction occurs, resulting in a reduction of 50% or less of traditional numbers, would be considered to be unacceptable.

6.5 HAZARDOUS MATERIAL SPILL

- A. Any hazardous material incident response that results in 1 (or more) local fatalities, would be considered to be unacceptable.
- B. Any hazardous material incident response that requires the evacuation of persons for greater than >24 hours, would be considered to be unacceptable.
- C. Any hazardous material incident response that requires the closure of 10% of community businesses for one business day, or greater, would be considered to be unacceptable.
- D. Any hazardous material incident response that leads to the local ambulances and/or the Bridgetown Hospital being unable to cope with presentations for medical aid, would be unacceptable.

6.6 SEVERE STORM

- A. Any response that requires all relevant resources from **more than one** agency within the Shire for over one day, would be considered to be unacceptable.
- B. Any storm incident response that would require the evacuation of 5% of population any community (or greater) for periods exceeding 24 hours (or greater), would be considered to be unacceptable.
- C. Any storm event that results in the loss of one or more local human lives, would be considered unacceptable.

6.7 EARTHQUAKE

- A. Any earthquake to have it's epicentre within the Shire boundary AND deemed to have magnitude 5, or greater, would be considered to be unacceptable.

- B. Any earthquake event that results in damage leading to arterial road closures for periods of greater than 24 hours, would be considered to be unacceptable.
- C. Any earthquake response that requires more than one agency, plus resources from outside Shire, would be considered to be unacceptable.
- D. Any earthquake response that would require the evacuation of 5% of population of community (or greater) for periods exceeding 24 hours (or greater) would be considered to be unacceptable.
- E. Any earthquake event that leads to the loss of a human life would be considered to be unacceptable.

6.8 HEATWAVE

- A. Any heatwave response that results in the capacity of the medical facilities within Bridgetown being exceeded, would be considered to be unacceptable.

7 SoBG EMERGENCY RISK MANAGEMENT PLAN

Hazard	Controlling Agency	HMA	Local Combat Role	Local Support Role	State Hazard Plan
Bushfire	DFES/BFB/ DBCA	FES Commissioner	DFES/BFB/ DBCA	LG	✓
Road Transport Emergency	WAPol	WAPol Commissioner	WAPol/DFES	LG	✓
Flood	DFES/SES	FES Commissioner	DFES/SES	LG	✓
Drought				LG DPIRD	X
HAZMAT	VFRS	FES Commissioner	VFRS	LG	✓
Storm/Tornado/ Localised Flooding	DFES/SES	FES Commissioner	DFES	LG	✓
Earthquake	DFES/SES	FES Commissioner	SES/VFRS	LG	✓
Heatwave	Health	CEO Health	Bridgetown Hospital	LG	✓

These arrangements are based on the premise that the HMA is responsible for combatting the above risks and will develop, test and review appropriate emergency management plans for their hazard, as mandated within the [Emergency Management Regulations \(2016\)](#).

7.1 EMERGENCY MANAGEMENT STRATEGIES AND PRIORITIES

Hazard	Priorities	Strategies
Bushfire	<ul style="list-style-type: none"> • Development of Bush Fire Risk Management Plan, • Hazard reduction, plus building community awareness. 	<ul style="list-style-type: none"> • Fire Break strategies, • Fuel hazard reduction, • Ensuring compliance, • Working with community, • Developing relationships with agencies, • Sharing weather warnings, • Vehicle Movement/Harvest Bans, • Bushfire Mapping.
Road Transport Emergency	<ul style="list-style-type: none"> • Reduce impacts to the community. 	<ul style="list-style-type: none"> • Working closely with WAPol, • LEMC engagement, • Traffic regulation compliance.
Flooding	<ul style="list-style-type: none"> • Reducing risk of localised flooding. 	<ul style="list-style-type: none"> • Flood mitigation works, • Community Awareness, • Warning systems.
Drought	<ul style="list-style-type: none"> • Reduce economic and amenity impacts upon farmers and community. 	<ul style="list-style-type: none"> • Reduce non-essential water use, • Reduce water wastage, • Drought aware land-use practices.
HAZMAT	<ul style="list-style-type: none"> • Strengthening industry and agency relationships 	<ul style="list-style-type: none"> • LEMC engagement with industrial partners
Storm/Tornado	<ul style="list-style-type: none"> • Reducing risk of localised damage/injury. 	<ul style="list-style-type: none"> • Community preparedness, • Community awareness/warnings, • Compliance to building codes, • Removal of loose materials, • Community awareness activities w/- storm damage causes.
Earthquake	<ul style="list-style-type: none"> • Reducing risk to community. 	<ul style="list-style-type: none"> • Enforce relevant building codes.
Heatwave	<ul style="list-style-type: none"> • Reduce impact on vulnerable persons. 	<ul style="list-style-type: none"> • Promulgate Health Dept warnings.
Consequence Management Strategies		
Critical Infrastructure Failure	<ul style="list-style-type: none"> • Strengthening industry and agency relationships. 	<ul style="list-style-type: none"> • LEMC engagement.

