Risk Register & Treatment Schedule 2019






city of kalamunda

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Introduction

This document has been compiled to list and analyse the risks from natural and man caused hazards that may be reasonably expected to impact upon the City of Kalamunda Local Government Area. The identification of risk and the treatment of residual risk is a priority for the City of Kalamunda through the Local Emergency Management Committee.

Climate change

Participants were advised that throughout their deliberations as to likelihood that a source of risk may impact on the Kalamunda community and the likely consequence of such impact on the various elements at risk as detailed in figure 1 they should consider the effects of climate change in line with the following statement:

"There is broad scientific agreement that human activities that emit greenhouse gases have begun to change climate patterns globally and regionally; that they will continue to do so; and that some level of further climate change impacts are now inevitable. There is therefore a need for Local Governments to ensure decisions and plans consider climate change and appropriately take into account the predicted impacts and risks associated with projected climate changes.

Climate change is likely to increase both the frequency and severity of natural hazards and disasters. So, in considering the risks that climate change may pose to Local Government there is a need to consider the increased cost burden and legal liability."

Risk evaluation criteria

Risk evaluation criteria established under Stage 2 of the AWARE project were resubmitted to the workshop for review. The criteria serve to establish the community priorities based on the criteria; people, infrastructure, economy, public administration, environment and social/cultural.

Priority	Scope	Criteria
1	**People:** Loss of life or serious injury including near misses	Any reasonably preventable accident or incident that causes or is likely to cause death, serious injury or affects the health and wellbeing of people is unacceptable
2	**Infrastructure:** Including local government infrastructure, public amenities and lifelines	Any reasonably preventable accident or incident that results in substantial loss or damage to infrastructure is unacceptable
3	**Public Administration:** Includes local government's ability to cope with the situation and deliver services	Any reasonably preventable accident or incident that results in the loss or reduction in the capacity of the public administration to deliver normal services is unacceptable
4	**Economy:** Includes private business, local industry and employment	Any reasonably preventable accident or incident that affects the economy of the community is unacceptable
5	**Environment:** Includes damage to sensitive ecological areas and fauna	Any Reasonably preventable accident or incident that results in damage to or loss of sensitive ecosystems and fauna is unacceptable
6	**Social/cultural:** Includes the loss of community icons and community identity	Any reasonably preventable accident or incident that results in the disruption of the social and cultural setting of the community is unacceptable

Figure 1: Risk Evaluation Criteria

Sources of Risk

Sources of risk to which the Western Australian community may be exposed are identified and dealt with by way of State Emergency Management Plans (State Hazard Plans). The Kalamunda community has identified that the following sources of risk are likely to impact on the local community.

SOURCE OF RISK: Bush Fire

Description:

Bush fire occurs within most areas of the City. The fire behaviour can range from very mild to extremely unpredictable, dependent upon fuel loads, weather, topography, etc. The most severe fires occur from October through to May. There may be limited notification to the community at the initial stages of a fire with the duration and impact being unpredictable. There is continual public awareness regarding the consequences and reduction methods for bush fire throughout the State every year and locally by the City. Hazard reduction work is required to be undertaken prior to December and maintained by property owners from December through to March every year. The Bush Fires Act 1954 legislates for the control of bush fires. Local Government provided urban planning outcomes to reduce the risk to private residences from the threat of bush fire.

SOURCE OF RISK : Structure Fire

Description:

Structure fires occur occasionally within the City of Kalamunda with varying degrees of damage incurred. The fires can involve both commercial and private residential structures and can occur at any time. Structure fires can begin from a source within the structure (e.g. candle in a house, chemical reaction in a factory, etc) or from an external source (e.g. bush fires or other structure fires etc). They are generally isolated incidents though they may cause some impact on external structures. Structure fires may be caused by the structure being in the path of a bush fire or as the result of ember attack. Structure fires can become very intense extremely quickly, dependent upon fuel availability and type, weather conditions, etc and may be controlled very quickly or can burn over several days dependent upon the fuel source.

DFES and the City of Kalamunda promote community awareness promotions (e.g. candle education, installation of smoke alarms, etc). Synergy also promotes electrical appliance safety programs in the community. The Building Code of Australia provides acceptable standards of structural sufficiency and safety (including safety from fire).

