Regional Municipality of Wood Buffalo

Lessons Learned and Recommendations from the 2016 Horse River Wildfire

July 27, 2017 Final Report
Disclaimer

KPMG LLP (KPMG) has been engaged by the Regional Municipality of Wood Buffalo (RMWB or the Client) to develop a Report of the RMWB’s prevention & mitigation, preparedness, response, and recovery activities as they relate specifically to the May 2016 Horse River Wildfire pursuant to the terms of an engagement agreement with the RMWB dated May 5, 2017 (the Engagement Agreement). KPMG neither warrants nor represents that the information contained in this Report is accurate, complete, sufficient, or appropriate for use by any person or entity other than the Client or for any purpose other than set out in the Engagement Agreement. This Report may not be relied upon by any person or entity other than Client, and KPMG hereby expressly disclaims any and all responsibility or liability to any person or entity other than the Client in connection with their use of this Report.

KPMG’s role in this Post-Incident Assessment was to: outline certain matters that came to our attention during engagement with stakeholders and document reviews; and offer our comments and recommendations for the RMWB’s consideration. These comments, by their nature, largely relate to opportunities for change or enhancement and do not fully capture the many strong features of the RMWB’s current activities and undertakings, nor those of participating stakeholders.

Our assessment approach consisted solely of inquiry, survey, observation, comparison and analysis of participant-provided information. KPMG relied on the completeness and accuracy of the information provided.

Through normal RMWB processes, the RMWB will be responsible for the:

- Assessment of observations and findings
- The decision to implement any recommendations, and
- Consideration of impacts that may result from the implementation of recommendations.

Implementation will require the RMWB to plan and evaluate any changes to make sure that satisfactory results are realized.
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Executive Summary

Acknowledgment

This report is based on the knowledge, experience, and insights of those involved in the May 2016 Horse River Wildfire. KPMG would like to thank all of the stakeholders who provided input into this report for their openness and commitment to continuous improvement. This report is a testament to the countless individuals that demonstrated remarkable resourcefulness, compassion, and resilience in response to this devastating event.

Introduction

The Regional Municipality of Wood Buffalo (RMWB), its communities and residents are no strangers to wildfires in their region. In 1995, residents of Conklin and Janvier were evacuated to Fort McMurray when a forest fire in the Marianna Lake area threatened their communities. Highway 63 was closed for several days due to this fire. Then in 2002, the House River fire resulted in periodic closures of Highway 63 over several days. A State of Local Emergency was declared in Conklin, and residents and several industry camps were evacuated to Fort McMurray.

While neither of these incidents were the same scale or complexity as the May 2016 Horse River Wildfire (the Wildfire), they, along with others provided the RMWB with the opportunity to enhance the maturity of its emergency management capabilities and its understanding and planning for disaster risks.

Municipal governments play a critical role in emergency management. Municipal staff are often the first to respond to emergencies—which means that they require plans and resources in place to respond effectively to emergencies within their communities. While the federal and provincial governments are involved in emergency planning, the operational activities that address emergencies and the impacts that they create are addressed locally.

This report is not about blame or liability. It is about assessing the RMWB’s continued efforts to enhance emergency management capabilities, to identify successful lessons learned and to capture recommendations emerging from this lessons learned review of the May 2016 Horse River Wildfire. The report is intended to assist the RMWB, its emergency management partners, and other municipalities who may learn from the RMWB’s experience to be better prepared for future emergency events.
Background to the Horse River Wildfire

The Horse River Wildfire (Wildfire) was first spotted on the afternoon of May 1, 2016. At this time it was approximately two hectares in size, and seven kilometres from the Urban Service Area of Fort McMurray. Previous wildfire hazard conditions in Northern Alberta were severe, due to extremely dry conditions the previous summer, low moisture over the winter and dry, warm conditions in the early spring.

The Wildfire demonstrated extreme behaviour and due to high winds shifted toward the RMWB’s communities on May 3. As a result, almost 88,000 people were evacuated. While no loss of life occurred as a result of the Wildfire, during the evacuation two young lives were tragically lost on Highway 881 in a motor vehicle accident.

The Wildfire grew rapidly from 101,000 hectares on May 5 to over 589,000 hectares by June 10. By the middle of June, the Wildfire was under control and the community began to shift its efforts to begin the lengthy recovery from the disaster that had affected them.

The community lost 1,595 buildings and structures, containing 2,579 dwelling units according to the RMWB Geographic Information Systems data updated as of June 1.

The Insurance Bureau of Canada has reported that the Wildfire was by far the costliest insured natural disaster in Canadian history, at an estimated $3.6 billion in insured property damage. Further estimates of the total impact of the Wildfire (including reduced oil sands revenue, losses to public infrastructure and private property, impact on the environment, and to the physical and mental health of residents and first responders) are currently estimated at almost $8.9 billion.

Lessons Learned

Lessons are knowledge or understanding gained by experience. When they are identified it is as an area for improvement or action to be sustained, while when they are learned, they have been implemented and embedded within the organization.

During the Wildfire, both lessons identified and lessons learned were observed. Lessons identified are described throughout the findings, and lead to a subsequent recommendation to strengthen the emergency management practices of the RMWB. Lessons learned, as described below, indicate the positive actions and experiences that were observed during the response to and recovery from the Wildfire, and reflect changes that have been made since the Wildfire to better prevent, mitigate and prepare for future disasters.
While the main body of the report contains additional items, the following lessons learned are worthy of note:

‒ Three year planning for FireSmart within the RMWB indicates that activities are set to begin in 2017 and will total $14 million (including $10.5 million from the Government of Alberta and $3.853 million from the Canadian Red Cross). These activities will take place across the RMWB and enhance the program across all seven disciplines of FireSmart (education, vegetation management, legislation and planning, development considerations, interagency cooperation, emergency planning and cross training). Program enhancements will include the adoption of the Alberta First Responder Radio Communications System by the RMWB and select partners in emergency management.

‒ The RMWB’s Municipal Emergency Management Plan is more robust than the guidelines provided through the provincial Community Emergency Management Plan, and has started to meet some aspects of the Canadian Standards Association’s Z1600-14 Emergency and Continuity Management Program.

‒ Since the Wildfire, some changes to governance structures for emergency management have occurred, including changes to reporting lines of the Fire Chief directly to the Chief Administrative Officer.

‒ The RMWB has an established Training and Exercising Plan for emergency management. In alignment with this Plan, the RMWB completed the Boreal BLAST full scale exercise in 2016, prior to the Wildfire, including the completion of an After Action Report noting areas for improvement, timelines and assigning responsibility for completion of action items.

‒ The Regional Emergency Operations Centre was activated and functioned according to plan on May 1 and 2. Key positions were filled, and the safety of residents was maintained as the threat of the Wildfire approached the community.

‒ While timeliness of the May 3 mandatory evacuation was an issue, a positive evacuation outcome was achieved through the evacuation of over 88,000 residents. The evacuation included the successful use of contraflow lanes to evacuate the community.

‒ Since the Wildfire, there has been a focus on relationship building and collaboration to maintain effective working relationships between the RMWB, Alberta Agriculture and Forestry, and other key stakeholders to promote effective integration of incident command when the need arises.

‒ The RMWB’s 2016 Wildfire Recovery Plan was built on a robust recovery framework that drew from several leading practices and encouraged building community resilience and building back
better. Recovery activities that supported this Plan have been included in Appendix F as a reference for other municipalities for recovery following a disaster.

– The Rapid Damage Assessment tool and process was an efficient and effective means to assess damaged properties and communicate to residents the extent of damage before they returned to the community.

– The RMWB recently completed enhancements to its Municipal Emergency Management Program (including updates to the Framework through the Municipal Emergency Management Program Overview prepared in May 2017). Additional focus was placed on activities that will contribute to increased disaster resilience.

Recommendations

KPMG used a formal evaluation framework to conduct this lessons learned review. The framework is based on recognized emergency management, response, and recovery standards (additional details can be found on page 13). The framework, as depicted below, reflects an all hazards approach to emergency management and can be used for lessons learned reviews and post-incident assessments at the program, phase, and process level.
To analyze the timeliness, processes and effectiveness of municipal emergency management relative to the Wildfire, each of the scope items was mapped and analyzed as per the diagram below. This framework enabled a systematic approach to identifying lessons learned, lessons identified and recommendations for the RMWB to consider on a go-forward basis.

Specific recommendations arising from this review included:

**Prevention & Mitigation**

Enhance support for disaster risk management

While the RMWB has undertaken some disaster risk management actions, increased support for, and focus on, an overall disaster risk management approach from RMWB Administration leadership, as well as Mayor and Council, would contribute to its enhanced readiness for a future disaster. The RMWB should establish a formal and robust disaster risk management approach, which includes the necessary strategies, plans, resources and funding to address the prevention and mitigation of disaster risks.
Preparedness

**Review the RMWB’s emergency management governance model and documentation**

The RMWB should formally review all of its relevant emergency management governing documentation, including the Emergency Management Bylaw 09/036, ADM-240 Administrative Procedure: Emergency Management Program, and Alberta’s *Emergency Management Act* to confirm alignment between municipal governance and provincial legislation, and to provide clear decision making authorities within the RMWB under a State of Local Emergency. This would also include reviewing the role of the Director of Emergency Management and the placement of this within the municipal organizational chart.

**Enhance the RMWB’s Municipal Emergency Management Plan and refresh it annually**

The needs and challenges of all RMWB communities (e.g. Urban Service Area, Rural Communities, and Indigenous Communities) should be reflected in the MEMP, or if more appropriate, the RMWB should consider developing community-specific plans as supplements to the MEMP. This would also include socializing the MEMP with relevant emergency management partners and conducting ongoing annual review of the MEMP to help address any changes in the RMWB’s environment or municipal structures.

**Request to realign forest area boundaries with the RMWB’s boundaries**

The RMWB should request a change to the Alberta Agriculture and Forestry forest area boundaries to align with the RMWB’s municipal boundaries.

**Develop a Recovery Plan as a component of the Municipal Emergency Management Plan**

The RMWB should create a Recovery Plan as a component of its MEMP which would outline the key components of the Recovery Framework established during the Wildfire as a template for use in future disaster events.

**Enhance emergency management training and exercise requirements**

The RMWB’s Training and Exercise Plans provide a strong foundation for improvements to disaster planning and preparedness. To enhance these, training requirements should be increased to include ICS 300 and 400 for all key leadership positions in the Regional Emergency Operations Centre to prepare staff to fulfill their emergency management roles. Exercises should focus on developing the appropriate competencies for staff in their emergency management roles.
Enhance and update existing Business Continuity Plans

In alignment with the CSA Z1600-14 Standard and Sendai Framework, the RMWB should maintain and update their existing Business Continuity Plans with current operational processes and organizational structures. Regular updates are important because they capture organizational and process changes, and provide an opportunity for the RMWB to incorporate leading practices that were identified since the last update. This should also include trauma mitigation plans for emergencies and disasters to minimize the impacts to staff during an incident, and provide trauma supports for staff during and for up to six months after an incident.

Formalize existing Business Continuity Plans as part of standard operating procedures during emergencies and disasters

The RMWB should establish a designated individual or group whose role it is to create, maintain, and update its Business Continuity Plans. This also includes maintaining staff awareness around the Business Continuity Plans, including awareness of their purpose and their practical implication for departments and individuals. Familiarizing staff with existing Business Continuity Plans will help integrate them into emergency or disaster responses.

Response

Enhance Use of the Incident Command System during Response to support implementation of appropriate emergency management protocols

The Incident Command System should be more actively used during response to ensure that the Regional Emergency Operations Centre and emergency management partners can achieve Unified Command (when needed) to promote common situational awareness, a common operating picture and common operating plans. Positions within the Regional Emergency Operations Centre, based on the model of an Incident Command System, should be clearly assigned to municipal staff. Each position should be assigned to a primary designate, as well as two or three backup individuals to allow for appropriate relief and replacement.
Enhance the RMWB Evacuation Plan

The RMWB should enhance its existing Evacuation Plan to include pre-planning considerations, be reflective of all communities, include a more robust decision matrix, triggers for effective communication to the community, and scheduled testing. In alignment with the ICS Canada, the Regional Emergency Operations Centre should designate a role to focus specifically on monitoring the need for, and execution of, an evacuation. The Evacuation Plan should also anticipate the need for coordinated communications strategies between the RMWB and its emergency partners to allow critical information to be disseminated in a timely manner to the public.

Formalize the Pet Rescue Program

Based on the success of the Pet Rescue Program, formalize the program and incorporate activities into the emergency management plan. The program should include guidelines, a list of partner volunteer groups, and a communications plan. This will better position the program for rapid execution during an emergency and support continuous program improvement.

Recovery

Begin recovery planning and activities as early as possible following a disaster

Recovery means bringing the community back to its pre-disaster state. Recovery should start as early as possible in order minimize the impact to a region and residents. This means making decisions quickly about what recovery governance and operational structure should be adopted and implemented, while the response is still occurring. This can be facilitated by the RMWB developing Recovery Plans and templates and framework that can guide decision-making to facilitate a speedy recovery even as an emergency or disaster is happening.
Assess and account for trade-offs associated with different recovery governance and organization structures

In line with the above recommendation, municipalities must decide early on whether or not to create designated recovery governance and organization structures, and potential staffing. Municipalities must recognize the inherent trade-offs involved with selecting one model over another, including any implications for potential Disaster Recovery Program funding from the Government of Alberta. This includes balancing the need to focus on recovery separate from municipal operations; determining the speed, depth and quality required for each of the recovery activities; and leveraging the right internal knowledge while supplementing this with external expertise.

Resiliency

Develop a community resiliency strategy

A community resiliency strategy is particularly relevant to the RMWB given the economic challenges in place prior to the Wildfire. The strategy should consider social, economic, and environmental factors, including mitigating risks of future events.

The strategy should initially focus on the psychosocial, economic, and other ongoing needs of the community, due to the Wildfire and in preparation for the next significant event (natural disaster, economic downturn, or otherwise) that could impact the RMWB.

It should also support the ongoing prioritization of strategies, plans and activities to be taken by the RMWB in support of the longer-term resiliency of the community.

Looking Forward

The Wildfire had a significant impact on the community and on the RMWB as an organization. The RMWB is committed to ‘building back better’, with a continued focus on residents’ physical and mental wellbeing; a renewed emphasis on the safety and accessibility of the surrounding forest; and stimulation of economic growth and diversification. The RMWB has embraced the philosophy of resilience and is actively working to enhance community health and safety through collaboration, commitment and leadership.
Introduction

The Regional Municipality of Wood Buffalo (RMWB), located in the northern boreal forest, is distinct in Alberta. It is comprised of a large urban service area (Fort McMurray) and nine hamlets, including five First Nations communities. Prior to the May 2016 Horse River Wildfire, the RMWB was home to more than 81,000 residents and a shadow population of more than 43,000 from industry operations within the area.

The RMWB, its communities and residents are no strangers to wildfires in their region. In 1995, residents of Conklin and Janvier were evacuated to Fort McMurray when a forest fire in the Mariana Lake area threatened their communities. Highway 63 was closed for several days due to this fire. Then in 2002, the House River fire resulted in periodic closures of Highway 63 over several days. A State of Local Emergency was declared in Conklin, and residents and several industry camps were evacuated to Fort McMurray.

While neither of these incidents were the same scale or complexity as the May 2016 Horse River Wildfire, they, along with others provided the RMWB with the opportunity to enhance the maturity of its emergency management capabilities and its understanding and planning for disaster risks.

Municipal governments play a critical role in emergency management. Municipal staff are often the first to respond to emergencies—which means that they require plans and resources in place to respond effectively to emergencies within their communities. While the federal and provincial governments are involved in emergency planning, the operational activities that address emergencies and the impacts that they create are addressed locally.

May 2016 Horse River Wildfire

The Horse River Wildfire (Wildfire) was first spotted on the afternoon of May 1, 2016. At this time it was approximately two hectares in size, and seven kilometres from the Urban Service Area of Fort McMurray. Previous wildfire hazard conditions in Northern Alberta were severe, due to extremely dry conditions the previous summer, low moisture over the winter and dry, warm conditions in the early spring.

The Wildfire demonstrated extreme behaviour and due to high winds shifted toward the RMWB’s communities on May 3. As a result, almost 88,000 people were evacuated. While no loss of life

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1 As of May 2017, the population was estimated by the RMWB, in collaboration with the Oil Sands Community Alliance, to be between 75,600 and 77,600 residents.
occurred as a result of the Wildfire, during the evacuation two young lives were tragically lost on Highway 881 in a motor vehicle accident.

The Wildfire grew rapidly from 101,000 hectares on May 5 to over 589,000 hectares by June 10. By the middle of June, the Wildfire was under control and the community began to shift its efforts to begin the lengthy recovery from the disaster that had affected them.

The community lost 1,595 buildings and structures, containing 2,579 dwelling units according to the RMWB Geographic Information Systems data updated as of June 1.

The Insurance Bureau of Canada has reported that the Wildfire was by far the costliest insured natural disaster in Canadian history, at an estimated $3.6 billion in insured property damage. Further estimates of the total impact of the Wildfire (including reduced oil sands revenue, losses to public infrastructure and private property, impact on the environment, and to the physical and mental health of residents and first responders) are currently estimated at almost $8.9 billion.

Scope of the Review

Continuous improvement is a critical component of any disaster prevention approach. Learnings from past disasters should be addressed in a way that creates a change in the behaviours and practices of those involved in disaster and emergency management. Doing this can lead to the desired outcomes for better practices, rather than a repeat of past mistakes.

To enhance its disaster and emergency management practices, the RMWB engaged KPMG to conduct a lessons learned review to capture what worked well and to identify opportunities for improvement and recommendations for change to the RMWB’s emergency management systems and in responding to future disasters. The report is not about blame or liability. It is about the lessons identified from this experience being used to assist the RMWB and other municipalities to be better prepared for future emergency events.

The scope of KPMG’s review was focused on the following areas:

- Examine the Wildfire event to the United Nations Sendai Framework for Disaster Risk Reduction and propose strategies to prevent new and reduce existing disaster risk for the RMWB.

- Examine the Canadian Standards Association (CSA) Z1600-14 (Emergency and Continuity Management Program) and contrast CSA Z1600-14 to the RMWB’s incident response to the Wildfire.
- Review the existing business model for Emergency Management from a best practices perspective, taking into consideration Wood Buffalo’s geographical area, demographics, and population.

- Review, analyze and recommend planning and preparation structures to enable adaptive, scalable, and flexible emergency management systems.

- Propose lessons learned to eliminate or reduce risks to a future wildfire event through prevention measures and structural and non-structural mitigation measures (FireSmart measures to be included).

- Assess and propose lessons learned for the transition from response to recovery, specifically the setup of governance and organization; clarity of command and control; transition from reactive to proactive planning cycles; and flow of information.

- Analyze the effectiveness of the recovery framework utilized.

- Assess and propose lessons learned for the RMWB’s use, access to or integration with available wildfire forecasting and predictive planning tools (including, but not exclusive to, infrared technology and fire weather modeling technologies).

- Analyze the RMWB Municipal Emergency Management Plan (MEMP) and define lessons learned or propose changes to warning notices and / or readiness levels.

- Assess lessons learned for the implementation and operations of the Regional Emergency Operations Centre (REOC) including: organizational structure and resourcing; command and control including the roles of the Director of Emergency Management (DEM) and the Chief Administrative Officer (CAO) of the RMWB, as well as communications structures; evacuation management; consequence management; delivery of emergency social services (ESS); information management.

- Review the pet rescue program that was implemented through response and recovery.

- Assess lessons learned for the implementation of the Incident Command System (ICS)

- Review the decision-making process to better understand the associated risks, examine the decision framework for the “evacuation” declaration and propose recommendations for community based evacuation plans that recognize the uniqueness of each community. Factors to include: legislative authority and legal framework; information flow; risk management; decision-making process; and engagement and communications processes.

- Define lessons learned related to the integration of the Insurance Bureau of Canada (IBC) within the REOC and within the Recovery Task Force.
Review and summary of disaster recovery legislation, regulations, and standards to outline best practices for future all hazards which may occur in our region.

In completing the review, information gathered by KPMG during the recently completed provincial review was used to support the analysis regarding the scope items. This included more than 5,300 responses from residents to an online survey regarding evacuation and re-entry, and conversations held with several emergency management partners, including other levels of government.

**Approach to the Review**

Lessons are knowledge or understanding gained by experience. When they are identified it is as an area for improvement or action to be sustained, while when they are learned, they have been implemented and embedded within the organization. Throughout this review, both lessons identified and lessons learned have been highlighted.

Lessons identified are described throughout the findings, and lead to a subsequent recommendation to strengthen the emergency management practices of the RMWB. Lessons learned are also described, and indicate the positive actions and experiences that were observed during the response to and recovery from the Wildfire, and reflect changes that have been made since the Wildfire to better prevent, mitigate and prepare for future disasters.

KPMG used a formal evaluation framework to conduct this lessons learned review. The framework is based on recognized emergency management, response, and recovery standards, including the:

- United Nations Sendai Framework for Disaster Risk Reduction
- Canadian Standards Association Z1600-14 Emergency Management and Continuity Management Program
- Incident Command System (Canada)
- Alberta Emergency Management Framework
- Alberta Provincial Recovery Framework
- An Emergency Management Framework for Canada, and
- Provincial Emergency Social Services Framework.
The formal evaluation framework, as depicted below, reflects an all hazards approach to emergency management and can be used for lessons learned reviews and post-incident assessments at the program, phase, and process level.

To analyze the timeliness, processes and effectiveness of the four related areas of emergency management relative to the Wildfire that impacted the RMWB, each of the scope items was mapped and analyzed as per the diagram below. This framework enabled a systematic approach to identifying lessons learned, lessons identified and recommendations for the RMWB to consider on a go-forward basis.
A mixed methods approach to conducting this lessons learned review was used. KPMG engaged with more than 120 individuals representing the RMWB and its emergency management partners, who provided their input through interviews, focus groups, working sessions, and surveys.

In addition, KPMG also gathered some of the lived experiences of the RMWB’s residents, businesses and those of nearby First Nations and Métis communities. Approximately 1,200 residents and 100 businesses shared their perspectives on matters regarding recovery through online surveys. Conversations were also held with the Fort McMurray First Nation, Athabasca Chipewyan First Nation, Fort McMurray Métis Local 1935, Willow Lake Métis Local 780, Fort McKay Métis, and the Fort Chipewyan Métis Local 125.

Stakeholder engagement supported the lessons learned review by building a collective understanding of events, including what happened and when, and capturing insight into what worked well and what could be improved.

Key observations were identified from these various methods of engagement, and further corroborated using data and records supplied by the RMWB and its emergency management partners. Additional details on the approach used are included in Appendix B. A list of groups engaged during the review can be found in Appendix C.

Format of this Report

The following sections of this report are based on the knowledge, experience, and insights of those involved in the Wildfire. KPMG would like to thank all of the stakeholders who provided input into this report for their openness and commitment to continuous improvement. This report is a testament to the countless individuals that demonstrated remarkable resourcefulness, compassion, and resilience in response to this devastating event.
The following sections of this report provide:

- **Context for Disaster and Emergency Management** – a description of disaster risk management, emergency management and business continuity, including applicable legislation, regulations and standards as well as key municipal emergency management capabilities.

- **Prevention and Mitigation** – a description of the background regarding the RMWB’s prevention and mitigation activities, summary timeline of events, lessons learned and findings and recommendations to strengthen the RMWB’s prevention and mitigation of future disasters.

- **Preparedness** – a description of the background regarding the RMWB’s preparedness activities, summary timeline of events, lessons learned and findings and recommendations to strengthen the RMWB’s preparedness for future disasters and emergencies.

- **Response** – a description of the background regarding the RMWB’s response activities, summary timeline of events, lessons learned and findings and recommendations to strengthen the RMWB’s future responses.

- **Recovery** – a description of the background regarding the RMWB’s recovery activities, summary timeline of events, lessons learned and findings and recommendations to strengthen the RMWB’s recovery approach.

- **Resiliency** – a description of the background regarding the RMWB’s resiliency activities, summary timeline of events, lessons learned and findings and recommendations to strengthen the RMWB’s resiliency to future disasters.

The Appendices provide further information on the approach to the lessons learned review, a timeline of events, a summary of analysis completed against the scope items, additional information on the RMWB’s recovery plan, structure and activities, and a glossary of terms.
Context of Disaster and Emergency Management

Municipal governments play a critical role in emergency management. Municipal staff are often the first to respond to emergencies—which means that they require plans and resources in place to respond effectively to emergencies within their communities. While the federal and provincial governments are involved in emergency planning, the operational activities that address emergencies and the impacts that they create are addressed locally.

Disaster and Emergency Management

Disaster risk management, emergency management and business continuity are related processes which help a community prevent, prepare for, and respond to a disaster.

- Disaster risk management intends to understand the risks of disasters to a community and prevent new disaster risks, reduce existing risks and strengthen resiliency.
- Emergency management seeks to prevent and mitigate, prepare for, respond to, and recover from incidents, while safeguarding people from harm when disasters occur, and
- Business continuity is focused on the continuity or recovery of critical municipal operations, including resident-facing services in the event an emergency disrupts them.

Despite the differences between these functions, each are needed to help ensure the success of the municipality during and following a disaster. Within this report, each of the three elements are discussed and analyzed in relation to the RMWB’s current practices as well as what occurred during its response to and recovery from the Wildfire.
Disaster Risk Management

As per the United Nations Sendai Framework for Risk Reduction, disaster risk management is based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment. It is intended to prevent new disaster risks, reduce existing risks and strengthen the resilience of a community.

Disaster risk management involves the development and implementation of policies and strategies that help a community to prevent new disaster risks, reduce known disaster risks, and manage the remaining risks. This helps to contribute to the strengthening of the community’s overall resilience and reduction of losses from a disaster. Resiliency may also be addressed following a disaster, where the community is built back better to withstand and address future disaster risks from materializing.

Activities can include conducting hazard assessments, maintaining a disaster risk register, planning for and taking actions to reduce potential disaster risks (either through proactive investments or by
addressing known gaps or challenges in the community), and ongoing collaboration and partnerships.

**Emergency Management**

As per the Canadian Standards Association Z1600-14 Standard, emergency management is an ongoing process to prevent, mitigate, prepare for, respond to, and recover from an incident.

Emergency management exists as procedures and actions that are taken immediately after a disaster occurs to address the impact of the event. It often involves holding emergency drills and training sessions for preparedness, directing people and resources away from danger, evacuation of affected areas, and working with first responders to ensure the safety of all stakeholders.

Emergency preparedness, a subset of emergency management, includes assessing all the possible incidents that could affect a municipality, such as fire, severe weather, flooding, hazardous waste spills etc. Preparedness means holding regular exercises to ensure that the entire municipality is aware of these threats and knows what to do in case of an emergency. This also includes effectively distributing a municipality’s emergency response plans, contact lists and other key documents to municipal employees and other stakeholders.

**Business Continuity**

As per the Canadian Standards Association Z1600-14 Standard, business continuity management is an integrated process involving the development and implementation of activities that provide for the continuation and / or recovery of critical service delivery and business operations in the event of a disruption.

Business continuity takes steps to maintain or restore the municipal organization to its pre-disaster state. It involves establishing and maintaining redundant systems and support teams, restoring IT systems and ensuring municipal employees are able to return to their daily work tasks following an emergency.

Those involved in business continuity develop plans to avoid potential business-disrupting problems. Typically, business continuity plans are not distributed across an entire municipality, but rather to key stakeholders who would be involved in business continuity efforts. This might include the Senior Leadership Team, Directors, IT, Communications, HR and other related groups.
Legislation and Regulations

Alberta’s Emergency Management Act

Federal and provincial legislation and regulations set out the authority and legal basis for emergency management and disasters in Canada, including describing the responsibilities and powers of each level of government in disaster response.

Alberta’s *Emergency Management Act* provides the foundation for a graduated approach to emergency response in Alberta. In the *Act*, a local authority means where a municipality has a council within the meaning of the *Municipal Government Act*, the settlement council of a settlement under the *Métis Settlements Act*, and / or the band council of an Indian band where an agreement is entered into within the Government of Canada. Local authorities in Alberta are responsible for managing the first response to an emergency event, unless the Government of Alberta assumes the lead role due to a provincially-declared State of Emergency.

In cases where a municipality declares a State of Local Emergency, such as the RMWB did during the Wildfire, the *Act* enables its ability to exercise a broad range of powers within its defined boundaries. The declaration of a State of Local Emergency identifies the nature of the emergency and area of the municipality in which it exists, and is published by any means available to inform the residents in the community. A State of Local Emergency lapses after 7 days unless it is renewed by the municipality.

A municipality must assign accountability for emergency management to a local agency (often within their administration organization), and promote the preparation and approval of emergency management plans and programs. As part of this, the municipality must also designate someone as the Director of Emergency Management. This is a critical role that is responsible for preparation and coordination of the municipality’s emergency management plans and programs, acts as the Director of Emergency Management on behalf of the local agency, and coordinates all emergency services and resources during an emergency event.

While this report focuses on the lessons identified and learned from the municipal perspective, additional findings are also included in the post-incident assessment completed by the Government of Alberta, which covers actions taken by the Province after a State of Emergency was declared.

Government Emergency Management Regulation

The Government Emergency Management Regulation 248/2007 sets out the emergency management responsibilities of the Alberta Emergency Management Agency, government departments, and department deputy heads. The Regulation assigns responsibility for these three
categories of organizations and individuals respecting the preparation or implementation of plans, arrangements, or training to deal with emergencies.

The Regulation outlines the responsibilities of the Alberta Emergency Management Agency as establishing mutual aid agreements and liaising with local governments, assisting local authorities in the preparation, implementation and maintenance of their municipal plans, and conducting or facilitating training for employees of municipalities who have functions and responsibilities for emergency management.

Disaster Recovery Regulation

The Disaster Recovery Regulation 51/1994 governs the assessment of damage or loss caused by a disaster and the payment of financial assistance for the damage or loss. The Regulation sets out how and when a Disaster Recovery Program may be created.

The Regulation also defines the appeals process available to applicants for disaster programs, outlines applicant eligibility requirements for programs, and provides a public interest exception which can be exercised at the discretion of the Minister of Municipal Affairs.

The Disaster Assistance Guidelines and the Municipal Wildfire Assistance Guidelines, established in 2012 and 2011 respectively, provide additional context for the Regulation.

The Disaster Assistance Guidelines outline the terms and conditions for the administration of Disaster Recovery Programs, as well as their guiding principles and cost-sharing arrangements with the Federal Government. While the Municipal Wildfire Assistance Guidelines run in tandem with the Disaster Recovery Program to support the administration of the Municipal Wildfire Assistance Program, which provides financial support for costs incurred during wildfire suppression.

RMWB Emergency Management Bylaw

In 2009, the RMWB Emergency Management Agency Bylaw No. 09/036 was established pursuant to Alberta’s Emergency Management Act. It defines the RMWB’s Emergency Management Committee, establishes the RMWB’s Emergency Management Agency, and appoints a Director of Emergency Management.

Roles and Responsibilities

The RMWB’s Emergency Management Bylaw outlines the key responsibilities across the key emergency management roles as per the table below:
<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities</th>
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<tbody>
<tr>
<td><strong>Mayor</strong></td>
<td>– Chair the RMWB’s Emergency Management Committee</td>
</tr>
<tr>
<td></td>
<td>– Declare, renew or terminate a state of local emergency under the Alberta</td>
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<td></td>
<td><em>Emergency Management Act</em></td>
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<td><strong>Council</strong></td>
<td>– Act as a member of the RMWB’s Emergency Management Committee</td>
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<tr>
<td></td>
<td>– Declare, renew or terminate a state of local emergency under the Alberta</td>
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<td></td>
<td><em>Emergency Management Act</em>, in the absence of the Mayor</td>
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<tr>
<td><strong>Emergency Management Committee</strong></td>
<td>– Meet annually, or more frequently as required</td>
</tr>
<tr>
<td><em>(as represented by Mayor and Council)</em></td>
<td>– Review the Municipal Emergency Management Plan and related plans and programs</td>
</tr>
<tr>
<td><strong>Chief Administrative Officer</strong></td>
<td>– Approve the RMWB’s emergency plans and programs</td>
</tr>
<tr>
<td><strong>Director of Emergency Management</strong></td>
<td>– Prepare and coordinate the RMWB’s emergency plans and programs</td>
</tr>
<tr>
<td></td>
<td>– Act as the Director of Emergency Operations and the Director of the Emergency</td>
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<td></td>
<td>Management Agency</td>
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<td></td>
<td>– Coordinate emergency services and other resources used in an emergency</td>
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<tr>
<td><strong>Emergency Management Agency</strong></td>
<td>– Operationalize the emergency plan when a state of local emergency is declared</td>
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<tr>
<td><em>(consisting of three or more individuals representing various municipal departments and community agencies)</em></td>
<td>– Prevent, combat or alleviate the impacts of an emergency or disaster through appropriate means</td>
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<tr>
<td></td>
<td>– Coordinate aid</td>
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<td></td>
<td>– Control travel to and from the RMWB</td>
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</table>
Role | Responsibilities
--- | ---
*determined by the Director of Emergency Management*) | – Restore essential facilities and distribute supplies
 | – Initiate an evacuation from any area of the RMWB and make arrangements for the care of those evacuated

RMWB Emergency Management Capabilities

Most municipalities in Alberta have emergency management functions located within their organization. This function is typically accountable for the preservation of life, property, and the environment through the development of emergency plans and programs.

The accountability for emergency management within the RMWB lies with its Regional Emergency Services Department. The Department provides emergency services to respond to and mitigate emergencies and is made up of several branches, including:

- **Fire and Medical Operations** – provides integrated emergency response service with cross trained staff qualified in firefighting / rescue and emergency medical response. This Branch works closely with Alberta Agriculture and Forestry to mitigate wildfire risk.

- **Training and Recruitment** – this Branch supports the Fire and Medical Operations Branch through the development and delivery of training related to emergency medical response, fire prevention, fire, rescue and special team response.

- **Fire Prevention** – this Branch delivers proactive fire safety education, pre-planning, inspections and investigations.

- **Rural and Fleet** – this Branch includes surrounding rural fire departments of Fort Chipewyan, Fort McKay, Anzac, Saprae Creek and Conklin who are staffed with approximately 90 paid on-call firefighters, trained in fire suppression, extrication and medical first response. The Fleet area provides care and maintenance for the Regional Emergency Services fleet.

- **Emergency Management** – this Branch is accountable for emergency planning and execution in the event of an incident. The Regional Emergency Operations Centre is activated in response to an emergency incident and is accountable for all response and recovery activities during a State of Local Emergency. Once the Province declares a State of Emergency, the Province takes primary jurisdictional authority over the emergency event. As such, any State of Local Emergency that was called automatically terminates and the local authority ceases to be in charge of the emergency response.
The Regional Emergency Operations Centre

The RMWB Regional Emergency Operations Centre Manual sets out authority and responsibility during response to an event. Under this, the Director of Emergency Management is responsible for the oversight of all operational aspects of emergency management and is accountable for the activities of the Regional Emergency Operations Centre. The Regional Emergency Operations Centre Director manages the Centre on behalf of the RMWB’s Director of Emergency Management.

