Council Package

February 13, 2024

www.lamont.ca

5307 - 50 Ave., Lamont, Alberta Phone: 780.895.2010

AGENDA
TOWN OF LAMONT
REGULAR MEETING OF COUNCIL
February 13, 2024

5307 – 50 Avenue
Lamont, AB T0B 2R0

Town of Lamont
January 23, 2024
Regular Meeting of Council

PRESENT:	Kirk Perrin	Mayor
	Jody Foulds	Councillor
	Linda Sieker	Councillor
	Al Harvey	Councillor
	Perry Koroluk	Councillor
	Colleen Holowaychuk	Councillor
	Dawn Nielsen	Interim Chief Administrative Officer
	Tyler Edworthy	Director, Operations & Infrastructure
	Jaclyn Ponto-Lloyd	Recording Secretary

CALL TO ORDER AND RELATED BUSINESS:

Call to Order: Mayor Perrin: called the meeting to order at 7:00 p.m.

Adoption of Agenda

- **Addition of Item 4.7 – Alberta Municipalities' 2024 Spring Municipal Leaders' Caucus**

MOTION: 15/24 Councillor Sieker: That the Council Agenda be accepted as amended.

CARRIED

Declaration of Pecuniary Interest: None.

ADOPTION OF MINUTES:

a) Meeting Minutes – January 9, 2024

MOTION: 16/24 Councillor Foulds: That the Minutes of the January 9, 2024 Council Meeting be accepted as presented.

CARRIED

DELEGATIONS: None.

Councillor Holowaychuk joined the meeting at 7:06 p.m.

CORRESPONDENCE:

- **Lamont Public Library Board Meeting Minutes – December 4, 2023**
- **Letter from Metrix Group LLP – 2023 Audit Plan**
- **NAAGO – Proposed Membership Increase**

MOTION: 17/24 **Councillor Foulds:** That Council accept the correspondence as information.

CARRIED

NEW BUSINESS:

Bylaw 01/24, Regional Fire Services & Bylaw 02/24, Community Standards

MOTION: 18/24 **Councillor Holowaychuk:** That Council give first reading to Bylaw 01/24, Regional Fire Services.

CARRIED

MOTION: 19/24 **Councillor Sieker:** That Council give second reading to Bylaw 01/24, Regional Fire Services.

CARRIED

MOTION: 20/24 **Councillor Koroluk:** That Council give unanimous consent to proceed to third reading of Bylaw 01/24, Regional Fire Services.

UNANIMOUSLY CARRIED

MOTION: 21/24 **Councillor Harvey:** That Council give third reading to Bylaw 01/24, Regional Fire Services.

CARRIED

MOTION: 22/24 **Councillor Foulds:** That Council give first reading to Bylaw 02/24, Community Standards.

CARRIED

MOTION: 23/24 **Councillor Sieker:** That Council give second reading to Bylaw 02/24, Community Standards.

CARRIED

MOTION: 24/24 **Councillor Holowaychuk:** That Council give unanimous consent to proceed to third reading of Bylaw 02/24, Community Standards.

UNAIMOUSLY CARRIED

MOTION: 25/24 **Councillor Koroluk:** That Council give third reading to Bylaw 02/24, Community Standards.

CARRIED

Policy Update – Sponsorship, Donation and Memorial Contribution

MOTION: 26/24 **Councillor Koroluk:** That Council approve the revisions to Policy #72-08, Park Sponsorship, Donation and Memorial Contribution Policy.

CARRIED

Councillor Absence

MOTION: 27/24 **Councillor Sieker:** That Council accept Councillor Dave Taylor's absence at the January 23, 2024, Council Meeting due to a prior commitment.

CARRIED

Economic Development Board

MOTION: 28/24 **Councillor Harvey:** That Council direct Administration to contact former Economic Development Board members to inquire about their interest in serving further and that an ad be placed requesting members of the public.

CARRIED

Improving Police Governance

MOTION: 29/24 **Councillor Sieker:** That Council direct Administration to register Councillors Harvey and Holowaychuk for the information session and bring this item back at the February 13, 2024 Council Meeting in Closed Session for further discussion.

CARRIED

CN Lease Agreement Update

MOTION: 30/24 **Councillor Koroluk:** That Council accept the CN Lease Agreement update as information.

CARRIED

MOTION: 31/24 Councillor Koroluk: That Council approve the re-allocation of funds in the amount of $2500 identified for the CN Lease agreement to complete the required work in compliance with CN.

CARRIED

Alberta Municipalities' 2024 Spring Municipal Leaders' Caucus

MOTION: 32/24 Councillor Foulds: That Council not attend the Alberta Municipalities' 2024 Spring Municipal Leaders' Caucus.

CARRIED

REPORTS:

Council Reports:

Mayor Perrin	Nothing to report
Councillor Harvey	Written report attached.
Councillor Koroluk	Nothing to report.
Councillor Sieker	Written report attached.
Councillor Foulds	Written report attached.
Councillor Holowaychuk	Written report attached.

Staff Reports:

Interim CAO	Written report attached.
Finance Officer	Written report attached.

MOTION: 33/24 Councillor Koroluk: That Council accept the reports as presented.

CARRIED

NOTICES OF MOTION: None.
CLOSED SESSION:

- **Professional Appointments**
  - *FOIP Section 19 – Confidential Evaluations*

- **Chief Administrative Officer**
  - *FOIP Section 24 – Advice from Officials*

MOTION: 34/24 **Councillor Koroluk:** That Council convene in closed session pursuant to Section 197 of the *Municipal Government Act* to meet in private to discuss matters protected from disclosure by Section 19 and 24 of the *Freedom of Information and Protection of Privacy Act* at 8:06 p.m.

CARRIED

MOTION: 35/24 **Councillor Koroluk:** That Council revert to regular Council meeting session at 9:14 p.m.

CARRIED

MOTION: 36/24 **Councillor Foulds:** That Council extend the meeting past 9:00 p.m.

CARRIED

MOTIONS ARISING FROM CLOSED SESSION:

MOTION: 37/24 **Councillor Koroluk:** That Council appoint Select Engineering Consultants as Engineering Services provider for the Town of Lamont.

CARRIED

MOTION: 38/24 **Councillor Sieker:** That Council accept the Chief Administrative Officer information presentation as information.

CARRIED

ADJOURNMENT: Mayor Perrin adjourned the meeting at 9:17 p.m.

_____

Mayor

_____

Chief Administrative Officer

	Lamont Municipality Calls 2023			
Call	**Call Type**	**Location**	**Personnel**	**Chute Time (in minutes)**
23-0002	MVC	County	4	7
23-0009	Fire	County	5	4
23-0013	Medical	Lamont	6	6
23-0017	Fire	County	6	6
23-0018	Fire	Mundare	4	7
23-0019	Fire	County	5	7
23-0020	Fire	County	8	8
23-0022	MVC	Lamont	10	1
23-0025	Medical (STARS)	Lamont	8	7
23-0026	Alarms	County	0	Stood Down
23-0033	Medical	County	4	6
23-0034	Medical	Lamont	8	7
23-0044	Medical	Lamont	4	7
23-0045	Fire	County	9	6
23-0049	MVC	County	4	7
23-0051	MVC	Lamont	3	16
23-0054	Alarms	Lamont	0	Stood Down
23-0055	Medical	Lamont	0	Stood Down
23-0060	Alarms	Lamont	2	Stood Down
23-0061	Medical (STARS)	Lamont	6	2
23-0066	Fire	County	3	22
23-0069	Alarms	County	6	1
23-0071	Fire	County	3	22
23-0072	Alarms	Chipman	3	1
23-0075	Fire	County	6	7
23-0076	Fire	County	10	6

23-0077	Fire	Elk Island	7	1
23-0081	Fire	County	8	16
23-0088	Medical	Lamont	5	4
23-0090	Fire	County	5	6
23-0092	Fire	County	3	3
23-0096	Fire	County	3	8
23-0097	Fire	Lamont	7	6
23-0099	Fire	Strathcona County	6	2
23-0101	Medical	County	4	8
23-0110	Fire	County	4	Stood Down
23-0112	Fire	County	2	6
23-0113	Alarms	County	8	3
23-0114	Fire	County	5	6
23-0117	Alarms	County	5	Stood Down
23-0119	Fire	Lamont	4	5
23-0124	Water Rescue	Elk Island	7	6
23-0125	Fire	Lamont	6	5
23-0126	Fire	County	5	6
23-0129	Alarms	County	6	11
23-0131	MVC	Lamont	5	7
23-0140	Fire	County	12	7
23-0141	Fire	Lamont	9	5
23-0144	Alarms	County	6	7
23-0148	Fire	County	2	6
23-0151	Medical	Lamont	11	1
23-0152	Fire	County	8	6
23-0160	MVC	County	5	Stood Down
23-0163	Alarms	Lamont	8	5
23-0166	MVC	County	7	5

23-0170	MVC	County	3	7
23-0171	Alarms	Lamont	6	8
23-0173	Fire	Lamont	9	4
23-0174	MVC	County	8	5
23-0180	MVC	Elk Island	5	8
23-0181	Alarms	Lamont	3	7
23-0183	Medical	Lamont	4	5
23-0189	MVC	Lamont	7	3
23-0190	MVC	County	2	4
23-0191	Alarms	County	4	Stood Down
23-0192	Alarms	County	2	0
23-0193	Medical	County	4	7
23-0197	Medical (STARS)	Lamont	2	7
23-0198	Medical (STARS)	Lamont	2	8
23-0202	Alarms	Elk Island	3	0
23-0205	MVC	County	5	12
23-0206	Alarms	Lamont	4	2
23-0209	Medical	Lamont	4	1
23-0217	Alarms	Lamont	4	7
23-0219	Alarms	County	2	9
23-0222	Medical	Lamont	3	6
23-0225	MVC	County	5	Stood Down
23-0230	Fire	Lamont	7	7
23-0233	Fire	County	7	7
23-0235	Fire	County	5	7
23-0238	Fire	County	8	6
23-0240	Medical	Lamont	3	Cleared from 2nd event
23-0249	Medical	Lamont	7	8
23-0253	Fire	County	2	21

23-0254	Fire	County	10	9
23-0255	MVC	County	6	6
23-0256	MVC	County	4	1
23-0257	Fire	County	5	2
23-0259	Alarms	Lamont	3	Stood Down
23-0260	Fire	Mundare	4	3
23-0261	Fire	County	4	5
230268	MVC	County	4	16
23-0269	MVC	County	4	Stood Down
23-0272	Alarms	County	6	7
23-0274	Alarms	Lamont	4	1
23-0282	Medical	Lamont	6	2
23-0284	Gas leak	Lamont	7	6
23-0286	Alarms	Lamont	2	6
23-0287	Medical	County	7	6
23-0288	Medical	County	6	3
23-0293	MVC	Lamont	3	6
23-0312	Medical (STARS)	Lamont	4	8
23-0315	Medical	County	2	6
23-0316	Gas Leak	Lamont	4	6
23-0317	Gas Leak	Lamont	9	5
23-0324	Medical	Lamont	7	1
			541	585

Average Members Attending 5.1	**Average Chute Time 6.3**

39 of 106 Calls In Lamont
37% of calls in Lamont

2023=106 Calls
2022=110 Calls
2021=125 Calls

Delivering Economic Corridors

Collaborative Pathways for Sustainable Growth & Development

The Mandate – Task Force Phase 1 Report Complete Feb 18 2022

Establish Corridors within Alberta, Canada, and into the USA that will be to the economic and strategic benefit of Albertans, that will enable diversified economic growth, and provide economic stability for several generations. Determine the need, and opportunity for growth of our rail system within the province to facilitate economic growth and competitiveness addressing local needs, and mitigating shipping bottlenecks.

Some Early Wins

Ministry of Transportation & Economic Corridors
- name and focus changed to include Economic Corridors

Joint Pre-Feasibility Study – Oyen Rail Company, CIB & Alberta

MOU Signed between AB, SK, and MB regarding Economic corridor Development

Fulsome meeting with industry and indigenous leadership, unanimous support of model

Two separate first nations – treaty 5 and 8 have both identified "Economic Corridors with Sea Port Access"

Several Entities perusing access to Hudson Bay

PNWER – Economic Corridor Study

Being here to Pre-sent to you!

Starting a Conversation "Planes, Trains, Pipes Ships, Trucks, Wire & Cable"

1. "No, it's not just a Pipeline, it's an Economic Corridor" So What is an Economic Corridor?
2. It's not restricted to a commodity, or asset type
3. It connects people and regions to mutual benefit and or trade
4. What do you have?, what do you need?, what can we trade?, and how can I get it to you?"
5. River, Road, Rail, Airport, Port, Pipe, Powerline, Fiber…..
6. "The shortest route may not be a straight line, but the path of least resistance"
7. It allows for predictable, responsible, and sustainable growth
8. Regulatory and Compliance conditions known in advance – Certainty of What Yes Looks Like

What is the Advantage of a Corridor

1. It formalizes a route
2. It concentrates the efforts for approvals
3. It allows for Anchor Tennent's, that then allow for densification
4. It meets the needs of some trade agreements (CanMex)
5. It increases project certainty
6. It makes us hunt in a pack, mutual benefits are identified and supported
7. It facilitates Collaboration & Communication
8. It strengthens Relationships and Trade
9. It helps us obtain Deep Sea Port Access, and channels strategic growth, not organic
10. It unlocks Private Capital for Infrastructure & Long-range Ownership
11. It Aligns in principle with Federal, Municipal, Indigenous, and Provincial goals

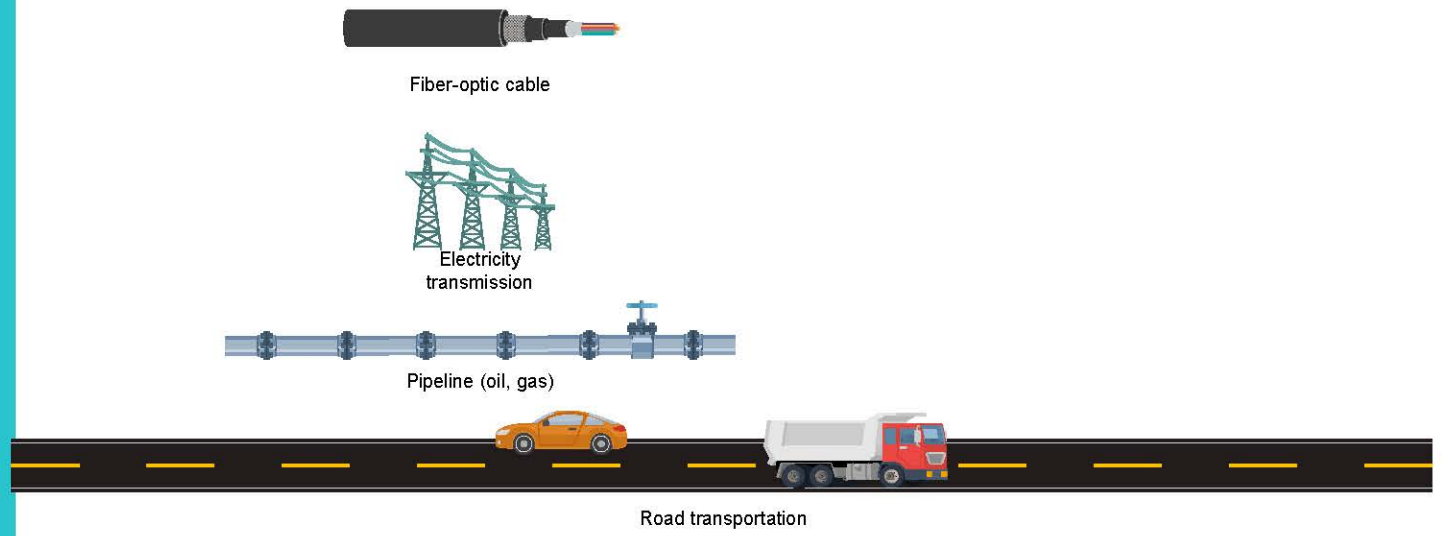
Core Tennant and configuration

Potential Corridor

1 Core Tennant (railway)

2 Ec. Cdr.

Linear Assets



Local assets

Regional development opportunities

Socio-economic

- More **jobs** and **rising income**
- Lower **cost of living**
- Improved **population services**

Industrial

- Increased **minerals and hydrocarbons exploitation**
- Local **petrochemicals** industry
- **Diversification** into new industries (tech, tourism, ...)

Strategic

- **Strategic supply route to Northern** bases for arctic security exploration
- **Cyber backbone** for northern early warning

SOURCE: Team analysis

Economic Corridor file Actions

Report was supported – Revised Ministries Include Economic Corridor Actions

Establishment of the Corridor Management Authority (Advisory Council)

Formalization of existing corridors / and new corridors

Change in policy / legislation to facilitate growth of short-line Rail

Designation of Ministry Transportation to action report findings (Steering Committee)

Fully Engage PNWER / CSG / NCSL members.

Focus efforts on NW partners (MB, SK, BC, YK , NWT , Alaska) formalize Economic Corridors between regions (MOU executed between MB SK and AB)

Engage federal government regarding their status on Corridors (Prairies Can CIB)

Current Issues – Logistics and More

Vancouver port is a choke point. – BC Floods / Supply Chain Backup

Lack of Short line Rail services – Mainline and Customer impacts

Energy Security, Russia / China in the Arctic – Yamal Peninsula – Invasion of Ukraine

Fortress North America is not yet built – Energy demand , cost of services, fertilizer, potash supply….Food Shortages?

Trade partners must be aligned with our goals, values, and principals

Costs of Shipping and Backlog West Coast USA – Cascades into Canada

Key Ports & Access Points

Prince Ruppert (Alberta's Port) – 70% growth Potential – Yellowhead Corridor

Anchorage – 24/7, operating at 60%– Logistics, and Defense

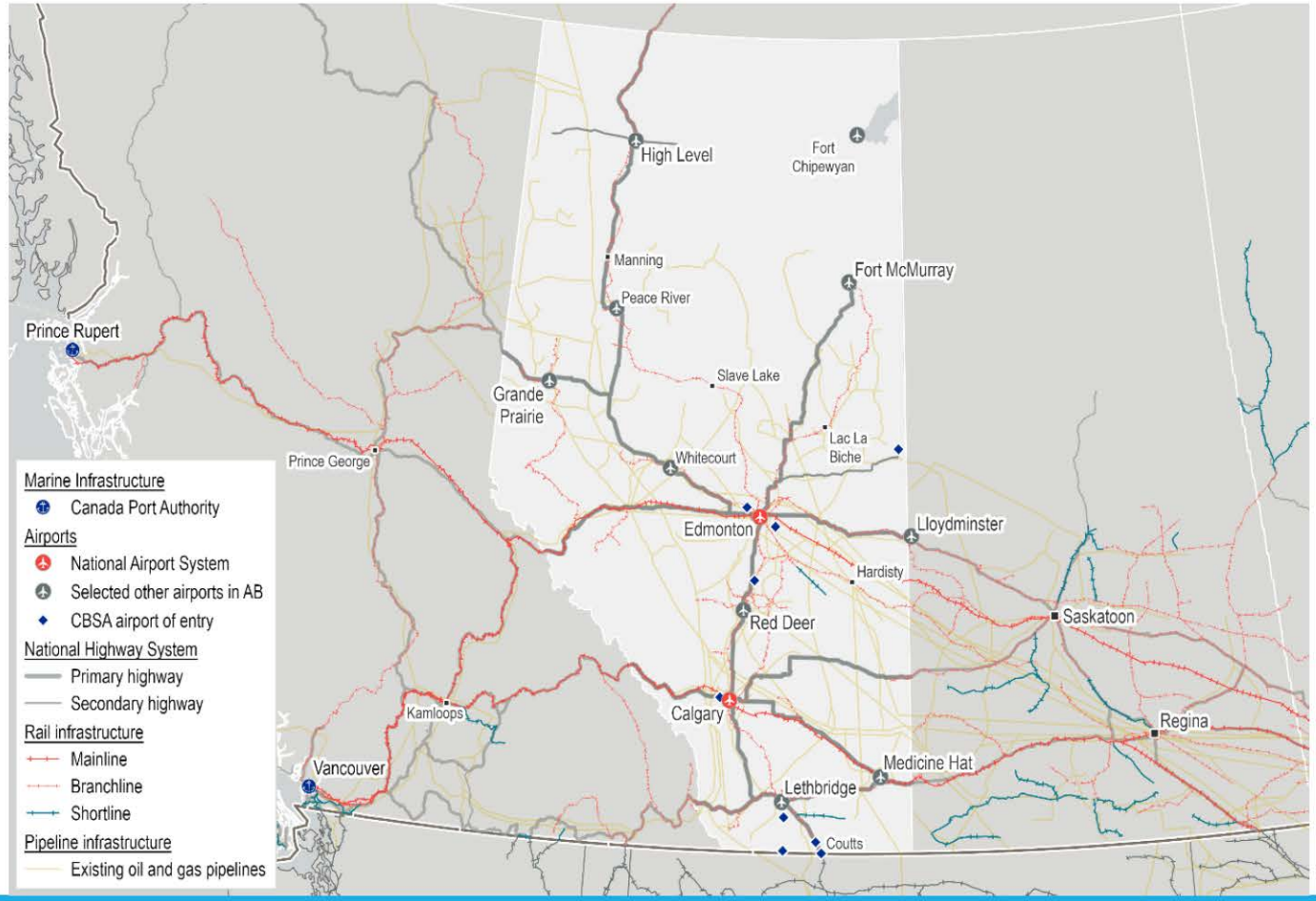
Vancouver, Marginal Room to Grow – Critical Link

Hudson Bay – Siberian Yamal Peninsula in means of construction and operation for LNG Etc.

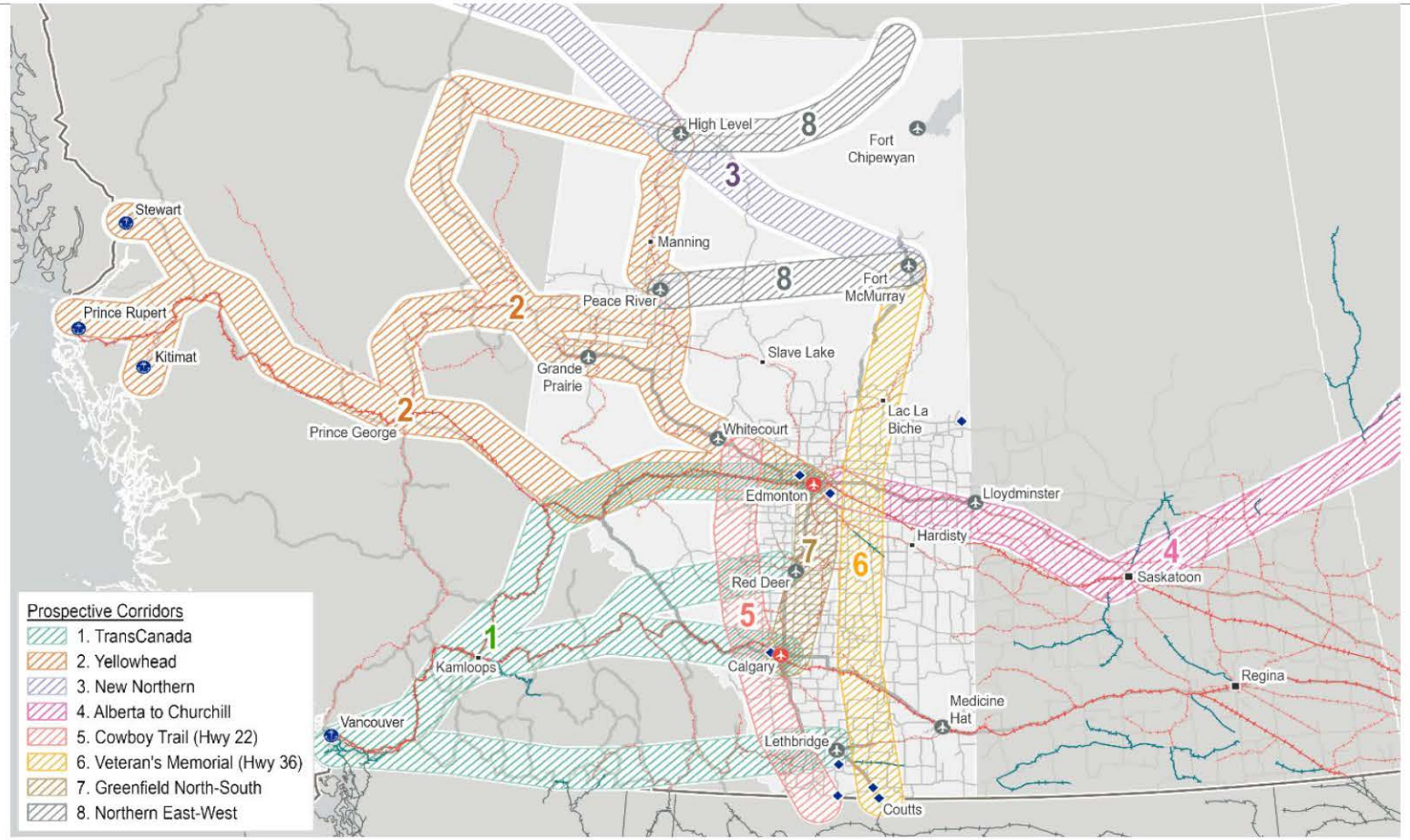
Tuktoyaktuk – NWT Gas Play, All weather Road, PL ROW Active, Liquids into Norman Wells System

Land Border Crossings – Critical links, expand volumes – De-Bottleneck not only infrastructure, but regulations

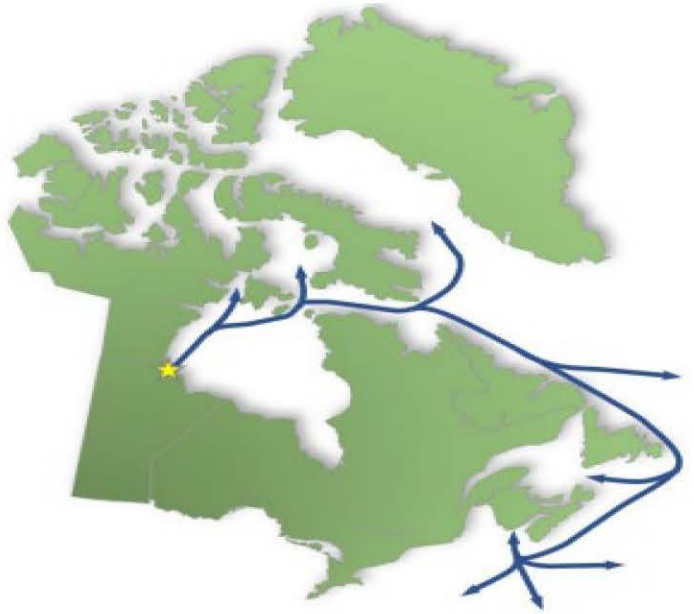
Current “Corridor” Infrastructure



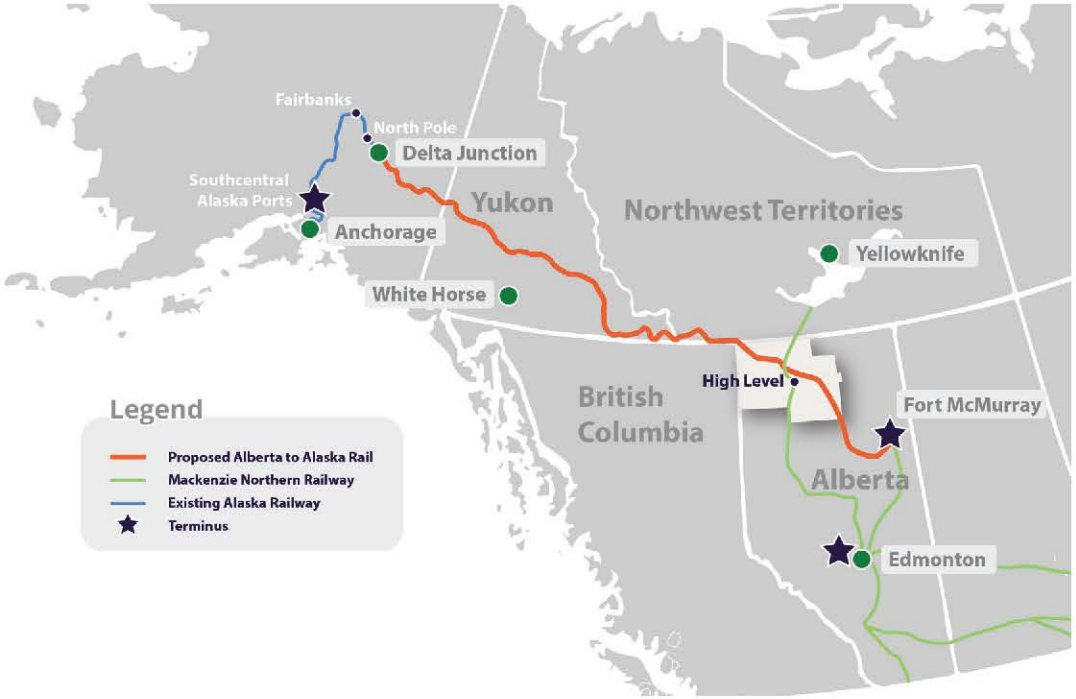
Prospective Corridor Formalization



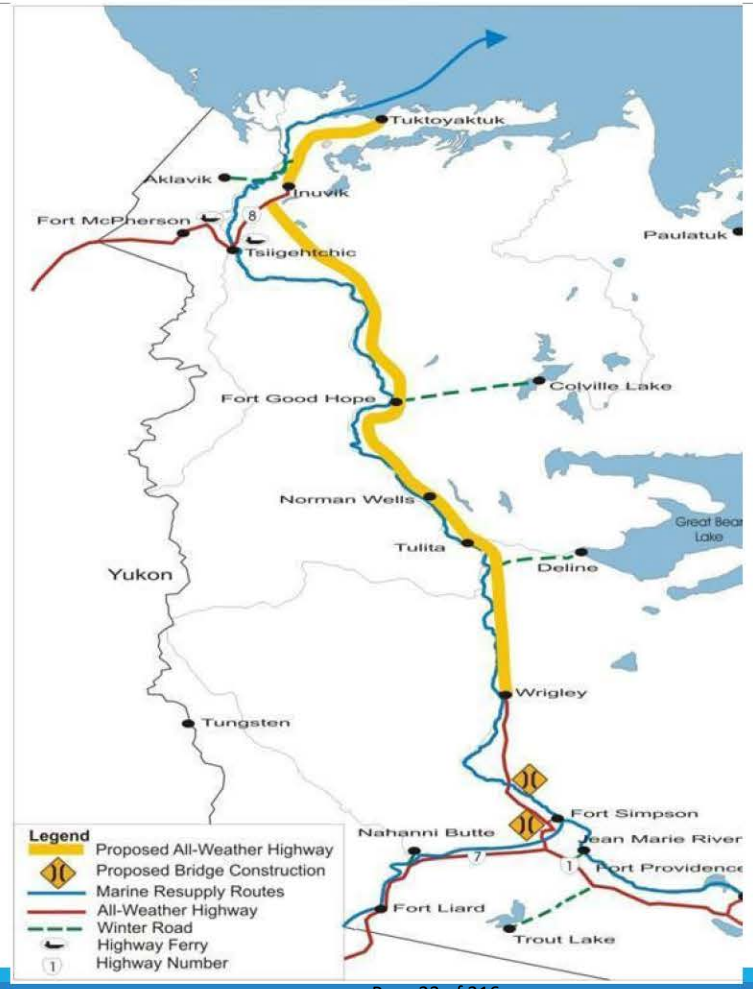
Arctic Security = North American /NATO Security Hudson Bay — LNG / Hydrogen – Refining – Pipe – Rail – Year-Round Shipping Access



AB NWT YK & AK


Fairbanks
North Pole
Delta Junction
Southcentral
Alaska Ports
Anchorage
Yukon
Northwest Territories
Yellowknife
White Horse
High Level
British
Columbia
Fort McMurray
Alberta
Edmonton
Legend
Proposed Alberta to Alaska Rail
Mackenzie Northern Railway
Existing Alaska Railway
Terminus

NWT / Yukon - Tuk




Foster integrated, competitive, and resilient multi-modal supply chains
Increase indigenous partnership
Create inclusive and stepped process for corridor development/review, and address other regulatory issues
Develop a governance structure that facilitates coordination
Increase access to financing and insurance
Build capacity and skills
Promote and market existing and potential corridors

Summary Points

Corridors need to be Formalized & Defined

Corridor Authority needs to be established – Focus on growth, and trade connecting into ports and trade offices

MOU's with Like Minded States and Provinces – Early Adapters, and Trade Partners

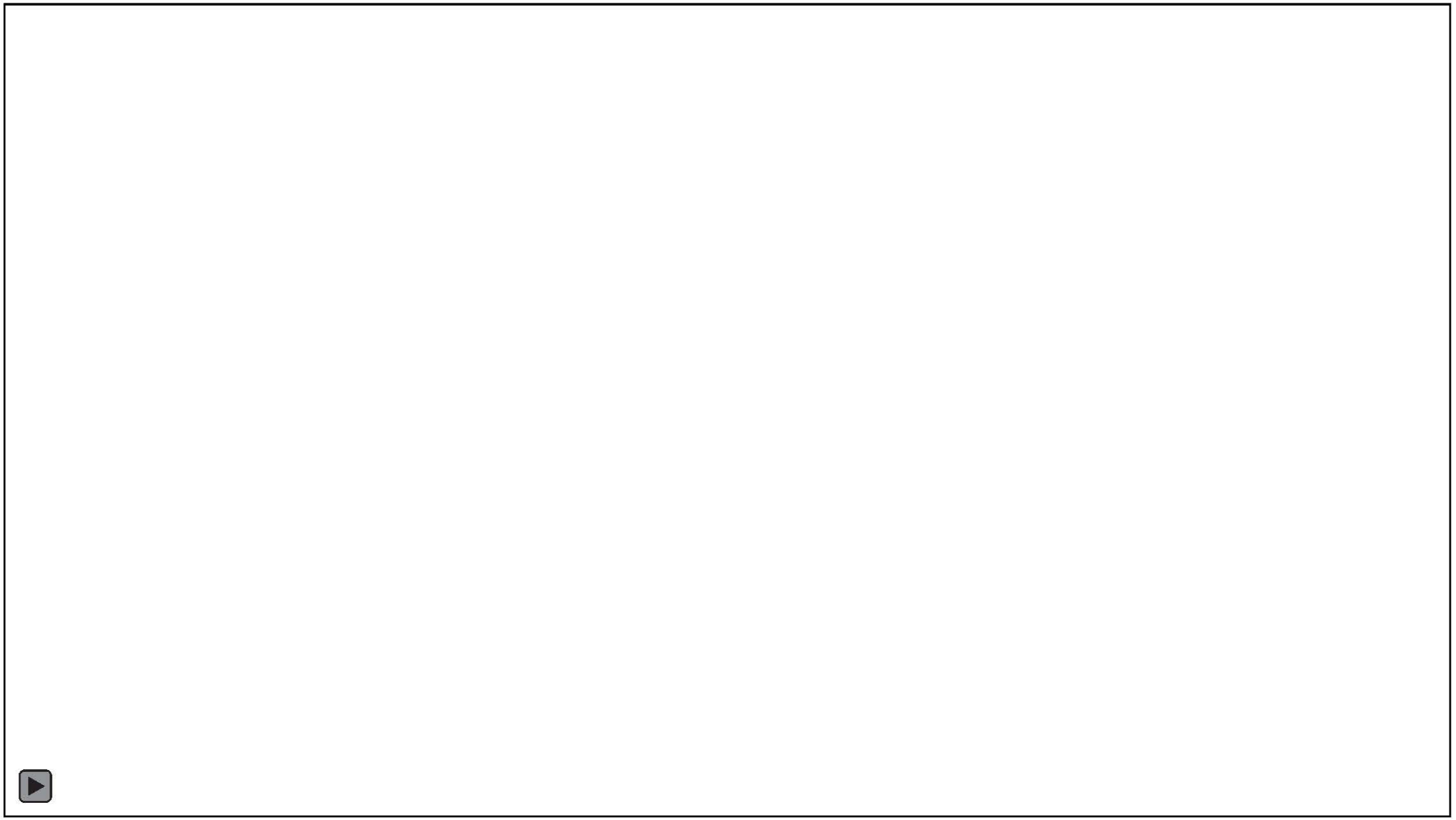
First Nations – Real Participation and Ownership

Just in time balanced between Just in case. Our supply chain is very fragile

Balance of What is needed and realistic vs CYA & Superfluous regulations & Approval Process

ACT – Federal Study, trade and infrastructure corridors are paramount for Canada – over 4 Trillion on spending required (2020 – 70) HWY 3.3 Trillion, Rail 2.8 Billion, Ports 1.1 Billion

US DOD is participating in approval process supports, and shoring up companies to secure supply chain



Questions / Next Steps & Collaboration

Eastern Alberta Trade CORRIDOR
We Mean Busine$$

www.easternalbertatradecorridor.com

Alberta HUB
Where opportunity comes to life

EATC
Central Region

PALLISER
ECONOMIC PARTNERSHIP

Eastern Alberta Trade CORRIDOR

We Mean Busine$$

Alberta HUB

Where opportunity comes to life

BRAED

BATTLE RIVER ALLIANCE FOR ECONOMIC DEVELOPMENT

PALLISER ECONOMIC PARTNERSHIP

A collaborative Initiative that began in 2011 between 3 Regional Economic Development Alliances

Northeast Alberta Information HUB (Alberta HUB)

Battle River Alliance Economic Development (BRAED)

Palliser Economic Partnership (PEP)

Our Vision:

The Eastern Alberta Trade Corridor is a significant participant in the global economy.

Our Mission:

To lead collaborative investment, marketing and diversification efforts for Eastern Alberta.

In association with the North American Ports to Plains Corridor linking eastern Alberta, United States and Mexico.

Eastern Alberta Trade CORRIDOR

We Mean Busine$$

- ***The EATC involves 25% of all the municipalities in Alberta***
- ***Over 300,000 people live in the 121,841 sq. km. EATC region***

- ***The scale of this collaboration has multiple implications for the development of investment attraction tools.***

THE EASTERN ALBERTA TRADE CORRIDOR'S UNIFIED APPROACH TO ECONOMIC DEVELOPMENT

The Objective of the EATC ……

"To provide Eastern Alberta Trade Corridor municipalities and businesses with effective coordinated marketing and investment attraction support"

Eastern Alberta Trade CORRIDOR

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Data - Community and regional information, industry sector information

Updating flexible/expandable database providing site selectors with regional/community data

Marketing - Site selection marketing tools:

Investment fact sheets / On-line community profiles

College/Business profiles / Regional Sector profiles (Agriculture, Energy)

Technology – Links to the mapping systems on the Alberta HUB, BRAED and PEP websites.

Eastern Alberta Trade CORRIDOR

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<u>Corridor development leads to investment attraction.</u>

Businesses make investment decisions based on transportation costs, and performance of corridors/infrastructure systems.

