

# CLIMATE RISK AND RESILIENCE RECOMMENDATIONS REPORT

## CITY OF SUMMERSIDE

This Report was prepared as part of the Municipalities and Utilities Partnering for Resilience  
Project led by QUEST ([www.questcanada.org](http://www.questcanada.org))

# QUEST

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## Acknowledgments

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### About QUEST

QUEST is a national non-government organization that works to accelerate the adoption of efficient and integrated community-scale energy systems in Canada by informing, inspiring, and connecting decision-makers. The organization commissions research, communicates best practices, convenes government, utility, and private-sector leaders, and works directly with local authorities to implement on-the-ground solutions. QUEST recognizes communities that have embraced these principles by referring to them as Smart Energy Communities. Visit us at [www.questcanada.org](http://www.questcanada.org).



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## 1.0 Executive Summary

### 1.1. Key findings

In the Resilience Assessment Report<sup>1</sup> the City of Summerside identified the following weaknesses or areas of improvement: a need for more communication, coordination, and partnerships to advance resilience/adaptation measures; regulations to encourage low risk development; budget and resources to carry out proactive risk reduction planning and measures (as identified in this report); and reducing risk to any facilities and key infrastructure that was identified as being vulnerable, including reducing flood risk and implementing back-up power systems. The City displayed strong support for improved communication, engagement, education, collaboration, and information sharing with the community and local stakeholders, as well as a need to improve policies, budget and resources, to advance risk reduction activities, and to integrate climate, resilience, and adaptation considerations across all departments and activities. Refer to Assessment Report for all key strengths and areas of improvement.

This report is intended to help the City address these shortcomings with specific recommendations selected during the second workshop. This Recommendations Report cover each of these key hazards. To make this report user-friendly and impactful, the recommendations detailed below are organized by lead department responsible for implementing them.

As a reminder, the major hazards identified in the City of Summerside are presented in the table below.

**Table 1: Major Hazards**

<b>Hazard types</b>	<b>Description</b>
<b>Atmospheric hazards</b>	Increasing frequency of ice storms, as well as sea storms and surges, snow storms and wind storms. In addition, the number of hot days (above 30 degrees Celsius) is expected to quadruple; less relief at night, and an increase in winter temperatures leading to more freeze-thaw cycles.
<b>Hydrological hazards</b>	coastal flooding, sea level rise, and other forms of flooding (e.g., rainstorm) from increased precipitation, especially in winter and spring.
<b>Power &amp; Water Outages</b>	The Community lacks adequate resources (e.g., generators, back-up power) in case of an extended electric power outage.
<b>Food Security</b>	Food is transported to Summerside by truck via the Confederation Bridge. The bridge is susceptible to closure due to weather events, which introduces risk of food shortage.
<b>Contamination and hazardous material spills</b>	a concern due to the active port in Summerside. There is risk if ships are transporting hazardous materials to the City.

<sup>1</sup> All of the hazards of concern and areas of strength or improvement can be found in this report.

## 1.2 Key priority actions

A few key recommended priority actions are presented in the table below. They are based on the data collected during the two workshops and the survey.

**Table 2: Key recommended priority actions**

Recommendation	Description	Refer to...
<b>Securing budget and funding</b>	Access to financial resources is crucial to the viability of many climate adaptation and emergency management measures. Participants in the first and second workshops noted that municipal financial capacities are limited, and that investment from the federal and provincial levels of government is needed to support some local projects and initiatives. The municipality is invited to explore multiple funding sources and mechanisms.	Section 4
<b>Develop an integrated communication strategy focused on key hazards faced by the communities</b>	To improve community resilience to the impact of climate change, develop a sound communication across all municipal departments and emergency services, external stakeholders and the public. <ul style="list-style-type: none"> <li>• Develop an ongoing public education and outreach strategy to increase resilience to climate hazards</li> <li>• Deliver regular community-based emergency training/exercise for different hazard types identified in Table 1</li> </ul>	Section 3.7  Section 3.1
<b>Create a task force to oversee progress and advance climate adaptation measures; to engage community stakeholders, enable collaboration, knowledge exchange, and accountability.</b>	Creating a task force (or appointing this to existing EMO committee) is a critical first step to keep these plans moving forward in a cohesive way. This will increase the ability of the City to develop, implement and monitor a climate adaptation plan; coordinate with other departments; and integrate the adaptation plan into existing plans and initiatives. This should involve both staff and a range of community stakeholders (industry, power utility, community associations, local government, emergency management, reps from school and care facility, insurance provider, etc.)	Section 3.1
<b>Establish annual or quarterly updates to Council, all Staff, and the public.</b>	Needs to be done annually by collecting updates from each Department, on progress toward implementing the recommendations in this report; scheduling annual updates for Council. Inform council every few hours during events, so they can inform constituents. Council needs to better understand roles. Consider annual updates for the public, using Facebook, city website, utility bill inserts, and paper ads.	Section 3.1 and Section 3.7
<b>Develop Climate Change Adaptation Plan, incorporate recommendations from this assessment</b>	There is no climate adaptation plan. Consult the Climate Risk and Vulnerability Assessment report and this Recommendations Report, use recommendations from this project as a plan or incorporate into Official Plan. Could access funding to develop a Climate Change adaptation plan. Adopt Climate Change Adaptation Plan in Council.	Section 3.2

<p><b>Update Asset Management Plan and EMO Plan to consider climate hazards and risk, and how to respond. Incorporate recommendations from this assessment.</b></p>	<p>The City is working on an asset management framework and training, and draft policy, aiming to consider climate change risk in their decisions. Different departments use different systems and need to be integrated. The system used by the energy utility could be used to integrate assets across all departments. May need further study.</p> <p>Review recommendations in this report, update emergency plan accordingly (e.g. contact list, inventory of skills and resources, plans for shelters, communication plan etc). This update should use ECCC's new Climate Change Report / Portal to stay up to date with climate projections and hazards.</p>	<p>Section 3.3 and Section 3.1</p>
<p><b>Develop regular community-based exercises for each hazard type</b></p>	<p>The EM Plan was updated in 2018 but has not been exercised in a while. The City participates in provincial exercises, such as an exercise in Port a few years ago to improve preparedness at the port, which was done by EMO, with City and EMS.</p> <p>Participants noted the value of table top exercises to discuss with key stakeholders. Could exercise once annually (minimum) for different hazard types especially those identified in section 1.1. Could also ensure community-based exercises have taken place in the community at large (e.g., table-top discussions or full exercises) for each hazard type.</p>	<p>Section 3.1</p>
<p><b>Obtain copies of EM Plans</b></p>	<p>Summerside does not have copies of the EM plans for local schools, hospitals and nursing homes, campgrounds, RV parks, hotels, other organizations with large facilities. Also need to provide City's plans to those organizations. Engage them in task force or committee, discuss expectations, needs and resources.</p>	<p>Section 3.1</p>
<p><b>Ensure all critical municipal facilities and services have stationary back-up power and multiple energy sources</b></p>	<p>Has back-up for City Hall / EMO, Public Works, Two wellfields (St Eleanor's and Wilmot), 6 stationary back-up generators and identified alternate sources of fuel. Key municipal facilities and lift stations are ready for back-up. 6 individual wells do not have back-up. Hospitals and schools are ready for back-up power. EM Shelters have back-up, however, there are heating and cooling centers without back-up power. Unclear if back-up power at nursing homes, animal shelter, bank. Need to identify facilities that require back-up (e.g. stationary or mobile hook-up), study power requirements for each facility, to size back-up correctly, Estimate cost / budget for back-up power systems, get council approval to implement. Encourage other community facilities to install back-up, for example: Grocers, fueling stations, key suppliers, etc</p>	<p>Section 3.5</p>
<p><b>Adopt new building codes, Explore energy monitoring systems and local energy resources (CEP) and storage for local renewable power and heat options at municipal facilities and shelters</b></p>	<p>City adopted 2015 code, in alignment with the Province. Province in process of adopting code for 2020. Also updating downtown zoning bylaw regs.</p> <p>Could expand smart metering and monitoring infrastructure, and educate the public on benefits. Although the City has a CEP, could consider expanding efficiency programs/incentives and renewable energy installations.</p>	<p>Section 3.2 and Section 3.5</p>

## 1.5 Challenges

Some key challenges that have been identified by workshop participants are:

- Need to create a committee structure to coordinate advancing these recommendations, and report to council. This could take the form of a staff task force, council committee, or integrated with an existing committee (e.g. EMO committee).
- May need additional staff capacity to tackle some of the recommendations, and develop, implement, and report on long-term adaptation measures.
- Ensuring alignment of hazard/risk assessment, climate change plan, emergency plan, asset plan, and that they inform each other.
- Budgetary constraints can be a barrier to the implementation of some recommendations.
- Public education and stakeholder engagement - must be proactive.