The Director of Emergency Management has the authority to activate the Regional Emergency Operations Centre once activation criteria are met. Activation criteria include: a significant number of people are, or could be, at risk; a coordinated response is required due to the size, scale, and number of responding agencies and / or emergency sites; coordination of resources is required because there are limited local resources, there is a significant need for external resources, the event may escalate, and / or the extent of the threat is unknown; and a State of Local Emergency has been declared – the Regional Emergency Operations Centre can be activated without a declared State of Local Emergency.

Standards

Community Emergency Management Program

Alberta’s Community Emergency Management Program provides municipalities with emergency planning tools, through an online software application, to assess their emergency preparedness and create emergency plans to respond to a disaster at both the municipal and regional levels. Approximately 50% of Alberta’s communities, including the RMWB, have accessed the Program.

The Program includes four modules:

- **Community Self-Assessment tool**, which helps municipalities inventory their existing emergency management capacity and ability to respond to emergencies.

- **Community Risk Assessment tool**, which utilizes the Hazard Identification Risk Assessment (HIRA) methodology adopted by the United Nations. This helps municipalities identify the likelihood of risks and prioritize mitigation actions/response. As communities use the HIRA tool, they will generate data that will assist in the completion of an all-hazards risk assessment for the province.

- **Community Emergency Management Plan**, which outlines processes, guidelines and templates for municipalities’ use. The Plan is user-driven whereby providing information and responding to questions will help to populate the plans.
Document Library, which includes best practices, research reports, terminology, information about roles and responsibilities and sample emergency plans.

United Nations Sendai Framework for Risk Reduction

The United Nations Sendai Framework for Disaster Risk Reduction (Sendai Framework) is a 15-year, voluntary, non-binding agreement which recognizes that while federal and provincial governments have a primary role to reduce disaster risk, responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders. The Framework aims to achieve the following outcome: The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries.

The Framework identifies four priorities for action and a set of considerations for implementation of each.

Priority 1 | Understanding disaster risk

<table>
<thead>
<tr>
<th>What it means to local governments:</th>
<th>Examples of what local governments should do include:</th>
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<tbody>
<tr>
<td>Local governments need to understand the disaster risks, relative to their community. This includes understanding and documenting vulnerabilities, capacity to address disasters, how impacted their assets and residents are by disasters, what hazards exist and the environment that they are located within. This knowledge should then be used to support risk assessments, prevention, mitigation, preparedness and response planning and efforts.</td>
<td>Collect, analyze, and use data and other sources of information to understand their disaster risks</td>
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<td>Communicate information regarding disaster risks to the public</td>
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<td>Build knowledge of disaster risks by working in collaboration and partnership with other levels of government and other stakeholders</td>
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<td>Incorporate education about disaster risks in formal and informal ways</td>
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<td>Develop and implement policies which support the reduction of disaster risks</td>
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## Priority 2 | Strengthening disaster risk governance to manage disaster risk

<table>
<thead>
<tr>
<th>What it means to local governments:</th>
<th>Examples of what local governments should do include:</th>
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</thead>
</table>
| *Local governments need to establish formal governance for disaster risk management. As part of this, governance needs to encourage collaboration and partnership with others.* | – Develop and implement strategies and plans that reduce disaster risks and create resiliency  
– Define and encourage participation of the public and private sectors in addressing disaster risks  
– Monitor compliance with mechanisms and incentives of safety-enhancing bylaws and policies |

## Priority 3 | Investing in disaster risk reduction for resilience

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<th>What it means to local governments:</th>
<th>Examples of what local governments should do include:</th>
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</table>
| *Local governments need to make targeted investments, leveraging public and private sector funding, in disaster risk prevention and reduction to enhance their resiliency* | – Allocate the necessary resources to implement disaster risk strategies and plans  
– Explore opportunities to transfer and / or share disaster risks with partners  
– Implement sustainable and risk reducing land use and development policies |
Priority 4 | Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction

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<tr>
<th>What it means to local governments:</th>
<th>Examples of what local governments should do include:</th>
</tr>
</thead>
</table>
| Local governments need to spend dedicated effort on strengthening their preparedness for disaster responses, and be prepared for recovery at all levels of the organization. This includes the planning for future disaster risk reduction during recovery efforts. | - Develop recovery plans with a build back better philosophy  
- Plan for the continuity of operations, including social and economic recovery  
- Promote regular emergency exercises and preparedness internally and externally  
- Guide redevelopment and reconstruction in a way that reduces future disaster risks |

Canadian Standards Association Z1600-14

The Canadian Standards Association’s Z1600-14, Emergency and Continuity Management Program (CSA Z1600-14), identifies a set of requirements for a continual improvement process to develop, implement, maintain, and evaluate an emergency and continuity management program that addresses the functions of prevention and mitigation, preparedness, response, and recovery. First established in 2007, the standard has since been renewed and refreshed to take into additional leading practices.

The CSA Z1600-14 is structured in the continual improvement model of “Plan-Do-Check-Act”, focusing on the areas outlined below.
Program Management

Program management is intended to set the foundation for a municipality’s emergency and continuity management program. Roles and responsibilities are defined and reflect the structure of the municipal organization.

Examples of what a municipality should have within this context includes:

- Senior leaders within the Administration contribute to and demonstrate visible and active leadership to emergency and continuity management
- A governing body exists to provide strategic input into the municipality’s program, and a single role is responsible for the overall program, and
- The emergency and continuity management program is well documented and has the necessary investment and resourcing required to sustain its’ actions across the municipality.

Planning

Planning establishes the municipality’s requirements and develops the specific emergency and continuity management strategies.

Examples of what a municipality should have within this context includes:

- A regular planning process is undertaken to define and refresh emergency and continuity management plans; where possible this is linked with other planning processes (e.g. business planning, budgeting, etc.)
- The municipality’s plans clearly define roles, lines of authority, resource requirements, information flows and are made available to those who have a role to play, and
- Risks and impacts of emergencies are understood and strategies are defined and documented to prevent, mitigate, and / or control the impacts of the incident.

Implementation

Implementation executes on the plans and strategies developed by the municipalities to prevent & mitigate, prepare for, respond to, and recover from an emergency event.

Examples of what a municipality should have within this context includes:

- Prevention and mitigation strategies and plans that aim to prevent and / or limit the impact of an incident that the municipality could not reasonably prevent
- An incident management system (including key emergency and continuity management roles assigned to positions throughout the municipal organization) and a response plan
- A formal communication and warning system to support the flow of information internally and externally, support the sharing of emergency information, and create public awareness

- Document and execute formal continuity plans to recover or maintain critical municipal programs, services, and activities

- Conduct ongoing training and exercising to prepare for and orient municipal staff involved in emergency management on what they will be responsible for during an incident, and

- Established recovery plans, procedures and processes to support the restoration and recovery of functions, services, facilities, programs, and infrastructure.

**Program Evaluation**

Program evaluation helps a municipality to assess and continually improve its emergency and continuity management program.

Examples of what a municipality should have within this context includes:

- Formal evaluations of how well strategies and plans were adhered to, following an incident

- Ongoing exercising and testing of the plans to identify gaps and limitations in what could happen under different situations and circumstances, and

- Formal actions and investments made to address the gaps and limitations that have been identified.

**Management Review**

Management review helps a municipality to sustain its emergency and continuity management program by engaging senior leaders.

Examples of what a municipality should have within this context includes:

- A formal review process of the entire emergency and continuity management program by the senior leaders within the Administration to check its ongoing relevance, effectiveness, and efficiency for the municipality.

**Incident Command System**

The adoption of the Incident Command System (ICS) is an accepted leading practice in emergency management, and is key to understanding how the RMWB responded to the Wildfire and its impacts. ICS has three primary purposes during an emergency:

- To provide for the orderly and predictable division of labour,
To provide for overall safety at the incident or event level, and

To make sure that the work at the incident or event is performed efficiently and effectively.

ICS provides an integrated approach to coordinating facilities, equipment, personnel, procedures, and communications, all operating within a common organizational structure. ICS is a flexible system, in that it allows organizations to adopt only those aspects that are relevant to the incident at hand. ICS consists of the following principles and features:

- **Common terminology:** common terms to enable multiple organizations to work together across all incident management functions and disaster scenarios.

- **Modular organization:** a flexible organizational structure that can integrate various roles and responsibilities within the command structure, depending on the complexity of the disaster.

- **Management by objective:** the response organization functions and operates in accordance with clearly established incident objectives.

- **Incident action planning:** all response activities are guided by coordinated incident action plans that provide incident priorities, objectives, strategies, and tactics.

- **Manageable span of control:** supervisors are able to adequately supervise and coordinate their subordinates.

- **Incident facilities and location:** the right operational support facilities are established in the right area, including incident command posts, bases, camps, staging areas, mass casualty triage areas, point-of-distribution sites as required.

- **Comprehensive resource management:** provides a current, accurate picture of personnel, teams, equipment, supplies, facilities, and other resources that are assigned or available for allocation.

- **Integrated communications:** addresses use of a common communications plan and interoperable communications processes.

- **Establishment and transfer of command:** command should be established from the beginning of the incident, and the agency with primary jurisdictional authority over the incident designates the individual at the scene responsible for establishing command.

- **Chain and unity of command:** there is an orderly line of authority within the ranks of the response organization, and all individuals have a designated supervisor to whom they report at the scene of the incident.
Unified command: allows organizations and agencies with different legal, geographic and functional authorities to work together without affecting individual agency authority, responsibility or accountability.

Personnel accountability: accountability of resources at all jurisdictional levels and within individual functional areas, including adherence to check-in / check-out, incident action planning, unity of command, personal responsibility, and span of control.

Dispatch / deployment: rules regarding resource deployment only when requested or when dispatched by an appropriate authority.

Information and intelligence management: includes processes to gather, analyze, assess, share, and manage incident-related information and intelligence.

The proper application and use of ICS provides the necessary structures, processes and capabilities to guide a response where numerous partners are involved in responding to emergency incidents.

ICS also provides additional guidance on incident command, which is responsible for the overall management of the incident, which involves incident command, general staff, functional sections, and incident management teams.

Incident Command

Incident command has two aspects. First, command occurs either through a single incident commander (IC) or, if multiple jurisdictions are involved in the incident, unified command (UC). Second, command staff report to the IC/UC, and consist of the following:

- **Liaison Officer:** the incident command’s point of contact for representatives of other governmental departments and agencies, non-government organizations, and / or private sector to provide input into incident-related matters, including organizational policies and incident-related matters. Representatives from assisting or cooperating organizations should coordinate through the Liaison Officer.

- **Safety Officer:** monitors incident operations and advises incident command on all matters relating to operational safety, including the health and safety of first responders. The Safety Officer is responsible for developing the Incident Safety Plan, and has emergency authority to stop and / or prevent unsafe acts during incident operations.

- **Information Officer:** responsible for interacting with the public and media and handling all incident-related information requests from other agencies.
General Staff and Functional Sections

General staff are responsible for the functional sections of incident command, as set out below. The Sections Chiefs may require one or more deputies:

- **Operations Section:** responsible for all tactical activities focused on reducing the immediate hazard, saving lives and property, establishing situational control, and restoring normal operations.

- **Planning Section:** collects, evaluates, and disseminates incident situation information and intelligence to incident command and management personnel, and prepares reports, situational information, maintains resource status, and prepares Incident Action Plans, based on input from the operations section.

- **Logistics Section:** responsible for all service support requirements for facilitating effective and efficient incident management, including requesting resources from external partners.

- **Finance and Administration:** established when activities require on-scene or incident-specific finance and other administrative support, including personnel time, vendor contracts, compensation and claims, and cost analysis for the incident.

- **Intelligence and Investigative Function:** responsible for a system for the collection, analysis, and sharing of information developed from intelligence / investigation activities. This function can be embedded in other sections within the organizational structures, while other times, it can be added as an additional functional area.
Prevention and Mitigation

Background

Disaster risk reduction and mitigation is an important component of strengthening how a community responds and reacts to disasters. It requires ongoing efforts to anticipate and minimize the potential disasters that could impact a municipality or a region, and must take an all hazards approach to address vulnerabilities, capacities, the exposure of persons and assets, hazard characteristics, and the surrounding environment.

As part of this, prevention and mitigation activities are taken by municipalities to eliminate and / or reduce the risks of disasters to protect lives, property, the environment, and reduce economic disruption. Prevention and mitigation often includes actions that address structural (e.g. land development, forest maintenance) and non-structural (e.g. public awareness, changing resident behaviours, etc.) aspects across a whole community.

The United Nations Sendai Framework for Disaster Risk Reduction (Sendai Framework), developed by the United Nations Office for Disaster Risk Reduction, outlines four priorities for action to prevent new and reduce existing disaster risks.

Within each priority, the Sendai Framework identifies a list of activities for local and national levels to address disaster risks. There is also an assessment template, as well as a Disaster Resilience Scorecard for Cities, and other tools which can assist municipalities as they look to apply the Sendai Framework within their context.

In Alberta at the municipal level, the Community Emergency Management Program, a software application that enables communities to assess their emergency preparedness and create emergency plans to respond to a disaster, provides municipalities with guidelines around completing a hazard risk assessment, as part of their emergency planning.

In the context of fire prevention and mitigation, a Mutual Aid Fire Control Agreement exists between the RMWB and Alberta Agriculture and Forestry. Under this agreement the mitigation of fire risk for the Urban Service Area of Fort McMurray is the responsibility of the RMWB, while for other areas it is shared between the RMWB (structural fire jurisdiction) and Agriculture and Forestry (wildland fire jurisdiction).

One of the fire mitigation programs used by the RMWB is FireSmart. FireSmart is intended to create defensible space to fight fires, not to stop the spread of a wildfire. FireSmart provides resources, information, training, and grant funding to individuals, communities, and local governments to
mitigate disaster risks across seven disciplines: education, vegetation management, legislation and planning, development considerations, interagency cooperation, emergency planning, cross training.

In Alberta, FireSmart is delivered through Alberta Agriculture and Forestry, although grant funding is also available to the RMWB through Alberta Environment and Parks.

Timeline

As part of prevention programming, the RMWB has been engaged in FireSmart activities since 2006. Between 2006 and 2012 vegetation management activities were completed, including thinning, pruning, and removal of dead / downed trees in various neighbourhoods within the Urban Service Area of Fort McMurray, as well as within the Anzac and Fort Chipewyan communities.

In 2010, the RMWB developed their Wildfire Mitigation Strategy to reduce the threat of wildfire within the community through the use of FireSmart principles and guidelines. Part of these activities included revised Engineering Service Standards within the community for new developments.

From 2012 to 2016, FireSmart activities in Fort McMurray focused on signage and education, which also took place in Conklin in 2012 and 2013. FireSmart Community Grant Program funding accessed by the RMWB in recent years for include $45,000 in 2013/14, $40,000 in 2014/15, and $153,600 in 2015/16.
Disaster Risk Management Approach

Lessons Learned

Following the completion of its Post-Wildfire Hazard Assessment in late May 2016, the RMWB began new vegetation management activities. This resulted in a $1.5 million initiative being undertaken, including vegetation management activities on the Birchwood Trail system.

Three year planning for FireSmart within the RMWB indicates that activities are set to begin in 2017 and will total $14 million (including $10.5 million from the Government of Alberta and $3.853 million from the Canadian Red Cross). These activities will take place in Fort McMurray as well as the surrounding communities, and include vegetation management activities, adoption of the Alberta First Responder Radio Communications System, cross training, and engagement and education.

The RMWB recently completed enhancements to the Municipal Emergency Management Program (including updates to the Framework through the Municipal Emergency Management Program Overview prepared in May of 2017). Additional focus was placed on activities that will contribute to increased disaster resilience.

The RMWB has been leading public awareness initiatives, including providing information on its municipal website and FireSmart Fridays. Each week the RMWB has been sharing a #FireSmartFriday tip or information about how FireSmart can be used to mitigate the risk of wildfire throughout the region, both by residents themselves and by the RMWB.

Findings

Understanding disaster risk

The RMWB contracted the completion of its 2016 Hazard Risk and Vulnerability Analysis (HRVA). This was done in compliance with Alberta’s Community Emergency Management Program requirements, the International Standards Organization ISO 31000 Risk Management – Principles and Guidelines, and the Canadian Standards Association (CSA) Z1600-14 Emergency and Continuity Management Program. The RMWB contracted the completion of its HRVA because at the time they did not have the capacity and expertise to complete the analysis and to maintain the region’s risk profile and identify and prioritize mitigation activities. While the full HRVA was not updated in 2017, a Post-Fire Wildfire Hazard Assessment was completed by the RMWB in late May 2016.

The HRVA outlined the high risk of a wildland urban interface fire to the community and provided the RMWB with clear and actionable recommendations to improve its disaster and emergency readiness. The HRVA also included a detailed assessment of past disaster occurrences in the region, including past wildfires that affected the region. While the recommendations from the HRVA...
were accepted by the RMWB, the May 2016 Wildfire occurred before the RMWB could have implemented them. Outstanding recommendations, that would help to improve the RMWB’s ongoing response to wildland urban interface fires, include: conducting full-scale joint interface fire exercises with Alberta Agriculture and Forestry; developing community-based evacuation plans (discussed further later in the report); and retrofitting “at risk” structures with ignition resistant materials.

The results of the HRVA were shared with Council, the Chief Administrative Officer and with Regional Emergency Services. However, this information was not broadly shared with other municipal staff, stakeholders, or the public in order to provide a common understanding of the potential risks to the region; the Sendai Framework encourages that disaster risk information be shared broadly with stakeholders to inform them of disaster risks. Further efforts to inform the public about FireSmart, its importance, and the potential benefits to the community are also needed.

Another key practice identified by the Sendai Framework is the establishment of a dedicated risk management role. This type of role is important as that it helps to reinforce an ongoing understanding of the disaster risks facing a community and the ongoing need for investment in prevention and mitigation efforts. Currently, the RMWB does not have a dedicated disaster risk management role to champion disaster risk management and the further reinforce the importance of mitigating disaster risks to Administration, Mayor and Council.

**Strengthening disaster risk governance to manage disaster risk**

The Sendai Framework identifies the need for a community to have an overarching disaster risk reduction strategy (and associated governance mechanisms) to guide prevention and mitigation efforts in a coordinated and synergistic manner and to provide a longer-term focus on disaster risks to a community. The RMWB’s prevention and mitigation activities was completed outside of an overarching disaster risk reduction strategy or approach.

Prior to the Wildfire, the RMWB invested in several prevention activities to address its known disaster risks and promote awareness of these risks prior to the Wildfire. FireSmart activities completed by the RMWB were based on the 2010 Wildfire Mitigation Strategy that was developed. This Strategy outlines guiding principles, a community level hazard and risk assessment, and mitigation options for each of the seven FireSmart disciplines. Limited evidence was available to determine the degree to which the Strategy had been shared, implemented or updated since 2010.

“FireSmart is a good way of preventing future disasters, and FireSmart community designs and planning need to be part of every community that boarders forested areas.”

- Resident
Since the Wildfire, the RMWB has been working on the development of a Municipal Emergency Management Program, which will provide an overall approach to disaster risk management, and the Recovery Task Force has been working on a new, updated and holistic FireSmart strategy.

Greater collaboration with respect to understanding disaster risks and ongoing mitigation may also be warranted across the region. Prior to the Wildfire, there were limited formal processes in place to encourage rural and Indigenous community representatives to come together to collaborate on disaster risk reduction strategies. Formal processes to include emergency management partners (e.g. Industry, RCMP, School Boards, non-profits, recreation sector, and businesses) in disaster risk management planning and mitigation could further assist the RMWB in becoming a more disaster resilient community.

The RMWB’s current governance mechanisms may not be optimal to provide an overarching strategic vision for disaster risk mitigation, and to advocate the ongoing importance of disaster risk reduction to Administration, Mayor and Council. For example, the RMWB established a Regional FireSmart Committee, however the Committee met infrequently and its structure may not have been effective relative to its objectives for disaster prevention and mitigation.

Additionally, the RMWB’s FireSmart program currently sits within the Regional Emergency Services Department and the Parks and Roads Services division (within the Public Works Department). Given that the responsibilities for disaster risk mitigation and emergency preparedness within the RMWB are assigned to Regional Emergency Services, it may be a better fit for the FireSmart program and enable efficient execution of activities across all seven disciplines.

**Investing in disaster risk reduction for resilience**

Prior to the Wildfire, the RMWB conducted several activities to address hazard risks, including: FireSmart activities, an annual flood risk awareness initiative, school-based fire education, a home fire safety program, and business continuity supports for small business and non-profits.

FireSmart mitigation activities, such as vegetation management, are not intended to stop the spread of a wildfire. Rather, they are intended to create defensible space to fight a wildland urban interface fire (in concert with other measures such as sprinklers). Vegetation management activities help to decrease the amount of vegetation that can fuel a wildfire.

A 2013 study was conducted to determine the effectiveness of FireSmart vegetation management activities. The evaluation, based on an experiment in the Yukon forest, concluded that certain treatments were effective in reducing fire intensity and improving the probability of structure survival. This study also validated the effectiveness of what has become the standard for treatments within many wildland urban interface properties in Western Canada.\(^\text{viii}\)
While the study demonstrates the value of FireSmart under typical wildfire conditions, the May 2016 Horse River Wildfire conditions were extreme when the fire entered the Urban Service Area. Hot embers traveling significant distances in the wind made the wildland urban interface fire difficult to control and defensible space hard to achieve.

Fire breaks were implemented around the RMWB prior to the Wildfire. Fire breaks are mitigation efforts intended to slow or stop the progression of a fire. This is done by removing trees to create a buffer zone around a community near a forested area. The responsibility for fire breaks in and around the RMWB are the shared responsibility of the RMWB (within the Urban Service Area) and of Alberta Agriculture and Forestry (on Crown Lands surrounding the RMWB).

The Wildfire jumped natural fire breaks, such as the Athabasca River, that were anticipated to have stopped it. Given the size, scale, and intensity of the Wildfire, including the flying embers, additional vegetation management activities as part of the FireSmart program would have been unlikely to stop the spread of the Wildfire. However, it is possible that these vegetation management activities may have supported firefighters in their efforts to reduce the spread of the Wildfire.

The RMWB received all but approximately $25,000 of the $315,000 in grant funding it requested from Alberta Agriculture and Forestry and Alberta Environment and Parks between 2012 and 2016. Documentation of FireSmart activities indicated that grant funding received by the RMWB was allocated to the vegetation management and education disciplines, including the following activities:

- Between 2006 and 2012 the RMWB undertook annual FireSmart vegetation management activities in Fort McMurray. Grant funded activities were not reported in this same area between 2012 and 2016.

- Vegetation management activities were recorded in Anzac between 2008 and 2010 and Fort Chipewyan in 2011, 2015 and 2016.

- From 2012 to 2016, FireSmart activities in Fort McMurray focused on signage and education, which also took place in Conklin in 2012 and 2013, along with cross training.

- Vegetation management, education and planning disciplines of FireSmart may not have been implemented consistently or sustained over time. A review of records indicates that:

-- There was a gap in vegetation management activities recorded between 2012 and 2016, however it was reported that these activities were conducted outside of the FireSmart grant.

-- Education was conducted on and off over the 11 years prior to the Wildfire.

-- Other disciplines of FireSmart (legislation and planning, interagency cooperation, and cross training) were not reported to have been addressed in a significant way by the RMWB.
Resident support for and participation in FireSmart prevention programs was cited as low.

The development discipline of FireSmart was addressed through the Engineering Service Standards that have been applied in newly developed areas of Stone Creek, Eagle Ridge and Parsons Creek.

Stakeholders reported that sprinkler plans for each community had been developed years prior to the Wildfire, but were not deployed. Sprinklers were made available to the RMWB in the early phases of the Wildfire response from the Alberta Emergency Management Agency, however they were turned down initially and subsequently requested later on in the response.

As FireSmart is about more than vegetation management, sustained attention to and funding for all seven of the disciplines of FireSmart are necessary to comprehensively reduce the RMWB’s risks from future wildfires. However, given the risk of a wildfire or a wildland urban interface fire to the RMWB’s communities and the costs associated with its impacts, the RMWB may also need other sources of funding to sustain its FireSmart efforts when grant funding is not sufficient.

**Leading Practices**

Across Canada and around the world, local governments have taken different approaches to address disaster risk reduction.

| **Alberta** | The City of Edmonton produced maps of historical flood activity for some communities to show residents the potential risks of flood to their area. These flood maps were supported by high level descriptions of mitigation efforts that will be conducted and potential timelines to implement them. |
| **United States** | The City of Seattle’s Flooding report as part of its Hazard Identification and Vulnerability Analysis is available online. It describes the kinds of flooding to which the municipality is susceptible, including the most at risk communities. |
| **South Africa** | The Greater Knysna Municipal Disaster Risk Management Plan is intended to enhance the capacity of the Municipality to prevent and to deal with disaster and to avoid developments which are subject to high risk of disaster. The Plan lays out the objectives, emergency management context, risk profile, mitigation activities, and roles and responsibilities for disaster risk management in the municipality. It also outlines a recovery action plan. |
Recommendation

Enhance support for disaster risk management

While the RMWB has undertaken some disaster risk management actions, increased support for, and focus on, an overall disaster risk management approach from RMWB Administration leadership, as well as Mayor and Council, would contribute to its enhanced readiness for a future disaster. The RMWB should establish a formal and robust disaster risk management approach, which includes the necessary strategies, plans, resources and funding to address the prevention and mitigation of disaster risks.

As part of this recommendation the RMWB should:

- Bring together its various prevention programs under a unified approach. Existing programming should be aligned in terms of terminology, principles, and objectives, and be reviewed to ensure it addresses the risks outlined in the RMWB’s Hazard Risk & Vulnerability Analysis for each of its communities (e.g. Urban Service Area, Rural, First Nations, etc.). Consistent direction should also be provided so that relevant municipal departments can address their assigned tasks to mitigate disaster risk.

- Consider the creation of a risk management role within Regional Emergency Services. This role would have appropriate risk capacity and experience and help to provide the RMWB with an overarching view of its disaster risk management approach, build internal knowledge of disaster risks, and champion disaster risk mitigation efforts for Administration, Mayor and Council.

- Liaise with provincial, federal, and other partners through the above noted risk management role to gather and interpret risk information and coordinate collaboration between stakeholders. This may include leveraging risk awareness and mitigation tools that are available and under development through provincial and federal partners (e.g. critical infrastructure lists, wildland urban interface fire maps, analysis tools, etc.). Maintaining a close relationship with Alberta Agriculture and Forestry is highly important to support clear communication and delineation of roles.

- Continue to conduct regular Hazard Risk & Vulnerability Analyses. An annual refresh of the analysis could review current conditions for the highest risks events (i.e. wildfire and flood) and a more thorough assessment could be conducted every three years. The Hazard Identification Risk Assessment Tool (introduced by the Alberta Emergency Management Agency in March 2016) could support these annual efforts. Mitigation and prevention measures identified in the
2016 RMWB Hazard Vulnerability Risk Assessment and Post-Wildfire Assessment, and in future risk assessments, should be reviewed, validated, prioritized, and implemented.

- Publicly share disaster risk information, including with the RMWB’s emergency management partners, to create transparency and encourage understanding and buy in of the shared responsibility for disaster risks. Risk information can be communicated along with information about mitigation efforts to be taken by the RMWB and suggested actions for the community (e.g. home FireSmart activities such as landscaping).

- Plan to dedicate ongoing funding for disaster risk management to improve the RMWB’s efforts to address disaster risk. When provincial funding for FireSmart and other prevention activities is not available or insufficient for key areas that are the RMWB’s responsibility, the RMWB should consider the allocation of municipal funding to disaster risk mitigation activities through Regional Emergency Services to ensure activities are sustained over time.

- Create a more robust community FireSmart program that addresses all seven (7) disciplines of FireSmart. Maintain and enhance efforts to build public awareness of, and buy in to, the FireSmart program across the RMWB.

- Consider transitioning the FireSmart program to fall within Regional Emergency Services and to connect this with the establishment of the noted risk management role. This would help to increase the coordination of risk management activities within an overarching disaster risk management approach and increase the profile of FireSmart within the RMWB.
Preparedness

Background

Preparedness includes the strategies, plans and activities that a municipality undertakes prior to an emergency event to enable effective response and to manage impacts. This often includes developing emergency response plans, establishing mutual assistance agreements, maintaining resource inventories and equipment; conducting training and exercising.

Emergency preparedness in the RMWB has been designed to consider the ten (10) communities that make up the Region. The RMWB’s emergency management plan considered the varying demographics, geographies, and unique needs of these 10 communities:

- Anzac
- Fort McKay
- Conklin
- The Urban Service Area of Fort McMurray
- Draper
- Gregoire Lake Estates
- Fort Chipewyan
- Janvier
- Fort Fitzgerald
- Saprae Creek Estates

As outlined in the Alberta Emergency Management Act, municipalities have a responsibility to plan for and organize a response to an emergency within their boundaries, and to maintain an emergency management agency to act as its agent in exercising powers and duties under the Act. To support emergency management planning, tools and resources through the Community Emergency Management Program are available to all of Alberta’s municipalities through the Alberta Emergency Management Agency (as described on page 24).

The RMWB has a defined Municipal Emergency Management Plan which is made up of a series of plans, and includes a philosophical framework, a basic plan, a Regional Emergency Operations Centre emergency plan, specific plans for the highest risk scenarios (including a wildfire response plan), and a hazard and risk assessment. The RMWB also has defined Business Continuity Plans which provide municipal departments with processes for providing continued services, or re-establishing services, in the event of an emergency that causes interruption of services.

The RMWB works closely with organizations who play a key role in addressing emergencies. These emergency management partners include the RCMP, the Government of Alberta (e.g. Alberta
Emergency Management Agency, Alberta Agriculture and Forestry, etc.), the energy/oil and gas industry (Industry), School Boards, non-government organizations (NGOs), and community organizations.

The CSA Z1600-14 standards set out requirements for governance of emergency management, including:

- **Leadership and Commitment**: The organization’s senior management shall provide leadership, commitment and overall emergency management program responsibility, accountability, and authority

- **Program Coordinator**: The organization shall appoint a program coordinator to develop, implement, evaluate, and maintain the emergency management program

- **Program Committee Establishment**: The organization shall establish an emergency management program committee, the structure of which shall be established in accordance with the organization’s policy

- **Program Committee Strategic Input**: The emergency management program committee shall provide strategic input in coordinating the development, implementation, evaluation, and maintenance of the emergency management program

- **Program Committee Membership**: The emergency management program committee shall include the program coordinator and others who have the required expertise, knowledge of the organization, the capability to identify resources from all key functional areas within the organization, and applicable external representation as required.

The CSA Z1600-14 standards also set out requirements for training and exercising for emergency management, including:

- Development and use of a training and educational strategy
- Development and use of a plan to build competencies in staff
- Defined frequency and scope of all emergency management training
- Up to date training records on who has completed modules
- Ongoing exercises to validate emergency management program elements, or entire plans, and
- Documentation of lessons learned from exercises and formal actions to address gaps and limitations, and improve and revise plans.
Over the years leading up to the May 2016 Wildfire, the RMWB supported a variety of training and exercise courses. These included an Introduction to the Regional Emergency Operations Centre, ICS 100 and 200 training, several emergency social services courses through the Justice Institute of British Columbia (such as an introduction to group lodging and an introduction to reception centres) as well as courses on First Aid, and Cultural Competency.

In addition to training, there were several functional exercises completed by the RMWB. Since 2014, three emergency social service focused exercises and functional exercises have been completed. In 2015 and 2016, the RMWB completed full scale functional exercises, including: the Fort Chipewyan Airport and Boreal BLAST exercises. After each functional exercise, the RMWB completed an After Action Report to identify and learn from the challenges it faced during these exercises.

**Emergency Management Governance**

**Lessons Learned**

Since the Wildfire, some changes to the RMWB’s emergency management governance structures have occurred, including the line of reporting between the Fire Chief and the Chief Administrative Officer.

While the RMWB adhered to various roles and responsibilities as outlined in their emergency management bylaw and plans during the response to the Wildfire, there are opportunities for improvement to the governance model, as identified in the recommendation below.
Findings

Governance Structure of Emergency Management

Within the RMWB, Mayor and Council occupy the top tier of the emergency management governance structure. The Director of Emergency Management, and advisors as deemed appropriate, form the second tier of the governance structure, which is responsible for implementing Council’s decisions by setting priorities and assigning emergency management staff to take responsibility for action items.

The Director of Emergency Management is supported by five municipal staff assigned to emergency management: one program supervisor, one clerk, and three program coordinators (Emergency Social Services, Training and Public Education, Policy and Exercises).

In alignment with the CSA Z1600-14 Standard, the RMWB has documented and established their emergency management program leadership, coordination, and committee in their Emergency Management Bylaw 09/036, Municipal Emergency Management Plan, Regional Emergency Operations Centre Manual, and ADM-240 Administrative Procedure for the Emergency Management Program.

Membership of the emergency management committee includes Mayor and Council; this is not aligned with the CSA Z1600-14 Standard, which requires the committee to be formed by the emergency management program coordinator and senior leadership of the Administration, as applicable. As a result, the current emergency management governance model may not be effective in providing the appropriate strategic direction needed for the development, implementation, and maintenance of the RMWB’s emergency management program, as it may not fully leverage the RMWB’s existing knowledge and expertise.

Dual role of Director of Emergency Management and Fire Chief

In the RMWB, the role of Director of Emergency Management (DEM) is filled by the Fire Chief. Prior to the Wildfire, and during normal operations, the Fire Chief reported through the Executive Director of Community and Protective Services, and the Deputy Chief Administrative Officer to the RMWB’s Chief Administrative Officer.

As described in the Regional Emergency Operations Centre Manual, the Director of Emergency Management became responsible for oversight of all operational aspects of emergency management upon activation of the Regional Emergency Operations Centre on May 1, 2016. In this role, the DEM provided leadership to all activities associated with the REOC and resources involved in emergency response.
On May 4, the Premier declared a provincial State of Emergency for the RMWB, making the Alberta Emergency Management Agency (AEMA) the lead agency for emergency response. In consideration of the number of wildfires burning across Alberta and the threat to multiple communities, the Managing Director of the AEMA delegated authority to the RMWB DEM to oversee the continuation of response efforts.

In the context of legislation, municipal policy and the REOC Manual, the DEM’s role during a State of Local Emergency is broad, and includes significant additional powers and accountabilities above and beyond normal operations. This level of authority and accountability can be equal to that of a municipal executive leader, disrupting normal decision-making processes and lines of reporting. Employees, when stepping into an Incident Command System must adhere to the emergency response reporting and accountability model. This may mean that hierarchical reporting structures are altered such that lines of reporting may be reversed. This can be a difficult shift for employees and leadership to make during an emergency, and was characteristics of aspects of response during the Wildfire.

Since the Wildfire, and through organizational restructuring, the Fire Chief now reports directly to the Chief Administrative Officer. This may alleviate some of the challenges the organization faced as it transitioned from normal to emergency operations and adhered to altered lines of reporting and accountability. For positions such as the Chief Administrative Officer, and in situations where this municipal position is not the DEM, there should be a suitable ICS role assigned that leverages the knowledge, experience and capabilities of this position, such as liaison between the response organization (e.g. the REOC) and Mayor and Council.