EATC focus:

North-South International Transportation Corridors

Highways 36 (HLC) and 41 (Partial HLC)

East–West Corridors connecting to Tidewater Ports

Highways 16, 14, 13,12, 9, 1 (direct routes)


Whitehorse
Prince Rupert
Churchill
Edmonton
Vancouver
Calgary
Saskatoon
Regina
Seattle
Sweetgrass/
Coutts
Raymond/
Regway
Portal/
North Portal
Winnipeg
Williston
Minot
Rapid City
Torrington
Scottsbluff
Denver
Brush
Limon
Colorado Springs
Pueblo
Lamar
Raton
Dumas
Amarillo
Lubbock
Lamesa
Midland
Big Spring
San Angelo
Del Rio/
Cuidad Acuna
Houston
Galveston
Eagle Pass/
Piedras Negras
Corpus Christi
Laredo/
Nuevo Laredo
Topolobampo
Gomez Palacio
Monterrey
Mazatlan
Tampico
Guadalajara
Mexico City
Manzanillo
Veracruz
Lazaro Cardenas
P A C I F I C
O C E A N
Ports to Plains Corridor
Intermodal Connectivity
Legend:
Ports To Plains Corridor
Border Crossing
Port


Prince Rupert
Churchill
CANADA
Edmonton
Vancouver
Calgary
Saskatoon
Regina
Seattle
Coutts
Wild Horse
Winnipeg
U.S.A.
Rapid City
Torrington
Scottsbluff
Denver
Brush
Limon
Colorado Springs
Pueblo
Lamar
Raton
Dumas
Amarillo
Lubbock
Lamesa
Midland
Big Spring
San Angelo
P A C I F I C
O C E A N
Del Rio/
Cuidad Acuna
Houston
Galveston
Eagle Pass
Piedras Negras
Corpus Christi
Laredo/
Nuevo Laredo
Topolobampo
Gomez Palacio
Monterrey
Mazatlan
Tampico
Guadalajara
Mexico City
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Intermodal Connectivity
Legend:
Ports To Plains Corridor
Border Crossing
Port

Eastern Alberta Trade CORRIDOR

We Mean Busine$$

Alberta HUB focus: Feeder routes to the major corridors of

- ***North-South Highways 36 (HLC) / 41 (partial HLC) / 2***
- ***East-West Highway 16***

Feeder routes:

- ***Highways 15,18,*28, 29,45,55***
- ***Secondary highways 631,661, 663, 827, 831, 834, 881, 897***

Eastern Alberta Trade CORRIDOR

We Mean Busine$$

Wild Horse Port of Entry (U.S. border crossing)

Highway 41 ⟶ Highway 232 Montana

- ***Canada Limited hours of access – 13 hours (8am – 9pm summer)***

- ***U.S. commercial services offered 8 a.m. to 9 p.m., Monday to Friday, while Canadian services are only available until 5 p.m.***

UNITED STATES WILD HORSE PORT OF ENTRY

CANADA WILD HORSE PORT OF ENTRY

Eastern Alberta Trade CORRIDOR

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Rail Development:

2017 - Oyen Rail Yard & Logistics Park Project

2017 - Alberta Midland Railway Terminal Rail logistics center Lamont County

2020 – Forty Mile Rail Foremost

Eastern Alberta Trade CORRIDOR

We Mean Busine$$

The importance of the EATC

Canadian Asian Pacific Gateway/Corridor intersects with the EATC through to Toronto……

Eastern Alberta Trade CORRIDOR

We Mean Busine$$

Moving forward:

- **Updated market materials with new census data (2021)**
- **Create attentional marketing materials**
- **Major focus on lead generation**

Along with the Agriculture (valu-add) and Oil/Gas sectors.. Explore Aerospace Technology/Defense, Unmanned Systems (Beyond Visual Line of Sight), Renewable Energy, Ag waste (Bio Mass)

Continue to focus on infrastructure development:
Transportation / Broadband

Eastern Alberta Trade CORRIDOR

We Mean Busine$$

Thank You!

Alberta HUB

Where opportunity comes to life

BRAED

BATTLE RIVER ALLIANCE FOR ECONOMIC DEVELOPMENT

PALLISER ECONOMIC PARTNERSHIP

FORT AIR PARTNERSHIP
We Monitor the Air You Breathe

NEWS RELEASE

February 5, 2024

2023 Annual Air Quality Monitoring Results Affected by Wildfire Smoke

Fort Air Partnership (FAP), the organization that monitors the air local residents breathe, released 2023 Air Quality Health Index (AQHI) results today. The Government of Alberta calculates the AQHI using data collected at seven of FAP's air monitoring stations.

Wildfire smoke was by far the most frequent contributor to high-risk and very high-risk Air Quality Health Index (AQHI) ratings measured at Fort Air Partnership's monitoring stations in 2023. The wildfires caused the Fort Air Partnership Airshed to experience about 16 times more high and very-high AQHI hours than in 2022 and about 6 times more than in 2021.

Increase in high-risk and very high-risk AQHI ratings

The number of high-risk and very high-risk AQHI ratings in 2023 increased significantly compared to the last four years. The increased number of high and very high-risk AQHI ratings was almost entirely caused by wildfire smoke in the province. The poor air quality prompted the release of Special Air Quality Statements for much of Alberta, including the FAP Airshed, on August 25 and September 18.

Low-risk AQHI ratings still prevalent through most of the year

The Airshed experienced low-risk AQHI ratings an average of 84% of the time in 2023, an 11% decrease when compared with 2022 and a 12% decrease when compared with 2021. Among FAP's permanent stations, Thorhild County had the most low-risk AQHI ratings at 86% of the time, while Fort Saskatchewan had the least low-risk AQHI ratings, at 76% of the time.

In 2023, there were 1517 hours of high-risk and 614 hours of very high-risk AQHI ratings. These hours were spread relatively evenly across FAP's continuous monitoring stations, illustrating the regional effect of wildfire smoke across the Airshed from May to September. By comparison, in 2022, there were only 119 hours of high-risk and 14 hours of very high-risk AQHI ratings.

In 2023, there were 2125 occurrences across FAP's ten monitoring stations where air quality measurements exceeded Alberta's Ambient Air Quality Objectives. This is compared to 194 exceedances in 2022. 96% of the exceedances that occurred in 2023 were due to elevated levels of fine particulate matter from wildfire smoke.

Air quality monitoring statistics

Our 2023 air quality monitoring summary includes a five-year summary of exceedances.

-30-

Media inquiries:
Nadine Blaney, Executive Director
[redacted]

(See graph below.)

2023 Fort Air Partnership Air Monitoring Results

FAP – 2023		Risk Level (% of time in each)			
Station Name	Hours Monitored	Low	Moderate	High	Very High
Bruderheim	8486	83.93%	13.30%	1.89%	0.88%
Elk Island	8526	86.03%	10.22%	2.78%	0.97%
Fort Saskatchewan	8406	76.21%	19.47%	3.06%	1.26%
Gibbons	8361	81.90%	14.40%	3.03%	0.67%
Lamont	8523	84.96%	11.76%	2.71%	0.57%
Redwater	8315	85.35%	10.73%	2.65%	1.27%
Thorhild County*	6624	86.22%	9.28%	2.40%	2.10%
Total Hours	57241	47760	7350	1517	614

ALBERTA
JOBS, ECONOMY AND TRADE
Office of the Minister
MLA, Calgary-South East

AR 85105

January 19, 2024

His Worship Gerald Aalbers
Mayor, City of Lloydminster
Chair, Northeast Alberta Information Hub
mayor@lloydminster.ca

Mr. Bob Bezpalko
Executive Director, Northeast Alberta Information Hub
[redacted]

Dear Mayor Aalbers and Mr. Bezpalko:

Thank you for your August 2, 2023, letter outlining a proposed funding approach for Regional Economic Development Alliances (REDA) and for meeting with me and your fellow REDAs on September 26, 2023. As Minister of Jobs, Economy and Trade, I appreciate the work that your organization does on behalf of your membership. By working together, communities can seize opportunities and pursue a shared economic vision.

Alberta's government is committed to regional economic development and values the work of many stakeholders involved in this important work, including REDAs. To help optimize the use of provincial and local resources and create more targeted investments, my ministry is shifting to competitive, project-based economic development initiatives that recognize all actors in the regional economic development ecosystem. In the future, impactful projects delivered by collaborative partnerships will be a key aspect of our approach.

In recognition of the valued historical relationship with Northeast Alberta Information Hub, my ministry is offering a funding approach that will support your transition to becoming operationally self-sustaining. Over the next three fiscal years, transitional funding will be available to your organization for predictability, stability and support.

…/2

The funding will have the following conditions to ensure prudent use of public funds:

- for fiscal years 2024/2025 to 2026/2027, your organization may receive up to $125,000 per year;
- annual funding will be based on membership revenues raised by your organization;
- for 2024/2025, funding will be based on the peak membership revenue collected by your organization in any of 2020/2021, 2021/2022 and 2022/2023 fiscal years for your organization to receive the maximum potential funding;
- funding will match membership revenues using a ratio of grant funding to membership revenue of 2:1 in 2024/2025, 1.5:1 in 2025/2026 and 1:1 in 2026/2027; and
- the proportion of annual grant funds used for project-based activities must represent at a minimum 25 per cent in 2025/2026 and 50 per cent in 2026/2027. There are no restrictions on use of the funds in 2024/2025.

In addition to this funding, an independent consultant will be available to work with your organization to help you plan and prepare for this transition away from operational support. Your organization may continue to apply for funding through available regional economic development initiatives or other Alberta government grant programs; however, further operational or direct funding to REDAs will not be available at the end of this three-year funding agreement.

Department staff will be in contact with you shortly to schedule a meeting that provides additional information on how to apply for this funding and access the consultant services. If you have questions in the meantime, please contact Ms. Merry Turtiak, Executive Director, Regional and Northern Economic Development, at 780-619-8311.

On behalf of Alberta's government, thank you for your important work. I wish you all the best in your future economic development efforts and continued success in supporting regional collaboration.

Sincerely,

[redacted]

Honourable Matt Jones
Minister of Jobs, Economy and Trade

cc: Chris McPherson, Deputy Minister., Jobs, Economy and Trade

Sylvia Lepki, Assistant Deputy Minister, Economic Development and Business Supports

Merry Turtiak, Executive Director, Regional and Northern Economic Development

Tammy Powell, Director, Regional Economic Development Services

Hello Mayor Perrin,

I hope that your 2024 is off to a pleasant start.

Over the past few years, the NPF has been advocating for a needed increase into Alberta RCMP resources. Since 2017, the provincial investments to the RCMP have been minimal, forcing the provincial service to have to cut its budget and run under resourced. Starting in 2021, the province changed the Police Funding Model, so that every municipality would have to pay a portion for policing. Since then, millions have been collected that are supposed to be reinvested in policing, with a priority on increasing core policing.

However, recent policing investments have gone to municipal policing services in Edmonton and Calgary, or the Alberta Sheriffs who do not typically perform policing duties in rural environments like the Alberta RCMP does.

The NPF has submitted to the Government of Alberta our 2024 2024 Pre-Budget Recommendations, which address the issue of needed funding for the AB RCMP. To keep pace with population growth of 10% since 2017, the province needs to fund 400 more RCMP positions to keep pace with current and future needs. I have attached our full 2024 Pre-Budget submission for your review and consideration.

We invite you to consider supporting this crucial ask by writing to the Government in support of hiring additional RCMP officers in your community and across the province. To aid in this endeavour, we have included a template letter that you can use in whole or in part.

If you have any questions on our 2024 Budget submission or should you like to meet to discuss, I welcome inquiries at your convenience.

Thank you in advance for your consideration.

Kind regards,
Maryanne King
Policy Advisor | Conseiller Politique
National Police Federation | Fédération de la Police Nationale
npf-fpn.com

NATIONAL POLICE FEDERATION | FÉDÉRATION DE LA POLICE NATIONALE ™

NATIONAL POLICE FEDERATION | FÉDÉRATION DE LA POLICE NATIONALE ™

2024 PRE-BUDGET SUBMISSION

TO THE GOVERNMENT OF ALBERTA

JANUARY 2024

NPF Contact:

Sarah Nolan I Director, Government Relations & Policy I snolan@npf-fpn.com

INTRODUCTION

The National Police Federation (NPF) represents ~20,000 RCMP Members serving across Canada and internationally. We are the largest police union in Canada. The NPF is focused on improving public safety for all Canadians, including our Members by advocating for much-needed investment in the public safety continuum. This includes investments in police resourcing and modern equipment, as well as social programs including health, addiction, and housing supports to enhance safety and livability in the many communities we serve, large and small, across Canada.

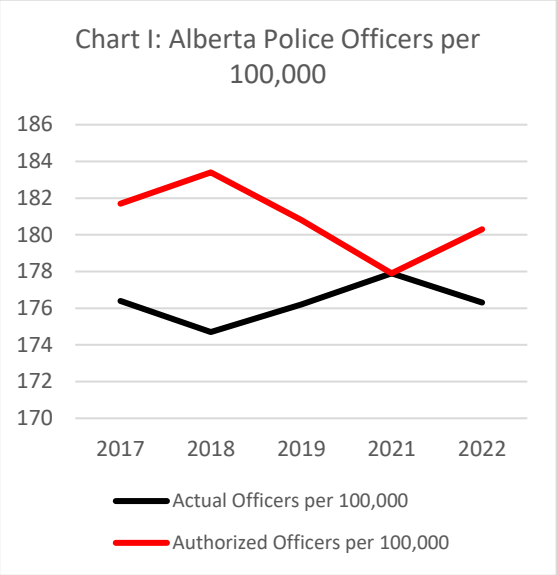
In 2019, the Government of Alberta announced a commitment of $286m over five years to fund improvements to public safety. This funding would include an additional 300 officer positions across RCMP detachments in Alberta with the support of an additional 200 civilian staff. Under this investment plan, the Alberta RCMP would have increased from the 1,600 officers recorded in 2019 to approximately 1,900 by 2024.[i] While this announcement was welcomed, the province had been critically underfunding the Alberta RCMP to this point. This announcement was made concurrently with modifications to the Police Funding Model (PFM) that would result in every Alberta municipality beginning to pay for their policing services. While the province had stated that the revenue from the new police funding model would be reinvested into policing, both promises of additional personnel and increased resources for public safety across rural communities have not been kept.

Today, rather than invest in areas that could support the rural communities our Members are proud to serve and call home, Budget 2023 saw investments in the Alberta Sheriffs and other programs that largely benefitted Edmonton and Calgary. Polling conducted by the NPF with Pollara Strategic Insights quantifies that half of Albertans agree that the province should focus funding for public safety on existing fully-trained police officers. Additionally, 4-in-5 Albertans in RCMP-served areas are satisfied with the RCMP's policing. The NPF, the Alberta RCMP, many Alberta Mayors and Councils, and Indigenous communities have reiterated to the provincial province that equitable investments must be made across police services in Alberta. Investing in the Alberta RCMP is crucial to demonstrating that the Government of Alberta both understands and is committed to addressing public safety challenges equitably across communities. For Budget 2024, the public safety of all Albertans – both urban and rural – must be upheld by the province through renewed investments from the Government of Alberta toward the Alberta RCMP.

NPF RECOMMENDATIONS

1. **<u>Invest $80m over three years to hire 400 RCMP officers to meet population growth and future demand</u>**

From 2017-2022, Alberta's population increased by 9.5%. Over the same period, total police personnel increased by 7%. Actual police personnel in 2022 consisted of 8,007 officers, but the authorized strength had been 8,190 personnel total – thereby leaving Albertans short 183 officers across the province.[ii] For years, the Government of Alberta has not been ensuring that officer strength has been met and made little investments in ensuring it. Investments must match the needs



of 2024 and beyond to ensure that future needs can continue to be met as the province encourages and promotes Alberta's population growth. By the province's stated ideal personnel strength of 180 police personnel per 100,000 population, 400 more officer personnel are needed, constituting a 5% increase in the current amount of police personnel.

Further, while the Alberta Crime Severity Index has decreased by 9.5%, demonstrating the outstanding work of our Members, calls for service continue to rise. Between 2017 and 2021, calls for service increased by 8%, from 650,080 in 2017 to 701,126 in 2021.[iii] All of these factors indicate that a fully resourced Alberta RCMP continues to be necessary for maintaining this effective response across communities.

Polling conducted by the NPF with Pollara Strategic Insights from September 2023 demonstrated that increasing resources for policing was the top public safety priority for Albertans. Increased resources for policing outranked priorities such as increased response times, increased resources for addressing petty crimes, and increased local autonomy in policing. Continued and sustained investment in the Alberta RCMP is necessary to meet current and future demands.

2. $4m in grant funding to support the implementation of policing committees

Policing committees are a critical function in delivering community-based needs and priorities to those that contract the RCMP as their municipal police service. Through a policing committee, municipal leadership can represent the interests of Council to the officer in charge of the contracted detachment.

Recent changes to the *Police Act* in 2022 have now made it mandatory for municipalities policed by the RCMP to establish their own policing committees, giving them a role in setting policing priorities. Before this, these committees were not mandatory and many communities never established them, creating a disconnect between the RCMP and the community. These committees are another function of local governance and would require that the municipality put yearly funding towards the success of the committee. Many chose not to establish these committees as a way to save money.

The *Police Act* changes establish that communities served by the RCMP with populations over 15,000 must now create their own policing committee. Additionally, communities with populations under 15,000 can choose to be represented by a regional governance body that will make recommendations on policing priorities in the region, or establish their own local policing committee.

While this function should be considered a core component of ensuring municipalities are best able to provide community-based public safety priorities through the RCMP, these committees do not currently receive any investment from the Government of Alberta to support their implementation. The province should fund the creation of these committees for communities over and under

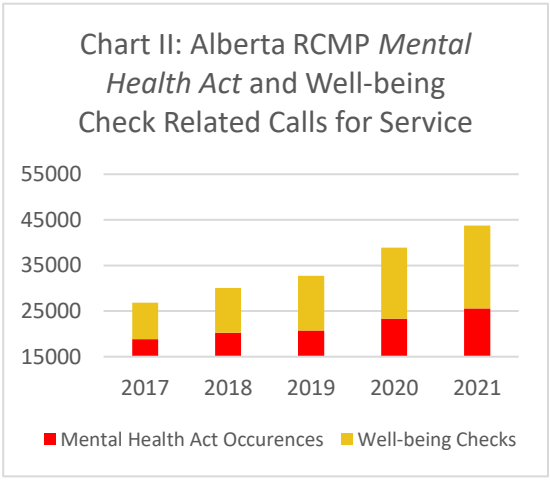
populations of 15,000 who wish to create their own police committee, separate from the regional governance bodies, by providing a commensurate financial investment into these communities.

The Government of Alberta should support the implementation of greater community involvement in their policing services by investing $4m toward the establishment of policing committees. By investing in municipalities through assisting their launch of these committees, the province can fulsomely demonstrate its commitment to all Albertans having access to policing services that best support their individualized needs.

3. $4m to expand the Regional Police and Crisis Teams in partnership with Alberta Health Services

The Alberta RCMP have been increasingly called on to fill gaps resulting from significantly decreased funding for mental health and social services. Albertans and our Members want to see more funding for frontline services that help alleviate pressures on vulnerable Canadians and, by extension, the police.

A clear example of this pressure is present in both the increase of mental health calls and well-being checks being done by our Members. In Alberta, from 2017 to 2021, the number of *Mental Health Act* calls and well-being checks have increased by 63% (see Chart II), from a combined total of 26,855 occurrences in 2017 to 43,761 in 2021.[iv] This means that our Members are spending more time responding to those in mental health crises and less time on core policing duties.



Police calls responding to someone in crisis are not always routine and can vary in complexity. The Alberta RCMP has implemented and expanded the Regional Police and Crisis Teams (RPACT) units across Alberta to address a rising number of calls for service associated with the *Mental Health Act.* RPACT is a collaboration between the Alberta RCMP and Alberta Health Services, pairing Members with mental health professionals to provide a fulsome response to *Mental Health Act* related calls. From its launch in 2011, RPACT has since expanded to various detachments across Alberta, inclusive of Red Deer, Grande Prairie, and Airdrie. Recently, the Alberta RCMP announced that RPACT would be expanding to serve Hinton, Athabasca, Gleichen, Wainwright, and High level in addition to Sundre, Rocky Mountain House, Innisfail, Blackfalds, Rimbey, Sylvan Lake, Drayton Valley, Lake Louise, Banff, Canmore, Cochrane, Airdrie rural, Disbury, Olds, Drumheller, Chestermere, Strathmore, St. Paul, and Coaldale.[v]

However, calls for service related to those in crisis are continuing to increase at an alarming rate and more investment into these successful RPACT programs are needed. These investments should be evidence-based and be established in communities who frequently see *Mental Health Act* related calls. Through a total investment of $4m to expand the RPACTs in Alberta, the province can demonstrate its commitment to providing all Albertans with accessible assistance when they need it.

[i] December 2019. Municipalities will pay up as Alberta adds 300 RCMP officers to combat rural crime. Available at: https://www.cbc.ca/news/canada/edmonton/alberta-rcmp-rural-crime-schweitzer-1.5383062

[ii] Statistics Canada. Police personnel and selected crime statistics. Available at: https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3510007601&pickMembers%5B0%5D=1.10&cubeTimeFrame.startYear=2018&cubeTimeFrame.endYear=2022&referencePeriods=20180101%2C20220101

[iii] Royal Canadian Mounted Police. RCMP Occurrence Report – 2021. Available at: https://www.rcmp-grc.gc.ca/transparenc/police-info-policieres/calls-appels/occurence-incident/2021/index-eng.htm

[iv] Royal Canadian Mounted Police. RCMP Occurrence Report – 2021. Available at: https://www.rcmp-grc.gc.ca/transparenc/police-info-policieres/calls-appels/occurence-incident/2021/index-eng.htm

[v] March 2023. RCMP's Regional Police and Crisis Teams expanding. Available at: https://www.mountainviewtoday.ca/sundre-news/rcmps-regional-police-and-crisis-teams-expanding-6589661

Dear Premier Smith,

The government's renewed interest in supporting public safety across the province is appreciated by my community and others. To ensure that every community across our province has the resources they need to continue to keep the public safe, I'm writing to ask you to include the Alberta RCMP in Budget 2024.

As you know, the Commissioner of the RCMP establishes a minimum level of policing in consultation with the Provincial Minister, who then decides if that standard will be met or exceeded per Article 6 of the Provincial Police Service Agreement (PPSA). The number of officers is reviewed annually by the Provincial Minister as part of planning for each upcoming fiscal year. The Provincial Minister can increase the number of Members in the service through Article 5 of the PPSA.

We are asking the Government of Alberta to invest $80 million in our Alberta RCMP in pursuit of hiring an additional 400 new RCMP officers across the province. Our community could specifically benefit from an additional ## officers from these new positions. The government can utilize the PPSA as described above to request additional personnel that will bolster the safety of Albertans across the province, and we invite you to act on this function.

Over the past few years, the provincial investments to the RCMP have been minimal, forcing the provincial service to have to cut its budget and run under-resourced. Starting in 2021, the province changed the Police Funding Model, so that every municipality would have to pay a portion for policing. Since then, millions have been collected that are supposed to go towards reinvestment in policing, with a priority on increasing core policing.

We need your reassurance that communities served by the RCMP are just as crucial to your government's public safety plans as others. We know that the impact of crime and the number of Albertans needing help aren't limited to the boundaries of Calgary and Edmonton, which is why we are asking you to equitably invest in the Alberta RCMP.

Sincerely,

WHEREAS We the municipalities of Andrew, Bruderheim, Chipman, Lamont and Mundare are in a Regional Fire Services Agreement, with Lamont County with the expiry date of July 1, 2026

WHEREAS There are numerous issues that can be resolved by each Municipality separately, but we feel that it would be best served by creating a Fire Services Commission with a representative from each town/village and of course the County.

WHEREAS With regards to our current agreement with the County and the Fire Services agreement, in my opinion we have been slighted. The agreement clearly states that they will communicate with us, but for the past 2 years there has been no communication coming our way.

NOW THEREFORE we are proposing by the creation of this Commission to resolve the following but not limited to these specific issues.

1) **EXPECTATIONS**
   a) To create and regulate the procedures for the communication and direction of the LCES Fire Services in conjunction with the registered municipalities.
   b) To have allowances for these municipalities the opportunity to have a say in the design of our fire services.
   c) To receive and quarterly reports on all callouts, - fire, mvc, medical and others
   d) Notification on moving apparatus and reasoning
   e) Notification of manpower and their competencies.
   f) Level of service – and I do realize that this changes when who responds and what experiences they have.
   g) To be involved in the recruitment process, we as councils have the pulse of our towns, to know of their experience and capabilities and can possibly encourage people to sign up.
   h) Certification / training. I agree that our FF's must be trained to certain levels, but I feel that we don't need to have 100% of our members at the Interior attack level, we can and should allow for medical, traffic control, general work horses. And not discriminate against older personnel. Society is changing and the fire service across the province is showing a declining list members. Gone are the days of the John Heltons, Glenda Dales, jessie Lindbergs and their 25+ years of service. Our younger generation has both parents working, working more hours, etc. In my term, we accessed the mothers, daughters, and high school kids, we found ways to entice. Now I am seeing a trend of 50+ adults that are retiring, looking for ways to be productive within our areas, we need to use them, to entice them, give them a way to be productive once again.

2) Food for thought
    a) On the financial side, we have just agreed to the County applying for a grant to do a full fire service study, which we have not seen the application, or the direction intended. It may come back to the County for the need or recommendation for a full time manned firehall. This is a great idea but where would it be placed? How much will it cost the County, then how much will it cost us as Municipalities? Then who will it ultimately benefit? It is my presumption that most of the calls in a year are for county, so this would benefit them the most but still provide us with some support, but again at what cost and right now, we don't have any say with this agreement. As I look at this possibility, we are still going to have our local firehalls, but our level of service has declined severely and this needs to be rectified.
3) Recommendation
    a) It would be my hope to have us create a fire services commission, which we could and should use the same representatives as our REAC committee. Their meeting schedules could be co-ordinated to be the same dates, just after there first meeting. We are financially contributing to this entity, and we should be a part of the process, without getting in the way of the actual operations of the fire departments.

Please discuss this amongst your councils, do you have any of the same issues? Other issues? It is of course, your call whether to have support by resolution or by consensus. Bring back your direction to the Mayors / CEO meeting.

If any of you have questions, comments, or concerns, I would really like to hear from you.

Village of Andrew
Mayor- Barry Goertz
[redacted]

Northeast Alberta Alliance for Growth & Opportunity (NAAGO) Meeting

November 13, 2023 at 11:00 a.m.

Chipman National Hall (4715-50 Street)

Attendance:

Amy Cherniwchan	Mayor	Town of Smoky Lake (Chairperson)
Shana McIntyre	Deputy Mayor	Village of Chipman (Host)
Gerald Aalbers	Mayor	City of Lloydminster
Greg Throndson	Mayor	Town of Vermillion
Paul Reutov	Mayor	Lac La Biche
Elisa Brosseau	Mayor	Town of Bonnyville
Rex Smith	Mayor	Village of Mannville
Leonard Ewanishan	Mayor	Town of Two Hills
Donna Rudolf	Mayor	Village of Myrnam
Don Gulayec	Reeve	Two Hills County
Lorne Halisky	Reeve	Smoky Lake County
Cheryl Calinoiu	Mayor	Town of Mundare
Brian Hall	Reeve	Athabasca County
Kirk Perrin	Mayor	Town of Lamont
Tim MacPhee	Mayor	Town of Vegreville
Maureen Miller	Mayor	Town of St. Paul
Colin Derko	Mayor	Village of Boyle
Marty Baker	Reeve	County of Vermillion River
Keiron Willis	Guest Secretary	Village of Chipman

Agenda:

Meeting opened at **11:09 am**.

1. **Round Table Introductions**

2. **Terms of Reference**

- Renumeration for hosting meetings
    - Tabled to Treasurer Report

- NAAGO Meeting at RMA & AM Conferences
    - Discussion centred around the need for municipalities to focus on their agendas during these conferences.
    - Group agreed that more visibility is required to accomplish the mandates set out.
    - During the meeting, a consensus was reached to draft a letter of introduction with the purpose of distributing it to all Provincial Ministerial departments. The letter would be tailored to NAAGO's current priority projects - Highway 28 and Healthcare - and specific letters would be drafted accordingly. In this regard, Papineau Consulting was contacted to furnish a quote. The group further resolved that upon drafting the letter, its members would circulate it to each provincial department.
- Virtual meeting quarterly and in person biannually
    - Group agreed that meetings should be quarterly in person and virtually as needed.

3. Subcommittee Updates

- Health Care(Chair Mayor Miller, Mayor Ewanishan, Mayor Throndson and Mayor Hall)
    - Subcommittee Chair Mayor Maureen Miller will be attending a virtual meeting regarding healthcare before the end of the week. Mayor Miller feels that the healthcare regions are not in line with where patients are from and often ignore smaller centers such as Lamont. Also, the current climate of change in the healthcare system is not in line with mandates letters. The discussion revolved around patients travelling long distances to larger municipalities for treatment instead of utilizing smaller centers. The group agreed the most efficient area would be the Northeast area of Alberta.

Motion: Mayor Maureen Miller of the Town of St. Paul motioned that group advocate to have the NAAGO Membership as a provincial healthcare region in the new decentralized Alberta Health Services.

Carried Unanimously

- Highway 28 (Chair Mayor Copeland, Reeve Halisky, Mayor McPhee, Mayor Aalbers)
    - During the meeting, the group deliberated on the prospect of drafting letters to ensure that the issues remained at the forefront of the Provincial minister's mind. Mayor McPhee reported that although 5 million had been set aside for a study, no word on the progress of that study. The group discussed that the introductory letters should incorporate actionable items that the recipient minister must respond to or follow up with.

4. Treasurer Report (Town of Vegreville)

- According to the Financial Report furnished, the funds that remain after the Highway 28 advocacy effort amount to $12,482.25. The group has deliberated on how to allocate these funds towards operational expenses such as correspondence with the minister. However, it was unanimously decided that the remaining funds were remain exclusively for advocacy purposes. In light of this, the group recommended establishing a committee to formulate a budget and agreed that the membership should add a line budget item equivalent to the originally requested funds.

Motion: Mayor Kirk Perrin motioned that NAAGO members will include a budgetary line item for 2024 in the amount equal to the existing formula used for the original membership to be dispersed between advocacy and administration upon budget approval at the next NAAGO meeting.

- The group agreed that the chairs of the subcommittees should be part of the budget subcommittee to ensure that resources needed for their efforts are known and can be included in the budget.
- Budget Subcommittee: Chair Mayor Brian Hall, Mayor Maureen Miller, Mayor Craig Copeland, Mayor Tim McPhee, Mayor Amy Cherniwchan and Mayor Kirk Perrin.
- The participants deliberated on the issue of remuneration for hosting the membership. The costs associated with the hosting varied from less than $500 to $840. It was emphasized that confirming attendance would be instrumental in keeping the costs down for the hosting municipality.

Motion: Mayor Kirk Perrin motioned that beginning January 2024 municipalities hosting the NAAGO meeting will receive a remuneration of $500.

Carried Unanimously

5. Adjourned for lunch at 1:00pm. Reconvened at 1:45pm.

6. Broad band Update

- The cost of various fiber to premise projects, were discussed. Costs in rural areas to install fiber is higher than if most Counties were to offer a satellite system to the users.

7. LGFF Update (formerly MSI)

- Discussion revolved around how two urban areas get 50% of the provincial funding and the remaining amount is split up between the rural areas. It was suggested that because municipal funding was cut to facilitate the provincial repayment of debt, funds saved from interest should be allocated back to municipalities.
- Agreement was reached that Mayor McPhee will discuss the idea with AB Munis and request they take the idea to the provincial government, and Reeve Halisky does the same for RMA.

Papineau Consulting contacted Mayor Perrin during the meeting and requested clarification. The requested quote would include:

-Letter of introduction of the NAAGO and its goals

-Letter addressing healthcare concerns, such as advocating for Northeast Alberta as a health region and requests to improve EMS and doctor recruitment in rural areas

-Letter requesting the continuation of the Highway 28 project.

All letters to include the infographics complied to date. Papineau Consulting gave an informal quote.

Motion: Mayor Kirk Perrin motioned to set the budget for composition of the three letters at $2000.00.

Carried Unanimously

8. Next Priorities for NAAGO

Tabled to next meeting.

9. General Discussion/Regional Needs

- Mayor Reutov of Lac La Biche County summarized the Enforcement Training Program offered by Lac La Biche. The By-law Enforcement, Fish and Game Officers, and RCMP training program is successful.

Motion: Mayor Maureen Miller motion that a letter outlining the training program be sent the Northeast Alberta Alliance for Growth and Opportunity membership.

Carried Unanimously

10. Next Meeting

- February Meeting - Village of Myrnam and Two Hills County at C-tech Centre in Myrnam

Motion: Mayor Maureen Miller motioned to adjourn at 3:00 pm.

Canadian Strategy Group

Western Canada's Public Affairs Firm

Proposal

Government Relations and Strategic Advice in Alberta

Northeast Alberta Alliance for Growth and Opportunities

780.638.2145

cdnstrategy.com

10103 97A Avenue NW
Edmonton, AB, T5K 2T3

Introduction

Background and Opportunity

With Alberta undertaking generational changes to health care by restructuring, decreasing the role of Alberta Health Services (AHS), and partially regionalizing the system, there is now an opportunity for regional voices to have a material role in the structural delivery of health care. However, that is only achieved with a concerted effort of deliberate, targeted, and systemic advocacy. A single player will be disadvantaged compared to groups with a clear message, value proposition, and willingness to work with the government to ensure the best possible care for Albertans. Further, the government will be more inclined to work with groups and communities that work together to develop solutions to health care.

This is the benefit that the Northeast Alberta Alliance for Growth and Opportunities (NAAGO) has. Created as an alliance of Northeast municipal leaders to advocate for better transportation links along Highway 28, the coalition has broadened its voice to become a key advocate for the region in a number of aspects. This includes health care.

Throughout the upcoming year, as health care restructuring continues, there will be a multitude of voices seeking to influence how this is done and how operations, decision-making, and funding will be allocated. There will be a significant number of voices in opposition to these plans, and any group positioning themselves as seeking to work with, not against, the Government of Alberta (GoA) will have a natural advantage. This will dominate politics both in a broader sense, amongst everyday Albertans, but also amongst the most influential stakeholders in industry and governments across the province.

Political Context

Alberta's health care system is undergoing generational changes. The current United Conservative Party (UCP) led government has identified fixing service gaps, wait times, and access as a primary political and policy imperative. They will address this by introducing an integrated health care system that concentrates on four priority areas, creating four new organizations to match:

- Primary Care Organization
- Acute Care Organization
- Continuing Care Organization
- Mental Health and Addiction Organization

Under the new structure, Alberta Health Services' (AHS) primary focus will be acute care and continuing care. Other AHS delivery functions will move to be accountable to the new organizations.

The Premier stated that creating specialized organizations within one provincial system will avoid the "scattered and uncoordinated" approach under the current "rigid" centralized system and apply province-wide to avoid regional fragmentation. This focus will help better manage performance, recognize innovative solutions, make space for local decision-making, and be more accountable. Front-line health care workers will be a "large part" of the system.

It is hard to truly fathom the time, energy, and resources—both in terms of money and manpower—the health care changes the Premier has introduced will take up. Creating four new organizations and relegating AHS to being one provider among many will also take up a great deal of political capital. The media, the public, the opposition, and third parties like unions and professional organizations will watch the GoA closely for any mistakes as the new system is rolled out. With the last organization, acute care, being set to be created in the fall of 2024, the entire year will be consumed with the changes.

The Premier will have to deal with this, as well as budget issues caused by infrastructure spending, low oil prices, and increased conflict with Ottawa over energy and environmental policies. Two court victories—over plastics and Bill C-69, the Impact Assessment Act—will only empower her to continue protecting provincial jurisdiction. While establishing an Alberta Pension Plan is part of this, it remains unpopular, and she has not mentioned it in any of her public speeches.

While these will be the most high-profile focus areas, the GoA must also deal with crime and security, affordability, and skilled labour shortages while ensuring the economy stays strong. With Canada's economy weakening, the Premier must ensure Alberta remains a growing province to attract workers and maintain a position of power when dealing with Ottawa. Affordability will stay focused on housing, insurance, and utility costs. At the same time, the GoA remains committed to a recovery-first model of dealing with addiction, something intimately tied to crime and safety. A bill allowing for forced recovery will likely be introduced in the spring session and will be highly controversial.

Why Canadian Strategy Group

Canadian Strategy Group (CSG) was formed in 2008 as a government relations firm headquartered in Edmonton, Alberta. Since then, CSG has grown tremendously, inviting talented Western Canadians to join the firm to expand its reach beyond Alberta and into British Columbia, Saskatchewan, and Manitoba. Importantly, with our Western Canadian reach, CSG has prioritized the development of its service offerings to expand beyond government relations to a fully integrated public affairs firm. Our firm now offers the expertise of 13 individuals in physical offices in Calgary, Edmonton, Regina, and Vancouver.

CSG prides itself on being tuned into the current political landscapes of each region in which it operates. As a result, we offer our clients an authentic, genuine understanding of British Columbia, Alberta, Saskatchewan, and Manitoba. Although often considered a Western contingent, each province within Western Canada brings unique nuance and cultural approaches that must be taken seriously when meeting with the government and decision-makers. Likewise, our ability to understand and strategize based on regional nuance also provides important cross-jurisdictional insights valuable to clients looking for comparative analysis or strengthening inter-provincial relationships and policies.

With an industry-leading team of members with varying backgrounds and skills, CSG can meet any government relations, communications, stakeholder engagement, and marketing needs, including complete campaign execution. CSG is also able to provide full creative services, including multimedia products. This synergy strengthens us and allows us to look at issues, challenges, and opportunities with intersectionality, considering how political, social, and economic considerations frame or influence our client's work.

Our team brings extensive communication experience to achieve strategic goals, especially in areas related to the environment and influencing behaviour and policymaking across government levels and industry. Our connection to politics and government also means we have our ear to the ground on potential funding or to identify an opportunity to connect a government's ideals with a client's narrative and activate communication assets to help build momentum and public support for a cause.

How We Work

CSG strives to build a collaborative and constructive partnership with our clients. One based on a mutual understanding of the desired goals and outcomes, where we provide advice and help execute it. Our client teams are thoughtfully curated with those who have the most relevant experience and perspectives to bring expertise to the mandate. The team assigned to the file are those you will work with directly, with the right CSG resources being integrated at the right time.

We work with our clients through each stage of the advocacy and stakeholder engagement journey, immersing ourselves in your business and ensuring that clients feel comfortable and confident with our approaches so there is a shared awareness of the expected outcomes. This includes providing explanations for why we recommend a specific process or stakeholder. CSG recognizes the importance of maximizing in-person time for valuable, essential meetings to support cost-saving initiatives and will make meeting and engagement recommendations based on this principle.

For many of our clients, we are also their partners in public relations, issue management, strategic communications, and marketing initiatives. We recognize intersectionality amongst these issues, and CSG prioritizes finding opportunities to create synergies across different mandate deliverables. Our ability to see the whole issue or problem helps us inform a comprehensive strategy that often has many pieces working in concert, supporting and maximizing impact.

Our Experience

CSG has previously worked with NAAGO to advocate for funding for Highway 28. We have the breadth and depth of knowledge of the region, with staff members calling the area home. Additionally, CSG has worked and continues to work with other municipally-led alliances undertaking advocacy in a variety of areas, from rail and public transit to regional growth planning.

Our Suggested Approach

Identify Objects and Goals

Identifying achievable and measurable objectives is essential to any advocacy plan. While these may be refined upon further discussion, at this time, it is understood that NAAGO has the following advocacy objectives:

- Successfully position NAAGO as a partner of the GoA and provider of solutions to health care challenges in the region;
- Be considered by the GoA as part of the solution for health care capacity and delivery in northeast Alberta;
- Engage the GoA proactively so that zone or region designation is not undertaken without the input of NAAGO and
- Ensure new doctor allocation is only undertaken with the input of NAAGO.

Government Relations

CSG would recommend an approach focused on establishing NAAGO as a constructive voice in the health care restructuring debate, ready, willing, and able to work with the government to ensure better health care outcomes for rural Albertans. This leverages the strength community collaboration will present to the GoA.

To achieve the objectives outlined above, CSG would recommend a government relations approach that seeks to influence the final decision-makers through direct engagement by creating a network of allies to influence and engage those key players. To do these, we recommend the top-down, bottom-up, and encircling approaches.