8.1 BUSHFIRE

CAUSES AND CONTRIBUTING FACTORS

- Increasing frequency of severe weather events - extreme and catastrophic fire rated days,
- Fuel-load build up in adjacent bushland reserves,
- Inflammable materials surrounding private property,
- Lack of comprehensive early warning and advice,
- ‘Dry lighting’ storms,
- Arson,
- Increasing rural/urban interface development, as a life-style choice.

PREPAREDNESS & PREVENTION CONTROLS

- Local laws and the Bush Fires Act - property fuel reduction enforcement,
- Annual Fire Readiness campaign - community emergency readiness campaign,
- Encourage property clean-up through free green waste pick-up’s, as a risk reduction Strategy,
- Fire management planning for bushland reserves within the Shire of Bridgetown/Greenbushes,
- Fuel management and prescribed burning programs,
- Local Volunteers – effectively trained and equipped,
- Fire accessways/tracks in reserves, as compartmentalisation and management tools.

RESPONSE & RECOVERY CONTROLS

- Established volunteer emergency services, within Shire of Bridgetown/Greenbushes,
- Emergency evacuation arrangements in place and communicated,
- Established and practiced recovery and response planning,
- Community engagement activities – acceptance of ‘a shared responsibility’ philosophy,
- Emergency MOU with neighbouring shires,
- Participation and communication with established LEMC committees,
- Joint agency exercises.

Treatment strategies

Strategies	Local Government	Community
Development of early warning systems	Development and implementation of Fire Management Plans for all bushland reserves	Greater understanding of fire causes and consequences, during restricted and prohibited times
Practiced interagency cooperation and planning exercises, training and doctrine	Regular annual hazard reduction burning programs within bushland reserves	Increase emergency readiness, awareness and a resultant reduction in reliance on emergency services
Interagency agreements	Increase emergency	Promote prepare for fire

and cooperation, to better enable a coordinated approach to fuel mitigation	readiness awareness, specially tagging on to DFES November bushfire campaign/s	campaigns in your area, green and hard waste removal.
Established arrangements with fire services for rapid response	Encourage green waste and property clean up, prior to fire season each year.	Greater understanding of the new Australian Fire Danger Rating System warnings and triggers.
Engagement in Bush Fire Response Planning, with owners of risk, to reduce net bush fire risk. (tenure-blind approach) (MAF Program activities)	Investigate declaration of Bushfire Prone Areas and appropriate special planning and building conditions.	Active engagement in bush fire planning, for families and business to include such things as triggers for action, fire plans etc.
Participation with multi-agency Pre-formed IMT training and preparedness activities	Maintain stringent enforcement of Annual Fire Notice provisions, as a minimum standard of fire protection.	Acceptance of ownership of risk, leading to positive action to reduce personal risk.

EMERGENCY RISK MANAGEMENT PLAN

RISK ANALYSIS

Vulnerability (Bushfire):

Residents living within close proximity to bushland reserves:

- Bushland residential interface, surrounding reserves and forested areas,
- Close neighbours to above mentioned areas (within 100 metres).
- Whole of Shire (from ember attack).

Source and Elements of risk:

1. Build-up of fuel loads in close proximity to residential homes,
2. Failure to heed early warnings, or advice statements,
3. No effective early warning system in place,
4. Failure to undertake and maintain adequate seasonal precautionary measures,
5. Ember attack from nearby bushland (e.g. evaporative air conditioners),
6. Fire Service personnel and equipment, unable to access rear of properties, or escape.
7. Tourists and campers with campfires, causing bushfires.

RECOMMENDED TREATMENT OPTIONS	Responsible Office
1. Reserve fuel reduction strategy as required (hazard reduction burning)	SoBG – Officer (CESM)/BRMO
2. Fuel reduction buffer zones, adjacent to residential areas (to create a maximum BAL 29)	SoBG – Officer /BRMO

3. Specific awareness/preparedness campaigns for residential areas, adjacent to reserves and bushland	SoBG – CESM DFES- District Officer - Manjimup
4. Investigation of Town Planning requirements for residential areas adjacent to reserves and bushland	SoBG- Manager/Officer
5. Strict enforcement of Bush Fires Act and Local Laws, related to lighting of fires and fuel reduction	SoBG – Officer Rangers
6. Development of an “all hazards” early warning system	SoBG – CESM LEMC
7. Implementation of “all hazards” warning system into the Bridgetown/Greenbushes community/s	LEMC- LEMA, CESM, DFES – District Officer Manjimup
8. Ensure fire suppression response is in concert with State Hazard Plan - Fire	DFES- District Officer – Manjimup SoBG CESM
9. Ensure timely response of within 12 minutes for volunteer FRS	DFES- Dist. Manager - Manjimup
10. Development of specific bushland reserves Fire Management Strategy	SoBG – BRMO SoBG - Environmental Planner
11. Development of specific reserves Fire Response Strategy (Pre-Plans)	DFES- District Officer - Manjimup
12. Ensure training calendar is published annually with appropriate training courses offered for fire fighter personal, to provide local area response. (Regional and Local calendars)	SoBG Officer - CESM DFES- District Officer - Manjimup
13. Ensure safe operational protocols and SOP’s are enforced	SoBG Officer - CESM DFES- District Officer - Manjimup
14. Ensure effective multi-agency co-operation and response, by testing Plans and strategies of agencies, by the conducting of exercises	DFES- Dist. Officer/Rural Fire
15. Develop fire management mapping and implement into EM arrangements.	SoBG Officer – CESM & BRMO SoBG- Manager Engineering Services (GIS Officer)
RESPONSIBLE AGENCY/INDIVIDUAL	
HMA - DFES OTHERS - SoBG, DFES (BRMO), DBCA (vested), private property owners, BFAC	
PRIORITY STATUS - Extreme priority	
IMPLEMENTATION SCHEDULE	Implementation Plan

