



**COUNCIL MEETING**  
**July 8<sup>th</sup>, 2024**

**COMMUNITY RISK ASSESSMENT – O.REG 378/18**

**RECOMMENDATION**

The Deputy Fire Chief / Chief Fire Prevention Officer recommends:

- 1. THAT FD Report No. 08-2024 be received;**
- 2. AND THAT the Fire Department utilize the outcomes and analysis from the Community Risk Assessment to inform future Department Business Plans; Fire Prevention & Public Education programs; Training curriculum and programs; and, Capital and Operating Budgets;**
- 3. AND THAT a copy of the Community Risk Assessment, dated July 8<sup>th</sup>, 2024, be posted on the Township's website.**

**1. PURPOSE**

The Purpose of this Report is to introduce for Council's consideration the outcomes and analysis of the Community Risk Assessment as undertaken in accordance with Ontario Regulation 378/18 (O.Reg 378/18)

**2. BACKGROUND**

The Township of North Dumfries has undertaken a comprehensive Community Risk Assessment (CRA) in accordance with Regulation 378/18 Community Risk Assessments (O. Reg. 378/18). This assessment aims to identify and analyze the risks within the community to enhance public safety, inform strategic planning, and optimize the allocation of resources for fire protection and emergency services.

As required by O.Reg. 378/18, this CRA includes an analysis of nine mandatory profiles:

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

The CRA is to be reviewed annually to ensure its currency, and, every five years a major review is to be undertaken. This is the first Community Risk Assessment undertaken for the Municipality.

### **3. OPTIONS AND ANALYSIS**

#### **3.1 Key Findings**

Included as Attachment No. 1 to this Report North Dumfries is the Top Risks / Issues / Concerns / Preferred Treatments for each of the nine (9) subject areas that are set out in O.Reg 378/18 that are to be assessed.

Arising from the review and analysis of nine (9) factors to be assessed and analysed, the following key findings were revealed:

1. Demographic Analysis:

- North Dumfries has a growing population, with a notable increase in residents over the age of 65 and under the age of 14. This demographic shift necessitates tailored fire prevention and education programs to address the unique vulnerabilities of these age groups.

2. Building Stock and Occupancy:

- The Township comprises a mix of residential, commercial, industrial, and agricultural buildings. The residential sector is the most extensive, with a significant proportion of single-family homes. Older buildings, particularly those without modern fire safety features, pose higher risks.

3. Geographic and Environmental Factors:

- North Dumfries spans rural and semi-rural areas, presenting challenges in emergency response times due to the dispersed nature of properties and limited accessibility in some regions. The presence of agricultural land also introduces specific risks related to farm operations and equipment.

4. Fire Incident Data Analysis:

- Historical fire incident data indicate that the leading causes of fires are cooking-related incidents, open flame & smoking materials, heating equipment, and electrical malfunctions. There is a higher incidence of fires in residential properties, particularly in older homes lacking updated fire safety measures.

5. Emergency Response Capabilities:

- North Dumfries Fire Department (NDFD) provides fire protection and emergency response services. The assessment highlights the need for ongoing training, adequate staffing, and investment in modern firefighting equipment to maintain and improve response effectiveness.

### 3.2 Recommendations

Generally speaking, the environmental scan completed through the analysis and assessment of O.Reg. 378/18 identifies that the North Dumfries Fire Department is well positioned in terms of training, equipment and resources.

That said, continual improvement and adaption to changing circumstances is relevant to any Organization. Key Recommendations have been identified through the Community Risk Assessment that should be accounted for in the development of future Fire Department Business Plans; Training programs; and, Fire Prevention & Public Education undertakings. Ultimately this will influence future Operating and Capital Budgets.