The RMWB’s Boreal BLAST After Action report identified that roles having dual accountability were difficult to execute successfully. In the case of the Wildfire, the size, scope and nature of the emergency (i.e. wildland urban interface fire) created a challenge for the DEM to meet the expectations of leading the overall incident response while still providing leadership to the municipal fire organization.

In the case of the RMWB, and as outlined in the REOC Manual, the DEM also reports to Mayor and Council. This can increase the accountability and span of control of a DEM beyond the capabilities of a single individual during a significant emergency event. As the lead for the emergency response organization, the DEM must be able to efficiently and effectively execute priority accountabilities, focusing on all hazards and the safety of people and structures.
Role of the RMWB Emergency Management Agency

As outlined in the RMWB’s Emergency Management Bylaw, the Emergency Management Agency (Agency) is to be established with three municipal department or community agency representatives, as deemed appropriate by the Director of Emergency Management. During the Wildfire, the Agency was represented by the Director of Emergency Management / Fire Chief, Assistant Deputy Chief of Emergency Management, and the Director of Community and Policing Services.

This Agency is established to carry out the statutory powers and obligations of the Alberta Emergency Management Act, which includes preparing emergency plans and programs, coordinating all emergency services and resources in an emergency, and initiating an evacuation of any area of the RMWB, including making arrangements for the care of those evacuated.

The use of up to three people may go beyond the requirements of the Act and the shared authority among three individuals can further complicate incident management in the application of the Incident Command System and maintenance of unity of command.

Role of Mayor and Council, and Chief Administrative Officer

During the early days of the event and during evacuation, Councillors reported receiving increased inquiries from residents looking for guidance and information. During this time, many members of Council were seeking updates and information from the Regional Emergency Operations Centre, however, there was a lack of access to current information, meaning Councillors were not always able to meet residents’ expectations.

Over the course of the response, daily conference calls were established to provide ongoing updates, and Council meetings resumed (after evacuation) in Edmonton on May 12. Outlining a designated communications role to liaise with Mayor and Council during emergency events (e.g. captured in a policy or within the Municipal Emergency Management Plan) could better help Councillors to support their constituents during a response.

Effective communications could also be achieved by having the Chief Administrative Officer act as liaison between the Regional Emergency Operations Centre and Mayor and Council (this option has since been used by the RMWB successfully during recent 2017 emergency events and could be formalized).

Leading Practices

Across Alberta’s larger municipalities, four municipalities (including the RMWB) have a Director of Emergency Management who is also designated as the Fire Chief. Other municipalities in Alberta follow different structures and assign this role to the Director of Emergency Services; Director of Health, Safety, Environment, and Emergency Services; or the City Manager.
The Calgary Emergency Management Agency (CEMA) is primarily responsible for the coordination of response upon activation in an emergency. The Agency is supported by senior leadership of Calgary’s internal business units as well as external partners. During an activation, the City Manager provides corporate resources to the Agency to assist in managing the event, and remains the administrative leader of the City of Calgary. The Administrative Leadership Team, composed of administrative department heads, supports continuity of operations by implementing departmental emergency response plans, and business continuity plans if and when required.

British Columbia has a unique governance model as its Emergency Response Management System uses provincially run Regional Emergency Operations Centres instead of having a local authority run a local emergency operations centres when a State of Emergency is declared provincially. These centres are scattered across British Columbia to serve broad regional areas. Given the regionalized nature of the RMWB, there may be some benefit to the consideration of a version of this model to provide the necessary support to the 10 communities within the RMWB. British Columbia also has a policy group, which can consist of Mayor and Council, the Chief Administrative Officer, and other senior executives as appropriate. The policy group is available for consultation to the Emergency Operations Centre, and provides policy support, as well as governance continuity.

**Recommendation**

**Review the RMWB’s emergency management governance model and documentation**

The RMWB should formally review all of its relevant emergency management governing documentation, including the Emergency Management Bylaw 09/036, ADM-240 Administrative Procedure: Emergency Management Program, and Alberta’s Emergency Management Act to confirm alignment between municipal governance and provincial legislation, and to provide clear decision making authorities within the RMWB under a State of Local Emergency.

The role of the Director of Emergency Management should be reviewed to assess the placement of this role within the municipal organizational structure. The combined responsibilities of the Director of Emergency Management and Fire Chief may not be reasonable given the high risk of urban interface fires for the RMWB; it may be more effective to assign this role elsewhere. The review should consider the weight of responsibilities, skills sets and capabilities, and authorities for decision making. The responsibilities assigned to the Director of Emergency Management, such as liaising with Mayor and Council, should also be reviewed to ensure a realistic workload in an activation of the Regional Emergency Operations Centre.
The RMWB should enhance its role definitions for Mayor and Council during an emergency. For example, Mayor and Council could serve as conduits of information to their constituents using Regional Emergency Operations Centre issued communications. The RMWB may wish to consider creating a more formal role for the Chief Administrative Officer as the designated liaison with Mayor and Council during an emergency.

Municipal Emergency Management Plan

Lessons Learned

The RMWB’s Municipal Emergency Management Plan is more robust than the Provincial Community Emergency Management Plan guidelines, and has started to meet some aspects of the Canadian Standards Association’s Z1600-14 Emergency and Continuity Management Program.

The RMWB’s pre-established mutual aid agreements with emergency management partners were effectively utilized and beneficial throughout the response to the Wildfire.

Since the Wildfire, the RMWB has recognized the importance of emergency management plans for the entire region, and has a renewed focus on engagement with rural communities to identify their needs and to develop community-specific emergency management plans for their area.

Findings

The RMWB has a defined Municipal Emergency Management Plan (MEMP) which consists of a Framework for Emergency Management for the RMWB; a Basic Plan that provides an overview of the RMWB’s emergency response, organization and policies, including legal authorities; Functional Plans that are oriented towards operations, and that provide specific information and direction for those who will perform the tasks; and Hazard Specific Plans that focus on the planning needs of a particular hazard, and include unique and regulatory response details for that hazard. The MEMP exceeds the level of detail and requirements that would be achieved through completion of the provincial Community Emergency Management Program.

In alignment with CSA Z1600-14, the MEMP is intended to be updated annually, and while the philosophical framework was updated in 2015, other aspects of the plan have not been fully updated since 2010. It was reported by the RMWB that some of the annexes have been updated (e.g. Crisis Communications Plan), but cannot be released until the entire MEMP is updated and realigned to the changes.

The MEMP may not have been fully communicated to all relevant departments in the RMWB, to community representatives, or to external organizations. CSA Z1600-14 outlines the need to make appropriate sections of the MEMP available to those assigned specific tasks and responsibilities.
within it. Many municipal staff as well as Indigenous and rural community stakeholders reported that they had not been informed about the MEMP and their roles during an emergency. Some municipal departments (e.g. Emergency Social Services) were aware of their roles, as their job descriptions outlined accountabilities specific to emergency management.

One of the challenges the RMWB faced during the response to the Wildfire was the availability of goods (e.g. food, water) and equipment once the evacuation was called and residents, and local business owners and operators left the region. Without access to these services and supports, there was a heavy reliance on other municipalities through mutual aid agreements. Understanding and planning for access to resources during response is a lesson identified as a result of the Wildfire, and can be addressed through the pre-identification of critical resources and contact lists for local businesses maintained within the MEMP.

While some components of the MEMP address challenges that might be faced in a specific community, there are no dedicated plans for each of the 10 communities within the RMWB. As a result, Indigenous and rural communities may not have been sufficiently considered within the MEMP; and it was noted that these communities generally felt unprepared for the Wildfire. While hamlet communities were advised of their inclusion within the MEMP, there was a lack clarity regarding the details of how the MEMP pertained to their community, and whether it accounted for some of the community-specific challenges that would be faced in an emergency (e.g. no fire hydrants, no running water or sewer).

While Council is comprised of representatives from the various communities, and encouraged to consider the needs and perspectives of each in relation to emergency management, there are limited formalized processes in place at the operational level to consider each community’s needs in the detailed development of emergency plans. For example, the use of the Anzac Community Centre as a reception centre for evacuees may not have considered that the community of Anzac is on a septic system that could not accommodate an influx of a significant number of people.

While First Nations communities are responsible for their own emergency plans, hazards will often impact the greater RMWB area, and may require a coordinated effort from both the RMWB and the First Nations community. As such, it would be beneficial for both to be aware of, and consider each other’s emergency management plans. In addition, during an emergency, there is a need to maintain situational awareness, and open lines of communication between the RMWB and First Nations communities so that they can each respond appropriately to an incident.

Alberta Agriculture and Forestry’s forest area boundaries are not in alignment with the RMWB’s municipal boundaries. Currently the RMWB falls within two forest area boundaries, the Fort McMurray and Lac La Biche Forest Area meaning the RMWB must work with two Alberta Agriculture
and Forestry representatives to address the needs of its community. As a result, there may be inefficiencies in coordination when a community is in need of wildfire protection and crosses between two forest areas. It is important that a clear understanding of these boundaries and their impacts to wildfire mitigation and emergency response are documented and understood to ensure appropriate coordination of resources in an emergency situation.

Prior to the Wildfire the RMWB did not have a Recovery Plan included within the MEMP or as a stand-alone plan. As a result, during the Wildfire recovery, the Recovery Plan and supporting resources were developed from scratch leveraging guidance from municipal staff, the knowledge and experience of a contracted engineering consulting firm NOR-EX Engineering (contracted to provide leadership and support to the recovery program), and publicly available information resources from other municipalities with lived experience. While early action on recovery activities was hampered by a lack of resources to dedicate to recovery work (staff were still focused on aspects of response / stabilization), once dedicated leadership was provided through the contracted consultant, and resources were assigned to recovery, significant progress was made in a short period of time.

**Leading Practices**

The CSA Z1600-14 Standard outlines leading practice standards around emergency and business continuity management. Those most relevant to the MEMP include:

- Making appropriate sections of the plans available to those assigned specific tasks and responsibilities, as well as other stakeholders.

- Engaging in the planning process on a regularly scheduled basis, or when the situation has changed in such a way that the existing plan(s) are put into question, including engagement of key stakeholders in the planning process.

- Identifying external organizations with mutually agreed-to functional roles and responsibilities, as well as lines of authority for external agencies.
Recommendation

**Enhance the RMWB’s Municipal Emergency Management Plan and refresh it annually**

The needs and challenges of all RMWB communities (e.g. Urban Service Area, Rural Communities, and Indigenous Communities) should be reflected in the MEMP, or if more appropriate, the RMWB should consider developing community-specific plans as supplements to the MEMP.

The RMWB should work with its emergency management partners (e.g. School Boards, Insurance Bureau of Canada, Industry, Alberta Agriculture and Forestry, Alberta Emergency Management Agency, Indigenous communities and other emergency management partners) to outline and document roles, responsibilities, and reporting structures during an emergency.

The RMWB should socialize the MEMP with relevant emergency management partners, and municipal staff, ensuring roles and responsibilities are clearly understood by those expected to contribute during an emergency response. To support this, the RMWB should publish the MEMP on its website and consider the creation of an annual refresher course or webinar for staff and emergency partners to outline changes made to the MEMP in a given year.

The RMWB should complete ongoing annual reviews of the MEMP to help address any changes in its environment and municipal structures, as well as incorporate learnings from the previous year and from past emergencies, including learnings from other jurisdictions. Through the annual review process, the RMWB should continue to make updates to meet the requirements and objectives of both the CSA Z1600-14 Standard and Sendai Framework, where they are not yet aligned. Appropriate community representatives and emergency management partners should be included in this annual review process to ensure the needs of all communities and organizations within the RMWB are reflected.

**Request to realign forest area boundaries with the RMWB’s boundaries**

The RMWB should request a change to the Alberta Agriculture and Forestry forest area boundaries to align with the RMWB’s municipal boundaries.

While this change is being actioned, the RMWB should begin work with the Fort McMurray and Lac La Biche Forest Area Representatives (Alberta Agriculture and Forestry) to establish a clear understanding of forest area boundaries and establish mutual aid partnerships for a coordinated and
collaborative approach to emergency response in the multiple forest areas within the RMWB’s boundaries.

**Develop a Recovery Plan as a component of the Municipal Emergency Management Plan**

The RMWB should create a Recovery Plan as a component of its MEMP which would outline the key components of the Recovery Framework established during the Wildfire as a template for use in future disaster events.

This Recovery Plan could include:

- Key goals and objectives
- Strategies and activities to be undertaken
- Communication and stakeholder engagement templates and tools, and
- Other key learnings from past recovery experiences.

**Training and Exercises**

**Lessons Learned**

The RMWB had an established Training and Exercises Plan for emergency management. In alignment with this Plan, the RMWB completed the Boreal BLAST full scale exercise in 2016, prior to the Wildfire, including the completion of an After Action Report noting areas for improvement, timelines and assigning responsibility for completion of action items.

The RMWB has replaced the Training and Exercises Plan (2016-2018) with the 2017 Training Plan and 2017 Exercises Plan, which work in conjunction with each other, to address the learnings from the Wildfire and move toward greater compliance with the CSA Z1600-14 Standard.

The Training Plan includes increased requirements for ICS 300 and 400 training for some emergency roles and more transparency with emergency management partners. The training schedule included in the Training Plan outlines basic courses offered at a variety of times over the year to maximize access for participants.

Since the Wildfire, the RMWB has invited external emergency management partners such as Industry and School Boards to participate in ongoing training and exercise activities.
Findings

The RMWB’s Training and Exercises Plan (2016-2018) establishes the goals and requirements for staff who may serve in emergency management roles. The Plan includes specific training requirements for the Emergency Social Services team and Regional Emergency Operations Centre personnel. The Plan had not been in place long enough to provide widespread training for staff prior to the Wildfire.

Training requirements for Regional Emergency Operations Centre personnel includes ICS 100 and 200, an introduction to the Regional Emergency Operations Centre, and training for key sections (e.g. operations, etc.).

Training requirements for Emergency Social Services team members includes ICS 100 for all team members, ICS 200 for leadership positions, an introduction to Reception Centres and Group Lodging, and specialized emergency social services courses, as are required.

The RMWB delivers an Emergency Management Components training course to its staff, including basic emergency management and ICS 100 and 200. However, this is a basic level course and may not have prepared key staff well enough for their emergency role in an event of this magnitude, complexity, severity, and duration.

Internal and external stakeholders expressed a need for all organizations participating in emergency management and disaster response to have a common understanding and vocabulary. Many stakeholders reported the need for an increased focus on training in ICS, from ICS 100 for frontline staff, through to ICS 300 and 400 for individuals who are anticipated to fill management and leadership roles in an emergency. While there has been some uptake in emergency management training, stakeholders noted that not all leadership roles have completed comprehensive training.

In alignment with the CSA Z1600-14 Standard, the RMWB runs an annual emergency exercise for its staff, as outlined in its Training and Exercises Plan. Prior to the Plan, exercises were completed in 2013 and 2015. The 2016 Boreal BLAST Exercise was held in February 2016 and a formal debrief was completed and documented in the RMWB Boreal BLAST After Action Report.

Findings from this debrief strongly align with the observations regarding the operation of the Regional Emergency Operations Centre in response to the Wildfire. However, as the RMWB Boreal BLAST After Action Report was issued on April 11, 2016, the identified action items could not have been reasonably completed by the RMWB in a timeframe that would have positively impacted the Regional Emergency Operations Centre’s operations during the Wildfire.

In addition, the individuals who participated in the Boreal BLAST exercise were not always the individuals who filled the emergency management roles in the Regional Emergency Operations
Centre during the Wildfire. As well, some external stakeholders (e.g. Industry, School Boards, etc.) were not consistently included in all exercises. By comparison, the CSA Z1600-14 Standard notes the importance of including a range of external stakeholders in emergency management exercises.

It was noted that the preparations taken by the RMWB through training and exercising may not have been sufficient enough to provide the depth and scale required in a severe and prolonged event, such as the Wildfire. As a result, the Regional Emergency Operations Centre was challenged to provide relief and replacement with resources that had an appropriate level of emergency management knowledge and experience during the Wildfire response.

**Leading Practices**

The CSA Z1600-14 Standard outlines leading practice standards around emergency and business continuity management. Those most relevant to training and exercising include:

- Development and use of a training and educational strategy
- Development and use of a plan to build competencies in staff
- Defined frequency and scope of all emergency management training
- Up to date training records on who has completed modules
- Ongoing exercises to validate emergency management program elements, or entire plans, and
- Documentation of lessons learned from exercises and formal actions to address gaps and limitations, and improve and revise plans.

**Recommendation**

**Enhance emergency management training and exercise requirements**

The RMWB’s training and exercise plans provide a strong foundation for improvements to disaster planning and preparedness. To enhance these, training requirements should be increased to include ICS 300 and 400 for key leadership positions in the Regional Emergency Operations Centre to prepare staff to fulfill their emergency management roles.

Training should be enhanced to build the skills and capabilities needed to fulfill emergency role requirements, such as the Emergency Social Services requirements set out in the RMWB’s Training and Exercises Plan, and knowledge about the major risks identified in the Hazard Risk & Vulnerability Analysis. Training requirements for each role should be documented in the Training and Exercises Plans and kept up to date.
Exercises should continue to occur annually, with regularly scheduled full scale exercises being conducted every two to three years to test all aspects of the Municipal Emergency Management Plan.

Exercises should develop the appropriate competencies for staff in their emergency management roles and address changes to the environment and infrastructure. Additional table top exercises should be conducted when significant changes are made to the Municipal Emergency Management Plan or to roles (including new assignments).

In order for training and exercising to be effective, roles during an emergency will need to be clarified, documented, and communicated. Staff should be provided with a clear understanding of their role in an emergency, prepared with skills, and provided with training they need to perform that role on an ongoing basis. This may also include the identification and delivery of supplemental training for key Incident Command System roles (e.g. Operations Chief, Planning Chief, Logistics Chief, etc.).

Business Continuity Plans

Lessons Learned
Since the Wildfire, the RMWB has been working to revise and update its Business Continuity Plans for each of its departments.

The RMWB has subsequently established policies to compensate staff consistently following emergencies and disasters.

Findings
The Wildfire and its impacts caused many of the RMWB’s operational and business processes to be disrupted. While Business Continuity Plans exist within the RMWB, many have not been actively maintained or reviewed since they were last updated in 2012. It was noted that the absence of policies requiring ongoing maintenance of the Business Continuity Plans may have been a factor in them not being reviewed and updated regularly.

A lack of current Business Continuity Plans may have contributed to limited awareness of their value during the recovery period, as well as their overall effectiveness in supporting the re-establishment of municipal operations following the Wildfire.

Furthermore, the RMWB has undergone several organizational structure changes since the development of its Business Continuity Plans. As a result, they may not necessarily reflect the current needs, processes, or structures of the RMWB.
Since the Wildfire, it was reported that the RMWB is currently working to revise and update its Business Continuity Plans for each of its departments, and has identified an individual to lead this work.

Many municipal staff were evacuated from the region along with residents, while others worked to varying extents during the evacuation and re-entry phases. Some staff remained in the RMWB for the whole duration of evacuation, to maintain critical functions and infrastructure, while other staff came back early, or worked remotely. The timing at which individuals returned depended on their individual situation.

Re-entry for municipal staff was perceived to be disorganized. There was limited relief or replacement and without current Business Continuity Plans, staff were pushed hard to re-establish operations. Anecdotally some individuals reported working 16 to 20 hours per day when they returned to the region. Staff that returned also reported experiencing confusion about their roles, what they were expected to do, and how they could support the re-establishment of operations. Since the Wildfire the RMWB has recognized the need for a policy on employee compensation and reimbursement in the context of significant and sustained emergency events. This policy will address factors such as overtime compensation.

As recovery work progressed there was a greater understanding of resourcing needs and workload balancing was achieved. One outstanding area for further investigation is the need to identify supports or services required from businesses in order to sustain critical municipal infrastructure and services. Supplier and logistics plans should be established as part of the MEMP and may need to be accompanied by procurement vehicles to secure business services and products in situations where mass evacuation occurs.

**Leading Practices**

The Canadian Standards Association Z1600-14 Standard outlines leading practices requirements regarding emergency and business continuity management. The aspects that are relevant to Business Continuity Plans include:

- Maintaining strategies based on hazard identification
- Risk assessment and impact analysis
- Identifying critical activities, assets, functions and processes
- Evaluating the potential impacts from disruption of critical factors
- Determining the minimum resources necessary to continue their operations, and
– Regularly reviewing strategies and plans to incorporate new relevant information and corrective changes.

The Sendai Framework also emphasizes the need to maintain continuity in operations and planning following disasters, as well providing psychosocial support and mental health services during recovery.

Public Safety Canada has published general guidelines for business continuity planning, and the Disaster Recovery Institute Canada provides education and certification in business continuity, disaster recovery and emergency management.

**Recommendation**

**Enhance and update existing Business Continuity Plans**

In alignment with the CSA Z1600-14 Standard and Sendai Framework, the RMWB should maintain and update their existing Business Continuity Plans with current operational processes and organizational structures. Regular updates are important because they capture organizational and process changes, and provide an opportunity for the RMWB to incorporate leading practices that were identified since the last update.

As part of the enhancements, the RMWB should:

– Identify critical infrastructure and maintenance requirements during emergencies and disasters

– Identify plans to support staff re-entry and return to work, when they are evacuated. This includes relief and replacement during re-establishment of municipal operations, and defined compensation practices (policy in process) and other non-monetary recognition.

– Develop trauma mitigation plans for emergencies and disasters to minimize the impacts to staff during an incident, and to provide trauma supports for staff during and for up to six months after an incident, while recovery efforts are being arranged.

**Formalize existing Business Continuity Plans as part of standard operating procedures during emergencies and disasters**

The RMWB should establish a designated individual or group whose role it is to create, maintain, and update its Business Continuity Plans. This also includes maintaining staff awareness around the Business Continuity Plans, including awareness of their purpose and their practical implication for departments and individuals. Familiarizing staff with existing Business Continuity Plans will help integrate them into emergency or disaster responses.
Further, Business Continuity Plans should be formally integrated into the RMWB's operating procedures related to emergencies and disasters. Testing the execution of Business Continuity Plans during emergency planning exercises will also help to increase the likelihood that these Plans will be followed during emergencies or disasters.

Implementing updated Business Continuity Plans following events such as the Wildfire, can enable recovery activities to begin earlier.
Response

Background

The response phase involves taking action immediately before, during, or after an event to manage its consequences through such actions as emergency response, emergency communication, evacuation, search and rescue, emergency medical assistance, and emergency social supports to minimize suffering and loss.

The objectives of minimizing suffering and loss are inclusive of providing for the safety and well-being of people and their pets; protection of critical infrastructure, building, and homes; and continuity of essential services.

A local authority’s emergency management plan identifies municipal staff that must step into designated roles during response to an emergency event. These individuals transition from their normal role into an emergency response-specific role, typically defined through the use of the Incident Command System structure.

The RMWB Regional Emergency Operations Centre Manual outlines the RMWB’s acceptance of the Incident Command System (as described on page 29) as the standard for incident management and indicates that the Incident Command System will be adhered to wherever possible.

Key Incident Command System principles discussed in this section include:

- **Chain of Command**: Chain of Command refers to the orderly line of authority within the ranks of the incident management organization.

- **Unified Command**: Unified Command is used when more than one agency has incident jurisdiction or when incidents cross jurisdictions. Agencies work together through the designated members of the Unified Command to establish a common set of objectives and strategies and a single Incident Action Plan.

- **Unity of Command**: Unity of command means that all individuals have a single, designated supervisor to whom they report at the scene of the incident.

- **Integrated Communications**: Incident communications are facilitated through the development and use of a common communications plan and interoperable communications processes and architectures to maintain communications connectivity and to enable common situational awareness and interaction.
– **Personnel Accountability**: Effective accountability of resources during incident operations is essential, including check-in/check-out, unity of command, span of control, and resource tracking.

– **Information and Intelligence Management**: The incident management organization must establish a process for gathering, analyzing, assessing, sharing, and managing incident-related information and intelligence.

### Timeline

The extremely dry conditions lead to several fires within the RMWB over a short period of time at the end of April leading into May 2016. With support from Alberta Agriculture and Forestry, the RMWB’s Regional Emergency Services were able to action and contain the three fires in the Urban Service Area of Fort McMurray.

The Wildfire was initially detected approximately seven kilometers from the Urban Service Area, however, over the course of the day on May 1, the strong winds pushed the Wildfire towards the community. To maintain the safety of the population from the potential threat the Wildfire presented to the community, the RMWB issued evacuation orders for several of the southern neighbourhoods of Fort McMurray, and declared a State of Local Emergency for the RMWB.

A change in wind conditions sent the Wildfire to the west, and by 8:00 pm on May 2, the Wildfire had reached the Athabasca River.
Overnight from May 2 to May 3, the Wildfire was spotted across the Athabasca River, and continued to exhibit extreme fire behaviour due to increased temperatures and decreased humidity. Due to the atmospheric inversion, smoke from the fire remained close to the ground, resulting in clear blue skies on the morning of May 3.

At the 11:00 am press conference, residents were advised to be prepared, however, they were also advised to carry on with routine activities. By 2:05 pm, RMWB Twitter released the first mandatory evacuation notice for Abasand, Beacon Hill, and Grayling Terrace. By 2:30 pm the Wildfire had entered the community.

Phased evacuation of the entire community was initiated, and evacuation orders continued through to the afternoon and evening. As the Wildfire continued to move east, the Regional Emergency Operations Centre came under threat and was evacuated on May 4.
On May 4, the Province declared a State of Emergency for the RMWB, and additional supports from across Alberta arrived in the region. As the Wildfire continued to grow, it started to threaten the communities of Anzac, Gregoire Lake Estates and Fort McMurray First Nation.

By late in the evening of May 4, those communities were ordered to evacuate, and the Regional Emergency Operations Centre had to once again relocate to Lac La Biche. By May 5, the Regional Emergency Operations Centre was able to return to re-establish themselves in Fort McMurray.

With increased concern for pets that had been left in the rush to evacuate, the RMWB and pet rescue volunteers coordinated the collection, treatment, and transportation of animals from the area to Edmonton for re-unification with their owners. The RCMP also began the convoys to escort residents who were initially evacuated north, back through Fort McMurray.

Use of the Incident Command System

Lessons Learned

From May 5 onward there was successful collaboration of multiple emergency management partners to support response efforts.

The Regional Emergency Operations Centre was activated and functioned according to the Municipal Emergency Management Plan on May 1 and 2. For Level 1 activation, key positions were filled, and the safety of residents was maintained as the threat of the Wildfire approached the community (demonstrated through the planned and orderly evacuation of select communities or shelter in place).

In activations since the Wildfire, the Director of Emergency Management and the Chief Administrative Officer have been co-located to improve situational awareness and information sharing during the event.

Findings

Chain of Command and Unified Command

Previous sections of this report have identified the strengths of the Municipal Emergency Management Plan, in addition to opportunities for improvement. The RMWB was able to effectively implement components of the Plan and, to some degree, establish emergency response operations using the Incident Command System (ICS).

The Regional Emergency Operations Centre (REOC) Manual sets out authority and responsibility during a State of Local Emergency. The Director of Emergency Management (DEM) is responsible for the oversight of all operational aspects of emergency management and is accountable for the
activities of the REOC. The REOC Director manages the REOC on behalf of the RMWB’s DEM. This structure was initiated on May 1 with the activation of the REOC, resulting from an initial assessment of the threat the Wildfire may have presented to the community.

The May 1 activation of the REOC filled some core ICS roles including the: DEM, Deputy DEM / REOC Director, the Operation Section for Fire, Emergency Social Services, and the Public Information Officer. Emergency Social Services were also on hand to provide support to evacuation reception centres. The RCMP activated their Emergency Operations Centre (at the RCMP Detachment) while Alberta Agriculture and Forestry continued to operate out of their Fire Centre. By the afternoon of May 2 Logistics was present in the REOC along with other key partners such as ATCO.

Some issues arose with respect to the efficient and effective implementation of the ICS model during the event. It is important to note that ICS, as a standard, does not dictate a specific organizational chart, but instead describes a modular organizational structure that can be scaled to fit the nature and size of an emergency event. In the case of a wildfire that approaches a wildland urban interface and requires joint preparedness and response from provincial and municipal resources, unified command should be established. Concurrent processes for chain of command and unity of command must also be followed. This includes formal protocols to optimize resources through shifts to ensure professionals function without physical or mental compromise; and formal hand-offs between shifts to ensure an accurate, shared situational awareness.

While the initial activation of the REOC was timely given the developing threats and risks facing the community, unified command per the ICS Canada model was not established quickly enough between the RMWB and Alberta Agriculture and Forestry in order to enable common situational awareness, establish a common set of objectives and develop a single, coordinated series of Incident Action Plans.

During the first four days of the Wildfire more than one Incident Command Post existed, with Alberta Agriculture and Forestry operating out of their own location and RMWB personnel operating out of the REOC. While lines of communication were established between individual jurisdictional roles (e.g. the DEM and Alberta Agriculture and Forestry’s Forest Area Manager, and the RMWB Operations Section Chief and the Deputy Duty Officer for Alberta Agriculture and Forestry’s Fire Centre), wildland and municipal structural firefighting response operations were not co-located resulting in an ineffective flow of information throughout the chain of command.

This lack of shared situational awareness limited the REOC’s capability, as a collection of trained personnel, to create a common operating picture, plan and command structure. Lack of unified
command and limited shared situational awareness impacted key response processes, including the subsequent REOC activation and the timing of the evacuation.

Interviewees noted that ICS protocols and structures may not have been strictly adhered to between May 1 and 4; however, numerous factors contributed to this situation. The speed with which changing conditions drove the Wildfire into the RMWB, the lack of time available to appropriately integrate arriving relief personnel and the evacuation of the REOC itself delayed actions required to properly implement a suitable incident command structure.

Without foresight into the prolonged duration of this event, individuals designated in ICS roles may not have strictly adhered to pre-defined shifts, resulting in some confusion over who was ‘in charge’ at any one point in time, and who had the ultimate authority to make critical decisions. The use of personal cell phones (as opposed to, for example, duty phones or radios assigned to individuals actively on-duty) created an organic system of decentralized communications where information may have been provided to individuals who were not actively on duty in the REOC, impacting accurate and shared situational awareness, and delaying some decisions.

Between May 3 and May 5 after the Wildfire had entered the Urban Service Area, it was reported that appropriate command structures were not fully established for municipal fire crews at the tactical level, making it difficult to maintain unity of command across command posts. Although an Incident Management Team and additional fire crews had arrived in the RMWB, local fire resources were reported to have by-passed check-in at the staging area where they were to take relief and / or be replaced, and receive updated deployment instructions. While such dedication is admirable, in the context of emergency response this type of behaviour can cause impaired physical and mental capacity, and put other first responders at risk.

**REOC Activation, Capability and Organizational Depth**

The ‘modular organization’ principle of ICS should have enabled the REOC to expand and contract as needed to meet the needs of the response. It is recommended that planning in relation to ICS identify several suitable individuals to fulfill a role, particularly in anticipation of a sustained emergency event requiring significant disaster recovery activities.

If these resources cannot be provided by a municipality, other measures must be planned for, including mutual aid agreements and / or the acquisition of resources from other jurisdictions. At the time of the Wildfire, the REOC Manual did not include pre-assigned municipal employees in designated REOC positions, and did not anticipate the need for organizational depth to allow for relief and replacement. While this deficiency on its own may have had limited impact, in combination
with slow REOC activation and the rapid onset of a mass municipal evacuation, it proved problematic.

Logs show that the REOC was activated to Level 1 at 8:55 pm on May 1 by the DEM. The REOC Manual indicates that at Level 1 staffing is to include the DEM, Deputy DEM, Emergency Management Branch Staff, Information Services, Legal and any required Sections Chiefs. Only at Levels 2 and 3 are additional staff identified as needing to be in the REOC, including increased staffing levels to support Operations, Logistics and Planning per ICS.

According to the Master Situation Status Log the REOC officially remained at Level 1 activation; however there is evidence that REOC staffing levels progressed beyond Level 1. When the mass evacuation of the RMWB was called on the afternoon of May 3 some municipal employees who could have staffed the REOC to higher levels were evacuated with the general population. As a result, the REOC was unable to quickly and effectively expand to meet the needs of the response, especially for ICS positions that would have benefited from intimate knowledge of the RMWB geography, critical infrastructure, and stakeholder relations. As noted in other sections of this report, the lack of ICS training may also have hindered the ability of staff to transition effectively into the REOC and associated command structures.

ICS as an emergency management standard includes principles associated with promoting the safety and well-being of response personnel. During a sustained emergency event that includes lengthy disaster recovery, these principles can only be achieved if: the response organization has sufficient numbers of trained personnel present in the EOC and in the field; response plans and tactics minimize risk to personnel; and if the organization is appropriately supplied. The depth of a response organization impacts the ability to achieve a balance of relief and replacement, particularly before additional resources arrive as a result of mutual aid agreements and / or support from other levels of government. Within the ICS structure, it is the role of the Safety Officer to monitor incident response operations and advise the appropriate Incident Commander on any matter related to operational safety, including the health and safety of emergency response personnel.

While the REOC Manual identifies the role of the Safety Officer, interviews and documents reviewed cannot confirm that the Safety Officer position was filled prior to the arrival of Canada Task Force 2 (CAN-TF2) on the evening of May 4. Given the evacuation of many RMWB employees during the mass evacuation on May 3, an RMWB employee returned to the municipality on May 7 to fulfill the Safety Officer position and support the response. The Safety Officer position remained filled in the REOC for the duration of REOC activation, with the RMWB Safety Advisor stepping into this role on May 14.
It is likely that the RMWB Safety Advisor would have been called into the REOC prior to the fire breaching the wildland urban interface had the REOC been officially activated to Level 2 with a full complement of staff per the REOC Manual. Without a dedicated position accountable for responder health and safety on May 3 and 4 there were some issues reported with respect to access to personal protective equipment and adherence to occupational health and safety standards.

CAN-TF2, as a provincially-deployed Incident Management Team was able to provide additional support to key REOC positions, which allowed for improved command and control, and provided municipal employees with some relief until additional resources arrived.

**Information and Intelligence Management**

ICS outlines the need for an Information Officer, and while this position has often been viewed as external facing and focused on communications to the public, there remains a need for an internal facing Information Officer position responsible for gathering, synthesizing, and sharing information within the Incident Command organization.

A significant number of interviewees and some documentary evidence shows that information flow within the REOC, and between the REOC and the Province (after the declaration of the State of Emergency) was inefficient and, in some cases, incomplete. There were three separate information management systems in use over the course of the response. This may have led to confusion and a lack of continuity as resources rotated through the REOC and were not always able to access or find the information they needed. While a centralized database for maintenance of records was eventually established, earlier implementation of internal information communications and management could have resulted in improvements to operations, logistics, health and safety.

Information and intelligence management includes providing information to external agencies and partners that can have an impact on public safety and response coordination. This is often carried out through the Liaison Officer position. Several key organizations and groups that relied on information from the REOC (and that could have provided important information to the REOC) were not actively engaged leading up to the evacuation on May 3. Had the REOC been fully activated to Level 2 it is likely that the following organizations would have been effectively engaged prior to, during, and immediately after evacuation:

- School Boards
- Reception centres
- Indigenous and rural communities
- Industry,
The evacuation of municipal employees resulted in the loss of individuals within Administration whose primary role was Indigenous and community relations. Due to this fact, and the lack of assigned Liaison Officers (that would have been present in a REOC activated to a Level 2 or 3), some emergency management partners felt they did not have the information they needed to make appropriate decisions for their communities and organizations. These findings highlight the importance of appropriate emergency operations centre activation and the important roles played by Liaison and internal Information Officer positions.