Top-Down

However, despite the vital role played by the bureaucracy, the senior decision-makers accountable for the file and their political and non-department advisors are critically important. This is why CSG recommends completing top-down advocacy approaches, including targeting key ministers and advisors within the government.

Bottom-Up

The focus is on bureaucrats and advisors within the government (Executive Director to Deputy Minister). For example, some funding and procurement decisions are mainly made by bureaucrats and are not strictly political in nature.

Encircle

Creating a far-ranging network of allies, including government MLAs, third-party stakeholders, and, in this case, the Alberta Health transition teams, can ensure that decision-makers hear the value proposition from multiple and varied voices, making the argument sound organic and more impactful.

Strategic Communications

Advocacy is about getting the right message to the right person at the right time. This requires being calculated in message development and dissemination. While a single value proposition is important, the wording and type of communication tool may change depending on the audience.

By activating multiple tactics, target audiences are likelier to remember key messaging and narratives, growing trust. This will be especially beneficial as the NAAGO works to secure relationships, confidence, and support from the government to include NAAGO in decision-making.

Our strategy brings together a communications process that is supported by creative assets and collateral that echo messaging and brand identity. Each approach will rely on the same narrative and key messages to bolster awareness.

Public Affairs

While CSG recommends the focus of NAAGO's advocacy, at this time, be on the GoA and ancillary actors, there may come a time when NAAGO wishes to engage the public to aid in advocacy. For example, encouraging citizens to participate in public consultations around health care reform and ensuring the messaging of NAAGO and the region's importance is heard can help pressure the GoA to separate northeast Alberta from areas further north.

Develop the Plan

CSG works with our clients every step of the way, developing a plan, operationalizing it, and adapting it as the environment changes. The strategic plan will be created after a thorough onboarding session, during which time CSG works with you to gain a deep understanding of your needs and the opportunities ahead. Government relations strategies are living documents that adapt and adjust as executed. That said, we anticipate government relations support for NAAGO will include the following:

- A half-day onboarding session to ensure CSG fully understands NAAGO's value proposition, objectives, and historical interaction with the government.
- Concurrence on high-level strategic objectives and milestones.
- An exercise to link NAAGO's objectives to the goals and narrative of government.
- In consultation with NAAGO, CSG will build a comprehensive government relations and public affairs plan for approval, complete with metrics and assigned responsibilities.
- CSG will build a contact plan for key officials, politicians, and political staff. This will include an education and introduction plan and a more specific plan aimed at achieving objectives.
- Assist in developing communication and presentation materials for government outreach, including developing and refining key messages.
- Assistance in executing the plan, including meeting coordination, issue and progress tracking, adapting and shifting the plan as necessary and quarterbacking the team's government relations efforts.
- Weekly or bi-weekly touchpoints to keep the plan progressing.
- Executive or board updates as requested.

Execute

When executing our advocacy plan, CSG will work in concert with NAAGO, supporting members throughout implementation. In some cases, we will attend meetings with NAAGO; in other cases, it may be best to prepare NAAGO and support behind the scenes. In rare cases, it may be best for CSG to have conversations in support of the plan without NAAGO. Generally, our role is to build NAAGO's profile, not ours. You are the best representative of your region and communities. Our role is to ensure you see the right people at the right time with the right message and that you are well prepared. We can often follow up to get feedback that the government wouldn't share directly.

The advocacy plan will include a detailed contact plan for each advocacy stream that outlines key contacts, the level of priority for outreach, and pertinent information about each individual that can be used to tailor communications, leave-behinds, key messaging, or tactical approaches. Throughout this process, CSG will meet with NAAGO regularly and keep you apprised of any developments or issues that could impact or present opportunities through the advocacy plan.

To support outreach, CSG will also work with NAAGO to develop any necessary educational materials required throughout the engagement. This could include the following:

- Targeted and customized educational materials for government, stakeholders, and the public sphere.
- Decision-maker-focused products, such as briefing notes and PowerPoint presentations.
- A public and stakeholder-facing product (heavy on graphics, with an attractive layout) that reads like a policy paper or plan, succinctly delivering vital information to the government and stakeholder groups.

In developing the strategic plan and throughout its execution, CSG will work with NAAGO to identify key milestones, deliverables, and a timeline of expected advocacy phases.

Budget

To provide cost certainty for clients, our fee structure is a fixed monthly fee, inclusive of all services, except for pre-approved travel, creative, digital design, videography, or multimedia. It is billed at the beginning of each month. Furthermore, rather than bill small disbursements such as mileage, phone calls, parking, hosting and couriers, our firm adds a 3% administrative fee to our monthly rate to cover these disbursements and ensure project budget certainty.

It is our preference to earn a long-term relationship with our clients rather than to lock them in upfront. As a result, we would suggest an initial six-month contract. At the end of the six months, the contract would become month-to-month, cancellable on 30 days' notice. The six-month initial term reflects what we believe would be a reasonable time to measure our value against objectives.

We have outlined what an engagement between NAAGO and CSG would entail below.

Project Budget

A government relations engagement including, but not limited to:

$7,000.00
Monthly Fee

- Onboarding and strategic planning session;
- A comprehensive strategic plan, developed in collaboration with NAAGO, including key messages and contact plan;
- Weekly or biweekly (client preference) update calls and touch base meetings with NAAGO;
- Execution of strategic advocacy plan, including outreach to government officials to arrange meetings and make inquiries on your behalf;
- Attendance at government meetings;
- Ongoing strategic government relations advice about relevant matters that may arise;
- Development of collateral materials required to execute the government relations strategy;
- Monitoring of issues relating to NAAGO; and
- Communication collateral development (key messaging, official correspondence, speech writing).

Conflicts of Interest

CSG confirms that we have no actual or potential conflicts of interest involving our proposed service team members, including subcontractors.

Terms and Conditions

CSG bills all travel at economy class rates if less than five hours in transit to clients at cost. Additional variable costs passed directly onto the client include supplies as well as meals, accommodation and incidentals during client-related travel. Original documents and receipts will be provided to the client upon request.

Your CSG Team

Cathy Chichak | Partner

Before joining CSG, Cathy served as founder and principal of Crown Strategic Consulting Inc., an Alberta-based public affairs firm for domestic, national, and international clients.

With more than 30 years of experience in the public, private, and non-profit sectors, Cathy is a veteran strategist and proven winner. She has helped shape and influence more than $500 million in private and public investments in Western Canada throughout her career.

She is widely respected for advising elected officials and administrations, as well as helping corporate and non-profit boards, chief executives, and business leaders sustain and grow their operations.

Cathy skillfully navigates political, policy and regulatory environments while fostering and maintaining stable, critical relationships through periods of unpredictable political, social, and economic change.

She has two decades of experience working inside the Alberta Legislature as a political advisor to cabinet ministers and premiers, followed by several years serving as Vice President of Corporate Relations, Marketing, and Agriculture with Edmonton Northlands.

In 2017, she founded Crown Strategic Consulting to put her experience to work across multiple sectors, including municipal governance and administration, transportation, infrastructure, health and life sciences, innovation, and economic development.

Cathy has been involved with many community organizations, including the Glenrose Rehabilitation Hospital Foundation, Make Something Edmonton, the United Way Cabinet, as well as the Government Relations Committee for the Edmonton Chamber of Commerce. She currently sits as a board member for Claystone Waste, and the Compassion House Foundation. She formerly sat on the boards of the River Valley Alliance and the Edmonton Police Foundation.

In 2020, Scotiabank nominated Cathy for the Woman Entrepreneur Award sponsored by the Alberta Chamber of Commerce Business Awards of Distinction.

Brent Kossey | Vice President, Government Relations, Alberta

Brent has extensive knowledge and experience working with governments of all levels across Western Canada. Prior to joining CSG, Brent worked with a national public relations firm heavily involved with clients in the energy, innovation, agriculture, transportation, and consumer sectors. He was also instrumental in the development and delivery of media training for clients.

Before that, Brent was the Senior Manager of Government and Stakeholder Relations for CN Rail in Western Canada, where he worked with four provincial, one territorial, and over 300 municipal governments. His role included spearheading crisis management in the region for such time-sensitive challenges as derailments, safety incidents, and labour disputes.

Brent also has experience working for the Alberta Government as Chief of Staff to the Ministers of Transportation, Infrastructure, Tourism Parks Recreation and Culture, and a ministerial assistant to the Minister of Agriculture.

He is active in his community and was president of the Edmonton Montrose Community League for five years. He is currently a member of the Edmonton Highlands Historical Society.

Originally from Northeastern Alberta, Brent holds a bachelor of arts (BA) degree in History and Political Studies from Augustana University and a diploma in cultural resource management (CRM) from the University of Victoria.

About CSG

Canadian Strategy Group (CSG) was founded in 2008 in the heart of Alberta's capital. Since that time, the firm has expanded throughout Western Canada, bringing aboard the region's most respected strategic advisors.

Together, CSG's partners have over 140 years of experience working in and with governments at all levels. They lead a growing team with extensive private and public sector experience who provide a range of public affairs services out of our offices in Edmonton, Calgary, Vancouver, and Regina.

At CSG, we are strategists, communicators, advocates, and negotiators. We understand the complex needs of government and stakeholders, and work to bring the two together. Through our range of services, we determine the best path forward to secure a winning outcome for our clients. To drive decisions, change opinions, and frame the public conversation, you need experience and expertise on your side. CSG is unrivalled on both fronts.

We are Western Canada's public affairs company. From premiers' and ministers' offices to high-level positions in industry, our team has advised, managed, and shaped the issues that matter most in the region. No one can better advance your organization's interests with policymakers and thought leaders with greater impact than CSG. Let us be your coaches and confidants with unmatched scope and expertise.

For more information on CSG, visit our website.

Contact Us

Phone: 780.638.2145 | **Email:** info@cdnstrategy.com

CSG Offices

Edmonton – Head Office	Calgary	Regina	Vancouver
10103 97a Ave NW Edmonton, AB T5K 2T3	610, 304 – 8th Avenue SW Calgary, AB T2P 1C2	1965 Broad St #200 Regina, SK S4P 1Y1	603-777 Hornby Street Vancouver B.C., V6Z 1S4

NAAGO Reconciliation

Village of Chipman	250.00
Village of Innisfree	250.00
Village of Manville	250.00
Village of Myrnam	250.00
Town of Bruderheim	332.25
Town of Elk Point	800.00
Town of Lamont	800.00
Town of Mundare	800.00
Town of Two Hills	800.00
Town of Smoky Lake	800.00
Lamont County	1,000.00
Town of Bonnyville	1,200.00
Town of St. Paul	1,200.00
Town of Vegreville	1,200.00
Athabasca County	2,000.00
City of Cold Lake	2,000.00
City of Lloydminster	2,000.00
County of Two Hills	2,000.00
County of St. Paul	2,000.00
Lac La Biche County	2,000.00
Thorhild County	2,000.00
Municipal District of Bonnyville	2,000.00
Smoky Lake County	2,000.00
Town of Vermillion	2,400.00
Buffalo Lake Meti Settlement	250.00
County of Vermillion	2,000.00
Health Care Initiatives	
Lac La Biche County	2,000.00
County of Minburn	2,000.00
	36,582.25
CSG Invoice #1	7,725.00
CSG Invoice #2	7,725.00
Papineau Consulting Invoice	2,600.00
	18,050.00
Remaining Funds	18,532.25

TOWN OF LAMONT
COUNCIL AGENDA
REQUEST FOR DECISION

AGENDA ITEM: 4.1

COUNCIL MEETING DATE:
February 13, 2024

ITEM DESCRIPTION OR TITLE

Assessment Review Board - Annual Appointments

RECOMMENDATION

1. **THAT** Council appoint the following individuals, as members of the Assessment Review Board for a term ending December 31, 2024:

   Darlene Chartrand
   Sheryl Exley
   Tina Groszko
   Stewart Hennig
   Richard Knowles
   Raymond Ralph
   Denis Meier

2. **THAT** Council appoint Raymond Ralph as Chair of the Assessment Review Board for a term ending December 31, 2024.

3. **THAT** Council appoint Gerryl Amorin as Clerk of the Assessment Review Board for a term ending December 31, 2024.

BACKGROUND

The *Municipal Government Act* (MGA) section 454 requires that Council adopt by resolution the appointment of the Chair, Clerk and panelists to the Assessment Review Board. Capital Region Assessment Services Commission (CRASC) has provided a list of names of individuals who have successfully completed the provincially legislated training courses and are qualified to sit on the Assessment Review Board and are available to CRASC participating municipalities. The Clerk for the Assessment Review Board has also completed the required training.

COMMUNICATIONS

Update provided to CRASC.

IMPLICATIONS OF DECISION

TOWN OF LAMONT
COUNCIL AGENDA
REQUEST FOR DECISION

The Town of Lamont will have an Assessment Review Board officially appointed whose members have completed the required training and who are authorized by the Town to transact any assessment review board appeals.

FINANCIAL IMPLICATIONS

N/A

POLICY AND/OR LEGISLATIVE REFERENCES

MGA Section 454.1 (1)(2)(3)
MGA Section 454.2 (1)(2)
MGA Section 454.3

ATTACHMENTS

N/A

Report Prepared By: Dawn Nielsen, Interim CAO

Approved by CAO:

TOWN OF LAMONT
STRATEGIC PLAN COMMITTEE

AGENDA ITEM: 4.2

MEETING DATE:
February 13, 2024

ITEM DESCRIPTION OR TITLE

Councillor Absence

RECOMMENDATION

THAT Council accept Mayor Kirk Perrin's and Councillor Jody Fould's absence at the February 27, 2024, Council meeting due to a prior commitment.

BACKGROUND

Town Bylaw 11/18 outlines the expectation that Mayor and Councillors make reasonable effort to attend regularly scheduled meetings. In instances where the Mayor or a Councillor cannot appear, a motion can be passed by Council to accept the absence.

COMMUNICATIONS

N/A

IMPLICATIONS OF DECISION

Mayor and Councillor absence is approved.

FINANCIAL IMPLICATIONS

There are no associated costs.

POLICY AND/OR LEGISLATIVE REFERENCES

Bylaw 11/18 – Code of Conduct

ATTACHMENTS

N/A

Report Prepared By: Jackii Ponto-Lloyd, Executive Assistant

Approved by CAO:

TOWN OF LAMONT
COUNCIL AGENDA
REQUEST FOR DECISION

AGENDA ITEM: 4.3

COUNCIL MEETING DATE:
February 13, 2024

ITEM DESCRIPTION OR TITLE

Board Member Appointment – Economic Development Board

RECOMMENDATION

1. **THAT** Council reappoint Miles Mackow, Tamara Dabels, and Marcie Mazurenko to the Economic Development Boad for a two-year term expiring December 31, 2025.

2. **THAT** Council appoint Cathy Goulet and Dan Cholak to the Economic Development Board for a two-year term expiring December 31, 2025.

BACKGROUND

As per the Council Committee Bylaw 08/19, appointments for any vacancies on committees are required annually for January. At this time, there are five positions available on the Economic Development Board.

There are two applications received for these positions.

For the review of the applications, Council will be required to move into Closed Session during this item to review the applications and determine the appointments for the new term.

COMMUNICATIONS

The Board and the applicants will be advised of the appointments made by Council.

IMPLICATIONS OF DECISION

By continuing to keep the board with active members, the board can continue to progress towards the goals set out.

FINANCIAL IMPLICATIONS

N/A

POLICY AND/OR LEGISLATIVE REFERENCES

Bylaw 08/19 Council Committee Bylaw
MGA Section 146(b), 154(2)

TOWN OF LAMONT
COUNCIL AGENDA
REQUEST FOR DECISION

ATTACHMENTS

1. Applications (*provided in Closed Session as per section 17 of FOIP)*
2. Terms of Reference
3. Bylaw 08/19, Council Committee

Report Prepared By: Jackii Ponto-Lloyd, Executive Assistant

Approved by CAO:

Economic Development Board
Terms of Reference

1. PURPOSE

1.1 Serves as an advisory body to Council and Administration on policies, potential actions or advice related to the strategic goals and objectives that support economic development initiatives.

2. LEGISLATIVE AUTHORITY

2.1 *Municipal Government Act*, RSA 2000 c.M-26, as amended Section 145

2.2 Bylaw 08-19, Council Committee

3. DUTIES & RESPONSIBILITIES

The Committee has the authority to:

3.1 Establish the dates for each Board meeting;

3.2 Create or review Committee Terms of Reference (Council approval required);

3.3 Review and provide recommendations to Council on economic development policies;

3.4 Recommend and participate in the development of programs that align with the strategic outcomes and goals established by the Board and approved by Council; and

3.5 Review the Town of Lamont Strategic Plans on an annual basis and recommend policies that support economic development initiatives for Council's consideration.

4. ROLES

4.1 Councillors appointed to the Economic Development Board shall be responsible to keep Council informed as to the Board activities.

4.2 Board members shall only speak on behalf of the Economic Development Board when formally given such authority by Council or the Board for a specific defined purpose. In such instances, the Chair, or in their absence, Vice Chair will be the key spokesperson.

5. MEMBERSHIP

5.1 Up to five (5) public members from various backgrounds related to economic development - diversity is encouraged.

5.2 Up to two (2) Town of Lamont Council members.

6. TERM OF MEMBERSHIP

6.1 Public members are appointed on a two (2) year term (calendar rotation by resolution of Council.)

6.2 Public members shall not serve more than three (3) consecutive terms unless no other applications are received.

6.3 Council members are appointed annually at the Organizational meeting.

6.4 Council may request resignation of any Board Member at any time prior to the expiry of the member's term of office, and any member of the Board may resign at any time upon sending notice to the Chief Administrative Officer (CAO).

6.5 The municipal representative shall not be a member of the Board and may not vote on any matter; this includes any staff attending the meeting.

Approved by Council: October 8, 2019

6.6 Any member of the Economic Development Board who is absent from two (2) consecutive meetings of the Board shall forfeit his or her office, unless there is a resolution of the Board accepting a valid reason for their absence.

7. BOARD CHAIR

7.1 At the first meeting each year, the Board shall elect a Chair and Vice-Chair from among its voting members.

7.2 The Chair shall hold office for the remainder of the calendar year from the date of appointment.

7.3 The Chair shall preside over all meetings of the Board and decide all points of order that may arise; manage the process of the meeting; preside over the conduct of the meeting, including the preservation of good order and decorum; determine speaking order; and rule on all questions related to the orderly procedure of the meeting.

8. MEETINGS

8.1 The Board shall hold meetings four (4) times per year or as determined by the Economic Development Board; Ad Hoc meetings as required will be at the call of the Chair, or in the absence of the Chairperson, at the call of the Vice-Chair.

9. GOVERNANCE

9.1 A majority of the voting members shall constitute a quorum at a Board meeting.

9.2 All voting members of the Board, including the Chair, shall be required to vote on any motion before the Board and, in the event of a tie, the motion shall be lost.

9.3 The Chair or Vice-Chair will report annually to Council, regarding economic development initiatives and activities related to the Board; but may otherwise determine that additional reporting is necessary.

10. ADMINISTRATIVE RESPONSIBILITY

10.1 Coordination of Board meeting locations and setup.

10.2 Preparation of meeting minutes and agendas.

10.3 Circulation of Agenda Package to committee members.

11. ENACTMENT

11.1 Upon approval by resolution of Council.

Approved by Council: October 8, 2019

Town of Lamont

A BYLAW OF THE TOWN OF LAMONT
IN THE PROVINCE OF ALBERTA

BYLAW 08/19

BEING A BYLAW OF THE TOWN OF LAMONT FOR THE PURPOSE OF ESTABLISHING COUNCIL COMMITTEES.

WHEREAS the *Municipal Government Act,* R.S.A. 2000 C.M.-26, and amendments thereto provides that a Council may establish by bylaw standing and special committees of Council and delegate powers and duties;

WHEREAS the Council of the Town of Lamont recognizes the value of committees to support and facilitate the achievement of Town of Lamont Strategic Plan;

NOW THEREFORE the Council of the Town of Lamont, hereby enacts the Council Committees Bylaw as follows:

BYLAW TITLE

1. This Bylaw is to be cited as the "Council Committee Bylaw".

DEFINITIONS

2. In this Bylaw, the following terms shall have the following meanings, unless the context specifically requires otherwise:

    a. "Act" means the *Municipal Government Act,* R.S.A 2000, c. M-26, as amended;

    b. "Agenda" is the order of items of business for a Meeting and the associated reports, bylaws or other document;

    c. "Bylaw" is a Bylaw of the Town;

    d. "Chair" means a person who has authority to preside over a Meeting;

    e. "Committee" means a Council Committee, board, commission or other body established by Council under the *Municipal Government Act*;

    f. "Council" means the Mayor and Councillors of the Town of Lamont duly elected pursuant to the provisions of the *Local Authorities Election Act;*

    g. "Meeting" means a Meeting of Committee;

    h. "Member" means an individual appointed under this bylaw as a member of the Council Committee;

    i. "Member at Large" means a member of the public appointed by Council to a Committee of Council;

    j. "Minutes" are the record of proceedings of a Meeting recorded in English language without note or comment;

    k. "Municipal Representative" is a Town Staff person who is functionally responsibly for the work and provides administrative and technical support to the committee chair and its membership;

    l. "Public Meeting" means a meeting of committee at which members of the public may attend, but which is not a public hearing; and

    m. "Quorum" is a majority of those members appointed and serving on Committee.

Initials [redacted]

Town of Lamont

ESTABLISHMENT

3. Council hereby establishes the following committees:

    a. Governance and Priorities Committee
    Serves as an advisory body to Council. Meetings serve as an opportunity for Council to be provided with information on governance and policy matters and as an opportunity for Council to seek clarification on matters relating to Council business.

    b. Parks and Recreation Committee
    Recommending body to Council relating to planning and design of parks and recreation use areas within the municipality.

    c. Emergency Management Committee
    Under the terms of the provincial Emergency Management Act, a municipality is responsible for the direction and control of its emergency response and is required to appoint an Emergency Management Committee. Bylaw No. 09-15, Town of Lamont's Municipal Emergency Management Bylaw establishes this committee as well as including provisions for the other requirements as noted in the Emergency Management Act.

    d. Economic Development Board
    Serves as an advisory body to Council and Administration of policies and potential actions or advice related to strategic goals and objectives of public services in the municipality.

    e. Town Wide Clean-up
    Recommending body to Council relating to planning and coordination of the annual Town Wide Clean-up.

    f. Weed Control Act Appeal Committee
    To hear and make decisions on an appeal concerning a notice issued against any land and/or personal property for the destruction or control of the named weed.

    g. Agricultural Pest Act Appeal Committee
    To hear and make decisions on an appeal concerning a notice issued against the land, property, or livestock that contains or is likely to contain a pest or should be protected against a pest.

AUTHORITY OF COMMITTEES

4. A Committee shall have the authority to form ad hoc committees and task forces from among its members, to assist in carrying out its objectives and responsibilities under this Bylaw.

5. Ad hoc committees and task forces established by a Committee shall report to the Committee in a manner determined by the Committee.

6. A Committee shall not have the power to pledge credit of the Town of Lamont, to pass bylaws or to enter into any contractual agreements.

MEMBERSHIP

7. Committees shall be comprised of a number of participants, both Councillors and Members at Large, as indicated in the Committee Terms of Reference and approved by resolution of Council.

8. All Members of a Committee shall be appointed by Council, unless otherwise provided in the Committees Terms of Reference, shall be a resident in the Town of Lamont.

9. Member at Large shall be appointed by Council to a Committee for a term specified in the Committee Terms of Reference that becomes effective January 1.

10. The Mayor shall be an ex-officio member of all committees and the Mayor, as such member of the committees, shall have all the powers and privileges of any member of the same, including the right to vote upon all questions to be dealt with by such committees.

11. It shall be the duty of the Municipal Representative to give notice of all meetings to all members of each committee, to attend, and ensure accurate minutes are kept.

12. The Municipal Representative shall not be a member of a Committee and may not vote on any matter.

TERM

13. Members at Large shall be appointed by Council for a two (2) year term, unless otherwise provided in the Committee Terms of Reference.

    a. In order to ensure the continuity of membership appointments will be filled on a rotational basis.

14. Members at Large shall be encouraged to serve no more than two (2) consecutive terms.

15. Councillors shall be appointed to Committees annually at the Organizational meeting.

16. Where a Committee position is left vacant for any reason, Council may appoint a replacement for the remainder of that term.

COMMITTEE MEETINGS

17. At the first meeting of the Committee following the Organizational meeting of Council the committee will:

    a. Appoint a Chair and Vice Chair; and

    b. Create or review Committee Terms of Reference.

18. Committee meetings must be held in public.

19. Council Committees may close all or part of the Committee Meetings to the public if a matter to be discussed is within one of the exceptions to disclosure in Division 2 of Part 1 of the *Freedom of Information and Protection of Privacy Act*, Chapter F-25 RSA 2000.

20. When a Meeting is closed to the public no recommendation may be passed, except a recommendation to revert to a Meeting held in public.

21. In accordance with the MGA, all Members are required to keep in confidence matters discussed in closed session until the item is discussed at a Meeting held in public.

GENERAL PROVISIONS

22. Each Committee hereby established is deemed to be a Committee of Council shall be responsible and accountable to Council.

23. This Bylaw shall govern meetings of Committees hereby established by Council and shall be binding upon all Committee members whether Councillors or Members-at-Large.

24. Each Committee is hereby authorized to prepare a "Terms of Reference" document for recommendation to Council. The Terms of Reference must be approved by Council and will include, at a minimum, the requirements for quorum and voting, number and composition of membership, roles of members, process for preparation and circulation of an agenda and minutes, and a role of an appointment of the Chair of the Committee. The Terms of Reference may also provide guidance to roles, methods and frequency of communication between Council and Committees.

25. All members of the Committee, regardless of how they voted on an issue, should accept and support it as a Committee recommendation.

26. Committee Members who have a reasonable belief that they have a pecuniary interest (as defined in the MGA) in any matter before a committee or any board, commission, committee or agency to which they are appointed as a representative of, shall, if present, declare and disclose the general nature of the pecuniary interest prior to any discussion of the matter, abstain from discussions and voting on any question relating to the matter. Members of Committee shall remove themselves from the meeting room until the matter is concluded. The minutes shall indicate the declaration of disclosure, the general nature of pecuniary interest, the time at which the member left the room and the time they returned.

27. Reports by all active committees may be made to Council on an annual basis.
    a. The reports of all committees shall be made to the Council prior to the same being given to the public. The powers of the Committees established by this Bylaw are restricted to providing recommendations to Council, unless the Committee's approved Terms of Reference, or legislation, specifically provides otherwise.

28. Nothing included in this Bylaw shall restrict or prevent Council from creating or constituting further or other committees not referenced in this Bylaw.

CHAIR

29. The Chair shall only hold office for one (1) year unless otherwise specified in the Committee Terms of Reference.

30. The Chair shall preside over all meetings for the Committee and decide on all points of order that arise.

31. In the absence of the Chair, one of the other Members shall be elected to preside and shall discharge the duties of the Chair during the Meeting, or until the arrival of the Chair.

Town of Lamont

EFFECTIVE DATE

32. That this Bylaw shall come into force and take effect upon the date of third reading.

READ A **FIRST** TIME THIS 8 DAY OF October, 20 19 A.D.

[redacted]

Mayor Chief Administrative Officer

READ A **SECOND** TIME THIS 8 DAY OF October, 20 19 A.D.

[redacted]

Mayor Chief Administrative Officer

READ A **THIRD** TIME THIS 8 DAY OF October, 20 19 A.D.

[redacted]

Mayor Chief Administrative Officer

TOWN OF LAMONT
COUNCIL AGENDA
REQUEST FOR DECISION

AGENDA ITEM: 4.4

COUNCIL MEETING DATE:
February13, 2024

ITEM DESCRIPTION OR TITLE

G & P 2024 Budget Meetings

RECOMMENDATION

THAT Council call Governance and Priorities meetings on March ___, 2024 and March ____, 2024 for discussion of the 2024 Operational Budget and 3-year operating plan.

BACKGROUND

Municipal Government Act (MGA) requires that Town Council review and approve the Town's budget each year.

Refer to the enclosed approved 2024 Budget Schedule. To ensure the budget will be ready to go to Council for review on April 9, 2024, two G & P meeting dates need to be set between March 18th and 28th. In 2023 the meetings were held March 20th and 21st starting at 6:30 pm.

COMMUNICATIONS

N/A

IMPLICATIONS OF DECISION

N/A

FINANCIAL IMPLICATIONS

N/A

POLICY AND/OR LEGISLATIVE REFERENCES

MGA Section 242, MGA Section 243, MGA Section 283

ATTACHMENTS

2024 Budget Schedule

Report Prepared By: Dawn Nielsen, Interim CAO

Approved by CAO:

Updated: 2024 BUDGET SCHEDULE

July 11	• RFD to Council to introduce 2024 Buddget cycle.
Aug. 17 - Sept. 29	• Implement budget survey for residence and business.
Sept. 11 - Oct.20	• Administration review, discuss, and draft proposed budget for Council's review.
Nov. 7 -8	• Governnace and Priorities review proposed 2024 capital budget & 5yr Capital Plan, and provides further direction
Nov. 21 -22	• *Governance & Priorities Committee meeting (if required)*
Nov. 30	• *Governance & Priorities Committee meeting (if required)*
Dec. 5	• *Governance & Priorities Committee meeting (if required)*
Dec. 12	• Council review and approve 2024 Capital Budget & 2024 interim operating budget.
Apr. 9	• Council review proposed 2024 operational budget & 3yr operating plan, and provides further direction (possible approval)
Apr. 23	• Council to review and approval the 2024 operational budget & 3yr operating plan.

TOWN OF LAMONT
STRATEGIC PLAN COMMITTEE

AGENDA ITEM: 4.5

MEETING DATE:
February 13, 2024

ITEM DESCRIPTION OR TITLE

Improving Police Governance Questionnaire

RECOMMENDATION

THAT Council direct Councillors _____ and _____ to submit the questionnaire on improving police governance on behalf of Council by the March 15, 2024 deadline.

BACKGROUND

The Government of Alberta has invited community representatives and stakeholders to share their input into changes to police governance following recent legislative amendments to the Police Act. This is a continuation of the government's efforts to modernize policing in the province which began in 2018.

The Police Amendment Act, 2022 (PAA), which was passed on December 15, 2022, is an important milestone in Alberta's efforts to modernize policing in the province. The PAA was designed to improve police accountability and enhance public confidence by reforming policing practices and strengthening ties to the community. The government is now in the process of developing regulations to establish these civilian governance bodies, which will include regional and municipal policing committees and a Provincial Police Advisory Board (PPAB).

The Town of Lamont will be represented by the (PPAB) and are invited to provide input into the formation of this governance body, including its powers, duties, functions, and composition. The deadline for submitting completed questionnaire is March 15, 2024.

The Government held a virtual information session on February 5, 2024 with Councillor Harvey, Councillor Foulds and Interim CAO in attendance. The information session provided similar information as the discussion guide and confirmed the discussion questions are what will be on the questionnaire.

Administration recommends that Council provide input on the questionnaire and appoint the two members who attended the information session to complete the questionnaire on Councils behalf.

COMMUNICATIONS

N/A

IMPLICATIONS OF DECISION

N/A

FINANCIAL IMPLICATIONS

N/A

POLICY AND/OR LEGISLATIVE REFERENCES

Police Amendment Act, 2022

ATTACHMENTS

Engagement on improving police governance Discussion Guide

Report Prepared By: Dawn Nielsen, Interim CAO

Approved by CAO:

Engagement on improving police governance

Discussion guide on legislated governance changes in communities served by the Royal Canadian Mounted Police (RCMP) in Alberta

Introduction

The Government of Alberta (GoA) invites stakeholders to inform the development of supporting regulations enabled by *the Police Amendment Act, 2022* (PAA) related to police governance in Alberta.

The PAA mandates the establishment of civilian governance bodies for all communities policed by the RCMP, including regional and municipal policing committees (for communities with a municipal police service agreement) and a provincial police advisory board (PPAB) (for those under the provincial police service agreement). As a next step to the 2022 legislative amendments, the GoA is now developing supporting regulations to clarify the powers, duties, functions, and composition of these new governance bodies, as well as the regional configurations for the regional policing committees. Your input is crucial to help the government gain a comprehensive understanding of the different needs and perspectives of Alberta's diverse communities to develop these regulations.

Input submission

This discussion guide aims to facilitate discussions within your organization by offering pertinent context and assisting in the preparation of written submission. You are invited to provide input through the online questionnaire, which aligns with the questions outlined in this discussion guide.

To access the online questionnaire, please use this link.

This discussion guide is tailored for communities that fall under the Provincial Police Service Agreement (PPSA) that will be represented by the Provincial Police Advisory Board. The online questionnaire will prompt you to identify your affiliation and automatically direct you to parts of the engagement that are relevant to your community.

Scope

This engagement seeks stakeholder input on establishment of civilian governance bodies, including regional and municipal policing committees and the PPAB in communities policed by the RCMP. This includes the powers, duties, functions, and composition of these new governance bodies, as well as the regional configurations for the regional policing committees.

Overview of *Police Amendment Act, 2022*

Following several years of engagement with stakeholders and the public, the Legislative Assembly passed the PAA in December 2022 to modernize policing in Alberta. The legislation was intended to increase police transparency and enhance public trust to help build safer communities. In addition to other reforms, the legislation created formal civilian governance bodies for all communities policed by the RCMP in Alberta, with the intent for communities to have a role in setting policing priorities and performance goals. Before the amendments, communities did not have this role.

PAA key changes:

- establishes an independent agency, the Police Review Commission, to manage complaints against police and conduct disciplinary proceedings
- mandates the creation of civilian governing bodies for communities policed by the RCMP
- expands the mandate of Alberta Serious Incident Response Team (ASIRT) to investigate cases of serious injury or death and serious and sensitive allegations involving peace officers (for example, Alberta Sheriffs and community peace officers)
- requires police commissions to develop community safety plans and report annually on their progress

- requires police commissions to create diversity and inclusion plans to reflect the communities they serve and better understand their needs
- enables the Minister of Public Safety and Emergency Services to set provincial policing priorities to help foster consistency in policing across Alberta
- requires police commissions to create their own policing priorities that consider the provincial priorities and report annually on their progress
- adds 8 guiding principles for Alberta police services to provide a foundation of core beliefs and values
- makes administrative changes to the Law Enforcement Review Board

While some PAA provisions have been proclaimed and are in force, others have not been proclaimed and are not in force yet, including the provisions related to civilian governance bodies.

More information on the PAA can be found on the Government of Alberta website.

Civilian governance bodies
The legislation mandates civilian governance bodies for all communities policed by the RCMP in Alberta, giving them a role in setting policing priorities and performance goals they've never had under the existing governance structure.

Once proclaimed into force, the PAA requires the following governance changes:
- the creation of formal civilian governance bodies in communities policed by the RCMP under Municipal Police Service Agreements (MPSA) that will give these communities a greater role in setting policing priorities and performance goals.
    - Communities with a population of under 15,000 will be represented by regional governance bodies – but will have the option to form their own municipal governance body.
    - Communities with a population over 15,000 that are policed by the RCMP will be required to establish municipal governance bodies.
- the creation of a PPAB that will enable communities served by the RCMP under the Provincial Police Service Agreement (PPSA) to be represented on a provincial board that will make recommendations on province-wide policing priorities.

These governance bodies are generally comprised of community members who are not police officers, and provide guidance and input into policing priorities and performance goals.

These governance bodies are tailored to meet the distinct needs of diverse communities. Regional policing committees for smaller communities will ensure that they can have a say without creating an unreasonable administrative burden on them, while municipal policing committees will help meet the needs of larger communities policed by the RCMP. Communities under the PPSA will be represented by a single provincial board that will make recommendations on province-wide policing priorities.

There are similar governance bodies that are currently in place in Alberta, but the PAA-mandated representation for communities served by the RCMP does not currently exist until the relevant provisions in the PAA are proclaimed. For example, municipal police services are governed by police commissions (i.e. the Edmonton Police Commission is the governance body for the Edmonton Police Service), and a few RCMP-served municipalities in Alberta currently have optional police advisory committees.

Provincial Police Advisory Board
Once implemented, communities served by the RCMP under the PPSA will be represented on a provincial board that will make recommendations on province-wide policing priorities. The provincial board will have one seat designated for a First Nations representative and one seat designated for a representative of Métis communities, as mandated through the legislative amendments.

Powers, duties and functions
The powers, duties and functions of the PPAB are not outlined in the PAA, and will need to be addressed in the new regulations. For example, this could include a more formal role in developing community safety plans.

In comparison, the *Police Act* outlines responsibilities for police commissions. These responsibilities include the allocation of funds that are provided by council, establishing policies providing for efficient and effective policing, issuing instructions as needed to the chief of police, and ensuring the police service has sufficient staffing to carry out their functions.

The PPAB will be subject to the *Alberta Public Agencies Governance Act* (APAGA). APAGA will require the board, once established, to create a Mandate and Roles document that will set out their mandate, roles and responsibilities, and processes.

Community Safety Plans
There is currently no requirement for the PPAB to develop or report on a Community Safety Plan.

In comparison, Section 31 (1) of the *Police Act* requires police commissions to develop a Community Safety Plan in conjunction with the police service that includes a plan for collaboration with community agencies, and to report annually on the implementation of and any updates to the plan.

Community safety plans encourage police to work more closely with civilian partners and put added focus on alternatives to enforcement that target root causes of crime, like addiction treatment, housing and employment supports. The planning process will result in greater coordination between police and civilian partners, helping them identify and close gaps in services for people who need help. Greater collaboration with partners could help prevent crime, while also allowing police to devote more resources toward serious and violent offences.

Policing priorities
While the *Police Act* identifies several parties with a role in setting policing priorities, the responsibilities of the PPAB in setting policing priorities are not outlined in the PAA and may be addressed in the new regulations.

For example, the Minister may set priorities for policing in the province, while municipal police commissions must establish the priorities of their municipal police service, while taking the provincial priorities under consideration.

Discussion questions
- What powers, duties and functions should the PPAB have?
- PPAB should be involved in the creation of a Community Safety Plan.
    - Choose one option: Disagree, Neutral, Agree
    - Why or why not?
- The PPAB should be involved in setting policing priorities.
    - Choose one option: Disagree, Neutral, Agree
    - Why or why not?

Composition of the PPAB
The PAA states that the PPAB will have not more than 15 members, appointed by the Minister in accordance with the regulations, with at minimum one member from a First Nation and one member from a Métis settlement or community.

The composition could include factors such as any other mandated representation and member qualifications.

Discussion questions
- Aside from the requirement for one First Nations and one Métis representative, are there any other specific groups that should have mandated PPAB representation?
- Are there any other considerations the Government could take into account when establishing the PPAB?

Mechanisms for local input
Given the diverse communities that will be represented by the PPAB, it is important to examine mechanisms for community engagement and ways to ensure the board's alignment with the needs of the communities it represents. While formalizing these processes in regulations may not be necessary, input is being gathered to ensure that the regulations can effectively support and align with potential mechanisms.
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Discussion questions

- The PPAB should be required to seek feedback from the communities it serves.
  - Choose one option: Disagree, Neutral, Agree
  - Why or why not?
- What requirements could help ensure a consistent feedback loop from the public to inform board activity and police governance?
- What mechanisms for local input could be considered?

Additional input

While the questions included in this discussion guide will help inform regulatory development related to police governance in Alberta, stakeholders may also share any other feedback related to these changes that may not have been addressed in the discussion questions.

Next steps

Following stakeholder engagement, the government will develop new regulations in support of the PAA related to police governance in Alberta.

Questions/contact

If you have any questions related to this engagement, please contact the Public Safety and Emergency Services (PSES) Engagement team at: PSES.Engagement@gov.ab.ca.