The following key Recommendations have emerged as a result of the assessment and analysis:

1. Enhance our Public Education and Prevention Programs:
  - Implement targeted fire safety education campaigns, including seniors and young children. Promote the installation and maintenance of smoke alarms and carbon monoxide detectors.
2. Building Code Compliance and Retrofit Initiatives:
  - Encourage property owners to upgrade older buildings with modern fire safety systems. Work with local authorities to ensure strict adherence to building codes and fire safety regulations.
3. Improvement of Emergency Response Infrastructure:
  - Invest in equipment, rolling stock and training to reduce response times. Enhance mutual aid and contract agreements with neighbouring municipalities to bolster emergency response capabilities, or where applicable, to secure timely access to specialized equipment and resources
4. Strengthening of Critical Infrastructure Resilience:
  - Conduct regular risk assessments and drills for critical infrastructure facilities. Develop and implement robust emergency response plans tailored to the unique needs of these facilities.
5. Community Engagement and Stakeholder Collaboration:
  - Foster partnerships with community organizations, businesses, and residents to create a collaborative approach to risk reduction. Engage stakeholders in the planning and implementation of fire safety initiatives.

### 3.3 Next Steps

The Community Risk Assessment (Attachment No. 1) for the Township of North Dumfries provides a detailed analysis of the current and emerging risks faced by the community. By addressing these risks through strategic planning, resource allocation, and community engagement, North Dumfries can enhance public safety, protect property, and improve the overall quality of fire & life safety for its residents. The recommendations outlined in this assessment serve as a roadmap for building a safer, more resilient Township.

The Community Risk Assessment should be accounted for in the development of future Fire Department Business Plans; Training programs; and, Fire Prevention & Public Education undertakings. Ultimately this will influence future Operating and Capital Budgets.

## 4. FINANCIAL IMPLICATIONS

There are no implications on the 2024 Budget arising from the consideration of this Report. As future Department Business Plans are developed, there may be specific initiatives identified that will influence annual Operating and Capital Budgets, and, the Ten Year Capital Forecast.

## 5. ATTACHMENTS

1. Community Risk Assessment: Top Risks / Issues / Concerns / Preferred Treatments (dated July 8, 2024)
2. Map of Township of North Dumfries

**For further information on the contents of this Report, please contact Eric Yates, Deputy Fire Chief / Chief Fire Prevention Officer at (519) 632-8800 ext. 138 or via email at [eyates@northdumfries.ca](mailto:eyates@northdumfries.ca)**

Report Prepared By:

*Eric Yates*

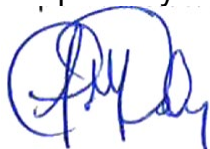
Eric Yates, CFEI  
Deputy Chief / Chief Fire Prevention Officer

Report Reviewed By:



Robert Shantz,  
Fire Chief / CEMC

Respectfully Submitted By:



Andrew McNeely,  
Chief Administrative Officer

Summary Worksheet	North Dumfries Top Risks/Issues/Concerns /Preferred Treatments						
				3 Lines of Defense consideration			No Action
Mandatory Profiles	Top Risks	Issues or Concerns	Risk Treatment Options	Public Fire Safety Education	Fire Code Inspections and Enforcement	Emergency Response	
1. Geographic Profile	Hwy 401	Multiple lanes of traffic merging and the high rate of speed cause many incidents on this highway. Diverse materials & hazards travel on HWY. Specialized equipment and training is required. Safety of first responders is a major concern. A shut down of this HWY forces traffic issues onto local roads causing impeded response.	Accept the Risk			Yes	
	Canadian Pacific Railway	On a frequent basis Toxic/Chemical freight passes through town. Access issues are a concern and level crossings can impede response. Special training and equipment is required. Chemical release could have catastrophic results including major environmental impacts and large evacuations of businesses and citizens.	Accept the Risk			Yes	
	Waterways	Open water is a concern. Grand River & Nith River are the primary concerns. Special equipment and training are required for water rescue and ice water rescue scenarios. Swift water requires outside agency assistance.	Accept the Risk	Yes		Yes	