Beginning May 14, 2016, the Insurance Bureau of Canada was co-located in the REOC. This was viewed as highly successful in order to support the public and Recovery Task Force with timely access to information about insurance considerations. The Insurance Bureau of Canada should continue to be incorporated into emergency operations centres where appropriate given the size and scale of a disaster.

**Leading Practices**

The Incident Command System is a leading practice and is outlined on page 29 of this report.

There are a number of leading practices nationally and globally that provide guidance on criteria and processes used to assess impending threat and risks in order to activate an emergency operations centre to the appropriate level. In Alberta, activation of the Provincial Operation Centre follows a standard operating procedure, including an escalation briefing prepared by the Managing Director of the Provincial Operation Centre, and presented to Deputy Ministers of Municipal Affairs and the Lead Agency of the incident prior to movement to a Level 3 (mandatory key Government of Alberta coordination) or Level 4 (mandatory full Government of Alberta coordination) activation. When the Provincial Operation Centre operational level increases, pre-identified officers will be contacted, generally via email, confirming which departments are required to report to the Provincial Operation Centre, and by what time. All information on the timing and execution of activation is logged and formally available for review post-incident.
**Recommendation**

Enhance Use of the Incident Command System during Response to support implementation of appropriate emergency management protocols

The Incident Command System should be more actively used during response to ensure that the REOC and emergency management partners can achieve unified command (when needed) to promote common situational awareness, a common operating picture and common operating plan.

The RMWB should enhance use of the Incident Command System during response to ensure that the REOC and emergency management partners can achieve unified command. Creating an environment in which critical information on an event can be analyzed and questioned from multiple perspectives can result in improved decision-making.

The positions within the REOC, based on the model of an Incident Command System, should be clearly assigned to municipal staff so that individuals expected to respond during an emergency have clearly defined responsibilities, relevant training, and have exercised their position in advance of a disaster.

Each position should be assigned to a primary designate, as well as two or three backup individuals to allow for appropriate relief and replacement. These assignments should be reviewed as part of the annual update to the Municipal Emergency Management Plan and whenever significant organizational restructuring occurs.

The following Incident Command System positions should be revisited, to ensure they address the learnings from the Wildfire and are supported with appropriate tools and resources:

- An Information Officer role should exist to oversee the flow of communications internal to the REOC and to emergency management partners. This position is distinct from the Public Information Officer, which is accountable for public and external-facing communications.

- The Safety Officer should be present from the onset of an activation. The Safety Officer should consider and maintain what Occupational Health and Safety standards need to be followed and ensure appropriate safety equipment is in place for all first responders and emergency management personnel. Minimum Occupational Health and Safety standards for different types of events should also be documented in the Municipal Emergency Management Plan prior to a disaster. When the size and scope of an incident reaches a certain pre-established threshold, and per ICS, consideration should be given to an Assistant Safety Officer position.
If established as a significant risk factor, Evacuation should be established as a Section under Operations in the Incident Command System structure. This recommendation is further addressed in the Evacuation section of this report.

The Liaison Officer role should be evaluated for the breadth of responsibilities and points of contact during an emergency (e.g. Indigenous and rural communities, other government departments, School Boards, Industry, community organizations, NGOs, etc.). As these relationships should be established and maintained outside of emergency events, liaison responsibilities should be identified and outlined in municipal job descriptions and engaged early on in the process of an emergency operations centre activation.

In order to consistently assign and update REOC positions over time, the RMWB should create criteria for determining how positions are designated (e.g. determining existing expertise, evenly dispersing responsibilities across the organizations, etc.).

While positions should be tied to a specific municipal role, as applicable and appropriate, it will be important to confirm that a staff member is willing to take on the responsibility of the position during an emergency event. If the primary designate is not able to commit to fulfilling the REOC position an appropriate alternate should be designated in the plan.

In addition, the RMWB should document the revised emergency management roles and responsibilities in all relevant municipal job descriptions. Job descriptions should outline the mandatory requirements for that role to complete training, participate in exercises, and be prepared to execute their emergency management role.

### Evacuation Plan Enhancements

**Lessons Learned**

Residents under threat from the Wildfire on May 1 were safely and effectively evacuated from impacted communities, and the plans for delivery of emergency social services were successfully implemented and provided to displaced residents per the RMWB’s evacuation plan. While these early evacuation processes were effective, they were based on timely decisions and the orderly execution of evacuation processes.

While timeliness of the May 3 mandatory evacuation was an issue, a positive evacuation outcome was achieved through the safety culture and compassion of the community meant we helped each other out in the time of need

- Resident
evacuation of over 88,000 residents. The evacuation included the successful use of contraflow lanes to evacuate the community.

Since the Wildfire, the RMWB identified the East Clearwater Highway, a secondary highway within the community, as the highest mitigation priority and has worked to also establish egress routes in the neighbourhoods of Abasand, Beacon Hill and Wood Buffalo and investigate routes in Saprae Creek, Janvier, Conklin and Fort McKay.

Since the Wildfire, there has been a focus on relationship building and collaboration to maintain effective working relationships between the RMWB, Alberta Agriculture and Forestry, and other key stakeholders to promote effective integration of incident command when the need arises.

Findings

In the early afternoon of April 29, 2016, the RMWB firefighting efforts had begun with the detection of a bushfire near Parson’s Creek inside the Urban Service Area of Fort McMurray. On April 30, a second bush fire in the Abasand trail system required the mobilization of the RMWB structural firefighters and the Alberta Agriculture and Forestry wildland firefighters, who extinguished the blaze by noon the following day.

On May 1, MWF-009, the Horse River Wildfire (the Wildfire) was detected by helicopter crews, quickly followed by the detection of a fourth fire in the Taiganova area in the north of Fort McMurray. The Taiganova fire was in close proximity to community structures and valuable assets. With the Wildfire burning approximately seven kilometers from the Urban Service Area, air tankers were diverted to the Taiganova fire to maintain the safety of residents in the area.

This series of fires from April 29 to May 1 initiated coordination and communication between RMWB and Alberta Agriculture and Forestry representatives. It was through consistent communication, and coordination of resources and effort from both Alberta Agriculture and Forestry and RMWB’s Regional Emergency Services that the three fires within the Urban Service Area were controlled and extinguished.

Throughout the day on May 1, the Wildfire continued to grow and spread to the east; in the late afternoon it began to present a threat to the southern communities in the Urban Service Area. By early evening, the eastern front of the Wildfire was only 1.5 kilometers from the MacKenzie Industrial Park. Alberta Agriculture and Forestry communicated to the RMWB that evacuation of the southern neighbourhoods of Fort McMurray may be necessary.

By 8:55 pm on May 1, the RMWB Director of Emergency Management had activated the Regional Emergency Operations Centre to Level 1, meaning select emergency management staff were called
in. At 9:57 pm, a State of Local Emergency for the RMWB was declared by the Mayor, and shortly thereafter, evacuation orders were declared for the southern neighbourhoods of Fort McMurray.

With cooler temperatures, and changing wind conditions, the Wildfire turned away from the community, resulting in some residents being allowed to return home on May 2. Over the course of the day, the Wildfire continued to move west towards the Athabasca River.

The Regional Emergency Operations Centre remained activated throughout the day and the Director of Emergency Management and the Operations Section Chief were receiving updates from Alberta Agriculture and Forestry representatives via cell phone. Alberta Agriculture and Forestry tracked weather forecasts and projected fire activity, and provided some of this information to the RMWB.

The Wildfire pushed all the way to the Athabasca River by 8:00 pm on May 2. Overnight, the Wildfire jumped the Athabasca River and was spotted on the other side of the river. Around 6:00 am on May 3, the Alberta Agriculture and Forestry Forest Area Manager informed the RMWB Director of Emergency Management of the Wildfire’s location and general growth.

In the overnight hours, the Prometheus Wildfire Growth Simulation model was run by Agriculture and Forestry – this software forecasts wildfire growth based on fuel, topography, and weather inputs, in the absence of suppression efforts. Interviewees could not confirm the extent of the information exchanged around the projected path of the fire or whether the exact outputs of the Growth Simulation model were shared. This simulation output identified the possibility that the Wildfire could move into the Urban Service Area on May 3 if fire suppression activities failed to contain or substantially slow the progress of the fire, and under certain weather / wind conditions.

At 11:00 am on May 3, the RMWB and Alberta Agriculture and Forestry held a shared media briefing to discuss the Wildfire. At this press conference, there were mixed messages regarding the significance of the developing emergency situation. The briefing advised residents of the extreme fire conditions, and encouraged families to have a plan should they need to evacuate, while also advising residents to carry on with their day. The inconsistent messaging, and lack of urgency for preparedness, may not have sufficiently communicated the potential danger that the Wildfire presented to the community.

By 1:55 pm, a voluntary evacuation was released via the RMWB Twitter account, advising residents to be prepared for mandatory evacuation within 30 minutes. By 2:05 pm, a mandatory evacuation notice was released for Abasand, Beacon Hill, and Grayling Terrace. Throughout the afternoon and evening, evacuation orders continued for the entirety of Fort McMurray, and the hamlet community of Saprae Creek. As there was only a single access road, there was insufficient capacity for all
residents to evacuate south. With the fire encroaching on Highway 63, it was decided that in order to successfully move residents away from the fire, residents needed to evacuate north.

By 6:20 pm, RMWB Twitter notifications indicated all of Fort McMurray, including MacDonald Island were under mandatory evacuation notice, and by 8:31 pm, the Alberta Emergency Alert reflected that all residents of Fort McMurray and Saprae Creek were under a mandatory evacuation notice. Late in the evening of May 4, the communities of Anzac, Gregoire Lake Estates, and First McMurray First Nation were also under a mandatory evacuation notice.

**Roles and Responsibilities**

As outlined within Alberta’s *Emergency Management Act*, local authorities are responsible for planning for evacuation, and making decisions regarding evacuation orders. The local authority is responsible for documenting evacuation and reception protocols in their local emergency management plan. Within the RMWB there are also five First Nations communities who are considered local authorities in Alberta’s *Emergency Management Act*. It was at the discretion of each of their respective Chiefs and Councils to call an evacuation order for their community.

As per the RMWB’s Emergency Management Agency Bylaw 09/036, the Mayor is delegated the authority to declare, renew, or terminate a State of Local Emergency. Upon declaration of a State of Local Emergency, the RMWB’s Emergency Management Agency, which consists of three individuals from various municipal departments as deemed appropriate by the Director of Emergency Management, is authorized to initiate an evacuation from any area of the RMWB. This is a complex governance structure that could be simplified to promote efficient and timely actions.

While the RMWB’s Emergency Management Agency has the authority to call an evacuation order, there is no documented position in the Regional Emergency Operations Centre manual that assigns responsibility for monitoring risks to the community, evaluating the need for evacuation, and subsequently executing evacuation, if needed.

The RMWB’s Evacuation Plan indicates that the Emergency Management Branch is responsible for the overall coordination, strategic direction, and control of events through the Regional Emergency Operations Centre. However, the Regional Emergency Operations Centre Manual, ADM-240 Administrative Procedure: Emergency Management Program, and the Evacuation Plan do not describe which Regional Emergency Operations Centre position is responsible for monitoring and carrying out evacuation activities.

Further, the management and / or reporting structures for coordination of evacuation, and the roles and responsibilities of external partners when assisting with evacuation are not currently documented. As an example, ICS Canada outlines the designation of a specific functional group
focused on evacuation that would report to the Operations Section Chief. This group would be responsible for monitoring the need for, and coordination of evacuation.

**Understanding of Wildfire Threats and Risks**

As previously noted, there were a series of fires discovered, monitored, and actioned in the days leading up to May 3. Of the fires identified between April 29 and May 1, three were within the Urban Service Area, and were able to be effectively controlled by the RMWB’s Fire Services in collaboration with Alberta Agriculture and Forestry.

However, the environmental conditions in the days leading up to May 3 presented extreme fire conditions, with rising temperatures and decreasing humidity creating “crossover conditions”, further complicated by shifting wind patterns. “Crossover conditions” is a term used by wildfire professionals to describe situations where the ambient air temperatures (in degrees Celsius) exceeds relative humidity. Fires burning under these conditions often present extreme behaviour, making the management of a wildfire more challenging.

An atmospheric inversion also occurred on the morning of May 3, resulting in a fairly clear blue sky with minimal smoke visible within the Urban Service Area. This inversion trapped smoke from the Wildfire close to the ground, preventing it from being widely seen across the RMWB. It was not until 11:36 am on May 3 that the inversion began to dissipate. With significant wind gusts and crossover conditions the Wildfire advanced rapidly, quickly overwhelming crews, and entering the boundaries of Fort McMurray.

While communications regarding the progress of the Wildfire occurred between May 1 and 3, technical language that started to emerge as the Wildfire progressed (e.g. crossover conditions, burn rate and inversion) was not well understood by critical positions within the Regional Emergency Operations Centres. Anecdotal information shared during interviews indicates that key Regional Emergency Operations Centres positions never fully understood what these technical terms meant and were, therefore, hindering their ability to appropriately assess the significant level of risk to the community. While information was being shared sporadically through telephone conversations and a few in-person briefings in the Regional Emergency Operations Centres, common situational awareness was not achieved to the degree necessary to facilitate timely decisions regarding mass evacuation.

**Unified Command**

As noted previously in this report, Unified Command is defined by ICS Canada as agencies working together when an incident crosses jurisdictional boundaries such that the lead agencies establish
common situational awareness, a common set of objectives and strategies, as well as a common Incident Action Plan.

Prior to the evacuation of the RMWB, unified command was never fully established. Interviewees have indicated that discussions were had on both sides about co-location of Alberta Agriculture and Forestry and RMWB command, however each party remained in disparate incident command posts. Co-location of the RMWB and Alberta Agriculture and Forestry incident leadership may have allowed for more nuanced conversations to occur, leading to an improved understanding of the threat from the Wildfire facing the community and earlier discussions on the need to initiate further evacuations.

Knowledge and understanding are achieved through the visual, auditory and tactile processing of information. Any one of these methods used in isolation can limit the capacity of an individual to process information and gain full understanding of a situation. When coupled with the cognitive deterioration that can accompany stress and lack of sleep, information processing can be further impacted.

Information concerning the Wildfire and its progress was primarily being supplied by Alberta Agriculture and Forestry in verbal updates by phone. While attempts were made by members of the Regional Emergency Operations Centre to gain visual information on the fire through aerial operations, poor visibility impacted the value of these flights to increasing awareness of the Wildfire’s progress. Fire maps produced by Alberta Agriculture and Forestry (including Prometheus simulation reports) were not readily available to the RMWB to support decision-making regarding the need to evacuate communities; maps developed by the RMWB’s Geographic Information Systems (GIS) team may have been based on incomplete and potentially outdated information due to the rapid progress of the Wildfire overnight on May 2 and in the early morning of May 3.

While individuals in command and in operations from the RMWB had access to some visual and auditory cues on the Wildfire during the morning of May 3, a common operating picture and shared situational awareness was never achieved with Alberta Agriculture and Forestry. A team-based approach to information exchange and knowledge creation, typically achieved through integrated response structures and unified command, may have improved collective understanding of the risk to the community and prompted earlier action on evacuation.
Evacuation Framework

There is no formal framework for evacuation that can provide guidance on mass evacuations for local authorities within Alberta, nor a formally adopted standard across Canada. There are also no provincially supported analytic tools available that can be leveraged by a local authority to support evacuation decisions.

While it is the responsibility of a local authority to plan for and make decisions regarding evacuation, many Alberta municipalities have never considered the need to evacuate their entire community. The time required to fully evacuate a community and the resources needed, both internal and external, to promote an orderly and planned evacuation are likely underestimated in many evacuation plans across Alberta and in other provinces.

The RMWB’s Evacuation Plan includes an evacuation flowchart that addresses the three stages of evacuation (Alert, Order, All Clear) in response to an imminent threat. The Plan, however, does not define or interpret the meaning of an imminent threat. For example, the flowchart does not describe the distance from the impacted area at which point the threat becomes imminent.

While evacuation trigger points may vary from one hazard to another, additional considerations, or risk monitoring guidelines to assist decision-makers through the decision-making process are currently not included in the RMWB’s Evacuation Plan. Additional pre-planning considerations such as analysis of the evacuation zone to identify densely populated areas, areas with limited access, and demographics of the population, including identification of persons with limited mobility should be documented.

Evacuation Communications

There were several joint press conferences held by the RMWB and Alberta Agriculture and Forestry representatives in the days leading up to evacuation, including on the morning of May 3. It was
noted that while some direction was provided with respect to overall communications, instructions for media briefings were only provided in the minutes leading up to scheduled events. There was limited coordination between all parties to media briefings on the language to be used for clear and consistent messaging regarding the level of threat to the community and actions to be taken by residents to minimize risk.

Once evacuation orders started, social media and radio were the most successful mediums for getting evacuation information out to residents. Due to the speed at which the RMWB needed to update and keep the community informed during the phased evacuation, it was noted that typical timelines for communication approval processes and procedures were able to be condensed, allowing the communication team to draft, approve, and release information in as little as ten minutes. While some residents noted that they were without their phones, or were unable to listen to the radio at the time of the evacuation, RCMP went door to door while neighbours looked out for each other, contributing to the evacuation of over 88,000 people in a short period of time.

**Leading Practices**

**Evacuation Guidelines**

While there is no Canadian standard or Alberta/provincial evacuation framework to guide the development of municipal evacuation plans, there are guidelines provided by both the British Columbia and Ontario governments. In addition, the Mass Evacuation in Natural Disasters (MEND) Guide, which was developed by the United Nations High Commission for Refugees, is a valuable resource from which to pull evacuation principles and protocols.

The MEND Guide recognizes that planning for mass evacuation is critical to successful implementation, and provides evacuation considerations from pre-planning through pre-response, warning, and execution of an evacuation.

Several key considerations are also outlined in the Ontario Mass Evacuation Plan Annex: Guidelines for the Development of a Municipal Evacuation Plan, and the Evacuation Operational Guidelines from

“I was impressed by the police and firefighters going door to door and keeping everyone moving. They did an amazing job in a challenging situation.”  
- Resident
British Columbia\textsuperscript{xiv}. Both guides provide a template that can be used in the development of a comprehensive evacuation plan that includes planning considerations, hazard monitoring, pre-response activities, guidance around the decision to evacuate, and issuance of evacuation warnings and orders.

\textit{Evacuation Trigger Modeling}

California has developed and tested analytic models for wildfire evacuation triggers.\textsuperscript{xv} Each of these models include the factors that should be considered in the context of an evacuation decision resulting from the advance of a wildfire toward an urban interface.\textsuperscript{xvi, xvii} These models account for wind, topography, fuel, and estimated evacuation time which are dynamic and critical inputs to the model. Dynamic modeling of the approaching threat and subsequent evacuation triggers can prompt early action to ensure that an informed population is evacuated appropriately, given the situation (e.g. proximity to the threat, mobility issues, vulnerable populations and exit routes).\textsuperscript{xviii}

Australia also has evacuation modelling and simulation systems that model the behaviour of people and the timing of events to estimate the time required to successfully evacuate a community.\textsuperscript{xix}

\textit{Evacuation Communications}

Learnings from other jurisdictions include innovative approaches to evacuation notifications. For example, California has an alert system that registers the Reverse 911 database with all landline phone numbers, and allows residents to pre-register their cell phone number, VoIP phone number and / or email address with local emergency authorities who can provide alerts for evacuation orders.\textsuperscript{xx} This system has been found to be an effective means of notification, and quicker than a door-to-door approach.\textsuperscript{xxi}

Social media use in emergency situations is still in its infancy, however, best practices identified include planning for social media use before a disaster occurs, utilizing popular and relevant social media tools, and tailoring social media messages to their local audiences.

\textbf{Recommendation}

\begin{center}
\textbf{Enhance the RMWB Evacuation Plan}
\end{center}

The RMWB should enhance its existing Evacuation Plan to include pre-planning considerations, be reflective of all communities, include a more robust decision matrix, triggers for effective communication to the community, and scheduled testing.

In an effort to align with available leading practices, the RMWB should include a focus on developing a greater understanding of the evacuation zone in their pre-planning considerations including:
Performing a community analysis to increase awareness of the challenges each community may face in evacuation:

- Densely populated areas
- Areas with limited access, such as single egress / access routes, or
- Population demographics such as school-aged children, elderly, and prisoners;

- Developing evacuation timing models under various conditions to understand how to effectively time an evacuation, with awareness of how long it will take to mobilize evacuees, the capacities of roads, and time necessary to move evacuees outside of the area under threat; and

- Understanding the transportation and traffic control needs of the community, which includes forms of transportation needed (i.e. for those without a vehicle, or mobility issues); evacuation routes from all areas of a community; traffic processes such as development of contraflow lanes; and transportation of pets.

The Evacuation Plan should be reflective of all communities within the RMWB. The pre-planning considerations listed above should be determined for all rural communities as each community will likely face different challenges and will have different evacuation requirements (e.g. timing models, population demographics, and transportation needs).

The Evacuation Plan should also identify the essential services, both internal to the RMWB and provided by external partners, which need to remain in the community upon evacuation, if safe to do so. Essential services are those needed to respond to the emergency, protect municipal assets and infrastructure, and / or to provide assistance to responders, and should include the water treatment facilities, fuel suppliers to refill emergency services vehicles, and food, water, and shelter suppliers.

Building on the RMWB’s current evacuation flow chart, a more robust evacuation decision matrix should be developed to provide decision-makers with decision trees and factors to consider in evacuation trigger points (i.e. points that trigger an evacuation order when crossed), including modeling that would trigger alerts to the community. For example, leading research on wildfire evacuation triggers specifies a set of factors (e.g. wind, topography, fuel, and estimated evacuation time) that local authorities can use when monitoring the risk of a wildfire, and determining when and whether to issue an evacuation order. In conjunction with existing analytical tools utilized by Alberta Agriculture and Forestry (such as Prometheus modeling for wildfire), the RMWB should develop an understanding of how the evacuation trigger models are able to overlay with Prometheus models to capture a holistic understanding of the incident, and provide insights into the potential need to evacuate the community.
While trigger points will vary across hazards (e.g. floods, wildfires, chemical spills), guidelines for consideration can be provided to decision-makers to ensure all components are thought through. The RMWB should consider development of the following guidelines:

‒ The distance / time window in which the public will be alerted to a threat, and the process for escalation from being put on notice, to shelter-in-place or voluntary evacuation, and finally mandatory evacuation. For example, when there is a threat within a certain distance from the community, the public will be advised to have their go-bag prepared, have gas in their vehicles, and a plan for if / when they evacuate, and if the threat continues to approach the community, the proximity would trigger the escalation of key messages.

‒ A prioritization matrix for phased evacuation. This would include guidelines for how to prioritize and establish a phased evacuation from communities who are all using the same access road to allow residents to evacuate in a safe and orderly manner.

In alignment with ICS Canada, the Regional Emergency Operations Centre should designate a position to focus specifically on monitoring the need for, and execution of an evacuation; this Evacuation lead could fall within the Operations Section or be assigned to a Branch (depending on the size and scale of the event). By focusing on specific risks and threats to communities in the context of established evacuation trigger points, this position could advise Regional Emergency Operations Centre command of the need for evacuation alerts or warnings, voluntary evacuation orders, and mandatory evacuation.

The Evacuation Plan should anticipate the need for coordinated communication strategies between the RMWB and emergency partners such as Alberta Agriculture and Forestry to allow critical information to be disseminated in a timely manner to the public. In coordination with the RMWB’s Communications department, protocols for joint communication strategies, including key messaging around preparedness, should be outlined in advance of an incident.

To ensure the adequacy of the Evacuation Plan, as well as to support the preparation of key emergency management roles, the Evacuation Plan should be reviewed annually, and exercised every two to three years. This will support the development and maintenance of key competencies for emergency management staff, and account for any environment or infrastructure changes.
Pet Rescue Program

Lessons Learned

Animal control was able to effectively support pets who were initially evacuated to MacDonald Island Park, as well as in Anzac.

The knowledge and prior experience of pet rescue volunteers in emergency situation and structures allowed for effective management and coordination of the pet rescue program.

Close to 1,300 pets were rescued, cared for, and evacuated from the RMWB through the pet rescue program; an additional 200 to 300 animals were cared for in place.

Findings

The extensive evacuation of Fort McMurray and surrounding communities began in the middle of the afternoon of May 3 while many residents were at work, resulting in many being unable to return to their homes and collect their pets prior to evacuation.

Emergency management plans need to account for the importance of pets as part of the family unit. Within the RMWB, pet rescue programs were previously contracted out as per of the Municipal Emergency Management Plan, however, in recent years, this program was brought back in-house.

The Animal Control Branch of the RMWB’s Bylaw Services began supporting evacuees on May 1, 2016 at the MacDonald Island Park reception centre. When the reception centre was evacuated to Anzac on May 3, they continued to provide supports through the evacuation.

Following the full evacuation of Fort McMurray, it became clear that pets left behind represented an issue that would require extensive effort to manage. At the time there were no guidelines or processes for pet rescue in place to collect, organize, and dispatch responders for each of the incoming requests from residents, or track information related to these efforts. Animal Control collaborated with numerous partners, including the Fort McMurray SPCA, to develop and implement the pet rescue program. This included processes for identifying pets left behind, accessing homes, and caring for the pets.

The pet rescue process included owners submitting a form notifying the partner organization about the pet(s) left behind, and information about the residence. Teams made up of volunteers, pet experts, and locksmiths planned and executed the pet rescue and subsequently cared for the rescued pets.

More than 1,300 animals were rescued and evacuated from the RMWB, and 200 to 300 more were cared for in place. Animals included cats and dogs, as well as reptiles and snakes.
The RMWB’s partners provided volunteers to help manage the pet rescue effort. Local pet rescue organizations reported that previous training and involvement in emergency preparedness activities enabled them to manage the pet evacuation process effectively. For instance, they had the knowledge of how to work with emergency institutions such as the RMWB’s Regional Emergency Operations Centre.

However, there were challenges reported with the management of volunteers who arrived from outside of the RMWB to assist in the pet rescue program. It was reported that managing volunteers required significant effort, as volunteers were not always compliant with the established processes, including use of appropriate protective equipment, operating with a full team, and at times, were breaking into houses to gain access to pets without the appropriate authorities. This potentially endangered both rescuers and pets.

Additionally, a lack of pre-established and pre-approved rescue partners (prior to the Wildfire) led to some delay for individuals involved with pet rescue getting access to off-limit areas.

It was also noted that sometimes incorrect or misleading information was circulated on social media by a variety of sources regarding the pet rescue efforts. This included the location of the request form for pet rescue and the appropriate contacts for further information. The spread of misleading information through social media and by word of mouth made pet rescue more difficult to manage.

**Leading Practices**

The Canadian Disaster Animal Response Team has three branches in British Columbia, overseen by a national board. The teams are made up of volunteers trained in emergency animal rescue. They partner with the British Columbia Provincial Emergency Program’s Emergency Social Services to respond to provincial disasters and will answer requests for help through local, provincial and federal government agencies. The Team, Alberta Health Services, and the Provinces of Alberta and British Columbia all have emergency preparedness guides for pet owners.

The International Fund for Animal Welfare operates Emergency Relief Networks. These Networks seek to establish best practices surrounding disaster pet rescue, as well as disaster risk reduction planning relating to pets. Current networks include the United States, India, and Southeast Asia. The Fund also offers Disaster Response Grants.

Past peer-reviewed research also indicates the importance of integrating animal issues into overall emergency management planning, including both preparedness and response.

“Our pets were locked in my house. We found it frustrating at the time, but they did a great job with the pet rescue, and keeping us informed during the process.”

- Resident
Recommendation

Formalize the Pet Rescue Program

Based on the success of the Pet Rescue Program, formalize the program and incorporate activities into the emergency management plan. This will better position the program for rapid execution during an emergency and support continuous program improvement.

The Pet Rescue Program should include:

- Guidelines for pet rescue during emergencies.
- A list of partner volunteer groups, to facilitate communication, volunteer management, and security access during emergencies. This list should be maintained on a regular basis.
- A communications plan, including how and what information to communicate to the public as part of both preparedness and response.

The development of the program will need to be addressed through the joint participation of the RMWB’s Emergency Social Services, Bylaw Services, Communications, and the Alberta and Fort McMurray SPCAs.

Research is currently being completed by Mount Royal University to study the pet rescue efforts in the RMWB, and identify best practices. Findings from this study could assist in supporting the formal design of the Program.
Recovery

Background

Recovery refers to how a municipality repairs and restores conditions to an acceptable level through strategies, plans, and actions taken following a disaster. This may include stabilizing conditions for the return of evacuees, trauma counseling, reconstruction, economic impact studies and financial assistance. Recovery should consider continuous improvement of prevention and mitigation measures to further reduce disaster risk.

The Insurance Bureau of Canada reported that the Wildfire was by far the costliest insured natural disaster in Canadian history, at an estimated $3.6 billion in insured property damage. Further estimates of the total impact of the Wildfire (including reduced oil sands revenue, losses to public infrastructure and private property, impact on the environment, and to the physical and mental health of residents and first responders) are currently estimated at almost $8.9 billion. As such, the impacts for recovery from the Wildfire are complex.

It is also important to recognize that certain economic trends were already affecting the region in the lead up to the Wildfire. These trends are best illustrated in terms of oil prices, population changes, and the unemployment rate, all of which demonstrated an economic decline in the region. As business, psychosocial and socio-economic recovery are all heavily influenced by these trends, recovery must also be understood against this backdrop.

Recovery Framework

The Recovery Framework is the approach the RMWB utilized to recover the region. It includes legislation, governance, budget, task force, planning, and all activities dedicated to recovery.

Recovery Governance and Organization

Prior to the Wildfire, the RMWB was undergoing restructuring of its municipal operations, with changes being made to departments, functions and positions across the organization. As such, recovery structures were set up in a parallel structure alongside regular municipal operations, as depicted in the diagram on page 85. This was done to help establish a stable base from which to plan and implement recovery activities.

Phased re-entry to the majority of the community was completed during the summer of 2016, however, restrictions imposed by the Alberta Chief Medical Officer of Health prevented re-entry to the Abasand, Beacon Hill, and Waterways communities until substantial debris removal and risk mitigation measures were completed. The planning and completion of these necessary tasks
occurred in the months of August, September, and October 2016, enabling subsequent re-entry to the region for all remaining standing homes that were deemed safe.

As a result of the significant challenges facing the community and the need to focus on long-term recovery, Council approved the creation of the Wood Buffalo Recovery Committee (Recovery Committee) on June 21, 2016. The Recovery Committee commenced by defining their internal governance and recruiting an Interim Recovery Task Force Team Leader through a competitive process. The Recovery Committee recommended Dana Woodworth (NOR-EX Engineering) to Mayor and Council to fulfill the role of Interim Recovery Task Force Team Leader. He was subsequently appointed by Mayor and Council in public meetings as both the interim and permanent Recovery Task Force Team Leader.

Once the Recovery Task Force Team Leader was appointed, significant effort was undertaken by the RMWB to develop a Campaign Plan, an organizational structure (aligned to the Campaign Plan), supporting budget, and an accountability model that aligned with the five pillars of people, economy, environment, rebuild, and mitigate. This entailed the:

- Recruitment of long-standing municipal employees from the RMWB municipal organization
- Hiring of consultants to provide expert guidance where necessary and to fill gaps
- Recruitment of temporary employees
- Establishing direct lines of communication into the RMWB municipal organization to provide shared services for: legal, insurance services, communications support, legislative services support, and labour support, and
- Development of a formal recovery plan and supporting Gantt chart.

The organizational chart for the Recovery Task Force is depicted on the following page and further details are included in Appendix F.
Recovery Planning

To support recovery, two key documents were created: the Campaign Plan, and the 2016 RMWB Wildfire Recovery Plan (Recovery Plan).

The Campaign Plan (included in Appendix F) was established as a high-level, one-page guide to recovery for all stakeholders. It endeavored to simplify the complexity of recovery and provide an easily understandable guide to create a common operating picture for all as to what recovery from the Wildfire within the region would entail.

The Campaign Plan outlined the main challenges to be addressed during the RMWB’s recovery phase. It included best practices, five key action areas, associated objectives and desired outcomes for each of the action areas, risks, general performance indicators, an overarching narrative, and a desired end state.

The five key action areas were referred to as pillars, and included People, Environment, Economy, Rebuild and Mitigate. These pillars and the desired outcomes for each are outlined below.
The Recovery Plan elaborates on the Campaign Plan and describes who has responsibility for implementing recovery related activities and how they would be managed. It acted as the midpoint between the strategic Campaign Plan and the day-to-day recovery activities, which were documented in detailed plans for each of the pillars, including roles and responsibilities to implement.

**Recovery Communications and Stakeholder Engagement**

Communications and stakeholder engagement were important components of recovery that supported each of the recovery pillars and related activities. Communications and engagement connected with a wide range of stakeholder groups, including children, residents, teachers, Indigenous and rural communities, individuals with unique psychosocial or physical needs, those facing short or long-term homelessness, students, unemployed, small and medium sized businesses, etc.

The Recovery Task Force used a robust, proactive and responsive approach to communications that included media relations, online channels (a section of the RMWB website dedicated to recovery, a direct e-mail address, the RMWB’s social media accounts, and live streaming), telephone town halls, and the RMWB’s existing call centre (PULSE).

A communications cycle was developed where feedback was gathered through the RMWB’s incoming communication channels and used to tailor outgoing strategies and messages, while outreach to stakeholders permitted joint communications whenever possible.

The most significant element of communications and stakeholder engagement for recovery was the ongoing ‘Here for You’ campaign. These relationship-building opportunities were attended by thousands of residents and provided the Recovery Task Force with opportunities to gather critical information from residents while simultaneously connecting them with municipal experts and community partners including the Canadian Red Cross and the Insurance Bureau of Canada.

**People Pillar**

The People pillar focused on resident well-being and psychosocial recovery. Working closely with a range of provincial and regional partners, the Recovery Task Force enabled the delivery of psychosocial supports to residents, supported education, sports and leisure, as well as arts and cultural activities.
**Environment Pillar**

The Environment pillar focused on assessing and remediating environmental impacts following the Wildfire. Efforts under this pillar included environmental testing, bear smart, air monitoring coordination, and re-establishing green spaces.

**Economy Pillar**

The Economy pillar was focused on the recovery needs of small to medium businesses as opposed to long-term economic growth. The Recovery Task Force and the RMWB Economic Development Department collaborated with numerous partners to provide a wide range of business supports under this pillar.

Generally, supports came in the form of outreach activities and needs assessments, repayable and non-repayable cash disbursements, and training or other guided supports. Trade shows were another method established during recovery to support local businesses.

**Rebuild Pillar**

The Rebuild pillar focused on the rapid reconstruction of the community to address and repair wildfire damages. It focused on making timely policy decisions that enabled reconstruction, by removing obstacles and barriers to recovery.

