



The Corporation of the Township of Laird

Community Risk Assessment

June 2024

## Table of Contents

Introduction.....	1
Community Risk Assessment.....	1
Community Risk Guideline.....	2
3.0 Conducting a Community Risk Assessment .....	5
3.1 Identifying Risks-Mandatory Profiles .....	5
4.0 Prioritizing Risks .....	12
4.1 Probability.....	12
4.2 Consequence .....	13
5.0 Assigning Risk Level .....	14
6.0 Risk Treatment Options .....	15
6.1 Avoid the Risk .....	15
6.2 Mitigate the Risk .....	16
6.3 Accept the Risk.....	16
6.4 Transfer the Risk.....	16
7.0 Setting the type and level of fire protection services .....	16
8.0 Review .....	17
Event History & past Loss Event History .....	19
Identifying Treatment options for the Top Risks in the Community .....	21
Setting the Level of Service .....	28
Conclusion .....	29

# Community Risk Assessment for the Corporation of the Township of Laird

June 2024

## Introduction

The Corporation of the Township of Laird is to create and conduct a Community Risk Assessment (CRA) for the municipality and use its community risk assessment to make informed decisions about the provision of fire protection services. This CRA will meet the requirements of **Ontario Regulation 378/18: Community Risk Assessments**.

## Community Risk Assessment

**O. Reg 378/18** states that,

Every municipality, and every fire department in a territory without municipal organization, must,

- a) Complete and review a community risk assessment as provided by this Regulation; and
- b) Use its community risk assessment to inform decisions about the provision of fire protection services.

The Office of the Fire Marshal and Emergency Management is responsible for monitoring and reviewing all municipal CRA's to ensure municipal compliance with **O. Reg 378/18**. The CRA must be submitted to the Office of the OFMEM for approval no later than July 1, 2024. The CRA is valid for five years from the date of submission but must be reviewed every twelve months from the submission or as necessary.

A CRA is a process of identifying, analyzing, evaluating, and prioritizing risks to public safety to allow the municipality to make informed decisions regarding the provision of fire protection services. The CRA must address the mandatory profiles listed by the OFMEM and be in a form that the OFMEM approves.

## Community Risk Guideline

**The following information explaining the CRA was created by the Office of the Fire Marshal and Emergency Management and is available on their website.**

Community risk assessments allow fire departments to make informed decisions about the types and levels of fire protection services they will provide based on identified risks.

Risk is defined as a measure of the probability and consequence of an adverse effect to health, property, organization, environment, or community as a result of an event, activity or operation.

By identifying all fire and life safety risks in their community and prioritizing them based on the probability of them occurring and the impact they would have if they occurred, fire departments are able to determine which risks to address and how best to address them. Risk assessments allow fire departments to ensure their levels of service, programs and activities for public fire safety education, Fire Code inspections and enforcement, and emergency response directly address the identified risks and are most effective at preventing and mitigating them.

The *Fire Protection and Prevention Act, 1997* (FPPA) mandates that every municipality in Ontario shall establish a program which must include public education with respect to fire safety and certain components of fire prevention and provide such other fire protection services as it determines may be necessary in accordance with its needs and circumstances. In the fire service, these elements are commonly referred to as the Three Lines of Defence:

1. Public Fire Safety Education
2. Fire Safety Standards and Enforcement
3. Emergency Response

In order to meet these obligations, municipalities need to make informed decisions with respect to the types and levels of fire protection services they provide. This requires an understanding of the risks facing the community that can be identified through a community risk assessment. Once identified, the risks can be prioritized to assist in making informed decisions about risk treatment options and the provision of fire protection services.

*Ontario Regulation 378/18: Community Risk Assessments (O. Reg. 378/18)* requires that every municipality and every fire department in a territory without municipal organization complete a community risk assessment and use it to inform decisions on the provisions of fire protection services. The Community Risk Assessment is an in-depth and comprehensive assessment to inform fire protection service levels and requires the identification, analysis, evaluation and prioritizing risk, based on nine mandatory profiles.

The regulation outlines a standard set of information profiles that must be considered when conducting a community risk assessment. The information and data gathered to address each of the profiles will assist in determining and prioritizing the risks to public

safety in the community and determining the fire protection services to be provided by municipalities and fire departments in territories without municipal organization to address those risks.

The mandatory profiles identified in Schedule 1 of O. Reg. 378/18 were determined from examining various current industry models on risk assessment. Many of these models provide comprehensive coverage pertaining to identification of data and information relating to community risks. However, it should be noted that these risk assessment models may or may not include all of the nine mandatory profiles as identified in Schedule 1 of O. Reg. 378/18. Municipalities and fire departments in territories without municipal organization may use other tools, models or guidelines to conduct their community risk assessments provided that their final community risk assessments meet all the requirements outlined in O. Reg. 378/18., including consideration of each of the nine mandatory profiles identified in Schedule 1 of the regulation (See Appendix E).