	Bridges	401 bridges can have a major impact on fire department operations, responses if they are under construction or not accessible. Bridges crossing waterways impeding crossing and delayed response.	Accept the Risk			Yes	
2. Building Stock Profile	Group B institutional occupancies	Most occupants require assistance to evacuate with some occupants being detained which substantially slows evacuation. These facilities usually have lower staff numbers on night shifts. Fires at these occupancies are difficult to manage due to slow evacuation of occupants. Very complex suppression requirements with high number of suppression staff required for working fires. All 3 lines of defense are essential to minimize this risk. OFM targeted occupancies	Mitigate the Risk	Yes	Yes	Yes	
	Group C Residential occupancies	Approximately 85% of buildings in North Dumfries are Residential. Residential occupancies have the highest number of fires and injuries of all occupancy types. Multi residential buildings including midrise, smaller apartment buildings, rooming and boarding houses, accessory apartments, older building stock, downtown core buildings, are all of high concern. Providing sufficient resources to mitigate this risk will reduce total number of structure fires significantly. All 3 lines of defense are required to minimize this high fire risk.	Mitigate the Risk	Yes	Yes	Yes	

	Group F Industrial Occupancies	<p>Hazardous processes are common in industrial buildings. Many have large occupant loads. Many have large amounts of combustible storage and much of the older building stock are unsprinklered. Potential major impact to commerce in the area for the bigger industries. Possible evacuation of neighbourhoods could occur.</p>	Mitigate the Risk	Yes	Yes	Yes	
	Truss roofs/lightweight construction	<p>Most building classification types have buildings that use lightweight construction components such as truss roofs, and light weight floor systems. New construction now requires the buildings to have signs indicating the existence of light weight construction. There is no system in-place for existing lightweight construction buildings to advise first responders for potential early collapse could take place. This is a significant risk to suppression firefighters entering buildings that are involved with fire. A team approach is needed to identify lightweight construction components in existing buildings to mitigate the risk. New residential construction in the Township consists of lightweight construction.</p>	Mitigate the Risk		Yes	Yes	
	Vacant buildings	<p>Vacant building are a significant concern for the fire service. Ensuring that the structures are secure from entry and pre-incident planning can reduce the impact of this risk</p>	Mitigate the Risk		Yes	Yes	

	Assembly Occupancies	High Occupant loads and occupants unfamiliar with the building is a concern for the occupants and the fire service. Inspections and pre-incident planning are critical to reduce fires and to reduce the impact should a fire occur.	Mitigate the Risk	Yes	Yes	Yes	
<b>3. Critical Infrastructure Profile</b>							
	Waterloo Region Police Services	Ensuring Police service remain operational and accessible at all times is essential to emergency planning.	Mitigate the Risk		Yes	Yes	
	North Dumfries Firehall	Ensuring firehall remains operational at all times is essential to emergency planning. This includes back up power with a sufficient fuel supply. The Contingency plan should address the possible loss of a station.	Mitigate the Risk		Yes	Yes	
	Continuity of Government	Continuity of government is essential during the implementation of any emergency plan. Keeping North dumfries operational is essential. Full fire inspections, and public education activities should be implemented as well as pre-incident planning to help reduce /minimize the impact of a fire in this facility. This facility is the primary EOC. Ensuring the DEV Centre is fire safe is crucial as it is used as a primary evacuation centre.	Mitigate the Risk	Yes	Yes	Yes	

	Transportation	North Dumfries & Waterloo Region public works facility is an essential component of a strong emergency plan, response and recovery. Ensuring emergency maintenance of Municipal and Regional road infrastructure is essential. Disruption of emergency response, widespread supply chain/economy impacts are very real threats. To ensure uninterrupted operation the facility must be in excellent condition to support this function. Fire inspections/public ed activities should be completed on an ongoing basis to help reduce or eliminate any potential fire safety issues before they occur.	Mitigate the Risk	Yes	Yes	Yes	
	Electricity	Power transmission and distribution issues are of high concern. A disruption of electrical power generation, transmission or distribution are specifically a concern during winter months. Elderly residents are more vulnerable, especially those dependent on elevators, dialysis, oxygen. Disruption of critical infrastructure.	Transfer the Risk	Yes		Yes	
	Hospital	Regional & Local Hospitals are an essential component of the health system. Disruption of health care will impact those requiring medical assistance, possibly leading to fatalities and increased call volume. Hospitals are part of the OFM mandatory, yearly Vulnerable Occupancy (VO) inspection and Evacuation program. North Dumfries relies on neighbouring municipalities to ensure hospitals are a top priority & concern and form part of there CRA.	Mitigate the Risk	Yes	Yes	Yes	