Efforts to support the rebuild included:

- The issuance of a demolition order to set timelines for the removal of debris
- Facilitated re-entry through the Green Home Re-entry Program, which applied a risk-based matrix to determine re-entry to homes and communities
- Assessed and repaired damages caused by the Wildfire, and
- Work to coordinate the ongoing rebuild process across the region, while managing the safety of residents.

The reconstruction from damage caused by the Wildfire is anticipated to be complete within three to four years.

**Mitigate Pillar**

The purpose of the Mitigate pillar was to implement mitigation measures with a view to improving resiliency.

Under this pillar the Recovery Task Force and the RMWB have conducted and planned for a wide range of FireSmart activities across all seven disciplines: Education, Vegetation Management,
Legislation and Planning, Development Considerations, Interagency Cooperation, Emergency Planning, and Cross Training. This includes contributing to the establishment of a provincial Wildland Urban Interface Group and creating associated strategies and policies.

The Recovery Task Force also worked collaboratively with RMWB Administration to co-present options related to structural flood mitigation for the Waterways Community. This included successful negotiations with the Government of Alberta to commit to an extension of Disaster Recovery Program coverage and a grandfathering of the existing 1 in 100 year elevation, in the event that flooding occurs. This change was based on the condition that the RMWB build such structural mitigations within a reasonable time frame.

The Mitigation pillar also identified the East Clearwater Highway, a secondary highway within the community, as the highest mitigation priority, and worked with the RMWB to establish egress routes in the neighbourhoods of Abasand, Beacon Hill and Wood Buffalo and investigate routes in Saprae Creek, Janvier, Conklin and Fort McKay.

**Timeline**

**May to June 2016: Resident Displacement and Re-entry**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 12</td>
<td>Council holds first meeting following evacuation, in City of Edmonton Council Chambers</td>
</tr>
<tr>
<td>May 13</td>
<td>Social Recovery Task Force is formed</td>
</tr>
<tr>
<td>May 1</td>
<td>RMWB releases Fire Assessment Tool to residents</td>
</tr>
<tr>
<td>May 30</td>
<td>Phase 1 of 3, environmental sampling program begins</td>
</tr>
<tr>
<td>June 1</td>
<td>Phased re-entry of Fort McMurray residents provisionally announced for June 1.</td>
</tr>
<tr>
<td>June 1</td>
<td>Efforts made to prepare community for re-entry</td>
</tr>
<tr>
<td>June 2</td>
<td>Chief Medical Officer of Health announces health advisory for the phased re-entry plan</td>
</tr>
<tr>
<td>June 30</td>
<td>Council approves temporary access control and regulates re-entry to certain areas of the RMWB</td>
</tr>
<tr>
<td>June 6</td>
<td>Phased re-entry of Northern Lights Hospital begins</td>
</tr>
<tr>
<td>June 14</td>
<td>Phased re-entry of RMWB begins</td>
</tr>
<tr>
<td>June 21</td>
<td>Fridge disposal begins in collaboration with Insurance Bureau of Canada</td>
</tr>
<tr>
<td>June 28</td>
<td>Council formally establishes Wood Buffalo Recovery Committee &amp; Task Force, facilitates temporary housing and opens the Back to Business Centre</td>
</tr>
</tbody>
</table>

Immediately following the Wildfire, the RMWB focused on critical activities that would enable re-entry for its displaced residents. Key early milestones include Council’s first meeting (May 12), environmental testing (May 13), and re-entry for Industry and critical businesses (May 30). This period focused on getting the appropriate information out to residents to facilitate their re-entry beginning on June 1.
Several major recovery activities began during this timeframe as residents began to return to the community. This included security access regulation for certain areas of Fort McMurray (May 14), and formally setting up the Recovery Committee (June 21) and subsequently the Recovery Task Force. Finally, telephone town halls, a practice that was begun during the provincial response, were continued by the RMWB beginning on June 27.

**July – September 2016: Recovery Kick-off**

From July to September 2016 the RMWB transitioned from response to recovery. This included the completion of critical re-entry activities and the commencement of long-term recovery efforts. Sifting finished early on July 5 after the completion of this activity for 1,110 residential properties, shortly followed by the first issued demolition permit on July 8.

On August 9, the RMWB expanded the opening hours of its landfill in order to facilitate debris removal. Council also enacted several support policies for businesses and residents, and approved other policies to enable rebuilding.

On August 3, the Recovery Committee held its first meeting and recommended the Recovery Team Lead to Council, which was subsequently approved on August 9. The Recovery Committee then approved the Campaign Plan on September 12, which acted as a strategic roadmap for recovery. In early September, residents began to return to their homes in Abasand and Beacon Hill.
October 2016 – February 2017: Recovery Operationalization

With the Campaign Plan developed, activities against each of the pillars commenced between October 2016 and February 2017. The Recovery Committee recommended policies to Council to make recovery as efficient and effective as possible. For example, recommendations included the development of the East Clearwater Highway, as Council’s highest mitigation priority, which was approved on October 25.

The Recovery Committee and Recovery Task Force finalized the RMWB 2017 Wildfire Recovery Plan, which provided operational level details regarding activities and desired outcomes in alignment with the approved Campaign Plan. This was approved by Council on November 22.

The last of the phased re-entry was completed on November 4, with remaining residents returning to the Abasand and Beacon Hills communities. The RMWB also completed its last demolition on November 14, before the winter set in.

During this period, recovery activities continued and the Recovery Task Force recognized the need for increased psychosocial supports. This included a collaborative approach with multiple stakeholders regarding the development of the psychosocial framework and the start of additional wellbeing supports being offered to teachers on January 15. In addition significant stakeholder engagement through ‘Here for You’ sessions, focus groups and other forums continued.

The ‘Here for You’ brand represented a clear transition from response to recovery and provided an opportunity for residents to ask questions, identify their concerns and have access to the information
they needed the most. The feedback provided through the ‘Here for You’ sessions helped to identify additional issues and shape new themes for future sessions.

Themes captured throughout the engagement were also enhanced through issues being identified and tracked through the PULSE Line, through a dedicated recovery email address, and through concerns expressed by residents to Council members and RMWB staff.

**March – July 2017: Normalization**

From March 2017 onwards, the RMWB continued to address the recovery needs of the region and its residents. This included the development and adoption of tailored policies, such as designated positions to help Indigenous and rural communities (March 20), and Council’s approved purchase of at-risk lots in Waterways (June 13).

On April 18, Construction Management Teams were implemented by the Recovery Task Force to facilitate and coordinate the rebuild. Construction Management Teams were designed to address the expected magnitude of rebuild challenges and were deployed in affected neighbourhoods to support all aspects of the rebuild, including: coordinating contractors, regulators and service providers, regular communication, industry and expert engagement, ensuring safety, and numerous other activities.

On the one-year anniversary of the Wildfire on May 3, the RMWB organized an all-day community gathering in Snye Park. This format was based on feedback gathered from residents at ‘Here for
You’ sessions, proactive suggestions from concerned residents, and from lessons learned from disaster recovery in other Albertan communities.

The Recovery Committee held its last meeting on June 7, representing a change in governance of recovery activities that would continue on through the RMWB.

Effectiveness of the Recovery Framework

Lessons Learned

The RMWB’s 2016 Wildfire Recovery Plan was built on a robust recovery framework that drew from several leading practices and encouraged building community resilience and building back better. Given the magnitude of the impact from the Wildfire, this Plan helped to organize and socialize how the Recovery Task Force would positively address the needs of residents and the community.

The PULSE call line, continuation of the Telephone Town Halls (initially established during the provincial response), recovery@rmwb.ca, and ‘Here for You’ sessions were successful communications and engagement mechanisms used during recovery. Each were used by the RMWB to effectively communicate important recovery plans upon re-entry to the community, identify resident needs, and provide ongoing recovery supports.

The Rapid Damage Assessment tool and process was an efficient and effective means to helping to assess damaged properties and communicate to residents the extent of damage before they returned to the community.

Creating Construction Management Teams proved to be a successful approach to coordinating the rebuild and ensuring its safety. This was done by liaising with contractors, regulators and service providers, through bi-weekly meetings, having people on the ground in rebuild areas and other ongoing communications.

The inclusion of the Insurance Bureau of Canada throughout the RMWB’s response and recovery to support access to insurance information for residents helped to alleviate the need of insurance related expertise on the Recovery Task Force and freed up time to be spent on other important recovery matters.

A number of the recovery activities that were completed by the RMWB, or those that are planned for the near future, serve as learnings for other municipalities who may be facing their own recovery

“Everyone involved did a great job with recovery. Nothing will ever be perfect, and will never please everyone, but I am very proud of the RMWB”

- Resident
following a disaster. A comprehensive list of these activities is included in Appendix F, for reference and use by municipalities as a way to support their own recovery efforts.

**Findings**

*Recovery Governance and Organization*

Creating designated recovery governance and organization structures enabled recovery to be a priority for the RMWB. It allowed staff to focus solely on achieving the established recovery goals as per the Campaign Plan and Recovery Plan. It also enabled the RMWB’s municipal operations, including Council, to focus on re-establishing and resuming their day-to-day operations. Through this structure, the Recovery Committee and Recovery Task Force achieved many positive outcomes across the five pillars (as noted below).

Given the complexities of the recovery efforts, these structures may have initially created some confusion regarding roles and led to some tensions between recovery and municipal operations. There was a need for stronger communication and support from senior leadership for recovery priorities, which were key priorities for Mayor and Council. As part of this, a common understanding of the recovery priorities throughout the RMWB was needed from senior leadership to provide support for the Recovery Task Force structure, as established by Council.

The effectiveness of the recovery governance and organization structures can be characterized by the following:

- The Recovery Team Lead had the same level of authority as the RMWB Chief Administrative Officer which enabled the timely implementation of recovery activities. The Recovery Team Lead was also the appropriate choice for the organization given their emergency management experience.

- The Recovery Committee was comprised of 3 Councilors and 6 public members, 1 of which was external to the RMWB. This demonstrated a commitment to community engagement and involvement throughout the recovery phase, by leveraging their existing community relationships, and also providing a voice for residents.

- The development of an organizational structure for the Recovery Task Force and the use of sub-committees of the Recovery Committee to support each pillar provided focus for the recovery activities to be completed.

- The Recovery Task Force was designed to maximize the use of internal staff (i.e. secondments of existing municipal staff) while leveraging external experts (e.g. consultants) to enable the right knowledge to support each of the recovery activities. Where internal staff were used, these positions were able to be backfilled through provincial Disaster Recovery Program funding.
– The Recovery Task Force role that led public engagement, acted as a liaison between Administration and Recovery and provided services to both groups; this helped foster relations between the groups.

While the Recovery Committee was fully operational in early August 2016, some stakeholders believed that this took too long and that recovery planning and activities should have been initiated earlier. Given the scale and magnitude of the Wildfire, it is understandable that while the RMWB was focused on response to the disaster, it may not have had the capacity to begin to think through the recovery efforts that would be needed at the same time.

To establish resourcing for recovery, the Recovery Committee’s mandate began with the hiring of the Recovery Team Lead and engaging the public on recovery, it then shifted to overseeing the development of the Campaign Plan and the associated recovery activities that were underway. During this period of transition, when responsibilities for recovery were transferred from the Regional Emergency Operations Centre to the stand-up of the Recovery Task Force, some confusion in roles and responsibilities may have existed.

The Recovery Committee enabled a thorough recovery policy development process which led to more effective decision making. The Recovery Committee reviewed and approved policies before they were forwarded to Council, and was an additional source of ideas for recovery activities within the region.

This process was also supported by sub-committees that were organized according to each of the five recovery pillars. Recovery Pillar Sub-Committees were created and chaired by members of the Recovery Committee to leverage support from the community, recommend policy development to the Recovery Task Force and guide the desired outcomes of the Recovery Plan. As these steps were in addition to Council’s existing process, some stakeholders viewed this as redundant.

While there is a trade-off in using a separate recovery governance structure, in the context of the RMWB’s Recovery Committee, this separate governance structure was appropriate and led to effective oversight over recovery activities and enabled the right mechanism for recovery decision-making.

**Recovery Communications and Stakeholder Engagement**

The Recovery Task Force conducted broad communications and stakeholder engagement throughout recovery, leveraging multiple communications channels. The Manager of Stakeholder Engagement developed and implemented the Recovery Engagement Framework across all pillars to support the recovery efforts. These efforts enabled the Recovery Task Force to better identify
recovery needs for both residents and businesses, which in turn enabled the tailoring and delivery of supports across each of the recovery pillars.

Residents generally reported being well informed about re-entry, and having the information they needed to return to their community. Further, residents consistently reported that information centres helped them access relevant information and were well received overall. However, at the onset of recovery there were no information centres specifically oriented towards rural and Indigenous residents returning to their communities. Local Indigenous groups worked collaboratively with the local friendship centre and the Canadian Red Cross, to set up an information centre that could better assist rural and Indigenous residents. As well, two engagement strategists representing the First Nation and Métis communities were subsequently embedded within the Stakeholder Engagement Team of the Recovery Task Force.

The RMWB’s PULSE call line team was embedded within the Recovery Task Force so that up-to-date, accurate information about recovery was being provided to residents. The PULSE line was viewed by residents as a reliable source of information regarding re-entry and recovery. However, some stakeholders reported that it may have also been used by residents to vent frustration and emotions associated with their experiences during the Wildfire.

Residents also provided positive feedback regarding the engagement efforts undertaken during recovery. Early on in the recovery process residents had access to the Recovery Task Force four nights a week, including: Monday through the Telephone Town Halls, Tuesday during Council meetings, Wednesday during Recovery Committee meetings, and Thursday during the ‘Here for You’ sessions. These regular events created ongoing engagement opportunities that were easier to attend for interested residents.

‘Here for You’ sessions also enabled the Recovery Task Force to accurately gauge resident needs, and therefore provide more tailored supports. The Recovery Task Force also offered psychosocial and insurance related supports during its engagement events, relieving pressure on engagement facilitators and providing in-person support to concerned and frustrated residents.

Throughout recovery, multiple organizations conducted surveys and collected other information from residents. While the Recovery Task Force made efforts early on to coordinate information gathering for academic research, residents were still asked to provide similar information across multiple organizations, which may have resulted in survey fatigue. The Recovery Task Force and the RMWB
could have benefitted from establishing an information sharing and tracking system to reduce the collection of duplicate information.

During recovery the general public was not always fully aware of the achievements being made to address the impacts from the Wildfire. Although communication of achievements is recognized as an important part of a successful recovery campaign, it was not a priority during the early stages of the region’s recovery. Later on during the recovery phase, the Recovery Task Force initiated communications regarding recovery successes to the public, while making efforts not to affect other important municipal information that was being disseminated.

Recovery Pillars

While there were five pillars for recovery, there were also a number of other important supporting functions included as part of the Recovery Task Force. This included: Communications and Stakeholder Relations, the Chief of Staff, Project Services, Plans, Human Resources, and Security. Each of these functions were important to support the recovery work across the pillars and were beneficial to the success of the Recovery Task Force.

The recovery pillar structure enabled the Recovery Task Force to organize and focus on the specific aspects and desired recovery outcomes of the Recovery Plan. It also helped the Recovery Task Force to identify what experience and expertise was necessary to achieve the desired recovery outcomes. As a result, the Recovery Task Force was able to implement a number of important activities within each pillar (see Appendix F) and support the region’s recovery from the Wildfire.

However, while recovery has progressed, the state of the region’s economy remains uncertain and many residents have departed the region over the past two years. Further, while recovery targeted activities to bolster the RMWB’s local economy, there has been limited long-term economic improvement in the region due to ongoing economic conditions in Alberta’s oil and gas industry.

This context may limit the RMWB’s ability to achieve some of its desired recovery outcomes. It also affects understanding whether a recovery outcome was achieved as a result of the RMWB’s recovery efforts, or whether it was due to other factors, such as an improving economy.

Additional challenges to understanding the impact of recovery efforts, and achievement of outcomes was the need to rely on others to provide information. Without established information sharing agreements with some organizations, including other levels of government, it was challenging to access and publish progress on the recovery. In the future, establishing information sharing agreements with outside organizations early, would be beneficial to tracking the achievement of the desired recovery outcomes.
The Recovery Task Force identified and published a number of statistics on the RMWB’s website to indicate their progress against each of their desired recovery outcomes. These statistics were based upon an understanding of how other communities who had faced disasters, had measured and reported on the performance of their recovery activities.

In its review of performance measures, the Recovery Task Force determined that other communities used some statistics that were economic and financial in nature. It was determined that the use of economic and financial measures may not be appropriate to the RMWB’s context, based on the ongoing economic challenges in Alberta that were impacting the region, as they could not always be directly influenced by the recovery activities undertaken.

The Recovery Task Force instead relied upon a number of qualitative measures as well as some quantitative measures, such as the number of housing starts, the strength of the resale market, and the rental market vacancy rate, to highlight the impact that recovery was having on the region.

Each of the pillar’s progress is described below, as well as a selection of indicators, published by the RMWB and other sources, which were impacted by the recovery efforts undertaken.

**People Pillar**

Through regular engagement, the Recovery Task Force was able to tailor recovery supports for residents, including psychosocial and insurance-related supports in collaboration with a number of partner organizations.

Desired outcomes and key indicators for the People pillar includes the following:

<table>
<thead>
<tr>
<th>People Pillar Outcomes</th>
<th>Key Indicators</th>
</tr>
</thead>
</table>
| All children receive quality education in the RMWB | – 13 of 17 schools that closed were re-opened in time for the 2016 / 17 school year.  
– All schools will be re-opened by the start of the 2017 / 18 school year. |
| The RMWB is a unified region with all residents supportive of one another | – According to growth (low) estimates approved by Council in May 2017, the RMWB population was anticipated to have decreased by 10% in 2016, and was expected to decrease a further 4% in 2017. |
### People Pillar Outcomes

<table>
<thead>
<tr>
<th><strong>Residents are engaged and actively supporting the recovery of the region</strong></th>
<th><strong>Key Indicators</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Completed more than 60 ‘Here for you’ sessions</td>
</tr>
<tr>
<td></td>
<td>6 public members were appointed to the Recovery Committee</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Recovery increases the health, safety and wellbeing of our residents</strong></th>
<th><strong>Key Indicators</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24,021 individual meals and 11,755 hampers were distributed by the Wood Buffalo Food Bank in the year following the Wildfire</td>
</tr>
<tr>
<td></td>
<td>200 households received rebuilding support due to being underinsured or uninsured. This rebuilding effort is anticipated to complete within 3 to 4 years</td>
</tr>
</tbody>
</table>

Recovery supports were proactively offered, which mitigated some of the stigma associated with them, for example, accessing mental health services. As part of this, psychosocial support was offered to 2,200 teachers, with an uptake of approximately 50% for this group. These supports started with 3 teachers per session in January 2017 and had 100 participants during one session in June 2017. Upcoming September 2017 sessions have been fully booked as of June 2017. While teachers were less receptive to these supports in the beginning, they soon realized the value of attending such programs and as a result their participation increased.

There were also areas where supports offered through the People pillar could have been improved. For instance, the Recovery Task Force did not deliver services in a variety of languages (other than English), which could have helped in the delivery of services to vulnerable groups such as immigrants and newcomers in the region. In addition, while welcome programs were in place for residents who re-entered the community at a later date, residents that arrived after the initial re-entry, or those who returned later due to the damage sustained to their property, reported feeling forgotten by the recovery efforts.

The Recovery Task Force organized numerous events and activities that were meant to bring together and unify the community and its residents. Stakeholders noted how residents appreciated that the community supported each other and came together after the Wildfire. One example of this was the distribution of 10,000 Pocket Hearts as a way for individuals to thank each other. The initiative was implemented by a local artist and was subsequently promoted by the Recovery Task Force.
The one-year anniversary of the Wildfire in May 2017, was an important milestone event for the community. The Recovery Task Force, RMWB and organizers recognized that such an event could trigger traumatic memories for residents and therefore took steps to create an inclusive event. Stakeholders reported that this approach successfully weighed individual needs against the region’s need to come together around a shared cause.

During recovery many different partner organizations were leading their own activities and efforts. This may have led to residents being asked for similar information each time they accessed supports and services. In response to this, the Recovery Task Force established a Memorandum of Understanding (MOU) for information sharing between the various partner organizations, allowing residents to tell their story only once in order to receive supports.

Other learnings identified from work under the People pillar included the need to establish contact with parents whose children were enrolled in schools that were in damaged areas, in order to inform them about ongoing developments. While communication should have been led by School Boards, the Recovery Task Force could have better supported these efforts at the onset of recovery, before the school year began, and worked with the School Boards to understand and address children’s needs throughout the school year following the Wildfire.

The summary of key initiatives implemented by the People pillar to support primary objectives and desired outcomes of the Campaign Plan are:

- Supported and organized many community events
- Involved in developing ‘Here for You’ sessions and the supporting Communications Plan
- Established a Memorandum of Understanding for information sharing with non-profit groups
- Coordinated delivery of Welcome Home Baskets, and
- Coordinated the Commemorative Monument development process.

**Environment Pillar**

Desired outcomes and key indicators for the Environment pillar includes the following:

<table>
<thead>
<tr>
<th>Environment Pillar Outcomes</th>
<th>Key Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>The environmental impacts of the wildfire relative to air, land, water,</td>
<td>- 76,000 seedlings were planted by the reforestation programs</td>
</tr>
</tbody>
</table>
### Environment Pillar Outcomes

<table>
<thead>
<tr>
<th>Key Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>and biodiversity are understood and remediated</td>
</tr>
<tr>
<td>5,600 seedlings were planted by community groups (i.e. ReLeaf, Eco Yolo and other groups)</td>
</tr>
<tr>
<td>Air, soil and water test results have indicated that no further mitigation measures are required</td>
</tr>
<tr>
<td>Opportunities to minimize the environmental impact on the Region are seized during the recovery</td>
</tr>
<tr>
<td>Total inbound waste for landfill increased from just over 250,000 kilograms in 2015 to well over 400,000 kilograms in 2016</td>
</tr>
<tr>
<td>About 300,000 kilograms (around 75%) of the inbound waste in 2016 was recycled</td>
</tr>
<tr>
<td>Innovative environmental initiatives were implemented</td>
</tr>
<tr>
<td>No key indicators were identified for this outcome</td>
</tr>
</tbody>
</table>

Environmental testing during recovery was challenged by the complexity of the tests. Results were published publicly and placed in context of what they were intended to demonstrate to residents. However, the complexity of the environmental testing meant that residents and municipal staff still had a difficult time interpreting what these results meant. Leveraging environment expertise around environmental testing and its interpretation could have improved the use of this information by all stakeholders.

To minimize the risk of ash movement by wind or cleanup activities, a tackifier was applied as an additional mitigation strategy to several neighbourhoods. During recovery, the RMWB may have acquired too much, which was an issue due to tackifier's short shelf life.

The Environment pillar re-established green spaces across the RMWB. This included the Firebreak Rehabilitation and Trail Restoration project, a joint project between the RMWB and the Recovery Task Force, to rehabilitate the dozer guard areas that were created during the response period, and repair and replace any trails that were damaged as a result of the Wildfire. The RMWB replaced and restored all damaged parks and playgrounds to ensure residents had access to existing amenities.
Finally, findings indicate that the Environment pillar made limited efforts to promote green initiatives and innovation. However it is recognized that such efforts often require ongoing support from a municipality and in some cases an additional investment.

The summary of key initiatives implemented by the Environment pillar to support primary objectives and desired outcomes of the Campaign Plan are:

‒ Coordinated Re-Leaf reforestation efforts
‒ Conducted firebreak rehabilitation
‒ Made efforts towards trail Restoration
‒ Completed drainage and remediation of water pooling of 108 sites across the RMWB
‒ Worked with residents of Saprae Creek to develop an Off Highway Vehicle plan for their community
‒ Managed the contract and scope of work for hazardous tree removal
‒ Collaborated with the Government of Alberta to complete phase 1, 2 and 3 Environmental testing, and
‒ Created guide to FireSmart Landscaping.

**Economy Pillar**

The purpose of the Economy pillar was to reinvigorate economic activity in the short-term based on the Wildfire’s impacts, rather than address other ongoing economic challenges faced by the region (e.g. lower unemployment, oil prices, etc.). Measured against this, the Recovery Task Force’s efforts were largely effective and successful.

Desired outcomes and key indicators for the Economy pillar includes the following:

<table>
<thead>
<tr>
<th>Economy Pillar Outcomes</th>
<th>Key Indicator</th>
</tr>
</thead>
</table>
| Our economy displays no lasting negative impact associated with the 2016 wildfire | – The unemployment rate in the RMWB decreased from 9.5% in May 2016 to 8.3% in May 2017
| | – The median house sales price in the RMWB was 11% lower and the number of house sales was 42% higher in 2017 compared to one year earlier (January – April periods were compared) |
## Economy Pillar Outcomes

<table>
<thead>
<tr>
<th>Key Indicator</th>
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</thead>
<tbody>
<tr>
<td><strong>We have maximized opportunities for regional businesses to assist in the recovery of our community</strong></td>
</tr>
<tr>
<td>- $4,500,000 was disbursed to 692 small businesses through the Small Business Workforce Support Program</td>
</tr>
<tr>
<td>- More than $17 million was disbursed by the Canadian Red Cross to local businesses through three phases</td>
</tr>
<tr>
<td>- Phase 1: $1,000 per eligible business</td>
</tr>
<tr>
<td>- Phase 2: Up to $8,000 per eligible business</td>
</tr>
<tr>
<td>- Phase 3: Up to $11,000 per eligible business</td>
</tr>
<tr>
<td>- 96% of YMM Home Show and 87% of YMM Home Show &amp; Career Fair vendors identified new contracts following the events</td>
</tr>
<tr>
<td><strong>Localized oil and gas production is supported by a labour force that resides in the region</strong></td>
</tr>
<tr>
<td>- Monthly oil production increased by 3.6% in January – April 2017, compared to January – April 2016</td>
</tr>
<tr>
<td><strong>Support from the Province’s Disaster Recovery Program was maximized</strong></td>
</tr>
<tr>
<td>- As of May 26, 2017, the RMWB had an approved project list for the Disaster Recovery Program totaling an estimated $299 million.</td>
</tr>
<tr>
<td>- 58%, of this is meant to cover response-related activities due to the Wildfire</td>
</tr>
<tr>
<td>- 28% is intended to cover recovery of municipal infrastructure, and</td>
</tr>
<tr>
<td>- 13% is intended to covers the operational costs of recovery.</td>
</tr>
<tr>
<td>- To date, the RMWB has submitted claims totaling $110 million.</td>
</tr>
</tbody>
</table>
The Recovery Task Force reached out proactively to businesses instead of waiting for them to ask for help, which contributed to its success in identifying recovery supports and services for businesses.

Businesses that participated in the Back to Business Centre provided positive feedback on the supports they received; however not all businesses may have taken advantage of these supports. As well, supports were mostly targeted towards small businesses, with larger businesses not being supported to the same extent. It was noted by some stakeholders that larger businesses could have better supported smaller ones with their expertise in navigating recovery, based on their enhanced capacities and capabilities; during recovery this occurred in limited circumstances unrelated to the activities carried out by the Recovery Task Force.

In an effort to support the region, the Recovery Task Force implemented a policy requiring all recovery projects to adhere to the RMWB’s Social Procurement Process. This proposal / tender evaluation process provided additional points to vendors whose contracts led to regional social benefits.

The Recovery Task Force also investigated ways to encourage residents to buy local, with limited results. Part of the challenge was that the RMWB could not legally provide subsidies or other incentives for residents to buy local, as such programs could have breached legislation such as the federal Competition Act, by creating price discrimination. Another challenge to buying local was the available supply of local contractors to serve the region with all of its needs. This was especially challenging for smaller rural communities within the RMWB which generally had less supply.

The Economy pillar conducted a needs assessment with local businesses, whose findings led to the development of a customized business recovery loans program. This initiative allocated funds to the local Community Futures chapter (a non-profit), who used the funds to administer a loans program to support the recovery of local businesses, further catalyzing the region’s recovery. Although this initiative could have begun earlier in the recovery process, it had the potential to address near term business needs and transition into a longer-term program that supported regional businesses.

A final learning from the Economy pillar was that any municipality setting up its economic recovery plans and activities should consider the trade-off between focusing on short-term recovery, or using the disaster or emergency as an opportunity to create longer term economic growth and economic diversification. Work under this pillar has since been transferred by the Recovery Task Force to the Wood Buffalo Economic Development department.

“The programs offered by the Red Cross and the RMWB were helpful to my business, although my business could have benefited from receiving the supports sooner”
- Business Owner
The summary of key initiatives implemented by the Economy pillar to support primary objectives and desired outcomes of the Campaign Plan are:

- Implemented Buy Local Campaign
- Enacted Social Procurement policy
- Developed Loan Programs
- Provided residential Tax Relief
- Created Business and Economic Recovery Plan
- Conducted Business Recovery Needs Assessment
- Conducted Ask an Expert and Learning Events, and
- Organized YMM Homes Show and Home Builders Expo.

**Rebuild Pillar**

Desired outcomes and key indicators for the Rebuild pillar includes the following:

<table>
<thead>
<tr>
<th>Rebuild Pillar Outcomes</th>
<th>Key Indicator</th>
</tr>
</thead>
</table>
| All wildfire damage has been repaired or remediated | - Completed rebuild inspections as of June 30, 2017 (as a percentage of the 2,579 total):
  - 30% of foundation inspections completed
  - 16% of framing inspections completed
  - 18% of insulation inspections competed
  - 3% of final inspections completed |
| Outside agencies fulfilled their role in the rebuilding of RMWB | - The Government of Alberta provided $30.3 million in donation matching to grants for local charitable, non-governmental and Indigenous organizations to support recovery ($14.3M), relief for small business owners ($15M), and funding for health research an initiatives ($1M)
  - The Canadian Red Cross completed 1,664 assessments and 1,758 walk-in assessments in Fort McMurray from August 2016 |
During the early stages of recovery, the RMWB’s Rapid Damage Assessment tool and process were considered to be an overall successes by residents and stakeholders. The RMWB had recently completed GIS (Geospatial Information System) mapping in advance of the Wildfire and this data enabled it to effectively, and promptly assess the damage to all structures across the region.

Within one week all structures had been assessed and the information was provided to residents through a dedicated website platform on the RMWB website, to help them plan for their return. Many residents noted that they appreciated being able to see whether their property had been damaged prior to re-entry, to help them plan for their future.

While the Rapid Damage Assessment was a success, it was noted that the process could have been enhanced through the use of better definitions for different structure types, as well as prescribed methods for counting structures (e.g. counting a duplex count as one structure or two). Finally, consistent damage assessment criteria were needed for Safety Code Officers to maintain consistency in their assessments and support the data collection process.

During response, damaged areas were fenced off to the public for safety reasons. Security access and controls also required the coordination of several security companies. The continued use of fencing within recovery was effective to ensure safety, protect any lots which were not backfilled and provide a level of security within the rebuild areas. There were no reported systematic breaches of the fenced areas. However, one of the learnings from this was the need for better tracking of
fencing, especially as they were being taken down following remediation efforts. A lack of tracking led to a number of missing fences and a subsequent potential financial liability to the RMWB.

Sifting was implemented following the re-entry of residents whose homes had been damaged, based on a learning following the 2010 Slave Lake Wildfire. Initially managed by a non-profit organization on a voluntary basis, the RMWB took over management of the program after about three weeks. The program sifted through a total of 1,100 properties, and was able to provide a sense of closure to the residents that were supported through it.

The scale of the sifting activities were unprecedented. As a result, there were several learnings that arose from the sifting activities:

- The non-profit managing the sifting program at first may not have had the capacity to take on the magnitude of the program. This slowed down the program’s progress and thereby impacted residents that were among the RMWB’s most vulnerable.

- During the sifting process, new personal protective equipment was needed each time a team member sifted through a house; this contributed to high, unplanned, equipment costs for the program. Further, some sifters adhered to religious holidays (e.g. fasting), which meant that they had limited abilities for the labour intensive work and had to be reoriented to other tasks.

- Information regarding the sifting program may not have been effectively communicated. For example, only 15 minutes of sifting was allocated per house, and it was noted that some residents were upset when they realized this.

- The sifting program had to address the removal of debris in dangerous homes to facilitate sifting; a non-profit was later contracted to provide debris removal equipment.

The Rebuild pillar saw several successes that had a large impact on the RMWB as a whole. The first was the Green Home Re-entry Program. The program successfully enabled the phased re-entry of residents, based on known hazard risks. This was a product of the collaboration with the Alberta Chief Medical Office of Health regarding environmental testing.

The Alberta Chief Medical Office of Health was the sole authority who could determine whether an area was safe to return to. While initial communications with the Alberta Chief Medical Office of Health were challenged due to the lack of a dedicated contact, communications greatly improved once a contact was established.

The RMWB issued a demolition order for properties that were destroyed or so severely damaged that they required demolition. This enabled a timely clean up in support of the Green Home Re-Entry Program and rebuilding efforts. There was limited tracking of demolition status and soil used for
backfilling. Such tracking could have helped the Recovery Task Force to keep residents informed and support how backfill soil was subsequently disposed of. Further, the RMWB should have established policies for the landfill early on in the recovery process, including what materials could be diverted, and how to dispose of potentially contaminated soil.

The RMWB successfully demolished all damaged structures in the region before winter, and cleaned playgrounds and other recreational assets of any potentially contaminated materials. The rebuild within the RMWB is progressing, but is anticipated to take three to four years.

While some residents reported long wait times for permits, other stakeholders reported that the permitting processes for demolitions and rebuild were efficiently managed, with short turnaround times. Staff reported that incomplete applications may have increased processing times for some residents. The RMWB completed a reorganization in January 2017 that enabled all Planning staff to issue permits, which was previously not the case. This helped speed up the permitting process.

During the rebuild, the Recovery Task Force created Construction Management Teams to address the expected magnitude of rebuild challenges. These challenges were identified in lessons learned from previous disasters, and included for instance congestion. Construction Management Teams were deployed in affected neighbourhoods and supported all aspects of the rebuild; coordinating contractors, regulators and service providers, regular communication, industry and expert engagement, ensuring safety, and numerous other coordination activities. Team members’ experience, and knowledge of the local context reinforced this successful approach to supporting the rebuild.

The Canadian Housing and Mortgage Corporation (CMHC) pointed out in a news release on July 21, 2017, that reconstruction is progressing faster than expected, with 722 housing unit rebuilds underway. The RMWB’s current progress prompted the CMHC to readjust their estimated rebuilt units per year to 1,000, up from 600 in December 2016.

Restoration of wildfire damages is funded through the provincial Disaster Recovery Program. The RMWB began working with the Government of Alberta in May 2016, and has maintained a positive working relationship throughout the recovery process. The RMWB’s project list related to infrastructure restoration represents projects of approximately $80 million (of the total $299 million in funding requested through the Program). The Recovery Task Force has taken steps to optimize the funding from the Program, including tracking necessary documentation to qualify for funding through the program.

The Recovery Task Force worked with the Government of Alberta to create the Comprehensive Firebreak Program. This Program was established to provide compensation to owners of property
that was damaged from proactive efforts to create firebreaks, from water bombing, or from use of fire retardant. This Program filled a funding gap for individuals whose insurance did not reimburse the full costs to restore property to the equivalent of its pre-fire state. This was an innovative approach to assist individuals affected by bulldozed homes, water bombing or fire retardant.