## 2.0 Introduction

### 2.1 Contents of This Report

This report covers recommendations ranked as “Important” by participants for improving community resilience and adapting to climate change. They are tailored to local context and use data presented in the Resilience Assessment report and collected during the second workshop.

This report organizes all selected recommendations by the stakeholder/department identified as being responsible for implementation (i.e.: the “lead”), as well as by priority assigned by the participants. Recommendations address vulnerabilities associated with each type of climate-related hazard and areas of low resilience for each community. It also integrates a specific lens on addressing the needs of vulnerable populations. Areas of strength, or measures that are already implemented by the municipality, were identified within the Climate Risk and Vulnerability Assessment Report and associated annexes - these areas of strength are not covered in this recommendations report.

Finally, the report also includes a detailed section on budget and funding consideration and on internal and external communication strategy, which are crucial to the implementation of all recommendations.

### 2.2 The Issue

Municipalities across Canada are facing extreme climate change impacts, such as high winds, ice storms, floods, droughts, and forest fires. At the same time, almost 90% of Canadian energy utilities have been significantly impacted by a weather event in the past decade<sup>2</sup>. Both municipal systems and energy distribution systems are essential, interconnected, and must work together to maintain the resilience of a community. Reliable energy supply is needed to maintain the essential functions of everyday life. This includes the operation of municipal infrastructure such as water and wastewater treatment, heating and cooling of buildings, operating vehicle fleets, street lighting, powering emergency shelters, as well as other community infrastructure such as health systems, communications, transportation, food production, financial systems, and the list goes on.

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<sup>2</sup> See QUEST's [Resilient Pipes and Wires](#) report. 2015

Despite concerns that climate change and weather related events threaten the reliability and resiliency of Canadian energy distribution services, there remains limited tools and assessment processes to help local governments and utilities collaboratively and effectively plan to reduce risks and costs to residents and businesses. This project aimed to develop assessment tools and recommendations to foster collaboration between municipalities, utilities, and other key community stakeholders so they can work together on adaptation through land use planning, energy planning and reliability measures, and emergency response during power outages.

## 2.3 The Project

The “**Municipalities and Utilities Partnering for Community Resilience**” project led by QUEST with funding from Natural Resources Canada (NRCan), supported six municipalities to develop climate risk and vulnerability assessments using a combination of workshop exercises, validated tools, and methods.

In 2018, a survey and a workshop assessing resilience were conducted. The participatory and interactive workshop tapped in participants’ knowledge to identify strengths and gaps in their community to climate and industrial hazards. Each participating community received their draft Resilience Assessment report, which also includes climate change trends, in early 2019.

Based on the Resilience Assessment report the project team prepared a set of recommendations for each community. The recommendations were selected, discussed, and prioritized during a second workshop with municipal participants, local utilities, and other local stakeholders that took place in Spring 2019. For each recommendation selected, participants were invited to assign a timeline, a cost range, and a department/unit lead. Participants were also invited to identify other stakeholders to engage; and whether the implementation of this recommendation needed further study, faced any specific challenges, or could be integrated within existing plans.

## 2.4 List of Stakeholders

**Table 3: Participants**

<b>Person’s Role</b>	<b>Organization</b>
Electrical Engineer	City of Summerside
Planning Officer	City of Summerside
Municipal Engineer	City of Summerside
Councillor	City of Summerside

In order to implement resilience recommendations, the municipality should also engage:

- CAO
- Council
- Public Works staff
- Water/Sewage staff
- Transportation staff
- A specific staff person responsible for resilience and sustainability,
- Emergency service personnel
- External stakeholders
- Public



### 3.0 Recommendations by Lead Responsible

This section presents the key recommendations for the community by lead department/organisation. The recommendations address vulnerabilities associated with climate hazards that have been identified in the Assessment report.

For a detailed list of all recommendations, see the spreadsheet document, sent in a separate Annex.

#### 3.1 Chief Administrative Officer

<b>Recommendation</b>	<ul style="list-style-type: none"> <li>Task the EMO Committee to oversee progress and advance climate adaptation and resilience measures; to engage community stakeholders, enable collaboration, knowledge exchange, and accountability. When needed, engage community stakeholders (industry, power utilities, community associations, local government, emergency management, reps from school and care facility, insurance provider, etc.).</li> </ul>
<b>Category</b>	Planning and Coordination
<b>What was said?</b>	Participants selected this action, indicating high urgency to implement in the short term. Resilience is the responsibility of the Emergency Management Committee.
<b>Who will lead?</b>	CAO with support of EMO Committee
<b>Who to engage?</b>	EMO Committee Municipal Staff
<b>What municipal plans to leverage?</b>	Not identified - could become part of EM Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>CAO should meet with EMO Committee, share this report, and identify key municipal staff as well as key external stakeholders that need to be engaged to implement the recommendations.</li> <li>EMO Committee should allocate time / regular (e.g. quarterly) meetings to coordinate implementation, monitor progress, and set annual objectives</li> </ul>
<b>Timeframe</b>	Short
<b>Priority</b>	High
<b>Cost</b>	Low

	Yr-2020	Yr 2021	Yr 2022
A study <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
Stakeholders Engagement <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
Funding <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
Implementation	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

**NOTES:**

<b>Recommendation</b>	• Work with local and provincial EMO to design training / exercises. Focus on key hazards identified in this assessment.
<b>Category</b>	Planning and Coordination
<b>What was said?</b>	The City participates in provincial exercises, such as an exercise in Port a few years ago to improve preparedness at the port, which was done by EMO, with City and EMS.
<b>Who will lead?</b>	CAO, with support of EMO Committee
<b>Who to engage?</b>	<ul style="list-style-type: none"> <li>• Provincial EMO (Province)</li> <li>• Committee members</li> <li>• City staff</li> <li>• Port</li> </ul>
<b>What municipal plans to leverage?</b>	Emergency Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>• EMO Committee to discuss hazards of concern (due to climate change), and identify potential exercise themes or table top discussions to hold</li> <li>• Contact Provincial EMO, engage in designing exercise or table-top discussion</li> </ul>
<b>Timeframe</b>	Short
<b>Priority</b>	High
<b>Cost</b>	Low

	Yr-2020	Yr 2021	Yr 2022
A study <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
Stakeholders Engagement <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
Funding <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
Implementation	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

<b>Recommendation</b>	<ul style="list-style-type: none"> <li>• Ensure formal alliances with neighboring communities (e.g. fire departments, councils) and local industry. Engage in task force/ committee/working group.</li> </ul>
<b>Category</b>	Planning and Coordination
<b>What was said?</b>	Participants selected this action, assigned it mid priority in the short term. Participants noted: need with hotels, gas stations, radio stations
<b>Who will lead?</b>	CAO with support of EMO Committee
<b>Who to engage?</b>	<ul style="list-style-type: none"> <li>• CAO</li> <li>• EM Coordinator / Committee</li> </ul>
<b>What municipal plans to leverage?</b>	Emergency Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>• Contact neighboring communities, fire services, local businesses, and other key groups, to discuss potential Memorandums of Understanding or Mutual Aid Agreements.</li> <li>• Finalize and adopt agreements</li> <li>• Present to Council, if needed</li> </ul>
<b>Timeframe</b>	Short
<b>Priority</b>	Mid
<b>Cost</b>	Low

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Stakeholders Engagement</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Funding</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
<b>Implementation</b>	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