<b>4. Demographics Profile</b>							
	School age children/youths	School programs are essential in the overall fire safety public education strategy to ensure a good base is established for life long fundamental fire safety.	Mitigate the Risk	Yes			
	Young adult group	This group requires reinforcement of past messaging as they begin to live on their own. Innovative programs are necessary to engage this demographic.	Mitigate the Risk	Yes			
	Working age adults	The working adults demographic group has the largest number of citizens in it and it presents one of the most difficult groups to reach with messaging. It is the demographic group most likely to have fire related injuries or a fatality in the province. Innovative programs should be developed and used to reach this large group.	Mitigate the Risk	Yes			
	65-79 age group	This group is also at higher risk of sustaining a fire related injury or fatality in the North Dumfries and the Province. Ongoing age based programs are essential to reduce the risk to these individuals.	Mitigate the Risk	Yes			
	80+ years old	Continuous public education reinforcement is needed for this age group to help ensure that they remain fire safe as they age.	Mitigate the Risk	Yes			
<b>5. Hazard Profile</b>	Infectious Disease	This risk has a potential to increase (or decrease) medical responses and to increase fire fighter exposure. Significant staffing shortages are a real possibility.	Accept the Risk			Yes	
	Network System Failure/Cyber Attack	The major disruption of communications and the loss of data could have a substantial impact on fire operations and the safety of the responders.	Transfer the Risk				No Action Taken

	Winter Weather	Power interruptions, disruptions in communications, delayed access, delayed response and increase in responses are all significant concerns when freezing rain occurs for prolonged periods of time.	Accept the Risk			Yes	
	Tornado, High Winds, Hurricane, Electrical Storms	Windstorms, severe weather can increase responses for rescue assistance. Access can be substantially obstructed causing delayed responses caused by downed trees, hydro wires and debris.	Accept the Risk			Yes	
	Fire and explosion	Concerns for the risk of fires and explosions include: Having enough resources/staffing to have a proactive Fire Prevention and Public Education program to reduce the number of fires and explosions that the department responds to is concern. Having sufficient trained staff to determine the cause and circumstances of fires effectively is a concern. Response concerns are noted in Profile 6 below.	Accept the Risk	Yes	Yes	Yes	
	Hazardous Materials Responses, CBRN responses	Both fixed site incidents and transportation incidents are a concern. The railway, HWY 401, and local industries all have the potential to have significant Hazardous Material incidents. Having the appropriate training, staffing, equipment and response levels are all concerns to be examined.	Transfer the Risk			Yes	

	Oil, Natural Gas, Propane Release	A release of materials such as oil related products, natural gas and propane could have an impact on the environment and safety of those around the release. Special training and equipment could be required at release incidents. Large evacuations could result with large releases.	Transfer the Risk		Yes	Yes	
<b>6. Public Safety Response Profile</b>	Fire Service	Having sufficient staff, resources and training to respond to the many hazards & risks in the Township is a concern. Having measures in place to minimize response times, accommodate staff, vehicles and equipment is a concern. Having appropriate staff & facilities locally to repair and maintain emergency vehicles in a safe and timely manner is a concern. Having a robust training program with sufficient and well trained instructors with adequate facilities and training equipment/props to keep the crews ready to respond to any emergency is a concern.	Accept the Risk			Yes	
<b>7. Community Services Profile</b>		No immediate major concerns other than the need to build strong coalitions and partnerships.					No Action Taken
<b>8. Economic Profile</b>	Large employers	Large employers such as: Bendall, Aggregate & Trucking Companies would cause a significant economic impact if they were not able to operate. All three lines of defense should be employed to mitigate this risk to keep these large employers operational.	Mitigate the Risk	Yes	Yes	Yes	

