



Local Waste
Management
Arrangements for
Emergency Events
**Major Milestone 1:
Research Report**

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WALGA acknowledges the support provided by the State Government of Western Australia to deliver the *Local Waste Management Arrangements for Emergency Events* project, which is jointly funded under the Commonwealth Government’s National Partnership Agreement on Natural Disaster Resilience.

Executive Summary

The State Emergency Management Committee (SEMC) has identified numerous situations in Western Australia where recovery efforts have been hampered by challenges associated with waste management. Ineffective waste management has the potential to significantly delay recovery efforts, present a considerable risk to human health and the environment and increase the costs of recovery.

With funding from the Natural Disaster Resilience Program 2017-18, WALGA is working with the State to embed waste management considerations into local emergency management planning and response mechanisms. This research report is the first milestone for this project (milestones are outlined in Figure 1).

The audience for this report includes the Office of Emergency Management, Local Government emergency management and waste management professionals and State Government entities with a responsibility for emergency events.

This research report:

- Analyses relevant WA legislation to clearly identify implications for emergency management
- Identifies likely hazards arising from specific events, including the resources available to assist with hazard identification
- Contains case studies of emergency events, where waste management has proved to be challenging and identifies innovative approaches to managing waste in emergency situations
- Identifies the range of considerations which effect decision making
- Identifies communication and engagement approaches
- Analyses the information collected and makes recommendations for the Western Australian context.

A number of approaches have been used to deliver this report, including desk top research and direct contact with professionals in WA and interstate. Research findings will inform the development of resources and the next stages of this project, which involves developing tools to equip emergency management practitioners in planning for, and responding to, debris generated in various emergency situations.

In analysing the legislative framework, some of the key findings include:

- Local Government is provided with some powers for prevention or mitigation, through the *Emergency Management Act 2005*, *Local Government Act 1995* and the *Bush Fires Act 1954*, but these powers relate only to cyclones, floods and bushfires
- The *Emergency Management Act 2005* gives Local Government responsibility for recovery, but no associated powers to undertake this activity
- The legislation which Local Government can use in recovery includes:
 - *Local Government Act 1995*: Local Government can require and/or undertake the removal of certain items from land that it considers to be 'untidy.' Local Government can recover the cost of works that it undertakes
 - *Public Health Act 2016*: Once implemented, Local Government authorised officers could potentially use improvement notices to address a material public health risk in recovery. If an improvement notice is not complied with, Local

Government can issue an enforcement order, as a defined enforcement agency under the *Public Health Act 2016*. To address a serious public health risk, Local Government can directly issue an enforcement order. Local Government is provided with the ability to implement an enforcement order that has not been complied with and recover the costs of doing so

- *Environmental Protection Act 1986*: Although Local Government officers can potentially be authorised under this Act, they would require appropriate training and support.

Recommendations – Legislative framework

The legislative framework for managing waste in emergency situations is complex, with various Acts providing heads of power or regulatory requirements for prevention, response and recovery.

Short term

- Clarification is required on how the emergency powers of entry provided in the *Local Government Act 1995* align with the different stages of an emergency identified in the *Emergency Management Act 2005* (prevention – preparedness – response – recovery)
- It is requested that the Office of Emergency Management provides copies of endorsed Local Emergency Management Arrangements to WALGA, so that an assessment of current waste management considerations can occur.

Long term

- Consideration must be given as to how Local Government can be given powers that enable recovery. For example, through amendments to the *Public Health Act 2016*.

Recommendations - Capacity of Local Government

For Local Government officers to use the legislative tools that are currently available, certain skills are required. Local Government officers could potentially be authorised under the *Environmental Protection Act 1986*, but would require training and support.

Short term

- Investigate opportunities to undertake training and capacity development for Local Government officers in relation to the *Environmental Protection Act 1986*.

Recommendations – Resources for hazard identification

Ideally, all Local Governments would be able to assess and/or model likely wastes generated from emergency events within their boundaries. However, it will take time and resources to develop appropriate tools.

Short term

- Increase Local Government awareness of existing datasets that can be used in planning and response to identify waste types and volumes. For example, datasets on the age and type of infrastructure could provide information on likely asbestos content.

Long term

- Investigate if the National Exposure Information System (NEXIS) dataset contains sufficient information to inform Local Government emergency management planning
- Determine what modifications to the Green Industries SA waste calculator (under development) are required for it to be applied in Western Australia.

1.0 Introduction

There have been numerous situations in Western Australia where recovery efforts have been hampered by challenges associated with waste management. Ineffective waste management has the potential to significantly delay recovery efforts, present a considerable risk to human health and the environment and increase the costs of recovery.

With funding from the Natural Disaster Resilience Program 2017-18, WALGA is working with the State to embed waste management considerations into local emergency management planning and response mechanisms. This Project includes four milestones, identified in Figure 1.

This report examines how the legislative framework is currently applied in terms of prevention, response and recovery. It also explores the changes that will occur with the implementation of Stage 5 of the *Public Health Act 2016*. The report also identifies a number of tools that could potentially be used by Local Government to determine what waste types and volumes could be generated in their local area, based on existing infrastructure and potential hazards.

Research findings indicate that numerous considerations influence decision making on waste management in recovery. Much can be learnt from the experiences of both State and Local Government authorities and waste management practitioners in other Australian jurisdictions. It is clear that the resourcing, capacity and skill set available to a Local Government, directly influences its ability to undertake waste management activities.

The contents of this report will inform the development of resources and the next stages of this project, which involves developing tools to equip emergency management practitioners in planning for, and responding to, debris generated in various emergency situations.

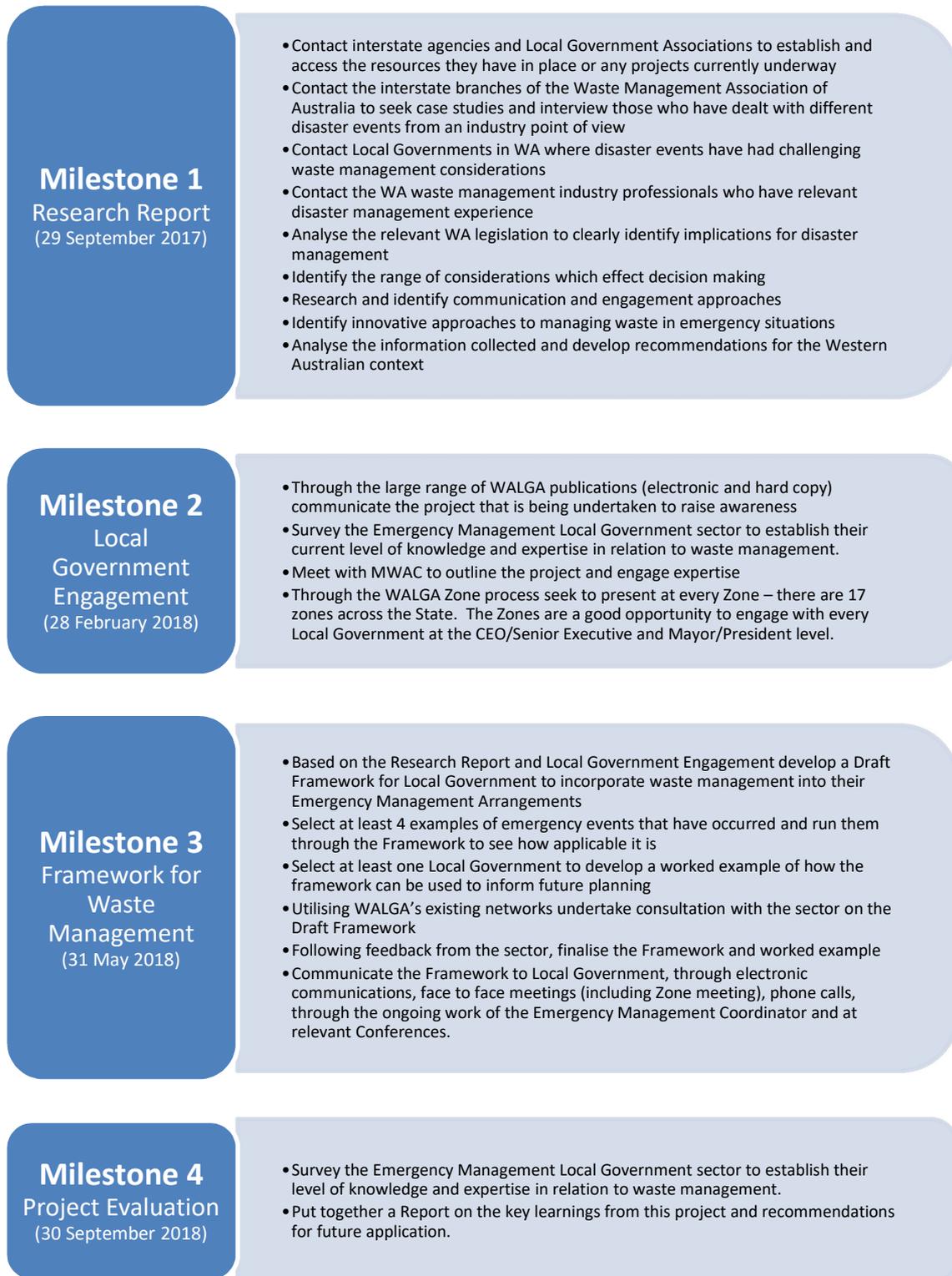


Figure 1: Milestones, activities and time allocated to the NDRP Project - Local Waste Management Arrangements for Emergency Events.