The Guideline provides suggestions as to how to record and analyze the data/information using the sample worksheets that are provided in the Guideline. Municipalities and fire departments in territories without municipal organization have flexibility to include any additional information (e.g., maps, charts, diagrams) they deem appropriate to best assist them in analyzing their data and information in order to make informed decisions on fire protection services.

The Emergency Management and Civil Protection Act (EMCPA) requires every municipality to conduct an all-hazards risk assessment, which informs continuous improvement of emergency management programs and improves public safety. A completed Hazard Identification Risk Assessment (HIRA) may provide some of the information/data required to fulfil the needs of a Community Risk Assessment under O. Reg. 378/18, although there will be specific fire related information that is not contained in the HIRA that will be gathered as part of this process. The HIRA and the Community Risk Assessment are separate processes but should be viewed as complementary to one another.

**Note: For the purpose of this guideline, the terms "fire department" and "fire departments" will be considered to include every municipality and every fire department without municipal organization.**

### 3.0 Conducting a Community Risk Assessment

This assessment was compiled by the Office of Laird Township.

### **3.1 Identifying Risks - Mandatory Profiles**

The first step in conducting a community risk assessment is to identify the various fire and life safety risks in the Community. This can be done by gathering data about the make-up of the community and the activities occurring there.

O. Reg. 378/18 requires fire departments to consider the following profiles when completing their community risk assessment to ensure the risk assessment best considers all potential risks in the community:

1. Geographic Profile
2. Building Stock Profile
3. Critical Infrastructure Profile
4. Demographic Profile
5. Hazard Profile
6. Public Safety Response Profile
7. Community Services Profile
8. Economic Profile
9. Past Loss and Event History Profile

Fire Departments need to gather and review data and information about each of these profiles to identify the fire and life safety risks that could impact the community.

Worksheets in this guideline can be used to record and organize the data and information for each profile. The worksheet can be filled in. Fire and emergency risks and issues/concerns can be noted in the appropriate columns of each worksheet as they are identified. These worksheets can be modified or adapted to suit local needs based on available data or information.

A Description of each profile, including potential sources of data and information for each, is provided below.

#### **3.1.1 Geographic Profile**

Geographic profile refers to the physical features of the community, including the nature and placement of features such as highways, waterways, railways, bridges, landforms, and wildland- urban interfaces.

Physical features of the community may present inherent risks that need to be taken in to account when determining the type and level of fire protection services that should be provided by the fire department. Physical features may also impact emergencies response access and response times.

Identifying any geographic features that might have implications with respect to risk or

response allows fire departments to consider these issues when determining appropriate types and levels of fire protection services.

For example, a lake may have implications with respect to water and/ or ice rescue services and the equipment and training that would be required to provide those services. The lake may also impact emergencies response access and response times to certain areas within the community. Additionally, a lake may be a seasonal tourist attraction and the associated activities may present unique risks that could influence decisions on specific public fire safety education and Fire Code inspection and enforcement programs and activities.

Where to find/collect this information

Information related to the Geographic profile may be obtained from:

- Local knowledge of the area and by using maps of the municipality's natural (i.e., lakes, rivers, etc.) and human-made (i.e., highways, bridges, railways, etc.) features, and
- Local municipal departments (i.e., highways/roads, conservation authorities, etc.) who should have information about the location and uses of geographic and physical features of the community.

### **3.1.2 Building Stock Profile**

Building Stock profile refers to the types, numbers, uses, and ages of the various buildings within the community.

Fire departments should consider the potential fire risks associated with different types/classification or uses of buildings given their prevalence in the community and the presence of fire safety systems and equipment at the time of construction.

Older buildings typically do not contain the same fire safety and fire protection systems required in newer buildings. This may impact the fire risk in older buildings. Also, how buildings are used can influence the fire risks in each building. For example, industrial chemical storage facilities are likely to present higher fire risks than buildings containing commercial retail activities. The age and type of residential buildings (e.g., high-rise vs. single family dwelling vs. Town/row houses) can influence the probability and consequence of fire in those buildings.

Past inspection practices and frequencies also can be a factor when considering risk associated with any particular building occupancy classification categories. For instance, a robust inspection program in higher risk occupancies can have a positive

influence on mitigating some of the inherent risks associated with that particular type of building. Conversely, a lack of historical inspection data in relation to a particular occupancy classification category also should be considered when determining risk.

These building characteristics can have significant impact on the public fire safety education, Fire Code inspection and enforcement and emergency response activities the fire department may determine are necessary to address the risks.

Where to find/collect this information

0. Reg. 378/18 does not specify which source of this information has to be referenced to complete the risk assessment. Fire departments have the flexibility to choose which source

they feel will provide the optimum level of detail they are most comfortable with as an accurate reflection of the building stock in their community. Consideration should be given to consistency in terms of data sources when conducting new risk assessments and annual reviews.