SOURCE OF RISK: Severe Storm

Description:

Storms can affect the whole of the City of Kalamunda on an annual basis and can occur throughout the year and are usually associated with abnormal weather patterns. Severe storms are generally to be expected during the winter months between June and August but can occur at other times of year because of cyclonic activity in the north of the State. During severe storms, wind gusts can exceed 100km/h and cause widespread damage to private dwellings, industrial and commercial properties and local government infrastructure.

The Bureau of Meteorology (BoM) produces daily weather forecasts and predictions for public awareness. Public awareness is also undertaken by the media and DFES by promoting reduction messages and education. The City of Kalamunda undertakes drainage maintenance to reduce the risk of localised flooding. The City conducts tree lopping around power lines and has skin bin facilities available to residents to reduce the incidence of loose materials during the winter season.

SOURCE OF RISK : Road Transport Emergency

Description:

The City of Kalamunda has an extensive road network maintained by the City and Main Roads WA. The roads are utilised by private and commercial vehicles, with the main arterial roads being, Abernethy Road, Kalamunda Road, Welshpool Road, Tonkin Highway and Roe Highway. These roads carry a wide variety of vehicles ranging from heavy transport vehicles carrying a variety of goods including livestock and hazardous materials to private vehicles and passenger coaches at all times of the day and night. Though large-scale road transport emergencies are relatively uncommon, theses main arterial roads in many cases are adjacent to residential and commercial areas and may pose a threat to the safety of the community.

Driver education and management (e.g. fatigue, drugs, etc) and vehicle maintenance policies developed by and enforced by transport companies go a long way to reducing the incidence of road transport emergencies. Road maintenance and upgrading programs by State and local governments ensure that the road network is as safe as reasonably practicable. The declaration of specific routes for special classes of vehicles (e.g. hazardous materials and road trains, etc) ensures the likelihood of conflict with other road users is reduced. The Department for Planning and Infrastructure addresses issues by monitoring and keeping nationally consistent compliance across the road transport industry. WAPOL conducts road safety education and enforcement programs.

SOURCE OF RISK : Agricultural Disease

Description:

The City of Kalamunda is host to large fruit producing areas being the second largest apple producing area in the State. Agricultural diseases have been detected in the area occasionally, though the direct impact on the community is unknown. Agricultural diseases can occur at any time of the year and are spread by a variety of sources including animals and human activity. Dieback in native forests is a potentially devastating disease and is spread by animals (wild pigs), human contact and vehicle movement in protected areas.

The Department of Agriculture and Food has strict guidelines and policies in place that govern and inform the agricultural industry of best practice and expected threats. The Department of Environment and Conservation monitor quarantined State forest areas.

SOURCE OF RISK : Air Transport Emergency

Description:

The Perth domestic and international airports are located on the western boundary of the City of Kalamunda. There are designated flight paths over the City and a designated crash zone located in the eastern part of the City. Air transport emergencies are rare, the last recorded incident impacting upon the Shire of Kalamunda located on the area of the Zig Zag in Gooseberry Hill. The movement and volume of air traffic has increased dramatically over the years which carries an increased risk of an air transport emergency occurring at any time of the day or night throughout the year. Should an air crash occur, the impact on the community would vary dependent upon where the crash site was located. Most air crash incidents occur during take-off or landing.

SOURCE OF RISK : Hazardous Materials

Description:

The movement of hazardous materials occurs at all times of the year. The use and storage of chemicals on agricultural land and in commercial facilities is wide spread. Due to the amount of hazardous materials transported through and being used within the City, there is concern that an incident involving the interaction between hazardous materials and certain aspects of the community could occur. As hazardous materials in various forms are used on a daily basis throughout the City, the impact of an incident would have varying consequences on the community, the environment dependent upon the hazardous materials involved, the size or scope of the incident and the area in which it occurs. There are records of hazardous materials incidents of a minor nature occurring within the City, though there is no known incident that has occurred where the community has been directly affected.

Consequence

Following is a list of consequences attributable to the identified sources of risk and how they might impact on the elements of the community.