All treatment options completed by <i>End November 2025, renewed annually.</i>	1 st Quarterly Report	
	2 nd Quarterly Report	
	Completion	
BUDGET CONSIDERATIONS –		
MONITOR AND REVIEW LEMC to monitor & review in November, on an annual basis		
APPROVAL FOR RECOMMENDATION IMPLEMENTATION		
ORGANISATION	DATE	SIGNED
LEMC		
Shire of Bridgetown/Greenbushes		
DFES		
DBCA		

8.2 ROAD CRASH - TRANSPORT EMERGENCY

CAUSES AND CONTRIBUTING FACTORS

- Non-compliance to the Road Traffic Code (driver error),
- Increasing traffic volumes (including heavy transport),
- Weather conditions (trees down, low visibility),
- Driver fatigue and seasonal influences (tourist traffic).

PREPAREDNESS & PREVENTION CONTROLS

- Continued law enforcement,
- Continued media/education campaigns,
- Driver education,
- Road maintenance.

RESPONSE & RECOVERY CONTROLS

- Continued Police Force presence.
- Trained and equipped emergency responders and medical facilities,

Treatment strategies

Strategies	Local Government	Community
Traffic law enforcement	Support local campaigns, provide LEMC forum for agency communication.	Support any campaigns, comply with traffic laws.
Road maintenance	Support safe roads within their jurisdiction. Continued liaison with Main Roads department.	Use roads with required amount of care. Respect other road users.
Capable response agencies	Support local emergency services volunteers.	Assist with response, through volunteering.

EMERGENCY RISK MANAGEMENT PLAN

RISK ANALYSIS	
<p>Vulnerability All road users - local residents, transport workers and visitors.</p> <p><u>Source and Elements of risk:</u></p> <ul style="list-style-type: none"> • Increasing holiday and transport industry traffic, often with little local knowledge of roads and conditions. • Seasonal peaks in traffic volumes, with subsequent peaks in risk. • Weather impacting upon road navigability (downed trees, low visibility etc). 	
RECOMMENDED TREATMENT OPTIONS	Responsible Office
1. Continue law enforcement	WAPol – Station OIC

2. Continue road maintenance	SoBG – Engineering Officer MRWA
3. Ensure capable emergency responders - Rescue	SoBG – CESM DFES- District Officer - Manjimup
4. Ensure capable emergency responders - Ambulance	SJAA
5. Capable medical facilities	Dept of Health

RESPONSIBLE AGENCY/INDIVIDUAL		
HMA – Commissioner - WA Police		
OTHERS - SoBG, DFES, Saint John Ambulance, Department of Health		
PRIORITY STATUS - High priority		
IMPLEMENTATION SCHEDULE	Implementation Plan	
All treatment options completed by <i>End November 2025</i>	1 st Quarterly Report	
	2 nd Quarterly Report	
	Completion	
BUDGET CONSIDERATIONS –		
MONITOR AND REVIEW		
LEMC to monitor & review in November, on an annual basis		
APPROVAL FOR RECOMMENDATION IMPLEMENTATION		
ORGANISATION	DATE	SIGNED
WA Police		
LEMC		
Shire of Bridgetown/Greenbushes		
DFES		
SJAA		
Dept of Health		

8.3 FLOOD

CAUSES AND CONTRIBUTING FACTORS

- Increasing severe weather events - extreme rainfall days,
- Decaying tropical low-pressure system/cyclone,
- Riverine level rise, due to heavy rainfall in catchment,
- Ageing infrastructure, (water, or Sewage main burst),
- Blocked, or compromised drainage infrastructure,
- Hydraulic structure failure (landslip, dam collapse),
- Lack of comprehensive early warning systems and advice,
- Increasing rural/urban development.

PREPAREDNESS & PREVENTION CONTROLS

- Local Laws and planning controls,
- Drainage infrastructure maintenance and improvements,
- Monitoring and reporting of watercourse telemetry,
- Effective monitoring and early warning protocols,
- Succession and redundancy plans including alternate pumping plant,
- Pump stations with back-up generator plant,
- Flood sump/basins maintenance,
- Community awareness and education.