Information related to the Building Stock profile may be obtained from:

Categorizing buildings in accordance with the Standard Incident Report (SIR) property classification system which corresponds with the Ontario Building Code (OBC) occupancy classification system. As the Ontario Fire Code (OFC) requires that buildings be classified in accordance with the OBC, this approach makes it easy to consider issues like the type of construction and fire safety equipment/features that should be present in the different classifications of buildings, based on their size, age, design, and use.

- Municipal building departments that have information regarding the age, number, types, uses, etc. of buildings in the municipality.
- **Municipal Property Assessment Corporation** (MPAC- [www.mpac.ca](http://www.mpac.ca)) data that assesses and classifies all properties within Ontario, and
- Fire department pre-plans that identify uses and potential risks within specific buildings or areas of the community.

### **3.1.3 Critical Infrastructure Profile**

Critical Infrastructure profile refers to the facilities or services that contribute to the interconnected networks, services, and systems that meet vital human needs, sustain the economy, and protect public safety and security (i.e., electricity distribution, water distribution, telecommunications, hospitals, and airports).



Consideration of the presence, availability, capacity, and stability of infrastructure elements can help identify potential impacts that may result if any of these systems are compromised.

Understanding how infrastructure impacts things like emergency services dispatch, communications, fire department emergency operations, overall health care or transportation can assist in determining preferred treatment options to address specific risks.

Where to find/collect this information

Information related to the Critical Infrastructure profile may be obtained from:

- Local municipal departments (i.e., public works, water and sanitation departments, etc.) and other local utility companies that have information about the location, uses, capacity, etc. of the critical infrastructure in the community, and
- A completed Hazard Identification Risk Assessment.

### **3.1.4 Demographic Profile**

Demographic profiles refer to the composition of the community's population considering such factors as population size and dispersion, age, gender, cultural background, level of education, socio-economic make-up, and transient population.

Awareness of the characteristics of the population in the community assists the fire department to determine if specific segments of the population are at high-risk of fire. This awareness allows fire departments to best identify high-risk behaviors that need to be changed, as well as specific techniques to communicate with high-risk groups.

Fire protection services, including public fire safety education and Fire Code inspections and enforcement programs, should be tailored to high-risk groups so that fire safety programs are delivered in the most relevant and meaningful ways and can have the greatest impact. For example, delivering fire safety messages using communications techniques popular with specific high-risk segments of the population increases the likelihood the messages are received by those segments and therefore are most effective at reducing the fire risk.

Where to find/collect this information

Information related to the Demographic profile may be obtained from:

- Local municipal departments that keep information regarding the demographic

make-up of their populations, including trends and projections regarding how the demographics may change in the coming years. The amount of this type of information that is available from municipal departments may vary between municipalities, and

- Statistics Canada ([www.statscan.gc.ca](http://www.statscan.gc.ca)) census profiles of every community in Ontario, including demographic information.

### **3.1.5 Hazard Profile**

Hazard profile refers to the hazard in the community, including natural hazards, hazards caused by humans, and technological hazards. This may include but not be limited to hazardous materials spills, floods, freezing rain/ice storms, forest fires, hurricanes, tornadoes, transportation emergencies {i.e., air, rail or road), snow storms, windstorms, extreme temperature, cyber-attacks, human health emergencies, and energy supply {i.e., pipelines, storage and terminal facilities, electricity, natural gas and oil facilities, etc.).

Fire departments should consider all potential hazards that pose a significant risk to or may have a significant impact on the community, and to which fire departments may be expected to respond.

Where to find/collect this information

Information related to the Hazard profile may be obtained from:

- Local municipal or government departments (i.e., public safety, police, emergency management, etc.) with information about the natural and technological hazards within the community and the risk they pose.
- Local Historical incident data related to emergency incidents, and
- A completed Hazard Identification Risk Assessment

### **3.1.6 Public Safety Response Profile**

Public Safety Response profile refers to the agencies and organizations in the community (i.e., police, EMS, rescue) that may respond to certain types of incidents.

The fire department should consider other public safety response agencies (i.e., police, EMS, rescue) that might be tasked with or able to assist in the response to emergencies or in mitigating the impact of emergencies. This will assist the fire department to prioritize community risks and to determine the level of fire protection services it provides. For

example the presence of a private fire and rescue service at a local industrial facility may influence decisions about the type and the level of fire protection services a municipal fire department may provide to that facility.

Where to find/collect this information

Information related to the Public Safety Response profile may be obtained from:

- Local municipal departments (i.e., police, EMS, emergency management, etc.), and
- Private companies or industrial facilities who may have information about the response capabilities of other entities within the community.

### **3.1.7 Community Services Profile**

Community Services profile refers to community agencies, organizations or associations that can provide services that support the fire department in the delivery of public fire safety education, Fire Code inspections and enforcement, or emergency response.