TOWN OF LAMONT
COUNCIL AGENDA
REQUEST FOR DECISION

AGENDA ITEM: 4.6

MEETING DATE:
February 13, 2024

ITEM DESCRIPTION OR TITLE

Urban Hen Pilot Program

RECOMMENDATION

1. **THAT** Council give first reading to Bylaw 03/24, Urban Hen Pilot Program.

2. **THAT** Council give second reading to Bylaw 03/24, Urban Hen Pilot Program.

3. **THAT** Council give unanimous consent to proceed to third reading of Bylaw 03/24, Urban Hen Pilot Program.

4. **THAT** Council give third reading to Bylaw 03/24, Urban Hen Pilot Program.

BACKGROUND

A resident appeared as a delegation at the September 12, 2023 Council Meeting to ask Council to amend the Animal Control Bylaw to allow laying hens within the Town.

Council directed Administration to hold a survey to hear resident's opinion on allowing laying hens within the Town of Lamont. The survey was open from October 23 to November 17. The results of the survey were presented to Council at the November 28, 2023 Council Meeting. Council then directed Administration to proceed with the next steps.

Administration researched bylaws and guidelines of nearby Municipalities and has drafted several documents for Council to review:

- Bylaw 03/24, Urban Hen Pilot Program
- Pilot Program License Application
- Urban Hen Keeping Guidelines
- Hen Enclosure General Guidelines
- Neighbour Consent Form

The Pilot Program allows up to 5 residents to have 2-4 laying hens for a period of 1 year. Council will then have a chance to review the successes and failures of the program and chose whether or not to continue the program.

COMMUNICATIONS

If approved, posts will be shared on the Town's website and social media to let residents know about the approved program.

TOWN OF LAMONT
COUNCIL AGENDA
REQUEST FOR DECISION

IMPLICATIONS OF DECISION

N/A

FINANCIAL IMPLICATIONS

N/A

POLICY AND/OR LEGISLATIVE REFERENCES

- Strategic Plan 2023-2027- Strategic Priorities – Community Connection + Vibrancy - Goal: Promote community beautification and sense of place.

ATTACHMENTS

- Bylaw 03/24, Urban Hen Pilot Program
- Pilot Program License Application
- Urban Hen Keeping Guidelines
- Hen Enclosure General Guidelines
- Neighbour Consent Form
- Example Site Sketch

Report Prepared By: Jackii Ponto-Lloyd, Executive Assistant

Approved by CAO:

BEING A BYLAW OF THE TOWN OF LAMONT IN THE PROVINCE OF ALBERTA, TO FOR THE LICENSING, REGULATING AND CONFINEMENT OF URBAN HENS WITHIN THE TOWN OF LAMONT

WHEREAS pursuant to provisions of the *Municipal Government Act*, Council has the authority to regulate or prohibit certain activities for municipal purposes respecting the safety, health, and welfare of people and the protection of people and property, wild and domestic animals, and certain activities in relation to them; and

WHEREAS pursuant to provisions of the *Municipal Government Act*, Council has the authority to provide for a system of licenses, permits and approvals; and

WHEREAS Council deems it necessary to assess the viability of keeping urban hens within the Town; and

NOTWITHSTANDING any Town Bylaws or Regulations enacted by Council;

NOW THEREFORE the Council of the Town of Lamont, hereby enacts a time constrained Urban Hen Pilot Program as follows:

1. BYLAW TITLE

1.1 This Bylaw is known as “Urban Hen Pilot Program Bylaw”.

2. DEFINITIONS

2.1 For the purposes of this Bylaw:

a. “Act” means the *Municipal Government Act*, RSA 2000, c.M-26.

b. “Animal Health Act” means Statute of Alberta 2007, Chapter A-40.2.

c. “CAO” means the Chief Administrative Officer or it’s designate.

d. “Coop” means a fully enclosed weather proof structure and attached outdoor enclosure used for the keeping of urban hens that is no larger than 10 m^2 in floor area, and no more than 2 meters in height.

e. “Council” means the Council of the Town of Lamont.

f. “Hen” means a female chicken.

g. “Land Use Bylaw” means Bylaw 06-17 as amended from time to time;

h. "Outdoor enclosure" means a securely enclosed, roofed outdoor area attached to and forming part of a coop having a bare earth or vegetated floor for urban hens to roam;

i. "Officer" means a Bylaw Enforcement Officer as appointed by the Town to enforce bylaws of the Town.

j. "Rooster" means a domesticated male chicken.

k. "Sell" means exchange or deliver for money or its equivalent.

l. "Town" means the Town of Lamont, a municipal corporation in the Province of Alberta, and where the context so requires, means the area of land within the corporate boundaries thereof.

m. "Urban area" means lands located within the Town on which agricultural operations, including but not limited to the keeping of livestock, are neither a permitted or discretionary use under the Bylaws of the Town.

n. "Urban hen" means a hen that is at least 16 weeks of age and kept for non-commercial purposes.

o. "Urban hen license" means a license issued by the Town pursuant to the Urban Hen Pilot Program which authorizes the license holder to keep urban hens on a specific property within the Town.

3. PURPOSE

3.1 The purpose of the Urban Hen Pilot Program is to regulate and control the keeping of urban hens in the Town during a defined pilot program period.

4. PROHIBITIONS

4.1 No person shall be permitted to keep a rooster or hen in an urban area, other than an urban hen for which a valid urban hen license has been issued.

Initials_____

5. PILOT PROGRAM REGULATIONS

5.1 The length of the Urban Hen Pilot Program shall be one (1) year, effective April 1, 2024.

5.2 Participants must acknowledge the Pilot Program is a trial.

5.3 Should the Pilot Program not result in the implementation of a formal Municipal Urban Hen program, participants will have 90 days from the end of the Pilot to re-home urban hens.

6. URBAN HEN LICENSES

6.1 A person may apply to keep a minimum of two (2) and a maximum of four (4) urban hens by submitting a completed application, on the form provided by the Town, including:

i. a site plan including coop dimensions and identified setbacks;

ii. proof of approval from neighbours having contiguous boundaries with the property where the Urban Hens will be kept;

iii. proof of training – completion certificate from an approved urban hen keeping course;

iv. The Premises Identification Number, as issued by the Province of Alberta; and

v. Any other information deemed necessary and/or requested by the Town.

6.2 There shall be a maximum of five (5) urban hen licenses available during the pilot program.

6.3 An Urban Hen License may not be issued unless:

i. The applicant is the owner of the property on which the urban hens will be kept, or that the owner of the property has provided written consent;

ii. All pilot program guidelines and regulations are being complied with; and

Initials_____

iii. The applicant has complied with all other Provincial and Federal regulations for the keeping of livestock.

6.4 An Urban Hen License is only valid for the duration of the pilot program.

6.5 A person to whom an Urban Hen License has been issued shall produce the license on the demand of the CAO or Bylaw Enforcement Officer.

6.6 A person who keeps urban hens is required to take training which is designed to provide adequate information regarding the successful keeping of hens in an urban area through a winter cycle and remain current with best management practices of Hen Keeping guidelines.

6.7 An Urban Hen License is non-transferrable from one person to another or from one property to another.

7. KEEPING OF URBAN HENS

7.1 A person who keeps urban hens must:

i. Provide each urban hen with at least 0.37 m^2 (4 sqft) of interior floor area, and at least 0.92 m^2 (10 sqft) of outdoor enclosure, within the coop;

ii. Ensure rear yards shall be fully enclosed with fencing at least 5 feet (1.82 m) in height; and

iii. Ensure that each coop is:

a. Located within the rear yard of the lot behind a detached or semi-detached dwelling, as defined in the Land Use Bylaw;

b. A minimum 3.0 m (10 ft) from a dwelling unit;

c. A minimum 1.0 m (3.2 ft) from a side lot line or 4.0 m (12.8 ft) from a lot line that abuts a flanking road;

d. A minimum 1.0 m (3.2 ft) from any other buildings;

e. No larger than 10 m^2 (108 sqft) in floor area; and

f. No more than 2 meters (6.5 ft) in height.

Initials_____

iv. Only one (1) coop per property shall be permitted.

v. Provide and maintain, in the coop, at least one nest box per coop and one perch per urban hen that is at least 15 cm long.

vi. Keep each urban hen in the coop at all times.

vii. Provide each urban hen with food, water, shelter, light, ventilation, care and opportunities for essential behaviours such as scratching, dustbathing, and roosting, all sufficient to maintain the urban hen in good health.

viii. Maintain the coop in good repair and sanitary condition, and free from vermin and noxious or offensive smells and substances.

ix. Construct and maintain the coop to prevent any rodent from harbouring underneath or within it or within its walls, and to prevent entrance by any other animal.

x. Keep a food container and water container in the coop.

xi. Keep the coop secured from sunset to sunrise;

xii. Remove leftover feed, trash, and manure in a timely manner.

xiii. Store feed within a fully enclosed container.

xiv. Store manure within a fully enclosed container, and store no more than 3 cubic feet of manure at any time.

xv. Remove all other manure not used for composting or fertilizing and dispose of such in accordance with Town Bylaws.

xvi. All urban hen related waste shall be in a secure location on site until collection day.

xvii. Follow biosecurity procedures recommended by the Canadian Food Inspection Agency to reduce potential for disease outbreak

xviii. Must obtain a premises Identification (PID) under the Premises Identification Regulation (200/2008) in the Animal Health Act and submit a copy to the Town.

Initials_____

xix. Keep urban hens for personal use only.

xx. No person who keeps urban hens shall:

a. sell eggs, manure, meat, or other products derived from an urban hen;

b. slaughter any urban hen on the property or within Town boundaries;

c. dispose of an urban hen except by delivering it to a farm, abattoir, veterinarian, or other operation that is lawfully permitted to dispose of such; and

d. keep an urban hen in a cage, kennel, or any other form of shelter other than a coop.

8. PENALTIES & ENFORCEMENT

8.1 Where an Officer has reasonable ground to believe that a person has contravened any provision of this Bylaw he or she may serve upon the person a Municipal Ticket allowing payment of the specified fine as set out in Schedule "A" of this Bylaw.

8.2 Should a hen keeping site, Coop, or Hen Keeper be found to be non-compliant with this Bylaw at any time, enforcement action may be taken including without limitation: issuing a Municipal Violation Tag or Violation Ticket, revocation of an Urban Hen License, or issuance of a Stop Order under Section 645 of the *Municipal Government Act*."

8.3 In the event of the revocation of an Urban Hen License, the Licensee will be given thirty (30) days to rehome the hens.

8.4 Should hens and/or a coop be ordered to be removed, all costs and associated expenditures related to the removal shall be the responsibility of the property owner.

9. INTERFERENCE WITH TOWN FORCES

9.1 No person shall hinder, interrupt, or cause to be hindered any employee of the Town or its contractors, servants or agents or workers, in the exercise of the powers or duties as authorized or required in the Urban Hen Pilot Program Bylaw.

Initials_____

10. AUTHORITY OF THE CAO

10.1 Without restricting any other power, duty, or function granted by the Urban Hen Pilot Program Bylaw, the CAO may:

i. Carry out any inspections to determine compliance with the Urban Hen Pilot Program;

ii. Take any steps or carry out any actions required to enforce the Urban Hen Pilot Program Bylaw;

iii. Take any steps or carry out any actions required to remedy a contravention of the Urban Hen Pilot Program Bylaw;

iv. Establish forms for the purposes of the Urban Hen Pilot Program Bylaw; and

v. Delegate any powers, duties, or functions under the Urban Hen Pilot Program Bylaw to a Town employee.

11. GENERAL

11.1 Nothing in the Urban Hen Pilot Program Bylaw relieves a person from complying with any Federal or Provincial law or regulation, other Urban Hen Pilot Program Bylaw, or any requirement of any lawful permit, order, or license.

12. SEVERABILITY

12.1 If any portion of this Bylaw is declared invalid by a court of competent jurisdiction, the invalid portion shall be severed, and the remainder of the Bylaw is deemed valid.

Initials_____

13. EFFECTIVE DATE

13.1 That this Bylaw shall come into force and take effect upon the date of third reading and is duly signed.

READ A FIRST TIME THIS _____ DAY OF _____, 20_____ .

READ A SECOND TIME THIS _____ DAY OF _____, 20_____.

READ A THIRD TIME AND PASSED THIS _____ DAY OF _____, 20_____.

_____ _____

Mayor Chief Administrative Officer

_____

Date signed

SCHEDULE "A"

Section	Offense	First	Second
4.1	Rooster within town boundaries	$115.00	$230.00
6.1	Keeping more than 4 hens or less than 2 hens	$115.00	$230.00
7(i)	Coop fails to meet size/enclosure requirements	$115.00	$230.00
7(iii)	Coop not located properly on parcel	$115.00	$230.00
7(vi)	Hens running at large	$115.00	$230.00
7(viii)	Fail to maintain coop in a sanitary condition/good repair	$115.00	$230.00
7(xiv)	Waste not stored in an enclosed structure or container	$115.00	$230.00
7(xx)(a)	Meat or eggs produced from the keeping of hens sold	$115.00	$230.00
7(xx)(b)	Slaughter of hens within Town boundaries	$115.00	$230.00
7(xx)(c)	Unlawful disposal of deceased hens	$115.00	$230.00

Initials_____

URBAN HEN KEEPING
Pilot Program License Application

Please complete this form and attach all supporting documents to make a complete application package. To submit the application package, applicants must email their application to general@lamont.ca or drop it off at the Town Office Building, 5307 50 Avenue, Lamont, AB. All submitted materials must be clear, legible and precise.

Town approval of this application will grant the applicant an annual license to keep hens for the one-year Urban Hen Keeping Pilot Program. The license will expire at the end of the program. At this time the continuation of the program will be reviewed based on the results of the pilot program. If the program is continued, successful participants will be prioritized for license renewal, subject to approval.

Failure to maintain and abide by all requirements of the Urban Hen Pilot Program Bylaw 03-24, the Urban Hen Keeping Guidelines and/or applicable Provincial regulations will lead to a license being revoked, and the hens must be removed from the property at the applicant's expense within 30 days of notification. The Town has the authority to cancel the pilot program with 90 days written notice within which the hens must also be removed from the property at the applicant's expense.

Keeping hens without a license will result in a charge under the Animal Control Bylaw 13-23.

APPLICANT INFORMATION

Full Name (Printed): _____

Email Address: _____ Phone Number: _____

☐ I currently reside at the property ☐ I am the registered owner of the property

☐ I am 18 years of age or older ☐ I am a renter of the property (attach owner authorization)

SITE INFORMATION

Address: _____

Number of hens, and details on how enclosure will be heated in winter months:

_____

_____

_____

_____

Note: This personal information is collected under the authority of Section 33(c) of the Freedom of Information and Protection of Privacy Act (Alberta) for the purpose of issuing Urban Hen Keeping Pilot Program licenses within the Town of Lamont. Information collected will also be used for operating, monitoring and ongoing improvement of the Urban Hen Keeping Pilot Program, and where licensed hen keepers choose to continue their engagement with the full program in the future. It will also be used for bylaw enforcement purposes. If you have any questions about this collection, contact the Town of Lamont at 780-895-2010.

URBAN HEN KEEPING
Pilot Program License Application

☐ Attach Site Sketch complete with the hen enclosure location relative to adjacent properties and residential buildings, coop and run floor areas, and associated setback distances. Acceptable site sketches may be produced using an existing real property report, an aerial photo from Google Earth, or a scaled drawing (see example site sketch).

COMPLIANCE WITH URBAN HEN KEEPING GUILDEINES

1. Will the hen enclosure be located in a rear yard fully fenced **at least 5 ft** in height?	☐ Yes	☐ No
2. Will the hen enclosure be located within the rear yard of the lot behind a detached or semi-detached dwelling?	☐ Yes	☐ No
3. Will the hen enclosure be located **a minimum 3.0 m (10 ft)** from a dwelling unit?	☐ Yes	☐ No
4. Will the hen enclosure be located **a minimum 1.0 m (3.2 ft)** from any lot line?	☐ Yes	☐ No
5. Will the hen enclosure be located **a minimum 1.0 m (3.2 ft)** from any other buildings?	☐ Yes	☐ No
6. Will the hen enclosure be located a **minimum 4.0 m (12.8 ft)** from any street adjacent to the property?	☐ Yes	☐ No
7. Will the hen enclosure be **no larger than 10 m^2 (108 sq ft)** in floor area?	☐ Yes	☐ No
8. Will the hen enclosure be **no more than 2 m (6.5 ft)** in height?	☐ Yes	☐ No

Note: Responding with "No" to any of the questions above will lead to the application being rejected.

TERMS AND CONDITIONS

Applicant must ensure they have met all of the licensing requirements and submitted all required documentation.

Check all that apply:

☐ I have registered for a Premises Identification Number and my number is: _____

☐ I have a plan for how to manage organic waste from my hens that will not result in odor issues or an unsightly premises.

☐ I agree to immediately notify the Town of Lamont, and the Province as required, of any disease or welfare issues that arise and to take all necessary steps to rectify the situation.

Note: This personal information is collected under the authority of Section 33(c) of the Freedom of Information and Protection of Privacy Act (Alberta) for the purpose of issuing Urban Hen Keeping Pilot Program licenses within the Town of Lamont. Information collected will also be used for operating, monitoring and ongoing improvement of the Urban Hen Keeping Pilot Program, and where licensed hen keepers choose to continue their engagement with the full program in the future. It will also be used for bylaw enforcement purposes. If you have any questions about this collection, contact the Town of Lamont at 780-895-2010.

URBAN HEN KEEPING
Pilot Program License Application

The nearest qualified veterinarian(s) to my residence that accept hens are (incl. name, phone number and address for each):

_____

_____

_____

☐ I have taken an urban hen keeping training course and attached proof of completion.

☐ I have notified my neighbour(s) whose properties are immediately adjacent to my rear yard, including those across the back lane (where applicable) that I intend to apply for a backyard hen keeping license and that this requires their approval in writing prior to building hen keeping structures on my property.

☐ I have attached neighbor approval letters for all adjacent neighbors.

☐ I have read and understood the Urban Hen Keeping Guidelines and the Urban Hen Pilot Program Bylaw 03-24.

☐ I acknowledge that the urban hen keeping on the property may require periodic inspections by the Town of Lamont.

☐ I understand that after receiving my license, that failure to maintain and abide by all requirements outlined in the Urban Hen Keeping Guidelines, Urban Hen Pilot Program Bylaw 03/24 and all applicable Provincial regulations, will result in my license being revoked, and all hens must be removed from the premises within 30 days at my own expense.

☐ I understand that the Town has the authority to cancel the pilot program with 90 days' notice and all hens must be removed from the property at my own expense.

☐ I understand that the license issued through this application process is valid for the applicant and the property only as described in above sections Application Information and Site Information. Any change in the information as described above (e.g. applicant moves to a different address, applicant moves coop location within existing yard) will render the license void.

☐ I understand that I am applying for an annual license under the one-year pilot program only. The license will expire at the end of the program. At this time license renewal and the continuation of the program will be reviewed based on the results of the pilot program.

Signature: _____

Note: This personal information is collected under the authority of Section 33(c) of the Freedom of Information and Protection of Privacy Act (Alberta) for the purpose of issuing Urban Hen Keeping Pilot Program licenses within the Town of Lamont. Information collected will also be used for operating, monitoring and ongoing improvement of the Urban Hen Keeping Pilot Program, and where licensed hen keepers choose to continue their engagement with the full program in the future. It will also be used for bylaw enforcement purposes. If you have any questions about this collection, contact the Town of Lamont at 780-895-2010.

URBAN HEN KEEPING GUIDELINES

SITE REQUIREMENTS FOR HEN COOP AND RUN

- An approved site may house only one coop and run (hen enclosure).
- A hen enclosure must be located within the rear yard of the lot behind a detached or semi-detached dwelling as follows:
    - A minimum of 3.0 m (10 ft) from a dwelling unit.
    - A minimum 1.0 m (3.2 ft) from any lot line.
    - A minimum 1.0 m (3.2) ft from any other buildings.
    - A minimum 4.0 m (12.8 ft) from any street adjacent to the property.
- Rear yards must be fully enclosed with fencing at least 5 ft (1.82 m) in height.
- Some properties, due to the size of a backyard, existing structures, or other factors may not be deemed suitable for urban hen keeping through the application process.

NUMBER OF HENS AND ENCLOSURE SIZE

- Approved sites must keep a minimum of two (2) hens and a maximum of four (4) hens.
- Roosters are NOT permitted.
- Young hens (also called pullets) shall not be younger than sixteen (16) weeks old.
- The coop must provide **each** urban hen with at least 0.37 m^2 (4 sq ft) of interior floor area.
- The run must provide **each** hen at least 0.92 m^2 (10 sq ft) of outdoor enclosure.
- The enclosure must be no larger than 10 m^2 (108 sq ft) in area.
- The enclosure must be not more than 2 m (6.5 ft) in height.
- All coops must contain sufficient perch locations, have adequate ventilation, and be weather and predator proof.

NUISANCE CONDITIONS

- The site and enclosure must be properly maintained to prevent negative impacts, including but not limited to attracting nuisance animals, and excessive smells or noise.

STANDARD OF CARE

- Hen sites shall adhere to good management and husbandry practices, maintain hens in such a condition to prevent distress, disease, and welfare issues.
- Hens require appropriate food, liquid (unfrozen) water, shelter, light, warmth, ventilation, veterinary care and opportunities for essential behaviours such as scratching, pecking, dustbathing and roosting, in order to be comfortable and healthy.
- Animal Control must be notified immediately of any disease or welfare issues that arise that may affect the public and the steps taken to rectify the situation.
- In the winter months, runs are required to be wrapped. Runs can be wrapped with a hard material like corrugated plastic or a soft material like polyethylene film (poly wrap) or a tarp.
- Adequate ventilation in the run and coop area is important to reduce moisture and mitigate the conditions that contribute to frostbite.
- Commercially manufactured coops and runs may need to be modified to ensure proper ventilation and insulation.

URBAN HEN KEEPING GUIDELINES

WASTE & DISPOSAL

- Manure must be removed, discarded, and/or properly composted to prevent nuisance complaints.
- Manure must be stored in a fully enclosed container, and no more than 3 cubic feet of manure stored at any time.
- There is to be no on-site slaughter or euthanizing of hens within the Town limits.
- Removal methods include (but are not limited to) humane euthanasia by a veterinarian, relocation to a farm, or taking hens to a licensed abattoir.

TRAINING

- The Applicant/Licensee must complete an accepted urban hen keeping course.
- The Town recommends the "Chickens 101" course provided by River City Chickens Collective, an information course for urban chicken keepers. This course is approved by municipalities including Edmonton, St. Albert, Leduc and Airdrie for application for backyard hen-keeping license. http://www.rivercitychickens.org/

INSPECTIONS

- An initial inspection of the coop, hens, and site will be conducted prior to final site approval and license being granted from the Town of Lamont.
- The Licensee(s) shall make themselves and the enclosure available for inspection on reasonable request from the Town of Lamont.

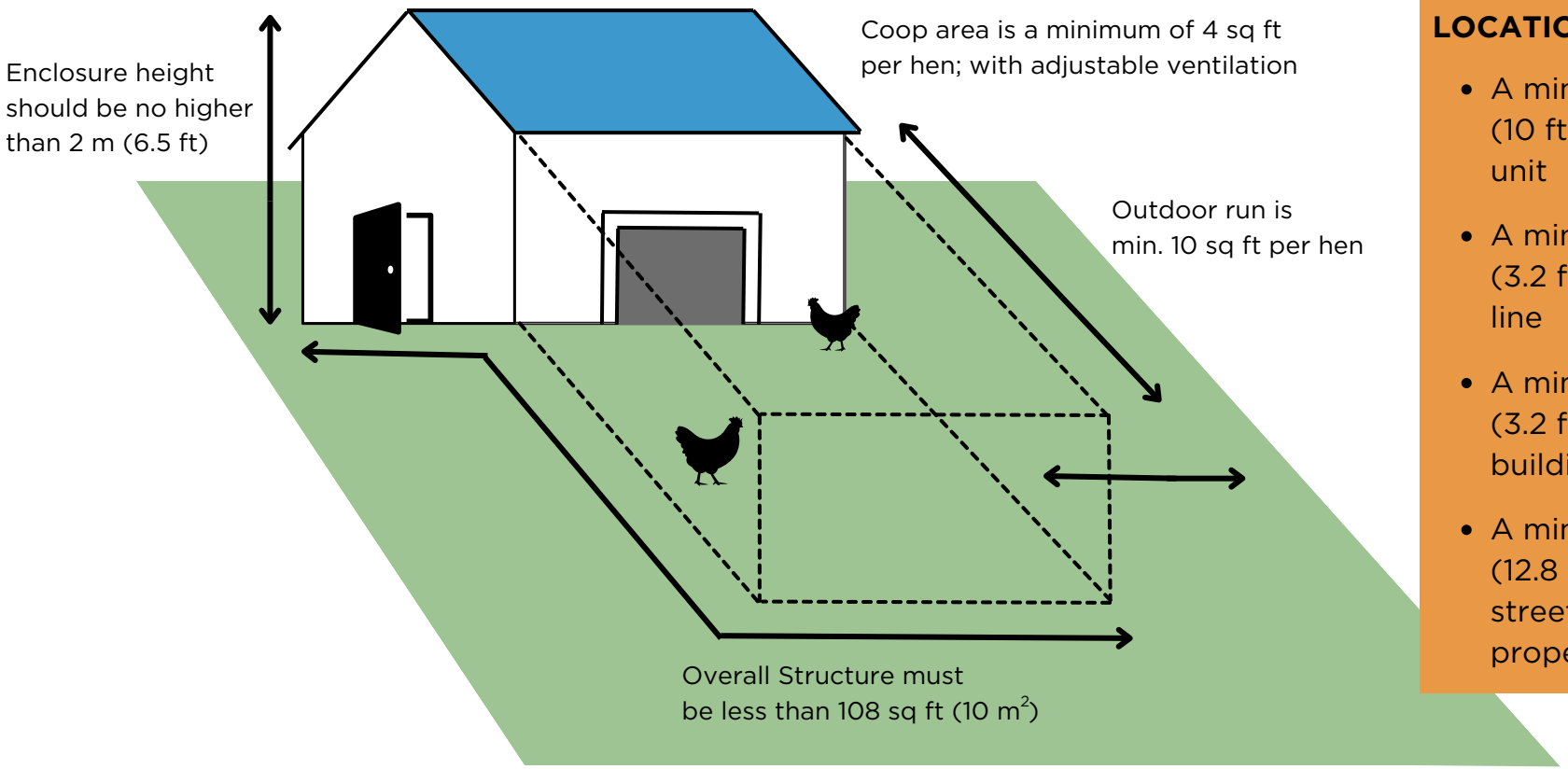
REGISTRATION

- The Licensee must comply with all Provincial regulations around the keeping of hens.
- The Province of Alberta requires all owners of poultry to register their flocks into the provincial database and obtain a Premises Identification (PID) Number. The PID enables the province to keep track of livestock site locations in case of potential disease outbreak. The Province will maintain communication with site owners should any information or incidents occur that would require site owners to take action.

ENFORCEMENT

- Bylaw Enforcement Officers will respond to all complaints and initiate investigations when warranted.
- When enforcement or other animal husbandry issues arise, Town Administration will work with hen keepers, neighbors, and other external stakeholders to ensure they are addressed and resolved in a timely manner.
- Failing to comply with the guidelines and regulations of the Urban Hen Keeping Pilot Program Bylaw may result in a fine, or a license being revoked.

GENERAL GUIDELINES ON HEN ENCLOSURES



LOCATION PLACEMENT

- A minimum of **3.0 m** (10 ft) from a dwelling unit
- A minimum of **1.0 m** (3.2 ft) from any lot line
- A minimum of **1.0 m** (3.2 ft) from any other buildings
- A minimum of **4.0 m** (12.8 ft) from any street adjacent to the property

HEN ENCLOSURE MUST BE:

- Located **within the rear yard** of the lot behind a detached or semi-detached dwelling
- No larger than **10 m** (108 sq ft) in floor area
- No more than **2 m** (6.5 ft) in height
- **Not attached** to a house or any other building
- If applicants plan on hardwiring electrical into their coop, they will need to apply for a **Electrical Permit**

ADDITIONAL REQUIREMENTS:

- Minimum of **2** hens, maximum of **4** hens
- Coop area must be minimum **4 sq ft per hen** with direct access to the outdoor run and adjustable ventilation
- Coop area is permitted to overlap or be raised above run area
- Run area must be minimum **10 sq ft per hen**
- Nest box of at least 1 per 4 hens, **12" x 12"** size

Urban Hen Keeping
1 Year Pilot Project

Neighbor Consent Form

Your neighbor at _____ would like to apply to participate in the Town of Lamont's new Urban Hen Pilot Program. The applicant must receive consent from **all** adjacent neighbors to continue with the application process. The pilot program is available to a maximum of five (5) households. Approved properties will be allowed a minimum of two (2) and a maximum of four (4) hens.

The pilot program places significant requirements on Urban Hen Keeping applicants to ensure the wellbeing of the hens, as well as to mitigate concerns around odors and nuisances.

Please refer to www.lamont.ca/urbanhens to view the following documents as part of your consideration of your neighbor's application:

- Town of Lamont Urban Hen Pilot Program Bylaw 14/23
- Urban Hen Keeping Guidelines
- The Application and Inspection Process

Is your house currently listed for sale or do you plan on listing within the next 6 months?

☐ Yes ☐ No

I verify that I am the adjacent property owner. I hereby give my permission for Urban Hens to be kept at the above noted property.

Printed Name: _____

Civic Address: _____

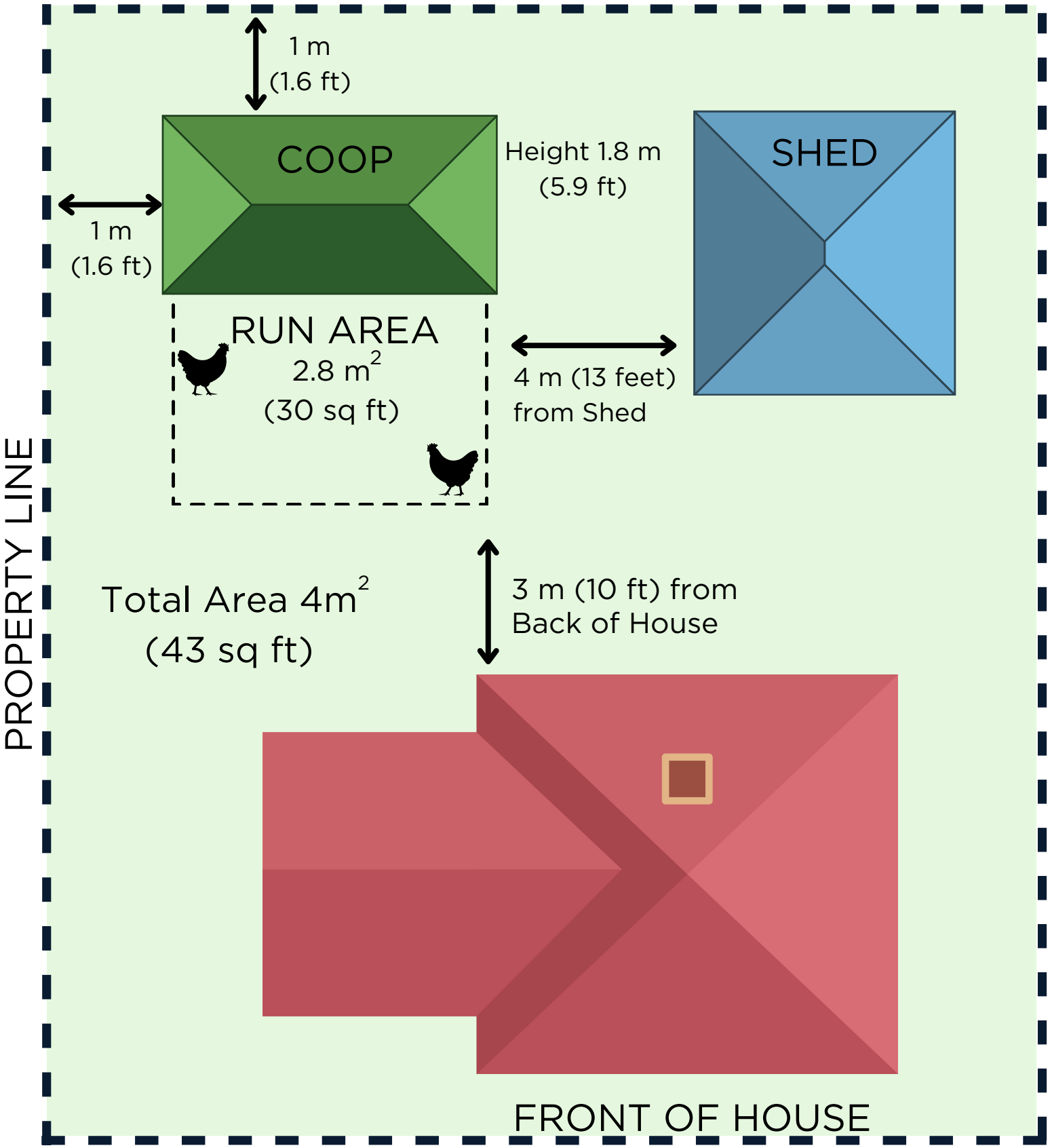
Phone Number: _____

I consent to the Urban Hen License
Signature: _____ **Date:** _____/_____/_____

I do NOT consent to the Urban Hen License
Signature: _____ **Date:** _____/_____/_____

The information on this form is being collected under Section 33(c) of the *Freedom of Information and Protection of Privacy Act* and will be protected under the provisions of the Act. If you have any questions about this collection, contact the Town of Lamont at 780-895-2010.

URBAN HEN ENCLOSURE
Example Site Sketch



TOWN OF LAMONT
COUNCIL AGENDA
REQUEST FOR DECISION

AGENDA ITEM: 4.7

COUNCIL MEETING DATE:
February 13, 2024

ITEM DESCRIPTION OR TITLE

Town of Lamont- 2024 Capital Works Program

RECOMMENDATION

THAT Council approve the 2024 Capital Works Funding Request as presented.

BACKGROUND

On December 12, 2023, Council approved the 2024 capital plan priorities that identified 46 Street, phase 1 as one of the top 2 priorities. This project includes storm drainage improvements, full sidewalk and gutter replacement and reconstruction. The project budget identified for this project is $618,750.

Administration is requesting Council approve $25,000 from the 2024 capital budget to complete the detailed design for the 46 street, phase 1 project. This will provide the required information to prepare the tender documents and post in time for the 2024 construction season. Funding will be confirmed as part of the budget deliberations scheduled in April 2024.

COMMUNICATIONS

Have Select Engineering Complete the detailed design work.
Post tender documents with clause stating the 2024 Capital Works Program is contingent on approved funding.

IMPLICATIONS OF DECISION

Posting the tender without detailed design, may cause inaccurate proposal submissions and construction delays.
The tender can be posted before budget approval, to ensure contractor is selected in time for the 2024 construction season.

FINANCIAL IMPLICATIONS

$25,000 from the 2024 capital budget.

POLICY AND/OR LEGISLATIVE REFERENCES

Strategic Plan- Goal: Demonstrate leadership in fiscal management and prioritization.

TOWN OF LAMONT
COUNCIL AGENDA
REQUEST FOR DECISION

ATTACHMENTS

N/A

Report Prepared By: Tyler Edworthy Director Operations and Infrastructure.

Approved by CAO:

TOWN OF LAMONT
COUNCIL AGENDA
REQUEST FOR DECISION

AGENDA ITEM: 4.8

COUNCIL MEETING DATE:
February 13, 2024

ITEM DESCRIPTION OR TITLE

Climate Change Adaptation & Resiliency Plan

RECOMMENDATION

THAT Council accept the Climate Change Adaptation & resiliency Plan as information.

BACKGROUND

Administration applied for the Climate Resiliency Capacity Building Program (CRCB) in 2023 receiving $78,500 in funding to develop the Climate Change Adaptation and Resiliency Plan for the Town of Lamont. The project identified five deliverables.

1) Project start up (Identify the scope of the plan).
2) Climate evaluation and prediction.
3) Staff & Public engagement.
4) Adaptation/ resiliency plan and recommendation.
5) Staff education (Climate action- Asset Management-Climate data and projections).

Climate projections were generated using the climatedata.ca and climateatlas.ca tools to identify a baseline temperature using data gathered from 1971- 2000 then projected to 2100. Using the climate projections, staff engagement, and local, regional, and provincial studies, eight climate hazards were identified that pose a risk to Town of Lamont Assets. They include:

- Extreme, rainfall, heat, cold, wind.
- Flooding
- Freeze/ Thaw cycles
- Drought
- Wildfire

A scoring matrix evaluating the identified hazards, the likelihood of exposure to the hazard, and the impacts of the exposure were used to develop the risk analysis.

Key findings from the risk analysis:

- Although eight hazards were identified the risk rating is lower for wind and drought as the impacts of these occurrences are less severe relating to Lamont's assets.

- Flooding and extreme rainfall events may still occur, but the potential impacts are reduced due to the operational changes and infrastructure investments that have been made.
- Extreme heat is becoming more of a concern as it is anticipated Lamont will see more days in the medium and high-risk zone in the future.
- Wildfires pose the highest risk when you consider the increased frequency of extreme heat causing drought conditions and the potential impact this type of event could have.

The risk analysis was applied to the assets identified in the report, that provided recommended mitigation measures, potential partnerships, and available grants. This information will be key in securing future funding as considerations to climate change and impacts are requested or required in the evaluation processes. This plan will also assist in the planning and prioritization of work planning and future budgeting.

COMMUNICATIONS

- Complete final grant reporting to Climate Resiliency Capacity Building Program (CRCB).
- Social Media Post stating the report was completed.

IMPLICATIONS OF DECISION

- Identify potential climate risks and impacts to assist in future planning.
- Provide information for future funding opportunities.

FINANCIAL IMPLICATIONS

- $78,500 through the CRCB program.