2.0 Summary of Relevant Western Australian Legislation

The following legislation is applicable to this project, as it relates to general operations, waste management activities or empowers Local Government to plan for, and respond to, emergency events:

- **Local Government Act 1995 (LG Act):** The Act provides for a system of Local Government in Western Australia and gives Local Government a range of responsibilities and powers
- **Emergency Management Act 2005 (EM Act):** The Act assigns responsibility for recovery to Local Government and provides some response related powers
- **Bush Fires Act 1954 (BF Act):** The Act outlines the role of Local Government in preventing, controlling and extinguishing bushfires. It also provides for the establishment of brigades. This Act is currently under review
- **Health (Miscellaneous Provisions) Act 1911 / Public Health Act 2016 (PH Act):** The existing Act provides Local Government authorised officers with recovery related powers. The new Act provides some powers for recovery, but these have been limited. The new Act also establishes a framework for public health emergencies
- **Environmental Protection Act 1986 (EP Act):** This Act provides powers to authorised persons and establishes a licencing system for prescribed premises. It regulates how waste can be reused, recycled or disposed of, along with emissions, discharges and enforced clean up
- **Waste Avoidance and Resource Recovery Act 2007 (WARR Act):** While this Act provides for Local Government management of waste from its own activities and from households, it does not contain powers relating to emergency events
- **Waste Avoidance and Resource Recovery Levy Act 2007 (WARRL Act):** The Act provides for a Levy on waste generated or landfilled in the Perth metropolitan area. The *WARR Levy Regulations 2008* contain a levy exemption process for disposal of waste generated in a natural disaster that cannot reasonably be reused, reprocessed, recycled or used in energy recovery
- **Contaminated Sites Act 2003 (CS Act):** This Act provides a framework for the management of contaminated sites. A site that has been contaminated during an emergency event, may need to be reported and potentially remediated
- **Dangerous Goods Safety Act 2004 (DGS Act):** Depending on the type of emergency event, this Act could be a relevant consideration in recovery if dangerous goods need to be transported
- **Occupational Safety and Health Act 1984 (OSH Act):** This Act will soon be replaced by new legislation. However, it is still worth considering as it outlines Local Government's responsibilities as an employer.

The legislative framework for managing waste in emergency situations is complex, with various Acts providing heads of power or regulatory requirements for prevention, response and recovery. Section 3 contains an analysis of how the legislative framework is currently applied and how this will change with the introduction of the *Public Health Act 2016*. Section 4 provides a more detailed overview of the relevant legislation.

The following waste management activities are relevant for recovery. Although Local Government may not be directly responsible for all activities, it may have another role in ensuring that these activities occur. Waste management activities include:

- Hazard Assessment: initial assessment of what materials could be hazardous and require immediate attention, e.g. asbestos and chemicals

- Emergency containment/confinement of waste: e.g. containment of firefighting run off
- Removal of material: site clean-up
- Temporary storage: recoverable material such as concrete
- Transport of non-hazardous material
- Transport of hazardous material
- Monitoring, treatment and recovery of recyclable material
- Monitoring, treatment and disposal of non-recyclable material
- Regulatory oversight: to ensure that clean-up has occurred in line with legislative requirements
- Investigation and prosecution: in cases where clean-up has not occurred in line with legislative requirements.

Table 1 outlines the legislation that applies and what powers can potentially be used when undertaking various waste management activities. The emergency powers provided under Part 11 and Part 12 of the *Public Health Act 2016* are excluded, as it is unclear what scale of event these will be used in. It is worth noting there are limitations on the powers in Table 1. For example, Local Government officers are not currently authorised to exercise certain powers under the *Environmental Protection Act 1986*. To further complicate matters, some of these Acts contain rights of appeal if specific processes are not followed. Further commentary on this issue is provided in Section 3 of this report.

Table 1: Legislation that applies to waste management activities.

Waste Management Activity	LG Act*	EM Act	BF Act	PH Act (at stage 5)	EP Act	WARR Levy Act	CS Act	DGS Act	OSH Act
Hazard Assessment	Entry	Entry (response)		Entry	Entry				
Emergency containment/ confinement	Notice			Infringement Notice & Enforcement Order	Prevention Notice				
Removal of material									
Temporary storage									
Transport of non-hazardous material									
Transport of hazardous material					Controlled Waste				
Monitoring, treatment and recovery of recyclable material									
Monitoring, treatment and disposal of non-recyclable material						Disposal (Perth)			
Regulatory oversight									
Investigation and prosecution									

***NOTE:** All Local Government activities are governed by the *Local Government Act 1995*, which contains a mechanism to authorise expenditure outside of the usual budgetary process for an emergency (refer to section 4.1 of this report).

3.0 Analysis of the Legislative Framework

This section contains an analysis of how the legislative framework is currently applied in terms of prevention, response and recovery. Changes associated with the introduction of the *Public Health Act 2016* are discussed in section 4.4 of this report.

3.1 Local Emergency Management Arrangements

The *Emergency Management Act 2005* tasks Local Government with developing Local Emergency Management Arrangements (LEMA) for its district. The Office of Emergency Management Guidelines (2016a) indicate that these documents “enhance the community’s resilience and preparedness for emergencies through strategies that apply prevention/mitigation, preparedness, response and recovery measures”.

As part of WALGA’s ongoing interaction with Local Government, the Association has observed that these documents have evolved into standardised, process focused documents. It is suggested that the way these documents are delivered should be revisited, to ensure they can provide a suite of resources to assist Local and State Government in planning for and responding to emergency events.

From a waste management perspective, it is important that LEMA include considerations that are applicable to the local context, such as the availability and capacity of local waste management infrastructure. WALGA is yet to access the LEMA held by the Office of Emergency Management. The next stage of this project will aim to assess how waste management considerations have been incorporated.

3.2 Analysis of Legislation: Prevention

Local Government has some powers in relation to prevention (or mitigation), provided by the:

- *Emergency Management Act 2005*
- *Bush Fires Act 1954*
- *Local Government Act 1995*.

The mitigation powers provided in section 46 of the *Emergency Management Act 2005* can be used to destroy dangerous vegetation or premises in cyclone areas. The *Bush Fires Act 1954*, provides a head of power for Local Government to reduce the bushfire risk presented by excessive fuel loads (section 33). A framework to reduce both cyclone, bushfire and flooding risk is also provided in the *Local Government Act 1995*.

Through the use of these different legislative instruments, Local Government does have some opportunities to reduce the potential volumes of waste generated in certain emergency events. However, the legislation predominately relates to immediate risks.

3.3 Analysis of Legislation: Response

Local Government is provided with a range of response related powers. The *Local Government Act 1995* powers of entry can be used in an emergency if the CEO or Local Government considers there is an imminent risk of injury or illness to a person or a natural or other disaster or emergency.

The *Emergency Management Act 2005* provides hazard management officers and authorised officers with broad powers during both an emergency situation and a state of emergency. Extra powers and responsibilities can be assigned to Local Government in a state of emergency (section 74). Local Government is also listed as one of the combat agencies responsible for fire suppression. *The Bush Fires Act 1954* provides a range of powers for response related activities, with the predominate focus on protecting life and property.