Community service agencies may be able to provide services in-kind, financial support, provisions of venues for training, increased access to high-risk groups in the community, or temporary shelter for displaced residents following an incident.

Where to find/collect this information

Information related to the Community Services profile may be obtained from:

- General local knowledge.
- Local municipal departments (i.e., social services).
- Community service agencies (i.e., agencies providing English as a second language services resettlement agencies, agencies working with older adults, the Canadian Red Cross, etc.) who have information about the various services provided by community organizations and their clients within community.

### **3.1.8 Economic Profile**

Economic profile refers to the economic sectors affecting the community that are critical to its financial sustainability.

When prioritizing risk in the community, the fire department should consider the impact of fire and other emergencies on the industrial or commercial sectors that provide

significant economic production and jobs to the local economy. This will assist in determining the type and level of fire protection services provided in these sectors in the community.

For example, if a town has a large industrial or commercial occupancy that has a significant impact on the local economy, the fire department may consider increasing its public fire safety education and Fire Code inspection and enforcement activities to reduce the probability of a significant incident requiring a large-scale emergency response.

Where to find/collect this information

Information related to the Economic profile may be obtained from:

- Local municipal departments (i.e., economic development, employment, and social services) that have information about the economic sectors that are critical to the community's economic well-being. This will help determine the economic impact (e.g., loss of business or jobs) if a fire occurs in a specific occupancy or area of the community.

### **3.1.9 Past Loss and Event History Profile**

Past Loss and Event History profile refers to the community's past emergency response experience, including analyzing the following:

- a) The number and types of emergency responses, injuries, deaths, and dollar losses.
- b) A comparison of the community's fire loss statistics with provincial fire loss statistics.

Fire departments should evaluate previous response data to identify trends regarding the circumstances, behaviors, locations, and occupancy types of previous fires. This assists in determine the leading causes or behaviors resulting in fires, and high-risk locations and occupancies. Public fire safety education and Fire Code inspection and enforcement programs can then be designed to specifically target high-risk behaviors among various population groups and to focus prevention activities on high-risk neighborhoods or locations. This targeted approach allows public fire safety education and Fire Code inspection and enforcement programs to directly address fire risks, thereby increasing their fire prevention effectiveness.

Where to find/collect this information

Information related to the Past Loss and event History profile may be obtained from:

- Standard Incident Reports completed by the fire department. These can be obtained fire department records or by emailing the Office of the Fire Marshall and Emergency Management (OFMEM) at [OFM statistics @ontario.ca](mailto:OFM_statistics@ontario.ca).
- Trends and statistics about fire causes and fire and life safety issues across the province located on the **OFMEM's website**, and
- Information, available on request from the OFMEM, relating to fire losses in neighboring communities.

For those communities where trends are not easily identifiable due to a lack of fire incidents, it may be helpful to look at trends across the province or in neighboring municipalities that are similar in size and make-up.

It is suggested that a minimum of three (3) years' worth of data is analyzed in order to identify any potential patterns or trends and to avoid random events from unduly.

#### 4.0 Prioritizing Risks

The mandatory profiles allow fire departments to identify the features and characteristics of their community that may impact fire and life safety risks. Once risks have been identified they should be prioritized. This section discusses how risks can be prioritized based on the probability of the risk happening and the consequence if the risk occurs. **Table 1: Probability Levels** and **Table 2: Consequence levels** can be used to help determine the probability and consequence of each risk identified on the worksheets. The probability and consequence of each risk can then be noted in the appropriate columns on the relevant worksheets in Appendix A.

As noted in the introduction, risk is defined as a measure of the probability and consequence of an adverse effect to health, property, organization, environment, or community as a result of an event, activity or operation.

#### 4.1 Probability

The probability or likelihood of a fire or emergency within a community is often estimated based on the frequency of previous experiences. A review of past events involves considering relevant historical fire loss data, learning from the experiences of other communities, and consulting members of the community with extensive historical knowledge. Professional judgment based on experience should also be exercised in combination with historical information to estimate probability levels. The probability of an event can be categorized into five levels of likelihood:

## Table 1: Probability Levels

Table 1: Probability Levels

Description	Specifics
Rare	<ul style="list-style-type: none"><li>• may occur in exceptional circumstances</li><li>• no incidents in the past 15 years</li></ul>
Unlikely	<ul style="list-style-type: none"><li>• could occur at some time, especially if circumstances change</li><li>• 5 to 15 years since the last incident</li></ul>
Possible	<ul style="list-style-type: none"><li>• might occur under current circumstances</li><li>• 1 incident in the past 5 years</li></ul>
Likely	<ul style="list-style-type: none"><li>• will probably occur at some time under current circumstances</li><li>• multiple or recurring incidents in the past 5 years</li></ul>
Almost Certain	<ul style="list-style-type: none"><li>• expected to occur in most circumstances unless circumstances change</li><li>• multiple or recurring incidents in the past year</li></ul>

Assign a probability level to each identified risk or hazard on the relevant worksheets in Appendix A.