Severe storm

People	Environment	Economy	Public Administration	Social & Cultural	Infrastructure
Death Permanent Injury Minor Injury Displacement temporary and permanent Psychological impact Population loss	Reduction of Flora and fauna habitat Erosion Air pollution Effects on water catchment and water quality Increase in weed infestation	financial loss Major Moderate Minor Loss of business Loss of employment Loss of tourism Labour shortages	Partial loss of capacity Minor disruption to normal services Loss of reputation Damage to reputation	Social networks Walk trails National Parks Heritage listed buildings Areas of cultural significance (Aboriginal sites)	Long term loss of lifelines Medium term loss of lifelines Short term loss of lifelines Damage to public buildings Damage to bridges and culverts

Structure fire

People	Environment	Economy	Public Administration	Social & Cultural	Infrastructure
Death Permanent Injury Minor Injury Displacement Human health Mental health/stress Financial	Air pollution Toxic substances in drains Disposal of toxic materials Water quality Ground water contamination	Moderate financial loss Minor financial loss Major financial loss	Minor disruption to normal services	Social networks Heritage listed buildings Traffic management	Long term loss of lifelines Medium term loss of lifelines Short term loss of lifelines Damage to public buildings

Road Transport Emergency

People	Environment	Economy	Public Administration	Social & Cultural	Infrastructure
Death Permanent Injury Minor Injury Displacement Mental stress on volunteers Post-traumatic stress Hospitalisation	Air pollution Chemical contamination Fire Waterways contamination Water table contamination Air quality	Financial loss Moderate Minor 3rd party loss Loss of employment Liability Insurance	Minor disruption to normal services Damage to reputation	Social networks Short term displacement	Medium term loss of lifelines Short term loss of lifelines Damage to public infrastructure

Agricultural & Animal Disease

People	Environment	Economy	Public Administration	Social & Cultural	Infrastructure
Human health issues Mental stress Chemical Contamination Loss of business Loss of employment	Disease effect on ecosystems Treatment effect on ecosystems Waterways Loss of insect species	financial loss Major Moderate Minor Loss of income Loss of business Loss of market share Land value reduction	Damage to reputation	Restriction of public movement Closure of walk trails Loss of community identity	Resource implications

Air Transport Emergency

People	Environment	Economy	Public Administration	Social & Cultural	Infrastructure
Death Permanent Injury Minor Injury Displacement Human health issues Volunteer trauma and stress Post trauma stress	Air pollution Chemical contamination Fire Ground contamination	Moderate financial loss Minor financial loss	Minor disruption to normal services Damage to reputation	Social networks Short term displacement	Medium term loss of lifelines Short term loss of lifelines Damage to public infrastructure

Hazardous Materials

People	Environment	Economy	Public Administration	Social & Cultural	Infrastructure
Death Permanent Injury Minor Injury Displacement Short and long term Health risk Rehabilitation	Flora and fauna habitat Air pollution Chemical contamination of water catchment Fire Clean-up issues Rehabilitation of affected area	Moderate financial loss Minor financial loss	Minor disruption to normal services Damage to reputation Cost of recovery/decontamination	Social networks Short term displacement	Medium term loss of lifelines Short term loss of lifelines Damage to public infrastructure

Likelihood

Likelihood describes the chances that a particular source of risk may impact upon the community.

Descriptions of Likelihood Table

Descriptor	Description
Almost Certain (A)	It is expected to occur in most circumstances; and/or high level or recorded incidents and/or strong anecdotal evidence; and/or a strong likelihood the event will recur; and/or great opportunity, reason or means to occur; may occur once every year or more.
Likely (B)	Will probably occur in most circumstances; and/or regular recorded incidents and strong anecdotal evidenc; and/or considerable opportunity, reason or means to cocur; may occur once every five years.
Possible (C)	Might Occur at some time; and/or few, infrequent, random recorded incidents or little anecdotal evidenc; and/or very few incident in assoctaed or comparable organisations, facilities ro communities; and/or some opportunity, reason or meains to occur; may cocur once every twenty years.
Unlikely (D)	Is not expected to occur; and/or no recorded incidents or anecdotal evidentce; and/or recent incidents in associated organisations, facilities or communities; and/or little opportunity, reason ro means to occur; may occur once every hundred years.
Rare (E)	May cocur only in execptional circumstances; may occur once every vie hundred years or more.

Figure 2: Descriptions of Likelihood

Consequence

Determination of the level of consequence or impact a certain source of risk may exert on the community is an important element of the process and is always a difficult concept to master. By estimating qualitatively the likely magnitude of the consequences for each source of risk, taking into account the existing control measures, the consequences of the sources of risk impacting on the various elements of the community can be decided upon. The descriptor of confidence can be found on page 17.

