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Alberta Municipalities Managing Natural Disasters

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Natural hazards and natural disasters

Natural hazards exist and have the potential to significantly affect Canadians wherever we live. A short list of common natural hazards is provided below. The federal government explains that while natural hazards exist everywhere across the country, 'disasters' occur when a natural hazard causes significant harm to vulnerable communities who may need financial and other support.¹ In this context, the federal government defines a 'disaster' as:

a social phenomenon that results when a hazard intersects with a vulnerable community in a way that exceeds or overwhelms the community's ability to cope and may cause serious harm to the safety, health, welfare, property or environment of people; may be triggered by a naturally occurring phenomenon which has its origins within the geophysical or biological environment or by human action or error, whether malicious or

unintentional, including technological failures, accidents and terrorist acts.²

Many of the natural disasters that have occurred in Canada over the past 10 years have been associated with extreme weather events, and many of these have occurred in Alberta.³

- **Avalanches**
- **Droughts**
- **Earthquakes**
- **Floods**
- **Icebergs, sea ice and fog**
- **Ice and hail storms**
- **Landslides**
- **Pests such as (grasshoppers, beetles and budworm)**
- **Power outages**
- **Severe storms**
- **Tornadoes**
- **Tsunamis**
- **Wildfires**
- **Volcanic eruptions**
- **Pandemic influenza⁴**

First Response – The Municipality

In an emergency, the first response is almost always by the local authorities or at the provincial or territorial level because disasters occur most often locally. Should a provincial or territorial government require resources beyond their capacity to cope in an emergency or disaster, the federal government responds rapidly to any request for assistance by a provincial or territorial government.

Public Safety Canada, *An Emergency Management Framework for Canada*, (3rd ed.) (2017)/

Every Albertan, whether he or she is a member of civil society or of a local government has a role to play in preparing for natural disasters and managing the impacts on lives and livelihoods. Certainly, the insurance industry is involved and keeps a close eye on the rising costs of insuring our homes, property and businesses.⁵ However, the purpose of this paper is to describe current legislation and regulations that affect municipal management of natural disasters in Alberta.

Canada's Emergency Management Legislation and Framework

The Canadian Department of Public Safety and Emergency Preparedness was created in 2005 pursuant to the *Department of Public Safety and Emergency Preparedness Act*.⁶ Public Safety Canada is responsible for administration of the federal *Emergency Management Act* (Federal EMA).⁷ The federal legislation was first enacted in 2007 and is regularly amended.

Pursuant to the Federal EMA, Public Safety Canada “is responsible for exercising leadership relating to emergency management in Canada by coordinating, among government institutions and in cooperation with the provinces and other entities, emergency management activities.”⁸ All provincial emergency management legislation must be consistent with the Federal EMA.

An *Emergency Management Framework for Canada* (Federal EMF)⁹ illustrates Canada's national natural disaster governance structure pursuant to the Federal EMA. The Federal EMF was developed by Public Safety Canada in collaboration with provincial and territorial government, academia, national associations and non-governmental organizations. The intent is ‘to strengthen national emergency preparedness including planning, training, exercises, and sharing lessons learned’ to make ‘Canadian communities safe and resilient.’¹⁰ The Federal EMF recognizes the key role municipalities play when a local state of emergency is declared due to a natural disaster, such as a wildfire or a flood.¹¹

Canada Incident Command System (Canada ICS)¹²

In the mid-1990, the Province of British Columbia was the first Canadian province to adopt the concept of an ‘incident command system’ that was first developed in California to fight wildfires. In 2002, the Canadian Interagency Forest Fire Centre (CIFFC) introduced the CIFFC ICS Canadian Version doctrine and a complete set of training materials for the wildland fire community across Canada.¹³

The Canada Incident Command System (Canada ICS) emerged as ‘a standardized on-site management system designed to enable effective, efficient incident

management by integrating a combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure. The Canada ICS is used to manage an incident or a non-emergency event and can be used equally well for both small and large situations.¹⁴

Through collaboration with Parks Canada and several other emergency management agencies, in Canada, including the Alberta Emergency Management Agency (AEMA),¹⁵ the Canada ICS continues to evolve.