### 4.2 Consequence

The consequence of a fire or emergency is the potential losses or negative outcomes associated with the event. The application of professional judgment and reviews of past occurrences are important methods used for determining consequence levels.

Estimating the consequence level of an incident or event should involve an evaluation of four components:

- Life Safety:** Injuries or loss of life due to occupant and firefighter exposure to life threatening fire or other situations.
- Property Loss:** Monetary losses relating to private and public buildings, property content, irreplaceable assets, significant historic/symbolic landmarks and critical infrastructure.
- Economic Impact:** Monetary losses associated with property income, business closures, a downturn in tourism and/or tax assessment value, and employment layoffs.
- Environmental Impact:** Harm to human and non-human (i.e., wildlife, fish and vegetation) species of life and a general decline in quality of life within the

community due to air/water/soil contamination as a result of the incident and response activities.

The consequence of an event can be categorized into five levels based on severity:

**Table 2: Consequence Levels**

<b>Description</b>	<b>Specifics</b>
Insignificant	<ul style="list-style-type: none"> <li>. no life safety issue</li> <li>. limited value or no property loss</li> <li>. no impact to local economy, and/or</li> <li>. no effect on general living conditions</li> </ul>
Minor	<ul style="list-style-type: none"> <li>. potential risk to life safety of occupants</li> <li>. minor property loss</li> <li>. minimal disruption to business activity, and/or</li> <li>. minimal impact on general living conditions</li> </ul>
Moderate	<ul style="list-style-type: none"> <li>. threat to life safety of occupants</li> <li>. moderate property loss</li> <li>. poses threat to small local businesses and/or</li> <li>Could pose a threat to the quality of the environment</li> </ul>
Major	<ul style="list-style-type: none"> <li>. potential for a large loss of life</li> <li>. would result in significant property damage</li> <li>. significant threat to large businesses, local economy and tourism, and/or</li> <li>. impact to the environment would result in a short term, partial</li> </ul>
Catastrophic	<ul style="list-style-type: none"> <li>. significant loss of life</li> <li>. multiple property damage to a significant portion of the municipality</li> <li>. environmental damage that would result in long-term evacuation of local residents and</li> </ul>

Assign a consequence level to each identified risk or hazard on the relevant worksheets in Appendix A.

## 5.0 Assigning Risk Level

Assigning a risk level assists fire department in prioritizing risks, which helps to determine how to address or treat each risk. The **Risk Level Matrix** in this section can assist fire departments to determine risk levels based on the probability and consequence levels of each identified risk, moderate risk or high risk. The risk levels for each risk can be noted in the **Assigned Risk Level** column on the relevant worksheets in Appendix A.

The matrix below can be used to determine the assigned risk level. [1] Plot the assigned probability and consequence levels on the relevant worksheets to assign a risk level for each identified risk.

### Risk Level Matrix



<b>Almost Certain</b>	<b>Moderate Risk</b>	<b>Moderate Risk</b>	<b>High Risk</b>	<b>High Risk</b>	<b>High Risk</b>
<b>Likely</b>	<b>Moderate Risk</b>	<b>Moderate Risk</b>	<b>Moderate Risk</b>	<b>High Risk</b>	<b>High Risk</b>
<b>Possible</b>	<b>Low Risk</b>	<b>Moderate Risk</b>	<b>Moderate Risk</b>	<b>Moderate Risk</b>	<b>High Risk</b>
<b>Unlikely</b>	<b>Low Risk</b>	<b>Low Risk</b>	<b>Moderate Risk</b>	<b>Moderate Risk</b>	<b>Moderate Risk</b>
<b>Rare</b>	<b>Low Risk</b>	<b>Low Risk</b>	<b>Low Risk</b>	<b>Moderate Risk</b>	<b>Moderate Risk</b>
	<b>Insignificant</b>	<b>Minor</b>	<b>Moderate</b>	<b>Major</b>	<b>Catastrophic</b>
Probability	Consequence				



## **6.0 Risk Treatment Options**

Once risk levels have been assigned, fire departments can determine how best to treat each risk and the resources required to do so.

Options for treating risks include the following:

- a. Avoid the Risk
- b. Mitigate the Risk
- c. Accept the Risk
- d. Transfer the Risk

### **6.1 Avoid the Risk**

Avoiding the risk means implementing programs and initiatives to prevent a fire or emergency from happening.

For example, public fire safety education initiatives aim to change people's behaviors so that fires may be prevented, and people react appropriately when fires do occur. Fire Code inspections and enforcement help to ensure that buildings are in compliance with the Ontario Fire Code.

### **6.2 Mitigate the Risk**

Mitigating the risk means implementing programs and initiatives to reduce the probability and/or consequence of a fire or emergency.