**NOTES:**

<b>Recommendation</b>	• Obtain copies of EM Plans from local schools, hospitals, nursing homes. Engage in task force/ committee/working group.
<b>Category</b>	Planning and Coordination
<b>What was said?</b>	Summerside does not have the copies of the EM plans for local schools, hospitals and nursing homes. Participants noted: nor for campgrounds, RV parks, hotels, other organizations with large facilities. Also need to provide City's plans to those organizations.
<b>Who will lead?</b>	CAO, with support of EMO Committee
<b>Who to engage?</b>	<ul style="list-style-type: none"> <li>• Schools</li> <li>• Hospital</li> <li>• Nursing Homes</li> </ul>
<b>What municipal plans to leverage?</b>	Not identified - could referenced in EM Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>• Contact Schools, Hospital, and Nursing Home, to ensure they have updated Emergency Plans</li> <li>• Request a copy / discuss what expectations there might be of the municipality.</li> <li>• Share a copy of the Municipal EM Plan with those organizations.</li> </ul>
<b>Timeframe</b>	Short
<b>Priority</b>	Mid
<b>Cost</b>	Low

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Stakeholders Engagement</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Funding</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
<b>Implementation</b>	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

<b>Recommendation</b>	<ul style="list-style-type: none"> <li>Update EMO Plan to consider climate hazards and risk, and how to respond. Incorporate recommendations from this assessment. Ensure an up to date contact tree, check and update annually. Update an Inventory of Skills and Resources</li> </ul>
<b>Category</b>	Planning and Coordination
<b>What was said?</b>	n/a
<b>Who will lead?</b>	CAO with support of EMO Committee
<b>Who to engage?</b>	Committee members
<b>What municipal plans to leverage?</b>	Emergency Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>Review recommendations in this report, update emergency plan accordingly (e.g. contact list, inventory of skills and resources, plans for shelters, communication plan etc)</li> </ul>
<b>Timeframe</b>	Short
<b>Priority</b>	Mid
<b>Cost</b>	Low

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Stakeholders Engagement</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Funding</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
<b>Implementation</b>	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

**NOTES:**

<b>Recommendation</b>	<ul style="list-style-type: none"> <li>• Have plans in place to deal with : tourist peaks, as well as evacuees from other communities, during extreme events (i.e. extra shelters, water distribution, EMS, transportation, accommodation).</li> </ul>
<b>Category</b>	Planning and Coordination
<b>What was said?</b>	Participants selected this action, assigned it low priority in the mid term. Participants noted: need to incorporate contingencies for periods with increased populations. Increase in traffic, creates stress on resources
<b>Who will lead?</b>	CAO with support of EMO Committee
<b>Who to engage?</b>	Committee members
<b>What municipal plans to leverage?</b>	Emergency Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>• Ensure Emergency Plan has identified extra shelters, water distribution, modes of transport, and accommodations for tourist peaks</li> <li>• Contact hotels/motels (accommodations) to determine capacities and to prioritize placement of utility crews, citizens, and tourists.</li> </ul>
<b>Timeframe</b>	Short
<b>Priority</b>	Mid
<b>Cost</b>	Low

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Stakeholders Engagement</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Funding</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
<b>Implementation</b>	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

**NOTES:**

<b>Recommendation</b>	• Establish annual updates to Council, all Staff
<b>Category</b>	Communication
<b>What was said?</b>	Participants noted: Annual updates. And inform council every few hours during events, so they can inform constituents. Council needs to better understand roles.
<b>Who will lead?</b>	CAO with support of EMO Committee
<b>Who to engage?</b>	Committee members Department Heads and Staff Council / Council members
<b>What municipal plans to leverage?</b>	Emergency Plan was identified (but updates could include measures that belong to other plans e.g. Adaptation, Asset Management, Land Use)
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>• Collect updates from each Department, on progress toward implementing the recommendations in this report.</li> <li>• Discuss in EMO Committee, prepare report for Council</li> <li>• Schedule annual updates for Council</li> </ul>
<b>Timeframe</b>	Short / Annual
<b>Priority</b>	Mid
<b>Cost</b>	Low

	Yr-2020	Yr 2021	Yr 2022
A study <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
Stakeholders Engagement <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
Funding <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
Implementation	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

<b>NOTES:</b>
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<b>Recommendation</b>	<ul style="list-style-type: none"> <li>• Exercise once annually (minimum), for different hazard types, and conduct table-top exercises. Ensure community-based exercises have taken place in schools and the community-at-large</li> </ul>
<b>Category</b>	Planning and Coordination
<b>What was said?</b>	Participants selected this action, but did not assign priority. The EM Plan was updated in 2018 but has not been exercised in a while. The City participates in provincial exercises, such as an exercise in Port a few years ago to improve preparedness at the port, which was done by EMO, with City and EMS.
<b>Who will lead?</b>	CAO with support of EMO Committee
<b>Who to engage?</b>	<ul style="list-style-type: none"> <li>• All Emergency Services Providers (Police, Fire, Medical)</li> <li>• Municipal Key Staff and Council, Communications Officer;</li> <li>• External stakeholders (e.g. School Board/Schools; Businesses)</li> <li>• Public / Media</li> </ul>
<b>What municipal plans to leverage?</b>	Plan d’Urgence / Emergency Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>• Identify exercise scenarios or table top topics</li> <li>• Invite internal and external stakeholder to participate</li> <li>• Hold hazard-specific exercises or table top discussions</li> <li>• Summarize outcomes / Lessons learned and potential actions</li> <li>• Review by EMO Committee</li> </ul>
<b>Timeframe</b>	Short to Mid (suggest annually at a minimum, or 2 to 3 times a year)
<b>Priority</b>	Low to Mid
<b>Cost</b>	Low (only labour time)

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Stakeholders Engagement</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Funding</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
<b>Implementation</b>	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

<b>Recommendation</b>	Ensure an early warning system is in place to alert public of impending storms and potential for power outages - e.g. alert systems, social media, media etc. For alert systems, ensure every year that residents are reminded to subscribe (if private system), or consult official town websites, social media, or local media. Inform residents that they will receive official Alert Notifications on cell phones when Provincial EMO broadcasts them (but must have their cellular data turned on). Ensure there is a warning system in place to notify transient, migrant and homeless people of a potential hazards / extreme weather. Ensure appropriate and consistent messaging for each hazard type identified in this assessment, i.e. what's the risk, how to prevent/ reduce risk / what to do, or where to go.
<b>Category</b>	External Communications - Alerts
<b>What was said?</b>	Participants noted: Using local alert system, the city copies communications from the province. To date, only informs public of planned outages, not unplanned outages.
<b>Who will lead?</b>	CAO with support of EMO Committee
<b>Who to engage?</b>	<ul style="list-style-type: none"> <li>● Utility (for power outage information)</li> <li>● Council / Mayor (to approve funding, and to keep up to date during events, ensure consistent messaging)</li> <li>● Provincial EMO (keep up to date during events, ensure consistent messaging)</li> </ul>
<b>What municipal plans to leverage?</b>	Emergency Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>● Contact tourist businesses, to establish communication protocol before next extreme weather event.</li> <li>● Develop simple messaging about each hazard type, associated risks, and how to prepare - this messaging will be ready to use in case of impending event.</li> <li>● Inform residents where alerts/information will be available (e.g. website, social media, provincial EMO)</li> <li>● During events, EMO and communications staff, can alert tourist businesses and local industry</li> <li>● During events, Mayor is official spokesperson for the municipality</li> </ul>
<b>Timeframe</b>	Mid
<b>Priority</b>	Mid to High
<b>Cost</b>	Mid
<b>Additional Resources</b>	

	Yr-2020	Yr 2021	Yr 2022
A study <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
Stakeholders Engagement <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
Funding <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
Implementation	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

**NOTES:**

<b>Recommendation</b>	<ul style="list-style-type: none"> <li>• Ensure plans are in place to install portable and widely available emergency drinking fountains for the public via portable water tanks or fire hydrant hook-up systems in the event of a heat wave. (or bottled water distribution). Ensure the community has policies in place to limit non-essential water usage during times of drought</li> </ul>
<b>Category</b>	Heat Waves and Water Outages
<b>What was said?</b>	Participants noted: 1st action is to bring portable generator to water towers and lift stations; 2nd action is to purchase and distribute bottled water. City would also benefit from a policy to ensure environmental sound use of water resources
<b>Who will lead?</b>	CAO / EMO Committee Council to pass policy
<b>Who to engage?</b>	Source for bottled water (if needed) Source for mobile generator (if needed)
<b>What municipal plans to leverage?</b>	Emergency Plan
<b>Potential next steps</b>	Identify sources, establish MOU if needed. Consider enacting a policy to conserve water resources, in times of drought
<b>Timeframe</b>	As needed
<b>Priority</b>	Not identified
<b>Cost</b>	Not identified (case by case)