<b>9. Past Loss Profile</b>	Residential buildings	Residential occupancies are the highest risk and largest dollar lost based on past three years of analysis.	Mitigate the Risk	Yes	Yes	Yes	
	Vulnerable occupancy	Potential for loss of life due to the inability of most residents to self-evacuate. First 2 lines of defense is mandated by the OFM. All Three lines of defense needed to reduce the potential risk.	Mitigate the Risk	Yes	Yes	Yes	
	Industrial buildings	Industrial occupancies present a great community risk. Possible chemical storage, community evacuations around the facility, light weight structural components, difficulty fighting fires in larger buildings, large fire load and loss of jobs/economic impact are all contributing factors to this higher potential risk.	Mitigate the Risk	Yes	Yes	Yes	
	Assembly Buildings	Large occupant loads, occupants unfamiliar with their surroundings, light-weight construction typical in these occupancies. Schools, halls, restaurants are represented in this group.	Mitigate the Risk		Yes	Yes	
	Fire Causes	The main causes of fires in the Province being: unsafe cooking practices, careless use of smoking materials, heating equipment, appliance fires, and electrical distribution equipment fires. Two fire causes in North Dumfries that are high on the fire cause list are: Undetermined and open Flame/Smoking materials. Public Education could reduce these causes of fires and reduce risk. All 3 lines of defense would have to be used to bring down undetermined causes of fires.	Mitigate the Risk	Yes	Yes	Yes	