For example, a routine Fire Code inspection and enforcement program to ensure Fire Code compliance helps to reduce the probability and consequence of a fire.

A pre-planning program involving fire suppression crews allows the fire department to gain knowledge about specific buildings in the community and their contents, fuel load, fire protection system, etc. This information can be provided to the fire inspection staff who can ensure the building is compliant with the Fire Code. Also, it can assist suppression crews to plan fire suppression operations should a fire occur in a building. These activities can reduce the probability and consequence of a fire.

### **6.3 Accept Risk**

Accepting the risk means that after identifying and prioritizing a risk, the fire department determines that no specific programs or initiatives will be implemented to address this risk. In this treatment option, the fire department accepts that the potential risk might happen and will respond if it occurs.

For example, typically fire departments do not implement programs to prevent motor vehicle collisions. Yet it is generally accepted that collisions will happen and that the fire department will respond when they do. Similarly, environmental hazards (e.g., ice storms) and medical calls cannot be prevented by a fire department program or initiative, yet fire departments typically respond when these emergencies occur.

When accepting risks, fire departments should consider their capacity (i.e., equipment, personnel, training, etc.) to respond.

#### **6.4 Transfer the Risk**

Transferring the risk means the fire department transfers the impact and/or management of the risk to another organization or body. Contracting public fire safety education, Fire Code inspection and enforcement, or emergency response services to a neighboring municipality or another organization are examples of transferring the management of risks to another body.

For example, a community may enter into a fire protection agreement with a neighboring community with respect to any or all of the three lines of defense.

#### **7.0 Setting the Type and Level of Fire Protection Services**

When setting the type and level of fire protection services, all Three Lines of Defense should be considered in terms of the impact each will have on the probability or consequence of identified risks. Once fire departments have determined the preferred treatment option for each risk, they can plan and implement activities that address those risks. Things to consider include the fire department's current resources, staffing levels, training, equipment and authority versus those that may be required to implement the preferred treatment options.

After considering these issues, the preferred treatment option (e.g., avoid the risk, mitigate the risk, accept the risk, or transfer the risk) can be noted in the **Preferred Treatment Option** column of worksheet 10 in Appendix A.

Fire departments should also ensure that operational policies and standard operating guidelines address the levels of service and activities required to address each risk. This includes setting goals and objectives, and determining resources, training, equipment, activities, and programs required across each of the Three Lines of Defence.

The Process of making informed decisions about the provision of fire protection services should include careful consideration of the following:

- Implementation of public fire safety education, Fire Code inspections and enforcement, and emergency response activities that are appropriate to address the cause, behaviors or issues associated with identified risks.

- Capabilities and capacity of the fire department (e.g., financial and staffing resources, training, equipment, authority, etc.) that may be required to implement preferred treatment options.
- Strategic partners with common interests, available resources, or skill sets that could assist in addressing risks using the applicable risk assessment profiles.
- Establishing and Regulating By-laws, operational policies and standard operating guidelines that reflect the fire protection services to be provided to address the identified risks.
- Establishment of goals and objectives, strategies, timelines, and evaluation for the proposed fire protection services to be provided.
- Communication with municipal council and the public to outline the types and levels of fire protection services that will be provided.

## **8.0 Review**

0. Reg. 378/18 requires fire departments to complete a new community risk assessment at least every five years. The regulation also requires that fire departments review their community risk assessment at least once every 12 months to ensure it continues to accurately reflect the community and its fire and emergency risks. The purpose of this review is to identify any changes in the mandatory profiles that may result in a change in risk level, or a change in the type or level of fire protection services the fire department determines necessary to address the risks. This review is intended to ensure that the fire protection services provided continue to be evidence-based and linked to the identified risks.

This review process may or may not involve a close examination of all of the nine community profiles, depending on whether any changes related to the profiles have occurred since the completion of the risk assessment or the last review. For example, changing demographic profiles (e.g., an aging population or an increase in the number of immigrants) or changing geographic profiles (e.g., the planned construction of a new highway) may impact the risks identified in the community risk assessment and the fire department activities and resources required to address them. A review may or may not result in any changes to the assigned risk levels or fire protection services. However, a review can provide evidence-based justification for decisions that may impact the delivery of fire protection services.

Fire departments should maintain documentation that the reviews required by 0. Reg. 378/18 have been conducted. This documentation should include:

- Any changes to any of the mandatory profiles.

- Any changes to assigned risk levels or fire protection services that occur as a result of the review, and
- Any other information the fire department deems appropriate to the review or any resultant changes to fire protection services.

If no significant changes occur in the community within a 12-month period, and no changes are required to the profiles or fire protection services, then a review could simply consist of documentation to that effect.