One of the lasting challenges associated with the Rebuild pillar has been the concept of “building back better”. While insurance and other payments were available to residents to rebuild damaged properties and infrastructure, generally these only covered costs to rebuild to pre-fire conditions.

This effectively places the financial burden of re-building in safer locations, and / or with less flammable materials on residents. This financial burden represents a significant barrier to residents, as many are unwilling or unable to pay out-of-pocket for upgraded and less flammable materials. Consequently, it is unlikely that most structures will be built back better. The funding challenge of building back better needs to be investigated further to identify options and strategies for supporting and funding disaster risk mitigation efforts during rebuild.

In addition, while Council approved a bylaw that bought out some properties situated in high-risk slope areas in the Waterways neighbourhood, they allowed four properties within the slope area to be rebuilt. Further, Council approved a bylaw that allowed rebuilding in the flood hazard area of the Waterways neighbourhood without flood mitigation measures in place. This is an example of where the need for timely recovery may have been prioritized over the principle of building back better.

Building back better should be a consideration for all future municipal policy and bylaw development within any community, for example establishing tax rebates for using FireSmart suggested building materials, funding a portion of improvements made to structures during rebuild, etc.

The Recovery Task Force has also initiated policy development on a shared-cost grant program that would target the reduction of risk from ember transmission associated with wildland urban interface fires. The Alberta Climate Change Office within the Government of Alberta, the Canadian Red Cross, and the Recovery Task Force are in discussions. To date, only the Canadian Red Cross has indicated financial support for such a program.

The summary of key initiatives implemented by the Rebuild pillar to support primary objectives and desired outcomes of the Campaign Plan are:

- Created Rebuild Guidance Document
- Created construction Access Roads
- Conducted Utility Coordination Meetings
- Coordinated Sifting Program
– Implemented the “Safe Compliant Efficient” approach to rebuild
– Implemented Rebuild Plan
– Created Construction Management Teams
– Created construction safety video and shared with schools
– Organized Green Home Re-Entry
– Issued demolition order and subsequently demolished outstanding properties
– Developed and implemented the Comprehensive Firebreak Program
– Created grading Plans for Abasand, Beacon Hill and Waterways
– Completed survey pin Replacement
– Coordinated street sweeping in rebuild areas
– Conducted rebuild Sub-Committee meetings with Urban Development Institute (UDI) Insurance Bureau of Canada (IBC) and Fort McMurray Construction Association, and
– Conducted bi-weekly rebuild meetings with Planning & Development, Safety Codes, Development Compliances, Bylaw, RES, RCMP, OH&S and Alberta Environment and Parks (AEP).

**Mitigate Pillar**

Desired outcomes and key indicators for the Mitigate pillar includes the following:

<table>
<thead>
<tr>
<th>Mitigate Pillar Outcomes</th>
<th>Key Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health risks associated with the Wildfire are known, understood and effectively mitigated against</td>
<td>– Environmental test results have not indicated the need for any further mitigation measures</td>
</tr>
<tr>
<td>FireSmart and programs like it are explored and implemented where appropriate</td>
<td>– The RMWB secured $14 million in FireSmart: $10.5 million from the Government of Alberta and $3.835 million from the Canadian Red Cross</td>
</tr>
</tbody>
</table>
### Mitigate Pillar Outcomes

<table>
<thead>
<tr>
<th>Key Indicator</th>
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</thead>
<tbody>
<tr>
<td>Routes deemed to improve resilience are built</td>
</tr>
</tbody>
</table>

- The Government of Alberta has committed to providing up to $5 million to support the pre-design stage of the East Clearwater Highway

FireSmart activities related to mitigating fire risks have been extensive following the Wildfire. There has been strong planning for the future, including substantial funding and the creation of a provincial Wildland Urban Interface Group, which the RMWB is a partner of.

However, such efforts must be accompanied by ongoing public awareness for residents on what it means to live within the boreal forest, and the potential wildfire hazards and other disaster risks that it entails. The Recovery Task Force has worked to increase such public awareness, however stakeholders indicated that some residents still do not fully realize the extent of inherent fire hazards associated with living in the boreal forest. The goal for FireSmart should be for residents to recognize fire hazards the same way they recognize other dangers (e.g. bears, etc.), and take appropriate mitigating actions.

The RMWB’s initial efforts to create egress routes in rural communities, neighbourhoods and through the East Clearwater Highway demonstrate progress towards mitigating future disasters successes. These efforts should be further reinforced through policies that mandate new neighbourhoods to be built with egress routes in place.

The summary of key initiatives implemented by the Mitigate pillar to support primary objectives and desired outcomes of the Campaign Plan are as follows:

- Developed FireSmart Strategy
- Council approved the East Clearwater Highway as their highest mitigation priority
- Council approved of $5 million for pre-feasibility work on the East Clearwater Highway, and
- Ongoing efforts to create egress Routes in Abasand, Beacon Hill and Wood Buffalo, and investigation into egress routes for Saprae Creek, Janvier, Conklin, and Fort McKay.

**Integration of Insurance Bureau of Canada**

During the response and recovery efforts the Insurance Bureau of Canada was a key partner to the RMWB. The Insurance Bureau of Canada is Canada’s national industry association for private home, auto, and business insurers.
The Insurance Bureau established themselves as the authoritative source of insurance information following the Wildfire. They were embedded within the Regional Emergency Operations Centre as of May 14, 2016, and also shared office space with the Recovery Task Force for seven months after the Wildfire.

While there was no plan to follow for the Insurance Bureau to integrate with the RMWB, through the Regional Emergency Operations Centre and Recovery Task Force, there was sufficient integration early in the response, in order to start recovery immediately following a disaster.

Insurance Bureau activities that were conducted on behalf of the RMWB included:

- Coordinated access of 1,200 insurance adjusters to help residents get their insurance claims started following their evacuation and subsequent re-entry
- Disposed of 12,000 fridges and freezers following resident re-entry
- Coordinated house demolition following the RMWB’s demolition order, including collaboration with the Canadian Red Cross to manage demolition of uninsured homes. Out of roughly 1,600 structures, the Insurance Bureau demolished around 900 homes, and the RMWB demolished around 100 homes. Many residents coordinated their own home demolitions.
- Coordinated the “Insurance. Recovery. Support. Program”, and
- Supported resident and insurer dispute resolution processes.

In addition, the Insurance Bureau also provided support through other activities that were run by the RMWB include telephone town halls, Here for You sessions, trade shows, and the Back to Business Resource Centre. The support provided by the Insurance Bureau complemented the Recovery Task Force, allowing the latter to direct its resources to other recovery matters.

Further, the Insurance Bureau disseminated information about insurance through various channels. This included in-person at evacuation centres and at information centres following re-entry, via telephone, e-mail, printed materials, and on social media. They also had an area on their website designated for the Wildfire and relevant information.

The Insurance Bureau fulfilled the role of insurance expert, and actively provided residents with a single reliable source of insurance information as well as conducted regular debriefs with the Recovery Task Force on what was occurring. This relieved the need for the Recovery Task Force to acquire in-house insurance expertise to respond to resident requests. It also helped resolve specific questions about insurance in a timelier manner.

The Insurance Bureau also provided the Recovery Committee and Council with a better understanding of insurance related impacts and consequences to potential policy decisions. A key
learning from this was that municipal leaders should understand the various impact of policy changes, including perverse incentives and moral hazard effects, before they are made.

**Leading Practices**

Leading practice research indicates the following factors encourage community disaster recovery:

- Fast, effective cleanup
- Timely access to capital for restoration of public infrastructure and private property
- Business restoration, and
- Restoring permanent housing, schools, hospitals and social services.

As a leading practice, Australia closely links relief and recovery efforts in its disaster policy and approach to emergency management at the national level. The Australian State of Victoria is leading the way in developing the concept of resilient recovery, which considers the whole system of relief and recovery and the ways diverse components within that system can be organized and empowered to deliver community recovery outcomes for a safer and more resilient future.

As a leading practice, recovery is best staffed by individuals who have lived experiences given the nuances of recovery planning, coordination and execution. This includes the maturing and development of permanent recovery functions within provincial emergency management organizations.

British Columbia’s Community Disaster Recovery Guide outlines that specified, trained individuals initially fill key functions in a recovery organization, while members of the local community assume these roles over time. Further, recovery is a joint effort that should be led by the local community, in coordination with all affected parties, and by empowering individuals, such as affected residents, to be actively involved in their own recovery. xxix

**Recommendation**

**Begin recovery planning and activities as early as possible following a disaster**

Recovery means bringing the community back to its pre-disaster state. Recovery should start as early as possible in order minimize the impact to a region and residents. This means making decisions quickly about what recovery governance and operational structure should be adopted and implemented, while the response is still occurring.

This can be facilitated by the RMWB developing Recovery Plans templates and frameworks (see page 52) that can guide decision-making to facilitate a speedy recovery even as an emergency or
disaster is happening. Such plans may include categories for recovery that can apply to different types of emergencies and disasters, including metrics and potential baseline data for measuring success.

Assess and account for trade-offs associated with different recovery governance and organization structures

In line with the above recommendation, municipalities must decide early on whether or not to create designated recovery governance and organization structures, and potential staffing. Municipalities must recognize the inherent trade-offs involved with selecting one model over another, including any implications for potential Disaster Recovery Program funding.

These trade-offs can be expressed along three dimensions:

- Focus on recovery vs. municipal operations
- Implementation speed vs. depth and quality
- Decision-makers’ and staff’s qualifications, including whether they should be:
  - Current municipal operations staff
  - Accountable to the public (i.e. include elected members)
  - From outside the community
  - Recovery experts

Each of these dimensions can be applied to different organizational levels. These include strategic, executive and operational levels. For each organizational level, municipalities should consider a decision-making process similar to the following flow chart:
This decision tree is likely to produce hybrid models, for instance in terms of having staff recruited both internally and externally, and having both elected officials and appointed individuals on committees. Finally, the type of recovery organization structure may impact a municipality’s eligibility for Disaster Recovery Program funding. Working closely with the Government of Alberta on its Disaster Recovery Program is key to identifying whether any specific model may result in limited funding to the municipality.

The following table outlines some of the considerations that should be formalized within the RMWB’s Recovery Plan.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting up recovery institutions</td>
<td>‒ The extent of the disaster and need for individual governance and organization structures – emergency or disaster events of smaller scope may not need designated structures. This also relates to the extent of damage to be repaired.</td>
</tr>
<tr>
<td></td>
<td>‒ Level of priority assigned to recovery – a higher level priority may warrant separate recovery governance and organization structures.</td>
</tr>
<tr>
<td></td>
<td>‒ Speed at which organizational set-up needs to happen – designated structures may take longer to set up. They may also add time to the policy decision-making process.</td>
</tr>
<tr>
<td>Hiring internally or externally</td>
<td>‒ Expert knowledge vs. organizational knowledge – there may or may not be qualified staff in the municipal organization.</td>
</tr>
<tr>
<td></td>
<td>‒ Internal staff are likely to have existing networks to other parts of the municipal organization, which may contribute to the effectiveness and efficiency of the recovery structures.</td>
</tr>
<tr>
<td>Qualification requirements</td>
<td>‒ Local knowledge vs. expert knowledge - including public officials may increase the recovery governance and organization structure’s public accountability, however these officials may not be qualified in emergency / disaster recovery.</td>
</tr>
<tr>
<td></td>
<td>‒ Internal vs. external view – it may be beneficial to include people from outside the region who can provide an alternate perspective.</td>
</tr>
<tr>
<td>Dimension</td>
<td>Considerations</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------</td>
</tr>
<tr>
<td></td>
<td>Staff could be seconded from current staff in municipal operations. Depending on the level of knowledge and experienced required, the municipality may also have to hire individuals from outside the region. This can also be helpful in providing an external perspective.</td>
</tr>
</tbody>
</table>
Resiliency

Background

A resilient community is one that possesses the physical, psychological, social and economic capacity to withstand, quickly adapt and successfully recover from a disaster. It is able to rebuild itself in a manner that will better mitigate and prevent disaster impacts.

The United Nations Sendai Framework defines resilience as the ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the presentation and restoration of its essential basic structures and functions through risk management.

Timeline

Resilience activities generally aim to improve the community beyond structures that were in place before an incident. These are not strictly separable from some of the RMWB’s recovery activities, as many of these also supported a move to strengthen resilience within the region.

One year after the Wildfire, the RMWB has started to develop and plan a number of activities and projects that, when completed, will contribute to the region’s resilience.

Researchers at several universities are currently studying the impacts physical and mental health from the Wildfire. Once the results are known it can help the RMWB further tailor their resident
services and thereby strengthen resident health, as well as identify additional lessons learned for potential future emergencies or disasters.

In addition to providing training and wildfire risk reduction activities, the RMWB has secured $14 million in FireSmart funding, to help mitigate and prevent future disasters.

Approximately $299 million in DRP funding will also help improve the RMWB’s resilience, through restoring damaged infrastructure, and funding operational recovery costs.

Investments in new infrastructure will help to improve the RMWB’s resilience including the planned East Clearwater Highway, as well as egress routes in and out of rural communities, and Fort McMurray neighbourhoods.

Finally, all schools that had been closed following due to the Wildfire are now scheduled to re-open in September 2017, representing a milestone in the community’s process to build resilience, and its ability to build back.

Community Resiliency Strategy

Lessons Learned
The RMWB recently completed enhancements to its Municipal Emergency Management Program (including updates to the Framework through the Municipal Emergency Management Program Overview prepared in May 2017). Additional focus was placed on activities that will contribute to increased disaster resilience.

Findings
The RMWB, like most other Alberta municipalities does not have an established community resiliency strategy.

Resilience at its core is about how best to enable social and economic sustainability in the face of disasters. The impacts to the RMWB resulting from the Wildfire clearly demonstrate the need to prioritize disaster preparedness, disaster risk reduction, and ongoing community resilience, to better address these impacts, and ultimately reduce them. At the same time, given the ongoing economic and social challenges the region has faced, and continues to face, it is important that thought is put into how to build a more resilient community.

As the RMWB has unique characteristics (i.e. northern location, proximity to Industry, young demographic, single access highway) it will require a community resiliency strategy that is tailored to its needs. The strategy should leverage the successes it achieved during its recovery from the Wildfire to build the resilience of the RMWB in the face of future events, including disasters.
Even though there is no community resilience strategy, there are many recovery activities, such as the Firebreak and Trail Restoration Project, and CARE WB, Home-to-Home pilot program planned for the coming months, which will contribute to building back better, and building community resilience.

**Leading Practices**

The Canadian Centre of Community Resilience emphasizes the importance of community resilience in the face of challenging events. A resilient community is one that takes intentional action to enhance the personal and collective capacity of its citizens and institutions to respond to and influence the course of social and economic change.

While Emergency Management Victoria has established a Community Resilience Framework which outlines seven characteristics of a resilient community. These characteristics are not immediately “emergency” related but reflect the qualities that enable communities to avoid or manage emergencies and to enable them to rebuild and re-establish when necessary.

Work is also underway by the Government of Alberta on the development of guidelines to support municipalities with their local resiliency planning efforts.

**Recommendation**

**Develop a community resiliency strategy**

A community resiliency strategy is particularly relevant to the RMWB given the economic challenges in place prior to the Wildfire. The strategy should consider social, economic, and environmental factors, including mitigating risks of future events.

The strategy should initially focus on the psychosocial, economic, and other ongoing needs of the community, due to the Wildfire and in preparation for the next significant event (natural disaster, economic downturn, or otherwise) that could impact the RMWB.

It should also support the ongoing prioritization of strategies, plans and activities to be taken by the RMWB in support of the longer-term resiliency of the community.

The strategy should define the characteristics, activities, outcomes, and indicators to build and measure community resilience in the RMWB. It should address concepts such as disaster risk mitigation, community connectedness, personal preparedness, etc.

The development of the strategy should include residents, rural and Indigenous communities, as well as emergency management partners, reflecting the needs of the entire RMWB community.
While the RMWB showed some alignment with the Sendai Framework prior to and during the Wildfire response and recovery, completion of the Disaster Resilience Scorecard for Cities xxx would provide a more robust assessment of the RMWB’s current compliance with the Sendai Framework and a basis for developing the community resilience strategy.

Looking Forward
The Wildfire had a significant impact on the community and on the RMWB as an organization. The RMWB is committed to ‘building back better’, with a continued focus on residents’ physical and mental wellbeing; a renewed emphasis on the safety and accessibility of the surrounding forest; and stimulation of economic growth and diversification. The RMWB has embraced the philosophy of resilience and is actively working to enhance community health and safety through collaboration, commitment and leadership.

Additional activities either undertaken or in-flight to support Recovery are identified in Appendix F.
Appendix A | Glossary of Terms

The following terms are used throughout the report:

**All-Hazards** – describes an incident, natural or manmade, that warrants action to protect life, property, environment, and public health or safety, and to minimize disruptions of government, social, or economic activities.

**Business Continuity** – activities performed by an organization to ensure that critical business functions will be available to stakeholders and the public should a disruption occur. The written version is a Business Continuity Plan.

**Campaign Plan** – A strategic, one-page guide to recovery that outlines the problem to be solved, key action areas, primary objectives, desired outcomes, and desired end state following recovery.

**Chain of Command** – the orderly line of authority and responsibility along which directions and instructions are passed during an incident response.

**Command** – the act of directing, ordering, or controlling by virtue of explicit legislation, regulation, or delegated authority.

**Communications** – the process of transmission of information through verbal, written, or electronic means.

**Coordination** – the integration of multi-agency efforts and available capabilities, which may be interdependent, in order to achieve defined objectives.

**Critical Infrastructure** – assets, systems, and networks vital to a city. Their incapacitation or destruction would have a debilitating effect on the economy, environment, public health or safety, or any combination thereof. For example, power lines, medical centres, wastewater services.

**Delegation of Authority** – a statement provided to the appointed individual delegating authority and assigning responsibility. The delegation of authority can include objectives, priorities, expectations, constraints, and other considerations or guidelines, as needed.

**Director of Emergency Management (DEM)** – becomes the Director of Emergency Operations during an incident and is in charge of a local Emergency Operations Centre. The DEM provides overall Emergency Operations Centre management, establishes priorities, liaises with elected officials and approves public communications and information. As outlined in the Alberta *Emergency Management Act*.

**Disaster** – an event that results in serious harm to the safety, health or welfare of people or in widespread damage to property.
Dispatch – the ordered movement of a resource or resources to an assigned operational mission, or an administrative move from one location to another.

Emergency – an event that requires prompt coordination of action or special regulation of persons or property to protect the safety, health, or welfare of people or to limit damage to property.

Emergency Management – the management of emergencies concerning all-hazards, including all activities and risk management measures related to prevention, preparedness, response, stabilization, and recovery.

Emergency Operations Centre (EOC) – the physical location at which the coordination of information and resources to support incident management (on-scene operations) activities normally takes place.

Emergency Responder – the organization(s) required to plan and prepare a response to an emergency.

Emergency Social Services (ESS) – a planned emergency response program intended to meet the immediate and long-term survival and psychological needs of individuals impacted by an emergency or disaster.

Evacuation – the organized, phased, and supervised withdrawal, dispersal, or removal of individuals from dangerous or potentially dangerous areas, and their reception and care in safe areas.

FireSmart – a national program adopted in communities across Canada aimed at reducing the risk of wildfire to homes and neighbourhoods.

Firebreak – an area cleared as defendable space for firefighting.

Firebreak Rehabilitation – restoring of firebreak areas incorporating the principles of FireSmart.

Fort McMurray – the Urban Service Area of Fort McMurray, within the Regional Municipality of Wood Buffalo

Green Home Re-entry Program – a risk mitigation matrix designed to allow re-entry of the remaining standing homes in areas restricted by the Chief Medical Officer of Health.

Hazard – something that is potentially dangerous or harmful, often the root cause of an unwanted outcome.

Hazardous Tree Removal – in order for a tree to be identified for removal, it must have severe health and structural support issues that place the tree at risk of falling down. Only trees that pose a
safety hazard are selected for removal, but if a tree is deemed hazardous it will be removed whether it appears to be living or dead.

**Here for You** – a series of stakeholder engagement sessions designed to engage residents and identify their needs during recovery.

**Hotel to Home Program** – a test of the re-entry and information centres prior to the actual resident re-entry.

**Incident** – an occurrence, natural or human induced (or caused) that requires an emergency response to protect life, property or the environment. Incidents can, for example, include major disasters, emergencies, wildland and urban fires, floods, etc.

**Incident Action Plan** – an oral or written plan containing general objectives reflecting the overall strategy for managing an incident. It may include the identification of operational resources and assignments. It may also include attachments that provide direction and important information for management of the incident during one or more operational periods.

**Incident Command** – the Incident Command System organizational element responsible for overall management of the incident and consisting of the Incident Commander (either single or unified command structure) and any assigned supporting staff.

**Incident Command Post (ICP)** – the field location where the primary functions are performed.

**Incident Command System (ICS)** – a standardized on-scene emergency management system specifically designed to provide an integrated organizational structure that reflects the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries. ICS is the combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure, designed to aid in the management of resources during incidents. It is used for all kinds of emergencies and is applicable to small as well as large and complex incidents. ICS is used by various jurisdictions and functional agencies, both public and private, to organize field-level incident management operations.

**Incident Management** – the broad spectrum of activities and organizations providing effective and efficient operations, coordination, and support applied at all levels of government, utilizing both governmental and nongovernmental resources to plan for, respond to, and recover from an incident, regardless of cause, size, or complexity.

**Incident Management Team (IMT)** – contains personnel who are deployed to assist with the management of an incident. The level of training and experience of the IMT members, coupled with
the identified formal response requirements and responsibilities of the IMT, are factors in determining “type” or level of IMT.

**Indigenous Community** – the various Indigenous peoples of Canada. This report refers primarily to Chipewyan Prairie Dene First Nation, Fort McMurray Métis Local 1935, Willow Lake Métis Local 780, Fort McKay Métis, Fort McKay First Nation, Fort McMurray First Nation. Mikisew Cree First Nation, Athabasca Chipewyan First Nation, and Fort Chipewyan Métis Local 125 communities and their members.

**Information Management** – the collection and management of information from one or more sources and the distribution of that information to one or more audiences.

**Local Authority** – includes the Council and Administration of the Regional Municipality of Wood Buffalo, Chief and Council of Indigenous Communities within the Regional Municipality of Wood Buffalo that had entered into an agreement with the Government of Canada in which it is agreed that the band council is a local authority for the purposes of *Emergency Management Act*.

**Logistics** – the process and procedure for providing resources and other services to support incident management.

**Municipality** – a city, town, village, summer village, municipal district or special area that includes the area comprising an Indian reserve where an agreement is entered into with the Government of Canada in which it is agreed that the band council is a local authority for the purposes of *Emergency Management Act*.

**Municipal Emergency Management Plan (MEMP)** – the master document which outlines the policy, operations, and roles and responsibilities for the corporation and the Agency Members when the MEMP is activated.

**Mutual Aid Agreement** – written or oral agreement between and among agencies / organizations and / or jurisdictions that provides a mechanism to quickly obtain emergency assistance in the form of personnel, equipment, materials, and other associated services. The primary objective is to facilitate rapid, short-term deployment of emergency support prior to, during, and / or after an incident.

**Protocol** – a set of established guidelines for actions (which may be designated by individuals, teams, functions, or capabilities) under various specified conditions.

**Recovery Framework** – the approach the RMWB employed to recover the region. It includes the legislation, the governance, the budget, the task force, the planning, and all activities dedicated to recovery.
Recovery Plan – a plan developed to restore an affected area or community.

Reforestation Framework – a method of actively planting trees to encourage forest regrowth.

Re-entry – the systematic return of individuals back to the emergency-affected area based on direction of local authorities.

ReLeaf – a program led by Tree Canada to replant trees.

Resident – a person who resides within the Regional Municipality of Wood Buffalo.

Resources – all the assets, people, skills, information, technology, premises, and supplies and information that an organization has to have available to use, when needed, in order to operate and meets its objectives.

Situational Awareness – being aware and keeping track of what is happening provincially, federally and internationally. This can be achieved through sharing information on events and agency / stakeholder actions.

Unified Command (UC) – an Incident Command System application used when more than one agency has incident jurisdiction or when incidents cross political jurisdictions. Agencies work together through the designated members of the Unified Command, often the senior persons from agencies and / or disciplines participating in the UC, to establish a common set of objectives and strategies and a single Incident Action Plan.
Appendix B | Project Methodology

The process of completing this Lessons Learned Review relies on a wide range of relevant experiences, organizations, actions, and practices. To solve this complex problem, KPMG utilized a multi-faceted approach, combining different methods to achieve a nuanced understanding of what happened during response, stabilization, and recovery from the wildfire.

KPMG’s main methods to complete the Lessons Learned review were as follows:

– **Review Existing Data:** The purpose of this activity was to review the existing documentation that the RMWB had already provided, as well as review stakeholder engagement that took place as part of the provincial review completed by KPMG. This information was mapped to understand what was currently available, and determine what additional information may be needed, relative to each of the scope items.

– **Data Collection and Stakeholder Engagement:** The purpose of this activity was to gather the additional documentation and / or perspectives and experiences relative to the scope. The information gathered was used during the assessment and development of the lessons learned.

– For this review, key data sources included: Existing processes / protocols, leading practice frameworks and standards, documentation from the response, etc. Select stakeholders were engaged as necessary to supplement the existing body of perspectives already gathered.

– **Best practices:** The purpose of this activity was to identify leading practices and lessons learned from other jurisdictions to determine what others have done in disaster prevention & mitigation, preparedness, response and recovery and identify best practices that can be leveraged in the RMWB context for the specific objectives including:
  – Risk reduction
  – Disaster legislation and standards
  – Use of analytical tools
  – Evacuation decision framework
  – Implementation and operations of the REOC
  – Implementation and use of ICS
  – Recovery framework
Given the complex, challenging and sensitive nature of this Lessons Learned Review, it was important to give careful consideration to how different stakeholders were approached. As a result, stakeholder engagement took place in two phases:

1) **Information Gathering** – this phase gathered additional information from the RMWB’s perspective in order to fill any gaps across the areas of focus

2) **Validation** – this phase validated our findings with appropriate RMWB representatives

KPMG prepared and provided background information and interview guides to all stakeholders prior to their interview, focus group, or working session. These documents included key questions relevant to the stakeholder participant(s).

Topics for discussion included prevention, preparedness, response, stabilization, recovery, communication, decision making, roles and responsibilities, and relationships. Each session also focused on identifying successes, opportunities for improvement, and challenges faced during prevention & mitigation, preparedness, and response and recovery.

A team of subject matter experts and KPMG professionals reviewed all of the relevant information to prepare this report. Findings were validated against documentation provided the RMWB, and through validation sessions.

The recommendations discussed through the report emerged from a thorough analysis of the findings. This analysis allowed for identification of key themes, and opportunities for improvement.
Appendix C | Key Stakeholders

A mixed methods approach to conducting this lessons learned review was used. KPMG engaged with more than 120 individuals representing the RMWB and its emergency management partners, who provided their input through interviews, focus groups, working sessions, and surveys.

In addition, KPMG also gathered some of the lived experiences of the RMWB’s residents, businesses and those of nearby First Nations and Métis communities. Approximately 1,200 residents and 100 businesses shared their perspectives on matters regarding recovery through an online survey. Conversations were also held with the Fort McMurray First Nation, Athabasca Chipewyan First Nation, Fort McMurray Métis Local 1935, Willow Lake Métis Local 780, Fort McKay Métis, and the Fort Chipewyan Métis Local 125.

In completing the review, information gathered by KPMG during the recently completed provincial review was used to support the analysis regarding the scope items. This included more than 5,300 responses from residents to an online survey regarding evacuation and re-entry, and conversations held with several emergency management partners, including other levels of government.

The stakeholders that were engaged, as described below, had a role in the response to and recovery from the Wildfire, or were played a role in prevention, mitigation and / or preparedness efforts. Each stakeholder was categorized under the perspective through which they were engaged for this review. As a result, some stakeholders may belong to more than a single group.

### Stakeholders Internal to RMWB

- **Mayor and Council** includes elected officials representing the Regional Municipality of Wood Buffalo.

- **RMWB Administration** includes the Chief Administrative Officer, Directors of Municipal Departments in the RMWB, as well as operational employees.

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### Stakeholders External to RMWB

- **Alberta Agriculture and Forestry**
- **Alberta Emergency Management Agency**
- **Other GOA Ministries and Agencies**
- **First Responder Groups**
- **Non-Government Organizations**
- **Indigenous Communities (First Nations and Métis)**
- **Others**
– **Regional Emergency Operations Centre** – Staff and representatives from emergency management agencies, municipal departments, and social services providers who coordinated the RMWB’s response to the Wildfire.

– **Wood Buffalo Recovery Task Force and Committee** – The Recovery Task Force consisted of municipal staff who played a role in the recovery efforts of the region. The Recovery Committee consisted of 9 appointed members; three of which were elected officials and one of which came from outside the region. The remaining were members at large from the region.

– **RMWB Communities (Rural)** – Rural communities in the RMWB (e.g. Anzac, Conklin, etc.), including community associations.

**Emergency Management Partners**

– **Alberta Agriculture and Forestry** – Key stakeholders who work closely with the RMWB, for instance with tracking wildfire data.

– **Alberta Emergency Management Agency** – Staff who were involved in the coordination of the cross-government response, and provided support to the RMWB, as needed.

– **Other Government of Alberta Ministries and Agencies** – Select representatives from across the Departments of the Government of Alberta.

– **First Responder Groups** – This group included individuals from municipal fire departments across Alberta, RCMP, and CAN-TF2.

– **Non-Government Organizations (NGO)** – This included representatives from the Canadian Red Cross and several NGOs who provided supports and services to evacuees and first responders throughout the response to the Wildfire.

**External Partners**

– **Affected Residents and Businesses** – This included residents and local businesses affected by the Wildfire disaster.

– **Industry Representatives** – This included key oil and gas representatives, utility representatives, and retail organizations.

– **Other Public Sector Partners** – This included public sector partners working with the RMWB, such as School Boards and Post-secondary institutions.

– **Indigenous Communities (First Nations and Métis)** – this included First Nations and Métis communities impacted by the Wildfire.
– **Others** – This included any additional organizations that provided services to evacuees (e.g. MacDonald Island Park), or that were impacted by the Wildfire (e.g. Regional Municipality of Wood Buffalo Chamber of Commerce).
Appendix D | Detailed Timeline of Key Events

Prevention and Mitigation

- **2006**
  - Annually from 2006 – 2012
  - FireSmart vegetation management activities in the Urban Service Area of Fort McMurray, Anzac (2008, 2010), and Fort Chipewyan (2011)

- **2010**
  - RMWB developed their Wildfire Mitigation Strategy

- **2012**
  - Annually from 2012 – 2016
  - FireSmart signage and education focus in Fort McMurray and Conklin (2012 – 2013)
  - FireSmart vegetation management in Fort Chipewyan (2015-2016)

- **2016**
  - RMWB completed their Hazard Risk and Vulnerability Analysis
  - Controlled burns completed and planned for long standing dead grass areas in the Wood Buffalo area

- **April**
  - Controlled burns completed and planned for long standing dead grass areas in the Wood Buffalo area

**FireSmart Activities**  **RMWB**  **Prevention Activities**
Regional Municipality of Wood Buffalo Lessons Learned | 2016 Horse River Wildfire

Preparedness

- **2012**: REOC training provided to municipal employees
- **2013**: RMWB completes an ESS function drills exercise
- **2014**: REOC Training course provided to municipal employees
- **2015**: RMWB offers REOC Introduction course
- **2016**: In collaboration with Alberta Emergency Management Agency, RMWB completes a Reception Centre Functional Exercise, and completes an After Action Report

Through ICS Canada, RMWB offers:
- **2012**: ICS 100 course
- **2013**: ICS 100 course
- **2014**: ICS 100 course
- **2015**: ICS 200 course
- **2016**: ICS 200 course

RMWB completes:
- **2013**: Functional Exercise, and completes an After Action Report
- **2014**: Functional Exercise, and completes an After Action Report
- **2015**: Functional Exercise, and completes an After Action Report
- **2016**: Functional Exercise, and completes an After Action Report

In collaboration with Alberta Emergency Management Agency, RMWB completes:
- **2013**: Reception Centre Functional Exercise, and completes an After Action Report
- **2014**: Reception Centre Functional Exercise, and completes an After Action Report
- **2015**: Reception Centre Functional Exercise, and completes an After Action Report
- **2016**: Reception Centre Functional Exercise, and completes an After Action Report

Through ICS Canada, RMWB offers:
- **2013**: ICS 100 course
- **2014**: ICS 100 course
- **2015**: ICS 200 course
- **2016**: ICS 200 course

RMWB completes:
- **2013**: Boreal BLAST Functional exercise, and completes an After Action Report
- **2014**: Boreal BLAST Functional exercise, and completes an After Action Report
- **2015**: Boreal BLAST Functional exercise, and completes an After Action Report
- **2016**: Boreal BLAST Functional exercise, and completes an After Action Report


ICS Canada  RMWB / Regional Emergency Operations Centre (REOC)  Government of Alberta
Response

**April 29**
- RMWB was fighting a bush fire that flared up within Abasand’s trail system (MMD-003), in collaboration with Alberta Agriculture and Forestry
- By 12:00 PM

**May 1**
- Wildfire (MFW-009 or the “Wildfire”) detected, the size of about 2 hectares, 7 kilometres from Urban Service Area of Fort McMurray
- 4:03 PM
- Airtanker support diverted from the Wildfire to MMD-004
- 5:02 PM
- First airtanker drops on the Wildfire
- 6:33 PM
- Alberta Emergency Alert: Evacuation warning issued for Gregoire
- 7:08 PM
- Mayor declares a state of local emergency (SOLE) for the RMWB
- 9:57 PM
- Emergency Management Agency is appointed under Bylaw 09/036
- 11:09 PM

**April 29**
- Early afternoon
- RMWB was fighting a bush fire near Parson’s Creek. (MMD-002)
- By 12:00 PM

**May 1**
- Abasand bush fire was extinguished
- 4:50 PM
- Taiganova Fire (MMD-004) is spotted in Fort McMurray’s Urban Service Area
- 5:26 PM
- The Wildfire jumps the Horse River
- 6:33 PM
- The Wildfire: 120 hectares
- 7:05 PM
- DEM activates REOC
- 8:55 PM
- Alberta Emergency Alert: Evacuation order for Centennial Park, south of Airport Road, Prairie Creek and Gregoire
- 10:33 PM

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**Wildfire update**  | **RMWB / Regional Emergency Operations Centre (REOC)**  | **Alberta Agriculture and Forestry**

**Industry Partners**  | **Other Partners**  | **Communication/ Engagement**  | **Government of Alberta**
The Wildfire sighted south of Thickwood
2:52 PM

RMWB Twitter Mandatory Evacuation Notice: Dickenson and Thickwood residents north of Thickwood Blvd.
3:25 PM

RMWB Twitter Mandatory Evacuation Notice: entire lower townsite / downtown, except MacDonald Island Park
3:55pm

Beacon Hill, Abasand, Waterways, Draper, Saline Creek, Grayling Terrace, downtown, Thickwood, Wood Buffalo and Dickenson evacuate north to Noralta
Gregoire evacuate south to Anzac

RMWB Twitter Mandatory Evacuation Notice: All of Fort McMurray including MacDonald Island
6:20 PM

The Wildfire enters Thickwood
7:30 PM

RMWB Twitter Mandatory Evacuation Notice: downtown area southeast of King St., Waterways, Draper, and Saline Creek
8:09 PM

Alberta Emergency Alert: All of Fort McMurray under mandatory evacuation order
8:31 PM

Alberta Emergency Alert: All of Fort McMurray under mandatory evacuation order except MacDonald Island, Saprae Creek and Fort McMurray Airport
9:00 PM

Alberta Emergency Alert: MacDonald Island evacuated to Anzac
10:00 PM

Edmonton’s Northlands opens as evacuation centre
11:00 PM

May 3

Wildfire update
3:10 PM

RMWB Mandatory Evacuation Notice: Thickwood and Wood Buffalo neighborhoods south of Thickwood Drive
3:35 PM

Structures burning in Abasand Heights
4:09 PM

Alberta Emergency Alert: Fort McMurray under mandatory evacuation order
5:00 PM

MESA and Provincial staff arrive in Fort McMurray
6:49 PM

Government of Alberta declare SOLE
5:00 PM

Edmonton’s Northlands opens as evacuation centre
11:00 PM

Industry Partners
Other Partners
Communication/ Engagement
Government of Alberta
On May 4

AFRRCS tower arrives in Fort McMurray

Alberta Transportation begins mobile fueling operations

6:00 AM

RMWB Twitter Update: We have successfully evacuated 88,000 people with no reports of injuries or casualties so far

10:30 AM

REOC relocates to Nexen’s Long Lake facility

12:30 PM

RMWB Twitter Critical Update: Any residents remaining in Saprae Creek must evacuate immediately to Firehall 5

4:30 PM

RMWB Twitter Mandatory Evacuation Order: Anzac, Gregoire Lake Estates and Fort McMurray First Nation

9:50 PM

Mandatory Evacuation Order: Anzac, Gregoire Lake Estates and Fort McMurray First Nation

9:50 PM

REOC evacuated from Nexen’s Long Lake facility to Lac La Biche

6:00 PM

Canada Task Force 2 – advance team arrives in the RMWB

2:15 PM

Province declares a SOE for the RMWB

Thereafter, RMWB DEM notified delegation of authority forthcoming

2:15 PM

Ministerial Order signed delegating authority to RMWB Fire Chief

10:00 PM

ATCO begins coordination of critical infrastructure restoration with REOC

RCMP begins escorting evacuees stranded at oilfield camps north of Fort McMurray

Pet rescue volunteers arrive in Fort McMurray

Wildfire update

Government of Alberta

Communication/ Engagement

RMWB / Regional Emergency Operations Centre (REOC)

Industry Partners

Other Partners

Alberta Agriculture and Forestry
The Wildfire: 229,000 hectares

Province hosts first telephone town hall for evacuees, in collaboration with RMWB
A total of 13 evacuee reception centres have been set up in the Province to date

RMWB Fire Chief steps down as provincially-appointed RMWB DEM, and transfers delegated authority

The Wildfire: 285,000 hectares

State of Local Emergency declared on May 3 is renewed for Athabasca Chipewyan First Nation

Insurance Bureau of Canada arrives at REOC

The Wildfire: 504,443 hectares
Final Canada Task Force 2 team members leave RMWB

Provincial SOE is extended until June 30

REOC is scheduled to scale down operations and move to Southern Operations Centre

Demobilization of non-RMWB structural firefighters scheduled to be completed by end of day

RCMP and AB Transportation begin removing abandoned damaged vehicles from highways
RMWB, in coordination with pet rescue volunteers began to rescue pets from homes

Three senior industry leaders given temporary access to REOC to provide information on critical infrastructure

PESS ECC begins donations management at request of RMWB

Wildfire update  RMWB / Regional Emergency Operations Centre (REOC)  Alberta Agriculture and Forestry
Industry Partners  Other Partners  Communication/ Engagement  Government of Alberta
Recovery

**May**
- **12** Council holds first meeting following evacuation, in City of Edmonton Council Chambers
- **13** Social Recovery Task Force is formed
- **15** RMWB releases Fire Assessment Tool to residents
- **18** Phased re-entry of oil sands camps commences
- **24** Phased re-entry of Fort McMurray residents provisionally announced for June 1. Efforts made to prepare community for re-entry
- **25** Chief Medical Officer of Health announces health advisory for the phased re-entry plan
- **27** Council approves and adopts the Wood Buffalo Economic Development Department’s Business and Economic Recovery Plan
- **28** RMWB Hotels to Home Program – re-entry pre-rehearsal
- **30** The joint Provincial and RMWB re-entry rehearsal begins
- **31** Business Recovery Hotline established to support local businesses

**June**
- **1** Council passes Bylaw 16/010 to provide relief from penalties for unpaid property taxes
- **3** Council approves and adopts the Wood Buffalo Economic Development Department’s Business and Economic Recovery Plan
- **5** Rebuild Pillar
- **6** People Pillar
- **7** Mitigate Pillar
- **8** Economy Pillar
- **9** Environment Pillar
- **10** Other Partners
- **11** Government of Alberta
- **12** Communication / Engagement
- **13** Industry Partners
- **14** RMWB

**Charts and Diagrams:**
- **Recovery Timeline:** Key events marked with icons and dates ranging from May 12 to June 31, illustrating the stages of recovery and key milestones.