Primary federal responsibilities for emergency management within Alberta

- Primary responsibility for oversight and funding of emergency management for First Nations across Canada;
- Assistance in the event of an emergency in accordance with federal, provincial, and territorial agreements or following receipt and approval of a 'Request for Assistance' from the responsible government minister; and
- Provision of agency representatives and alternates as requested during response.¹⁶

Alberta's Emergency Management System Consistent with the Federal EMA

A 'disaster' is defined in the *Alberta Emergency Management Act* (Provincial EMA)¹⁷ as 'an event that results in serious harm to the safety, health or welfare of people or in widespread damage to property or the environment' An 'emergency' "means an event that requires prompt co ordination of action or special regulation of persons or property to protect the safety, health or welfare of people or to limit damage to property or the environment."¹⁸

The Alberta government is bound by the Provincial EMA. Under the oversight of the AEMA, the Department of Municipal Affairs (MA) administers the legislation with respect to municipalities, or the Department of Alberta Environment and Protected Areas (AEPA) with respect to the arid public lands in 'Special Areas'¹⁹ in southeastern Alberta. The Ministry of MA ensures that municipal councils are prepared for local natural disasters and associated emergencies. The role of municipal 'emergency response' is explained through section 11 of Provincial EMA, as follows:

Municipal Emergency Organizations

11.A local authority

- (a) shall, at all times, be responsible for the direction and control of the local authority's emergency response unless section 19(5.1) applies or except to the extent provided in an order made under section 24(1.01) or (1.011);
- (b) shall approve emergency plans and programs, subject to the regulations;
- (c) may enter into agreements with and make payments or grants, or both, to persons or organizations for the provision of services in the development or implementation of emergency plans or programs.

Section 11 of the Provincial EMA has been amended regularly since enacted, most recently in 2024. The *Local Authorities Emergency Management Regulation* (LAEMR)²⁰ (first enacted in 2018) further regulates municipal emergency management planning and emergency response.

Sections 11.1 and 11.2 of the Provincial EMA require municipal councils to appoint by bylaw, and pay the expenses of, a local 'emergency advisory committee,' and a local emergency management agency, as follows:

11.1 Emergency advisory committee

- (1)A local authority shall appoint, subject to the regulations, an emergency advisory committee consisting of a member or members of the local authority or, in the case of an improvement district, a special area or a national park, a person or persons the local authority designates, to advise on the development of emergency plans and programs, and to exercise

any powers delegated to the committee under section 11.3(1)(a).

(2) The local authority shall provide for the payment of expenses of the members of the committee.²¹

11.2 Emergency management agency

(1) A local authority shall establish and maintain, subject to the regulations, an emergency management agency to act as the agent of the local authority in exercising the local authority's powers and duties under this Act. (2) There shall be a director of the emergency management agency, who shall

- (a) prepare and co-ordinate emergency plans and programs for the municipality,
- (b) act as director of emergency operations on behalf of the emergency management agency,
- (c) co-ordinate all emergency services and other resources used in an emergency, and
- (d) perform other duties as prescribed by the local authority.

(3) A local authority, except an improvement district, special area, national park or Indian reserve, may by bylaw that is not advertised borrow, levy, appropriate and expend all sums required for the operation of the emergency management agency.

(4) For greater certainty, an emergency management agency may be maintained by and may act as the agent of more than one local authority.²²

The Alberta Emergency Management Agency

Emergency management in Alberta is a shared responsibility. The Lieutenant Governor in Council may appoint a committee consisting of members of the Executive Council whom the Lieutenant Governor in Council designates to advise on matters relating to emergencies and disasters.²³

Emergency management responsibilities within the provincial government are delegated across departments. However, pursuant to the *Government Emergency Management Regulation* (GEMR),²⁴ the AEMA 'is responsible for development, implementation, management, and

maintenance of Alberta's emergency management system.'²⁵

Figure 1 below illustrates the governance structure of Alberta's emergency management system consistent with the Federal EMA. Note that emergencies on arid private lands in the designated 'special areas' in southeastern Alberta are managed by the Special Areas Board under the administration of the Minister of MA pursuant to the *Special Areas Act*.²⁶ However, emergencies on public lands in the Special Areas are managed by the public lands branch of Alberta Environment and Protected Areas.