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Stakeholders Engagement</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Funding</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
<b>Implementation</b>	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

## 3.2 Planning Department

<b>Recommendation</b>	• Implement better building codes and/or adopt updates to National Building Code which specifically reduce risk for new buildings and retrofits (2019-2025).
<b>Category</b>	Planning and Coordination
<b>What was said?</b>	The City has adopted the 2010 National Building Code, the province currently doesn't have the NBC adopted at all. The new Building Code Act has not been enacted but it will be in 2020. At that time the province will adopt the 2015 National Building Code and the 2015 National Energy Code for Buildings province-wide. Once in force by the province, Summerside will adopt the 2015 codes. Summerside will then adopt updated codes as they are enacted by the province. Also update downtown zoning bylaw regs.
<b>Who will lead?</b>	Planning Department, Inspector
<b>Who to engage?</b>	Property Owners Developers
<b>What municipal plans to leverage?</b>	Official Plan, Building Codes, Zoning bylaw
<b>Potential next steps</b>	Adopt 2015 or 2020 Code in alignment with Province Ensure access to training (for Inspectors, and Developers) Enforce Code (via inspections, permitting process)
<b>Timeframe</b>	Short
<b>Priority</b>	High
<b>Cost</b>	Low (training and labour), but can be higher for implementation of codes

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Stakeholders Engagement</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Funding</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
<b>Implementation</b>	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

<b>Recommendation</b>	<ul style="list-style-type: none"> <li>• <b>Update Land Use Plan</b> to consider climate hazards (zoning), incorporate recommendations from this assessment. Identify zones to discourage development in Land Use Plan, Zoning, or Official Plan, and notify builders of restrictions. Identify zones to encourage development in Land Use Plan, Zoning, or Official Plan, and notify builders of incentives (e.g. faster permitting). Ensure disaster risk assessments are incorporated into all relevant local development planning on a consistent basis. Consider using the Risk-based Land-use Guide developed by Federal Government</li> </ul>
<b>Category</b>	Planning and Coordination
<b>What was said?</b>	<p>Participants noted: plan needs to be fully updated every 5 years, with a minor update within one year. Need Larger set-backs. Uses overlay of flood risk.</p> <p>Participants identified these zones to discourage development:</p> <ul style="list-style-type: none"> <li>- Area west of St Clair St and east of Heritage Trailer Park;</li> <li>- Farmland bordered by Confederation Trail, Greenwood Drive and South Drive;</li> <li>- Wellfields;</li> <li>- Low-lying areas adjacent to waterways.</li> </ul> <p>Participants identified potential areas to encourage development / build back better (away from flood risk): Farmland east of MacEwen Road.</p> <p>Needs further study.</p>
<b>Who will lead?</b>	Planning Director / Planner
<b>Who to engage?</b>	<ul style="list-style-type: none"> <li>• multiple staff/departments</li> <li>• EMO</li> <li>• Port Authority</li> <li>• Province</li> <li>• U PEI climate change lab</li> <li>• Developers</li> </ul>
<b>What municipal plans to leverage?</b>	<p>Land Use Plan / Official Plan</p> <p>Zoning bylaw</p>
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>• Obtain updated flood risk maps. Conduct study of 1 in 200 year flood levels.</li> <li>• Municipal Plan Review, land use and building code bylaw amendments</li> <li>• Implement codes/regulations, notify developers, use permit process</li> <li>• Consider providing incentives e.g. high efficiency, flood proofed buildings could be reimbursed permit fees.</li> </ul>
<b>Timeframe</b>	Short to Mid
<b>Priority</b>	Mid to High
<b>Cost</b>	Low

	Yr-2020	Yr 2021	Yr 2022
A study <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
Stakeholders Engagement <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
Funding <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
Implementation	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

**Recommendation** • **Ensure development regulations** in areas susceptible to windstorms, sea storms, and hurricanes limit land use, prohibit development or require wind and flood resilient building features including elevating structures above maximum flood levels, requiring waterproof materials and anchoring buildings to prevent floatation, set-backs from flood prone areas, raising electrical panel/equipment, concrete walls and roofs designed to withstand severe wind and rain.

<b>Category</b>	Planning and Coordination
<b>What was said?</b>	Regulations prohibit development in susceptible areas, or require minimum elevations, but there are some older/existing developments in flood areas (e.g. waterfront). May need study of options for new regulations
<b>Who will lead?</b>	Planning Department
<b>Who to engage?</b>	Property Owners and Developers Council
<b>What municipal plans to leverage?</b>	Not identified (suggest Official Plan, Zoning or Building bylaws)
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>• Enforce current regulations, adopt new regulations and codes, zoning bylaw</li> <li>• Municipal Planning Department can amend Municipal Plan (as needed)</li> <li>• Municipal Staff to implement/enforce regulations and codes, zoning bylaw.</li> <li>• Notify developers, provide incentives e.g. reimburse permit fees.</li> <li>• Municipality to educate existing property owners on flood risk reduction</li> </ul>
<b>Timeframe</b>	Ongoing / Short
<b>Priority</b>	Mid

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> □ Yes □ No	□ Pending □ In progress □ Completed	□ Pending □ In progress □ Completed	□ Pending □ In progress □ Completed
<b>Stakeholders Engagement</b> □ Yes □ No	□ Pending □ In progress □ Completed	□ Pending □ In progress □ Completed	□ Pending □ In progress □ Completed
<b>Funding</b> □ Yes □ No	□ Pending □ Secured. Source:	□ Pending □ Secured. Source:	□ Pending □ Secured. Source:
<b>Implementation</b>	□ Pending □ In progress*: □ Completed	□ Pending □ In progress*: □ Completed	□ Pending □ In progress*: □ Completed

\* Add level of completion: 25% 50% 75%



<b>Recommendation</b>	• Prepare/Finalize Climate Change Adaptation Plan, incorporate recommendations from this assessment
<b>Category</b>	Planning and Coordination
<b>What was said?</b>	There is no climate adaptation plan. Participants noted: use recommendations from this project as a plan or incorporate into Official Plan.
<b>Who will lead?</b>	Planning Director / Planner
<b>Who to engage?</b>	<ul style="list-style-type: none"> <li>• multiple staff/departments</li> <li>• EMO</li> <li>• Port Authority</li> <li>• Province</li> <li>• U PEI climate change lab</li> </ul>
<b>What municipal plans to leverage?</b>	Official Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>• Use recommendations from this project to inform a Climate Adaptation Plan or incorporate into Official Plan (and present to Council for adoption).</li> </ul>
<b>Timeframe</b>	Short
<b>Priority</b>	Mid
<b>Cost</b>	Low

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Stakeholders Engagement</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Funding</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
<b>Implementation</b>	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

<b>NOTES:</b>
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<b>Recommendation</b>	<ul style="list-style-type: none"> <li>• Ensure the community has implemented structural measures to reduce the risk of flooding, such as installing berms, building dams, dykes and floodwalls, creating reservoirs, etc, in areas likely to experience hurricane damage, sea storms or storm surges -</li> </ul>
<b>Category</b>	Hydrological (flooding) and Atmospheric (Hurricanes)
<b>What was said?</b>	Participants noted: sewer treatment plant needs protection. Waterfront needs protection. Needs further study.
<b>Who will lead?</b>	Planning Department
<b>Who to engage?</b>	<ul style="list-style-type: none"> <li>• Province and Federal Governments (cost-share)</li> <li>• Engineering Consultants</li> <li>• Property owners (affected)</li> <li>• Public (for consultation)</li> </ul>
<b>What municipal plans to leverage?</b>	Not identified - suggest as part of Official Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>• Conduct study on impacts and adaptation measures, for hurricane, sea storm and storm surges along the coast.</li> <li>• Access funding for adaptation measures, where possible</li> <li>• Implement feasible measures</li> </ul>
<b>Timeframe</b>	Long
<b>Priority</b>	Low to Mid
<b>Cost</b>	High