Consequence Table

Consequence Level	People	Environment	Economy	Public Administration	Social Setting	Infrastructure
Catastrophic (5)	Widespread multiple loss of life (mortality> 1 in 10,000), health system unable to cope, displacement of people beyond ability to cope	Widespread severe impairment or loss of ecosystem functions across species and landscapes, irrecoverable environmental damage	Unrecoverable financial loss > 3% of the government sector's revenues, asset destruction across industry sectors leading to widespread business failures and loss of employment	Governing body unable to manage the event, disordered public administration without effective functioning, public unrest, media coverage beyond region or jurisdiction	Community unable to support itself, widespread loss of objects of cultural significance, impacts beyond social and psychological capacity in all parts of the community	Long term failure of significant infrastructure and service delivery affecting all parts of the community, ongoing external support at large scale required
Major (4)	Multiple loss of life (mortality >1 in 100,000), health system over-stressed, large numbers of people displaced (more than 24 hours)	Severe impairment or loss of ecosystem functions affecting many species or landscapes, progressive environmental damage	Financial loss 1-3% of the government sector's revenues requiring major changes in business strategy to (partly) cover loss, significant disruptions across industry sectors leading to multiple business failures and loss of employment	Governing body absorbed with managing the event, public administration struggles to provide merely critical services, loss of public confidence in governance, media coverage beyond region or jurisdiction	Reduced quality of life within the community, significant loss or damage to objects of cultural significance, impacts beyond emotional and psychological capacity in large parts of the community	Mid to long term failure of significant infrastructure and service delivery affecting large parts of the community, initial external support required
Moderate (3)	Isolated cases of loss of life (mortality > 1 in 1,000,000)'health system operating at maximum capacity, isolated cases of displacement of people (less than 24 hours)	Isolated but significant cases of impairment or loss of ecosystem functions, intensive efforts for recovery required	Financial loss 0.3 0-1% of the government sector's revenues requiring adjustments to business strategy to cover loss. Disruptions to selected industry sectors leading to isolated cases of business failure and multiple loss of employment	Governing body manages the event under emergency regime, public administration functions with some disturbances, isolated expression of public concern, media coverage within the region or jurisdiction	Isolated or temporary cases of reduced services within community, repairable damage to objects of cultural significance, impacts within social and psychological capacity of the community	Isolated cases of short-to mid-term failure of infrastructure and service delivery, localised inconveniences
Minor (2)	Isolated cases of serious injuries, health system operating within normal parameters	Isolated cases of environmental damage, one off recovery efforts required	Financial loss 0.1 – 0.3% of the government sector's revenues requiring activation of reserves to cover loss, disruptions at business level leading to isolated cases of loss of employment	Governing body manages the event under emergency regime, public administration functions with some disturbances, isolated expression of public concern, media coverage within region or jurisdiction	Isolated temporary cases of reduced services within community, repairable damage to objects of cultural significance, impacts with emotional and psychological capacity of the community	Isolated cases of short-to mid-term failure of infrastructure and service delivery, localised inconveniences
Insignificant (1)	Near misses or minor injuries, no reliance on health system	Near misses or incidents without environmental damage, no recovery efforts required	Financial loss < 0.1% of the government sector's revenues, to be managed within standard financial provisions, inconsequential disruptions at business level	Governing body manages the event within normal parameters, public administration functions without disturbances, public confidence in governance, no media attention	Inconsequential short term reduction of services, no damages to objects of cultural significance, no adverse emotional and psychological impacts	Inconsequential short term failure of infrastructure and service delivery, no disruption to the public services

Figure 3: Descriptors of Consequence

Level of Risk

Each of the risk statements having been rated for likelihood and consequence were then assigned a level of risk. The Risk Register comprising 44 risks appears on pages 17-22 following. Risks were assigned a level of Extreme, High, Medium or Low dependent upon the likelihood and consequence descriptor assigned to each. The level of risk matrix appears on page 15.