Figure 1: Alberta's Emergency Management System Consistent with the Federal EMA.



Source: This schematic was prepared by Judy Stewart for Mary Ellen Tyler, 2023 and does not include reference to the Canada ICS or the Alberta Incident Management System that emerged from the amended legislation and regulations in 2024. Figure 1 illustrates how municipal emergency management plans direct how first responders and other emergency management personnel will hit the ground running if a natural disaster occurs. In the immediate emergency response sequence, emergency services engage in search and rescue, provide humanitarian aid, and assess damage to property while maintaining public health and safety.

Alberta municipalities are assisted with mitigating, responding to, and recovering from natural disasters by the AEMA²⁷ under the authority of the Provincial EMA, and the *Local Authorities Emergency Management Regulation* (LAEMR).²⁸ The responsibilities of the AEMA are set out in the *Government Emergency Management Regulation*.²⁹

The 'Managing Director' of the AEMA is appointed by the Minister of MA.³⁰ As well, the Minister of MA may appoint committees as the Minister considers necessary or desirable to advise or assist the Minister, the Cabinet Committee or the Managing Director.³¹

Municipal emergency management plans

Every Alberta municipality must have an emergency management plan (EMP) in place and must report to the Minister on emergency preparedness matters as required.³² As a result, most municipalities have publicly accessible EMPs on their official websites to help their businesses and citizens prepare for natural disasters and other emergencies.³³

While every municipality must have a plan, not all plans are the same because they reflect unique landscapes, budgets, personnel and known risks faced by each municipality.

In their article "Natural Disasters,"³⁴ Alberta researchers Prasad and Francescutti discussed the critical connection between managing for and during natural disasters and maintaining public health and safety throughout the event. They point out that planned emergency responses are critical to protecting human life and property, but even the best emergency response programs can be overwhelmed during the first few hours of a natural disaster. The importance of emergency management plans is stressed:

"There is no gold standard method for managing a natural disaster. Total prevention of all disasters is not possible; however, the goal of management strategists following a disaster is to help as many people as possible using the resources available. Learning from past experiences, as well as learning from other communities is imperative in reducing the impact of future disasters."³⁵ The authors stress the need for municipal governments to understand the iterative nature of natural disasters to monitor, prepare and adapt.

According to section 4 of the LAEMR,³⁶ every local EMP must include the following:

Emergency plan requirements

4 A local authority's emergency plan must include

- (a) a description of the administration of the local authority's emergency management program,
- (b) the procedures for implementing the emergency plan during an emergency or exercise response,
- (c) the local authority's plan for preparedness, response and recovery activities,
- (d) a hazard and risk assessment,
- (e) emergency management program exercises that the local authority will engage in,
- (f) the local authority emergency management agency's plan for regular review and maintenance of the local authority's emergency plan,
- (g) the local authority emergency management agency's plan for the review and maintenance of the local authority's emergency plan after an exercise, emergency or disaster,
- (h) how the command, control and coordination system prescribed by section 3(3) will be used by the local authority's emergency management agency,
- (i) the assignment of responsibilities to local authority employees and elected officials, by position, respecting the implementation of the local authority's emergency plan,
- (j) a training plan for staff assigned with responsibilities under the local authority's emergency plan,
- (k) the mechanisms that will be used to prepare and maintain an emergency management staff contact list for Section 5 employees and elected officials who have been assigned responsibilities respecting the

- implementation of the local authority's emergency plan,
- (l) the local authority's plan for communications, public alerts and notifications during exercises, emergencies and disasters, and
- (m) the local authority's plan for providing emergency social services during an emergency or disaster.³⁷

An example of a recently revised municipal EMP is the City of St Albert's EMP (2017) that was significantly amended in 2022. The purpose and intent of the revised plan is provided, as follows:

Purpose and Scope

The purpose of the municipal Emergency Management Plan is to provide guidance on emergency operations, organizational structure, roles and responsibilities and the coordination of resources necessary to execute the effective management of emergencies that are outside the scope of normal operations in the City of St. Albert. This plan, with its supporting documents, was developed as an all-hazard plan to address incidents that may cause damage of sufficient severity and magnitude to warrant execution of all or part of this Plan.