North Dumfries Past Loss & Event History

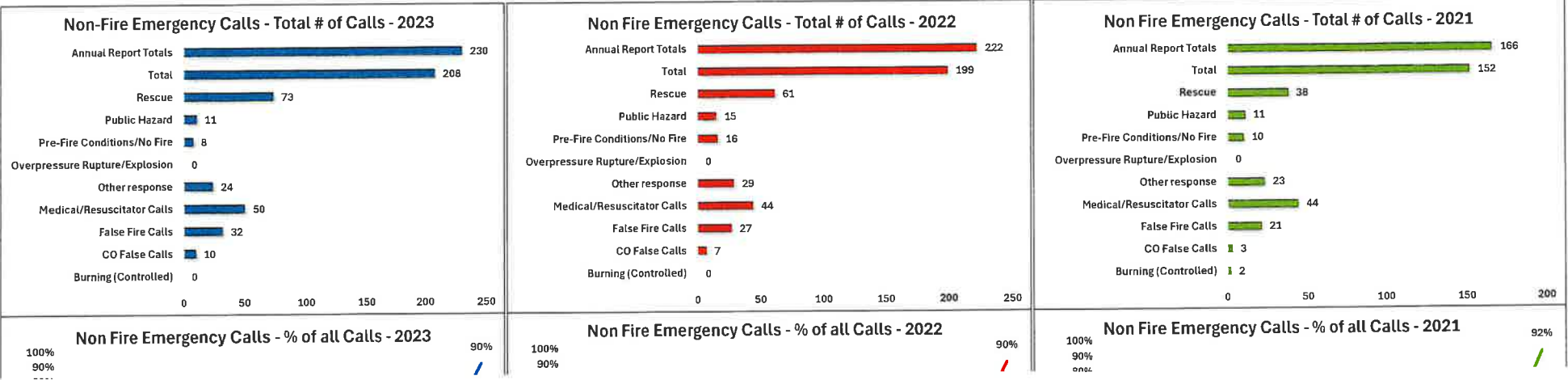
Fire Losses, Deaths, Injuries

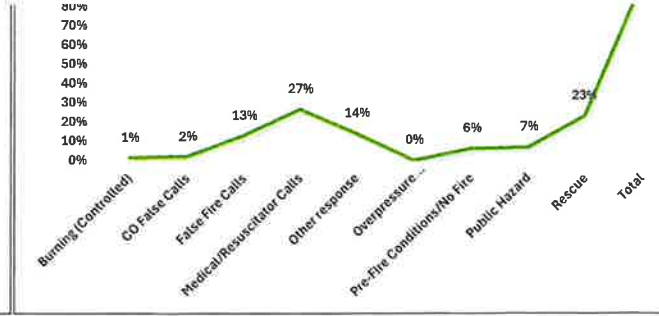
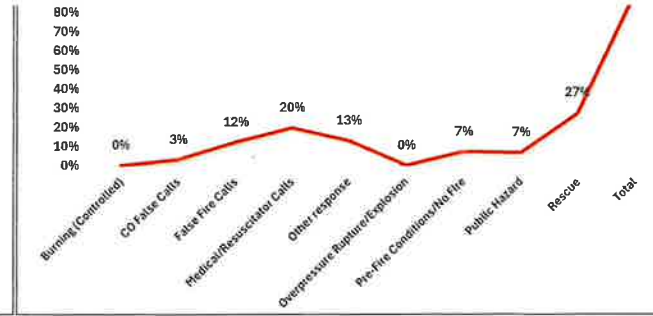
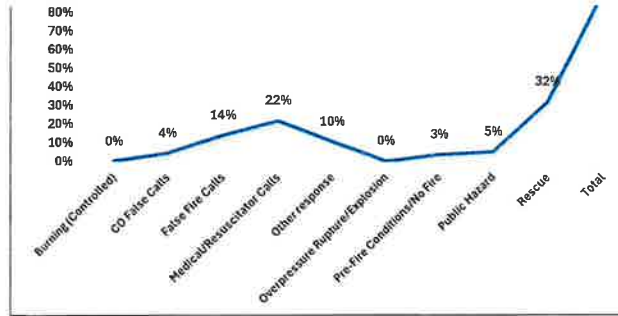
Occupancy Classification

	Year 2023				Year 2022				Year 2021				Totals			
	# of Fires	\$ Loss	# of Injuries	# of Deaths	# of Fires	\$ Loss	# of Injuries	# of Deaths	# of Fires	\$ Loss	# of Injuries	# of Deaths	# of Fires	\$ Loss	# of Injuries	# of Deaths
Group A - Assembly	0	\$ -	0	0	0	\$ -	0	0	0	\$ -	0	0	0	\$ -	0	0
Group B - Institutional (Vulnerable Occupancy)	0	\$ -	0	0	0	\$ -	0	0	0	\$ -	0	0	0	\$ -	0	0
Group C - Residential	3	\$ 650,200.00	0	0	1	\$ 50,000.00	0	0	2	\$ 150,001.00	0	0	6	\$ 850,201.00	0	0
Group D - Business & Personnel Services	0	\$ -	0	0	0	\$ -	0	0	0	\$ -	0	0	0	\$ -	0	0
Group E - Mercantile	0	\$ -	0	0	0	\$ -	0	0	0	\$ -	0	0	0	\$ -	0	0
Group F - Industrial	0	\$ -	0	0	2	\$ 15,100.00	0	0	0	\$ -	0	0	2	\$ 15,100.00	0	0
Other - Farm, Non-classified	0	\$ -	0	0	3	\$ 165,000.00	0	0	1	\$ 1,500.00	0	0	4	\$ 166,500.00	0	0
Overall Total													12	\$ 1,031,801.00	0	0