Qualitative Risk Analysis Matrix – Level of Risk*

Consequences / Likelihood	Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
(A) Almost Certain	Medium	Medium	High	Extreme	Extreme
(B) Likely	Low	Medium	High	High	Extreme
(C) Possible	Low	Low	Medium	High	High
(D) Unlikely	Low	Low	Medium	Medium	High
(E) Rare	Low	Low	Low	Medium	Medium

E	Extreme Risk	Immediate action required
H	High Risk	Senior management attention needed
M	Moderate Risk	Management responsibility must be specified
L	Low Risk	Manage by routine procedures

Figure 4: Level of Risk Matrix

Confidence Level

The ratings for each of the above confidence criteria will help rate the confidence in the overall risk assessment process. This rating will be conducted for each risk at the end of the risk analysis phase. It will be recorded in the risk register in order to communicate uncertainty and to support the decision-making process concerning the need for detailed risk analysis, or the selection of risk treatment measures. In general if the overall confidence in the process is low, further analysis might be warranted, and a more detailed analysis should be conducted. Depending upon the significance of the decision, the confidence rating should be done in conjunction with an external party or otherwise validated by a third party, such as through peer review or other validation mechanism.

(Extracted from the National Risk Assessment Guide Exposure Draft 2009)

The confidence table guided the participants to make an assessment of their level of confidence in the information and data provided in each workshop through which the level of risk for each risk statement was assigned and In addition, whether based on the data quality and confidence level, a risk may or may not be identified for further treatment.

Confidence Criteria	Low Confidence	Moderate Confidence	High Confidence
Data/Information	Neither community nor hazard specific; anecdotal only	Community or hazard specific; validated historical or scientific	Community and hazard specific; validated historical and scientific
Team Knowledge	Neither hazard nor process (risk assessment) specific	Hazard or process specific	Hazard and process specific
Agreement	Neither on interpretations nor on ratings	On interpretation or ratings	On interpretation and ratings

Figure 5: Confidence Level Matrix

Through this process, a risk, although rated as 'High' and having regard to all of the available information relating to mitigation may be assessed as being "As Low as Reasonably Practicable."

Risk Register Review Process

During Stage 2 of the Community Emergency Risk Management (CERM) program, a comprehensive list of risks was compiled to identify each source of risk and the impact the source of risk may have on the elements at risk. The risk register was scrutinised as a part of Stage 3

The LEMC reviewed each of the existing risk statements in line with the following criteria:

1. To ensure that each risk statement reflected the relationship between the source of risk and each element of the vulnerable community;
2. To ensure each risk statement is relevant to the risk;
3. To consider to requirements for further risk statements if relevant.

Risk Register and Treatment Schedule

The workshop conducted at the conclusion of the quarterly LEMC meeting utilised the LEMC members along with subject matter experts drawn from the City of Kalamunda and other support organisations. The intent of the workshop was to finalise the risk register, ensure that documented treatment strategies were correct and identify any further treatment strategies could be employed to further mitigate the risk to the community.

Risk Register

RISK No.	RISK STATEMENT	LIKELIHOOD RATING	CONSEQUENCE RATING	LEVEL OF RISK	ELEMENT AT RISK	Treat Risk Y/N NO	Confidence Level
01	There is a risk that a bush fire will cause death or serious injury to people	**Likely**	**Moderate**	**High**	**People**	**NO**	**High**
02	There is a risk that a bush fire will cause short or long term displacement of persons	**Likely**	**Major**	**High**	**People**	**NO**	**High**
03	There is a risk that a bush fire will cause damage to or destroy aspects of the environment	**Almost Certain**	**Minor**	**Medium**	**Environment**	**NO**	**High**
04	There is a risk that a bush fire will cause damage to or destroy infrastructure	**Almost Certain**	**Minor**	**Medium**	**Infrastructure**	**NO**	**High**
05	There is a risk that a bush fire will affect the economy of the community	**Likely**	**Insignificant**	**Low**	**Economy**	**NO**	**High**
06	There is a risk that a bush fire will affect the operation of the public administration	**Likely**	**Minor**	**Medium**	**Public Administration**	**NO**	**High**
07	There is a risk that a bush fire will affect the social and cultural aspects of the community	**Likely**	**Minor**	**Medium**	**Social & Cultural**	**NO**	**High**