## Event History

OFMEN	TOTAL	LOSS			\$ LOSS	NO LOSS
<b>2021</b>						
TOTAL						
STRUCTUR						
OUTDOOR						
VEHICLE						
NO LOSS OUTDOOR						
OTHER						
<b>2022</b>						
TOTAL						
STRUCTUR						
OUTDOOR						
VEHICLE						
NO LOSS OUTDOOR						
OTHER						
<b>2023</b>						
TOTAL						
STRUCTUR						
OUTDOOR						
VEHICLE						
NO LOSS OUTDOOR						
OTHER						

**Past Loss and Event History**

**Non-fire Emergencies for**

**2021,2022 and 2023**

**Percentage**

<b>Rescue</b>	
<b>Burning {controlled}</b>	
<b>CO False Calls</b>	
<b>False Fire Calls</b>	
<b>Medical/Resuscitator</b>	
<b>Other Response</b>	
<b>Explosion</b>	
<b>No Fire</b>	
<b>Public Hazard</b>	

<b>Event History Profile Risks 2021 - 2022 - 2023</b>					
<b>Occupancy Classification</b>	<b>Occupancy Type/Location</b>	<b>Causes</b>	<b>Probability</b>	<b>Consequence</b>	<b>Assigned Risk Level</b>
Group C	Single Family	Fire			
Other	Non-Structures	Fire			
	Vehicles	Fire			

## **Identifying Treatment Options for the Top Risks in the Community**

The Preferred treatment options identified for each risk in the last column of this worksheet can be used to assist the fire department to set its type and level of fire protection services. The options for treatment are identified above and used to ensure that the treatment option is viable solution to the risk. Most risks can have one or more treatment option is a viable risk. Most risks can have one or more treatment options and it will be the municipalities choice as to how they decide to mitigate the risk. The mitigation choices will determine the "Level of Fire Protection Services" the municipality provides.

By using the OFMEM templates as a guide the following information was gathered and placed into the appropriate profiles. Each risk, issue or concern was reviewed, placed in the appropriate profile and a preferred treatment option.

Geographic Profile	Wildfire	Accept the Risk	Moderate
		Specialized fire response vehicles and firefighter training for wildlands firefighting	
Geographic Profile	Lake George Island Fires	Accept the Risk	Moderate
		Specialized Fire Response Watercraft required and firefighter Training for operating	
Geographic Profile	Rural Forests	Accept the Risk	Low
		Specialized fire Response using Specialty vehicles And firefighters Trained for forest Fire firefighting	
Geographic Profile	Agricultural Field Fires	Accept the Risk- Specialized fire response vehicles equipped for field fires	Moderate
Geographic Profile	Provincial Highway	Accept the Risk Specialty training for MVCs and HAZMAT Awareness level	Moderate



**Mandatory Profile      Top Risk or Issues/Concerns      Preferred Treatment Option      Risk Level**

Geographic Profile	Recreational Water Use/accidents	Accept the Risk Distress/Lives at Risk incidents - Specialized fire Response Watercraft required And firefighting Training for Operating a Watercraft and Firefighting and Rescue.	Low
Geographic Profile	Beach Area Swimming	Accept the Risk Maintain water Rescue equipment, Specialized fire Response Watercraft required And technical level training	High
Building Stock Profile	Hamlet Core No Building Standards - Single story	Mitigate the Risk - Preplanning and Annual Fire Inspections	Moderate
Building Stock Profile	Farm Structures Not Classified in the Ontario Building Code Barns, sheds Large operations (Hogs/greenhouses etc.) Buildings used for Commercial storage (Boats etc.)	Structured – Accept The Risk-tanker Shuttle. Develop Ability for large Water Transportation Using mutual aid Etc. Silos- Accept the risk Develop training,	Moderate/Hig

		Equipment,	
		Procedures.	
		Contract third party	
		Provider they perform	
		Rescue of people	
Building Stock Profile	Larger Buildings- Larger fire load	Accept the Risk - Preplanning and	Moderate
	Assemble Occupancies (churches)	Annual Fire Inspections, response,	
		Utilize Mutual Aid	
Building Stock Profile	Single Family Residential Dwellings	Accept the risk Public Education	Moderate
	Primarily wood frame Cottage and	Programs – By-Law Enforcement, open	
	Recreational lifestyle Homes – Indoor	Buring complaint Firefighter response	
	Fireplaces; outdoor fire pits	Cost-recovery	
Building Stock Profile	Vulnerable Occupancies	Accept the Risk Public Education,	Moderate
		Preplanning for	
		Response and fire drills	
Demographic Profile	Mean average age of Residence which	Accept the Risk Avoid the risk -	Low
	Continue to increase	Through targeted Public education	
Demographic Profile	Influx of Cottagers/ Campers/day tripping	Accept the risk Mitigate the Risk -	Moderate
	During summer	Public Education Programs and signage	