RESPONSE & RECOVERY CONTROLS

- Established volunteer emergency services (including active SES Unit), within Shire of Bridgetown/Greenbushes,
- Emergency evacuation arrangements in place and communicated,
- Established and practiced recovery and response planning,
- Community engagement activities – acceptance of ‘a shared responsibility’ philosophy,
- MOU with neighbouring shires,
- Early Warning System/telemetry (BoM/DWER/WaterCorp),
- Participation and communication with established LEMC committees,
- Joint agency exercises.

EMERGENCY RISK MANAGEMENT PLAN

RISK ANALYSIS

Vulnerability:

- Residents living within close proximity to Bridgetown/Greenbushes flood prone areas.
- Senior citizens high dependency living care and residential villages, on the flood prone areas.
- Proprietors and staff of commercial premises, within the flood prone areas.
- Tourists and visitors staying in accommodation within the flood prone areas.

Source and Elements of risk:

- Localised rain and storms exceeding normal run off expectations.
- Upstream catchments receiving extraordinary rainfall.
- Sunny-day dam burst of dams/weirs.
- Lack of public information, regarding evacuation centres and exit routes.
- Lack of road signage and police presence, in early stages to control traffic.
- Lack of public information on emergency evacuation protocol.

RECOMMENDED TREATMENT OPTIONS	Responsible Office
1. Development of an “all hazards” early warning system.	LEMC - SoBG CESM DFES – DO NH Manjimup
2. Implementation of “all hazards” warning system into the Bridgetown/Greenbushes community	LEMC - SoBG CESM, DFES - Dist. Officer – Natural Hazards, SES unit
3. Development and implementation of complete Evacuation plans, that will be incorporated into the SoBG LEMA.	LEMC - Shire Officer CESM
4. Specific awareness/preparedness campaigns for residential areas in flood plain	DFES - District Officer - Natural Hazards SES Unit
5. Ensure production of flood response strategies	DFES - District Officer - Natural Hazards
7. Ensure training calendar is published annually, with appropriate training courses offered to SES personal, to provide effective local area response.	DFES - District Officer - Natural Hazards
8. Ensure multi-agency co-operation and response by testing bi-annually plans and strategies of agencies by the conducting of exercises	LEMC - CESM, DFES - District Officer - Natural Hazards

Treatment strategies

Strategies	Local Government	Community
Improve and implement early warning systems	Collaborate with BoM & DWER, to develop communications links	Increase 'emergency readiness' awareness
Practiced interagency cooperation and planning exercises	Consider flood mapping, related to built-environment planning	Promote outcomes of inter-agency work within community.
Encouraged Business Continuity Planning for agencies and business	Increase emergency readiness awareness throughout community	
Established arrangements with Medical services cooperated response	Consider mapping and planning, to assist with advice on impacts upon transport and infrastructure in flooding events	
Develop DRFA-WA plans and trigger processes	Ensure accurate inventory of flood related infrastructure, to assist with any subsequent claims for funding.	
Pre-season advisory/awareness campaigns, on risk mitigation activity and options.	Practical recovery and restoration planning and arrangements	
Participation with multi-agency pre-formed emergency coordination team training and preparedness activities	Support to a 'community resilience development' project – to reduce reliance of community on emergency services and local government.	

RESPONSIBLE AGENCY/INDIVIDUAL	
HMA - DFES OTHERS - SoBG, LEMC, Life-lines agencies – Western Power, Water Corp, Telstra, & DFES – SES, Dept of Water & Environment (DWER)	
PRIORITY STATUS - Medium priority	
IMPLEMENTATION SCHEDULE	Implementation Plan
	1 st Report

All treatment options completed by – December 2025	2 nd Report	
	Completion	
BUDGET CONSIDERTIONS –		
MONITOR AND REVIEW LEMC to monitor & review in November, on an annual basis		
APPROVAL FOR RECOMMENDATION IMPLEMENTATION		
ORGANISATION	DATE	SIGNED
LEMC		
Shire of Bridgetown/Greenbushes		
DFES		
DoC		
Western Power		
DWER		
Telstra/NBN Co		
Water Corporation		

8.4 DROUGHT

CAUSES AND CONTRIBUTING FACTORS

- Weather extremes/low rainfall for prolonged periods.
- Global warming influences.
- Geo-hydraulic changes (Damming rivers).

PREPAREDNESS & PREVENTION CONTROLS

- Agricultural industry resilience, adaptability.
- Alternate water sources.
- Enhanced weather prediction capacities, for accurate longer term forecasting.

RESPONSE & RECOVERY CONTROLS

Treatment strategies

Strategies	Local Government	Community
Department of Agriculture assist with information and advice to agricultural sector, on hardening resilience to drought.	Support industry coping, within capacity and as appropriate. Consider implications with respect to irrigation of POS in times of drought.	Conserve water, practice and support water conservation strategies.
Water Corporation to continue to manage and enhance water storage capability.	Assist with inter-agency communications through LEMC, in crisis times.	
DWER to provide strategic oversight for water conservation within the environment.		
Bureau of Meteorology to enhance long term forecasting to provide long lead times for agricultural response to impending drought.		