RISK No.	RISK STATEMENT	LIKELIHOOD RATING	CONSEQUENCE RATING	LEVEL OF RISK	ELEMENT AT RISK	Treat Risk Y/N NO	Confidence Level
08	There is a risk that a structure fire will cause death or serious injury to people in the community	**Likely**	**Minor**	**Medium**	**People**	**NO**	**High**
09	There is a risk that a structure fire will cause damage to elements of the environment	**Possible**	**Minor**	**Low**	**Environment**	**NO**	**High**
10	There is a risk that a structure fire will affect the economy of the community	**Unlikely**	**Insignificant**	**Low**	**Economy**	**NO**	**High**
11	There is a risk that a structure fire will affect the operation of the public administration	**Unlikely**	**Insignificant**	**Low**	**Public Administration**	**NO**	**High**
12	There is a risk that a structure fire will affect the social and cultural aspects of the community	**Unlikely**	**Insignificant**	**Low**	**Social & Cultural**	**NO**	**High**
13	There is a risk that a structure fire will cause damage to or destroy infrastructure	**Likely**	**Minor**	**Medium**	**Infrastructure**	**NO**	**High**
14	There is a risk that a severe storm will cause death or serious injury to people	**Unlikely**	**Moderate**	**Medium**	**People**	**NO**	**Moderate**

RISK No.	RISK STATEMENT	LIKELIHOOD RATING	CONSEQUENCE RATING	LEVEL OF RISK	ELEMENT AT RISK	Treat Risk Y/N NO	Confidence Level
15	There is a risk that a severe storm will cause short or long term displacement of people	**Possible**	**Minor**	**Low**	**People**	**NO**	**Moderate**
16	There is a risk that a severe storm will cause damage to elements of the environment	**Likely**	**Minor**	**Medium**	**Environment**	**NO**	**Moderate**
17	There is a risk that a severe storm will affect the economy of the community	**Possible**	**Insignificant**	**Low**	**Economy**	**NO**	**Moderate**
18	There is a risk that a severe storm will affect the operation of the public administration	**Possible**	**Minor**	**Low**	**Public Administration**	**NO**	**Moderate**
19	There is a risk that a severe storm will Affect the social setting of the community	**Possible**	**Minor**	**Low**	**Social & Cultural**	**NO**	**Moderate**
20	There is a risk that a severe storm will cause damage to or destroy infrastructure	**Possible**	**Minor**	**Low**	**Infrastructure**	**NO**	**Moderate**
21	There is a risk that a road transport emergency will cause death or serious injury to people	**Almost Certain**	**Moderate**	**High**	**People**	**NO**	**Moderate**

RISK No.	RISK STATEMENT	LIKELIHOOD RATING	CONSEQUENCE RATING	LEVEL OF RISK	ELEMENT AT RISK	Treat Risk Y/N NO	Confidence Level
22	There is a risk that a road transport emergency will cause damage to or destroy infrastructure	**Likely**	**Insignificant**	**Low**	**Infrastructure**	**NO**	**Moderate**
23	There is a risk that a road transport emergency will destroy or cause damage to aspects of the environment	**Likely**	**Minor**	**Medium**	**Environment**	**NO**	**Moderate**
24	There is a risk that a road transport emergency will impact on the social and cultural setting of the community	**Possible**	**Minor**	**Low**	**Social & Cultural**	**NO**	**Moderate**
25	There is a risk that a road transport emergency will affect the economy of the community	**Possible**	**Insignificant**	**Low**	**Economy**	**NO**	**Moderate**
26	There is a risk that a road transport emergency will affect the operation of the public administration	**Unlikely**	**Insignificant**	**Low**	**Public Administration**	**NO**	**Moderate**
27	There is a risk that agricultural diseases will affect human health in the community	**Unlikely**	**Insignificant**	**Low**	**People**	**NO**	**Moderate**
28	There is a risk that agricultural diseases will cause damage to or loss of certain aspects of the environment	**Likely**	**Minor**	**Medium**	**Environment**	**NO**	**Moderate**

RISK No.	RISK STATEMENT	LIKELIHOOD RATING	CONSEQUENCE RATING	LEVEL OF RISK	ELEMENT AT RISK	Treat Risk Y/N NO	Confidence Level
29	There is a risk that agricultural diseases will affect the economy of the community	**Possible**	**Minor**	**Low**	**Economy**	**NO**	**Moderate**
30	There is a risk that agricultural diseases will affect the social & cultural aspects of the community	**Unlikely**	**Minor**	**Low**	**Social & Cultural**	**NO**	**Moderate**
31	There is a risk that agricultural disease will affect infrastructure	**Rare**	**Insignificant**	**Low**	**Infrastructure**	**NO**	**Moderate**
32	There is a risk that an air transport emergency will cause death or serious injury to people	**Unlikely**	**Major**	**Medium**	**People**	**NO**	**High**
33	There is a risk that an air transport emergency cause damage to certain aspects of the environment	**Possible**	**Minor**	**Low**	**Environment**	**NO**	**High**
34	There is a risk that an air transport emergency will affect the economy of the community	**Unlikely**	**Moderate**	**Medium**	**Economy**	**NO**	**Moderate**
35	There is a risk that an air transport emergency will affect the social and cultural aspects of the community	**Unlikely**	**Minor**	**Low**	**Social & Cultural**	**NO**	**High**
36	There is a risk that an air transport emergency will affect the operation of the public administration	**Possible**	**Moderate**	**Medium**	**Public Administration**	**NO**	**High**