Hazard Profile	Storm Surge/Ice Storm/Snow Storm	Training – focus on extreme weather	Moderate/High
		OPP	
		Equipment – Plows, snow removal	
Hazard Profile	Extreme Cold/Heat	Gathering centers	Moderate/High
		Generators	
		Red Cross/APH	
Hazard Profile	Health Outbreaks	APH and Province	Moderate/High
Hazard Profile	Transportation	OPP – Township –	Moderate
	Road/Rail/Air	Ambulance	
		Training & Equipment	
Hazard Profile	Chemical Release	OPP – Township -	Moderate
	Transportation	Ambulance	
Hazard Profile	Fires	Training and Equipment	Low/Moderate
	Widespread – Forest	Mutual Aid	
Hazard Profile	Water Quality	Education – Residents	Low/Moderate
		APH	
Hazard Profile	Industrial/ Farming	Entanglement- Provide	Moderate/High
	. Entanglement	mechanical rescue	
	. Confined Space	training focusing on	
	. Silo's (Grain)	farming ops.	
		Confined Space-	
		Awareness Training	
		- Transfer the Risk	
		to another agency	
		Silo- training	
		equipment, and	
		procedures	
		required in house	
		specialty rescue training	

Hazard Profile	Tornado/ Building Collapse	Train fire to awareness level	Moderate
Hazard Profile	HAZMAT Farming . Transportation	Transfer to another party	Moderate
Hazard Profile	Fire Industrial- Assembly . Water Recreational Vessels	Wildfire- accept Require and procedures Major Fire- preplanning and mutual aid Specialty watercraft required	Moderate
Hazard Profile	Hydrological Ice safety	River lake- Distress/ equipment and procedures Flood transfer to conservation authority	Moderate
Hazard Profile	Impeded Response . Structural collapse . High Level . banked Terrain . Limited Response	Structural- Train fire to Awareness level transfer Maintain Rope rescue Team Watercraft required with specialized equipment.	Moderate
Hazard Profile	Natural Gas/ Propane	Awareness training, train	Low
Public Safety Response Profile	EMS- Capabilities at a Multi casualty major event	Provide training for mass casualty incidents Work with public safety partners to develop procedure and practices and simulated exercises	Low

Public Safety response profile	OPP availability and coordination at violent scene	Provide training for mass casualty incidents, simulated exercises	Low
Public Safety Response Profile	Public Utilities- Gas Response time during evening and weekends are typically 1 hour plus	Accept the Risk- Work with partners for solution firefighter's awareness training	Low
Public Safety Response Profile	Coast Guard typically 1-2-hour response	Accept the risk with Specialized watercraft available required	High
Public Safety Response Profile	Helicopter support for ice/water ops 1-2 hours away	Specialty watercraft required- maintain water/ice rescue equipment and procedures	Moderate
Past Loss and Event History Profile	Residential- Hamlet core	Utilize Mutual Aid, develop protocols/ aerial apparatus to deliver master streams & or rescue to multi-story	Moderate
Past Loss & History Profile	Residential Single Family Residential	Accept the Risk	Moderate
Past Loss and Event History Profile	Business/Mercantile	Accept the Risk, Annual fire inspect, Public education	Moderate
Past Loss & History Profile	Industrial (including Operations)	Develop protocols/ Fire plan & inspect	Moderate

## **Setting the Level of Service**

All of the "Risks" identified above have treatment options available to the Township of Laird to consider when setting the type and level of fire protection services for the community. After considering the risks, a preferred treatment option (e.g., avoid the risk, mitigate the risk, accept the risk, or transfer the risk) must be identified. Once the municipality has determined the preferred treatment option for each risk, they can plan and implement activities that address these risks. The Three Lines of Defence must be considered in terms of addressing each risk identified above and the impact each line will have on mitigating each of the identified risks. Currently the fire department's current resources, staffing levels, training, equipment, and authority allows for certain risks to be immediately addressed.

Many of the treatment options mentioned above require resources identified and recommended in the Fire Master Plan of Macdonald Township. A properly resourced fire service that addresses the risk and plans for the appropriate mitigation strategy will greatly reduce the danger to residents and firefighters. Equipment, and firefighter training is required to resolve many of the risks mentioned above. A Key principle of Risk Management that needs to be always considered is that most firefighter injuries and deaths occur in High Risk/Low Frequency events that are not properly resourced or not trained for. Many risks identified in the chart required annual fire inspections as an effective risk treatment strategy, coupled with robust public education programming the incidence of fire can be reduced greatly. To accomplish this fire inspection, public education resources must be added.

## **Conclusion**

This Community Risk Assessment will aid the Township of Laird as the municipality address the "Level of Service" for fire protection in the community. The recommendations contained in the FMP includes setting goals and objectives, and determining resources, training, equipment, activities, and programs by using the Three Lines of Defence as a guide to effective fire protection services. As part of the FMP process the operational policies and standard operating guidelines were reviewed, updated and new policies and guidelines were created to address the levels of service and activities required to address each risk.