The *Public Health Act 2016* provides a range of powers that may be exercised in order to prevent, control or abate risks to public health. Part 11 provides the first level of response for serious public health incidents, whereas Part 12 relates to public health emergencies and provides a higher level of response. Local Government officers may be authorised to exercise the serious public health incident powers of Part 11, or the emergency powers listed in Part 12, Division 5 of the Act. It is not yet clear how often these sections of the Act will be used.

3.4 Analysis of Legislation: Recovery

The *Emergency Management Act 2005* assigns responsibility for recovery to Local Government. However, it does not provide any powers to undertake this activity. Different legislative instruments can be used to undertake waste management activities in recovery. However, the legislative framework is not straight forward and certain processes must be adhered to.

Local Government must first identify if it has the resources, capacity and skill set available to manage the waste issues that arise in recovery – particularly those relating to environmental and health hazards. If a Local Government does not have the necessary capacity, there are options to work with the State Government (refer to section 4.3 of this report).

If the Local Government has determined it has the capacity to undertake waste management activities, certain powers will be required:

- **Power of entry:** To assess hazards and determine what remedial works are required to protect the environment and human health
- **Direct and/or complete work:** If the assessment uncovers an environmental or health risk, the Local Government may need to issue a direction for works to occur and/or undertake the necessary works
- **Recover costs:** Where Local Government undertakes works to address an environmental or health risk, it needs to be able to recover the costs of doing so.

Local Government needs to be aware what legislation applies in different circumstances and the changing nature of these powers, particularly in relation to the *Public Health Act 2016*. The legislation which Local Government can use in recovery includes:

- *Local Government Act 1995*
 - Local Government can require and/or undertake the removal of certain items from land that it considers to be 'untidy.' Local Government can recover the cost of works that it undertakes
- *Public Health Act 2016*
 - Once implemented, Local Government authorised officers could potentially use improvement notices to address a material public health risk in recovery. If an improvement notice is not complied with, Local Government can issue an enforcement order, as a defined enforcement agency under the *Public Health Act 2016*. To address a serious public health risk, Local Government can issue an enforcement order. Local Government is provided with the ability to implement an enforcement order that has not been complied with and recover the costs of doing so
- *Environmental Protection Act 1986*
 - Although Local Government officers can potentially be authorised under this Act, they would require appropriate training and support.

4.0 Overview of Legislation

Local Government is given responsibilities in over fifty pieces of Western Australian Legislation (Department of Local Government and Communities, 2015). This includes powers to deliver regulatory services that the State does not administer, such as building inspection, some planning and development approvals, as well as ranger and health services. It is worth noting that some Local Governments are under increasing pressure to deliver on the regulatory requirements of the State, and the expectations of the local community (Parliament of Australia, 2011).

4.1 Local Government Act 1995

Local Government in Western Australia is established by the State through legislation. The *Local Government Act 1995* creates a system of Local Government and empowers Local Government to make decisions for the good governance of the people in its district. To do so, Local Government is equipped with the ability to deliver both legislative (local laws) and executive functions (administration of local laws and the provision of services and infrastructure). In general terms, the *Local Government Act 1995* does not bind the Crown - unless expressly stated. In relation to emergency management, the *Local Government Act 1995* contains several relevant sections.

Prevention, Response and Recovery

Subdivision 3 of the Act outlines powers of entry in a range of situations, including emergency situations. Powers of entry relate to any function that a Local Government takes under the Act. Entry onto land is authorised if:

- There is an emergency
- If a warrant of justice has been issued
- If the consent of the owner or occupier has been obtained
- If a notice of entry has been given to the owner or occupier.

In an emergency, section 3.34 of the Act allows Local Government to lawfully enter any land, premises or thing immediately and without notice and perform any of its functions as it considers appropriate to deal with the emergency. The provisions enabling entry in an emergency are:

- (1) In an emergency a local government may lawfully enter any land, premises or thing immediately and without notice and perform any of its functions as it considers appropriate to deal with the emergency.*
- (2) For the purposes of this section, an emergency exists where the local government or its CEO is of the opinion that the circumstances are such that compliance with the requirements for obtaining entry other than under this section would be impractical or unreasonable because of, or because of the imminent risk of —*
 - (a) injury or illness to any person; or*
 - (b) a natural or other disaster or emergency; or***
 - (c) such other occurrence as is prescribed for the purposes of this section.*
- (3) A local government may use reasonable force to exercise the power of entry given by subsection (1).*
- (4) A local government may exercise the power of entry given by subsection (1) at any time while the emergency exists and for so long subsequently as is reasonably required.*
- (5) Although notice of an intended entry under this section is not generally required, a local government is to give notice of an intended entry of land under this section to the owner or occupier of the land where it is practicable to do so.*

As the Act predates the *Emergency Management Act 2005*, there is no clarity on the scope of what an emergency, is, or the stages of an emergency that these powers can be exercised. Guidance previously provided by WALGA to Local Government on this matter suggests that an emergency should be related to the definition of ‘hazard’ in the *Emergency Management Act 2005* and associated Regulations. Local Government powers of entry, notices and requirements to undertake work are further outlined in Table 2.

In terms of prevention, Schedule 3.2 of the Act, *particular things local governments can do on land even though it is not local government property*, identifies that Local Government can do earthworks or other works on land to prevent or reduce flooding.

Expenditure

The *Local Government Act 1995* establishes a clear process and constraints for the development and adoption of a Local Government’s Budget. This process only allows unbudgeted expenditure in a few circumstances. Section 6.8(1) states that a Local Government is not to incur expenditure from its municipal fund for an additional purpose except where the expenditure:

- (a) is incurred in a financial year before the adoption of the annual budget by the local government; or*
- (b) is authorised in advance by resolution*;* or
- (c) is authorised in advance by the mayor or president in an emergency.*

** Absolute majority required.*

This is an important consideration for Local Governments undertaking recovery activities, as this mechanism allows the Mayor or President to authorise (in advance) expenditure outside the budget.

Table 2: *Local Government Act 1995* powers of entry, notices and requirements to undertake work.

Powers of Entry	In circumstances which are not considered to be an emergency, by the Local Government or CEO, then powers of entry are relatively restrictive. An authorised officer must give notice of intent to enter or obtain a warrant where no consent has been given to enter.
Notice	Authorised officers can issue a notice requiring certain things to be done by the owner or occupier of land (section 3.25). Only those matters listed in Schedule 3.1 can be addressed using this legislative tool. Some of the matters in Schedule 3.1 may relate to recovery, for example section 5A(1) <i>Ensure that overgrown vegetation, rubbish, or disused material, as specified, is removed from the land that the Local Government considers to be untidy.</i> The correct process must be followed to issue a notice, with the notice recipient advised of their right to lodge an objection (section 9.5) or apply to the State Administrative Tribunal for a review of the decision to give a notice (section 3.25(5) and section 9.7).
Local Government can undertake works where there is non-compliance with a notice	Section 3.26(2) gives Local Government power to undertake activities where a notice has not been complied with. It states a Local Government may do anything that it considers necessary to achieve, so far as is practicable, the purpose for which the notice was given.
Cost recovery	In completing works, Local Government has the ability to recover costs as a debt due from the person who failed to comply with the notice (section 3.26(3)).

4.2 Emergency Management Act 2005

The *Emergency Management Act 2005* provides for the prompt and coordinated organisation of emergency management in the State, and for related purposes. Relevant to this research, where the provisions of the *Emergency Management Act 2005* are inconsistent with other Acts and Regulations, the *Emergency Management Act 2005* prevails (section 8). Under Part 3 of the Act, local arrangements are defined, and Local Government's role and powers established. Section 36 identifies that:

It is the function of a local government –

- (a) *Subject to this Act, to ensure that effective local emergency management arrangements are prepared and maintained for its district;*
- (b) *To manage recovery following an emergency affecting the community in its district;*
and
- (c) *To perform other functions given to the local government under this Act.*

The Act also establishes that Hazard Management Agencies may be prescribed. The Act establishes the process, at a high level, for which agencies should lead emergency management activities in relation to prescribed hazards – due to their specialised knowledge, expertise and resources (Office of Emergency Management, 2017).

Prevention

Other functions given to Local Government under the Act include activities relating to the mitigation of hazards. For example, section 46 of the Act enables Local Government to destroy dangerous vegetation or premises in a cyclone area.

Response

Part 6 of the *Emergency Management Act 2005* provides hazard management officers and authorised officers with broad powers during both an emergency situation and a state of emergency. This includes an ability to organise evacuations and restrict access to an area. When the Minister declares a state of emergency, extra powers and responsibilities can be assigned to Local Government (section 74). Dependant on any conditions placed on officers (section 61), powers during a state of emergency can extend to demolishing a building in the emergency area (section 75). In terms of other powers provided to Local Government for response activities, Local Government is listed as one of the combat agencies responsible for fire suppression.