RISK No.	RISK STATEMENT	LIKELIHOOD RATING	CONSEQUENCE RATING	LEVEL OF RISK	ELEMENT AT RISK	Treat Risk Y/N NO	Confidence Level
37	There is a risk that an air transport emergency will cause damage to or destroy infrastructure	**Possible**	**Major**	**High**	**Infrastructure**	**NO**	**Moderate**
38	There is a risk that a hazardous materials spill will affect human health	**Almost Certain**	**Moderate**	**High**	**People**	**Yes**	**Moderate**
39	There is a risk that a hazardous materials spill will cause the displacement of people	**Almost Certain**	**Moderate**	**High**	**People**	**NO**	**Moderate**
40	There is a risk that a hazardous materials spill will cause damage to aspects of the environment	**Likely**	**Moderate**	**High**	**Environment**	**NO**	**Moderate**
41	There is a risk that a hazardous materials spill will affect the economy of the community	**Possible**	**Minor**	**Low**	**Economy**	**NO**	**Moderate**
42	There is a risk that a hazardous materials spills will affect the social and cultural aspects of the community	**Possible**	**Insignificant**	**Low**	**Social & Cultural**	**NO**	**Moderate**

RISK No.	RISK STATEMENT	LIKELIHOOD RATING	CONSEQUENCE RATING	LEVEL OF RISK	ELEMENT AT RISK	Treat Risk Y/N NO	Confidence Level
43	There is a risk that a hazardous materials spill will affect the operation of the public administration	**Possible**	**Minor**	**Low**	**Public Administration**	**NO**	**High**
44	There is a risk that a hazardous materials spill will cause damage to infrastructure	**Unlikely**	**Minor**	**Low**	**Infrastructure**	**NO**	**Moderate**

Treatment Schedule

Risk Reference	Treatment Options	Is the Treatment to be Implemented Y/N	Risk Level		Agency Responsible	Timetable for Implementation	Monitoring Strategies
			Current Level	Target Level			
01	Prepare the City for the upcoming fire season by undertaking the following: • Fire hazard reduction burns • Educating the community of the risk • Fire hazard reduction notice • Fire hazard assessments.	Yes	High	High/Medium	DFES, City of Kalamunda and DPAW	1st and 3rd Quarter Meetings of LEMC	Twice yearly reporting to the LEMC
02	Ensure the City has a diverse range of evacuation centres and has long term recovery strategies to assist the City rebuild after a bush fire.	Yes	High	Low	City of Kalamunda	1st and 3rd Quarter Meetings of LEMC	Twice yearly reporting to the LEMC

21	Road safety messaging and ensuring our road infrastructure is appropriately designed to reduce the likelihood of events occurring. Regular surveillance of the deadly five.	Yes	High	High/Medium	City of Kalamunda (Road Design) and WAPol (education and enforcement)	2nd Quarter Meeting of the LEMCE	Yearly updates from the WAPol on strategies used to prevent the road toll.
37	Prepare to deal with the consequences of the risk by having current business continuity plans and evacuation centres.	Yes	High	Medium	City of Kalamunda	Ongoing	LEMC to monitor at its regular meetings
38	Make enquiries with DFES and compile a register of facilities within the City of Kalamunda where reportable quantities of hazardous materials are stored.	Yes	High	Medium /Low	DFES LEMC	1st Quarter 2019	LEMC to monitor at regular meetings
39	There a diverse range of evacuation centres throughout which can be activated in an emergency.	Yes	High	Medium	City of Kalamunda	Ongoing	LEMC to monitor at its regular meetings
40	Make enquiries with DFES to ensure they continue to maintain a rapid response team to deal with chemical spills.	No	High	Medium	DFES LEMC	1 Quarter 2019	LEMC to monitor at regular meetings