EMERGENCY RISK MANAGEMENT PLAN

RISK ANALYSIS
<p>Vulnerability</p> <ul style="list-style-type: none"> • Agricultural land users could have commercial activity limited (or halted), due to insufficient water supplies. This may lead to stock, plantation, orchard and/or vineyard losses in the long term. • Water restrictions could lead to reduced public amenity, due to public spaces and homes not being irrigated, due to restrictions. • There is a risk of relatively permanent ecological impact, due to long term water deficiency. • Reduced water supply to various local industry, could limit production capacity. • Reduced river levels may impeded various water-borne activities, resulting in reduced visitor numbers. • Drought conditions may increase broadscale vulnerability to fire, increase lengths of fire seasons, exacerbate environmental stressors from fire impact.

RECOMMENDED TREATMENT OPTIONS	Responsible Office
1. DPIRD continue to work with landowners and growers to limit vulnerabilities to drought conditions.	DPIRD
2. Agriculture sector to work to limit vulnerabilities to drought, through land-use, diversification and monitoring weather patterns	Agriculture sector
3. Bureau of Meteorology continue to produce drought forecasting products and promulgate to growers in the Region	BoM DFPIRD
4. Shire and residents to consider the use of low water dependent gardens and public open space	SoBG- Parks and Gardens Community
5. Government to continue to plan for infrastructure capacity in a drying climate.	WaterCorp DWER
6. Elevate levels of bushfire resilience planning, to factor in increasing periods of drought.	SoBG – CESM/BRMO

RESPONSIBLE AGENCY/INDIVIDUAL	
<p>HMA - Undefined OTHERS - Local Agricultural sector, DPIRD, WaterCorp, DWER, SoBG, Community.</p>	
PRIORITY STATUS - Medium priority	
IMPLEMENTATION SCHEDULE	Implementation Plan
All treatment options completed by <i>End November 2025</i>	1 st Quarterly Report
	2 nd Quarterly Report
	Completion
BUDGET CONSIDERATIONS –	
MONITOR AND REVIEW	
LEMC to monitor & review in November, on an annual basis	

APPROVAL FOR RECOMMENDATION IMPLEMENTATION		
ORGANISATION	DATE	SIGNED
LEMC		
Shire of Bridgetown/Greenbushes		
DPIRD		
WaterCorp		
DWER		

8.5 HAZARDOUS MATERIAL EMERGENCY

CAUSES AND CONTRIBUTING FACTORS

- Increasing transport of hazardous materials on already busy roads.
- Increasing demand for hazardous goods within the Shire, due to industry and/or commerce.
- Increasing traffic on roads, especially during peak holiday periods, increasing the incidence and consequences of crashes and spills.
- Increasing understanding and appreciation (and therefore reduced acceptance) of any environmental implications from any hazardous material spills into the environment.

PREPAREDNESS & PREVENTION CONTROLS

- Continued traffic law enforcement, to improve road user behaviours.
- Continued compliance to hazardous goods transport and handling procedures.
- Improved road and transport media infrastructure to limit accidental spills.

RESPONSE & RECOVERY CONTROLS

- Established volunteer emergency services, within Shire of Bridgetown/Greenbushes,
- Emergency evacuation arrangements in place and communicated,
- Established and practiced recovery and response planning,
- Participation and communication with established LEMC committees,
- Community warning mechanisms to broadcast warnings and information,
- Continue enforcing hazardous material handling protocols and procedures,
- Joint agency exercises.

Treatment strategies

Strategies	Local Government	Community
DoEMIRS (Dept Energy, Mines, Industry Regulation and Safety) to continue to regulate safe handling practices and compliance.	Support communications within the LEMC for inter-agency cooperation and awareness. This may include promulgating and communications from DoEMIRS to the population of SoBG.	Practice safe handling and reporting of any spills to the authorities.
All organisations to ensure proper handling protocols and procedures remain cultural within their remit.	Ensure proper handling occurs within the SoBG facilities, staff, volunteers.	Manage hazardous material according to the MSD sheet information and report any spills.
Continue to maintain roads to a standard that reduces the likelihood of crashes leading to any spills.	Manage LG roads to a reasonable standard, to reduce any risks leading to a crash, resulting in a spill.	

EMERGENCY RISK MANAGEMENT PLAN

RISK ANALYSIS
<p><u>Vulnerability:</u></p> <ul style="list-style-type: none"> • Most Bridgetown – Greenbushes communities are on a major road, increasing the chances of a crash, leading to a spill affecting community. • Local industrial and commercial entities use increasing quantities of hazardous materials, which need to be sourced remotely, requiring transport. More of this material travels through the Shire to areas to get to destinations beyond. • Bridgetown – Greenbushes currently enjoys its natural and largely pristine environment. This is also a drawcard for the Region, bringing tourist dollars to town. An incident may have long-lasting or even permanent implications to this trade and amenity. <p><u>Source and Elements of Risk:</u></p> <ul style="list-style-type: none"> • Commerce and industry require these materials to function and produce economic benefit. Limiting supply would have economic implications. • The environment is important to locals and visitors, harm to this environment may have significant and long-term impacts. • The increase in heavy traffic, increases the risk of crashes and the material itself, increases the risk of harm, during that incident.