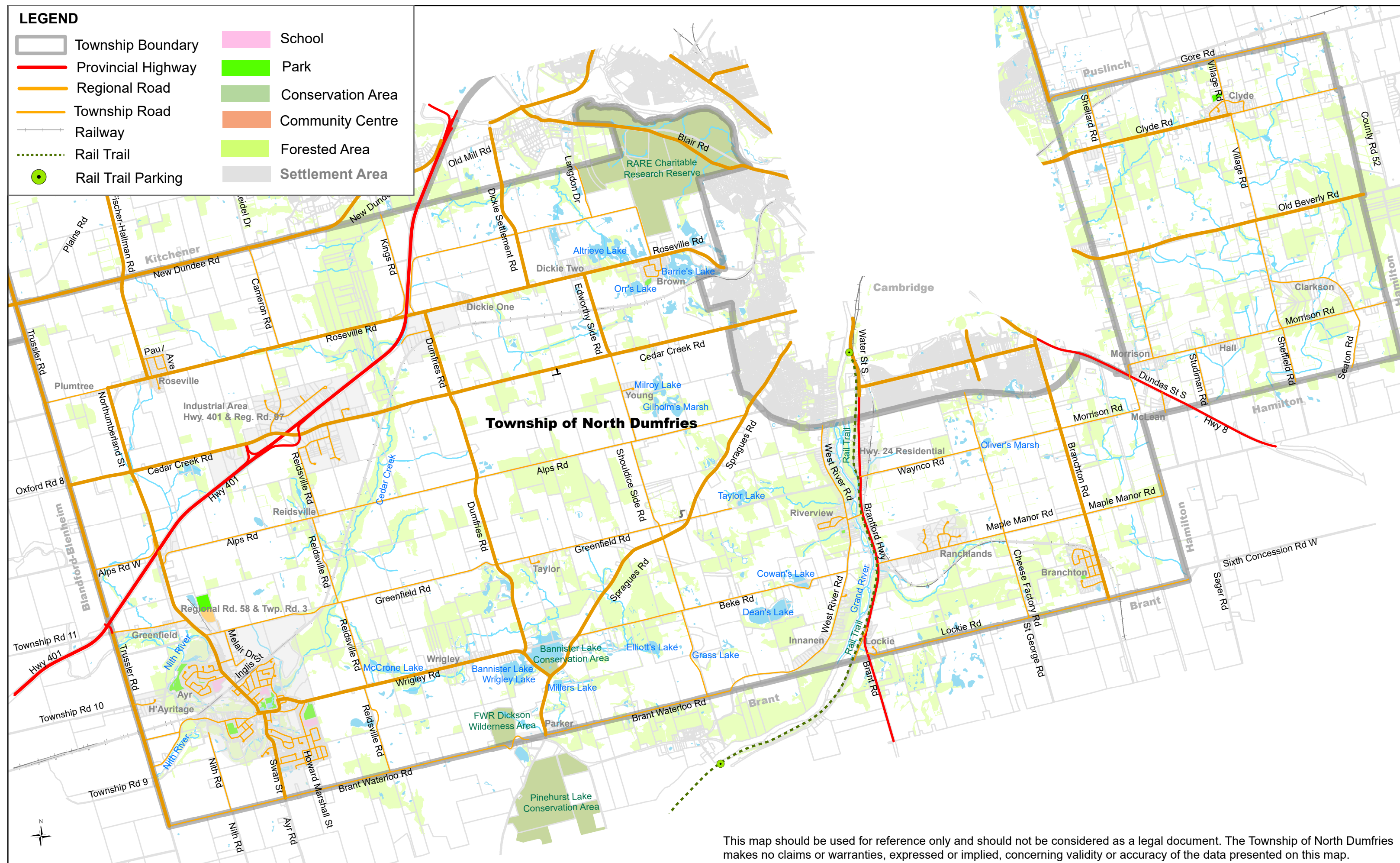
Non-Fire Emergency Calls

	Year 2023		Year 2022		Year 2021		Totals	
	Total Number of Calls	% of all Calls	Total Number of Calls	% of all Calls	Total Number of Calls	% of all Calls	Total Number of Calls	% of all Calls
Burning (Controlled)	0	0%	0	0%	2	1%	2	0%
CO False Calls	10	4%	7	3%	3	2%	20	3%
False Fire Calls	32	14%	27	12%	21	13%	80	13%
Medical/Resuscitator Calls	50	22%	44	20%	44	27%	138	22%
Other response	24	10%	29	13%	23	14%	76	12%
Overpressure Rupture/Explosion	0	0%	0	0%	0	0%	0	0%
Pre-Fire Conditions/No Fire	8	3%	16	7%	10	6%	34	6%
Public Hazard	11	5%	15	7%	11	7%	37	6%
Rescue	73	32%	61	27%	38	23%	172	28%
Total	208	90%	199	90%	152	92%	559	90%
Annual Report Totals	230		222		166		618	





## MAP - TOWNSHIP OF NORTH DUMFRIES



This map should be used for reference only and should not be considered as a legal document. The Township of North Dumfries makes no claims or warranties, expressed or implied, concerning validity or accuracy of the data presented on this map.