	Yr-2020	Yr 2021	Yr 2022
A study <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
Stakeholders Engagement <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
Funding <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
Implementation	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

<b>Recommendation</b>	<ul style="list-style-type: none"> <li>Explore avenues to create GIS system where province, municipality and utilities can overlay their information so that EM teams can get a full picture of what is going on with respect to hazards and risks</li> </ul>
<b>Category</b>	Planning and Coordination
<b>What was said?</b>	n/a
<b>Who will lead?</b>	Planning Director / Planner / GIS Technician
<b>Who to engage?</b>	CAO Council (bylaw) Province (for data)
<b>What municipal plans to leverage?</b>	Official Plan and EM Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>Discuss data requirements with Province and Utilities</li> <li>Integrate data with Municipal GIS (e.g. overlays of flood risk)</li> <li>Inform planning and decision-making</li> </ul>
<b>Timeframe</b>	Short (if feasible)
<b>Priority</b>	Mid to High
<b>Cost</b>	Low

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Stakeholders Engagement</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Funding</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
<b>Implementation</b>	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

**NOTES:**

### 3.3 Municipal Services Department

<b>Recommendation</b>	<ul style="list-style-type: none"> <li>Ensure the community has implemented measures to reduce the risk of local flooding, such as ensuring that storm sewage drains and systems are well maintained, and separated to the degree possible, as well as upgrading culverts for 100 year flood/water levels</li> </ul>
<b>Category</b>	Hydrological
<b>What was said?</b>	All local storm sewers can handle 1 in 10 year events but only major intersections can handle 1 in 100 year events
<b>Who will lead?</b>	Municipal Tech Services
<b>Who to engage?</b>	Council to approve funding / budget
<b>What municipal plans to leverage?</b>	Not identified -suggest Asset Management Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>Identify draining problems, pipes and culverts needing replacement</li> <li>Get council approval for budget / to replace as needed</li> </ul>
<b>Timeframe</b>	Mid
<b>Priority</b>	High
<b>Cost</b>	High

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Stakeholders Engagement</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Funding</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
<b>Implementation</b>	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

<b>NOTES:</b>
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<b>Recommendation</b>	<ul style="list-style-type: none"> <li>Update Asset Management Plan to consider climate risk, and consider cumulative impact of failure/interruption on providing essential municipal services to the community. Incorporate recommendations from this assessment. Consider using the renewed MCIP Municipal Asset Management Program (FCM)</li> </ul>
<b>Category</b>	Planning and Coordination
<b>What was said?</b>	The City is working on an asset management framework and training, and draft policy, aiming to consider climate change risk in their decisions. Different departments use different systems and need to be integrated. The system used by the energy utility could be used to integrate assets across all departments.
<b>Who will lead?</b>	Municipal Services Department, support of Electrical / Energy Utility
<b>Who to engage?</b>	All Departments
<b>What municipal plans to leverage?</b>	Asset Management Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>Review asset management process / tools</li> <li>Streamline across Departments</li> <li>Consider accessing funding from FCM</li> <li>Incorporate climate risk / recommendations</li> </ul>
<b>Timeframe</b>	Mid to Long
<b>Priority</b>	Mid
<b>Cost</b>	Low, cost of labour

	Yr-2020	Yr 2021	Yr 2022
A study <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
Stakeholders Engagement <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
Funding <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
Implementation	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

### 3.4 Community Services

<b>Recommendation</b>	<ul style="list-style-type: none"> <li>In case of an extended power failure due to extreme weather events, ensure there are plans to allow residents to evacuate to a designated shelter with back-up power. Ensure plans are in place to locate persons without power over extended time periods and to transport these persons to designated shelters</li> </ul>
<b>Category</b>	Planning and Coordination, Energy
<b>What was said?</b>	There are unofficial shelters without backup power. Participants noted: for example Credit Union Place has no back-up power. Needs study in order to size back-up power correctly.
<b>Who will lead?</b>	Director of Community Services, responsible for Credit Union Place; with support of EM Plan Coordinator
<b>Who to engage?</b>	Council to approve funding
<b>What municipal plans to leverage?</b>	EM Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>Conduct study of power requirements for back-up of Credit Union Place</li> <li>Access funding, if available, to implement back-up power</li> </ul>
<b>Timeframe</b>	Short
<b>Priority</b>	High
<b>Cost</b>	High

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Stakeholders Engagement</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Funding</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
<b>Implementation</b>	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

### 3.5 Electrical Plan Supervisor / Electrical Engineer

<b>Recommendation</b>	<ul style="list-style-type: none"> <li>• Ensure all critical municipal facilities and services (e.g., EMO, Lift Stations/Water Treatment, Emergency Shelters, etc) have access to mobile or stationary back-up. Consider multiple energy sources: diesel generators (mobile), diesel or natural gas (stationary), and renewable energy sources</li> </ul>
<b>Category</b>	Energy
<b>What was said?</b>	Has back-up for City Hall / EMO, Public Works, 2 Wellfields, 6 stationary back-up generators and identified alternate sources of fuel. Key municipal facilities, Hospital and schools are ready for back-up power. EM Shelters have back-up, however, there are heating and cooling centers without back-up power.
<b>Who will lead?</b>	Electrical Engineer
<b>Who to engage?</b>	EMO, Council to approve funding, Shelters, Other key service providers
<b>What municipal plans to leverage?</b>	Electrical Plan EM Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>• Identify facilities that require back-up (e.g. stationary or mobile hook-up)</li> <li>• If needed, study power requirements for each facility, to size back-up correctly</li> <li>• Estimate cost for back-up power systems, get council approval to implement</li> <li>• Encourage other community facilities to install back-up, for example: Grocers, gas stations, schools, health facilities, nursing homes, animal shelters, banks.</li> </ul>
<b>Timeframe</b>	Short
<b>Priority</b>	High
<b>Cost</b>	High (\$85k)

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Stakeholders Engagement</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Funding</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
<b>Implementation</b>	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

<b>Recommendation</b>	<ul style="list-style-type: none"> <li>• Ensure EMOC and fire services have radios, can communicate with public (have back up power).</li> </ul>
<b>Category</b>	Communications, Energy
<b>What was said?</b>	The community has an Emergency Operations Centre and an emergency communication system that could be improved. Participants noted that during recent storm, communications broke down, and need to add a back-up generator. Radio station had no back-up during September 2019 storm, since the city uses electronic communications it couldn't effectively communicate. The City will be reviewing the HAM radio equipment they have and see what needs to be updated.
<b>Who will lead?</b>	Electrical Engineer
<b>Who to engage?</b>	Water and Sewer?
<b>What municipal plans to leverage?</b>	Electrical Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>• Ensure back-up for EMO communications</li> <li>• Identify what needs to be updated (communications equipment)</li> <li>• Propose improvements as part of budget / council directive</li> <li>• Discuss with Radio station, business continuity</li> </ul>
<b>Timeframe</b>	Short
<b>Priority</b>	High
<b>Cost</b>	Mid (\$82K)

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Stakeholders Engagement</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Funding</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
<b>Implementation</b>	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%



<b>Recommendation</b>	• To increase traffic safely ensure there are visible fixed message signs, with critical lights having back-up (e.g. solar/storage)
<b>Category</b>	Atmospheric (blizzards), Energy
<b>What was said?</b>	Participants noted: have electronic board. Road signs are visible. There are no reflective pavement markers. Studying solar and storage for critical lights. Needs study to size back-up / storage correctly.
<b>Who will lead?</b>	Electrical Engineer
<b>Who to engage?</b>	Council to approve funding Public Works
<b>What municipal plans to leverage?</b>	Electrical Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>• Identify key intersections, crosswalks, that might benefit from improved signage or solar/storage for back-up</li> <li>• Study technical/financial feasibility and sizing of solar/storage installations</li> <li>• Budget / obtain approval from Council</li> </ul>
<b>Timeframe</b>	Short for Study, Mid to Long for implementation
<b>Priority</b>	High
<b>Cost</b>	Mid