POLICY AND/OR LEGISLATIVE REFERENCES

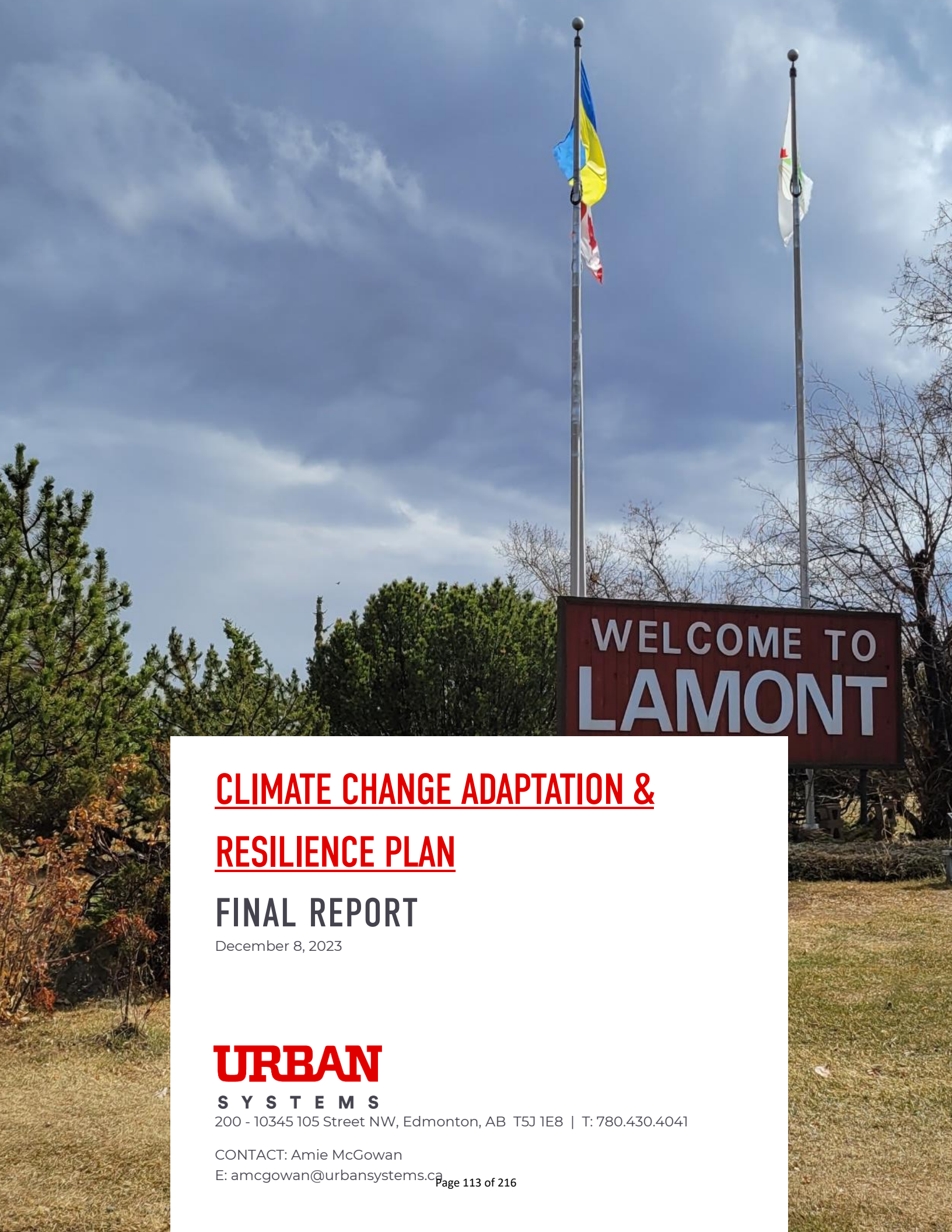
- Strategic Plan- Goal: Reduce impacts and increase efficiency of municipal operations.
- Strategic Plan- Goal: Increase resiliency of municipal infrastructure to extreme and unpredictable weather events.

ATTACHMENTS

- Climate Change Adaptation & Resiliency Plan

Report Prepared By: Tyler Edworthy Director Operations and Infrastructure.

Approved by CAO:



CLIMATE CHANGE ADAPTATION & RESILIENCE PLAN

FINAL REPORT

December 8, 2023

URBAN SYSTEMS

200 - 10345 105 Street NW, Edmonton, AB T5J 1E8 | T: 780.430.4041

CONTACT: Amie McGowan
E: amcgowan@urbansystems.ca

PREPARED FOR:

Town of Lamont
5307 50th Avenue
Lamont, AB T0B 2R0

200 - 10345 105 Street NW, Edmonton, AB T5J 1E8 | T: 780.430.4041

File: 5452.0001.01

CONTENTS

APPENDICES

TABLES

FIGURES

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EXECUTIVE SUMMARY

About the Climate Change Action Plan

The Town of Lamont was successful in receiving funding for this plan through the Climate Resilience Capacity Building (CRCB) Program under the Municipal Climate Change Action Centre. The objective of this project was to complete a climate risk assessment and develop a community Climate Change Adaptation and Resilience Plan (CCARP). This project also integrated internal capacity-building through training for staff and convening staff in working sessions to support the development of the plan. In addition, a meeting was held with the Public Works staff to gather their experiences of climate hazards in Lamont, as well as the mitigation measures the Town has already enacted. This initiative aims to provide the Town of Lamont a better understanding of its climate related vulnerabilities in relation to its infrastructure, operations, facilities and both private commercial and residential properties. The goal of the CCARP is to support the Town in making meaningful progress on identification, understanding, and prioritizing planning to address risks and vulnerabilities as it relates to climate change.

Climate Change in Lamont

Local climate data for Lamont was reviewed from a combination of publicly available climate change tools[1][2][3]. Seven climate hazards were identified as posing risks to the Town's assets.

Flooding (Lamont Creek)

Precipitation indicators and IDF data show a likely increase in urban flooding events, especially in the context of Lamont Creek, which is sensitive to extreme rainfall events and has flooded in the past due to high water levels.

Extreme Rainfall

Precipitation indicators and IDF data project an increase in the intensity, duration, and frequency of extreme rainfall events.

Freeze/Thaw Cycles

Temperature indicators show a warming weather over all future scenario periods. General Circulation Models relevant to Lamont and the surrounding area show that while warming weather results in a decrease in the number of freeze/thaw cycles (also referred to as frost heave), Lamont will continue to experience multiple days where temperatures fluctuate from above to below freezing.

Wildfire

There is agreement among General Circulation Models for Lamont and the surrounding area that summer temperatures will increase, and summer precipitation will decrease, increasing likelihood of conditions conducive to wildfires. Wildfire season is expected to progressively start earlier and last longer.

Extreme Heat

Average temperatures *and* the frequency of above average temperatures are projected to increase in Lamont indicating a likely increase in frequency of extreme heat events. The number of days with maximum temperatures greater than 30 C and 32 C are projected to increase significantly and the temperature of the hottest days are projected to increase across each time horizon.

Drought

The projected rising summer temperatures and decreasing summer precipitation will increase the likelihood of conditions conducive to drought. Lamont can expect summer precipitation to decrease in magnitude compared to the current baseline.

[1] Climate Data Canada
[2] IDF_CC Tool
[3] Edmonton's Climate Change Almanac

Extreme Wind

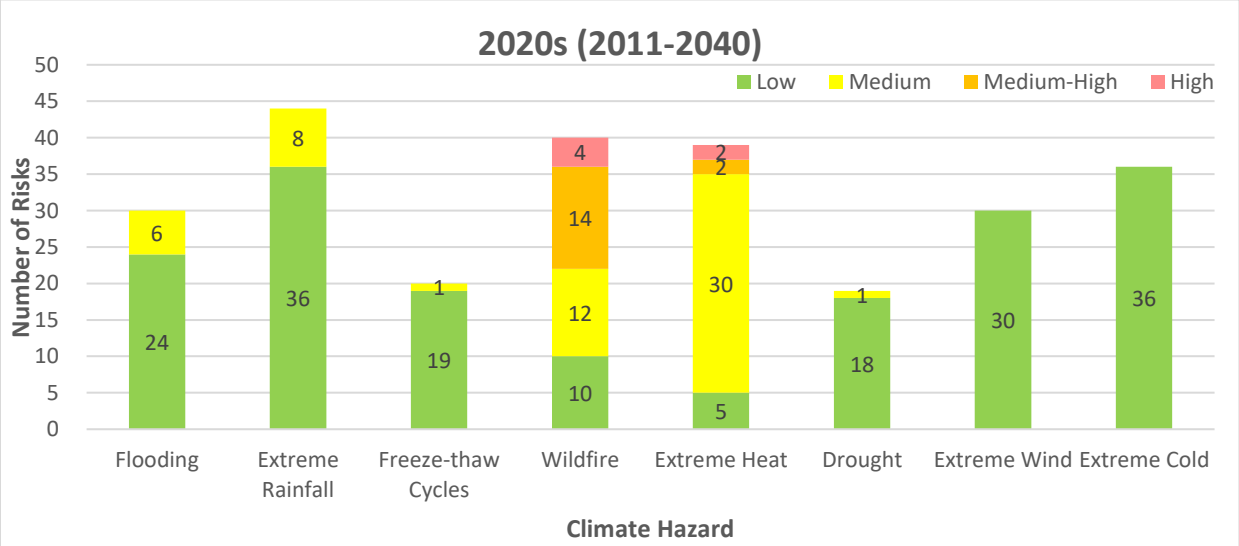
There is research indicating an increased frequency of high-speed wind events across Canada. The magnitude and frequency of future wind gust events are projected to be generally greater for more severe wind gust events. For example, the percentage increases in the frequency of future hourly wind gust events ≥28 and ≥70 km/h are projected to be approximately 10% and 20%–30%, respectively.

Extreme Cold

General Circulation Models show extremely cold weather being less frequent and of lower magnitude for Lamont. The number of days with minimum temperatures less than -15 C and -25 C are projected to decrease significantly, and the temperature of Lamont's coldest days is projected to increase across all future time horizons.

Risk Analysis Findings

A hazard and risk assessment were conducted to quantify and rank the risks that each climate hazard posed to Lamont's key assets across the 2020s (2011-2041), 2050s (2041-2070), and 2080s (2071-2100). The risk scores were developed using a combination of the likelihood of exposure to a climate hazard and the severity of impact to assets and services. To effectively score the severity of the impact, the consequence to health & safety, structural integrity, functionality, cultural resources, natural resources, economic productivity, insurance and restoration cost, and O&M costs were scored on a scale of 1-5. The initial severity scores were then reviewed with the Town Staff, to gauge how their personal experience informed the scoring process. The final summary of the risks scores for the 2020s was as follows:



The results indicate the climate hazards posing the greatest risk to Lamont are **wildfire**, **extreme heat**, **drought**, **extreme rainfall**, and **drought** based on the number of medium-high and high-risks associated with a climate hazard across all time horizons.

By far, wildfire was identified as the climate hazard posing the greatest risk to Lamont; this can be explained by the devastation to assets associated with wildfire in combination with the Town's minimal wildfire adaption measures in place. In addition, while Lamont has identified flooding (and extreme rainfall) as key climate hazards, the Town has already undertaken numerous measures and adaptations, both capital and operations that have reduced the associated consequence ratings. This resulted in lower overall risk scores for flooding and extreme rainfall compared to other climate hazards with lower projected frequencies.

1.0 BACKGROUND

Climate Impacts in Recent History

The Town of Lamont (Lamont) was built by homesteaders on the creek banks (Lamont Creek) and many of the area's wetlands were drained for development and agriculture. Due to Lamont's low elevation, the Town experiences high volumes of runoff from surrounding areas that have been overloading the existing infrastructure. Historically, the greatest climatic impacts on the Town have been associated with flooding. During storm events, it is typical for the sewer system to become overwhelmed, resulting in regular backups, impacting residents due to the combined storm/ sewer system. Capacity limitations of the combined system have led to a need for excess water to be pumped out of the system (at the Lift Stations) and discharged to the Creek to prevent backups into residences / businesses. Currently, the flows entering the existing stormwater system are greater than it can withstand and are accelerating deterioration of the system.

The community is at the highest risk of flooding after periods with a long winter and a quick spring thaw. In recent history, two of the more extreme flood events occurred in 2016 (significant rainfall over a 30-minute period that inundated the sewer system and lift station) and in 2018 (due to high spring water melt volumes, with floodwaters concentrated in the areas in town surrounding the Creek) (Northwest Hydraulic Consultants, 2018). The largest recorded flood event in Lamont occurred on July 22, 1982, where the area received 104 mm of rain resulting in widespread flooding of the townsite. This flooding was further exacerbated by the high-water levels in Lamont Creek; flooding of the Creek had the greatest impact to the area between 54 Ave (upstream), and the 48 St Bridge (downstream). Another significant rainfall event occurred on July 10, 2016, resulting in noteworthy flooding on 49 St., 49 Ave., across from the School, the Arena, and Duke Drive.

Addressing Climate Impacts

Lamont has directed multiple efforts towards the management of the flooding and has conducted a Stormwater Study for 50th avenue, a Watershed Study in partnership with MacEwan University, and begun work on a major sanitary trunk line to address infiltration and inflow issues. Additionally, through work with Resilient Rurals, Lamont received a set of regional specific flood prevention strategies, including items relevant to creek maintenance, ditch maintenance, utilizing retention ponds, and utilizing native vegetation that thrives in wetland environments.

Building upon the previous work done to address flooding, the Town wanted to incorporate a prioritized set of adaption and risk mitigation measures with regards to the broader climatic events impacting Lamont by assessing the risks posed by climate hazards on the infrastructure of the Town in order to ascertain ways in which resiliency can be built against these events.

In the spring of 2023, the Town submitted a successful application for funds to the Municipal Climate Change Action Centre (MCCAC) program to support the development of a Climate Change Adaptation and Resiliency Plan (CCARP) for the community. This report and its appendices are the outcome and final deliverable for the project.

2.0 PROJECT APPROACH & OBJECTIVES

Based on a review of climate change data and models using publicly accessible online tools such as *ClimateData.ca* and *Western University IDF_CC Tool* a climate evaluation and prediction summary memo outlining future projections for Lamont was prepared. This work, along with input from the Town of Lamont staff and public engagement exercises were used to identify hazards of most concern based on level of severity and likelihood of the hazard occurring. Subsequent sections of the report provide detail on the methodology used to identify, analyze and evaluate both climate hazards and impacts. These findings were further used to devise mitigation measures to protect Lamont's infrastructure systems and community services, and to build resilience against the impacts of climate change.

The findings also aided in the development of a custom framework which considers Lamont's priorities and the evaluation and prioritization of climate change risks and the generation and assessment of resultant risk mitigation measures.

The Town's CCARP represents a point-in-in time assessment using the best climate projection data and models available, and considers the state of existing infrastructure as well as efforts and recent work to address infrastructure vulnerabilities for the Town. It should be treated as a living document, and will be useful for the integration of climate change adaptation and resiliency measures into municipal operations and planning as well as the identification of possible gaps in existing initiatives.

3.0 INFORMATION COLLECTION

3.1 EXISTING DOCUMENT REVIEW

3.1.1 SUMMARY OF STORMWATER DRAINAGE STUDY

In 2018, Northwest Hydraulic Consultants Ltd. submitted the final report of the Stormwater Drainage Study on behalf of the Town of Lamont and Select Engineering Consultants Ltd.. The key objectives of this study were to provide a better understanding of the existing drainage system, identify upgrade requirements, develop concepts to mitigate impacts of surface runoff, and to provide stormwater management guidelines for future development. Within the major and minor system, upgrades such as upsizing the existing storm pipe to mitigate the risk of frequent surface flooding and provide 2–5-year service level (minor system) were identified, and the comprehensive list of recommendations is included in the report.

3.1.2 50TH AVE STORMWATER IMPROVEMENTS

In 2021, Select Engineering Consultants Ltd. provided the Town of Lamont with a technical memo. This memo detailed recommendations and preliminary cost estimates for upgrading the Town's major and minor storm sewer systems based on the findings from the Town of Lamont Stormwater Drainage Study (2018). The final recommendation was to perform all specified upgrades to the minor system and to utilize open channel ditches in combination with a shallow stormwater management facility to meet storage requirements during major storm events.

3.1.3 FLOOD PREVENTION STRATEGIES FOR THE TOWN OF LAMONT PROVIDED BY RESILIENT RURALS

The following information and flood prevention strategies were provided by Resilient Rurals in 2023.

Creek Maintenance

The following list contains the recommendations provided to maintain Lamont Creek to mitigate flooding.

- Enhancement of native vegetation
- Removal of invasive or noxious weeds
- Reduction of vegetation overgrowth
- Mitigating soil erosion
- Debris removal

Ditch Maintenance

The following list contains the recommendations provided to maintain the towns ditches to mitigate flood overflow and protect infrastructure.

- Vegetation management (maintain native vegetation -> reduces erosion)
- Sediment removal
- Monitor culvert condition

Utilizing Native Vegetation

- Utilize native plants in the design of the Town retention pond.
- Communicate to Town residents about the value of using adaptive native plant species on their own properties - Resilient Rurals resources are available to support education.
- Continue to naturalize the flood fringe and floodway areas of the town with native, flood-tolerant plant species.

3.1.4 LAMONT FLOOD RISK MAPPING STUDY

In March of 1998 Stanley Associates Engineering Ltd. provided a report that presented flood risk mapping for a 5.9 km reach of Lamont Creek, a 1.6 km reach of Tributary A, and a 0.9 km reach of Tributary B.

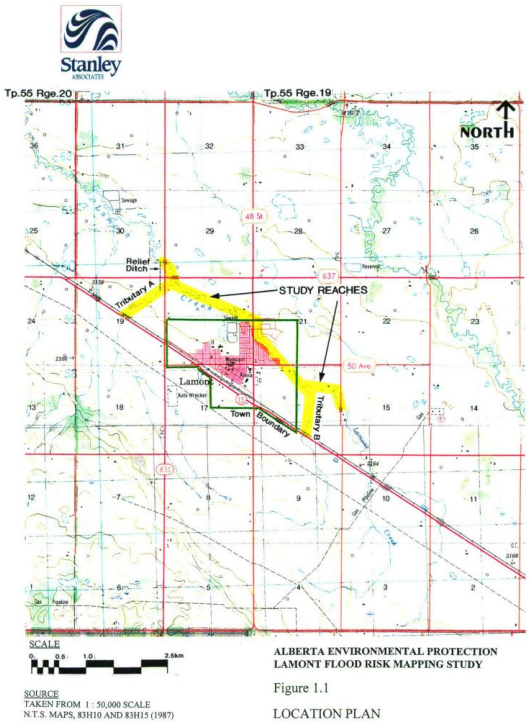


Figure 3-1 Study Area in 1998 Flood Risk Mapping Study

The floodway of Lamont Creek and the two tributaries of the Creek are located along the main channel and the overbank area immediately adjacent to the study reach. As of 1998, this area was mostly composed of agricultural land without structures, as well as a grassed parkland and two footbridges located within the Town of Lamont. The area within the flood fringe was primarily agricultural land without structures, the grassed parkland, footbridges, and a residential building within the Town of Lamont. There are two primary locations where overland flooding was likely to occur as per the study and are highlighted in Figure 3-2.

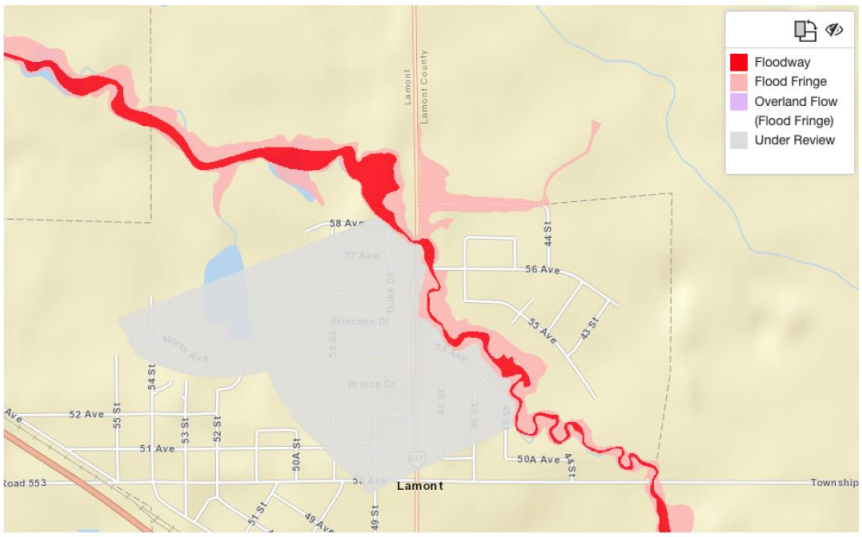


Figure 3-2 Section of Flood Frequency Map with Locations where Overland Flow Typically Occurs Highlighted from 1998 Study

3.1.5 TOWN OF LAMONT: FLOOD REDUCTION – WATERSHED POLICY

A team of students at MacEwan University conducted a jurisdictional scan on flood reduction and provided recommendations to the Town of Lamont for an improved watershed policy. The four major recommendations presented in this paper are as follows:

1. Implement a water collection site that monitors the levels of water in the Creek itself.
2. Conduct flood assessments of the area downstream from the Town of Lamont all the way to the North Saskatchewan River. Update the flood risk mapping (most recent study completed in 1998).
3. Create a repository for the archiving of this data. An arrangement to be determined but would be accessible to all interested parties and community members. This can either be within the watershed alliance itself or have the North Saskatchewan Watershed alliance assist with it.
4. Create a working dialogue between the Municipal and Provincial departments that deal with hydrological and watershed issues.

3.1.6 GIS MAPS

The Town also provided a compiled document outlining the GIS Maps presenting the respective roads, force mains, sewer gravity mains, catch basins, sewer manholes, culverts, storm gravity mains, inlet outlets, storm manholes, water valves, water plugs, water reducers, hydrants and watermain networks. These maps were incorporated and referenced into the risk register when determining the severity scores and therefore the final risk scores for the Town's assets. The GIS maps provided proved invaluable to accurately determining risk scores thus creating a climate action and resilience plan particularly tailored to Lamont.

3.2 ENGAGEMENT

3.2.1 WHAT WE HEARD MEETING

To collect information about past events and how Lamont's assets have been affected by climate events, a workshop was held with the Public Works staff on May 10, 2023 to learn about their experiences. Below are key findings with respect to the relevant climate hazards, that were considered when determining the final risk scores:

Rainfall events

- In 2016, the Town received 6 inches of rain in less than an hour. During the 2016 flood, at Duke Drive, there was a storm pipe that drained into the creek, but it backed up and caused the stormwater to surcharge out of a connection joint in the pipe through pavement cracks in the road. In addition, during the 2016 event, water was flowing out of the arena parking lot and backing up the drains. At the school across the street, the water depth was 12- 18 inches deep.
- The Town is in a low-lying area and gets significant runoff from surrounding areas. During spring melt, water flows from Elk Island into the community with such velocity that it creates a stream.
- There have been upgrades to the sewage lagoons to increase capacity, but no upgrades to the lift stations which are the bottleneck point and were initially installed in 1972.
- During storm events it is typical for the sewer system to become overwhelmed (60% of the town has a combined storm/ sewer system, located in low elevation regions), operators have to pump out of the system (at the Lift Stations) and discharge to the creek to prevent backups. There have been times when the system has become so overloaded that backups into private homes in Hillside (via toilets) occurred. In addition, many houses have their weeping tile system tied into the storm network.
- The storm system is interconnected to the creek, if a downstream catchment takes up all the capacity by discharging into the creek, the upstream catchments back up. The creek often becomes clogged due to the high volume of discharge, the creek naturally does not flow fast enough to clear away obstructions. Alberta Environment is alerted when they must pump out of the system and into the creek.
- The stormwater system is composed of culverts (corrugated steel) and underground pipes (concrete), flows are very high and are causing deterioration of the system. There has been more deadfall from the cycles between extreme heat and flood and drought conditions, which is impacting drainage routes by blocking channels and culverts.
- Water is leaking out of the pipes, and building up at the headwalls because capacity and condition are not adequate. A backwater effect is being created, but at culvert crossings, the road elevation is high enough that overtopping is not occurring (so the roads are acting as berms). The surrounding soils are washing away, and the infrastructure is not being properly supported anymore (collapsing). Standing water on the road creates potholes and a soft base, which depletes expected roadway life, roads became impassable during flood events (turned into mud).
- Sump pumps in residents houses often never stop pumping, even if there hasn't been rain in many days.
- The Town has a SCADA, meaning the reservoir does not have to be physically checked on everyday.

- Excessive moisture is creating heaving of concrete slabs around buildings and the sidewalks. Cracks allow moisture to get in and it's disturbing the underground foundation. Sidewalks are shifting, heaving, and dipping.

High winds

- Recently, the entire roof of the Beaver Creek Shop had blown off due to high winds.
- After power outages many of the monitoring alarms at the water/ wastewater building need to be reset.
- There has been an increase in power interruptions lately due to high wind events, but are still considered to be minimal.

Wildfires

- There are often wildfires to the west of the Town (most are started through ATV use)
- The number of wildfires has increased in recent years.
- When the fire hydrants are used breaks occur in the watermain.
- Wildfires create operational strain dealing with aging infrastructure and having to routinely find breaks caused by pressure fluctuations, the weakest point always breaks.
- Last year there were 4 days recorded where air quality was rated as an extreme danger.

Extreme Heat / Drought

- Problems with dust suppression on gravel roads (conditions exasperated by hot, dry weather and high winds)
- Difficult to achieve compaction on new roads being built (or existing that are being rehabilitated), without moisture.
- The grass is not growing well and has to be watered often. When the grass begins to die the weeds take over, operations need to spend more time completing maintenance. Large established trees also need routine watering to survive. The increased maintenance impacts operations and is a strain on resources, watering needs to occur about 4 times a week.
- There have been water restrictions in the past, put in place by the water commission.

Extreme Cold

- Days of extreme cold are more frequent than in the past years.
- The extreme cold drives the frost into the ground, which causes more frequent watermain breaks.
- The fire hydrants must be plugged in the winter, because of the extreme cold cycles and the high-water table, otherwise the hydrants will freeze in the winter and break.
- Recently there have been lots of fluctuations between extreme temperatures (plus 4 to -30 in a matter of 12 hours) that is casing lots of ice build up (in layers) and ice surfaces.
- Creates operational challenges as significant sanding is required.

3.2.2 UNDERSTANDING CLIMATE DATA AND PROJECTIONS – STAFF SESSION 1

As part of the project, the Town opted to include two staff capacity building sessions; the first was held on May 24, 2023. The session was focused on understanding climate data and projections was aimed to build capacity on understanding climate data, projections, and hazards localized to Lamont, and the impacts of climate change on the Town. It covered an outline of how climate change impacts municipalities, what climate hazards are, with a specific focus on climate hazards impacting Lamont. The objective and purpose of a Climate Change Adaptation and Resilience Plan (CCARP) and what this

can look like for Lamont was discussed. Circumstances in which the document could be used were discussed as well; some of these included - understanding what impacts Lamont can expect when planning for the future, enhancing resilience, during natural disasters, resource and time allocation, early warning system, situations requiring emergency planning and response like natural disasters. The CCARP would also help in the integration of climate change into municipal processes, increasing asset lifecycle, and service delivery maintenance and improvement. During this meeting the Town staff (7 in attendance), noted the following climate hazards that they feel impact Lamont in Figure 3-3. In further analysis, all hazards except landslides were carried over for evaluation.

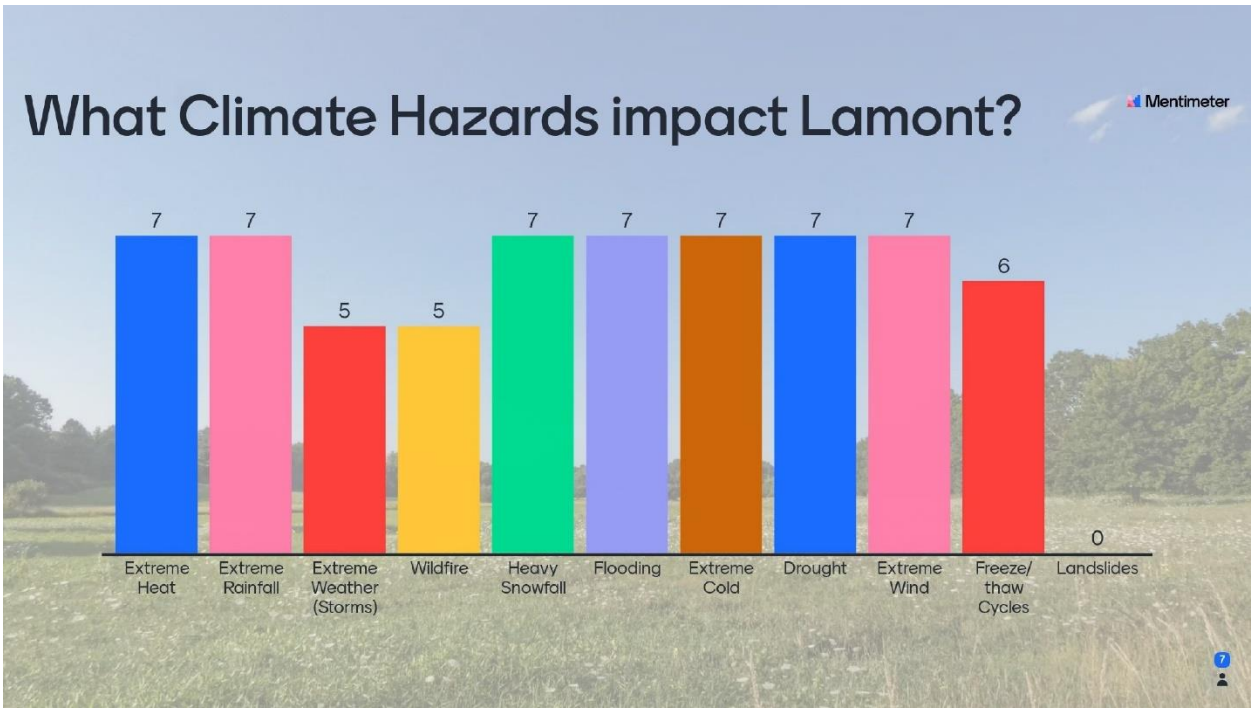


Figure 3-3 Staff Response to Climate Hazards Impacting Lamont

Additionally, the workshop covered background on available climate data and analysis procedures (expanded upon in Section 4 of this report) such as selected available tools (*ClimateData.ca* and *ClimateAtlas.ca*) to provide the Town a better understanding of the methodology of work to develop risk ratings and climate projections. This also served to build capacity within Town staff to access these databases to view information as needed. The education session concluded with an overview in hazard assessment and how climate hazards factor into planning efforts being cognizant of the different impact categories that need to be considered while assessing hazards such as impacts on public health and safety, infrastructure, natural environment, food security, economy and service operations and financial/ legal impacts.

3.2.3 RISK AND VULNERABILITY – STAFF ENGAGEMENT AND REVIEW SESSION

A staff engagement and review session was conducted on May 24, 2023, to go over the first draft of consequence ratings and rationales. The Town staff shared specific details and experiences regarding Town operations including challenges and previous climate events. A lot of valuable information and insights were gathered that helped tailor the ratings and rationales to better reflect Lamont's landscape. The session also facilitated an opportunity for the Town to critically think through how specific climate events would impact their assets and services. The information gathered was used to

finalize the consequence analysis and commence work on a summary of risks, consequences, impacts to formulate recommended actions.

3.2.4 UNDERSTANDING ASSET MANAGEMENT AND CLIMATE CHANGE – STAFF SESSION 2

The second staff session was held on November 7, 2023 and focused on a breakdown of asset management, how to integrate the climate change into asset management, and utilizing the climate change action and resilience plan. The goal of this workshop was to build capacity in asset management and understanding of the asset management tools the Town already employs. It covered an outline of utilizing an asset replacement forecast (ARF) and key asset management strategies in municipalities. There was a particular focus on good decision-making processes: understanding risk, understanding service, and understanding costs & funding. In addition, there was a focus on describing an asset's level of service and how these factor into asset management and decision making.

The session closed with information on implementing the risk management process (with a particular focus on risks due to climate change) and the benefits of a robust asset management system when prioritizing, making, and justifying planning decisions to the community.

4.0 CLIMATE CHANGE PROJECTIONS

4.1 PROJECT AREA SPECIFIC INFORMATION

Lamont experiences a typical climate of the Canadian Prairies, encompassed by cold winters, variable spring runoff, warm summers with occasional extreme heat and drought, and high winds, which present various infrastructure and daily life challenges. To echo the findings of the first staff engagement session regarding precipitation patterns "sometimes it's too wet, sometimes it's too dry" with the Town experiencing both extreme rainfall, flooding of Lamont Creek and periods of drought.

Lamont displays a particular vulnerability to flooding events due to a combination of precipitation patterns, low elevation, and high groundwater table. The Town faces its highest flood risk during extended winters followed by sudden spring thaws. Spring results in the thawing of snow and ice, causing rapid runoff and potential flooding, especially during heavy rainfall events like was the case in the 2016 storm event. Winters bring occasional extreme cold spells, leading to frost-related issues and the need to protect fire hydrants from freezing. Summer in Lamont historically is warm and average temperatures will continue to increase resulting in an increase in extreme heat and drought events, exacerbating dust suppression challenges and increased watering for greenery maintenance. The region also faces high winds, occasionally causing damage and power outages.

4.2 ANALYSIS

A technical summary of the climate change projections is included in *APPENDIX A: CLIMATE CHANGE MEMORANDUM*

Climate change data and summaries were prepared using online tools such as *ClimateData.ca* and *Western University IDF_CC Tool*. *ClimateData.ca* was used to download and generate summaries of annual and seasonal climate change projections for temperature and precipitation indicators for Lamont. The

IDF_CC Tool was used to generate summaries of projected changes in the Intensity, Duration, Frequency (IDF) curves for extreme rainfall events.

The data generated using each tool was based on Coupled Model Intercomparison Project 6 (CMIP 6). There are three emissions pathway options for CMIP6: low, moderate, and high. However, these are now called Shared Socioeconomic Pathways (SSPs) instead of Representative Concentration Pathways (RCPs). SSPs provide an enhanced understanding of the relationship between socio-economic factors (such as education, population, environmental policy, and more more) and climate change. The SSP5-8.5 scenario was selected as it is the most conservative and best suited for planning projects. The SSP5-8.5 scenario is often considered the "business as usual" or "worst-case" scenario, reflecting the conditions resulting from low efforts globally to meet GHG emissions reduction targets.

To effectively quantify the projected changes in climate for Lamont the baseline period for the assessment was 1971-2000. The three future time periods used to breakdown the climate projections over the century were 2011-2040 (2020s), 2041-2070 (2050s), and 2071-2100 (2080s).

4.2.1 TEMPERATURE PROJECTIONS FOR LAMONT

The following tables summarize the projected temperature changes for Lamont, generated using the *ClimateData.ca* Tool. This tool allows for the extreme rainfall data gathered by Environment and Climate Change Canada operated weather stations in the region to be adjusted and updated to reflect the climate change projections based on the CMIP6 – SSP5-8.5 Model.

Temperature data is useful for determining the general conditions and relevant climate hazards Lamont can expect in the upcoming century. For example, if the 'Hottest Day' temperature is increasing across all time horizons, mitigating climate hazards such as drought and extreme heat are likely to be more critical to the Town's planning efforts.

Table 4-1 presents an overview of the projected changes in seasonal, annual, and extreme temperatures over the 2020s, 2050s, and 2080s based on the CMIP6 – SSP5-8.5 Model to help quantify the general temperature conditions of Lamont over the century.

Table 4-1 Temperature Climate Indicators and Projected Changes for Lamont

Climate Indicator (30yrs. Avg)	Time Horizon						
	Baseline (1971-2000)	2020s (2011-2040)		2050s (2041-2070)		2080s (2071-2100)	
	Temperature (°C)	Temperature (°C)	Change (°C)	Temperature (°C)	Change (°C)	Temperature (°C)	Change (°C)
Annual Mean Temperature (°C)	2.3	4.0	+1.7	6.0	+3.7	8.5	+6.5
Spring	2.8	4.3	+1.5	5.8	+3.0	7.7	+4.9
Summer	15.4	17.3	+1.9	19.2	+3.8	22.3	+6.9
Fall	3.1	4.9	+3.1	7.1	+4.0	9.5	+6.4
Winter	-12.5	-10.7	+1.8	-8.6	+3.9	-6.1	+6.4
Hottest Day (°C)	30.7	33.0	+2.3	35.3	+4.6	37.9	+7.2
Coldest Day (°C)	-38.3	-35.4	+2.9	-32.0	+6.3	-27.4	+10.9

Table 4-2 presents the change and expected number of noteworthy climatic events over the 2020s, 2050s, and 2080s based on the CMIP6 – SSP5-8.5 Model to help quantify the significant temperature events Lamont can expect over the century.

Table 4-2 Projected Days with Noteworthy Climatic Events for Lamont

Climate Indicator (30yrs. Avg)	Time Horizon						
	Baseline (1971-2000)	2020s (2011-2040)		2050s (2041-2070)		2080s (2071-2100)	
	# of Days	# of Days	Change (Days)	# of Days	Change (Days)	# of Days	Change (Days)
Days with T_{min} < -15	68	55	-13	42	-26	27	-41
Days with T_{min} < -25	24	17	-7	11	-13	3	-21
Days with T_{max} > 30	3	10	+7	21	+18	47	+44
Days with T_{max} > 32	1	4	+3	11	+10	30	+29
Freeze/Thaw Cycles	89	84	-5	77	-12	67	-22

Tables 4-1 and 4-2 indicate average annual temperature are expected to increase for all seasons and across all future time horizons with temperatures reaching 6 °C above the 1971-2000 baseline by the end of the century. Additionally, Lamont can expect maximum temperatures that are hotter than previously experienced and very hot days to increase significantly, to 29 (days with Tmax > 32) and 44 (days with Tmax > 30), by the end of the century. The coldest day of the year is expected to get warmer, increasing by approximately 11 °C above the baseline by the end of the century. The overall increase in temperatures is not surprising but does indicate in the context of Lamont's resiliency to changing temperature patterns, extreme heat is a key climate hazard and extreme cold may not be as critical.

As presented in Table 4-2 Lamont can expect less ice days and freeze/thaw cycle days than in the past due to warming winters, though they will still comprise a significant number of days (67) throughout the year towards the end of the century, identifying freeze/thaw cycles as a clear climate hazard.

4.2.2 PRECIPITATION PROJECTIONS FOR LAMONT

The following tables summarize the intensity-duration-frequency curves for Lamont, generated using the *IDF_CC Tool*. This tool allows for the extreme rainfall data gathered by Environment and Climate Change Canada operated rain stations in the region to be adjusted and updated to reflect the climate change projections based on the CMIP6 – SSP5-8.5 Model.

Table 4-3 presents the historic rainfall intensities gathered from Environment Canada operated rain stations. The duration levels refer to the measured level (depth in mm) on precipitation over a 1 hour, 2-hour, 6-hour, 12-hour, and 24-hour storm event. The return periods help to gauge the severity of the storm (eg. 2-Yr refers to the 1 in 2-year storm, or a storm of magnitude that statistically occurs every 2 years). The storm return periods are useful planning tools as storm systems are typically designed to handle the capacity of the 1 in 5-year flood event (minor system) and 1 in 100-year (major system).

Table 4-3 Historical Rainfall Intensity Generated through IDF_CC Tool for Lamont

Duration	2-Yr	5-Yr	10-Yr	20-Yr	25-Yr	50-Yr	100-Yr
1 h (mm)	14.6	21.2	26.4	32.6	34.4	42.0	51.5
2 h (mm)	18.1	25.6	31.7	38.9	41.1	50.0	60.9
6 h (mm)	26.3	37.6	46.1	55.4	58.3	68.6	80.0
12 h (mm)	32.4	47.2	58.7	71.3	75.3	89.4	105.1
24 h (mm)	40.4	57.2	69.6	82.7	86.8	100.8	115.8

Tables 4-4, 4-5, and 4-6 present the percentage change (of mm of precipitation) from baseline rainfall data to the adjusted/ projected (CMIP6-SSP-8.5 Model) rainfall intensities across the 2020s, 2050s, and 2080s.

Table 4-4 Projected Rainfall Intensity Changes for 2020s (Town of Lamont)

Duration	2-Yr	5-Yr	10-Yr	20-Yr	25-Yr	50-Yr	100-Yr
1 h (% Change)	3	1	2	0	0	-1	-3
2 h (% Change)	3	1	2	0	0	-1	-3
6 h (% Change)	3	1	2	0	0	-1	-3
12 h (% Change)	3	1	2	0	0	-1	-3
24 h (% Change)	3	1	2	0	0	-1	-3

Table 4-5 Projected Rainfall Intensity Changes for 2050s (Town of Lamont)

Duration	2-Yr	5-Yr	10-Yr	20-Yr	25-Yr	50-Yr	100-Yr
1 h (% Change)	6	3	2	2	2	1	2
2 h (% Change)	6	3	2	2	3	1	2
6 h (% Change)	6	3	2	2	2	1	2
12 h (% Change)	6	3	2	2	2	1	2
24 h (% Change)	6	3	2	2	2	1	2

Table 4-6 Projected Rainfall Intensity Changes for 2080s (Town of Lamont)

Duration	2-Yr	5-Yr	10-Yr	20-Yr	25-Yr	50-Yr	100-Yr
1 h (% Change)	11	11	10	11	13	12	12
2 h (% Change)	11	11	10	11	13	12	12
6 h (% Change)	11	11	10	11	13	12	12
12 h (% Change)	11	11	10	11	13	12	12
24 h (% Change)	11	11	10	11	13	12	12

Tables 4-4, 4-5 and 4-6 indicate that the intensity, duration and frequency of extreme rainfall events are estimated to decrease by approximately 3% during the 2020s and increase by 2% and 12% during the 2050s and the 2080s respectively. In the context of Lamont's resiliency to changing precipitation patterns, extreme rainfall and flooding are a clear climate hazard, as echoed in earlier studies the Town has conducted.