**Key Points:**
- Phased restoration of Northern Lights Hospital begins.
- Phase 1 of 3, phased environmental sampling program begins.
- Critical businesses reopen.
- Red Cross announces financial assistance for residents.
- Chief Medical Officer of Health provides final re-entry recommendations.
- Business Recovery Hotline established to support local businesses.
- Council passes Bylaw 16/010 to provide relief from penalties for unpaid property taxes.
June

1. Phased re-entry of RMWB begins
2. Phased re-entry of Northern Lights Hospital begins
3. Fridge disposal begins in collaboration with the Insurance Bureau of Canada

Residents begin transitioning out of post-secondary residences in Edmonton and Calgary and into long-term or permanent housing

Demobilization of non-RMWB structural firefighters
Team Rubicon and other partner organizations made available to sift through damaged homes for residents in restricted zones

REOC is scheduled to scale down operations

Council approves temporary access control and regulates re-entry to certain areas of the RMWB

RMWB holds first Telephone Town Hall

June

1. Council formally establishes Wood Buffalo Recovery Committee & Task Force, facilitates temporary housing and opens the Back to Business Centre
2. Red Cross Announces Phase 1 of its business support program
3. Phase 2 environmental testing begins. Phase 1 results indicate that residents can safely plant and eat produce from urban gardens
4. The Nistawoyou Association Friendship Centre opens an Indigenous Welcome Centre
5. Council approves temporary access control and regulates re-entry to certain areas of the RMWB

Communication / Engagement
Other Partners
Environment Pillar
Mitigate Pillar

RMWB
Industry Partners
Government of Alberta
Economy Pillar
People Pillar
Rebuild Pillar
Sifting operations end with approximately 1,100 residential properties sifted.

REOC is scheduled to scale down operations.

RMWB Planning & Development issues first demolition permit.

RMWB launched Welcome Walks to welcome businesses back to the community, meet with them one-on-one and inform them of the available resources.

RMWB issues first rebuilding permit since wildfire.

RMWB releases report on work completed to-date to allow safe re-occupation of standing homes in Abasand and Beacon Hill.

The Municipality works with Alberta Health Services and Chief Medical Officer of Health to develop a robust safety mitigation plan for residents.

The Wood Buffalo Recovery Committee holds first meeting and recommends Recovery Task Force Lead.

The Canadian Red Cross announces $289 million dollars in donations to support RMWB residents.

The Canadian Red Cross announces $299 million in emergency relief for local businesses.

RMWB offers $15 million in emergency relief for local business wage assistance.

RMWB extends landfill hours of operation for commercial traffic to 24/7.

RMWB, Community Futures and Government of Alberta, hosts Business Support Networking event to welcome businesses back to the region.

Council appoints Interim Task Force Team Lead.

Government of Alberta and Canadian Red Cross announce Support to Small Business Program.

RMWB offers $299 million dollars in donations to support RMWB residents.

The Canadian Red Cross announces $289 million dollars in donations to support RMWB residents.

Council cancels a portion of the municipal tax for residential properties for the 2016 tax year.

Insurance Bureau of Canada estimates insurance losses of $3.58 billion, calling wildfire the “costliest insured natural disaster in Canadian history.”

Demolition order issues against all damaged properties to establish a timeline for clean up.

Heavy heirloom retrieval begins for owners of Firebreak Properties.

Council cancels a portion of the municipal tax for residential properties for the 2016 tax year.

RMWB issues first rebuilding permit since wildfire.

Information centres check in a total of 237 residents during Phase 1 Green Home re-entry in Abasand and Beacon Hill.
Council approves policies to facilitate and speed up rebuild process for Stone Creek, Wood Buffalo, Abasand, Beacon Hill and the areas of Waterways that are above the flood hazard area.

Municipality takes control of removing ash and debris to 88 properties, per the demolition order.

Council appoints permanent Recovery Task Force Team Leader.

Council amends Land Use Bylaw to add a Wildfire Recovery Overlay.

RMWB launches Firebreak Drainage Improvement Project to eliminate safety hazards or risk of property damage.

RMWB launches Firebreak Property owners

Canadian Red Cross launches Phase 2 of their Support to Small Business program

RMWB launches Small Business Workforce Support Program

Phase 2A of Green Home re-entry allows Waterways residents to return to 31 standing homes and two commercial structures.

Temporary RV park at Abraham’s Land closes.

Municipality takes control of removing ash and debris to 88 properties, per the demolition order.

Council approves policies to facilitate and speed up rebuild process for Stone Creek, Wood Buffalo, Abasand, Beacon Hill and the areas of Waterways that are above the flood hazard area.

Council amends Land Use Bylaw to remove existing flood proofing requirements for rebuilds of homes in Waterways that were destroyed by the wildfire.

RMWB announces Wildfire Tax Relief Program, automatically crediting all residential property tax accounts.

Council approves the Comprehensive Firebreak Program to reimburse Firebreak Property owners.

Municipal Landfill changes from 24/7 operations to 8:00 am – 8:00 pm

Deadline for cleanup of ash and debris as per the demolition order.

Wood Buffalo Recovery Committee approves Wildfire Recovery Campaign Plan.

Hazardous tree removal begins in Thickwood, Beacon Hill, Abasand, Waterways and Lower Townsite.

RMWB launches Civic Insight tool, to provide residents the opportunity to view and monitor permitting and construction activities anywhere in the region.

September 12, 15, 19, 27, 30

October 3, 4, 11, 15, 19, 24, 25, 31

RMWB launches Firebreak Drainage Improvement Project to eliminate safety hazards or risk of property damage.

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RMWB launches Civic Insight tool, to provide residents the opportunity to view and monitor permitting and construction activities anywhere in the region.
Local state of emergency that was declared on May 1, 2016, ends

November

- 4
  - 224 remaining homes in Abasand and Beacon Hill deemed safe for re-entry by Chief Medical Officer of Health, residents return home as part of Phase 2B Green Home re-entry
- 7
  - Security check points in Abasand and Beacon Hill no longer active but mobile security patrols continue in all damaged areas
- 10
  - Landfill returns to regular operational hours

December

- 10
  - All residential demolitions are complete

- 14
  - The Recovery Task Force seeks volunteers willing to participate in small focus groups in Fort McMurray

- 22
  - Council approves RMWB 2017 Wildfire Recovery Plan

- 24
  - RMWB builds construction access roads in Abasand and Beacon Hill

January, 2017

- 1
  - Master grading plan in place to help both residents and municipal planners through the rebuild process

- 10
  - Started offering psychosocial support program for teachers

RMWB waives all in-person application permit fees and Safety Code levies associated with rebuilding structures destroyed in the wildfire, supported by Canadian Red Cross

RMWB waives all online application permit fees and Safety Code levies associated with rebuilding structures destroyed in the wildfire, supported by Canadian Red Cross

Industry Partners

Government of Alberta

Economy Pillar

People Pillar

Rebuild Pillar

Mitigate Pillar

Environment Pillar

Other Partners

Communication / Engagement
The Government of Canada announces a gypsum tariff relief program for residents to compensate property owners in the RMWB, who were rebuilding homes lost in the wildfire.

Tree Canada announces $1.3 million donation to replant trees through the Operation ReLeaf – Fort McMurray project.

Wood Buffalo Economic Development Branch is awarded the Economic Developers Alberta President’s Award, which recognizes those who have made an outstanding contribution to the economic development profession.

Outreach to water bomb-affected property owners begins.

RMWB releases a construction safety video educating students and children about how they can stay safe during the rebuild of the community.

RMWB activates Construction Management Teams to help identify hazards, reduce risks and promote safety education and compliance where rebuild construction is taking place.

Council approves cancelling 2017 municipal property taxes for destroyed properties or severely damaged homes in 2017. The tax relief applies to affected properties for each day of 2017 until the property is repaired, sold or the end of the year.

RMWB partners with the McMurray Métis and the Athabasca Tribal Council to create two positions that will help First Nations and Métis communities in Wood Buffalo through their recovery.

RMWB announces property owners will receive up to $5.1 million in 2016 education property tax forgiveness following confirmation of support from Government of Alberta.

All Regional Landfill fees associated with disposing acceptable contaminated soil for residential homes in wildfire damaged areas are waived from April 13, 2017 until December 31, 2018 and fees paid to date will be refunded.

Community donation enables Here for You On the Go, to bring resident and stakeholder engagement directly to all parts of the region, including rural communities.
Regional Municipality of Wood Buffalo Lessons Learned | 2016 Horse River Wildfire

May
1. Government of Canada launches Drywall Support Program to help residents in RMWB whose homes were severely damaged or destroyed in the wildfire, and who were impacted by increased duties placed on drywall imported from the United States between Sept. 6, 2017 and Feb. 24, 2017.

16. Council approves a 2% reduction in the 2017 non-residential property tax rate.

23. In collaboration with Community Futures, the RMWB implemented the Wood Buffalo Recovery Loan Program.

June
1. Council acquires 10 lots in Waterways at pre-fire value following slope stability assessment process.

7. Wood Buffalo Recovery Committee holds last meeting.

30. RMWB holds Recognition event for Council Commendation Wildfire Medal Program, recognizing exceptional effort during 100 first hours of wildfire.

July
1. Rebuild Progress - % of inspections completed (of 2,579):
   - 30% of foundation
   - 16% of framing
   - 18% of insulation
   - 3% of final inspections.

One-year wildfire anniversary, RMWB hosts a dawn-to-dusk community gathering at Syne Point Park, and in Anzac and Gregoire Lake Estates, Conklin and Janvier in the days following.

Honoring the Heroes of Wood Buffalo Project maquette was unveiled for public viewing and input to the final design.

In collaboration with Community Futures, the RMWB implemented the Wood Buffalo Recovery Loan Program.

One-year wildfire anniversary. RMWB hosts a dawn-to-dusk community gathering at Syne Point Park, and in Anzac and Gregoire Lake Estates, Conklin and Janvier in the days following.
Resilience

- Council acquires 11 lots in Waterways at pre-fire value following slope stability assessment process.
- Burn abatement work begins throughout the region as part of annual efforts to reduce the risk of wildfire in RMWB.
- RMWB has secured almost $300,000,000 in funding from the provincial DRP to aid in recovery funding.
- WMWB has awarded RFP for egress route construction in Abasand, Beacon Hill, Wood Buffalo, and explores egress routes for Saprae Creek, Janvier, Conklin, and Fort McKay. Further work on the East Clearwater highway is also planned.
- All schools that were closed as a result of the wildfire will be reopened by the start of the 2017/18 school year.
- RMWB secured $10.5 million from GOA and $3.853 million from Canadian Red Cross in FireSmart Funding and has planned substantial FireSmart activities across all seven disciplines; Education, Vegetation Management, Legislation and Planning, Development Considerations, Interagency Cooperation, Emergency Planning, and Cross Training.
- The psychosocial support program for teachers will continue in September.
- Researchers at University of Alberta, University of Calgary, Mount Royal University and Laval University are studying health and mental health impacts from wildfire.
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- The psychosocial support program for teachers will continue in September.
## Appendix E | Summary of Analysis

Based on the lessons learned, findings and recommendations arising from the Wildfire, the following provides an overall summary of the review of the RMWB’s prevention & mitigation, preparedness, response, and recovery relative to the key objectives of this review. This summary does not represent the comprehensive findings from the review; these are contained throughout the body of the report.

<table>
<thead>
<tr>
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<td>Examine the Wildfire event to the United Nations Sendai Framework for Disaster Risk Reduction and propose strategies to prevent new and reduce existing disaster risk for the RMWB</td>
<td>Following the completion of its Post-Wildfire Hazard Assessment in late May 2016, the RMWB began new vegetation management activities. This resulted in a $1.5 million initiative being undertaken, including vegetation management activities on the Birchwood Trail system. Three year planning for FireSmart within the RMWB indicates that activities are set to begin in 2017 and will total $14 million (including $10.5 million from the Government of Alberta and $3.853 million from the Canadian Red Cross).</td>
<td>There is currently no dedicated disaster risk management role within the RMWB to champion disaster risk management and the importance of mitigating disaster risks to Administration, Mayor and Council. The RMWB invested in disaster prevention activities through several programs to address disaster risk and promote awareness prior to the Wildfire. However, there is currently no overarching strategy or approach for addressing disaster risks in the RMWB. Greater collaboration with respect to disaster risk assessment and ongoing mitigation may be warranted across the Region. Prior to the Wildfire there were limited formal processes in place to encourage rural and Indigenous community</td>
<td>Enhance support for disaster risk management (page 40)</td>
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Enhance support for disaster risk management
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<td>Examine the Canadian Standards Association (CSA) z1600-14 (Emergency and Continuity Management Program) and contrast CSA z1600-14 to the RMWB’s incident response to the Wildfire</td>
<td>The RMWB’s Municipal Emergency Management Plan is more robust than the Provincial Community Emergency Management Plan guidelines, and has started to meet some aspects of the Canadian Standards Association’s Z1600-14 Emergency and Continuity Management Program.</td>
<td>The RMWB has documented and established their emergency management program leadership, coordination, and committee. Membership of the emergency management committee includes Mayor and Council; this is not aligned with the CSA Z1600-14 Standard, which requires the committee to be formed by the emergency management program coordinator and senior leadership of the Administration. The MEMP is intended to be updated annually, and while the philosophical framework was updated in</td>
<td>Review the RMWB’s emergency management governance model and documentation (page 48) Enhance the RMWB’s Municipal Emergency Management Plan</td>
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<td>Review the existing business model for Emergency Management from a best practices perspective, taking into consideration Wood Buffalo’s geographical aspects</td>
<td>The RMWB’s pre-established mutual aid agreements with emergency management partners were effectively utilized and beneficial throughout the response to the Wildfire. Since the Wildfire, the RMWB has recognized the importance of</td>
<td>The current disaster risk governance mechanisms are not optimal to provide an overarching strategic vision for disaster risk mitigation, and to advocate its importance to Administration, Mayor and Council. The Director of Emergency Management became responsible for oversight of all operational aspects of emergency management upon activation of the Regional Emergency Operations Centre on May 1,</td>
<td>Enhance support for disaster risk management (page 40) Review the RMWB’s emergency management (page 58)</td>
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2015, other aspects of the plan have not been fully updated since 2010. The MEMP may not have been fully communicated to all relevant departments in the RMWB, to community representatives, or to external organizations. While Business Continuity Plans exist within the RMWB, many have not been actively maintained or reviewed since they were last updated in 2012. It was noted that the absence of policies requiring ongoing maintenance of the Business Continuity Plans may have been a factor in them not being reviewed and updated regularly.

and refresh it annually (page 52)
Enhance and update existing Business Continuity Plans (page 58)
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<td>area, demographics, and population</td>
<td>emergency management plans for the entire region, and has a renewed focus on engagement with rural communities to identify their needs and to develop community-specific emergency management plans for their area.</td>
<td>2016, and was responsible for making sure that the duties of the Regional Emergency Operations Centre were carried out. The combined responsibilities of the Director of Emergency Management and Fire Chief may not be reasonable during an emergency and it may be more effective to assign this role elsewhere. The use of up to three people may go beyond the requirements of the Act and the shared authority among three individuals can further complicate incident management in the application of the Incident Command System and maintenance of unity of command. While Council is comprised of representatives from the various communities, and encouraged to consider the needs and perspectives of each in relation to emergency management, there are limited formalized processes in place at the operational level to consider each community’s needs in the detailed development of emergency plans.</td>
<td>governance model and documentation (page 48) Enhance the RMWB’s Municipal Emergency Management Plan and refresh it annually (page 52)</td>
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<td>Review, analyze and recommend planning and preparation structures to enable adaptive, scalable, and flexible emergency management systems</td>
<td>From May 5 onward there was successful collaboration of multiple emergency management partners to support response efforts. In activations since the Wildfire, the Director of Emergency Management and the Chief Administrative Officer have been co-located to improve situational awareness and information sharing during the event.</td>
<td>The RMWB contracted the completion of its 2016 Hazard Risk and Vulnerability Analysis (HRVA). This was done in compliance with the Community Emergency Management Program requirements, the International Standards Organization ISO 31000 Risk management – Principles and guidelines, and the Canadian Standards Association (CSA) Z1600-14 Emergency and Continuity Management Program. Greater collaboration with respect to disaster risk assessment and ongoing mitigation may be warranted across the Region. Prior to the Wildfire there were limited formal processes in place to encourage rural and Indigenous community representatives to come together to collaborate on disaster risk mitigation. In the RMWB, the role of Director of Emergency Management is filled by the Fire Chief, and prior to the Wildfire, during normal operations, the Fire Chief reported through three layers of management (i.e. Director of Community and Policing Services, Executive Director of Planning and Regional</td>
<td>Enhance support for disaster risk management (page 40) Review the RMWB’s emergency management governance model and documentation (page 48) Enhance the RMWB’s Municipal Emergency Management Plan and refresh it annually (page 52) Request to realign forest area boundaries with the RMWB’s</td>
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### Scope Item | Lessons Learned | Findings from the Wildfire | Recommendations
---|---|---|---

Development Division, and the Deputy Chief Administrative Office) to the RMWB’s Chief Administrative Officer.

The Director of Emergency Management is responsible for the oversight of all operational aspects of emergency management and is accountable for the activities of the Regional Emergency Operations Centre. The Regional Emergency Operations Centre Director manages the Centre on behalf of the RMWB’s Director of Emergency Management. This structure was initiated on May 1 with the activation of the REOC, resulting from an initial assessment of the wildfire’s threat to the community.

The ‘modular organization’ principle of ICS should have enabled the REOC to expand and contract as needed to meet the needs of the response. It is recommended that planning in relation to ICS identify several suitable individuals to fulfill a role, particularly in anticipation of a sustained emergency event requiring significant disaster recovery activities.

Enhance Use of the Incident Command System during Response to support implementation of appropriate emergency management protocols (page 69)

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<td>Propose lessons learned to eliminate or reduce wildfire risks to a future wildfire event through prevention measures and structural and non-structural mitigation measures (FireSmart measures to be included)</td>
<td>Three year planning for FireSmart within the RMWB indicates that activities are set to begin in 2017 and will total $14 million (including $10.5 million from the Government of Alberta and $3.853 million from the Canadian Red Cross). These activities will take place in Fort McMurray as well as the surrounding communities, and include vegetation management activities, adoption of the Alberta First Responder Radio Communications System, cross training, and engagement and education. The RMWB has been leading public awareness initiatives, including providing information on its municipal website and FireSmart Fridays. Each week the RMWB has been sharing a</td>
<td>While the full HRVA was not updated in 2017, a Post-Fire Wildfire Hazard Assessment was completed by the RMWB in late May 2016. The RMWB invested in disaster prevention activities through several programs to address disaster risk and promote awareness prior to the Wildfire. However, there is currently no overarching strategy or approach for addressing disaster risks in the RMWB. While the HRVA identifies relevant risks and suggests mitigation activities, there is no long-term focus on disaster risks to the community. FireSmart activities completed by the RMWB were based on the 2010 Wildfire Mitigation Strategy. Documentation of FireSmart activities indicated that grant funding received by the RMWB was allocated to the vegetation management and education disciplines. Fire breaks were also implemented around the RMWB. Fire breaks are mitigation efforts intended to slow or stop the progression of a fire.</td>
<td>Enhance support for disaster risk management (page 40) Request to realign forest area boundaries with the RMWB’s boundaries (page 52)</td>
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while the full HRVA was not updated in 2017, a Post-Fire Wildfire Hazard Assessment was completed by the RMWB in late May 2016. The RMWB invested in disaster prevention activities through several programs to address disaster risk and promote awareness prior to the Wildfire. However, there is currently no overarching strategy or approach for addressing disaster risks in the RMWB. While the HRVA identifies relevant risks and suggests mitigation activities, there is no long-term focus on disaster risks to the community. FireSmart activities completed by the RMWB were based on the 2010 Wildfire Mitigation Strategy. Documentation of FireSmart activities indicated that grant funding received by the RMWB was allocated to the vegetation management and education disciplines. Fire breaks were also implemented around the RMWB. Fire breaks are mitigation efforts intended to slow or stop the progression of a fire. Enhance support for disaster risk management (page 40) Request to realign forest area boundaries with the RMWB’s boundaries (page 52)
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<tr>
<td>#FireSmartFriday tip or information about how FireSmart can be used to mitigate the risk of wildfire throughout the region, both by residents themselves and by the RMWB.</td>
<td>Sustained attention to and funding for all seven of the disciplines of FireSmart are necessary to comprehensively reduce the RMWB’s risks from future wildfires.</td>
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<tr>
<td>Assess and propose lessons learned for the transition from response to recovery, specifically the setup of governance and organization; clarity of command and control; transition from reactive to proactive planning cycles; and flow of information</td>
<td>Since the Wildfire, the RMWB has been working to revise and update its Business Continuity Plans for each of its departments. The RMWB’s 2016 Wildfire Recovery Plan was built on a robust recovery framework that drew from several leading practices and encouraged building community resilience and building back better. The Rapid Damage Assessment tool and process was an efficient and effective means to helping to assess damaged properties and</td>
<td>Prior to the Wildfire the RMWB did not have a Recovery Plan included within the MEMP or as a stand-alone plan. As a result, during the Wildfire recovery, the Recovery Plan and supporting resources were developed from scratch leveraging guidance from municipal staff, the knowledge and experience of a contracted engineering consulting firm NOR-EX Engineering (contracted to provide leadership and support to the recovery program), and publicly available information resources from other municipalities with lived experience. A lack of current Business Continuity Plans may have contributed to limited awareness of their value during the recovery period, as well as their overall Enhance and update existing Business Continuity Plans (page 58) Formalize existing Business Continuity Plans as part of standard operating procedures during emergencies and disasters (page 58) Develop a Recovery Plan as a component of the Municipal</td>
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<td>communicate to residents the extent of damage before they returned to the community.</td>
<td>effectiveness in supporting the re-establishment of municipal operations following the Wildfire. Creating designated recovery governance and organization structures enabled recovery to be a priority for the RMWB, as it allowed staff to focus solely on achieving the established recovery goals. It also enabled the RMWB's municipal operations, including Council, to focus on re-establishing and resuming day-to-day operations. While the Recovery Committee was fully operational in early August 2016, some stakeholders believed that this took too long and that recovery planning and activities should have been initiated earlier. The Recovery Task Force role that led public engagement, acted as a liaison between Administration and Recovery and provided services to both groups; this helped foster relations between the groups.</td>
<td>Emergency Management Plan (page 52) Begin recovery planning and activities as early as possible following a disaster (page 113) Assess and account for trade-offs associated with different recovery governance and organization structures (page 113)</td>
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<tr>
<td>Analyze the effectiveness of the The RMWB’s 2016 Wildfire Recovery Plan was built on a robust recovery framework that</td>
<td>The Recovery Task Force conducted broad communications and stakeholder engagement throughout recovery, leveraging multiple channels.</td>
<td>Develop a community</td>
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<td>recovery framework utilized</td>
<td>drew from several leading practices and encouraged building community resilience and building back better. The PULSE call line, continuation of the Telephone Town Halls (initially established during the provincial response), <a href="mailto:recovery@rmwb.ca">recovery@rmwb.ca</a>, and Here for You sessions were successful communications and engagement mechanisms used during recovery. Each were used by the RMWB to effectively communicate important recovery plans upon re-entry to the community, identify resident needs, and provide ongoing recovery supports.</td>
<td>The Manager of Stakeholder Engagement developed and implemented the Recovery Engagement Framework across all pillars. A key achievement from these efforts, was its ability identify recovery needs for both residents and businesses, which in turn allowed it to tailor and delivery necessary supports across each of the recovery pillars. The pillar structure enabled the Recovery Task Force to organize and better focus on specific aspects of recovery. It also helped the Recovery Task Force to identify what experience and expertise was necessary to achieve the desired recovery outcomes. Each pillar has implemented numerous activities and achieved positive results.</td>
<td>resiliency strategy (page 119)</td>
</tr>
<tr>
<td>Assess and propose lessons learned for the RMWB’s use, access to or integration with</td>
<td>While timeliness of the May 3 mandatory evacuation was an issue, a positive evacuation outcome was achieved through the</td>
<td>While evacuation trigger points may vary from one hazard to another, additional considerations, or risk monitoring guidelines to assist decision-makers through the decision-making process are currently</td>
<td>Enhance the RMWB Evacuation Plan (page 78)</td>
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### Regional Municipality of Wood Buffalo Lessons Learned | 2016 Horse River Wildfire

#### Final Report

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<td>available wildfire forecasting and predictive planning tools (including, but not exclusive to, infrared technology and fire weather modeling technologies)</td>
<td>evacuation of over 88,000 residents. The evacuation included the successful use of contraflow lanes to evacuate the community.</td>
<td>not included in the RMWB’s Evacuation Plan. Additional pre-planning considerations such as analysis of the evacuation zone to identify densely populated areas, areas with limited access, and demographics of the population, including identification of persons with limited mobility should be documented. Fire maps produced by Agriculture and Forestry (including Prometheus simulation reports) were not readily available to the RMWB to support decision-making regarding the need to evacuate communities; maps developed by the RMWB’s Geographic Information Systems (GIS) team may have been based on incomplete and potentially outdated information due to the rapid progress of the Wildfire overnight on May 2 and in the early morning of May 3.</td>
<td>Enhance the RMWB’s Municipal Emergency Management Plan</td>
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</table>

Analyze the RMWB Municipal Emergency Management Plan (MEMP) and define lessons learned or

While early evacuation processes were effective, they were based on timely decisions and the orderly

While the RMWB’s Emergency Management Agency has the authority to call an evacuation order, there is no documented role outlining the responsibility for monitoring risks to the community, evaluating the

Enhance the RMWB’s Municipal Emergency Management Plan
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<td>propose changes to warning notices and / or readiness levels</td>
<td>execution of evacuation processes.</td>
<td>need for evacuation, and subsequently executing evacuation, if needed.</td>
<td>and refresh it annually (page 52)</td>
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<td></td>
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<td>The RMWB’s Evacuation Plan indicates that the Emergency Management Branch is responsible for the overall coordination, strategic direction, and control of events through the Regional Emergency Operations Centre. However, the Regional Emergency Operations Centre Manual, ADM-240 Administrative Procedure: Emergency Management Program, and the Evacuation Plan do not describe which municipal role is responsible for monitoring and carrying out evacuation activities.</td>
<td>Enhance the RMWB Evacuation Plan (page 78)</td>
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<td></td>
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<td>The RMWB’s Evacuation Plan includes an evacuation flowchart that addresses the 3 stages of evacuation (Alert, Order, All Clear) in response to an imminent threat. The Plan, however, does not define or interpret the meaning of an imminent threat. For example, the flowchart does not describe the distance from the impacted area at which point the threat becomes imminent.</td>
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<td>While hamlet communities were advised of their inclusion within the MEMP, there was a lack clarity</td>
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<td>Assess lessons learned for the implementation and operations of the Regional Emergency Operations Centre (REOC) including: organizational structure and resourcing; command and control including the roles of the Director of Emergency Management (DEM) and the Chief Administrative Officer (CAO) of the RMWB, as well as</td>
<td>From May 5 onward there was successful collaboration of multiple emergency management partners to support response efforts. In activations since the Wildfire, the Director of Emergency Management and the Chief Administrative Officer have been co-located to improve situational awareness and information sharing during the event.</td>
<td>regarding the details of how it pertained to their community, and whether it accounted for some of the community-specific challenges that would be faced in an emergency (e.g. no fire hydrants, no running water or sewer).</td>
<td>Review the RMWB’s emergency management governance model and documentation (page 48)</td>
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The REOC Manual sets out authority and responsibility during a State of Local Emergency, the Director of Emergency Management is responsible for the oversight of all operational aspects of emergency management and is accountable for the activities of the Regional Emergency Operations Centre. The Director of Emergency Management is supported by five municipal staff assigned to emergency management: one program supervisor, one clerk, and three program coordinators (Emergency Social Services, Training and Public Education, Policy and Exercises). It was noted by stakeholders that there were up to three separate information management systems in use over the course of the response. This may have | Enhance the RMWB’s Municipal Emergency Management Plan and refresh it annually (page 52) |

Enhance Use of the Incident Command System during |
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<td>communications structures; evacuation management; consequence management; delivery of emergency social services (ESS); information management</td>
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<td>led to confusion and a lack of continuity as resources rotated through the REOC and were not always able to access or find the information they needed. The May 1 activation of the REOC filled some core ICS roles including the: DEM, Deputy DEM / REOC Director, the Operation Section for Fire, Emergency Social Services and the Public Information Officer. Emergency Social Services were also on hand to provide support to evacuation reception centres. The RCMP activated their Emergency Operations Centre (at the RCMP Detachment) while Agriculture and Forestry continued to operate out of the Fire Centre. By the afternoon of May 2 Logistics was present in the REOC along with other key partners such as ATCO.</td>
<td>Response to support implementation of appropriate emergency management protocols (page 69)</td>
</tr>
<tr>
<td>Review the pet rescue program that was implemented through response and recovery</td>
<td>Animal control was able to effectively support pets who were initially evacuated to MacDonald Island Park, as well as in Anzac. The knowledge and prior experience of pet rescue</td>
<td>RMWB’s Animal Control collaborated with numerous partners, including the Fort McMurray SPCA, to develop the pet rescue program. This included processes for identifying pets left behind, accessing homes, and caring for the pets.</td>
<td>Formalize the Pet Rescue Program (page 83)</td>
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| Assess lessons learned for the implementation of the Incident Command System (ICS) | The Regional Emergency Operations Centre was activated and functioned according to the Municipal Emergency Management Plan on May 1 and 2. Key positions were filled, and the | Some issues arose with respect to the efficient and effective implementation of the ICS model during the event.  
While the initial activation of the REOC was timely given the developing threats and risks facing the community, Unified Command per the ICS Canada | Enhance Use of the Incident Command System during Response to support implementation of |
| volunteers in emergency situation and structures allowed for effective management and coordination of the pet rescue program. | More than 1,300 animals were rescued and evacuated from the RMWB, and 200 to 300 more were cared for in place. Animals included pets such as cats and dogs, as well as reptiles and snakes.  
The RMWB’s partners provided volunteers to help manage the pet rescue effort. Local pet rescue organizations’ reported that their previous training and involvement in emergency preparedness activities enabled them to manage the pet evacuation process effectively.  
Sometimes incorrect or misleading information was circulated on social media by a variety of sources regarding the pet rescue efforts. This included the location of the request form for pet rescue and the appropriate contacts for further information. |                                                                                                                                                                  |                                                                                                                                                               |
### Lessons Learned