	Yr-2020	Yr 2021	Yr 2022
A study <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
Stakeholders Engagement <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
Funding <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
Implementation	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

<b>Recommendation</b>	- Support implementation of smart metering, monitoring infrastructure in place at substations, feeders, and transformers, to send info in real time to the utility to reduce outage restoration times.
<b>Category</b>	Energy
<b>What was said?</b>	n/a
<b>Who will lead?</b>	Electrical Engineer
<b>Who to engage?</b>	Council to approve funding
<b>What municipal plans to leverage?</b>	Electrical Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>● Pilot smart metering and monitoring infrastructure</li> <li>● Obtain funding (where possible), or Council approval</li> <li>● Conduct public outreach, educate about benefits of smart metering</li> <li>● Implement smart metering and monitoring upgrades at feeders/substations.</li> </ul>
<b>Timeframe</b>	Long
<b>Priority</b>	Mid
<b>Cost</b>	High
<b>Additional Resources</b>	

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Stakeholders Engagement</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Funding</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
<b>Implementation</b>	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

<b>Recommendation</b>	<ul style="list-style-type: none"> <li>• Ensure all vehicles are refueled and EVs (on municipal fleet) are fully charged daily, or that a charging station has back-up power</li> </ul>
<b>Category</b>	Energy
<b>What was said?</b>	Participants noted: Need to ensure gas/diesel vehicles are also refuelled every night. There is gas tank for fleet (in case supply interrupts).
<b>Who will lead?</b>	To install EV charging, Electrical Engineer. To refuel, all staff using fleet vehicles
<b>Who to engage?</b>	All staff Council to approve funding (e.g EVs, charging stations)
<b>What municipal plans to leverage?</b>	Electrical Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>• Establish refuelling protocol (staff)</li> <li>• Study feasibility for EV charging</li> <li>• When converting fleet vehicles to EVs or Hybrid EVs, consider charging infrastructure needed, and whether to make new chargers publicly accessible.</li> </ul>
<b>Timeframe</b>	Long
<b>Priority</b>	Low
<b>Cost</b>	Low (for refueling)
<b>Additional Resources</b>	

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Stakeholders Engagement</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Funding</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
<b>Implementation</b>	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

### 3.6 Engineering

<b>Recommendation</b>	<ul style="list-style-type: none"> <li>• Use PIEVC Engineering Protocol for Climate Infrastructure Risk Assessment for all infrastructure projects and development permitting, as well as require it in tender documents for Engineering assessments. Incorporate recommendations from this assessment.</li> </ul>
<b>Category</b>	Planning and Coordination
<b>What was said?</b>	Participants noted: ask Engineering
<b>Who will lead?</b>	Engineering staff
<b>Who to engage?</b>	Not identified
<b>What municipal plans to leverage?</b>	Not identified
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>• Assess PIEVC vs other assessment tools or methods</li> <li>• Apply climate risk assessment to all new infrastructure projects</li> <li>• Require climate risk assessment for major new developments</li> </ul>
<b>Timeframe</b>	Not identified
<b>Priority</b>	Not identified
<b>Cost</b>	Not identified
<b>Additional Resources</b>	<a href="https://pievc.ca/">https://pievc.ca/</a>

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Stakeholders Engagement</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Funding</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
<b>Implementation</b>	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

### 3.7 Communications

This section contains all the recommendations that pertain to external and internal communications regarding climate change, community resilience, and emergency preparedness. To improve community resilience to the impact of climate change, sound communication is critically important across all municipal departments and emergency services, external stakeholders and the public. This section is divided into two parts:

- The Public Education Strategy, or External Communication, presents specific public messaging and recommendations for all hazard types.
- The Internal Communications recommendations presents recommendations that strengthen the internal capacity of municipal staff to efficiently coordinate across all departments, and with emergency response organisations.

#### 3.7.1 External Communications

These recommendations focus on disaster preparedness and resilience before a hazard occurs. It is also important that the Town develop a post-disaster communications strategy to help residents and businesses recovering from disaster.

#### High-level recommendations:

<b>Recommendation</b>	<b>Develop an ongoing public education and outreach strategy to increase resilience to climate hazards in the community</b>
<b>Category</b>	Communications - Public Education Strategy
<b>What was said?</b>	Summerside is proactive using social media and electronic communications to send out information. There is no communications department
<b>Who will lead?</b>	Lisa Langdale (Executive Assistant to the CAO, Mayor and Council) and Pauline Dicy (Municipal Services Coordinator) for outreach
<b>Who to engage?</b>	Not identified
<b>What municipal plans to leverage?</b>	(Create) Communications Strategy for Community Resilience
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>• Survey residents to assess their awareness and level of preparedness; identify strengths and gaps; communicate tips for bad weather year round</li> <li>• Consider implementing a combination of activities, clear and simple messaging, and a variety of communication channels, to inform and educate the public (see tables 4 and 5 below)</li> <li>• Consult Task Force / all Departments, on messaging</li> <li>• Conduct activities on a quarterly or annual basis</li> </ul>
<b>Timeframe</b>	Short
<b>Priority</b>	Mid
<b>Cost</b>	Low E.g. Each action may have no cost, or some cost (varies by action).

<b>Recommendation</b>	<b>Develop an ongoing public education and outreach strategy specific to vulnerable populations by working with partners organisations</b>
<b>Category</b>	Communication
<b>What was said?</b>	There is no communications department
<b>Who will lead?</b>	Lisa Langdale (Executive Assistant to the CAO, Mayor and Council) and Pauline Dicy (Municipal Services Coordinator) for outreach
<b>Who to engage?</b>	Internal stakeholders: All Departments (for messaging), Council External stakeholders: community organizations, social and health services, schools, seniors residences, etc.
<b>What municipal plans to leverage?</b>	Emergency Response Plan Communication strategies and plans
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>Engage low income neighborhoods, people with disabilities, senior centers, nursing homes to prepare for future hazards; and communicate future potential hazards / climate risk in the community, and your planned measures or adaptations</li> <li>Ensure vulnerable populations are informed of plans / what to do during a hazard by working closely with long term care facilities and other social services providers</li> <li>Work with Fire Service to leverage and update registry of vulnerable persons</li> </ul>
<b>Timeframe</b>	Mid
<b>Priority</b>	Mid
<b>Cost</b>	Not identified

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Stakeholders Engagement</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Funding</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
<b>Implementation</b>	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

<b>Recommendation</b>	<ul style="list-style-type: none"> <li>Establish monthly, quarterly or annual updates to key stakeholders and the Public</li> </ul>
<b>Category</b>	Communication
<b>What was said?</b>	Participants noted: Facebook is #1 platform, city website, utility bill inserts, and paper ads. There is no communications department
<b>Who will lead?</b>	Lisa Langdale (Executive Assistant to the CAO, Mayor and Council) and Pauline Dicy (Municipal Services Coordinator) for outreach
<b>Who to engage?</b>	Not identified
<b>What municipal plans to leverage?</b>	Communications strategy, EM Plan
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>Prepare annual update for the public, about what the City is doing to adapt to climate change, and areas of future work / adaptation.</li> <li>Publish on website, Facebook, and local media.</li> <li>Distribute via utility bill inserts.</li> </ul>
<b>Timeframe</b>	Short
<b>Priority</b>	Mid
<b>Cost</b>	Low

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Stakeholders Engagement</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Funding</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
<b>Implementation</b>	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

## Specific key messaging for the City of Summerside’s communication strategy

The table below presents the key messaging the municipality should focus on in its disaster preparedness communications to the public. They are tailored to the most frequent hazards occurring in the community and were selected by participants in the second workshop.