4.2.3 WIND

There is little data regarding wind speeds and direction for the study area, and this variable is not provided as an output from GCMs. However, a study prepared for Environment Canada[4] includes the following findings:

- Canada could potentially experience more wind gust events late this century than has been historically experienced.
- The magnitude and frequency of future wind gust events would be generally greater for more severe wind gust events. For example, the percentage increases in the frequency of future hourly wind gust events ≥28 and ≥70 km/h are projected to be approximately 10% and 20%–30%, respectively.

The corresponding increases for future hourly wind gust events ≥90 km/h are projected to be more than 100%. As per the Edmonton Climate Adaptation Strategy (2018), the frequency of extreme events in the region such as high winds are trending towards an increase[5].

Currently the chance of wind gusts greater than 90 km/hr in the Edmonton region, which is in close proximity to Lamont, in any given year, is about 40 per cent. As early as 2040 the probability of a wind gust greater than 90 km/hr in any given year is forecasted to be 100 percent[6].

5.0 HAZARD AND RISK ANALYSIS

The following methodology was employed to quantify and rank the risks that climate change poses to Lamont. The climate hazards that the Town's key assets were most vulnerable to were identified based on the regional climate and through discussions with staff. Using a combination of climate data and staff engagement, the consequence the climate hazard would have on elements of the asset category were assigned a score from 1 to 5. This score represents the consequence rating, or a numerical value of the impact the hazard would have on an asset or service. Additionally, a separate likelihood score from 1 to 5 was assigned to each hazard based on the projected climatic trends for each time period of the associated climate indicators. The final risk score that a climate hazard poses to an asset was determined by multiplying the consequence score by the likelihood score (risk = consequence x likelihood). This process of assigning numerical risk values considered both the magnitude of the consequence and likelihood of occurrence to produce an overview of all at risk assets and a clear prioritization structure to plan for future hazard mitigation.

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[4] Cheng, Chad S; Lopes, Edwina; Fu, Chao; Huang, Zhiyong (2014). Possible Impacts of Climate Change on Wind Gusts under Downscaled Future Climate Conditions: Updated for Canada. Journal of Climate. Vol 27: 1255-1270.
[5] Climate Resilient Edmonton: Adaptation Strategy and Action Plan
[6] Edmonton's Climate Change Almanac

5.1 CLIMATE HAZARDS

The climate hazards with the greatest impact to Lamont and its assets were identified through staff engagement and analyzing regional reports. To help quantify the projected frequency and severity of the broader climate hazards, measurable phenomena known as climate indicators were selected to assess the climate change projections relevant to the town.

The key climate hazards for Lamont were identified as follows: Flooding (Lamont Creek), Extreme Rainfall, Freeze / Thaw Cycles, Wildfire, Extreme Heat, Drought, Extreme Wind, and Extreme Cold. These hazards are summarized in the following sections.

5.1.1 FLOODING (LAMONT CREEK)

Precipitation indicators and IDF data show a likely increase in urban flooding events, especially in the context of Lamont Creek, which is sensitive to extreme rainfall events and has flooded in the past due to high water levels. The climate indicators selected to model the projected trends for the frequency and severity for flooding in Lamont were:

- Maximum 1-Day Precipitation
- Maximum 5-Day Precipitation
- Wet Days ≥ 20mm
- IDF_CC Data (Precipitation Intensity Duration and Frequency Data Adapted for Climate Change)

5.1.2 EXTREME RAINFALL

Precipitation indicators and IDF data show that the intensity, duration, and frequency of extreme rainfall events are estimated to increase by 2% during the 2020s (2011-2040), 6% by the 2050s (2041-2070), and 8% by the 2080s (2071-2100). The climate indicators selected to model the projected trends for the frequency and severity for flooding in Lamont were:

- Maximum 1-Day Precipitation
- Maximum 5-Day Precipitation
- Wet Days ≥ 20mm
- IDF_CC Data (Precipitation Intensity Duration and Frequency Data Adapted for Climate Change)

5.1.3 FREEZE/THAW CYCLES

Temperature indicators show a warming weather over all future scenario periods. General Circulation Models relevant to Lamont and the surrounding area show that while warming weather results in a decrease in the number of total freeze/thaw cycles (also referred to as frost heave), Lamont will continue to experience multiple days where temperatures fluctuate from above to below freezing. In the 2020s the Town is expected to see an average of 84 days that experience a freeze/thaw cycle, in the 2050s an average of 77 days, and in the 2080s an average of 67 days. The number of freeze/thaw cycles experienced per year is a directly measurable climate hazard, therefore it will also act as the climate indicator in this context.

5.1.4 WILDFIRE

There is agreement among General Circulation Models for Lamont and the surrounding area that summer temperatures will increase, and summer precipitation will decrease, increasing the likelihood of conditions conducive to wildfires. Wildfire season is expected to progressively start earlier and last longer. The climate indicators selected to model the projected trends for the frequency and severity for wildfire in Lamont were:

- Mean Temperature During Summer Season
- Days with Maximum Temperature > 30 C
- Days with Maximum Temperature > 32 C
- Total Precipitation During Summer Season

5.1.5 EXTREME HEAT

Average temperatures *and* the frequency of above average temperatures are projected to increase in Lamont indicating a likely increase in the frequency of extreme heat events. The number of days with maximum temperatures greater than 30 C and 32 C are projected to increase significantly. Lamont can expect an average of 10 days above 30 C per year in the 2020s, an average of 29 days above 30 C by the 2050s, and an average of 47 days above 30 C by 2080s compared to the baseline value (1970-2000) of 3 days per year. In addition to experiencing an increase in the frequency of days above a threshold of 30 degrees, the hottest days are projected to increase by an average of 2.3 C in the 2020s, 4.6 C in the 2050s, and 7.2 C in the 2080s compared to baseline. The climate indicators selected to model the projected trends for the frequency and severity of extreme heat events in Lamont were:

- Days with Maximum Temperature > 30 C
- Days with Maximum Temperature > 32 C
- Hottest Day

5.1.6 DROUGHT

The projected rising summer temperatures and decreasing summer precipitation will increase the likelihood of conditions conducive to drought. Lamont can expect summer precipitation to decrease in magnitude by 6% in the 2020s, a decrease of 4% in the 2050s, and a decrease of 9% in the 2080s compared to the current baseline. The climate indicators selected to model the projected trends for the frequency and severity of periods of drought in Lamont were:

- Total Precipitation During Summer Season
- Mean Temperature During Summer Season
- Days with Maximum Temperature > 30 C
- Days with Maximum Temperature > 32 C

5.1.7 EXTREME WIND

There is research indicating an increased frequency of high-speed wind events across Canada. The magnitude and frequency of future wind gust events are projected to be generally greater for more severe wind gust events. For example, the percentage increases in the frequency of future hourly wind gust events ≥28 and ≥70 km/h are projected to be approximately 10% and 20%–30%, respectively.

- No direct indicator (Literature review indicated projected increase[7] in future annual mean wind speeds[8])

5.1.8 EXTREME COLD

General Circulation Models show extremely cold weather being less frequent and of lower magnitude for Lamont. The number of days with minimum temperatures less than -15 C and -25 C are projected to decrease significantly, Lamont can expect an average of 17 days below -25 C per year in the 2020s, an average of 11 days below -25 C by the 2050s, and an average of 3 days below -25 C by 2080s compared to the baseline value of 24 days below -25 C. The climate indicators selected to model the projected trends for the frequency and severity of extreme cold events in Lamont were:

- Days with Minimum Temperature < -15 C
- Days with Minimum Temperature < -25 C

5.2 COMMUNITY COMPONENTS

Through staff engagement and review of the existing facilities the following key asset categories and elements were identified for the Town of Lamont: the environment, human health, culture/daily life, stormwater systems, wastewater collection systems, water systems, community buildings, residential homes, transportation systems, commercial buildings, and the local economy. The Town assets were subcategorized into the elements that comprise the overall asset to better identify specific consequences of climate hazards and accompanying mitigation measures. An exposure analysis and subsequent consequence and risk assessments were conducted on the elements with respect to each climate hazard. For example, water systems were identified as an asset for Lamont, and the elements that comprise the water systems includes the source water, reservoirs, and water mains which will be assigned 11 risk scores (1 per hazard) over each time period.

[7] Possible Impacts of Climate Change on Wind Gusts under Downscaled Future Climate Conditions: Updated for Canada
[8] Projected Changes to Mean and Extreme Surface Wind Speeds for North America Based on Regional Climate Model Simulations

Table 5-2 summarizes The Town of Lamont's main assets and subsequent elements used to analyse potential climatic impacts.

Table 5-1 Summary of The Town of Lamont's Assets and Respective Elements

Asset	Element	Description
Environment	Lamont Creek	The creek that runs through the town
	Parks	Areas that the town looks after as part of their service offering
	Natural Forests	Forested areas that exist naturally (not maintained by the town)
	Farmland	Farmland/cropland
	Wetlands/Waterbodies	Streams, wetlands, ponds, connected waterbodies nearby
Human Health	Physical	The temporary and long-term physical wellbeing of individuals. Includes immediate and long-term accessibility to care services
	Mental/Emotional	The temporary and long-term mental wellbeing of individuals. Includes accessibility to services (counselling after events), routine access to therapist etc., services that are offered after traumatic events
	Spiritual	Ability to access places of faith
Culture/Daily Life	Social Wellbeing	Ability to interact with others, access to shared places to gather
	Historical/Cultural Locations	Places of cultural meaning, traditional areas that are held in high regard (i.e. cemeteries) and their accessibility
	Personal Autonomy	Having the agency of choice. Being able to make choices for yourself without external regulations preventing your routine life (i.e. I can't go to the library as I do every Tuesday because the town is evacuated)
Infrastructure: Stormwater Systems	Stormwater Mains	Underground stormwater mains, including manholes
	Culverts + Ditching	Culverts on roadways, ditching and conveyance routes to facilitate drainage through culverts.
	Gutters and Catch Basins	Includes gutters and catch basins as conveyance routes on paved roads
	Stormwater Management Facility	Wet ponds and Dry Ponds
Infrastructure: Wastewater Collection Systems	Wastewater Mains	Underground wastewater mains, and manholes
	Lift Station (Creekside)	The wet well and the pumps that are within the lift station, the force main
	Lift Station (Edna)	The wet well and the pumps that are within the lift station, the force main

Asset	Element	Description
	Wastewater Treatment Facility	The wastewater treatment lagoon, including all components
Infrastructure: Water Systems	The Source Water	The regional pipeline from Edmonton, any pumphouses along the way, valves
	Reservoirs	The pumphouse building, all process piping, pumps, equipment, storage reservoirs
	Water Mains	The underground water mains, the valves, the hydrants
Community Buildings	Schools	Elementary and High School (library inside) buildings and school grounds
	Firehall	The hall, fire trucks and the firehall service delivery
	Hospital	The equipment and supplies within the hospital
	Arena + Rec/Facility Hall	The complex, the building, the Zamboni
	Curling Rink	The plant and the building itself
	Playgrounds (3)	Playground equipment and grounds
	AHS Operations Building	Ambulance storage facility
	Lamont Town Office	Town office building and parking lot
	Lamont County Office	County office building and parking lot
	Beaver Hill/Creek Lodge	Seniors' care home
Residential Homes	Private Homes	Includes the houses (house, apartment, trailer) , the lots they sit on, their foundation, associated market value for the properties, insurance rates
Infrastructure: Transportation Systems	Local Roadway Network (Gravel)	The roads that are within Town limits, that are gravel. Includes surface and base material
	Local Roadway Network (Paved)	The roads within Town limits that are paved. Includes surface and base material
	Streetlights	All streetlights owned and operated by the Town
	Traffic Signage	Includes traffic signage on local and rural roads (for road rules and information purposes)
	Bike/ Pedestrian Network/ Sidewalks	Includes the paths and walkways for use by bicycles and pedestrians. Sidewalks on roadways. The maintenance of these.
	Highways	Provincial Owned Highways that are used by residents
	Equipment	Snowplows, graders, gravel trucks, sidewalk cleaning trucks. Includes the maintenance and storage of equipment.
	Railway	The operation of the rail through the Town, the goods the train transports.
	Bridge (on 50th)	The structure, road surface, and accessibility of the bridge crossing Lamont Creek along 50th Ave

Asset	Element	Description
Commercial Buildings	Stores/ Businesses	Includes hotels, restaurants, stores, grocery, gas stations, recreational facilities
Local Economy	Local Economy	Includes the trades of good and services, agricultural industry, commercial industry, service industry

5.3 SEVERITY AND LIKELIHOOD FACTORS

5.3.1 SEVERITY

To establish a numerical rating of the consequence severity associated with each climate hazard, the impact on health & safety, structural integrity, functionality, cultural resources, natural resources, economic productivity, insurance/restoration cost, O&M (operations and maintenance) cost of Town assets were considered separately. The consequence types were each rated on a scale from one to five based on the criteria included in Table 5-2 in conjunction with input from Town staff based on their experience and mitigation measure actively employed.

Table 5-2 Consequence Considerations and Classifications Scoring Chart

	Consequence Rating and Classification				
Consequence Types	**5 -Extreme**	**4- High**	**3 - Medium**	**2 - Low**	**1 – Very Low**
Health and Safety	Fatality or significant irreversible disability	Permanent disabling injury or multiple people injured	Bodily injury/illness with work restrictions	Medical treatment for minor injury	First aid injury
Structural Integrity	May result in significant damage, loss or require complete replacement	May result in significant damage, loss or require complete replacement	Moderate damage to asset or system, Minor repairs and some equipment replacement/restoration	Minor asset or system damage, minor repairs or restoration	No permanent damage
Functionality	Lengthy service disruptions may occur, alternate service delivery may be required	Lengthy service disruptions may occur	Brief service disruption may occur	Minor service disruption may occur	No/minimal service disruption

	Consequence Rating and Classification				
Consequence Types	**5 -Extreme**	**4- High**	**3 - Medium**	**2 - Low**	**1 – Very Low**
Cultural Resources	Resource can never recover; destruction is permanent and irreversible (e.g., destruction of an irreplaceable artifact or knowledge)	Recovery of the resource will take decades	Recovery of the resource will take years	Recovery of the resource will take months	Little impact or resource can recover within days
Natural Resources	Resource can never recover; destruction is permanent and irreversible (e.g., extinction of a species within the province)	Recovery of the resource will take decades	Recovery of the resource will take years	Recovery of the resource will take months	Little impact or resource can recover within days
Economic Productivity	Long-term disruption or loss of an economic sector and associated job losses	Months-long disruption to a major economic sector and associated job losses	Weeks-long disruption to a major economic sector or employment	Days-long disruption to a major economic sector and employment	Minimal direct and indirect economic losses
Insurance/ Restoration Cost	Extreme financial loss or restoration cost	Major financial loss or reconstruction cost	Moderate financial loss or reconstruction cost	Additional operational costs. Small financial loss or reconstruction cost	Minimal financial loss or reconstruction cost
O&M Cost	Critical O&M costs, need to look for additional funding sources.	Major O&M costs.	Significant O&M costs above planned budget	Significant O&M costs above planned budget	No increased O&M costs involved

5.3.2 LIKELIHOOD

To identify how the climate hazards impacting the Town of Lamont were expected to change over different time periods, the baseline (1971-2000) frequency and severity data for each climate indicator were assigned a likelihood score of 3. The projected climate data for the 2020s (2011-2040), 2050s (2041-2070), and 2080s (2071-2100) for each climate indicator were then compared to the baseline data. Climate indicators projected to experience a 10-50% reduction in frequency and/or intensity with respect to the baseline values were assigned a score of 2, climate indicators projected to experience a 50-100% reduction in frequency and/or intensity with respect to the baseline values were assigned a score of 1. Similarly, a 10-50% increase in frequency and/or intensity with respect to baseline values resulted in a score of 4, and a 50-100% increase in frequency and/or intensity resulted in a score of 5.

Table 5-3 Climate Hazard Likelihood Scoring Chart

Likelihood Score	Middle Baseline Approach – Establish Base	Method	Suggested Rationale
1		Likely to occur less frequently than current climate	50-100% decrease in frequency or intensity with reference to Baseline Mean
2			10-50% decrease in frequency or intensity with reference to Baseline Mean
3	Establish Current Climate Baseline Per Parameter	Likely to occur as frequently as current climate	Baseline Mean Conditions or a change in frequency or intensity of 10% with reference to the Baseline Mean
4		Likely to occur more frequently than current climate	10-50% increase in frequency or intensity with reference to Baseline Mean
5			50-100% increase in frequency or intensity with reference to Baseline Mean

5.4 RISK RANKING

5.4.1 METHODOLOGY

The hazard matrix refers to the compiled list of risk scores assigned to each element composing the overall asset that can be found in *APPENDIX B: HAZARD MATRIX ORGANIZED BY ASSET*. This matrix allows for elements and assets most vulnerable to the climate hazards to be effectively ranked and identify where implementing mitigation measures is necessary/most valuable, as presented in Table 5-3.

A likelihood assessment, exposure analysis, consequence assessment, and risk assessment were conducted on each element to assign the final risk score associated with each climate hazard.

To illustrate the process of determining a final risk rating, the scoring process of the culvert and ditching element (within the Stormwater Systems asset) will be examined.

As outlined in **Section 5.3.2** the likelihood score is a numerical value that represents the projected occurrences associated with each climate hazard. First a score for individual climate indicators were generated based on the climate data. The climate hazard likelihood score was then assigned based on the overall trends of the indicator scores and evaluating key indicators. Table 5-3 includes a snip of the Likelihood Assessment with respect to assigning the flooding of Lamont Creek likelihood score.

Table 5-4 Flooding (Lamont Creek) Climate Hazard Likelihood Assessment

Climate Hazard	Climate Indicators	Projected climate hazard trend	Base line	Climate Indicator Likelihood Score			Climate Hazard Likelihood Score		
				2020s	2050s	2080s	2020s	2050s	2080s
Flooding (Lamont Creek)	Max 1-day precipitation	↑	3	2	4	4	3	4	4
	Max 5-day precipitation	↑	3	3	4	4			
	Wet Days >= 20mm	↑	3	3	5	5			
	IDF_CC Data	↑	3	3	3	4			

Rationale: GCMs indicate that all relevant indicators for flooding are trending upwards, by amounts of up to 10%, by the end of the century. IDF_CC data shows that extreme rainfall events may increase in magnitude and frequency by up to 12% by the end of the century.

An exposure analysis was then conducted to determine whether a climate hazard would directly impact the asset, considering a combination of its location in the town (e.g. proximity to Creek), requirements to function, and conversations with Town staff. In the case of culverts and ditching the exposure analysis results, and accompanying justifications were as follows (note: more than one justification may exist, a single item was included for simplicity):

- Flooding – **Yes**
  - Flooding of the creek results in increased sediment and debris within culverts and ditches, impeding or blocking drainage paths.
- Extreme Rainfall – **Yes**
  - Extreme rainfall can overwhelm existing culvert and ditch capacity prohibiting effective drainage, additionally debris in runoff can impede/block drainage paths.

- Freeze-Thaw Cycles – **Yes**
    - Freeze-thaw cycles often result in excess water melting on roadways and areas under high sun-exposure, while ditches remain frozen resulting in an accumulation of water that often refreezes, hindering the functionality of system.
- Wildfire – **Yes**
    - After wildfire the capacity of the soil to store runoff is significantly poorer (tree canopy often non-existent, root systems scalded, etc.) resulting in greater runoff and debris than designed for entering the stormwater systems and debris impeding/blocking drainage paths.
- Extreme Heat - **Yes**
    - During periods of extreme heat, the uppermost soil horizons have an increased likelihood of scorching (loss in necessary water content) resulting in greater rates of erosion and increased sediment entering culverts and ditches through runoff, impeding drainage.
- Drought – **No**
    - Drought will not have a direct impact on the functionality and condition of Lamont's culverts and ditches.
- Extreme Wind - **No**
    - Extreme wind will not have a direct impact on the functionality and condition of Lamont's culverts and ditches.
- Extreme Cold – **Yes**
    - Periods of extreme cold can lead to the formation of sheet ice in ditches as well as frozen, clogged, or impacted culverts, inhibiting/ blocking the functionality of the element.

After identifying climate hazards that impacted the element, the next step in assigning a risk score was to quantify the severity of the consequence. Following the criteria outlined in Table 5-2 the consequence ratings associated with each climate hazard across all time periods for the culvert and ditching element are presented in Table 5-4. In cases where multiple consequence types were relevant (e.g. with respect to culverts and ditching: flooding would impact structural integrity, functionality, and health and safety) the most significant/ highest rated consequence rating was used. These consequence ratings were then presented to the Town staff to modify based on their personal experience and regional knowledge.

Table 5-5 Culverts and Ditching Consequence Analysis

Stormwater Systems	Culverts + Ditching	**Flooding (Lamont Creek)**	Y	4	Overland flooding due to heavy flows overwhelming the major system. Bedding and bank material around culverts may wash out, uncontrolled high flows can damage downstream infrastructure (other culverts damaged or clogged, ditches may erode). Consequence Types: Health and Safety, Structural Integrity, Functionality
		Extreme Rainfall	Y	4	Overland flooding due to heavy flows as culverts become overwhelmed. Uncontrolled flows can damage to downstream infrastructure, backwater effects at culverts may cause roadways to overtop and wash out. Culverts may become clogged and damaged due to high flows. Ditches may fill with debris can block the drainage channel. Consequence Types: Health and Safety, Structural Integrity, Functionality, Insurance & Restoration Costs
		Freeze/ Thaw Cycles	Y	2	Can lead to blockages due to ice formation. Consequence Types: Structural Integrity, Functionality
		Wildfire	Y	3	After wildfires, lack of vegetation can impact ditch conveyance ability (can result in erosion challenges). Drainage patterns often also change due to lack of forests/ earth moved in different patterns from fire berms/ and widescale erosion (from trees being gone so no longer providing shelter, and the root systems of forests no longer holding the dirt together). This could impact general overland flow paths, altering where overland flooding occurs, and capacity of the overall system. Consequence Types: Structural Integrity, Functionality, Insurance & Restoration Costs
		Extreme Heat	Y	1	Can cause damage to culverts and ditches, through erosion of dry bedding material. Animals may seek refuge in culverts and create blockages. Consequence Types: Functionality
		Drought	N	-	-
		Extreme Wind	N	-	-
		Extreme Cold	Y	2	Can cause damage to culverts via sudden freeze up of standing water. Damage could also occur to and ditches or block them due to heavy snowfall. Consequence Types: Structural Integrity, Functionality

At this point in the scoring process a numerical value had been assigned to both the impact severity of climate hazards have on respective elements (consequence analysis) and the likelihood (climate projections) meaning all necessary components to calculate risk scores have been established. The risk assessment involves multiplying the 2020s, 2050s, and 2080s climate hazard trend score by the consequence rating. Table 5-4 isolates the risk scores associated with the flooding of Lamont Creek for the culverts and ditching element (Risk Score = Likelihood x Consequence).

Table 5-6 Culverts and Ditching Risk Assessment with Respect to Flooding (Lamont Creek)

	Flooding (Lamont Creek)			
Culverts + Ditching	**Exposure**	**Likelihood**	**Consequence**	**Risk Score**
2020s	Y	3	4	**12**
2050s		4		**16**
2080s		4		**16**

5.4.2 RISK RANKING SUMMARY ORGANIZED BY TIME PERIOD

The following figures (Figure 5-1 to 5-3) present the number of low, medium, medium-high, and high risks that Lamont's key assets are projected to experience over the 2020s, 2050s, and 2080s. Establishing the climate hazards that pose the highest risks as well as the time period of risk evaluation provides the Town with a powerful planning tool that can be utilized to devise actions to mitigate these risks. For example, in Figure 5-2 (2050s Scenario) Extreme Rainfall had 36 elements experiencing low-risk scores and 8 elements experiencing medium risk scores, whereas in Figure 5-3 (2080s Scenario), 12 of the 'low risks' had escalated to medium and medium-high risks, indicating that while immediate action is not required the Town should begin planning for mitigating the impacts and increasing resiliency with respect to extreme rainfall towards the end of the century. The complete risk matrix grouped by asset including the risk score assigned to each asset can be found in *APPENDIX B: HAZARD MATRIX ORGANIZED BY ASSET.*

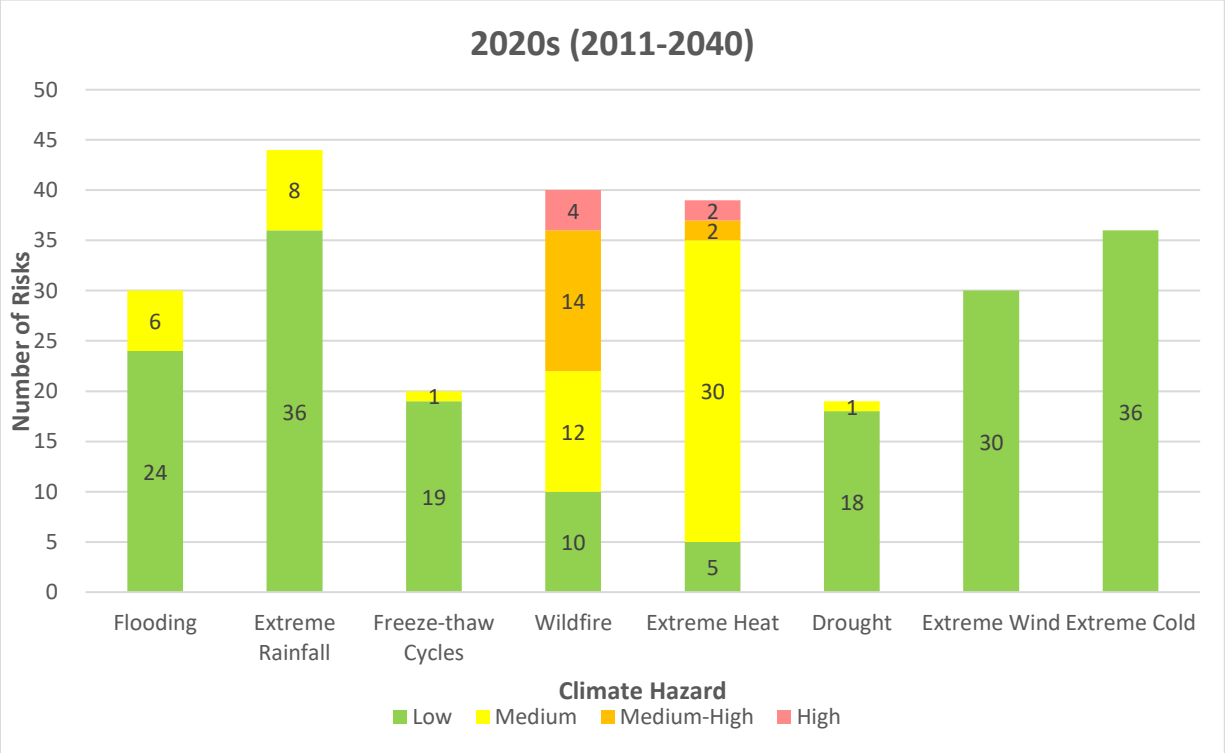


Figure 5-1 Number of Risk by Climate Hazard for the 2020s

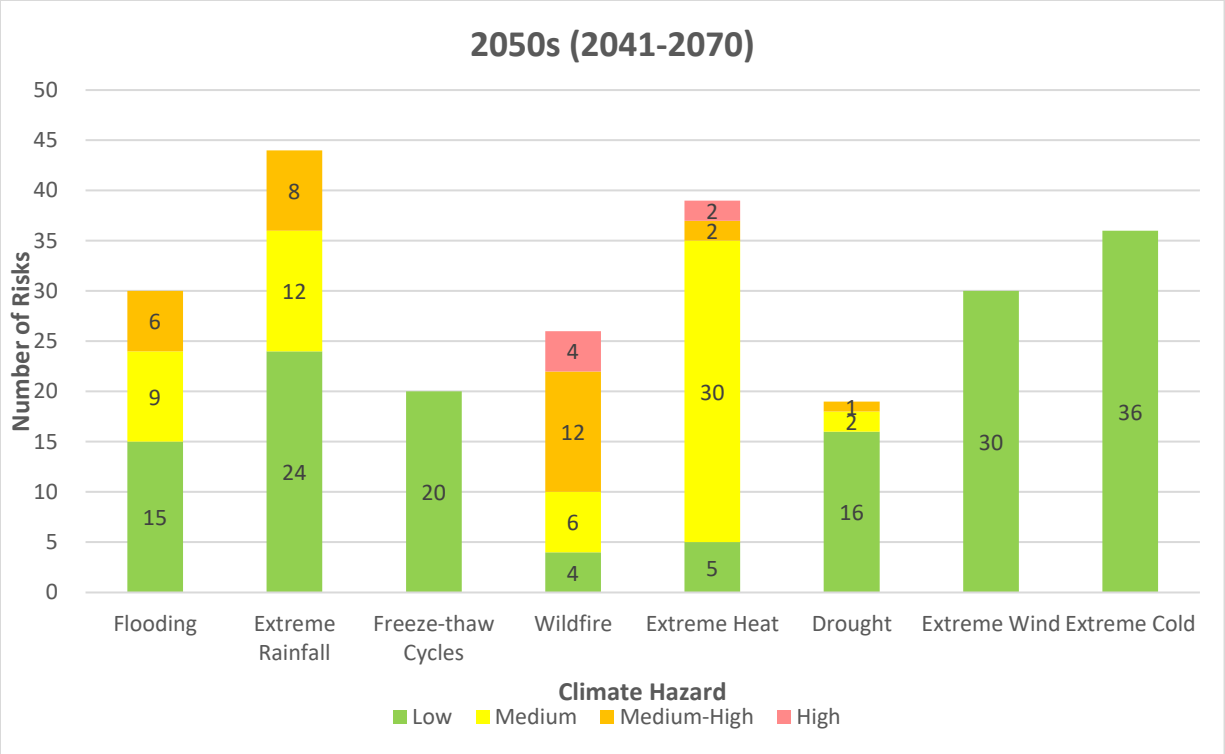


Figure 5-2 Number of Risks by Climate Hazards for the 2050s

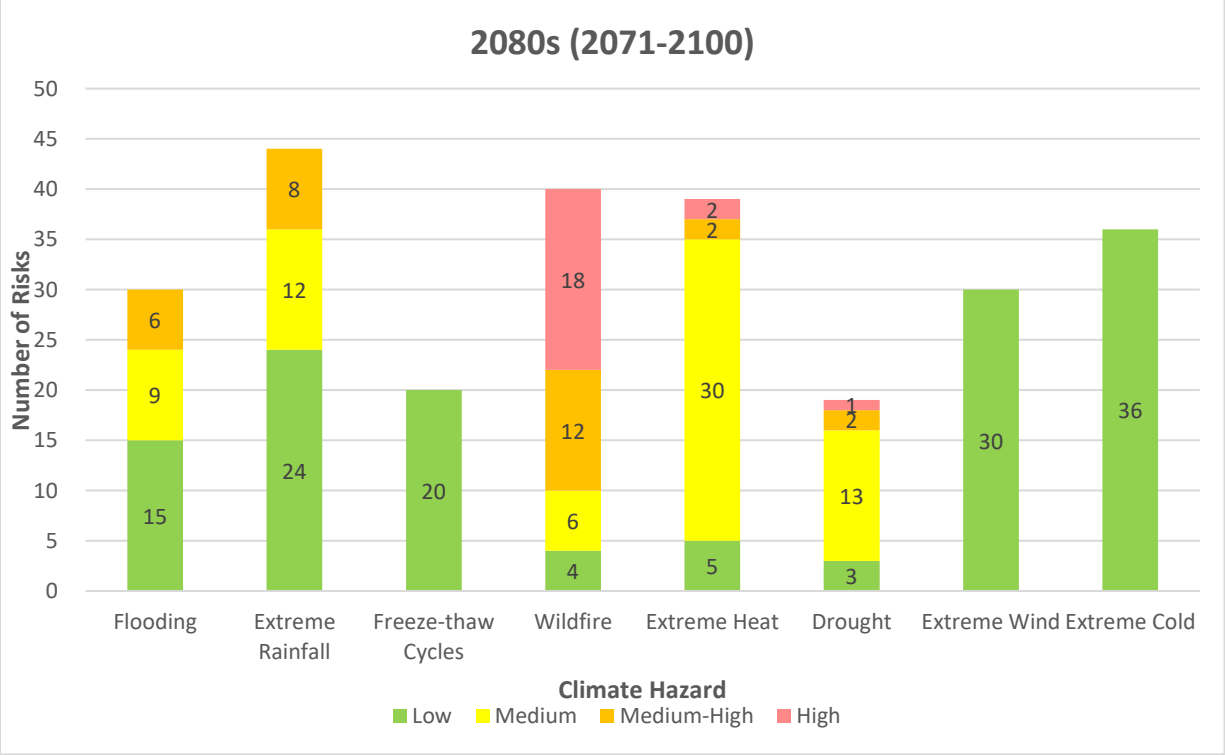


Figure 5-3 Number of Risks by Climate Hazards for the 2080s

5.4.3 RISK RANKING SUMMARY ORGANIZED BY RISK DESIGNATION

The following figures (Figure 5-4 and Figure 5-5) provide a summary of the number of risks Lamont's key assets/elements are projected to experience across the 2020s, 2050s, and 2080s. Figures 5-4 and 5-5 provide a breakdown of the High (risks that require *immediate* action) and Medium-High (risks that require action) with respect to the eight Climate Hazards identified for Lamont respectively. Presenting the 'risks' per climate hazard across the time periods established that Lamont is most vulnerable to wildfire, extreme heat, extreme rainfall, flooding (of Lamont Creek), and drought, with immediate action required in building resiliency to wildfire and extreme heat. The complete risk matrix grouped by asset including the risk score assigned to each asset can be found in *APPENDIX B: HAZARD MATRIX ORGANIZED BY ASSET*.

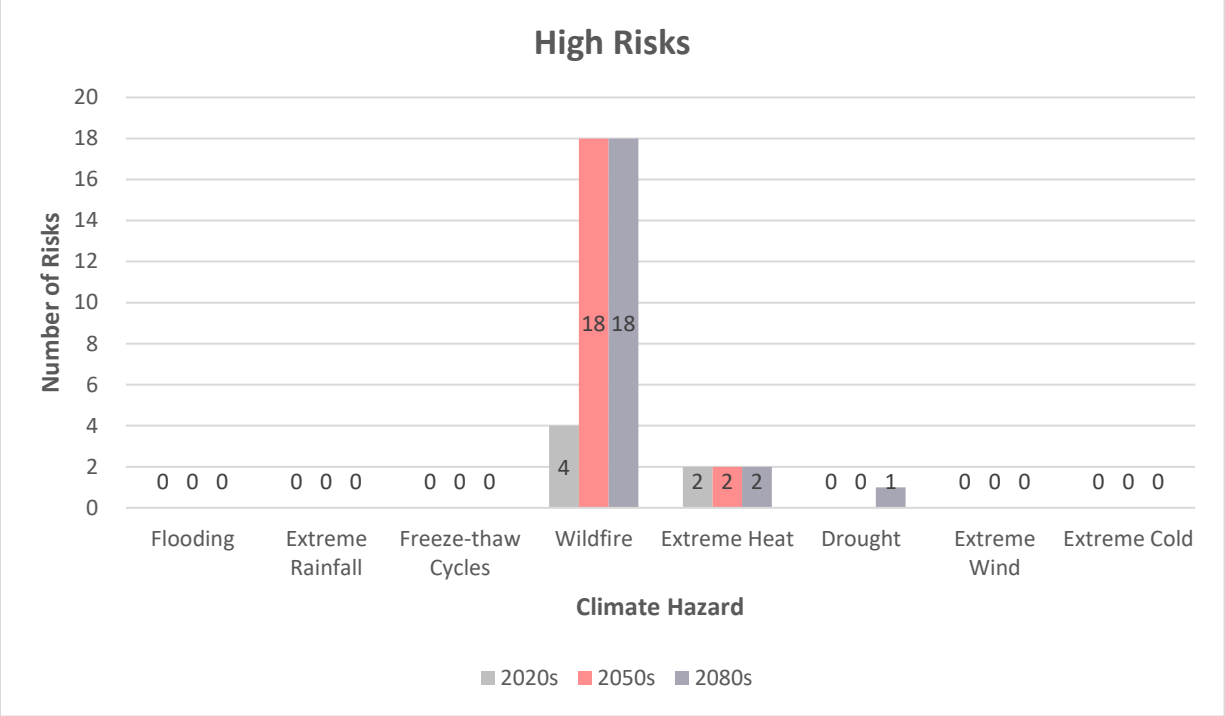


Figure 5-4 Number of Risks by Climate Hazard - High Risks

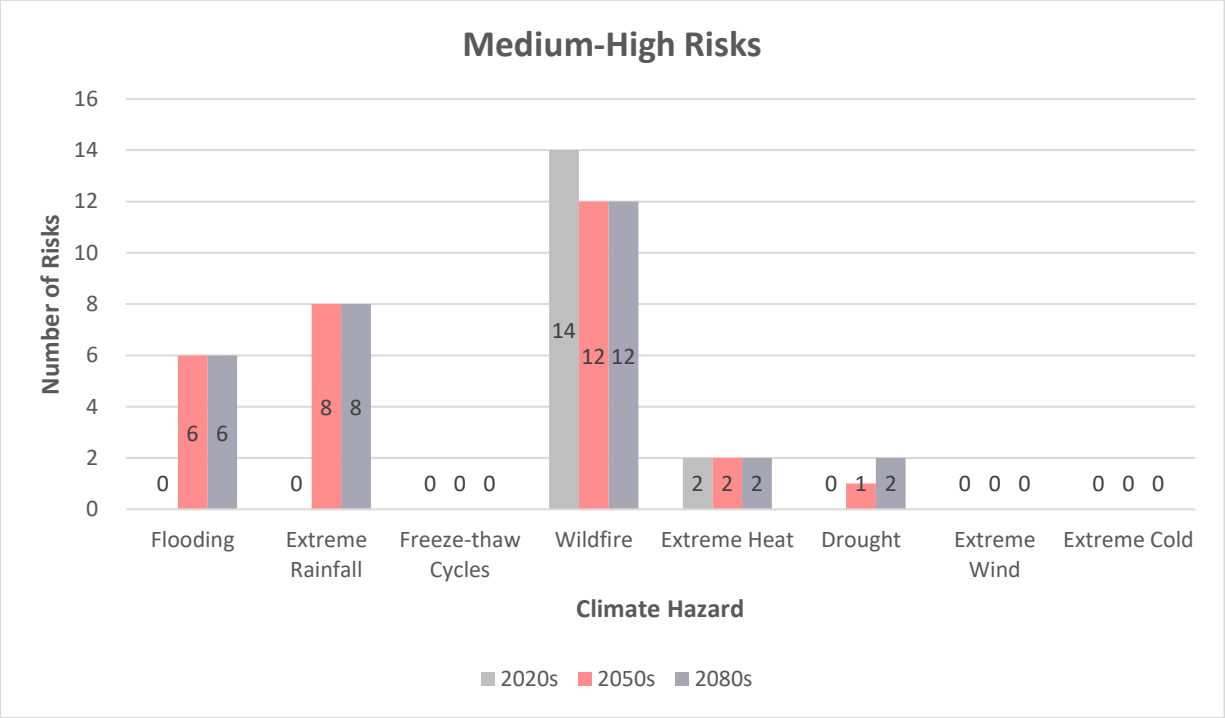


Figure 5-5 Number of Risks by Climate Hazard - Medium High Risks

5.5 HAZARD MATRIX AND RISK RANKING CONCLUSIONS

The intent of the complete hazard matrix included in *APPENDIX C: HAZARD MATRIX ORGANIZED BY 2080 RISK SCORE* is to provide a prioritization tool for planning to mitigate the risks associated with climate change on Lamont's assets. A breakdown of the high-risk elements as well as an individualised risk assessment of Lamont's high-risk assets are included in the following sections.