RECOMMENDED TREATMENT OPTIONS	Responsible Office
Continue to be prepared to respond to spills, limit damage and enable opening of infrastructure, as a result of a hazardous material spill.	DFES VFRS - Bridgetown
Continue to educate and enforce hazardous material regulations and protocols.	DoEMIRS
Continue to educate and enforce environmental risk management for hazardous material spills regulations and protocols.	DWER
Continue to educate and enforce road traffic regulations and protocols.	WAPol – Station OIC
Continue to share relevant information amongst local networks	SoBG – CESM LEMC
Continue to plan, manage and deliver road quality maintenance and construction programs, within the Shire.	MRWA SoBG – Community and Infrastructure

RESPONSIBLE AGENCY/INDIVIDUAL	
HMA - DFES	
OTHERS - LEMC, SoBG, DFES, DoEMIRS, DWER, private property owners,	
PRIORITY STATUS - Low priority	
IMPLEMENTATION SCHEDULE	Implementation Plan
All treatment actions completed by	1 st Quarterly Report

<i>End November 2025</i>	2 nd Quarterly Report	
	Completion	
BUDGET CONSIDERATIONS –		
MONITOR AND REVIEW		
LEMC to monitor & review in November, on an annual basis		
APPROVAL FOR RECOMMENDATION IMPLEMENTATION		
ORGANISATION	DATE	SIGNED
LEMC		
Shire of Bridgetown/Greenbushes		
LEMC		
DFES		
DoEMIRS		
DWER		

8.6 SEVERE STORM

CAUSES AND CONTRIBUTING FACTORS

- Severe weather events,
- Southerly cyclonic/tropical lows,
- Abnormal weather conditions forming tornados,
- Loose materials becoming potential missiles in high wind,
- Extended power outage due to damaged overhead lines,
- Transport routes obstructed,
- Extended service shutdown due to lack of Business Continuity Planning,
- Lack of comprehensive early warning for some localised events,
- Community Compliancy leading to lack of preparedness.

PREPAREDNESS & PREVENTION CONTROLS

- Local laws encouraging residential and industrial clean up,
- Initial community emergency readiness campaigning strategies,
- Encourage property clean-up, through hard waste and green waste collection campaigns,
- Tree trimming program (including adjacent to power infrastructure, public and private),
- Email/early warning to agencies of Severe Weather Warnings,
- Encouraging investment in underground power supply services,
- Upgrade mobile telephone and radio towers.

RESPONSE & RECOVERY CONTROLS

- Established career and volunteer emergency services, within Bridgetown/Greenbushes Shire,
- Established and rehearsed emergency shelter establishment,
- Western Power depot within Bridgetown/Greenbushes area,
- Established and practiced recovery and response planning,
- Pumping Stations,
- State/National Disaster Relief Funding,
- Encourage active Business Continuity Planning,
- Encourage active and aware LEMC and EM networks.

Treatment strategies

Strategies	Local Government	Community
Improve and implement early warning systems	Reassess and evaluate hard waste collection times	Increase 'emergency readiness' awareness
Practiced interagency cooperation and planning exercises	Examine higher wind rated building code requirements	Promote securing your area, green and hard waste removal.
Encouraged Business Continuity Planning for agencies and business	Increase emergency readiness awareness throughout community	Implement annual green waste and property clean up prior to storm season.
Established	Encourage green waste	Evaluation and acceptance

arrangements with Medical services coordinated response	and property clean up prior to storm season each year.	of risk – mitigation and planning at local neighbourhood/family/business level
Develop DRFA-WA plans and trigger processes	Investigate development of a local law for property clean up prior to storm season e.g. 26 parallel rule (<i>EM Regs</i>)	
Pre-season advisory/awareness campaigns, on risk mitigation activity and options.	Practical recovery and restoration planning and arrangements	
Participation with multi-agency pre-formed emergency coordination team training and preparedness activities	Support to a ‘community resilience development’ project – to reduce reliance of community on emergency services and local government.	

RISK ANALYSIS

Vulnerability:

Residents:

- Especially in older homes,
- With properties adjacent to tall trees,
- With limited capacity to maintain properties

Infrastructure:

- Prone to excessive weather impacts.

Source and Elements of risk:

- Wind + loose material that may impact with adjacent properties,
- Rain + blockages of water drainage, gutters, downpipes,
- No early warning system in place, limiting preparation time,
- Failure to undertake adequate seasonal precautionary measures.