**Table 4: Key messages by hazard types**

Hazards	Hazard-related recommendations
<b>Blizzards, Snow/Ice Storms, and Cold Weather</b>	<p>Encourage most residents have winter tires and winter emergency kits (including rock salt, shovels, blankets, food and water) in their vehicles.</p> <p>Encourage residents to help with breaking up ice and snow near drainage.</p> <p>Communicate a list of community heating locations / drop in zones</p>
<b>Heat Waves</b>	<p>Educate residents about heat waves and the warning symptoms of heat exhaustion and how best to keep cool (short term)</p> <p>Ensure there is a warning system in place to notify residents and emergency personnel personnel of potential heat waves. Consider creating Heat Alert Response System, using Health Canada guidelines</p>
<b>Hurricanes and Windstorm</b>	<p>Encourage most residents have designated areas of refuge in their homes</p> <p>Encourage residents and businesses to prepare for high winds and flooding by: covering windows with storm shutters or plywood, reinforcing garage doors, clearing rain gutters and downspouts, securing boats to land or storing them on land and removing potential windborne missiles such as barbecues and patio furniture. Educate the public about storm safety and know to stay indoors and away from windows, skylights and glass doors and avoid contact with plumbing, corded electrical equipment, concrete floors and walls if there is lightning along with the storm</p>
<b>Hydrological Hazards, including floods</b>	<p>Work with property owners in flood prone areas, to examine options for: protecting structures, raising structures, relocating structures.</p> <p>Encourage every dwelling and business has back-water valves and sump pumps installed with back-up power, if possible.</p>
<b>Power Outage / Interruption to Energy Supply</b>	<p>Educate residents on what to do (e.g. turn off all appliances) and not to do (e.g. avoid using propane, bbq inside) during restoration/cold start of grid. Educate residents on installing and using generators.</p> <p>Inform residents that 72 to 96 hours preparedness (especially in rural and remote areas) is better for prolonged outages. Communicate location of designated shelters, if outage persists beyond 24 hours.</p>
<b>Food shortage</b>	<p>Encourage and support locally grown food (e.g., community gardens in the summer, rooftop gardens, year-round greenhouse, container aquaculture/agriculture, local markets).</p> <p>Encourage Grocers, and greenhouses, to have back-up power, or plans for mobile refrigeration</p>



The table below presents some tips to develop an effective education communications plan. It can be tailored to the needs of your community.

**Table 5: Tips for an effective public education communications plan**

<p><b>Activities</b></p>	<ul style="list-style-type: none"> <li>● Plan annual resilience day activity or exercise</li> <li>● Engage other community organizations to educate employees, customers, participate in resilience day activity</li> <li>● Ensure local schools provide some training within the curriculum, on climate change, emergency preparedness, or organize a resilience awareness day</li> <li>● Ensure communication plan for promoting preparedness (72 to 96 hours) and alerting the public of hazards, how to prepare, where to shelter or when to evacuate, as well as how you will keep them informed</li> <li>● Provide seasonal updates and guidance (e.g. mail pamphlet, social media, news release)</li> <li>● Communicate/Alert public in advance of impending storms, floods, etc</li> </ul>
<p><b>Messaging</b></p>	<ul style="list-style-type: none"> <li>● Provide clear, simple, or tailored messaging for different audiences (e.g. residents, businesses) / by neighborhood</li> <li>● Ensure public knows where to get town's information</li> <li>● Incorporate specific messaging based on hazards in your community (see table below)</li> </ul>
<p><b>Channels / medium</b></p>	<p>Explore the use of various channels to communicate with the public:</p> <ul style="list-style-type: none"> <li>● website</li> <li>● media (radio, paper, tv)</li> <li>● bill inserts</li> <li>● social media</li> <li>● workshops, events</li> </ul>

### 3.7.2 Internal Communications

<b>Recommendation</b>	• Establish annual updates to Council, all Staff
<b>Category</b>	Communication
<b>What was said?</b>	Participants noted: Annual updates. And inform council every few hours during events, so they can inform constituents. Council needs to better understand roles.
<b>Who will lead?</b>	CAO with support of EMO Committee
<b>Who to engage?</b>	Committee members Department Heads and Staff Council / Council members
<b>What municipal plans to leverage?</b>	Emergency Plan was identified (but updates could include measures that belong to other plans e.g. Adaptation, Asset Management, Land Use)
<b>Potential next steps</b>	<ul style="list-style-type: none"> <li>• Collect updates from each Department, on progress toward implementing the recommendations in this report.</li> <li>• Discuss in EMO Committee, prepare report for Council</li> <li>• Schedule annual updates for Council</li> </ul>
<b>Timeframe</b>	Short / Annual
<b>Priority</b>	Mid
<b>Cost</b>	Low

	Yr-2020	Yr 2021	Yr 2022
<b>A study</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Stakeholders Engagement</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress <input type="checkbox"/> Completed
<b>Funding</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:	<input type="checkbox"/> Pending <input type="checkbox"/> Secured. Source:
<b>Implementation</b>	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed	<input type="checkbox"/> Pending <input type="checkbox"/> In progress*: <input type="checkbox"/> Completed

\* Add level of completion: 25% 50% 75%

## 4.0 Budget and Funding Considerations

Workshop participants did not have time to discuss in depth funding resources and budget options available to them to implement the recommendations detailed in the previous section. Securing funding and a budget is crucial to the viability of some climate adaptation and emergency management measures.

Participants in the first and second workshops noted that municipal financial capacities are limited, and that investment from the federal and provincial levels of government is needed to support local projects and initiatives.

Recommendation. The municipality is invited to collect internal information to answer the following questions:

- Which financial resources have been explored in the past?
- Which are being explored currently?
- Which could be explored to support the actions and strategies identified below?

It may be challenging to secure funding, especially when competing with other municipal priorities. The table below presents different strategies to secure financial resources for municipalities. These funding sources are usually available for plans, studies, pilot projects and/or capital projects. They usually require matching funding.

**Table 6: Strategies to secure financial resources**

Sources	Description
<b>Budget</b>	Create budget item/fund for adaptation to support adaptation measures
<b>Internal financing sources</b>	<ul style="list-style-type: none"> <li>• Property taxes, tax levies</li> <li>• Tax Increment Financing, Local Improvement Charges</li> <li>• User fees (on water, power and natural gas distribution system, waste, ect.)</li> <li>• Development Cost Charges (DCCs)</li> <li>• Green bonds</li> </ul>
<b>Local Incentives and Rebates</b>	<ul style="list-style-type: none"> <li>• Development Cost Charge reductions</li> <li>• Local Improvement Charge financing (LIC) or Property Assessed Clean Energy (PACE) programs</li> <li>• Fee rebates/credits (on water and energy bills); local economic incentives for investing in disaster risk reduction for households and businesses, and new developments (e.g. tax holidays for businesses, faster permitting for developments meeting certain adaptation criteria)</li> </ul>
<b>New accounting/ decision-making tools</b>	<ul style="list-style-type: none"> <li>• Consider natural asset management approach - full cost accounting and valuation of natural assets</li> <li>• Estimate avoided cost when presenting business case for adaptation measures</li> </ul>

	<ul style="list-style-type: none"> <li>● Combine funding with Gas Tax revenue</li> <li>● Reinvest efficiency savings into low cost adaptation measures, community engagement, etc.</li> <li>● Update the long term financial plan to include considerations of climate change mitigation and adaptation</li> </ul>
<b>Institutional grants and external sources of funding</b>	<p>Scan and submit funding applications to</p> <ul style="list-style-type: none"> <li>● Federal agencies and governments <ul style="list-style-type: none"> <li>○ <a href="#">NRCan</a></li> <li>○ <a href="#">Environment and Climate Change</a> (ECC)</li> <li>○ <a href="#">Infrastructure Canada</a> programs</li> </ul> </li> <li>● FCM programs, including: <ul style="list-style-type: none"> <li>○ <a href="#">Green Municipal Fund</a></li> <li>○ <a href="#">Municipalities for Climate Innovations Program</a></li> <li>○ <a href="#">Municipal Asset Management Programs</a></li> </ul> </li> <li>● Provincial programs and agencies</li> </ul>
<b>Loans</b>	<ul style="list-style-type: none"> <li>● FCM low-interest loan (GMF)</li> <li>● Municipal green bonds</li> </ul>
<b>Leverage private investments</b>	<ul style="list-style-type: none"> <li>● Engage private sector, to partner and financially support adaptation measures for infrastructure that supports their operations and/or immediate community</li> <li>● Ensure local Chamber of Commerce or others support efforts of small enterprises for business continuity during and after disasters</li> </ul>
<b>Economy of scales and synergies at the local level</b>	<ul style="list-style-type: none"> <li>● Leverage existing initiatives or project by expanding / adapting their scope and collaborating with other departments (thinking beyond silos)</li> <li>● Collaborate with neighbouring municipalities</li> <li>● When a measure involves several communities, cost-share (e.g. procurement of generators, building sea walls, etc.)</li> </ul>

FCM and ICLEI recently published a toolkit called [On the money: Financing tools for local climate action](#), that explains how your municipality can leverage private and community investors to help you take action on climate change in your community. This toolkit includes tips on how to harness people power through group purchasing and community owned renewable power, break capital barriers with local improvements and energy performance contracts, and create a funding cycle with green revolving funds and green bonds.