It is important to understand that during response, Local Government can be required to undertake activities outside of its normal responsibilities. When an emergency situation or state of emergency ends – recovery activities can begin under the powers provided by the 'business as usual' legislative framework.

Recovery

While giving Local Government responsibility for recovery, the *Emergency Management Act 2005* does not convey any additional powers to undertake this activity. Section 3(d) of the Act provides a broad definition for recovery:

Recovery — the support of emergency affected communities in the reconstruction and restoration of physical infrastructure, the environment and community, psychosocial and economic wellbeing.

The extent of recovery activity will depend on the nature and/or magnitude of the emergency. In some circumstances, it may be necessary for the State Government to have an increased level of involvement, through the State Recovery Coordinator or the establishment of a SRCG or State Recovery Controller, or both. This higher-level coordination operates only to ensure that the affected community has equitable and appropriate access to available resources. The management of recovery remains the responsibility of the affected Local Governments (Office of Emergency Management, 2016b).

4.3 Bush Fires Act 1954

Separate, and in support of the *Emergency Management Act 2005*, is a suite of other legislation that is currently under review. Namely, the *Fire Brigades Act 1942*, the *Bush Fires Act 1954* and the *Fire and Emergency Services Act 1998*. The aim of the review is to create a single Emergency Services Act (Department of Fire and Emergency Services, 2017). As such, it is worth considering what powers are provided in the *Bush Fires Act 1954* for prevention, response and recovery.

Prevention

The *Bush Fires Act 1954* provides a head of power for Local Government to reduce the bushfire risk presented by excessive fuel loads, through local laws and other means. For

example, section 33 provides Local Government with the ability to direct owners or occupiers of land to undertake activities such as clearing fire-breaks. Where there is a failure to comply a notice, a Local Government can enter land, complete the necessary activities and recover costs.

Response

Wide ranging powers are provided for response related activities, with the predominate focus on protecting life and property. The powers provided to bushfire control officers (section 39) include powers of entry, and the ability to remove fences, create fire-breaks and direct the operations or activities of brigades to extinguish or control a bushfire, or prevent the spread or extension of the fire. The powers in section 33 can also be used to prevent the spread or extension of a bushfire.

Recovery

The Act does not contain powers enabling waste management activities in recovery. The focus on this Act is on preventing, controlling and extinguishing bushfires.

4.4 Health (Miscellaneous Provisions) Act 1911 / Public Health Act 2016

The *Health Act 1911* historically provided for the consolidation of law relating to public health. The new *Public Health Act 2016* provides for the protection, promotion and improvement of the health and wellbeing of West Australians and a reduction in the incidence of preventable illnesses, and related purposes. The *Public Health Act 2016* is broader in its focus than the original Act and includes a number of new measures focused on prevention and improvement of health. The Act also defines the term emergency management, using the same definition as that of the *Emergency Management Act 2005*.

Due to the significant amount of work associated with delivering the *Public Health Act 2016*, it will be progressively implemented over 3 to 5 years (Department of Health, 2017a):

- **Stage 1** (Royal Assent - 25 July 2016)
The transition from the *Health Act 1911* to the *Public Health Act 2016* commenced with the introduction of various technical items. The introduction of this stage did not alter how Local Government operates as an enforcement agency
- **Stage 2** (the day after Stage 1)
As above
- **Stage 3** (24 January 2017)
The administrative framework provided by Part II of the *Health Act 1911* was replaced, with authorisation of officers provided under the new Act. The renamed *Health (Miscellaneous Provisions) Act 1911* and subsidiary legislation continued as the main enforcement tool for Local Government. As of this stage, local laws are to be made under the *Local Government Act 1995*
- **Stage 4** (target date 20 September 2017)
Even though many 'Parts' of the Act come into effect at Stage 4, they are not enforceable by Local Government - with the principle enforcement tools remaining in the *Health (Miscellaneous Provisions) Act 1911*
- **Stage 5** (2020 – 2021)

At this stage, Local Government enforcement agencies will move from using the framework provided by the *Health (Miscellaneous Provisions) Act 1911* to that of the *Public Health Act 2016*. Local Government will also be required to deliver public health planning, public health assessment and a new registration and licencing system. The majority of the Regulations that underpin the Act will be introduced at Stage 5. Although the final number of Regulations is yet to be determined, it appears these will address built environment, water, body art and personal appearances, pests and vectors. It is anticipated that the introduction of the Regulations will reduce the scope of existing health local laws. Local Government needs to be aware that any local laws made prior to the introduction of the Regulations, will need to be reviewed and potentially repealed at Stage 5 (Department of Health, 2017b).

Prevention and Response – serious public health risks and public health emergencies

The Act provides a range of powers that may be exercised in order to prevent, control or abate risks to public health. Part 11 provides the first level of response for serious public health incidents. Part 12 relates to public health emergencies and provides a higher level of response. It is not yet clear how often, these sections of the Act will be used.

Part 11 of the Act identifies that there are serious public health incidents which require a response. This section allows the Chief Health Officer to authorise an officer to exercise the public health incident powers, for the purposes of preventing, controlling or abating a serious public health risk. Serious public health risks are defined in the Act as:

serious public health risk —

- (a) means a public health risk involving potential harm to public health that is irreversible, of a high impact or on a wide scale; and*
- (b) includes a public health risk declared by the regulations to be a serious public health risk; but*
- (c) does not include a public health risk declared by the regulations not to be a serious public health risk;*

The Department of Health has provided some examples of situations that would be considered a serious public health risk. This includes bioterrorism or rapidly spreading epidemics of serious infectious diseases such as SARS, pandemic influenza or Ebola virus (Department of Health, 2017c). There is a possibility that Local Government officers could be authorised in these situations to exercise serious public health incident powers. Section 157 of the Act outlines powers of entry, investigation and potential destruction or disposal of materials to prevent, control or abate serious public health risks.

Part 12 of the *Public Health Act 2016* relates to public health emergencies. A public health emergency is defined as:

public health emergency means an event or circumstance, or a series of events or circumstances, that is causing or contributing to, has caused or contributed to or may cause or contribute to serious adverse effects on public health;

The Department of Health has identified that the *Emergency Management Act 2005* is used, and provides for, a whole of government response to an emergency, however if the circumstances are uniquely health related a whole of government approach may not be required (Department of Health, 2017d). It is intended that Part 12 of the Act complements the State emergency management powers and allows for effective planning and response to public health emergencies such as food or water contamination following a natural disaster. Situations could arise where an emergency is declared under the:

- *Emergency Management Act 2005*
- *Emergency Management 2005 and the Public Health Act 2016, or*
- *Public Health Act 2016.*

The Minister has the power to make a public health state of emergency declaration. Local Government officers may be authorised to exercise the emergency powers listed in Part 12, Division 5 of the Act. As these powers are new, it is not clear how often or when they will be used. Therefore, it is necessary to focus on the ‘business as usual’ powers provided in the Act (Table 3).

Recovery – public health risks

The new *Public Health Act 2016* contains powers of entry for authorised officers, if there are immediate public health risks. In relation to mitigating those risks, enforcement tools in Part 14 of the Act include improvement notices and enforcement orders. Local Government is provided with the ability to implement an enforcement order that has not been complied with, and recover the costs of doing so (Table 3). It is worth noting that infringement notices can be issued or prosecution commenced independently to action taken under Part 14 of the Act.

Table 3: *Health (Miscellaneous Provisions) Act 1911* transitioning to the *Public Health Act 2016* – Powers of entry, notice and requirements to undertake works.