RECOMMENDED TREATMENT OPTIONS	Responsible Office
1. Support an increase community awareness of storm (wind & rain) as a seasonal risk.	SES Unit
2. Ensure seasonal maintenance occurs to Council drainage infrastructure.	SoBG – Community and Infrastructure
3. Ensure community warnings are promulgated throughout Council networks	SoBG – Media Team
4. Development of an “all hazards” early warning system, locally.	LEMC – LEMA, SoBG CESM

5. Ensure timely response possible from SES Unit	DFES Dist. Officer – NH, SES Bridgetown/Greenbushes Unit
6. Ensure training calendar is published annually with appropriate training courses offered for SES Unit personnel, to provide local area response. (Regional and Local calendars)	SoBG Officer - CESM DFES - District Officer NH- Manjimup
7. Ensure safe operational protocols and SOP's are enforced	SoBG - CESM DFES - District Officer - Manjimup
8. Ensure effective multi-agency co-operation and response, by testing Plans and strategies of agencies, by the conducting of exercises	DFES - Dist.Officer/NH, LEMC ,& SoBG CESM

RESPONSIBLE AGENCY//INDIVIDUAL		
HMA - DFES OTHERS - SoBG, DFES, private property owners,		
PRIORITY STATUS - Low priority		
IMPLEMENTATION SCHEDULE	Implementation Plan	
All treatment actions completed by <i>End November 2026</i>	1 st Quarterly Report	
	2 nd Quarterly Report	
	Completion	
BUDGET CONSIDERATIONS –		
MONITOR AND REVIEW LEMC to monitor & review in November, on an annual basis		
APPROVAL FOR RECOMMENDATION IMPLEMENTATION		
ORGANISATION	DATE	SIGNED
Shire of Bridgetown/Greenbushes		
DFES		
LEMC		

8.7 EARTHQUAKE

CAUSES AND CONTRIBUTING FACTORS

- Ageing infrastructure and built assets,
- Heavy public, government and business reliance upon critical infrastructure,
- The challenges that would present with transport routes being obstructed,
- Extended service shutdown due to lack of Business Continuity Planning,
- Lack of capacity for comprehensive early warning of events,
- Community Compliancy leading to lack of preparedness.

PREPAREDNESS & PREVENTION CONTROLS

- Local laws encouraging residential and industrial building standards to various codes,
- Active redundancy and business continuity/resilience initiatives being developed, practiced and implemented, during and after an event,
- Community emergency readiness campaigning/strategies,
- Tree trimming and similar program (including adjacent to power infrastructure, public and private),
- Upgrade mobile telephone and radio towers.
- Hazard awareness and response training for community.

RESPONSE & RECOVERY CONTROLS

- Established career and volunteer emergency services, within Bridgetown/Greenbushes Shire,
- Established and rehearsed emergency shelter establishment,
- Western Power depot within Bridgetown/Greenbushes area,
- Established and practiced recovery and response planning,
- State/National Disaster Relief Funding,
- Encourage active Business Continuity Planning,
- Encourage active and aware LEMC and EM networks.

Treatment strategies

Strategies	Local Government	Community
Practiced interagency cooperation and planning, through exercises.	Consider higher seismic rated building code requirements and compliance.	Understand and implement earthquake response actions/activities.
Encouraged Business Continuity Planning, for agencies and business.	Increase emergency readiness awareness, throughout community.	
Established arrangements with Medical services, for a coordinated response.		Evaluation and acceptance of risk planning at local neighbourhood/family/business level.
Participation with multi-agency pre-formed emergency coordination	Support to a 'community resilience development' project –	Consider individual, family and enterprise vulnerability assessments, to enable

team training and preparedness activities.	to reduce reliance of community on emergency services and local government.	capacity building activities.
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NOTE:

It was thought (at the time of the community engagement sessions) that earthquake, as a hazard, was discussed and topical due to several recent tremors being felt in Bridgetown by residents over the past few years. Historical evidence does not support the inclusion of Earthquake as significant risk to the Shire. Additionally, the recent tremors were just that, tremors that did not damage to assets within the Shire. The inclusion of this plan into this risk evaluation annexure, is only to reflect community input.

RISK ANALYSIS
<p>Vulnerability:</p> <p>Residents:</p> <ul style="list-style-type: none"> • Especially in older (pre code) homes, • High reliance on critical infrastructure (power, communications, water, etc) which may fail and for prolonged periods, • Lack of experience with respect to how to behave during an earthquake, <p>Infrastructure:</p> <ul style="list-style-type: none"> • Prone and untested to any seismic activity. • Any response would add to the loading requirements, when it may be impacted itself. <p>Source and Elements of risk:</p> <ul style="list-style-type: none"> • Seismic activity damaging infrastructure, through shaking/earth movement and resulting in potential hazards to the public, • Increasing reliance on modern infrastructure for day-to-day life activities, may result in significant exacerbation of any impacts from the hazard itself.