The two following handbooks provide helpful, on-the-ground solutions to secure funding for energy resilient infrastructure that may be relevant to your community:

- [Bridgewater Financing Mechanism Scoping Study](#) (2019)
- [Community Energy Investment Strategy for Waterloo Region](#) (2018)

## 5.0 Monitoring and Reporting Progress

QUEST strongly recommends that the Chief Administrative Officer reviews each recommendation and confirms, or assigns when needed, the following:

- A Priority
- A Lead Department
- A Lead Staff
- A Cost

In the short term, QUEST also recommends to create a committee, or to leverage an existing committee, in order to integrate the recommendations into relevant municipal documents and strategies as well as to monitor and report on their implementation.

To assist in this task, QUEST added an Action Tracking Table below each recommendation table. The purpose of these tables are twofold :

- **Monitor progress internally.** By creating an interactive document, lead staff can update and comment on progress made in implementing selected priority actions on a yearly-basis over the next three years; and
- **Report back to NRCan.** This project being funded by NRCan, QUEST and each participating municipality has to report back annually on the project impact over the next three years. The Tracking Tables provide an easy way to collect information for NRCan.

These tracking tables are a tool to collect information about progress on conducting survey, securing funding, engaging stakeholders, and implementation.

The use of the Tracking Tables is effective only if the municipality sets up a reporting process at the CAO level, or as part of established task force or committee, to ensure information is collected yearly from all Lead Departments and Lead staff. This process can be integrated in existing annual review process.

## 6.0 Conclusion

This report is a living document prepared with the intent to be shared among identified shareholders and updated annually by using the tracking tables for each recommendation. Along with the Climate Risk and Vulnerability Assessment Report (delivered in Fall 2019), this report intends to inform the work of the City of Summerside on climate adaptation, resilient planning, and emergency preparedness.

The next recommended steps the municipality can take are:

- Create a task force, committee, or assign to existing committee, for continued oversight, coordination, and reporting.
- Have CAO review responsible department for each set of recommendations, and assign a specific lead staff person for each recommendation. The Department in charge of implementing recommendations has not always been identified for recommendations selected by workshop participants.

- Continue integrating climate projections and climate hazard into the reviews of all municipal plans and bylaws - e.g. EM Plan, Land Use Plan, Asset Plan, building regulations, etc.
- Continue working closely with energy utilities to build a resilient grid.
- To continue building momentum by conducting an Energy Mapping workshop and developing a Community Energy Plan. Community energy planning is recognized across Canada as an effective pathway to Smart Energy Communities. It provides a platform for multiple stakeholder groups to convene, coordinate, and implement innovative community energy projects and programs, resulting in more energy efficient, resilient and vibrant communities.

QUEST team has sound expertise and records in these areas. QUEST specializes in the development of energy mapping workshops focused on educating and inspiring participants to take an integrated, systems-thinking approach to community energy planning. QUEST will be delighted to continue working with the City of Summerside on these initiatives.

The primary goals of the project were threefold. First, to increase participants' understanding of climate impacts, vulnerabilities, and opportunities for building a resilient community. Second, to inform the municipality and utilities' actions and initiatives on climate adaptation and emergency management. Finally, to foster collaboration among various stakeholders, including municipal staff and energy utilities to align asset management and planning, and emergency preparedness. The methodology and approach used by QUEST has proven effective in bringing together diverse stakeholder groups and tapping into participants' knowledge to prepare this second report.

QUEST has appreciated working with the City of Summerside municipal staff, local stakeholders, and energy utilities. QUEST team, would like to thank each of the workshop participants for their time and valuable insights. QUEST team hopes they found the workshops informative and impactful to incorporate resilience in their day-to-day activity.

All the lessons learned will be compiled by QUEST into a final public Lessons Learned report. This lessons learned report will present key challenges Canadian communities and utilities are facing when building a resilient community and adapting energy infrastructure to a changing climate. It will also emphasize observed good practice and opportunities. This report will be shared with other municipalities across Canada to help them become more resilient to climate hazards.

## Appendix 1 - Tables from Workshop #2

Sent as a separate document.

## Appendix 2 - Assessment report

Sent as a separate document.

## Appendix 3 - Additional resources

### Climate change data

ECCC Climate Change Data portal: <http://www.canadaccdp.ca/>

Climate Data for a Resilient Canada: <https://climatedata.ca/>

### Infrastructure and asset management planning

[Combatting Canada's Rising Flood Costs: Natural infrastructure is an underutilized option](#)

Insurance Bureau of Canada, 2018. This report provides guidance to those considering or opting for a natural infrastructure solution. The natural infrastructure implementation framework that is being introduced provides such a structure, and it is consistent with the natural infrastructure preservation commitments Canada has made under the Paris Agreement, the United Nations' Sendai Framework for Disaster Risk Reduction and the Pan-Canadian Framework on Clean Growth and Climate Change.

[Public Infrastructure Engineering Vulnerability Committee \(PIEVC\) Protocol, Engineers Canada.](#)

The Protocol systematically reviews historical climate information and projects the nature, severity and probability of future climate changes and events. It also establishes the adaptive capacity of an individual infrastructure as determined by its design, operation and maintenance. It includes an estimate of the severity of climate impacts on the components of the infrastructure (i.e. deterioration, damage or destruction) to enable the identification of higher risk components and the nature of the threat from the climate change impact. This information can be used to make informed engineering judgments on what components require adaptation as well as how to adapt them e.g. design adjustments, changes to operational or maintenance procedures.

### Land-use planning

[Risk-based Land-use Guide: Safe use of land based on hazard risk assessment](#), NRCan, 2015. This guide explains three key actions intended to assist municipal staff determine whether land use proposals will be safe for their intended use. It explains: 1) how to integrate hazard risk

management into existing land-use management instruments; 2) how to determine if the hazard risk of a land-use proposal is acceptable; 3) how to consider reducing the risk to tolerable and acceptable levels.

## Emergency response

[Heat Alert and Response Systems to Protect Health: Best Practices Guidebook](#). Government of Canada. The guidebook provides an overview of health risks from extreme heat and offers evidence-based strategies for alerting health authorities and the public when hazardous conditions arise. It is intended for use by policymakers, planners and service providers involved in protecting citizens from extreme heat events. The Guidebook is designed to help develop interventions tailored to the needs of a specific community.

## Building codes and standards

[Infrastructure Canada's Climate-Resilient Buildings and Core Public Infrastructure Initiative](#). With \$42.5 million in financial support from Infrastructure Canada, and in support of the Pan-Canadian Framework on Clean Growth and Climate Change, the National Research Council Canada (NRC) is undertaking ground-breaking work to integrate climate resiliency into building and infrastructure design, guides, and codes. This initiative is intended to develop capacity in Canada's construction industries to adapt to the increasing demands on our built infrastructure attributed to climate change. The work undertaken by the NRC will contribute to an infrastructure landscape that can keep Canadian communities safer from extreme weather and the effects of climate change.

[Building for climate change A quick guide for homeowners and builders](#). Southwest New Brunswick Service Commission. This handbook will focus on building and landscaping approaches to address four key threats: wildfire, flood, extreme precipitation, extreme wind.

## Funding and budget

[On the money: Financing tools for local climate action](#), FCM and ICLEI (2018). The report explains how your municipality can leverage private and community investors to help you take action on climate change in your community. This toolkit includes tips on how to harness people power through group purchasing and community owned renewable power, break capital barriers with local improvements and energy performance contracts, and create a funding cycle with green revolving funds and green bonds.

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