	Health (Miscellaneous Provisions) Act 1911 Current approach - until implementation of Stage 5	Public Health Act 2016 Future approach – upon implementation of Stage 5 (3-4 years)
Powers of Entry	Section 349 of the Act provides authorised officers with extensive powers to enter residential and business premises (with the exception of Crown land). Officers do not require a warrant or the informed consent of occupiers to enter.	Section 240 of the Act identifies where powers of entry can be used by authorised officers, in relation to commercial and residential premises. There are restrictions on entry to residential premises. Authorised officers need to “reasonably suspect” (as defined by the <i>Criminal Investigation Act 2006</i>) that: <ul style="list-style-type: none"> • There is an immediate public health risk connected with those premises; and • The entry is necessary to enable the authorised officer to investigate, prevent, control or abate the risk. An authorised officer can also enter the premises with the informed consent of the occupier of the premises or under the authority of a warrant (issued under section 249).
Notice	Part V, Division 1 of the Act contains provisions on houses unfit for occupation which can be used to initiate emergency waste management activities. Authorised officers can: <ul style="list-style-type: none"> • Issue a notice that a dwelling is unfit for habitation (section 135) • Issue a notice to amend or remove a condemned building (section 137) 	Of all the enforcement tools available to authorised officers in this Act, improvement notices and enforcement orders are considered to be the most appropriate (Part 14 Division 3). An improvement notice could be used to address a material public health risk in recovery (section 212). A notice of compliance is to be issued once an improvement notice has been complied with (section 215). If an

	<ul style="list-style-type: none"> Require (by notice or not) land to be cleaned after the removal of structures (section 138) Issue a notice to clean or repair a house (section 139) <p>Who can issue: Division 2 Functions of local governments and Division 4 authorised officers <i>Public Health Act 2016</i>.</p> <p>Appeal rights: Any person aggrieved by any notice under section 137 can apply to the SAT for a review of the decision.</p>	<p>improvement notice is not complied with - there are no penalties attached.</p> <p>If an improvement notice is not complied with, Local Government can issue an enforcement order, as a defined enforcement agency under the <i>Public Health Act 2016</i>. To address a serious public health risk, Local Government can directly issue an enforcement order.</p> <p>An enforcement order is issued under section 216(1) using the approved form. It cannot be issued to the Crown. A certificate of clearance is to be issued by the enforcement agency once an enforcement order has been complied with, or there is no longer a serious public health risk (section 223).</p> <p>Appeal rights: A person that receives an improvement notice can apply to SAT for a review of the decision to give an improvement notice, as well as a decision not to give a notice of compliance (section 226(1)).</p> <p>A person that receives an enforcement order can apply to SAT for a review of the decision to given an enforcement order, as well as a decision not to issue a certificate of clearance (section 226(1)).</p>
<p>Local Government can undertake works where there is non-compliance with a notice</p>	<p>Local Government has the ability to act in default of an owner where there is non-compliance with a notice issued under Part V (section 140).</p>	<p>If an assessment finds non-compliance with an enforcement order, the enforcement agency must provide a written notice to the person detailing the reasons for that decision (section 224(3)). This written notice must be in the approved form.</p> <p>An enforcement agency may take action to ensure the enforcement order is complied with (section 219). This can occur even when there is a dispute in SAT. However, if the situation does not warrant immediate action, an enforcement agency should consider granting an extension of time to comply with the order to enable SAT to consider the matter.</p>
<p>Cost recovery</p>	<p>In recovering the costs of completing works, the Local Government must remove the sale proceeds of any materials from the total amount owing. Any surplus must be paid to the owner (section 140).</p> <p>Funds owed to a Local Government can be recovered in any court of competent jurisdiction. Section 371</p>	<p>An enforcement agency can recover the costs of implementing an enforcement order. Costs are considered to be a debt due to the enforcement agency, and can be recovered via a court of competent jurisdiction (section 221).</p> <p>It is worth noting that in recovering debt, a certificate must be signed by the enforcement agency, that states the amount of costs and</p>

	<p>and section 372 establish powers to register a charge against land.</p> <p>This process is outlined in the <i>Health (Miscellaneous Provisions) Act 1911 Registration, Enforcement and Discharge of Local Authority Charges on Land, Regulations</i>.</p> <p>Provided the correct process is followed, Landgate will register a charge against the land. The charge remains on the land until the Local Government completes the correct form, confirming that costs have been paid.</p> <p>Appeal rights: This process contains a mechanism for the owner to dispute the charge by serving a Notice of Dispute on the CEO or the local authority (r1).</p> <p>Section 318 of the <i>Public Health Act 2016</i> contains transitional provisions relating to recovery for work done by Local Government, and charges on land or premises under the <i>Health (Miscellaneous Provisions) Act 1911</i>.</p>	<p>the manner in which they were incurred (as evidence).</p>
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4.5 Environmental Protection Act 1986

The *Environmental Protection Act 1986* provides for the protection, control and abatement of pollution and environmental harm, for the conservation, preservation, protection, enhancement and management of the environment and associated matters. There are several areas which relate to emergency situations, these include:

- Discharge of waste in an emergency event
- Transport of waste – Controlled Waste Tracking
- Disposal of waste
- Regulatory activities.

Recovery - discharge of waste

Section 72 of the Act provides a mechanism for when waste is discharged as a result of an emergency, accident or malfunction. This could apply to all types of premises. In this case, if the discharge is likely to cause pollution, material or serious environmental harm, the occupier of the premises has to notify the CEO of the Department as soon as practicable after the event – either orally or in writing. If this does not occur, then an offence is considered to have taken place.

This is relevant to emergency events, as discharges can occur. Local Government needs to be aware of the importance of notifying the CEO of the Department of discharges from its own facilities.

Recovery - controlled waste tracking

The Department of Water and Environmental Regulation regulates the transportation of controlled waste on roads in Western Australia. The *Environmental Protection (Controlled Waste) Regulations 2004* provide for the licensing of carriers, drivers, and vehicles involved in transporting controlled waste on roads, as well as listing waste facilities. The regulations are applied when controlled waste is transported from the point of generation to a licenced waste facility. With the exception of asbestos containing material, a Controlled Waste Tracking Form is required to transport greater than 200kg or litres of controlled waste (Department of Water and Environmental Regulation, 2015a).

There are two main controlled waste tracking considerations in relation to emergency events:

- Waste classification for transport
- Ensuring that an appropriately licenced contractor is engaged.

Under the current system, waste holders must provide the licenced carrier with information on the type of controlled waste, amount and containment type, and the physical state of the controlled waste. This can include information on the pH of the material, and a certificate from an accredited laboratory detailing certain characteristics (Department of Water and Environmental Regulation, 2015b).

Regulation 46 allows the CEO of the Department to approve disposal of asbestos containing material at a place other than a waste facility in 'special cases,' and give directions for disposal. The Regulations also establish a pathway to gain an exemption to *Part 2 – Licensing* and *Part 3 Transportation and unloading of a controlled waste*. Regulation 49 states that the CEO of the Department may give a written exemption, via an approved form, in certain circumstances, with specified conditions. Exemptions are only valid for the time specified in the exemption. These Regulatory exemptions could be useful for those tasked with managing debris generated in an emergency.

Transportation of controlled waste must be undertaken by an appropriately licenced contractor. It is worth noting an exemption process exists under the *Environmental Protection (Controlled Waste) Regulations 2004* which could allow asbestos containing material to be disposed of at a place other than a waste facility.

Recovery - disposal of waste

The licencing process, identified in the *Environmental Protection Act 1986* and associated Regulations, establishes a framework for waste disposal. Prescribed premises such as solid waste facilities, depots and landfills need to be licenced or registered. The key issues in emergency situations that influence waste disposal include:

- The capacity of existing landfill or storage areas
- The licence conditions on types of waste that can be accepted.

Recovery – regulatory activities

Dependent on individual skills and experience, officers may be authorised under different sections of the Act. For example, there are powers relating to discharges of waste, pollution and environmental harm (section 73).

4.6 Waste Avoidance and Resource Recovery Act 2007

The *Waste Avoidance and Resource Recovery Act 2007* (WARR Act) is an Act to:

- provide for waste avoidance and resource recovery
- establish the Waste Authority
- provide for waste services by Local Governments
- provide for levies on waste
- repeal the *Environmental Protection (Landfill) Levy Act 1998*
- provide for related and consequential matters.

This Act, and the associated Regulations, enables Local Government to provide waste management services to the community and charge for the provision of these services. In terms of responsibility for the various wastes generated in an emergency, the Act limits Local Government's responsibility to waste arising from households and the Local Government's own operations. Emergency situations are not directly mentioned in the WARR Act.

4.7 Waste Avoidance and Resource Recovery Levy Act 2007

The *Waste Avoidance and Resource Recovery Levy Act 2007* (WARRL Act) provides for a Levy on waste to landfill. The Levy currently applies to all waste generated or landfilled in the Perth metropolitan area. The Levy is intended to promote diversion of waste from landfill, however in some emergency situations, material will be generated which will need to be landfilled. The *Waste Avoidance and Resource Recovery Levy Regulations 2008* provide for a Levy exemption process for some types of waste. Wastes resulting from a natural disaster that cannot reasonably be reused, reprocessed, recycled or used in energy recovery are eligible for an exemption (Department of Water and Environmental Regulation, 2014). The exemption is not provided automatically. A form needs to be completed and approved by the Department of Water and Environmental Regulation.