RECOMMENDED TREATMENT OPTIONS	Responsible Office
1. Train and equip to support a community response to an earthquake.	DFES District Officer/ NH SES Unit
2. Support an increase community awareness of earthquake as a risk.	DFES – NH DO SES Unit
3. Ensure any community warnings/advice statements are promulgated throughout Council networks	SoBG – Media Team
5. Development of an “all hazards” early warning system, locally.	LEMC – LEMA, SoBG - CESH
6. 5. Ensure timely response possible from SES Unit	DFES Dist. Officer – NH, SES Bridgetown/Greenbushes Unit
7. Ensure training calendar is published annually, with appropriate training courses offered for SES Unit personnel, to provide local area response. (Regional and Local calendars)	SoBG Officer - CESH DFES District Officer/NH- Manjimup

8. Ensure safe operational protocols and SOP's are enforced.	SoBG - CESM DFES District Officer/NH Manjimup	
9. 8. Ensure effective multi-agency co-operation and response, by testing Plans and strategies of agencies, by the conducting of exercises	DFES District Officer/NH, LEMC ,& SoBG CESM	
RESPONSIBLE AGENCY/INDIVIDUAL		
HMA - DFES OTHERS - SoBG, WaterCorp, DFES, private property owners, Telstra, NBN Co, Western Power		
PRIORITY STATUS - Low priority		
IMPLEMENTATION SCHEDULE		Implementation Plan
All treatment actions completed by <i>End November 2026</i>	1 st Quarterly Report	
	2 nd Quarterly Report	
	Completion	
BUDGET CONSIDERATIONS –		
MONITOR AND REVIEW		
LEMC to monitor & review in November, on an annual basis		
APPROVAL FOR RECOMMENDATION IMPLEMENTATION		
ORGANISATION	DATE	SIGNED
LEMC		
Shire of Bridgetown/Greenbushes		
DFES		
WaterCorp		
Western Power		
NBN Co		
Telstra		

8.8 HEATWAVE

CAUSES AND CONTRIBUTING FACTORS

- Weather extremes.
- Global warming influences.

PREPAREDNESS & PREVENTION CONTROLS

- Dept of Health Warnings to prepare community.
- Protective strategies for vulnerable community members.
- Dept of Health preparedness protocols and procedures.

RESPONSE & RECOVERY CONTROLS

- Enhanced capacity of health system to manage presentations for treatment.

Treatment strategies

Strategies	Local Government	Community
Practiced interagency cooperation and planning, through exercises.	Consider limiting outdoor activities during heatwave warning periods for local area.	Understand and implement precautionary measures consistent with Dep of Health warning.
Encouraged Business Continuity Planning, for agencies and business.	Increase emergency readiness awareness, throughout community.	
Established arrangements with Medical services, for a coordinated response.		Evaluation and acceptance of risk planning at local neighbourhood/family/business level.
Participation with multi-agency pre-formed emergency coordination team training and preparedness activities.	Support to a 'community resilience development' project – to reduce reliance of community on emergency services and local government.	Consider individual, family and enterprise vulnerability assessments, to enable capacity building activities.

RISK ANALYSIS

Vulnerability:

Residents:

- Especially in older (pre code) homes,
- High reliance on critical infrastructure (power, communications, water, etc) which may fail and for longer periods,
- Lack of experience with respect to how to behave during an earthquake,

Infrastructure:

- Prone and untested to any seismic activity.
- Any response would add to the loading requirements, when it may be impacted itself.

<p>Source and Elements of risk:</p> <ul style="list-style-type: none"> • Seismic activity damaging infrastructure, through shaking/earth movement and resulting in potential hazards to the public, • Increasing reliance on modern infrastructure for day-to-day life activities, may result in significant exacerbation of any impacts from the hazard itself.

RECOMMENDED TREATMENT OPTIONS	Responsible Office
4. Train and equip to support a community response to an earthquake.	DFES District Officer/ NH SES Unit
5. Support an increase community awareness of earthquake as a risk.	DFES – NH DO SES Unit
6. Ensure any community warnings/advice statements are promulgated throughout Council networks	SoBG – Media Team
10. Development of an “all hazards” early warning system, locally.	LEMC – LEMA, SoBG - CESM
11.5. Ensure timely response possible from SES Unit	DFES Dist. Officer – NH, SES Bridgetown/Greenbushes Unit
12. Ensure training calendar is published annually, with appropriate training courses offered for SES Unit personnel, to provide local area response. (Regional and Local calendars)	SoBG Officer - CESM DFES District Officer/NH- Manjimup
13. Ensure safe operational protocols and SOP’s are enforced.	SoBG - CESM DFES District Officer/NH Manjimup
14.8. Ensure effective multi-agency co-operation and response, by testing Plans and strategies of agencies, by the conducting of exercises	DFES District Officer/NH, LEMC ,& SoBG CESM
RESPONSIBLE AGENCY/INDIVIDUAL	
<p>HMA - DFES OTHERS - SoBG, WaterCorp, DFES, private property owners, Telstra, NBN Co, Western Power</p>	
PRIORITY STATUS - Low priority	
IMPLEMENTATION SCHEDULE	
All treatment actions completed by <i>End November 2026</i>	1 st Quarterly Report
	2 nd Quarterly Report
	Completion
BUDGET CONSIDERATIONS –	
<p>MONITOR AND REVIEW LEMC to monitor & review in November, on an annual basis</p>	
APPROVAL FOR RECOMMENDATION IMPLEMENTATION	
ORGANISATION	DATE
SIGNED	
LEMC	
Shire of Bridgetown/Greenbushes	

DFES		
WaterCorp		
Western Power		
NBN Co		
Telstra		