This plan is intended to:

- Provide for prompt coordination of the City's resources when the consequences of an emergency or disaster and subsequent recovery are outside the scope of normal operations.
- Outline legislated and delegated authorities during an emergency;
- Document the roles and responsibilities of internal, external and support agencies during all phases of an emergency;
- Detail how the municipal Emergency Management Plan will be enacted and maintained.

The municipal Emergency Management Plan applies to members of the Local Authority, the Emergency Management Agency and any contractors and/or sub-contractors authorized by the Emergency Management Agency.³⁸

A smaller urban municipality that is thinking of revising their own EMP may want to review St. Albert's EMP for its structure and content. All major cities in Alberta have very comprehensive EMPs that are also worth reviewing.

Model Emergency Plan for Municipalities

The Province has created a 'Model Emergency Plan outline for Municipalities', as follows:

The Community Emergency Management Program (CEMP) is an on-line tool, which provides communities access to 4 essential emergency management modules:

- Community Self-Assessment
- Community Risk Assessment
- Community Emergency Management Plan
- Document Library

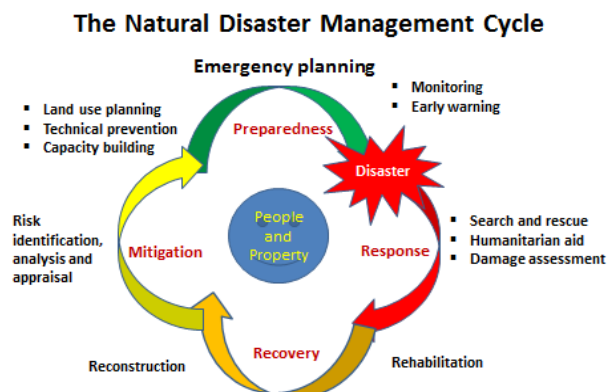
These modules assist in developing, implementing and revising emergency management plans using a standardized format. CEMP assists with coordinating emergency management and recovery through regional efforts.

Alberta communities are encouraged to share emergency management plans and risk assessments, which allows AEMA to collect specific hazard identification and risk assessment data across the province.³⁹

A typical municipal natural disaster management cycle

Figure 2 below is a mock-up of a 'disaster management cycle' found in an article by Poser and Dransch,⁴⁰ where those authors present a modified illustration of the phases of the disaster management cycle and examples of related activities originally illustrated by Thielen et al.⁴¹

Figure 2: A typical municipal natural disaster management cycle⁴²



Source: Prepared by Judy Stewart for Dr. Mary Ellen Tyler in 2023

Canada ICS and AIMS

In 2009 AEMA reviewed the need to provide a single all-hazard command and control system that would meet their long term provincial emergency management needs,⁴³ and worked with Canada ICS to develop and utilize standardized approaches. In 2024, the Provincial EMA was amended, and the LAEMR (2018) was revised. The amendments introduced the Alberta Incident Management System (AIMS). AIMS command, control, and coordination system is mandated by the Canada ICS and supports AIMS.⁴⁴

The Canada Disaster Database

Canada Public Safety manages the Canadian Disaster Database (CDD).⁴⁵ All historical and recent natural disasters that have happened in Alberta since 1903 can be reviewed through the CDD in a data set dedicated to Alberta and the Prairie Provinces.

Not all disasters provided in the database for Alberta and the Prairie Provinces have been

natural disasters – some were human caused, such as industrial explosions and gas leaks. However, all major severe weather events that resulted in natural disasters and resultant declarations of local state emergency due to extensive property damage or injury or loss of life are listed as disasters in the CDD.

Concluding remarks

Alberta's weather patterns continue to change, and severe weather events continue to pose potential natural disasters. All municipalities might want to ensure that their EMPs are reviewed and updated to reflect the complex legislative regime that has emerged in Canada and the province since the turn of the century. This paper is meant as a brief glimpse into the complex national and provincial systems.

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