4.8 Contaminated Sites Act 2003

The *Contaminated Sites Act 2003* provides for the identification, recording, management and remediation of contaminated sites. This Act may have particular relevance in the recovery phase of an emergency, if certain sites have been contaminated. There are potentially significant costs associated with contaminated sites, as they may require site investigation and eventual remediation. Anyone can report a suspected contaminated site, including the Local Government and members of the community. It should be noted, that the Act references the "polluter pays principal," with the party causing the contamination potentially responsible for remediation (Department of Water and Environmental Regulation, 2017).

4.9 Dangerous Goods Safety Act 2004

The *Dangerous Goods Safety Act 2004* relates to the safe storage, handling and transport of dangerous goods and related purposes. This Act provides the Chief Dangerous Goods Officer with power to take immediate action if the Officer considers that this action is needed to identify, assess, reduce, eliminate or avert the risk to people, property of the environment from the dangerous goods involved in the situation (section 50(1)). These powers are broad

in scope, relating specifically to Dangerous Goods. The Act may be relevant for emergency situations. Where Dangerous Goods are identified and pose a risk, the Chief Dangerous Goods Officer could take action and recover the costs associated with their management.

4.10 Occupational Safety and Health Act 1984

The *Occupational Safety and Health Act 1984* remains the relevant legislation for WA, as the *Work Health and Safety Bill* remains a work in progress (Government of Western Australia, 2017). The Bill is intended to replace three Acts, the *Occupational Safety and Health Act 1984*, *Mines Safety and Inspection Act 1994*, and the *Petroleum and Geothermal Energy Safety Levies Act 2011*.

The objects of the *Occupational Safety and Health Act 1984* are:

- (a) *to promote and secure the safety and health of persons at work;*
- (b) *to protect persons at work against hazards;*
- (c) *to assist in securing safe and hygienic work environments;*
- (d) *to reduce, eliminate and control the hazards to which persons are exposed at work;*
- (e) *to foster cooperation and consultation between and to provide for the participation of employers and employees and associations representing employers and employees in the formulation and implementation of safety and health standards to current levels of technical knowledge and development;*
- (f) *to provide for formulation of policies and for the coordination of the administration of laws relating to occupational safety and health;*
- (g) *to promote education and community awareness on matters relating to occupational safety and health.*

This Act has been referred to, as it governs how Local Government operates in relation to its employees and how employees should undertake their work. While emergency situations are outside normal operations, this legislation still applies.

5.0 Hazards Generated and Resources Available

The following resources have been identified as tools that could be used by Local Government to determine what waste types and volumes could be generated in their area – based on the attributes of existing infrastructure and potential hazards. This would allow informed decisions to be made on how best to manage clean-up. For example, if it is determined that the waste generated will overwhelm Local Government's waste management infrastructure, a decision can quickly be made to seek an alternative site for the material.

National Exposure Information System

The Geoscience Australia [National Exposure Information System \(NEXIS\)](#) system has been designed to provide comprehensive exposure information for use in risk analysis and disaster management (Geoscience Australia, 2017). Data on building exposure can be combined with data on a hazard footprint, to generate a summary report of what is in the area affected. Local Government could examine the Geoscience dataset to find out what

risks are specific to their local areas when planning for events. There is also an option for spatial analysis to be undertaken on a number of different parameters.

South Australian Waste Calculator

A disaster debris calculator has been developed as part of a Disaster Waste Management Scoping Study (2015) which provides order-of-magnitude estimates of waste volumes for different types of waste. Green Industries SA intends to further develop and refine the calculator into a more advanced tool that can be used by stakeholders across SA (and potentially Australia) to estimate disaster debris volumes. Users of the tool are prompted to enter data into the following input fields:

- Disaster type (bushfire, flood, severe storm, earthquake)
- Square kilometres (km²) of urban area affected by the disaster
- Average vegetation density (low, medium, high) across affected urban areas
- Number of low-rise buildings in affected area
- Total floor area (m²) of damaged high-rise building

The output table provides estimates of debris generated (in tonnes and cubic metres) by waste stream (masonry, metals, vegetative waste, hard waste, whitegoods, e-waste, soil and sediment, and vehicle bodies). In order for the calculator to be applied in Western Australia, this calculator would need to be tailored to local building types and vegetation. The Association has requested further information on the metrics used to develop the calculator from Green Industries SA.

NSW Floodplain Risk Management Guidelines

The NSW Government has developed Guidance specifically for Local Governments in flood prone areas. The Guidance includes how the Local Governments can use GIS tools to model their specific risk, a residential flood damage calculator and information on a range of different considerations for when a flood occurs (NSW Office of Environment and Heritage, 2017).

Western Australian Datasets

There are a number of datasets that contain information specifically relevant to Western Australia:

- Data on housing age and basic construction can be obtained through [Suburb Sales Reports](#) (Landgate, 2017)
- ABS Census data on dwelling type can be searched by [Geography](#) and includes information on the number of bedrooms and dwellings structure. Information can be accessed at a relatively detailed level, however it is not clear what the age of this dataset is (Australian Bureau of Statistics, 2017)
- Asbestos: it is widely acknowledged that approximately one third of all homes built in Australia contain asbestos products. Local Government holds some records on building approvals, which could be used to determine the age of housing stock. As a general guide, homes constructed before the mid-1980s, will contain asbestos. Those built between the mid-1980s and 1990 are likely to contain asbestos, whereas homes built after 1990 are unlikely to contain asbestos (Asbestos Safety and Eradication Agency, 2017).

The State Government has a *Whole of Government Open Data Policy*, and is working to establish an approach where appropriate and high-value data traditionally held by the public sector can be provided to the public (Government of Western Australia, 2017). This could potentially bring together a range of different datasets that Local Government could use to

spatially assess likely hazards in the built environment. However, this approach could take some years to come to fruition.

It is important that this high-value data is made easily accessible to Local Government. WALGA provides Local Governments with access to more than 300 datasets sourced under license from State, Commonwealth and Local Government via its [Environmental Planning Tool \(EPT\)](#), a web based geographic information system (GIS), especially tailored to the needs of WA Local Governments. The EPT is designed to assist Local Governments interpret and analyse data to inform timely and appropriate planning and operational decisions. It also contains a reporting function to facilitate the assessment of clearing applications by the Department of Water and Heritage Regulation. At the time of writing, 45 Local Governments have subscribed to the EPT. The EPT has the potential to be used to provide Local Government access to additional data in an easy to access form as it becomes available. (WALGA, 2017).

Further investigation is required on the costs associated with obtaining relevant datasets, licencing agreements, and developing a reporting functionality based on suburbs or self-defined polygons.

Comprehensive Impact Assessment

Through the existing emergency management structure, for large scale events, a [Comprehensive Impact Assessment](#) will be undertaken. The Assessment is undertaken in the response phase, in consultation with the Incident Support Group, all affected Local Governments and the State Recovery Coordinator. The purpose of this Assessment, is to:

- identify and quantify impacts relating to all recovery environments;
- identify any risks arising from the emergency;
- include a risk assessment, identify risk treatments undertaken, and contain a treatment plan (including the allocation of responsibilities) to provide for safe community access to the affected area; and
- inform and support the objectives of the Recovery Plan.

The assessment includes information and data that will impact on waste management issues that will impact the recovery of a community. Through the established procedure, the Assessment has to be provided to the affected Local Governments and the State Recovery Coordinator for final clarification prior to handover to the Local Government at the commencement of recovery (Office of Emergency Management, 2016c).

Financial considerations – small scale events

In small scale events, the local community, insurance agents and local businesses fund recovery efforts. As identified, the *Local Government Act 1995* allows Local Government to expend unbudgeted amounts with the advanced approval of the Local Government Mayor or President. In this circumstance, tender exemptions also apply. It is important to note that individual council budgets vary greatly and Local Governments can quickly meet budget thresholds even from small scale events. In these cases, Local Governments may need to borrow money to cover this expenditure if no other means is available.