5.5.1 HAZARD MATRIX - HIGH RISK ELEMENTS

As presented in Table 5-7 and Figure 5-4 **wildfires** pose the greatest number of high risks to the Town's assets. Even though Lamont's assets have not been significantly impacted due to wildfire historically, an important factor to consider when referring to the risk scores and ranking is that they represent the combined value of the projected frequency/ magnitude of the climate hazard and the severity of the impact on assets. As the severity of a wildfire event is substantial, the impact on the assets comes out on the higher side. The prevalence of assets deemed high-risk due to wildfire is not only due to the projected increase in frequency but also due to the magnitude of the consequences wildfire can inflict on infrastructure and wellness. As Lamont historically has not had to withstand major wildfires there are fewer mitigation measures in place, whereas the climate hazards the Town has had a greater exposure to (eg. flooding, extreme rainfall) fall into the medium-high risk designation due to the existing mitigation measures Lamont has employed reducing the consequence severity.

To better encapsulate the range of climate hazards and build a robust resiliency plan the assets exposed to medium-high risks were also isolated and presented in Figure 5-5. Medium-high risks have been identified as risks that require action but not designated as urgent, meaning they are useful to consider during long-term planning. Referring to Figure 5-5 the majority of the assets exposed to

medium-high risk appear in the 2050s and 2080s affording the Town a pre-emptive approach to mitigating future climate risks.

Table 5-7 contains a section of the hazard matrix that organizes the high-risk scores (scores of 18-25, highlighted red, items requiring immediate action) per element in descending order and indicates which climate hazard is imposing said risk. For example, based on the climate predictions and established consequence considerations the physical risk wildfire poses to human health is projected to increase from the 2020s to the 2050s, and maintain the same level of risk from the 2050s to the 2080s. The complete risk matrix arranged in order of the 2080 risk score assigned to each asset can be found in *APPENDIX C: HAZARD MATRIX ORGANIZED BY 2080 RISK SCORE*.

Table 5-7 High Risk Scores and Respective Elements Across the 2020s, 2050s, and 2080s

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score
Human Health	**Physical**	**Extreme Heat**	25	25	25
		Wildfire	20	25	25
Commercial Buildings	**Stores/ Businesses**	**Wildfire**	20	25	25
Local Economy	**Local Economy**	**Wildfire**	20	25	25
Transport System	**Bridge (on 50th)**	**Wildfire**	20	25	25
Environment	**Parks**	**Extreme Heat**	20	20	20
Community Buildings	**Arena + Rec Facility / Hall**	**Wildfire**	16	20	20
	Beaver Hill/Creek Lodge (TBC)	**Wildfire**	16	20	20
	Curling Rink	**Wildfire**	16	20	20
	Firehall	**Wildfire**	16	20	20
	Hospital	**Wildfire**	16	20	20
	Lamont County Office	**Wildfire**	16	20	20
	Lamont Town Office	**Wildfire**	16	20	20

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score
	Private Homes	**Wildfire**	16	20	20
	Schools	**Wildfire**	16	20	20
Environment	**Natural Forests**	**Wildfire**	16	20	20
	Parks	**Wildfire**	16	20	20
Transport System	**Equipment**	**Wildfire**	16	20	20
Water Systems	**Reservoirs (2)**	**Wildfire**	16	20	20
	Water Mains	**Wildfire**	16	20	20
Environment	**Parks**	**Drought**	12	16	20

5.5.2 ASSETS IDENTIFIED AS HIGH AND MEDIUM-HIGH RISK DUE TO WILDFIRE

Please refer to *APPENDIX B: HAZARD MATRIX ORGANIZED BY ASSET* and *APPENDIX C: HAZARD MATRIX ORGANIZED BY 2080 RISK SCORE* for the hazard matrix presenting all risk scores associated with Lamont's assets.

Commercial Buildings

As presented in Table 5-7 wildfire presents a high risk to Lamont's stores and businesses across the 2020s, 2050s, and 2080s. Based on the climate change projections presented in **Section 4.0** the likelihood of exposure to wildfire is projected to experience a 10-50% increase in the 2020s and a 50-100% increase across the 2050s and 2080s from the current baseline. Wildfire in proximity to town can cause direct damage and/or destroy commercial buildings and wildfire not in direct proximity can also result in economic losses due to poor air quality limiting customer and employee access.

Human Health

As presented in Table 5-7 wildfire has been identified as a high risk to physical health over the 2020s, 2050s, and 2080s, indicating that immediate action is required. Wildfire presents the risk of injury or death to residents, may require community evacuation, impaired air quality (high risk for residents/vulnerable populations with respiratory issues), hampered access to healthcare/EMS.

Wildfire has also been identified as a medium risk to the mental/ emotional health of residents in the 2020s and a medium-high risk over the 2050s and 2080s. The escalation from medium, to medium-high risk to mental/ emotional health of residents is due to the increasing likelihood of wildfire over the century. Wildfire can lead to emotional distress and exposure to particulate matter may increase risk of

depression and anxiety. Wildfire proximity or smoke can impair access to healthcare services, and evacuation orders or loss of property can trigger mental health issues.

Local Economy

Wildfire has been identified as a high risk to Lamont's local economy across the 2020s, 2050s, and 2080s indicating it requires immediate action to mitigate the risk. Wildfire can cause direct damage or destroy industrial centers resulting in considerable economic impacts. Wildfire results in challenges for any tourism and business customers due to poor air quality and/ or impaired access. Prolonged recovery from wildfire may cause insurance challenges and financial repercussions to businesses and organizations due to interruptions to assets, operations, supply chain, transport needs, and employee safety.

Transportation Systems

Within Lamont's transportation the Bridge (on 50th) and equipment were identified as high-risk elements due to wildfire exposure indicating immediate action is required to reduce the risk wildfire poses to Lamont's transportation systems. Wildfire poses a particular risk to the bridge on 50th as it's a wood bridge and damage to the bridge would results in impaired access and evacuation routes. Similarly, wildfire can result in direct damage to equipment interrupting service and resulting in significant costs to replace/ repair.

Additionally, the railway, streetlights, and traffic signage were identified as elements exposed to medium risk in the 2020s and medium-high risks over the 2080s. The escalation from medium, to medium-high risk to the railway, streetlights and traffic signage is due to the increasing likelihood of wildfire over the century. Wildfire can result in direct damage to the elements impeding function, safety, and railway closure due to wildfire can result in significant economic losses.

Community Buildings

Wildfire has been identified as a medium-high risk to Lamont's Arena & Rec Facility/ Community Hall, Beaver Hill/Creek Lodge, Curling Rink, Firehall, Hospital, Lamont County Office, Lamont Town Office, Private Homes, and Schools over the 2020s, and a medium-high risk over the 2050s and 2080s. Wildfire can result in direct damage due to proximity, smoke, and embers, and requires action to mitigate this risk before it escalates to a high-risk item in the 2050s. The AHS Operations Building and Playgrounds were also identified as medium-high risks due to wildfire in the 2050s and 2080s as the frequency of wildfire is projected to increase.

Environment

Wildfire poses a medium-high risk to Lamont's Natural Forests and Parks over the 2020s and a high risk over the 2050s and 2080s. Wildfire can result in devastation to the natural forests and parks (eg. loss of wildlife, loss of natural eco-systems, etc.) and result in poor air quality (in 2022 there were 4 days where the air quality was recorded as an extreme danger). Wildfire also poses a medium risk to the Creek in the 2020s and a medium-high risk over the 2050s and 2080s due to the debris and damage to banks.

Water Systems

Wildfire was identified as a medium high risk over the 2020s and a high risk over the 2050s and 2080s to Lamont's Reservoirs and Water Mains indicating action is required to mitigate the risk before it escalates to a high risk in the 2050s. Regarding the reservoirs wildfire can damage/destroy pumphouse and equipment. SCADA does not require daily monitoring but if that fails due to wildfire damage, there is no way to check operations. During wildfire events damage to the watermain (pressure fluctuations) can hinder firefighting ability, draw on system increases significantly and can lead to pipe bursts.

Culture & Daily Life

The risk designation associated with wildfire to Historical/ Cultural Locations, Personal Autonomy, and Social Wellbeing have been identified as medium over the 2020s and medium-high over the 2050s and 2080s further indicating the need for wildfire mitigation measures. Wildfire can damage or destroy locations of cultural/ historical significance, can limit access or agency, and wildfire proximity, smoke or evacuation orders can limit access to social and recreational opportunities for residents.

Stormwater Systems

Wildfire has been identified as a medium risk to Lamont's culverts and ditching in the 2020s and a medium-high risk over the 2050s and 2080s indicating risk mitigation measures are required as the frequency of wildfires increases over the century. After wildfires, lack of vegetation can impact ditch conveyance ability (can result in erosion challenges). Drainage patterns often also change due to lack of forests/ earth moved in different patterns from fire berms/ and widescale erosion (loss of trees reduces shelter, and the root systems no longer hold the soil together). This could impact general overland flow paths, altering where overland flooding occurs, and capacity of the overall system.

5.5.3 ASSETS IDENTIFIED AS HIGH RISK DUE TO EXTREME HEAT

Please refer to *APPENDIX B: HAZARD MATRIX ORGANIZED BY ASSET* for the hazard matrix presenting all risk scores associated with Lamont's assets.

Human Health

Extreme heat poses a high risk to the physical health of residents across the 2020s, 2050s, and 2080s indicating that implementing extreme heat mitigation measures is critical to the physical health of residents. Extreme heat results in increased incidence of heat-related illnesses (especially among vulnerable populations), decreased air quality, risks for outdoor workers, increased demand for cooling and shade. Extreme heat also results in limited access to outdoor socializing or recreational facilities.

Environment

Extreme heat was identified as a high risk to Lamont's Parks across the 2020s, 2050s, and 2080s and requires immediate implementation of mitigation measures. Extreme heat poses a danger to plant health and vegetation. Parks require additional watering, leading to higher O&M costs (Tree watering programs, replacing trees, etc.).

Extreme heat was also identified as a medium-high risk to Lamont's Natural Forests over the century, while it is difficult to mitigate these risks it is an important factor to consider in forest management practices.

Culture & Daily Life

Extreme heat was identified as a medium-high risk across the century as it can limit outdoor recreational activities for residents. To maintain Lamont's Culture and Daily Life implementing extreme heat mitigation measures is required.

5.5.4 ASSETS IDENTIFIED AS HIGH RISK DUE TO DROUGHT

Environment

Drought was identified as a medium risk to Lamont's Parks in the 2020s, a medium-high risk in the 2050s, and a high risk in the 2080s, indicating that the risk associated with drought is gradually increasing over the century affording the Town time to implement mitigation measures. Drought

results in additional O&M costs to maintain vegetation within Parks (additional watering, additional maintenance, etc.).

6.0 NEXT STEPS

In Section 5 the climate hazards posing the greatest risk to Lamont's assets were identified as wildfire, extreme heat, drought, extreme rainfall, and flooding of Lamont Creek. The intent of the Next Steps is to provide potential mitigation measures the Town can employ to build resiliency against the projected climate hazards. The recommended actions are broken into three different timelines, short term risk mitigation measures (plan to implement roughly in 0-2 years), medium term risk mitigation measures (plan to implement in roughly 3-7 years), and long-term mitigation measures (plan to implement when appropriate/ funding becomes available).

A Note About Funding

Where available, possible grants and funding sources have been identified for each Action. The Federation of Canadian Municipalities will also be releasing additional funding streams under the MAMP (Municipal Asset Management Program) in 2024, targeted as integrating climate resiliency and asset management. There will more than likely be opportunity for the Town of Lamont as part of this grant to progress some of the actions identified within this report. The CCARP also serves as excellent pre-work to support accessing funding opportunities under FCM's *Green Municipal Fund* for actioning community plans, feasibility studies, pilot projects, and capital projects that centre around sustainability. The mitigation measures presented in the following section serve as an excellent starting point for Lamont to utilize and apply for this broader funding.

SECTION 6.1 RECCOMENDED MITIGATION MEASURES - LEGEND

TO: TOWN OF LAMONT

DATE: December 8, 2023

FILE: 5452.0001.01

Category	Phrase/ Symbol	Meaning
Timeline to Action	Short-Term	Aim to implement this item in 0-2 years
	Medium-Term	Aim to implement this item in 3-7 years
	Long-Term	Aim to implement this item in long term/ when funding becomes available
Scale of Estimated Cost	$	To enact this mitigation measure, it will cost roughly 0-5% of the departments or team's typical budget.
	$$	To enact this mitigation measure, it will cost roughly 5-15% of the departments or team's typical budget.
	$$$	To enact this mitigation measure, it will cost roughly >15% of the departments or team's typical budget.
Scale of Effort	Low-Level of Effort	The team will be able to work this adaptation measure into their existing workload.
	Moderate-Level of Effort	The team will need to put considerable effort beyond regular duties to achieve this adaptive measure and may need external support.
	High-Level of Effort	Significant planning, allocation of resources and external support will be needed to implement this adaptation measure.

Item No.	Recommended Action	Target Climate Hazard	Applicable Partners/ Lead Department	Timeline to Action	Applicable Grants	Scale of Estimated Cost	Scale of Effort Required
1	Enhance existing "cooling centre" a temperature-controlled facility (ie. Arena/ Community Centre) with proper ventilation, air conditioning, water, and emergency supplies available. Review advertising/communication to better engage residents.	Extreme Heat		Short – Term	Community Facility Enhancement Program Community Spaces Funding | Co-op	$$	Moderate Level of Effort
2	Communicate advice for outdoor worker safety and what to do for organized recreation, sporting and cultural events in extreme heat and identify temperature thresholds to activate additional resources and enhanced responses necessary to protect our most vulnerable populations (e.g. seniors, children, etc.).	Extreme Heat	Alberta Housing Foundation	Short – Term		$	Low Level of Effort
3	Introduce a heat alert program and committee (likely a subset of outdoor staff such as Bylaw, Parks, Public Works) that will be responsible for distributing social media/radio alerts and signage about heat events. Alerts will inform/direct community members to cooling centres/air-conditioned community buildings and provide information on heat safety. Ensure there are signs distributed around the community on heat safety, how to identify heat-related illness, and where to get help.	Extreme Heat	FCSS	Short – Term		$	Low Level of Effort
4	Manage vegetation on borders of town, ensuring dead and dying vegetation under high sun exposure are removed, incorporate vegetation management into emergency response plan.	Extreme Heat + Wildfire	Lamont County	Short – Term		$$	Moderate Level of Effort
5	Install erosion protection measures (ie. esc matting in ditches, filter fabric over catch basin, etc.) to prevent water backing up into streets/buildings.	Wildfire + Flooding + Extreme Rainfall		Short – Term	GMF - Stormwater quality, community project	$$.	Moderate Level of Effort
6	Ensure drainage channels and culverts within town boundaries are properly maintained, clear drainage paths of obstructions/debris and ensure vegetation that could act as fuel is managed (ditches are mowed regularly, tall grasses are maintained/cut-back).	Wildfire + Flooding + Extreme Rainfall		Short – Term		$	Moderate Level of Effort
7	Consider providing informational materials on Town resources and supports, and responsibilities for homeowners, landowners and business owners to ensure appropriate property and contents insurance is in place	Wildfire	Community/County Fire Department	Short – Term	Municipal Wildfire Assistance Program	$	Low Level of Effort
8	Develop a clear evacuation plan with multiple routes out of town and distribute (through social media/radio/signage) on preparing for an evacuation, what to bring (important documents, medications, spare clothing, food, etc.), and where to go if residents require assistance relocating (ie. community center).	Wildfire	Community/County Fire Department	Short – Term	Municipal Wildfire Assistance Program	$.	Moderate Level of Effort
9	Conduct regular maintenance on watermain, including valve exercising and annual pressure test of hydrants to help ensure the system will operate as required if immediate isolation of systems loops is required. Coordinate with Fire Department to create emergency backup plan for firefighting response in case of watermain failure.	Wildfire	Community/County Fire Department	Short – Term		$	High Level of Effort
10	Consider installing rain-collection systems or pulling water from natural sources (*potentially retention ponds* – review diversion licensing) to supplement watering program in frequently used park areas as a part of any capital facilities projects.	Extreme Heat		Medium – Term	GMF - Stormwater quality, community project	$$	Low Level of Effort
11	Consider a requirement/standard for the installation of rainwater collection systems (e.g., rain barrels or cisterns) in new ground-oriented developments/buildings.	Drought		Medium – Term	Municipal Sustainability Initiative	$	Low Level of Effort
12	Continue water conservation and efficiency actions; consider developing regulations to support the use of alternative water sources including groundwater, graywater, retention ponds, and blackwater for non-potable demand. The fit-for-purpose approach for water use will reduce pressure on the regional supply and delivery of treated drinking water.	Drought		Medium – Term	Municipal Sustainability Initiative	$	Moderate Level of Effort

Item No.	Recommended Action	Target Climate Hazard	Applicable Partners/ Lead Department	Timeline to Action	Applicable Grants	Scale of Estimated Cost	Scale of Effort Required
13	Where possible, plan additional operational budget each year, as will be required to more actively manage tree health through the hotter and drier months (may include existing tree-watering program, additional pruning/maintenance, etc.)	Extreme Heat		Medium – Term		$$	Low Level of Effort
14	Reinforce the creek bank (rip-rap, liners, gabion, etc.) to protect against erosion with the high flows associated with flooding	Wildfire + Flooding	Lamont County	Medium – Term		$$	Moderate Level of Effort
15	Implement development standard that requires large-scale buildings to be outfitted with sprinklers and fire suppressant systems	Wildfire		Medium – Term		$	Low Level of Effort
16	Outfit air purifiers in community buildings to combat health impacts of smoke inhalation	Wildfire		Medium – Term	Community Facility Enhancement Program	$$	Low Level of Effort
17	Establish local FireSmart (or similar) committee which maintains a community program to identify and assess ecological and human risk factors. For example, ensuring vegetation that could act as fuel is managed (ensuring ditches are mowed and cleared, tall grasses are maintained/cut-back, and removing combustible vegetation from 1.5m vicinity of businesses), replacing flammable vegetation with less combustible varieties (ie. replacing conifers with deciduous tree species).	Wildfire	Community/County Fire Department	Medium – Term		$$	High Level of Effort
18	Ensure key Town staff have basic training in Emergency Operations Response/Incident Command and Control and establish frequency of practice REOC sessions through the Regional Training Centre. Coordinate planning efforts with Lamont County. Provide all emergency workers with wildland urban interface (WUI) response training to familiarize emergency response organizations in Lamont with the equipment, procedures, and strategies each department employs.	Wildfire	Lamont County	Medium – Term	Municipal Wildfire Assistance Program	$$	High Level of Effort
19	Implement Community Wildfire Protection Plan (CWPP) and update any associated development regulations. Identify a department to undertake 'ownership and implementation' of the CWPP, update the CWPP with an eye to inform land use decisions on undeveloped lands, consider downzoning to restrict future growth in hazardous areas, prepare a water use strategy for combatting wildfires. Establish formal partnerships with regional organizations and forest harvesting companies to better manage interface fire areas, forest harvesting practices, and processing. Update the CWPP every ten years (or as warranted by significant changes to drought conditions or ecosystem profiles).	Wildfire	Lamont County	Medium – Term	Municipal Wildfire Assistance Program	$$	High Level of Effort
20	Review and update landscaping standards to reflect current and projected climate. Review community development bylaw.	Drought		Medium – Term		$	Low Level of Effort
21	Update development standards and implement recommendations from flood hazard study (ie. to install backflow valves to prevent sanitary tie-ins from backing up during periods with high influx of water into system, for buildings at or below flood elevations, ensure they are outfitted with sump pumps that are ready to operate in emergency situations).	Extreme Rainfall + Flooding		Medium – Term	Municipal Sustainability Initiative	$	Moderate Level of Effort
22	Incorporate upgrades identified in stormwater and sewer system into 10-year capital plan. Increase the resilience of the sewer network by undertaking a sanitary flow monitoring study and creating a plan for capacity improvements, assessing inflow and infiltration when replacing failing or aging infrastructure, review restrictions on commercial/industrial inputs to the sanitary system, and install portable pumps at lift stations to restore operations in event structure is damaged/flooded (to incorporate into 10 year operational plan)	Extreme Rainfall + Flooding		Medium – Term	Canada Community Building Fund GMF – Wastewater Study Municipal Sustainability Initiative	$$$	High Level of Effort
23	Review policies and engineering standards to develop an operational response plan (ie. bypass pumping) to address stormwater backup at key pinch points (ie. Hillside Park) to reduce impacts to sanitary system.	Extreme Rainfall		Medium – Term		$$	High Level of Effort

Item No.	Recommended Action	Target Climate Hazard	Applicable Partners/ Lead Department	Timeline to Action	Applicable Grants	Scale of Estimated Cost	Scale of Effort Required
24	Reassess pathway alignment and materials considering proximity to Lamont Creek and adjust as part of capital upgrades to increase resiliency of network. Evaluate overall pedestrian/cycle network to ensure alternate routes are available.	Flooding		Medium – Term	GMF - Stormwater quality, community project Municipal Sustainability Initiative	$	Moderate Level of Effort
25	Identify vulnerable roads and areas prone to overland and extreme rain event flooding and establish procedure to address them, consult and collaborate with first responders to prepare road closure protocols, and develop a safe access standard for road evaluations.	Flooding		Medium – Term	Disaster Mitigation and Adaptation Fund Municipal Sustainability Initiative	$$	Moderate Level of Effort
26	Consider providing informational materials on Town resources and supports, and responsibilities for homeowners, landowners and business owners to ensure appropriate flood insurance is in place.	Extreme Rainfall + Flooding		Medium – Term		$	Low Level of Effort
27	Explore introducing ground cover plants (ie. clover instead of grass) within landscaping standards to guard and lower the temperature of the soil allowing the existing plants and trees to better absorb water (ensure someone upkeeps the ground cover plants to not create wildfire fuel).	Extreme Heat + Drought		Long – Term		$$	Low Level of Effort
28	Implement a rain collection/rain barrel system in community buildings	Extreme Heat + Drought		Long – Term		$$	Moderate Level of Effort
29	Create fire berms (refer to conceptual layout: conceptual berms 1-4, particularly berm 4 along Creek on North side of town) and implement firefighting best practices to contain the wildfire and reduce widespread effects	Extreme Heat + Drought	Lamont County Fire Department	Long – Term	Disaster Mitigation and Adaptation Fund Municipal Wildfire Assistance Program		
30	(Community buildings) Upgrade building envelopes (e.g., exterior cladding, roof) to material that provides protections and safeguards against fire and climate change effects. Outfit buildings with sprinklers and fire suppressant systems.	Wildfire		Long – Term	Investing in Canada Infrastructure Program	$$$	High Level of Effort
31	Ensure tree and plant species established are native where possible, diverse, disease resistant and have high climate adaptability, where appropriate, use an integrated pest management approach to park and urban forest maintenance, enhance tree maintenance programs to mitigate damage due to heat and extreme events, review and update new tree irrigation procedures to improve establishment success and therefore long-term survival and performance of trees.	Wildfire		Long – Term		$$	Moderate Level of Effort
32	Maintain forest management practices in partnership with Natural Resource Canada Forestry Department such as thinning to trees to reduce drought induced stress on soil or controlling populations of low story plants (typically species of grasses) to reduce competition for limited resources with mature vegetation.	Drought	Natural Resource Canada Forestry Department	Long – Term		$	Moderate Level of Effort
33	Develop and provide educational and information materials on community water-use (including frequency of lawn-watering, etc.) to increase awareness and prepare communication materials to encourage reduced water-use during times of drought. If needed, explore a policy on level of service for water restrictions during times of severe drought.	Drought		Long – Term		$	Moderate Level of Effort
34	Outfit essential community buildings with backup power sources (e.g., solar power and generators) so service does not get halted if regular power is interrupted.	Drought		Long – Term	Disaster Mitigation and Adaptation Fund	$$$	Moderate Level of Effort
35	Implement a grant/rebate program for residents to install backflow valves/sump pumps to prevent sanitary tie-ins from backing up during periods with high influx of water into system (overland flooding) due to existing combined sanitary/storm system. Incorporate the disconnection of weeping tiles into grant/rebate program. In all future developments ensure separate sanitary and storm networks are installed.	Extreme Rainfall		Long – Term	Investing in Canada Infrastructure Program Municipal Sustainability Initiative	$$$	High Level of Effort
36	Install high water detection equipment at critical infrastructure to monitor surface water levels and establish/explore regional approach to managing water flows in the area.	Extreme Rainfall + Flooding		Long – Term	Investing in Canada Infrastructure Program	$$$	Moderate Level of Effort

Item No.	Recommended Action	Target Climate Hazard	Applicable Partners/ Lead Department	Timeline to Action	Applicable Grants	Scale of Estimated Cost	Scale of Effort Required
37	Incorporate upgrades (paving) of gravel roadways adjacent to Lamont Creek into 10-year Capital Plan to ensure resilient design. Consider additional reinforcement or vegetation coverage on gravel roadsides to reduce erosion potential. Strategies could include adopting a maximum impermeable/hard surface coverage requirement in the zoning bylaw or other key bylaws, reviewing permeability definitions, ensuring that hardscape alternatives (e.g., permeable pavers) are achieving their intent, and encouraging the implementation of rain gardens/bioswales on private lands.	Flooding	Lamont County	Long – Term	GMF - Stormwater quality, community project Municipal Sustainability Initiative	$$$	High Level of Effort

7.0 CLOSING

Lamont is more than familiar with the devastating impacts of a changing climate. Throughout Lamont's history, the Town has weathered and learned from the impacts of climate hazards. The Town has also taken notable steps to adjust operational practices in areas, particularly related to flooding and extreme rainfall impacts, to increase the community's resilience to respond to climate hazards.

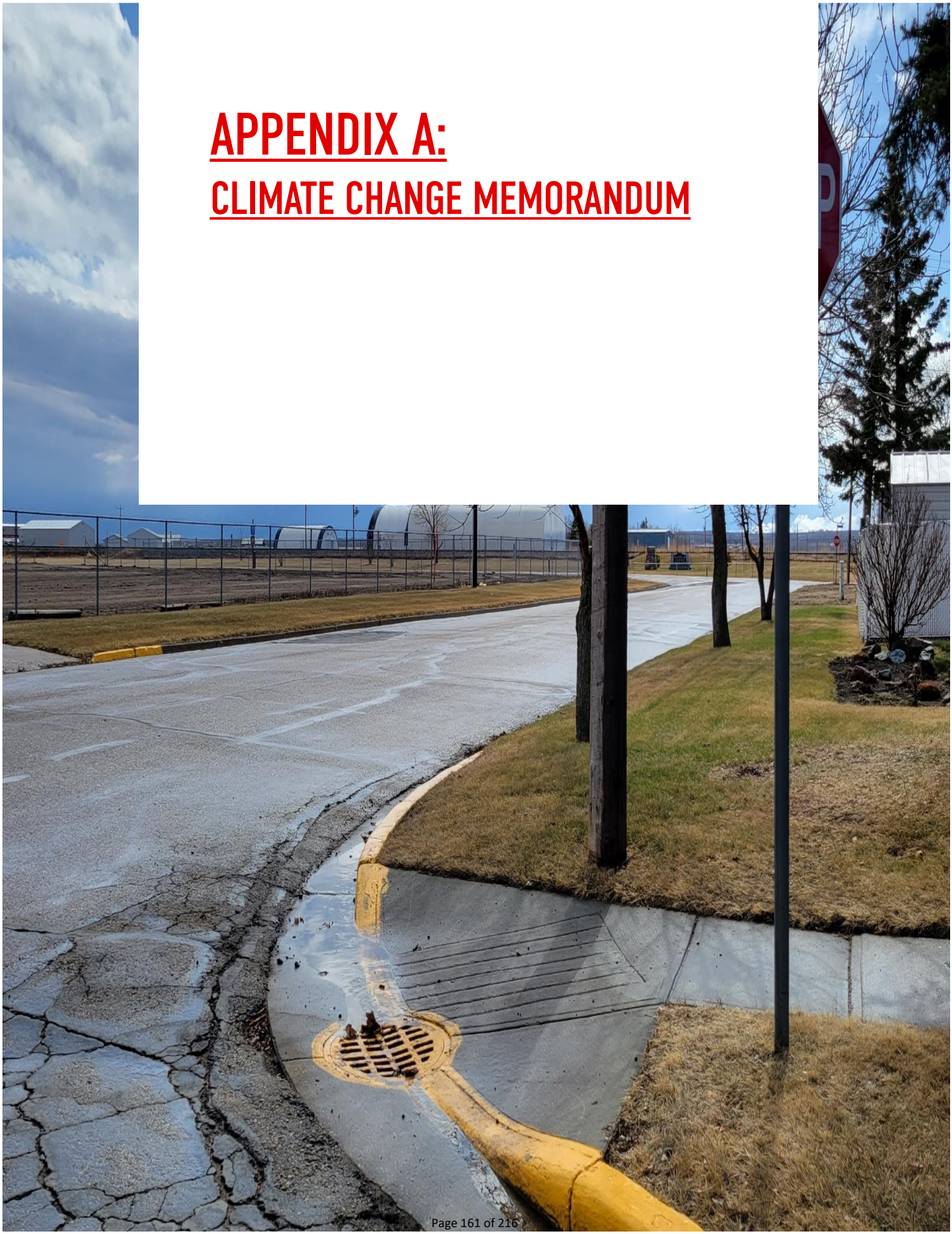
This Climate Change Adaptation and Resilience Plan (CCARP) aims to build on ongoing efforts by taking a proactive approach to implement additional adaptation measures for climate hazards not only historically experienced but those projected based on available climate data. The CCARP presents a ranking of Lamont's assets most at risk due to climate hazards and outlines a list of mitigation measures to build resilience. These measures should be regularly assessed and integrated into each department's annual planning and budgeting process.

Overall, climate change projections indicate an increase in the frequency and severity of climate hazards in the region. Lamont has been taking proactive steps through various projects and policies to enhance its resiliency to climate change. The CCARP is designed to be a dynamic document, continually updated to support Lamont's departments in implementing adaptation actions over the years. By collaborating with community members, regional partners, Town staff, and County staff, Lamont will strengthen its position as a leader in climate change adaptation and resilience.

We are at the early stages of our path towards a more resilient and sustainable future. This plan holds the promise of transforming obstacles into opportunities and transforming our aspirations into tangible achievements. While the path ahead may be filled with uncertainties, our resolve remains steadfast. Every action we take paves the way for a future marked by adaptability, innovation, and resilience. Let us take the lead in advancing progress, act as stewards of sustainability, and champion a brighter, greener tomorrow. With deliberate steps and a unified vision, we set out on a journey where Lamont not only endures but prospers in the face of a changing climate.

APPENDIX A:

CLIMATE CHANGE MEMORANDUM



APPENDIX A: CLIMATE CHANGE MEMORANDUM

MEMORANDUM

URBAN SYSTEMS

DATE	May 11, 2023
FILE	5452.0001.01
SUBJECT	Town of Lamont: Climate Change and Resilience Plan – Climate Projections

1.0 INTRODUCTION

The Town of Lamont (Lamont)is planning to develop a Climate Change Adaptation and Resilience Plan. This project is expected to aid Lamont in making meaningful progress on identifying, understanding, and planning to address climate change related risks and vulnerabilities regarding its infrastructure, operations, facilities and both private commercial and residential properties.

The first step towards understanding these risks and vulnerabilities consists of identifying the climate hazards the Town is exposed to and assessing relevant climate change indicators to understand projected changes in hazard frequency and intensity. The climate change projections will be used to support the following elements of the project:

- Capacity building with the community through community engagement
- Capacity building with staff through training workshops
- Assessing vulnerability and risk to Town infrastructure systems

2.0 CLIMATE HAZARDS

Climate hazards relevant to Lamont were identified through staff engagement and analyzing regional reports. To get a broad understanding of how regional climate is expected to change, Alberta's Changing Climate (2019)[1] report was reviewed. For reference purposes, the City of Edmonton's Adaptation Strategy and Action Plan[2] and Edmonton's Climate Change Almanac[3] were also reviewed as many of the general projections and hazards identified for Edmonton are relevant to the Town.

Alberta's Changing Climate (2019) provides a province wide assessment of its changing climate and states that per degree of global mean temperature increase, Alberta can expect:

- Increases in seasonal average temperatures, with greater increases in winter
- Warming of the coldest day of the year
- Decrease in the number of very cold days
- Increases in temperature for the warmest day of the year
- A rapid increase in the number of very warm days

[1] Microsoft Word - ARC.Alberta.Climate.Report.FINAL.docx
[2] Climate Resilient Edmonton: Adaptation Strategy and Action Plan
[3] Edmonton's Climate Change Almanac

- A consistent increase in Fall, Winter and Spring precipitation. Alberta is expected to see a 5-10% increase in Sept-Apr precipitation, with between 5-10% more falling as rain compared to snow.
- A decrease in soil moisture levels, increasing the risk of drier conditions

Edmonton's Adaptation Strategy and Action Plan (2019) and Edmonton's Climate Change Almanac highlight the following changes to the climate:

- An increase in average temperature across all seasons, with the largest increases happening in winter
- An increase in maximum temperature
- Drier summers, wetter winters and more heavy rainfall events
- As temperature rises and there is more energy in the atmosphere, it is expected that atmospheric conditions will be more conducive to producing more frequent and intense extreme weather events such as wildfire, rain on snow, freezing rain and high winds
- Climate change is expected to double the chance of multi-year droughts in the region.

Based on engagement with Lamont staff and review of regional reports, the following hazards were chosen for the assessment:

- Flooding (Lamont Creek)
- Extreme Rainfall
- Freeze/thaw cycles
- Wildfire
- Extreme Heat
- Drought
- Extreme Wind
- Extreme Cold

3.0 CLIMATE CHANGE PROJECTIONS

Climate change is expected to influence the frequency and severity of climate hazards. To demonstrate this influence, localized climate change projections were assessed with a focus on climate indicators that influence the chosen climate hazards.

Climate change data and summaries were prepared using online tools. The tools used included:

- **Climatedata.ca**[4] - Climatedata.ca is a collaboration between Environment and Climate Change Canada (ECCC), the Computer Research Institute of Montréal (CRIM), Ouranos, the Pacific Climate Impacts Consortium (PCIC) and the Prairie Climate Centre (PCC). It provides statistically downscaled climate data for a 29 member ensemble of General Circulation Models

[4] Climate Data Canada

(GCM) for specific areas of interest with annual, seasonal, and monthly time resolutions. In addition, this tool provides historical climate data (recorded by Natural Resources Canada) for specific areas of interest.

- **Western University IDF_CC Tool**[5] -. IDF_CC is a publicly available web-based intensity-duration-frequency tool to update and adapt local extreme rainfall statistics to climate change. The IDF_CC tool is pre-loaded with 898 Environment and Climate Change Canada rain stations and users have the option to select any rain station with 10 or more years of data and develop IDF curves based on historical data and curves adjusted to reflect climate change. The tool also allows the development of IDF curves for ungauged locations in Canada.

Climatedata.ca was used to download and generate summaries of annual and seasonal climate change projections for temperature and precipitation indicators for Lamont. The IDF_CC Tool was used to generate summaries of projected changes in the Intensity, Duration, Frequency (IDF) curves for extreme rainfall events.

The data generated using each tool is based on Coupled Model Intercomparison Project 6 (CMIP 6). There are three emissions pathway options for CMIP6: low, moderate, and high. However, these are now called Shared Socioeconomic Pathways (SSPs) instead of Representative Concentration Pathways (RCPs). SSPs provide an enhanced understanding of the relationship between socio-economic factors (such as education, population, environmental policy, and more more) and climate change. CMIP6 models have increased spatial resolution, representing the atmosphere, oceans and small-scale processes (such as clouds, water vapor, and aerosols) in more detail.

We have elected to use only the SSP5-8.5 scenario as it is the most conservative and best suited for planning projects. The SSP5-8.5 scenario is often considered the “business as usual” scenario, reflecting low efforts globally to meet GHG emissions reduction targets. While efforts by many governments are currently being implemented, this scenario offers a “worst-case” scenario for assessment purposes, tempered by using only the median values from the GCM ensemble..

The historic time period (baseline) for the assessment is:

- 1971-2000 (Baseline)

The three future time periods used for the climate projections are:

- 2011-2040 (2020s)
- 2041-2070 (2050s)
- 2071-2100 (2080s)

[5] Computerized IDF CC Tool for the Development of Intensity-Duration-Frequency Curves under a Changing Climate: (idf-cc-uwo.ca)

3.1 INDICATORS FOR CLIMATE HAZARDS

Indicators were identified that are expected to influence the frequency and severity of the climate hazards. These indicators were the focus for accessing and summarizing climate change projections for this project. The hazards and their relevant climate indicators are as follows:

- **Flooding**
  - Maximum 1-day Total Precipitation
  - Maximum 5-day Precipitation
  - Precipitation Intensity, Duration and Frequency (IDF)
  - Wet days >= 20 mm
- **Extreme Rainfall**
  - Maximum 1-day Total Precipitation
  - Maximum 5-day Precipitation
  - Precipitation Intensity, Duration and Frequency (IDF)
  - Wet days >= 20 mm+++
- **Freeze/thaw cycles:**
  - Freeze-thaw cycles
- **Wildfire:**
  - Mean temperature during summer season
  - Days with T_{max} > 30 °C, > 32 °C
  - Total precipitation during summer season
- **Extreme Heat:**
  - Days with T_{max} > 30 °C, > 32 °C
  - Hottest day
- **Drought:**
  - Total precipitation during summer season
  - Mean temperature during summer season
  - Days with T_{max} > 30 °C, > 32 °C
- **Extreme Wind:**
  - No direct indicator
- **Extreme Cold:**
  - Days with Tmin < -15, -25 °C

3.2 TEMPERATURE PROJECTIONS

Climate change projections for key temperature indicators are summarized in Table 3-1 and 3-2.