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<td>safety of residents was maintained as the threat of the Wildfire approached the community.</td>
<td>model was not established quickly enough between the RMWB and Agriculture and Forestry in order to enable common situational awareness, establish a common set of objectives and develop a single, coordinated series of Incident Action Plans.</td>
<td>appropriate emergency management protocols (page 69)</td>
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<td>In activations since the Wildfire, the Director of Emergency Management and the Chief Administrative Officer have been co-located to improve situational awareness and information sharing during the event.</td>
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<td>Interviewees noted that ICS protocols and structures may not have been strictly adhered to between May 1 and 4; however, numerous factors contributed to this situation.</td>
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<td>Several key organizations and groups who relied on information from the REOC and could have provided important information did not have a formal and consistent presence in the REOC from the time of activation until demobilization. This was noted to be the case even though the REOC’s planning and operational documents identified these stakeholder groups as required in certain circumstances.</td>
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<tr>
<td>Review the decision-making process to better understand the associated risks,</td>
<td>Residents under threat from the Wildfire on May 1 were safety and effectively evacuated from the impacted communities, and the</td>
<td>The RMWB’s Emergency Management Agency, which consists of three individuals from various municipal departments as deemed appropriate by the Director of Emergency Management, is</td>
<td>Enhance the RMWB Evacuation Plan (page 78)</td>
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Review the decision-making process to better understand the associated risks,

Residents under threat from the Wildfire on May 1 were safety and effectively evacuated from the impacted communities, and the

The RMWB’s Emergency Management Agency, which consists of three individuals from various municipal departments as deemed appropriate by the Director of Emergency Management, is

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| examine the decision framework for the “evacuation” declaration and propose recommendations for community based evacuation plans that recognize the uniqueness of each community. Factors to include: legislative authority and legal framework; information flow; risk management; decision-making process; and engagement and communications processes | plans for delivery of emergency social services were successfully implemented and provided to displaced residents. While timeliness of the May 3 mandatory evacuation was an issue, a positive evacuation outcome was achieved through the evacuation of over 88,000 residents. The evacuation included the successful use of contraflow lanes to evacuate the community. While early evacuation processes were effective, they were based on timely decisions and the orderly execution of evacuation processes. | authorized to initiate an evacuation from any area of the RMWB. The RMWB’s Emergency Management Agency, which consists of three individuals from various municipal departments as deemed appropriate by the Director of Emergency Management, is authorized to initiate an evacuation from any area of the RMWB. The management and / or reporting structures for coordination of evacuation, and the roles and responsibilities of external partners when assisting with evacuation are not currently documented. Prior to the evacuation of the RMWB, Unified Command was never fully established. Interviewees have indicated that discussions were had on both sides about co-location of Alberta Agriculture and Forestry and RMWB command, however each party remained in disparate incident command posts. Co-location of the RMWB and Alberta Agriculture and Forestry incident leadership may have allowed for more nuanced conversations to occur, leading to an improved understanding of the threat from the
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<td>Wildfire facing the community and earlier discussions on the need to initiate further evacuations. The RMWB’s Evacuation Plan includes an evacuation flowchart that addresses the 3 stages of evacuation (Alert, Order, All Clear) in response to an imminent threat. The Plan, however, does not define or interpret the meaning of an imminent threat. For example, the flowchart does not describe the distance from the impacted area at which point the threat becomes imminent.</td>
<td>Begin recovery planning and activities as early as possible following a disaster (page 113)</td>
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<tr>
<td>Define lessons learned related to the integration of the Insurance Bureau of Canada (IBC) within the REOC and within the Recovery Task Force</td>
<td>The inclusion of the Insurance Bureau of Canada throughout the RMWB’s response and recovery to support access to insurance information for residents helped to alleviate the need of insurance related expertise on the Recovery Task Force and freed up time to spend on other important recovery matters.</td>
<td>During the response and recovery efforts the Insurance Bureau of Canada was a key partner to the RMWB. The Insurance Bureau established themselves as the authoritative source of insurance information following the Wildfire. They were embedded within the Regional Emergency Operations Centre as of May 14, 2016, and also shared office space with the Recovery Task Force for seven months after the Wildfire.</td>
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<td>Review and summary of disaster recovery legislation, regulations, and standards to outline best practices for future all hazards which may occur in our region</td>
<td>The RMWB’s Municipal Emergency Management Plan is more robust than the Provincial Community Emergency Management Plan guidelines. The RMWB has subsequently established policies to compensate staff consistently following emergencies and disasters.</td>
<td>The Insurance Bureau fulfilled the role of insurance expert, and actively provided residents with a single reliable source of insurance information as well as conducted regular debriefs with the Recovery Task Force on what was occurring. This relieved the need for the Recovery Task Force to acquire in-house insurance expertise to respond to resident requests. It also helped resolve specific questions about insurance in a timelier manner.</td>
<td>Review the RMWB’s emergency management governance model and documentation (page 48) Enhance the RMWB’s Municipal Emergency Management Plan</td>
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</table>

The RMWB has a defined Municipal Emergency Management Plan which is made up of a series of plans, and includes a philosophical framework, a basic plan, a Regional Emergency Operations Centre emergency plan, specific plans for the highest risk scenarios (including a wildfire response plan), and a hazard and risk assessment. The RMWB has documented and established their emergency management program leadership, coordination, and committee in their Emergency Management Bylaw 09/036, Municipal Emergency Management Plan, Regional Emergency Operations Plan.
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<td>Centre Manual, and ADM-240 Administrative Procedure: Emergency Management Program. While Business Continuity Plans exist within the RMWB, many have not been actively maintained or reviewed since they were last updated in 2012. It was noted that the absence of policies requiring ongoing maintenance of the Business Continuity Plans may have been a factor in them not being reviewed and updated regularly.</td>
<td>and refresh it annually (page 52) Enhance and update existing Business Continuity Plans (page 58) Formalize existing Business Continuity Plans as part of standard operating procedures during emergencies and disasters (page 58)</td>
</tr>
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</table>
### The Primary Question

**How does the RMWB recover from the 2016 Wildfire in a timely manner while maintaining the confidence of its residents, the support of key stakeholders including Indigenous peoples, and setting the conditions for a region that is environmentally superior to the pre-disaster conditions?**

The following are associated components of the primary question:

- Decrease the number of people wholly-in and fly-out of the region versus living and working within it.
- Enable the return of our residents and attracting others to the region.
- Maximizing the opportunity to achieve increased resiliency.
- Stabilizing the economic downturn and diversifying economic opportunities.
- Rationally evaluate quantity and location of infrastructure to better support the community’s needs.

### Desired Outcomes

- The RMWB has fully recovered from the 2016 Wildfire. We are a safe, resilient community where a heightened sense of pride and spirit exists across the region. The resident population and regional economy are sustainable. The environmental impacts of the wildfire are remediated.
- The recovery displays no lasting damage associated with the 2016 wildfire.
- The need for post-wildfire toxicology analysis delays the ability of the RMWB leadership to make informed land-use planning decisions.
- The pre-disaster economic downturn coupled with the impact of the fire on local businesses deters a full recovery of the region.
- The return of residents to the region was delayed by affordability, uncertainty, or other factors.
- Insufficient local capacity to rebuild in a timely manner.
- A temporary increase in fly-in/fly-out of oil and gas workers becomes embedded and the new norm.

### End State

- All children receive quality education in the RMWB.
- The region is a rebuilt region with all residents supportive of our resilient region.
- Residents return to their homes in a timely manner.
- Resident are engaged and actively supporting the recovery of the region.
- The environmental impacts of the wildfire relative to air, land, water, and biodiversity are understood and remediated.
- Special attention to the environmental impact on the communities are seized during the recovery.
- The innovative environmental initiatives are ongoingly supported.
- The recovery displays no lasting damage associated with the 2016 wildfire.
- We have been able to seize the opportunities of regional businesses to assist in the rebuilding of RMWB.
- Long-term economic benefit of recovery operations to the RMWB business community.
- Support from the Province’s Disaster Recovery Program is maximized.
- All children receive quality education in the RMWB.
- The satisfaction of insureds with the recovery of their region.
- Residents are engaged and actively supporting the recovery of the region.
- The economic impact of the wildfire relative to air, land, water, and biodiversity are understood and remediated.
- Special attention to the environmental impact on the communities are seized during the recovery.
- The innovative environmental initiatives are ongoingly supported.
- The recovery displays no lasting damage associated with the 2016 wildfire.
- The region is a rebuilt region with all residents supportive of our resilient region.
- The environment displays no lasting damage associated with the 2016 wildfire.
- The need for post-wildfire toxicology analysis delays the ability of the RMWB leadership to make informed land-use planning decisions.
- The pre-disaster economic downturn coupled with the impact of the fire on local businesses deters a full recovery of the region.
- The return of residents to the region was delayed by affordability, uncertainty, or other factors.
- Insufficient local capacity to rebuild in a timely manner.
- A temporary increase in fly-in/fly-out of oil and gas workers becomes embedded and the new norm.

### Key Action Areas

#### People

- **Primary Objectives**
  - Enhance the well-being of all RMWB residents.
  - Ensure our children have access to quality education throughout recovery.
  - Ensure all have the opportunity to actively participate in locally organized leisure, sports, and recreational activities.
  - Ensure the proper disposal of waste and debris generated by the fire while seeking opportunities to capture and recycle materials.
  - Re-establish and actively promote the development of green spaces.
  - Seek to implement transformative opportunities during the rebuild that better the environment of the RMWB, such as a carbon neutral community.

- **Desired Outcomes**
  - All children receive quality education in the RMWB.
  - The region is a rebuilt region with all residents supportive of our resilient region.
  - Residents return to their homes in a timely manner.
  - Resident are engaged and actively supporting the recovery of the region.
- **End State**
  - The RMWB has fully recovered from the 2016 Wildfire. We are a safe, resilient community where a heightened sense of pride and spirit exists across the region. The resident population and regional economy are sustainable. The environmental impacts of the wildfire are remediated.

#### Environment

- **Primary Objectives**
  - Assess and remediate the environmental impacts of the wildfire.
  - Assess and remediate the environmental impacts of the wildfire: 1. Ensure the safety of our residents while promoting strong environmental stewardship. 2. Promote a process to identify, access, remediate, and measure wildlife affected areas. 3. Ensure the proper disposal of waste and debris generated by the fire while seeking opportunities to capture and recycle materials. 4. Re-establish and actively promote the development of green spaces. 5. Seek to implement transformative opportunities during the rebuild that better the environment of the RMWB, such as a carbon neutral community.

- **Desired Outcomes**
  - The environmental impacts of the wildfire relative to air, land, water, and biodiversity are understood and remediated.
  - Special attention to the environmental impact on the communities are seized during the recovery.
  - The innovative environmental initiatives are ongoingly supported.
  - The recovery displays no lasting damage associated with the 2016 wildfire.
  - The need for post-wildfire toxicology analysis delays the ability of the RMWB leadership to make informed land-use planning decisions.
  - The pre-disaster economic downturn coupled with the impact of the fire on local businesses deters a full recovery of the region.
  - The return of residents to the region was delayed by affordability, uncertainty, or other factors.
  - Insufficient local capacity to rebuild in a timely manner.
  - A temporary increase in fly-in/fly-out of oil and gas workers becomes embedded and the new norm.

- **End State**
  - The recovery displays no lasting damage associated with the 2016 wildfire.
  - The need for post-wildfire toxicology analysis delays the ability of the RMWB leadership to make informed land-use planning decisions.
  - The pre-disaster economic downturn coupled with the impact of the fire on local businesses deters a full recovery of the region.
  - The return of residents to the region was delayed by affordability, uncertainty, or other factors.
  - Insufficient local capacity to rebuild in a timely manner.
  - A temporary increase in fly-in/fly-out of oil and gas workers becomes embedded and the new norm.

#### Economy

- **Primary Objectives**
  - Integrate economic activity: 1. Enable businesses (urban, rural and Indigenous) as they return and recover from the consequences of the wildfire. 2. Support oil and gas production within the RMWB by minimizing wildlife impacts on the local workforce. 3. Maximize the local economic benefits of recovery operations to the RMWB business community.

- **Desired Outcomes**
  - The recovery displays no lasting damage associated with the 2016 wildfire.
  - The need for post-wildfire toxicology analysis delays the ability of the RMWB leadership to make informed land-use planning decisions.
  - The pre-disaster economic downturn coupled with the impact of the fire on local businesses deters a full recovery of the region.
  - The return of residents to the region was delayed by affordability, uncertainty, or other factors.
  - Insufficient local capacity to rebuild in a timely manner.
  - A temporary increase in fly-in/fly-out of oil and gas workers becomes embedded and the new norm.

- **End State**
  - The recovery displays no lasting damage associated with the 2016 wildfire.
  - The need for post-wildfire toxicology analysis delays the ability of the RMWB leadership to make informed land-use planning decisions.
  - The pre-disaster economic downturn coupled with the impact of the fire on local businesses deters a full recovery of the region.
  - The return of residents to the region was delayed by affordability, uncertainty, or other factors.
  - Insufficient local capacity to rebuild in a timely manner.
  - A temporary increase in fly-in/fly-out of oil and gas workers becomes embedded and the new norm.

#### Rebuild

- **Primary Objectives**
  - Quick reconstruction of our community to address and meet wildfire damages: 1. Understand and address the full extent of wildfire damage across the RMWB. 2. Enable businesses (urban, rural and Indigenous) to return and recover from the consequences of the wildfire. 3. Support community recovery stakeholders. 4. Establish planning and communications processes. 5. Support people and promote self-care. 6. Reach out to municipalities, governments, and private sector personnel with recovery experience. 7. Think long-term: recovery takes time and patience.

- **Desired Outcomes**
  - Health: The health of residents and workers is protected.
  - Performance Indicators: Regional population trends Regional economic output levels Long-term environmental impact Confidence of our residents Time to achieve whole of community recovery Regional disaster risk reduction is improved from pre-fire levels The health and well-being of our residents The satisfaction of insureds with their claim payouts

- **End State**
  - The recovery displays no lasting damage associated with the 2016 wildfire.
  - The need for post-wildfire toxicology analysis delays the ability of the RMWB leadership to make informed land-use planning decisions.
  - The pre-disaster economic downturn coupled with the impact of the fire on local businesses deters a full recovery of the region.
  - The return of residents to the region was delayed by affordability, uncertainty, or other factors.
  - Insufficient local capacity to rebuild in a timely manner.
  - A temporary increase in fly-in/fly-out of oil and gas workers becomes embedded and the new norm.

#### Mitigate

- **Primary Objectives**
  - Implement mitigation measures with a view to improving resiliency: 1. Fully understand and mitigate any health risks associated with the wildfire. 2. Consider transformative opportunities through land-use planning that better positions the RMWB from both public safety and future growth perspectives.

- **Desired Outcomes**
  - Health: The health of residents and workers is protected.
  - Performance Indicators: Regional population trends Regional economic output levels Long-term environmental impact Confidence of our residents Time to achieve whole of community recovery Regional disaster risk reduction is improved from pre-fire levels The health and well-being of our residents The satisfaction of insureds with their claim payouts

- **End State**
  - The recovery displays no lasting damage associated with the 2016 wildfire.
  - The need for post-wildfire toxicology analysis delays the ability of the RMWB leadership to make informed land-use planning decisions.
  - The pre-disaster economic downturn coupled with the impact of the fire on local businesses deters a full recovery of the region.
  - The return of residents to the region was delayed by affordability, uncertainty, or other factors.
  - Insufficient local capacity to rebuild in a timely manner.
  - A temporary increase in fly-in/fly-out of oil and gas workers becomes embedded and the new norm.

### Narrative

The RMWB is recovering from a devastating wildfire that threatened the lives of our people and the very existence of our community. We suffered the loss of two residents while evacuating, thousands of homes were destroyed, as well as some public infrastructure. Many of our residents were evacuated for over one month while fire responders bravely fought the fire and put the conditions for their return. We chose to move forwards, not backwards. We will rebuild our area, but safely. We will accommodate all families who want to move home as soon as possible. We will advocate for adequate community egress routes and a bypass to improve the safety and efficiency of our transportation network. Achieving these outcomes requires sound planning and strong governance. We will develop short and long-term recovery plans that consider the needs and desires of our regional communities, industry, citizens and Indigenous peoples. We will create a roadmap to guide decision making and provide transparency and shared understanding of who decides what, when. We have a long and difficult road to recovery, but we face it together. We must work collaboratively, supporting one another, and caring for one another’s mental and physical health. We see a region that is ready to bloom. We see a vibrant and tightly connected region where people want to stay and live an entire life.
Recovery Organizational Chart, from the RMWB 2016 Wildfire Recovery Plan

![Recovery Organizational Chart]

Figure 4: Wildfire Recovery Governance Structure from RMWB Bylaw No. 16/013

Responsible, Accountable, Support, Consulted, Informed (RASCI) Chart, from the RMWB 2016 Wildfire Recovery Plan

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RECOVERY SYNOPSIS

INTRODUCTION

The scope of a recovery operation is disaster specific. The greater the impact on people, the economy, the environment, and infrastructure, the greater the complexity of the recovery operation. The transition from response to recovery in a large-scale disaster does not occur at a point in time, rather it is a continuum: response decreases while recovery increases. As such, dedicated recovery planning should be initiated very early in the response phase. NOR-EX Engineering understands this reality and has developed a robust recovery toolbox that allows us to effectively plan, lead, and deliver recovery solutions for affected communities. Despite the challenges, we focus on opportunities to increase resiliency.

We believe it is beneficial to share the recovery outcomes for the 2016 Horse River Wildfire as a demonstration of what can be accomplished by employing a recovery toolbox with a capable team. This synopsis illustrates the breadth of activities and the necessary planning to successfully recover from a Wildland Urban Interface fire of this magnitude. Delivery is contingent upon having a capable team with sufficient capacity to deliver a Campaign Plan that will unfold over years. Successful recovery requires interagency cooperation and connections to multiple orders of government to best leverage relationships and maximize funding opportunities. Most importantly, without effective leadership from local elected officials and governing bodies, recovery will be hampered.

This synopsis is framed on the organizational structure of the Recovery Task Force (RTF) and is intended to assist others facing similar recovery challenges.

RECOVERY TEAM LEAD:

**Leadership:** Above all, your recovery organization must be led. The team is often comprised of individuals directly impacted by the disaster who may be bordering on exhaustion. Strength of character, empathy, communication, and critical thinking is what a team needs in this situation - choose well.

**Leveraging Expertise:** Over the long-term, local leadership is a recovery best practice. That said, appointing a recovery lead that is experienced in the field is a necessary consideration. Often decision timelines are tight and the margin for error slim. Drawing on previous recovery experience saves time and avoids costly mistakes.

**Relationships:** Building strong relationships with key stakeholders, both externally and internally throughout recovery provides clarity on primary objectives and allows collaborative recovery efforts. Developing personal relations with local leadership, government, industry, NGOs, Community Organizations, and residents allows timely and comprehensive responses to recovery needs.

RECOVERY PILLARS:

**Rebuild Pillar (Operations)**

**Sifting Program:** Devised a program to allow residents the ability to return to their homes to allow some closure and sift through debris for personal effects that may remain.

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Oversight of Debris Removal and Demolition: The RTF worked closely with IBC and SPECS to ensure that the structural ash, concrete, steel, and soil were removed for nearly 2,000 properties in approximately 10 weeks.

Green Home Re-entry: Close collaboration with the Chief Medical Officer of Health and her office, as well as other provincial and regional stakeholders allowed the initial re-entry of over 650 “green” homes (read: assessed as safe to re-enter). The green home re-entry that followed in Abasand, Beacon Hill and Waterways was completed in three phases supported with a comprehensive risk mitigation matrix and regular communication to residents.

Completion of Remaining Demolition: The RTF completed all remaining demolition in the affected areas as per the terms of the RMWB Demolition Order.

Comprehensive Firebreak Program: Using an individualized case-management approach, RTF staff clearly defined “firebreak property” to the public, identified those who suffered damage from the creation of firebreaks and created relationships with them. The program was expanded to include water-bombing and fire retardant homes.

Construction Management Teams (CMT): Addressing Lessons Learned from previous disasters and the need to build back safe, efficient, and compliant, Construction Management Teams were designed and hired to work on the ground in affected neighbourhoods.

Rebuild Guidance: Implementation of guidelines specifying the tactics of how the RMWB would rebuild the community. Components included direction for CMTs, construction control measures, etc.

Rebuild Peak Construction: Analyzed the impact during peak construction to determine potential bottlenecks and safety concerns. Mitigated these risks with appropriate initiatives.

Construction Access Roads: Access roads were designed and constructed creating separate routes for contractors working in Beacon Hill and Abasand to limit the impacts of construction traffic to residents.

Construction Safety Education: Created an education program to share with schools that included a Construction Safety Video for children.

School Zone Considerations: Created designated construction routes to avoid school zones.

Waterways Slope Stability: A slope stability assessment of the Clearwater River Valley slope was completed using DRP funding to allow for the issuance of Development Permits in Waterways.

Survey Pin Replacement: In collaboration with the Government of Alberta and RMWB Administration (including Planning & Development and Legal Services), survey and replace pins/monuments.

Utility Coordination: RTF staff developed and maintained close working relationships with major utility providers in Wood Buffalo.
Vacant Lots Plan: Analyzing the implications to residents not rebuilding and determining what initiatives need to be in place to mitigate unsafe/unsightly vacant lots.

Municipal Infrastructure Damage Assessment/Repairs: To avoid repeat repair situations, determined the most appropriate/efficient time to repair damage caused by rebuild efforts to municipal infrastructure (ie damage to sidewalks/curbs, etc.).

Soil Stockpile Initiative: Provided a free of charge temporary site for the stockpiling of excavated soil for reuse in construction activities.

Street Sweeping in Rebuild Areas: Ensure rebuild areas receive routine street sweeping services to limit dirt and mud buildup.

Environment Pillar – (Operations)

Hazardous Tree Removal: RTF managed hazardous tree removal in the Urban Service Area, as well as the initiation of hazardous tree removal in rural areas.

Soil Testing: Execution of a three-phased sampling plan to ensure public safety in accordance with provincial standards.

Firebreak Drainage: Mitigated the impact of firebreaks on drainage created during wildfire fighting operations. RTF staff tracked over 100 water-pooling locations and developed a solution for these areas.

Hydrology Assessments: RTF coordinated hydrology assessments in areas that were at risk to mitigate future problems.

Environmental Assessments: Conducted cyclical environmental assessments to determine areas that need further remediation/mitigation strategies.

Erosion Control Remediation: Established contracts to monitor and address post-fire erosion.

Firebreak and Trail Assessment, Rehabilitation, and Restoration: Devised a plan to assess, rehabilitate and restore firebreaks and trails in the region. Execution of the plan is an ongoing activity in recovery.

Parks Assessment and Rehabilitation: Devised a plan to assess and rehabilitate parks in the region. Execution is ongoing throughout recovery.

Bike Park Damage Remediation: Examination of rebuilding the fire-damaged local bike park using DRP funding.

Mitigate Pillar – (Operations)

ReLeaf Plan and Implementation: Devise and execute a plan for Tree Canada’s donated trees to be planted.

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**FireSmart Framework and Implementation:** The RTF is drafting a FireSmart Framework, with a vision of RMWB becoming a FireSmart Canada certified region. The Strategy is to be approved by Mayor and Council and implemented by the FireSmart Committee over the years to come.

**Burnt Tree Harvesting:** Remove burnt trees that are at risk of falling and becoming an ignition source.

**Reforestation Framework:** Developed a framework to address reforesting burnt areas in the region.

**Urban Forest Strategy:** Developed a strategy to address reforesting urban areas with a view towards FireSmart principles.

**Disaster Risk Reduction/Build Back Better Initiatives:** Developing initiatives to enhance disaster preparedness throughout the Regional Municipality of Wood Buffalo.

**Council Approval of Regional Mitigation Opportunities:** RTF staff presented various mitigation concepts to Council, including the predesign of the East Clearwater Highway, support for the Government of Alberta’s FireSmart program, a commitment to determine the best means of protecting rural areas and the western flank of the city, as well as a request for a Wildland Urban Interface (WUI) fire crew, similar to that of Slave Lake.

**Egress Routes:** Identified need for egress routes at the neighbourhood, rural and regional level. Neighbourhood and Rural egress routes projects underway.

**Economy Pillar – (Economic Development)**

**Small Business Workforce Support Program:** Program to give small businesses access to $5 million of funding to maintain their workforce. The program was implemented in Wood Buffalo and marketed to business owners.

**Back to Business Resource Centre (BBRC):** RTF and Administration collaborated to offer goods and services to local businesses. Certified business coaches, learning events, in-depth seminars, mobile work stations and free office supplies were provided to local businesses and rural communities.

**Homebuilder Display Events:** RTF and Administration participated in two major events for residents and home builders to meet and discuss options for the upcoming rebuild—the YMM Home Show (August 20) and Home Builders Expo (November 25-27).

**“Open for Business” Campaign:** This campaign included welcome walks, complimentary “open for business” signs and multiple print advertisements to promote the reopening of local business in Wood Buffalo.

**Outreach to Heavily Impacted Businesses:** A total of 278 businesses lost their operating space during the wildfire. Outreach and case management was used to connect with these businesses to identify their needs and work towards solutions on an ongoing basis.
**Economic Impact Assessment:** Municipal staff conducted a qualitative study and a quantitative analysis of the impact of the wildfire on local business.

**Business Recovery Needs Assessment:** Conducted a detailed survey with small and medium sized businesses through interviews to determine the needs of the business community.

**Stakeholder Outreach:** Outreach efforts ensured stakeholders in the business community, including the Chamber of Commerce, Business Support Network, Keyano College, Fort McMurray Construction Association and the Fort McMurray International Airport were connected to recovery operations. Ongoing programming included Small Business Week, ‘Ask an Expert’ learning events, luncheons, board meetings, presentations and attendance at local events.

**Recovery Loan Program:** Development of a customized business loan program to be administered by Community Futures in support of small and medium businesses during recovery.

**Residential Tax Relief:** A initiative to forgive residential taxes including the education levy for affected residents.

**‘Mini Boom’ Opportunities:** Assessment of the positive impacts associated with the influx of additional contractors required for the rebuild and how to capitalize on business opportunities.

**Business and Economic Recovery Plan:** Prepared a Business and Economic Recovery Plan to assist the economy in recovering from the effects of the wildfire.

**People Pillar – (People Services)**

**Housing Survey:** Surveyed Wood Buffalo residents to gain a better understanding of their housing needs. This information was critical in later decisions regarding the supply of interim housing that was offered by the Government of Alberta.

**Interim Housing:** Worked closely with residents to secure interim housing in the event they lost their residence to wildfire.

**Information Centres:** Throughout the course of recovery, People Services staff hosted residents at Information Centres in 10 locations to welcome them home and provide important resources.

**Abraham’s Land Temporary RV Park:** All occupants of Abraham’s Land benefitted from a case-management approach that addressed individual needs, ensuring that all residents transitioned into permanent housing before winter.

**Thanksgiving Event:** Supported an outreach event in partnership with Suncor Energy Foundation, Wood Buffalo Food Bank and Canadian Red Cross Society. Over 1,200 turkey hampers were delivered to residents in need.

**Community Wellbeing & Resiliency Committee:** Regularly participated in Committee activities, helping to execute the Psycho-Social Framework for recovery in Wood Buffalo.

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Community Outreach Initiatives: Work with external stakeholders to implement community oriented projects such as: “Tree of Thanks”, Christmas Kindness Project, Cross Canada Ornament Distribution, etc.

Donation Management: A policy for donation management was created by Administration to provide direction on the influx of material from interested parties. People Services staff also helped with the relocation of the donation centre.

Recreation in Recovery: Participated in a symposium on the role of recreation in the recovery phase.

Recreation Needs Assessment: Developed a needs assessment strategy to determine the needs of the recreation community.

Community Programming: Consulted on, participated in, and enhanced various seasonal community events, including the Santa Claus Parade, Lights of Christmas, and the Lac La Biche holiday parade.

Support to CRCS/NSUUR: Enabling the case-management of uninsured/under-insured residents in the rebuild of their homes.

Neighborhood Networks: Development of community based initiatives to promote and foster leadership among neighborhoods to gather and create a united voice, addressing problems with solutions in effort to improve the wellbeing of communities.

May 3rd Commemorative Event: Concept development, planning and execution of a community led gathering focused on wellness, reflection and support.

Wood Buffalo Psychosocial Recovery: Support to the Alberta Health Service’s (AHS) 5-year action plan.

Youth Recovery Strategy: Develop a strategy to empower and foster resiliency in youth to successfully recover from the wildfire.

Health and Wellness Workshop: Hosted several health and wellness workshops targeted to general residents and specifically to teachers and students.

Indigenous Art Piece: Initiated a Request for Proposal (RFP) to hire a local artist to create an Indigenous Art Piece as a memorial for the wildfire event; included in the CRCS funding project.

Welcome Home Baskets: Coordinated and managed the supply of a basket of home decor items as a welcome home initiative to residents who moved into their rebuilt homes.

NGO Gap Analysis: Consistently worked with a variety of non-governmental organizations (NGOs) to determine gaps and potential solutions.

Social Profit Support: Provided significant support to local social profit sector initiatives that aim to support Wood Buffalo residents.
Vulnerable Sector Self-Registry Project: Implementing a CRCS funded vulnerable sector program to enhance Regional Emergency Services support.

Support Art Community Projects and Plans: Foster interagency collaboration and plans to increase agency capacity and meet needs of the Wood Buffalo arts community.

PAN-PILLAR SUPPORT

Chief of Staff

RTF Support: Provided input, advice, and support to the entire team including:

- organizational design and plan review
- attendance at coordination meetings for Disaster Recovery Program (DRP) with GAO
- collaboration on council reports for tax forgiveness and firebreak homes reimbursement
- participation in public engagement sessions
- guidance on budget development

Metrics: Developed dashboards by pillar for metrics and reporting by pillar.

Issues Tracking: Created and managed issues tracking and coordinated responses to complex inquiries raised by citizens, Council and Wood Buffalo Recovery Committee.

SLA: Developed service level agreements with the Athabasca Tribal Council and McMurray Métis Local 1935 to provide Indigenous relations advisory services.

Advocacy: Attend meetings with the Executive Leadership team regarding non-competitive selection and procurement to close out response purchase orders.

Lessons Learned (LL): Coordinated recovery LL including tracking internal LL and overseeing contracted LL.

Stakeholder Engagement

Here for You: RTF and Administration engagement staff completed dozens of in-person sessions in Wood Buffalo. Thousands of resident interactions were tracked at these sessions, helping to inform RTF decisions and build trust with residents over a common understanding of recovery goals.

Community-led Focus Groups: The early stages of focus groups were planned to provide residents an opportunity to add value and commentary on RTF activities. These groups laid the foundation for resident and stakeholder driven policy advice and guidance.

Relationship Building: Meaningful relationships were built with recovery partners, community leaders and grassroots neighborhood ambassadors. These relationships allowed for deeper conversations and a more inclusive engagement strategy.

Wood Buffalo Recovery Committee (WBRC) Alignment: Committee members have provided their direct feedback and input on engagement, adding value and authenticity to the process.

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Collaboration with Administration: Strong ties are maintained with Administration counterparts, allowing for complementary activities and information sharing.

Stakeholder Engagement Strategy: Developed an internal strategy document used to synchronize and align engagement efforts across all pillars in the RTF. Included a flowchart and synchronization matrix with routine meeting schedule for alignment.

Communications

Communications: Provided comprehensive communications support for WBRC, all RTF pillars and specific Administration branches and projects with recovery roles, including key message development, media relations, social media, paid advertising and more.

Developed and executed significant initiatives including telephone town halls, re-entry packages and the Thanksgiving video that was viewed nationally.

Continued collaboration with Administration in developing communications, including a new CRM platform and improving PULSE.

Interagency Efforts: Facilitated joint communications between Canadian Red Cross, Government of Alberta and RMWB, including support for Premier and Minister visits.

Plans

Campaign Plan: A high-level, one-page guide to recovery for all stakeholders. It endeavored to simplify the complexity of recovery and provide an easily understood guide to create a common operating picture for all.

RWMB Recovery Plan: A detailed recovery plan drafted by plans and approved by WBRC as well as Mayor and Council.

Recovery Planning: Numerous plans were written in support of specific recovery activities. Drafted in a collaborative manner with multiple stakeholders, they include:

- Rebuild Guidance
- Rebuild Standing Operating Procedures (SOPs) for CMTs
- Firebreak Rehabilitation and Trail Restoration
- FireSmart Framework
- Stakeholder Engagement Framework
- Transition Plan
- Municipal Infrastructure Repair Plan

Flowcharts: Devised multiple flowcharts to map out processes and decision making required to see operations through. Examples of flowcharts created include:

- Stakeholder Engagement
- CMT SOPs
- Damage to Private Property
- Comprehensive Firebreak Program

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Future Operations: Weekly future operations meetings led by Plans with a focus on orienting the RTF on upcoming operations by pillar and directly supporting the planning needs of the five pillar leads.

Canadian Red Cross Society Recovery Gift Agreement: Liaison and joint planning to create an agreement for the expenditure of $10M on recovery by the RMWB.

Facilitation: Design and execution of planning sessions, working groups, table top exercises and workshops for the RTF and Administration.

Long Range Outlook: Conduct of multi-year planning cycles to forecast recovery efforts well into the future.

Transition Plan: Developed a three-phase plan for transition back to a normal operating environment. This was based on accomplishing the Primary Objectives and Desired Outcomes of the Campaign Plan.

Project Services

Budget development: Full budgets for 2016 and 2017 were completed.

Initial DRP projects list: A complete list of initial projects and activities that are eligible for DRP funding was completed.

Vendor invoices: Review and completion of an outstanding backlog of vendor invoices.

Return to Normal Processes: A return to normal purchasing processes once the new SAP workflow was approved. This allowed for the phase-out of emergency framework PO’s and change orders.

DRP Submission Handover: RTF Project Services staff assumed full responsibility for all DRP submissions as of January 2017.

Records Management: A stringent records management plan was implemented.
Appendix G | Endnote References


ii 2017 Rapid Impact Assessment of Fort McMurray Fire. MacEwan University


iv 2017 Rapid Impact Assessment of Fort McMurray Fire. MacEwan University


xviii Ibid


2017 Rapid Impact Assessment of Fort McMurray Fire. MacEwan University


Population estimates provided by Nichols Applied Management. Their methodology and estimates were approved by the RMWB Council on May 9, 2017

Statistics Canada. Table 282-0122 - Labour force survey estimates (LFS), by provinces and economic regions based on 2011 Census boundaries, 3-month moving average, unadjusted for seasonality, monthly (persons unless otherwise noted), CANSIM (database). Last accessed July 2017 at http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=2820122&&pattern=&stByVal=1&p1=1&p2=37&tabMode= dataTable&csid=