Financial considerations – proclaimed natural disaster event

Through the Western Australian Natural Disaster Relief and Recovery Arrangements (WANDRRA) funding is potentially available to assist those who have suffered the direct impact of a proclaimed natural disaster event with clean-up. This funding is provided by both State and Federal Government, and is administered by the Office of Emergency

Management, with assistance from other agencies (WANDRRA Determination 2017, Office of Emergency Management, 2017). A range of relief measures are available to assist communities with recovery. WANDRRA can be activated in situations where:

- There is an eligible natural disaster (this includes bushfire, earthquake, flood, storm, cyclone, storm surge, landslide, tsunami, meteorite strike and tornado); AND
- The anticipated cost of eligible measures will exceed \$240,000.

Due to the financial constraints of Local Governments, there is often a reliance on WANDRRA to complete recovery activities. In some cases, it can impede a quick and effective recovery given the WANDRRA is based on a reimbursement model where up-front costs are paid by Local Government and reimbursed after the fact. Furthermore, policy constraints of the WANDRRA does not allow restoration of assets to factor in betterment with infrastructure and other assets being rebuilt to pre-existing standards which is a disincentive to include mitigation measures. WALGA is working with the Office of Emergency Management and the State Recovery Coordinator in the development and adoption of a new determination which is due for implementation mid-2018.

WALGA Preferred Supplier Panel

WALGA is currently investigating whether a Preferred Supplier Arrangement could be established to assist with the delivery of the hazardous waste management services in recovery. A survey undertaken as part of Milestone 2 for this project (due February 2018), will assist in determining how procurement is currently managed in emergency events.

6.0 Case Studies

Case Study 1: Yarloop 2016

In January 2016, large portions of the Yarloop township were destroyed by a bushfire. Two elderly men lost their lives and 181 properties were destroyed, including 166 homes. In line with the allowances provided by State Supply Commission policies for emergency situations, the Department of the Premier and Cabinet waived a public tender process. Toxfree Australia Pty Ltd was contracted to deliver demolition and hazardous waste remediation services, while Engtech Risk Consultants Pty Ltd was contracted to supply environmental services. Criticism was levelled at the former Government on a number of fronts over the clean-up of Yarloop. Both residents and Members of Parliament questioned:

- The lack of a selection criteria and tender process
- The quality of the work, and
- The likelihood that the State did not receive value for money.

As of October 2016, the estimated cost of demolition, waste removal and site remediation was approximately \$15 million - due to the discovery of asbestos and other contaminants at damaged properties. Approximately 60,000 tonnes of waste was removed and >200 properties remediated. Most of the work was completed within nine months. This was in addition to the \$26m spent by Western Power, \$1.5m by the Water Corporation and \$2.7m by Main Roads. The Shire of Waroona estimated that it spent \$150,000 alone on clearing debris from roads (Australian Broadcasting Corporation (2016), Parliament of Western Australia (2016abc)).

Case Study 2: Bundaberg Regional Council 2013 Cyclone, Tornadoes & Flood

Three consecutive natural disasters over the 2013 Australia Day long weekend left more than 4,500 Bundaberg premises flooded. To deal with the waste generated, three temporary transfer stations were established, where teams sorted the disaster waste—enabling it to be reused and recycled. Bundaberg Regional Council extracted mattresses, roofing and fencing metals, whitegoods, tyres, green waste, and gas bottles. At one point, 50 trucks were received per hour at the transfer stations. 65,000 tonnes of material was handled in a 4 week period. This is more material than the area would usually generate in a year. 42% of the waste was diverted from landfill. The efforts of the Council were acknowledged at the Minister's Award for Leadership at the Premier's Sustainability Awards (Department of Environment and Heritage Protection (2013), The Northern Star (June 2013)).

Case Study 3: Brisbane City Council 2010 Flood

Following the flood, two large temporary transfer stations were established by a contractor on behalf of Brisbane City Council. These transfer stations were located on either side of the City to reduce the impact of managing large volumes of material and the associated truck movements. A number of large businesses were impacted by the flood. This included a Bunnings store and a large pharmaceutical warehouse. To address the security concerns related to the warehouse, all waste materials were incinerated.

Case Study 4: Rockhampton Regional Council 2015 Cyclone

A temporary transfer station was established at the existing landfill to accommodate the Local Government's request for a vergeside collection. The clean-up lasted approximately 3 weeks, with the Council indicating it was one of the best clean-ups they had experienced (no complaints were received). There were no injuries or incidents for workers involved in managing the debris generated from this event.

Case Study 5: 100 year flood in Port Stephens for Port Stephens Council

The majority of the material generated in this event was greenwaste from falling trees. To manage this material, three temporary transfer stations were established, providing drop off facilities to the Council, Contractor and public over a 3 – 4 week period. Material collected at the temporary transfer stations was shredded and transported to the Hunter Valley for use in mine rehabilitation works.

Key Points From Case Studies 2-5:

(K. Tunstell. Suez (September 2017). Personal communication)

- **Where appropriate, establish temporary transfer stations:** This reduces the risk that existing facilities will be overwhelmed. It also allows trucks to be diverted from areas that cannot cope with high volumes of traffic. In Queensland, temporary transfer stations have previously been established at existing landfill sites
- **Required skillsets:** Staff with civil, industrial services and waste management experience are invaluable. In addition to technical skills, it is important that staff demonstrate empathy when communicating with affected parties. Staff should be over skilled for their roles (e.g. truck driver who has also been a manager), to ensure there is an understanding of the implications of their actions
- **Photograph material:** Photographs can form an important record of what material has been collected. When engaging contractors, request that photographic records are taken
- **Keep good records:** Sound record management is essential to securing financial assistance from the State and Federal Governments for eligible events
- **Reputable operators:** Where assistance is sought from private industry operators, it is vital that reputable operators are contracted to deliver services. When engaging contractors, check that controlled waste tracking systems are in place, in addition to the capacity and licence conditions of facilities where material will be processed and/or disposed. Questions can also be asked on the end use and market for any recovered material.

Case Study 6: Blue Mountains City Council 2013 Bushfire

In October 2013, a bushfire in the Blue Mountains burnt through more than 69,000 hectares of land. More than 200 homes were destroyed, with a further 134 homes damaged, 101 outbuildings lost and 463 properties suffering other losses. The Council did not have a plan in place to deal with this scale of event and the types of waste generated. It was two weeks before the fires were under control. Many of the staff tasked with waste management activities in recovery were also affected by the fires (Waste Management Review, 2016).

Response

While the fire was still underway, householders were actively clearing trees and greenwaste to reduce fuel loads, queuing for significant periods of time at the local transfer station to dispose of material. Unfortunately, this material was not eligible for reimbursement from the State. This matter was complicated by contractual issues with the site.

Recovery

The Blue Mountains Bushfire Recovery Committee worked with all stakeholders to develop an Emergency Waste Management Plan (EWMP). The plan had five guiding principles:

1. To minimise all risks to human health and the environment that may be associated with the clean-up, transport and disposal of wastes from fire affected properties
2. To manage the critical capacity constraints at Blaxland Landfill
3. To enable the clean-up of fire-affected properties to take place quickly, effectively and efficiently
4. To provide clear pathways for the management of different types of waste generated from clean-up operations
5. To minimise the administrative aspects of any clean-up works on the owners / occupiers of fire affected properties.

The EWMP set pathways for different types of waste that determined what waste facility materials were to be sent to. Namely, minor site clean-up waste from uncontaminated properties, bulk uncontaminated waste, asbestos contaminated waste, and non-asbestos hazardous waste.

The Blue Mountains City Council identified that 159 of the destroyed or damaged properties were built before 1990 and therefore likely to contain asbestos. To obtain this information, staff had to trawl through hundreds of property files. An asbestos management plan was developed and approved by the Environmental Protection Authority of NSW to manage the material from these properties. The plan allowed a designated truck to load, wet, cover and dispose of the asbestos – instead of the usual practice of wrapping all the asbestos prior to loading.

Every affected party had to register online to be eligible for exemptions from waste disposal costs and other financial benefits. It also meant the Council could directly communicate with those affected parties via email, phone and post. Information on property details, vehicle registration, waste type and the details of the person registering were recorded. The waste facilities accepting loads then uploaded information to a live database hosted on the Cloud on the date received, tonnes received and a reference number. All of the registered households received a simple 6 page pamphlet explaining this process.

Once the EWMP was adopted, within weeks it was implemented and waste diverted to nearby landfills. The State Government issued a Levy exemption for approximately 4 months. However, it took 12 months for all registered properties to be cleared, due to issues such as insurance delays or a change of decision on whether to demolish a property or not.

It was initially estimated that waste generated by the bushfire would be in the region of 45,000 tonnes. The final amount was approximately 38,000 tonnes, inclusive of asbestos containing material.

Key Points From Case Study 6:

(R. Tempest. Blue Mountains City Council (September 2017). Personal communication)

- Create an Emergency Waste Management Plan
- Consider traffic management issues for the site where people will be directed to dispose of material
- Consider what waste streams are likely to be generated and plan where they will go
- Quickly identify which properties have asbestos, as this effects management
- Have disaster planning discussions with neighbouring Local Governments and private waste facility operators to determine if they could provide support in recovery
- Establish a system where affected households register for assistance. This ensures the Local Government has up to date contact details and can directly engage
- Understand the constraints faced by employees personally affected by the emergency event.

Case Study 7: Emergency New South Wales - Disaster Assistance Guidelines

The NSW Government provides a diverse range of financial and non-financial assistance measures to support relief and recovery from disasters. Collectively, these measures are known as the NSW Disaster Assistance Arrangements, as described in the NSW Disaster Assistance Guidelines (Emergency New South Wales, 2015).

The NSW Disaster Assistance Guidelines (DAG) provides for immediate financial assistance of up to \$200K in extraordinary circumstances where asbestos containing material from multiple damaged residential properties presents an unacceptable risk to the health and safety of the public (Asbestos Safety and Eradication Agency, 2015). The NSW Asbestos Sub-Plan outlines the roles and responsibilities of all agencies and clearly articulates the triggers for activation of funding and state government involvement (Emergency New South Wales, 2014).

Case Study 8: Black Saturday Bushfires 2009

The February 2009 Black Saturday bushfires in Victoria resulted in the deaths of 173 people. The fires burnt over 430,000 hectares of land, destroying 2000 properties. A substantial review of the waste management activities that occurred in recovery is available from the Australian Journal of Emergency Management (2011, Volume 26). Of the many experiences and lessons captured in this review, it was identified that the development of a disaster waste management plan around decision points facilitates a flexible and transferable approach to debris management. For instance:

- what decisions will need to be made
- who should make the decision
- what information will be needed
- how the decision will be made
- how the decision will be communicated and implemented.

The process of working through the challenges associated with waste management activities before an event is invaluable. The plans should:

- Establish an organisational structure with roles and responsibilities, and decision-making delegation that fits within the overall recovery framework. This should include solid waste professionals and community representatives
- Determine a funding policy - for example a tiered approach based on disaster impact. Private property owner and government responsibilities should be well defined and the role of insurance included
- Establish maximum acceptable environmental and health and safety risks for different levels of disaster impact and methods of assessing those risks. Consider whether legal provisions need to be bounded to reflect these standards
- Establish strategies for the physical works, alongside the tiered funding strategy above. Consider state and local responses, property owner roles and responsibilities, contractor involvement and local labour use.

7.0 Considerations for Decision Making

Much of the physical infrastructure in a community is owned by Local Government. For example, storm water drainage, street lighting, local roads, footpaths, parks, playgrounds, recreation centres and community buildings. As such, Local Government will be responsible for the debris arising from, and/or debris potentially affecting Local Government infrastructure.

How Local Government undertakes recovery is largely dependent on local expectations and expertise, the scale of the event and available resources. Local Government can be faced with difficult choices on the level of assistance it can provide, and to what sectors of its community. Western Australia have endorsed the National Principles for Recovery (Community and Disability Services Ministers' Advisory Council, 2009) which identify that successful recovery relies on:

- understanding the context
- recognising complexity
- using community-led approaches
- ensuring coordination of all activities
- employing effective communication
- acknowledging and building capacity.

Considerations for decision making in recovery, include:

- **Event:** What type of event has occurred? Was it natural disaster? How wide spread was the event?
- **Community priorities:** What are the community's priorities for recovery? Do they want the local parks cleared or local roads?
- **Type of waste generated:** What are the main types of waste that have been generated? Do these wastes present a health hazard? For example, asbestos or putrescible material that could attract vermin.
- **Population:** How much of the population has been affected by the event? Are those assisting with recovery personally affected?
- **Expertise:** What local expertise can assist with recovery? For example, can your Environmental Health Officer identify asbestos, or is additional assistance required to identify hazards? What local contractors have capacity to assist with clean-up activities?
- **Infrastructure:** What local waste management infrastructure is available? For example, solid waste facilities, depots and landfills. What is the capacity and licence conditions of these facilities?
- **Equipment:** What equipment does your Local Government have that could be used to manage waste in recovery? For example, road building equipment could be used to clear roads and facilitate access to properties.
- **Funding:**
 - *Small scale events:* Based on community priorities, what activities can the Local Government fund in both the short and long term? Has the Mayor/President authorised unbudgeted expenditure?
 - *Proclaimed natural disaster events:* Does the Local Government have the capacity to pay the upfront costs associated with waste management activities? Do local record management initiatives align with WANDRRA requirements?

8.0 Communication and Engagement Approaches

Planning and ongoing communication

In high risk areas, it is important to provide ongoing resources to residents. The majority of Local Governments in WA with a bushfire risk have information on their websites and provide advice to residents on how to address this risk. The [Bundaberg Regional Council website](#) has a range of resources that residents can access, on how to deal with different natural disasters. These resources are provided in a number of ways, including short videos and eye catching graphics (Bundaberg Regional Council, 2017).

Social media and online updates

Social media is increasingly used by the community to seek updates and keep track of emergency events. The community is already using forums such as Facebook to exchange information. There is an increasing expectation that ongoing updates are provided, as new information becomes available and/or a situation remains unchanged. Social media provides an opportunity to provide updates to the community on waste management considerations in recovery. For example, details of local transfer stations that are accepting green waste.

Some considerations include:

- Determine which platform will be used to distribute information. Keep the community informed of the approach that will be taken
- Allocate resources to updating, monitoring and responding on this platform
- Update the chosen platform immediately when new information becomes available or to identify that the situation has not changed
- Monitor and respond where possible.

Communication during recovery

Regardless of who leads recovery, research suggests that the best outcomes are achieved by:

- Establishing systems where affected parties have to register their property to obtain assistance with clean up. This means waste can be tracked from the source to end point and hazards such as asbestos managed effectively. This approach also provides an opportunity to identify if properties are insured and who is responsible for clean-up costs. If the owner cannot be located, then the Local Government will have to make a decision if access to the property and the commencement of works will be pursued through the 'business as usual' legislative framework
- Directly engage affected residents to explain issues. For example, unsupervised entry to a property cannot occur whilst hazards are unsecured
- Seeking feedback on local recovery and reuse opportunities. For example, does the clean-up of non-hazardous materials present any opportunities to generate local employment? Can recovered materials such as green waste be used in rebuilding efforts?

9.0 Recommendations

Recommendations – Legislative framework

The legislative framework for managing waste in emergency situations is complex, with various Acts providing heads of power or regulatory requirements for prevention, response and recovery.

Short term

- Clarification is required on how the emergency powers of entry provided in the *Local Government Act 1995* align with the different stages of an emergency identified in the *Emergency Management Act 2005* (prevention – preparedness – response – recovery)
- It is requested that the Office of Emergency Management provides copies of endorsed Local Emergency Management Arrangements to WALGA, so that an assessment of current waste management considerations can occur.

Long term

- Consideration must be given as to how Local Government can be given powers that enable recovery. For example, through amendments to the *Public Health Act 2016*.

Recommendations - Capacity of Local Government

For Local Government officers to use the legislative tools that are currently available, certain skills are required. Local Government officers could potentially be authorised under the *Environmental Protection Act 1986*, but would require training and support.

Short term

- Investigate opportunities to undertake training and capacity development for Local Government officers in relation to the *Environmental Protection Act 1986*.

Recommendations – Resources for hazard identification

Ideally, all Local Governments would be able to assess and/or model likely wastes generated from emergency events within their boundaries. However, it will take time and resources to develop appropriate tools.

Short term

- Increase Local Government awareness of existing datasets that can be used in planning and response to identify waste types and volumes. For example, datasets on the age and type of infrastructure could provide information on likely asbestos content.

Long term

- Investigate if the National Exposure Information System (NEXIS) dataset contains sufficient information to inform Local Government emergency management planning
- Determine what modifications to the Green Industries SA waste calculator (under development) are required for it to be applied in Western Australia.

10.0 References

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