Table 3.1. Temperature Climate Indicators and Projected Changes

Climate Indicator (30yrs. Avg)	Time Horizon						
	Baseline (1971-2000)	2020s (2011-2040)		2050s (2041-2070)		2080s (2071-2100)	
	Temperature (°C)	Temperature (°C)	Change (°C)	Temperature (°C)	Change (°C)	Temperature (°C)	Change (°C)
Annual Mean Temperature (°C)	2.3	4.0	+1.7	6.0	+3.7	8.5	+6.5
Spring	2.8	4.3	+1.5	5.8	+3.0	7.7	+4.9
Summer	15.4	17.3	+1.9	19.2	+3.8	22.3	+6.9
Fall	3.1	4.9	+3.1	7.1	+4.0	9.5	+6.4
Winter	-12.5	-10.7	+1.8	-8.6	+3.9	-6.1	+6.4
Hottest Day (°C)	30.7	33.0	+2.3	35.3	+4.6	37.9	+7.2
Coldest Day (°C)	-38.3	-35.4	+2.9	-32.0	+6.3	-27.4	+10.9

Table 3.2. Number of Days with Noteworthy Climatic Events

Climate Indicator (30yrs. Avg)	Time Horizon						
	Baseline (1971-2000)	2020s (2011-2040)		2050s (2041-2070)		2080s (2071-2100)	
	# of Days	# of Days	Change (Days)	# of Days	Change (Days)	# of Days	Change (Days)
Days with T_{min} < -15	68	55	-13	42	-26	27	-41
Days with T_{min} < -25	24	17	-7	11	-13	3	-21
Days with T_{max} > 30	3	10	+7	21	+18	47	+44
Days with T_{max} > 32	1	4	+3	11	+10	30	+29
Freeze/Thaw Cycles	89	84	-5	77	-12	67	-22

The data in the Table 3-1 and 3-2 indicate the following trends:

- Average annual temperature is expected to increase for all seasons and across all future time horizons with temperatures reaching 6 °C above the 1971-2000 baseline by the end of the century.
- Lamont can expect maximum temperatures that are hotter than previously experienced.
- Lamont can expect very hot days to increase significantly, to 29 (days with T_{max} > 32) and 44 (days with T_{max} > 30), by the end of the century.
- Days with T_{min} < -15, -25 °C are expected to register a significant decrease, declining by 41 and 21 days, respectively, towards the end of the century. .
- Due to warming winters, Lamont can expect less ice days and freeze/thaw cycle days than in the past, though they will still comprise a significant number of days (67) throughout the year towards the end of the century.
- The coldest day of the year is expected to get warmer, increasing by approximately 11 °C above the baseline by the end of the century.

3.3 PRECIPITATION PROJECTIONS

Climate change projections for key precipitation indicators are summarized in Table 1-3

Table 3.3. Precipitation projections for the Town of Lamont

Climate Indicator (30yrs. Avg)	Time Horizon			
	Baseline (1971-2000)	2020s (2011-2040)	2050s (2041-2070)	2080s (2071-2100)
Annual Total Precipitation (mm) (%change)	416	425 (2%))	442 (+6%)	447 (+8%)
Spring (mm) (%change)	81	89 (+10%)	97 (+20%)	106 (+31%)
Summer (mm) (%change)	220	208 (-6%)	211 (-4%)	200 (-9%)
Fall (mm) (%change)	77	77 (±0)	86 (+12%)	88 (+14%)
Winter (mm) (%change)	59	64 (+9%)	69 (+17%)	74 (+25%)
Annual Max 1-Day Total Precipitation (mm) (%change)	32	31 (-3%)	33 (+3%)	35 (+9%)
Annual Max 1-Day Total Precipitation Spring (mm) (%change)	15	16 (+7%)	18 (+20%)	20 (+33%)
Annual Max 1-Day Total Precipitation Summer (mm) (%change)	29	28 (-3%)	30 (+3%)	30 (+3%)
Annual Max 1-Day Total Precipitation Fall (mm) (%change)	16	16 (±0)	18 (+13%)	20 (+25%)
Annual Max 1-Day Total Precipitation Winter (mm) (%change)	8	9 (+13%)	10 (+25%)	10 (+25%)
Annual Max 5-Day Total Precipitation (mm)	56	56 (±0)	59 (+5%)	61 (+9%)
Wet Days >= 20 mm (no. of days)	2	2 (±0)	3 (+1)	3 (+1)

From Table 3-3, the annual average precipitation is projected to increase over the three future time horizons:

- 2% during the 2020s (2011-2040)
- 6% by the 2050s (2041-2070)
- 8% by the 2080s (2071-2100)

Additional trends observed from Table 3-3 include:

- Although annual precipitation in projected to increase, summer precipitation is expected to decrease by as much as 9% by the end of the century
- Winter precipitation is set to increase during the 2020s (9%) and 2050s (17%) and the 2080s (25%)
- The largest increases in precipitation are expected in Spring and Fall, 31% and 14% respectively, by the end of the century
- Maximum 1-day and 5-day precipitation are expected to increase by 9% by the end of the century, respectively.

To further understand the projected changes in extreme rainfall events, the full range of IDF projections using the IDF_CC Tool for Lamont were assessed. Table 3-4 summarizes the historical IDF values. Tables 3-5, 3-6, and 3-7 summarize the projected percentage change for the selected time horizons; 2020s, 2050s and 2080s. Note, the IDF_CC tool only provides data for a minimum of 30 years and the starting year is 2015, therefore the 2020s data in Table 3-5 is based on the range 2015-2045.

Table 3-4: Historical Rainfall Intensity(IDF_CC Tool – Town of Lamont)

Duration	2-Yr	5-Yr	10-Yr	20-Yr	25-Yr	50-Yr	100-Yr
1 h (mm)	14.6	21.2	26.4	32.6	34.4	42.0	51.5
2 h (mm)	18.1	25.6	31.7	38.9	41.1	50.0	60.9
6 h (mm)	26.3	37.6	46.1	55.4	58.3	68.6	80.0
12 h (mm)	32.4	47.2	58.7	71.3	75.3	89.4	105.1
24 h (mm)	40.4	57.2	69.6	82.7	86.8	100.8	115.8

Table 3-5 Projected Rainfall Intensity Changes for 2020s (Town of Lamont)

Duration	2-Yr	5-Yr	10-Yr	20-Yr	25-Yr	50-Yr	100-Yr
1 h (%)	3	1	2	0	0	-1	-3
2 h (%)	3	1	2	0	0	-1	-3
6 h (%)	3	1	2	0	0	-1	-3
12 h (%)	3	1	2	0	0	-1	-3
24 h (%)	3	1	2	0	0	-1	-3

Table 3-6 Projected Rainfall Intensity Changes for 2050s (Town of Lamont)

Duration	2-Yr	5-Yr	10-Yr	20-Yr	25-Yr	50-Yr	100-Yr
1 h (%)	6	3	2	2	2	1	2
2 h (%)	6	3	2	2	3	1	2
6 h (%)	6	3	2	2	2	1	2
12 h (%)	6	3	2	2	2	1	2
24 h (%)	6	3	2	2	2	1	2

Table 3-7 Projected Rainfall Intensity Changes for 2080s (Town of Lamont)

Duration	2-Yr	5-Yr	10-Yr	20-Yr	25-Yr	50-Yr	100-Yr
1 h (%)	11	11	10	11	13	12	12
2 h (%)	11	11	10	11	13	12	12
6 h (%)	11	11	10	11	13	12	12
12 h (%)	11	11	10	11	13	12	12
24 h (%)	11	11	10	11	13	12	12

Table 3-5, 3-6 and 3-7 indicate that the intensity, duration and frequency of extreme rainfall events are estimated to decrease by approximately 3% during the 2020s and increase by 2% and 12% during the 2050s and the 2080s respectively.

3.4 WIND

There is little data regarding wind speeds and direction for the study area, and this variable is not provided as an output from GCMs. However, a study prepared for Environment Canada[6] includes the following findings:

- Canada could potentially experience more wind gust events late this century than has been historically experienced.
- The magnitude and frequency of future wind gust events would be generally greater for more severe wind gust events. For example, the percentage increases in the frequency of future hourly wind gust events ≥28 and ≥70 km/h are projected to be approximately 10% and 20%–30%, respectively.

The corresponding increases for future hourly wind gust events ≥90 km/h are projected to be more than 100%.As per the Edmonton Climate Adaptation Strategy (2018), the frequency of extreme events in the region such as high winds are trending towards an increase[7].

Currently the chance of wind gusts greater than 90 km/hr in the Edmonton region, which is in close proximity to Lamont, in any given year, is about 40 per cent. As early as 2040 the probability of a wind gust greater than 90 km/hr in any given year is forecasted to be 100 percent[8].

4.0 SUMMARY OF CLIMATE HAZARD PROJECTIONS

Table 4-8 summarizes the climate hazards for Lamont and how projections for climate indicators influence their severity and likelihood.

Table 4-8: Summary of Climate Hazards and Projected Changes in Key Climate Indicators

Climate Hazard	Climate Indicator Influence on Severity/Likelihood
Flooding (Lamont Creek)	Precipitation indicators an IDF data show a likely increase in urban flooding events, especially in the context of Lamont Creek, which is sensitive to extreme rainfall events and has flooded in the past due to high water levels
Extreme Rainfall	Precipitation indicators and IDF data show that the intensity, duration and frequency of extreme rainfall events are estimated to increase considerably.
Freeze/thaw cycles	GCMs show that while warming weather is causing a decrease in the number of freeze/thaw cycles, they will still comprise multiple days till the end of the century.

[6] Cheng, Chad S; Lopes, Edwina; Fu, Chao; Huang, Zhiyong (2014). Possible Impacts of Climate Change on Wind Gusts under Downscaled Future Climate Conditions: Updated for Canada. Journal of Climate. Vol 27: 1255-1270.

[7] Climate Resilient Edmonton: Adaptation Strategy and Action Plan

[8] Edmonton's Climate Change Almanac

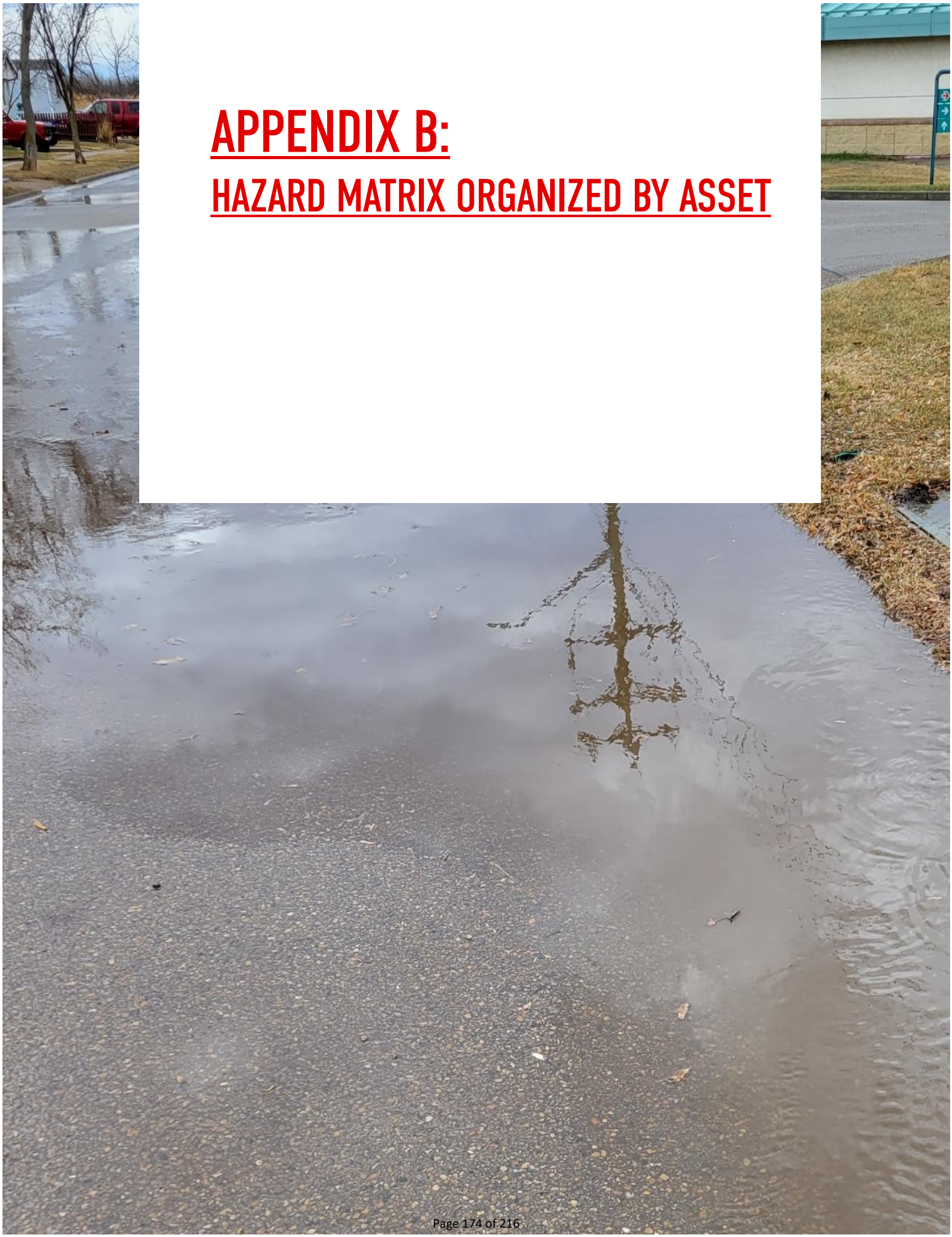
Climate Hazard	Climate Indicator Influence on Severity/Likelihood
Wildfire	There is good agreement among GCMs that summer temperatures will increase, and summer precipitation will decrease, increasing the likelihood of conditions conducive to wildfires. Wildfire season is expected to start earlier and last longer.
Extreme Heat	Days with Tmax > 30C and 32C and the magnitude of the hottest days are projected to increase for future time periods, indicating a likely increase in the frequency of extreme heat events.
Drought	Rising summer temperatures and decreasing summer precipitation will increase the likelihood of conditions conducive to drought.
Extreme Wind	There is some research indicating an increased frequency of high-speed wind events.
Extreme Cold	GCMs show extremely cold weather being less frequent and of lower magnitude.

Coupled with the integration of background information and local knowledge, understanding how the climate is projected to change and identifying hazards will create the foundation for a vulnerability and risk assessment specific to the Town of Lamont. The identification of hazards will aid in the development of a custom framework which considers Lamont's priorities and will eventually lead to the evaluation and prioritization of climate change risks and the generation and assessment of resultant risk mitigation measures.

Additionally, this information is also useful for the integration of climate change into municipal operations and planning as well as the identification of possible gaps in existing initiatives, both aspects that are expected to be addressed in the final report.

APPENDIX B:

HAZARD MATRIX ORGANIZED BY ASSET



APPENDIX B: HAZARD MATRIX ORGANIZED BY ASSET

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Commercial Buildings	Stores/ Businesses	Wildfire	20	25	25	Can cause direct damage/destroy the element. Can result in economic losses if wildfire smoke or proximity limits accessibility for customers
		Extreme Rainfall	12	16	16	Can cause direct damage to element.
		Extreme Heat	10	10	10	Can damage the element, increased cooling costs / O&M may cut into profit margins, may decrease element lifespan
		Extreme Wind	9	9	9	Can cause direct damage to element. Beaver Creek Shop has suffered extensive damage due to extreme wind events in the past.
		Freeze/thaw cycles	6	4	4	Damage to the structure of the building.
		Extreme Cold	4	4	2	Increase in heating costs, may decrease element lifespan
		Flooding (Lamont Creek)	0	0	0	
		Drought	0	0	0	
Community Buildings	AHS Operations Building	Wildfire	12	15	15	At risk of direct damage, damage due to embers and impaired access due to smoke or wildfire proximity. Evacuation orders may impair service delivery
		Extreme Rainfall	9	12	12	At risk of direct damage from overland flooding, can impede access, asset may have monitoring requirements which can be disrupted by extreme rainfall events
		Extreme Heat	10	10	10	Increased cooling requirements
		Extreme Wind	3	3	3	Can cause direct damage to buildings
		Extreme Cold	2	2	1	Can impede access to asset/element
		Flooding (Lamont Creek)	0	0	0	
		Freeze/thaw cycles	0	0	0	
		Drought	0	0	0	
	Arena + Rec Facility / Hall	Wildfire	16	20	20	At risk of direct damage, damage due to embers and impaired access due to smoke or wildfire proximity
		Extreme Heat	10	10	10	Increased cooling requirements
		Extreme Rainfall	6	8	8	Arena parking lot has flooded in the past (2016), impaired access
		Extreme Wind	3	3	3	Can cause direct damage to buildings
		Extreme Cold	2	2	1	Can impede access to asset
		Flooding (Lamont Creek)	0	0	0	
		Freeze/thaw cycles	0	0	0	
		Drought	0	0	0	
	Beaver Hill/Creek Lodge (TBC)	Wildfire	16	20	20	At risk of direct damage, damage due to embers and impaired access due to smoke or wildfire proximity
		Extreme Rainfall	9	12	12	At risk of direct damage from overland flooding, impaired access
		Extreme Heat	10	10	10	Increased cooling requirements
		Extreme Wind	6	6	6	Can cause direct damage to buildings
		Extreme Cold	2	2	1	Can impede access to asset/element
		Flooding (Lamont Creek)	0	0	0	
		Freeze/thaw cycles	0	0	0	
		Drought	0	0	0	

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Community Buildings	Curling Rink	Wildfire	16	20	20	At risk of direct damage, damage due to embers and impaired access due to smoke or wildfire proximity
		Extreme Heat	10	10	10	Increased cooling requirements
		Extreme Rainfall	6	8	8	At risk of direct damage from overland flooding, impaired access to asset/element
		Extreme Wind	3	3	3	Can cause direct damage to buildings
		Extreme Cold	2	2	1	Can impede access to asset, possible increased heating costs
		Flooding (Lamont Creek)	0	0	0	
		Freeze/thaw cycles	0	0	0	
		Drought	0	0	0	
	Firehall	Wildfire	16	20	20	At risk of direct damage, damage due to embers and impaired access due to smoke or wildfire proximity, impaired service delivery (firefighting) during a time of increased demand.
		Extreme Heat	10	10	10	Increased cooling requirements
		Extreme Rainfall	6	8	8	Resultant overland flooding can cause damage to the building, can impair access. May have an effect on service delivery and ability to deploy rapidly or access certain routes
		Extreme Wind	6	6	6	Can cause direct damage to buildings
		Extreme Cold	2	2	1	May cause minor issues with service delivery, might incur small increase in operating costs for snow clearing
		Flooding (Lamont Creek)	0	0	0	
		Freeze/thaw cycles	0	0	0	
		Drought	0	0	0	
	Hospital	Wildfire	16	20	20	At risk of direct damage, damage due to embers and impaired access due to smoke or wildfire proximity. Serious consequences if residents cannot acccess healthcare services.
		Extreme Rainfall	9	12	12	At risk of flooding, direct damage from overland flooding, can impede access to healthcare services for residents
		Extreme Heat	10	10	10	Increased cooling requirements
		Extreme Wind	6	6	6	Can cause direct damage to buildings
		Extreme Cold	2	2	1	May impede access to asset/element
		Flooding (Lamont Creek)	0	0	0	
		Freeze/thaw cycles	0	0	0	
		Drought	0	0	0	
	Lamont County Office	Wildfire	16	20	20	At risk of direct damage, damage due to embers and impaired access due to smoke
		Extreme Heat	10	10	10	Increased cooling requirements
		Extreme Rainfall	6	8	8	At risk of direct damage from overland flooding, impaired acccess, impaired service delivery
		Extreme Wind	6	6	6	Can cause direct damage to buildings
		Extreme Cold	2	2	1	Can impede access to asset/element
		Flooding (Lamont Creek)	0	0	0	
		Freeze/thaw cycles	0	0	0	
		Drought	0	0	0	
	Lamont Town Office	Wildfire	16	20	20	At risk of direct damage, damage due to embers and impaired access due to smoke or wildfire proximity
		Extreme Heat	10	10	10	Increased cooling requirements
		Extreme Rainfall	6	8	8	At risk of direct damage from overland flooding, can impede access and therefore impair service delivery
		Extreme Wind	6	6	6	Can cause direct damage to buildings
		Extreme Cold	2	2	1	Can impede access to asset/element
		Flooding (Lamont Creek)	0	0	0	
		Freeze/thaw cycles	0	0	0	
		Drought	0	0	0	
	Playgrounds (3)	Wildfire	12	15	15	At risk of direct damage, damage due to embers and impaired access due to smoke or wildfire proximity. Risk of injury if playground is occupied
		Extreme Heat	10	10	10	Can restrict access as children/parents will probably avoid using the asset/element in extreme heat conditions
		Flooding (Lamont Creek)	6	8	8	May cause damage to playground equipment and/or impede access. Can be a health and safety risk. (Catch Basins added by the playground with the splash park only)
		Extreme Rainfall	6	8	8	Playground equipment may be damaged, impaired access to asset/element, risk of possible injury
		Freeze/thaw cycles	6	4	4	heaving of equipment
		Extreme Wind	3	3	3	Can cause direct damage to asset/element. Impaired access
		Extreme Cold	2	2	1	Can impede access to asset/element
		Drought	0	0	0	
	Private Homes	Wildfire	16	20	20	At risk of direct damage, damage due to embers and impaired access due to smoke
		Extreme Rainfall	12	16	16	Some residences' sump pumps never stop pumping, can cause direct damage, can impair evacuation
		Flooding (Lamont Creek)	9	12	12	Can cause direct damage to houses within the vicinity of the Creek, can impair evacuation
		Extreme Heat	10	10	10	Can damage plant health in residential gardens, increased cooling requirements and costs
		Drought	6	8	10	Can damage plant health in residential gardens due to water conservation measures
		Extreme Wind	6	6	6	Can cause direct damage to homes
		Extreme Cold	2	2	1	Limited consequences
		Freeze/thaw cycles	0	0	0	
	Schools	Wildfire	16	20	20	At risk of direct damage, damage due to embers and impaired access due to smoke or wildfire proximity
		Flooding (Lamont Creek)	9	12	12	At risk of direct damage, impaired access (Elementary school at a higher risk).
		Extreme Rainfall	9	12	12	Schools have flooded in the past (2016), significant water ponding, impaired access. (Swale area where children play - overland flow north). High school usually does not get impacted as it is at a higher altitude.
		Extreme Heat	10	10	10	Extreme heat may possibly increase cooling costs, may have to provide shade for students/staff
		Extreme Wind	6	6	6	Can cause direct damage to buildings
		Extreme Cold	4	4	2	May increase heating requirements for students/staff
		Freeze/thaw cycles	0	0	0	
		Drought	0	0	0	

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Culture & Daily Life	Historical/ Cultural Locations	Wildfire	12	15	15	Wildfire can damage or destroy locations of cultural/historical significance. Wildfire smoke or proximity can impede access
		Extreme Heat	10	10	10	Extreme heat may cause damage to historical/cultural locations outside, may have to provide shade and cooling for visitors. Indoor locations may face an increase in cooling costs
		Flooding (Lamont Creek)	6	8	8	Lamont Alliance church is within the vicinity of Lamont Creek, where flooding can cause significant damage.
		Extreme Rainfall	6	8	8	Can cause damage to historical/cultural locations. May impede access.
		Drought	3	4	5	Minimal consequences
		Extreme Wind	3	3	3	Can cause direct damage to historical/cultural locations
		Freeze/thaw cycles	3	2	2	Minimal consequences
		Extreme Cold	2	2	1	May impede access to locations
	Personal Autonomy	Wildfire	12	15	15	Can limit access and agency
		Extreme Heat	10	10	10	Can limit access and agency
		Drought	6	8	10	Can limit access and agency
		Flooding (Lamont Creek)	6	8	8	Can limit access and agency
		Extreme Rainfall	6	8	8	Can limit access and agency
		Extreme Wind	3	3	3	Minimal consequences
		Freeze/thaw cycles	3	2	2	Can limit access and agency
		Extreme Cold	2	2	1	Minimal consequences
	Social Wellbeing	Extreme Heat	15	15	15	Extreme heat can limit outdoor recreational opportunities for residents
		Wildfire	12	15	15	Wildfire proximity, smoke or evacuation orders can limit access to socializing and recreational opportunities for residents
		Extreme Rainfall	9	12	12	Extreme rainfall and overland flooding can impair social interactions and affect recreational opportunities for residents
		Drought	6	8	10	Drought and resultant water conservation measures can limit outdoor recreational and socialization opportunities for residents
		Flooding (Lamont Creek)	6	8	8	Flooding from the Creek can block off access routes and seriously curtail social interactions between residents
		Freeze/thaw cycles	6	4	4	curtail social interactions between residents, isolation
		Extreme Wind	3	3	3	Can possibly curtail socialization and recreational opportunities
		Extreme Cold	4	4	2	Can limit access to socializing and recreational opportunities for residents

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Environment	Farmland	Drought	9	12	15	Drought can impact irrigation quotas if water conservation measures are in place. Changes in seasonal water supply may reduce access to freshwater supplies for agriculture and other industries, resulting in seasonal loss of livelihood. Impacts will also depend on the duration of the drought.
		Extreme Heat	10	10	10	Drying soils and hotter temperatures can leading to heat stress and damage to crops and fields. (groundwater impacts)
		Wildfire	8	10	10	Wildfire can cause direct damage, embers may be of danger to growing crops (yield for only that year would be impacted most likely)
		Extreme Wind	6	6	6	Can damage or destroy growing crops. Can remove topsoil/cause **erosion** and tear crops out of the ground.
		Flooding (Lamont Creek)	3	4	4	There is farmland present in the vicinity of Lamont Creek, where flooding can cause significant damage. Can cause movement of any contamination or leaching of inorganic fertilizer/pesticides into the soil. Can cause algal blooms.
		Extreme Rainfall	3	4	4	Farmland in Lamont is susceptible to overland flooding which can cause significant damage to crops, erosion and draiange issues. Could cause leaching of inorganic fertilizer/pesticides into the soil due to flooding.
		Extreme Cold	2	2	1	May cause damage to crops and fields
		Freeze/thaw cycles	0	0	0	
	Natural Forests	Wildfire	16	20	20	Can cause major, direct damage to natural forests. Can cause injury and loss of wildlife and natural eco-systems (long regenerative periods)
		Extreme Heat	15	15	15	Added stress on local forests, increased susceptibility to disease, survivability of native species affected, favourable conditions for invasive species and pests
		Drought	9	12	15	Stunted vegetation and tree growth, acess to water to local wildlife limited, tree mortality rate increases
		Flooding (Lamont Creek)	9	12	12	Limited consequences (Erosion, trees and bushes dying, get saturated)
		Extreme Rainfall	6	8	8	Limited consequences
		Extreme Wind	6	6	6	Loss of trees and pollinators, less biomass to reduce wind impacts
		Extreme Cold	2	2	1	Limited consequences
		Freeze/thaw cycles	0	0	0	
	Parks	Extreme Heat	20	20	20	Danger to plant health and vegetation. Parks need more watering to stay healthy (Trees take really long to grow - Lamont has had to initiate tree watering programs for mature trees in the last couple years!!, also impacts to cost, having to take down trees)
		Wildfire	16	20	20	Possible direct damage to the plants and vegetation within parks from wildfire. 4 days recorded in 2022 where the air quality was rated as an extreme danger, might lead to access issues (Trees take really long to grow)
		Drought	12	16	20	Grass isn't growing well in parks and has to be watered down, operations need to spend more time on maintenance, trees require regular watering which is a strain on resources (depends on length of the drought too)
		Extreme Wind	9	9	9	Limited consequences (harder to establish trees - example hillside park)
		Flooding (Lamont Creek)	6	8	8	Danger of parks flooding if the creek overflows (playground just a block away). Damage to plants and natural environment. Access impacted.
		Extreme Rainfall	3	4	4	Impacts on natural filtering and storage capacity and drainage issues due to intense rainfall, residents unable to use parks and facilities
		Extreme Cold	2	2	1	Limited consequences
		Freeze/thaw cycles	0	0	0	
	The Creek	Wildfire	12	15	15	Could damage surrounding areas and vegetation that would take time to replenish - debris falling into the creek
		Extreme Heat	10	10	10	Added stress on local fish populations, survivability of native species in danger, warmer temperatures impact water ecosystems - algae blooms
		Drought	6	8	10	Impacts would depend on the length of the droughts
		Flooding (Lamont Creek)	3	4	4	Overland flooding experienced in the past and storm system is interconnected to the creek. Large floods may result in erosion or damage to the creek bed or associated habitats. (couple days usually to go back to normal)
		Extreme Rainfall	3	4	4	Numerous past instances of the creek flooding due to extreme rainfall leading to water logging, overland flooding. Creek becomes clogged since the water does not flow fast enough to clear obstructions due to high volume of discharge during heavy rainfall
		Extreme Wind	3	3	3	Limited or no consequences
		Freeze/thaw cycles	0	0	0	
		Extreme Cold	0	0	0	
	Wetlands/ Waterbodies	Extreme Heat	10	10	10	Extreme heat can affect water oxygen levels. At higher temperatures, water can't hold as much oxygen which has negative imapcts on aquatic life. Due to higher temperatures, algal blooms may begin early and last longer
		Drought	6	8	10	Drought can cause wetlands to dry up, impacting their carbon sink functions, the flora and fauna that are present in wetland ecosystems. Low levels of precipitation and the loss of water from water bodies like streams means that pollutants accumulate on land and in remaining surface water resources.
		Wildfire	4	5	5	Wildfire ash and smoke can carry harmful chemicals and deposit them in waterbodies
		Flooding (Lamont Creek)	3	4	4	Floodwater can be contaminated with pollutants such as agricultural pesticides, industrial chemicals, debris, and sewage leading to overall degradation of the wetlands/waterbodies
		Extreme Rainfall	3	4	4	Can cause overland flooding. Pollutants like oil, fertilizers, road salts can make their way into waterbodies and harm wildlife, can make them unsafe for swimming/recreational puproses, can even contaminate sources of drinking water
		Freeze/thaw cycles	0	0	0	
		Extreme Wind	0	0	0	
		Extreme Cold	0	0	0	

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Human Health	Mental / Emotional	Wildfire	12	15	15	Can lead to emotional distress. Exposure to particulate matter may increase risk of depression and anxiety. Wildfire proximity or smoke can impair access to healthcare services. Evacuation orders or loss of property can trigger mental health issues.
		Flooding (Lamont Creek)	9	12	12	Can lead to depression, anxiety and psychological distress amongst residents, can impair access to mental health services
		Extreme Rainfall	9	12	12	Can lead to stress and anxiety amongst residents, can impair access to mental health services
		Extreme Heat	10	10	10	Can lead to stress and anxiety. There is evidence to suggest that extreme heat can cause cognitive issues, sleep issues and has been associated with increased rates and risk of violence.
		Drought	6	8	10	Longer drought periods can cause negative impacts, especially on farmers or residents associated with agricultural industries
		Extreme Wind	3	3	3	Can cause stress and anxiety to residents regarding injury or property damage caused by extreme wind events
		Extreme Cold	4	4	2	Can lead to stress and anxiety.
		Freeze/thaw cycles	0	0	0	
	Physical	Extreme Heat	25	25	25	Increased incidence of heat-related illnesses (especially among vulnerable populations), decreased air quality, risks for outdoor workers, increased demand for cooling and shade. Limited access to outdoor socializing or recreational facilities. (vulnerable/ high risk populations!! lodges)
		Wildfire	20	25	25	Risk of injury or death to residents, may require community evacuation, impaired air quality (high risk for residents/vulnerable populations with respiratory issues), hampered access to healthcare/EMS
		Drought	6	8	10	Increased demand for cooling and shade. Limited access to outdoor socializing or recreational facilities.
		Flooding (Lamont Creek)	6	8	8	Boil water advisories, hampered access to healthcare/EMS, potential waterborne diseases and risk of injury, access to walking trails etc
		Extreme Rainfall	6	8	8	Flooding in low lying areas, hampered access to healthcare/EMS, risk of injury
		Freeze/thaw cycles	9	6	6	risk of injury
		Extreme Wind	6	6	6	Risk of injury or death. Can cause greater physical damage to vulnerable populations such as the homeless.
		Extreme Cold	8	8	4	Risk of injury. Extreme cold may limit access to healthcare, especially for vulnerable populations such as the elderly.
	Spiritual	Extreme Heat	10	10	10	Can impair access to places of faith
		Wildfire	8	10	10	Can impair access to places of faith
		Flooding (Lamont Creek)	6	8	8	Can impair access to places of faith
		Extreme Rainfall	6	8	8	Can impair access to places of faith
		Extreme Wind	3	3	3	Limited consequences
		Extreme Cold	4	4	2	Can impair access to places of faith
		Freeze/thaw cycles	0	0	0	
		Drought	0	0	0	
Local Economy	Local Economy	Wildfire	20	25	25	Can cause direct damage or destroy industrial centers resulting in considerable economic impacts. Challenges for tourism industry and business customers due to poor air quality or impaired access. Prolonged recovery may cause insurance challenges. Risk of financial impacts to businesses and organizations from direct damage or interruptions to assets, operations, supply chain, transport needs, and employee safety;
		Extreme Rainfall	12	16	16	Overland flooding can damage agricultural industry, can result in flooding in industrial locations, impairing service delivery and enhancing negative economic impacts - businesses could be closed down completely
		Flooding (Lamont Creek)	9	12	12	Flooding can impact agricultural industry, economic impacts. (Farmland!)
		Extreme Heat	10	10	10	Can impact agricultural industry (increased maintenance + damage to crops).
		Drought	6	8	10	Can impact agricultural industry. Drought will result in water conservation measures which will impact the agricultural industry. (different business impacted differently)
		Extreme Wind	3	3	3	Can cause direct damage to industrial buildings. Increased cost of cleanup after extreme weather events.
		Extreme Cold	4	4	2	Delay in the transportation of goods can have economic impacts.
		Freeze/thaw cycles	0	0	0	

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Stormwater Systems	Culverts + Ditching	Flooding (Lamont Creek)	12	16	16	Overland flooding due to heavy flows overwhelming the major system. Bedding and bank material around culverts may wash out, uncontrolled high flows can damage downstream infrastructure (other culverts damaged or clogged, ditches may eroded).
		Extreme Rainfall	12	16	16	Overland flooding due to heavy flows as culverts become overwhelmed. Uncontrolled flows can damage to downstream infastructure, backwater effects at culverts may cause roadways to overtop and wash out. Culverts may become clogged and damaged due to high flows. Ditches may fill with debris can block the drainage channel.
		Wildfire	12	15	15	After wildfires, lack of vegetation can impact ditch conveyance ability (can result in erosion challenges). Drainage patterns often also change due to lack of forests/ earth moved in different patterns from fire berms/ and widescale erosion (from trees being gone so no longer providing shelter, and also the root systems of forests no longer holding the dirt together). This could impact general overland flow paths, altering where overland flooding occurs, and capacity of the overall system.
		Extreme Heat	5	5	5	Can cause damage to culverts and ditches, through erosion of dry bedding material. Animals may seek refuge in culverts and create blockages.
		Freeze/thaw cycles	6	4	4	Can lead to blockages due to ice formation
		Extreme Cold	4	4	2	Can cause damage to culverts via sudden freeze up of standing water. Damage could also occur to and ditches or block them due to heavy snowfall
		Drought	0	0	0	
		Extreme Wind	0	0	0	
	Gutters and Catch basins	Flooding (Lamont Creek)	9	12	12	Flooding can cause overflows
		Extreme Rainfall	9	12	12	High volumes will overwhelm the conveyance and acceptance of water into the minor system. The catchbasins within town are sparsely located and hinders quick acceptance into the system, ponding and flooding is created due to the minimal quantity of catchbasins.
		Extreme Heat	10	10	10	expansion and contraction of concrete - minor damage and repairs
		Wildfire	8	10	10	Added debris may get into gutters and catch basins due to heightened erosion after wildfires occur.
		Freeze/thaw cycles	6	4	4	heaving
		Extreme Cold	4	4	2	If pooling water is present, freezing can cause blockages and impair functionality. expansion and contraction of concrete - minor damage and repairs
		Drought	0	0	0	
		Extreme Wind	0	0	0	
	Stormwater Mains	Flooding (Lamont Creek)	12	16	16	Stormwater system linked to creek and becomes easily overwhelmed as creek levels rise. Combined system located in the low part of town. High flows causing deterioration of system. Residential weeping tile system tied into the storm network
		Extreme Rainfall	12	16	16	Past extreme rainfall events resulted in overland flooding, minor system becomes overwhelmed due to runoff from surrounding areas. In 2016, a storm pipe flooded in Duke Drive due to extreme rainfall. Increased flows will lead to increased maintenance as debris from runoff is trapped. Combined storm/sewer system located where there are increased inflows, greater risk of either system being overwhelmed.
		Freeze/thaw cycles	6	4	4	Limited consequences - depends if mains are installed above frost line freezing, and flooding, and clogging of lines with backup may occur -O&M requirements increase. (during large variations)
		Extreme Cold	2	2	1	Limited consequences, if mains are installed above frost line freezing and clogging of system may occur.
		Wildfire	0	0	0	
		Extreme Heat	0	0	0	
		Drought	0	0	0	
		Extreme Wind	0	0	0	
	Stormwater Management Facility	Flooding (Lamont Creek)	9	12	12	backups in facilities
		Extreme Rainfall	9	12	12	Wet and dry ponds may overflow causing excessive system stress, may result in overland flooding
		Wildfire	8	10	10	Wildfires increase erosion and sediment runoff, plants that work to provide sediment entrapment around the pond may become burned. Pond may no longer provide filtration.
		Extreme Heat	5	5	5	algal blooms
		Drought	3	4	5	erosion around pond and increased vegetation cover
		Freeze/thaw cycles	6	4	4	Inlet / outlet from pond may become blocked due to ice buildup. Backups into the system or uncontrolled discharge may occur. (Edna - people do have access - skating, safety issues)
		Extreme Cold	6	6	3	Impacts to inlet / outlet of pond due to freeze ups of ponded water which creates blockages and prevents intended flow.
		Extreme Wind	0	0	0	

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Transport System	Bike/ Pedestrian Network/ Sidewalks	Flooding (Lamont Creek)	12	16	16	Can cause damage to the element, require increased maintenance (between Edna and Campbell, have previosuly seen areas washed out)
		Extreme Heat	10	10	10	Can cause damage to the element, require increased maintenance
		Extreme Rainfall	6	8	8	Can cause damage to the element, require increased maintenance. Sidewalks are shifting, heaving and dipping. Minor service disruptions)
		Wildfire	4	5	5	can impair access
		Freeze/thaw cycles	6	4	4	Limited consequences (heaving on sidewalks seen)
		Extreme Cold	4	4	2	Can cause damage to the element, require increased maintenance
		Drought	0	0	0	
		Extreme Wind	0	0	0	
	Bridge (on 50th)	Wildfire	20	25	25	Will cause direct damage or destruction. Can cause impaired access or evacuation route (wildfire proximity or wildfire smoke) - (bridge is made of WOOD)
		Flooding (Lamont Creek)	6	8	8	erosion / abutments minor damages
		Extreme Heat	5	5	5	Can cause direct damage - minor
		Extreme Rainfall	3	4	4	Can cause direct damage, impaired access, impaired evacuation route - limited concequences (erosion and abutments minor damages)
		Extreme Wind	3	3	3	Limited consequences
		Freeze/thaw cycles	3	2	2	Limited consequences (bridge is smaller - shorter stretch)
		Extreme Cold	2	2	1	May impair access
		Drought	0	0	0	
	Equipment	Wildfire	16	20	20	Can damage or completely destroy equipment (service disruptions and costly to replace)
		Extreme Heat	10	10	10	May require increased maintenance or specialized storage
		Extreme Rainfall	6	8	8	Can cause minor damage to equipment, may impair access
		Freeze/thaw cycles	9	6	6	Harder for equipment to deal with ice, extended use (example- changing blades on equipment
		Extreme Cold	6	6	3	May require increased maintenance or specialized storage- (TOL already has practices around working in extreme cold, fuelling considerations)
		Extreme Wind	3	3	3	Dust - maintenance issues!
		Flooding (Lamont Creek)	0	0	0	
		Drought	0	0	0	
	Highways	Flooding (Lamont Creek)	9	12	12	Water ponding on highway, impaired access, can compromise evacuation routes (Just south of 56 ave by hwy 831)
		Extreme Heat	10	10	10	Can cause warping
		Wildfire	8	10	10	Can cause direct damage, impair access and evacuation routes (ERP CHECK)
		Extreme Rainfall	6	8	8	Can cause overland flooding leading to erosion, direct damage, impaired access, compromise evacuation routes
		Freeze/thaw cycles	6	4	4	Ice buildup on roads (more of a maintenance consideration)
		Extreme Cold	4	4	2	May require snow clearing
		Drought	0	0	0	
		Extreme Wind	0	0	0	

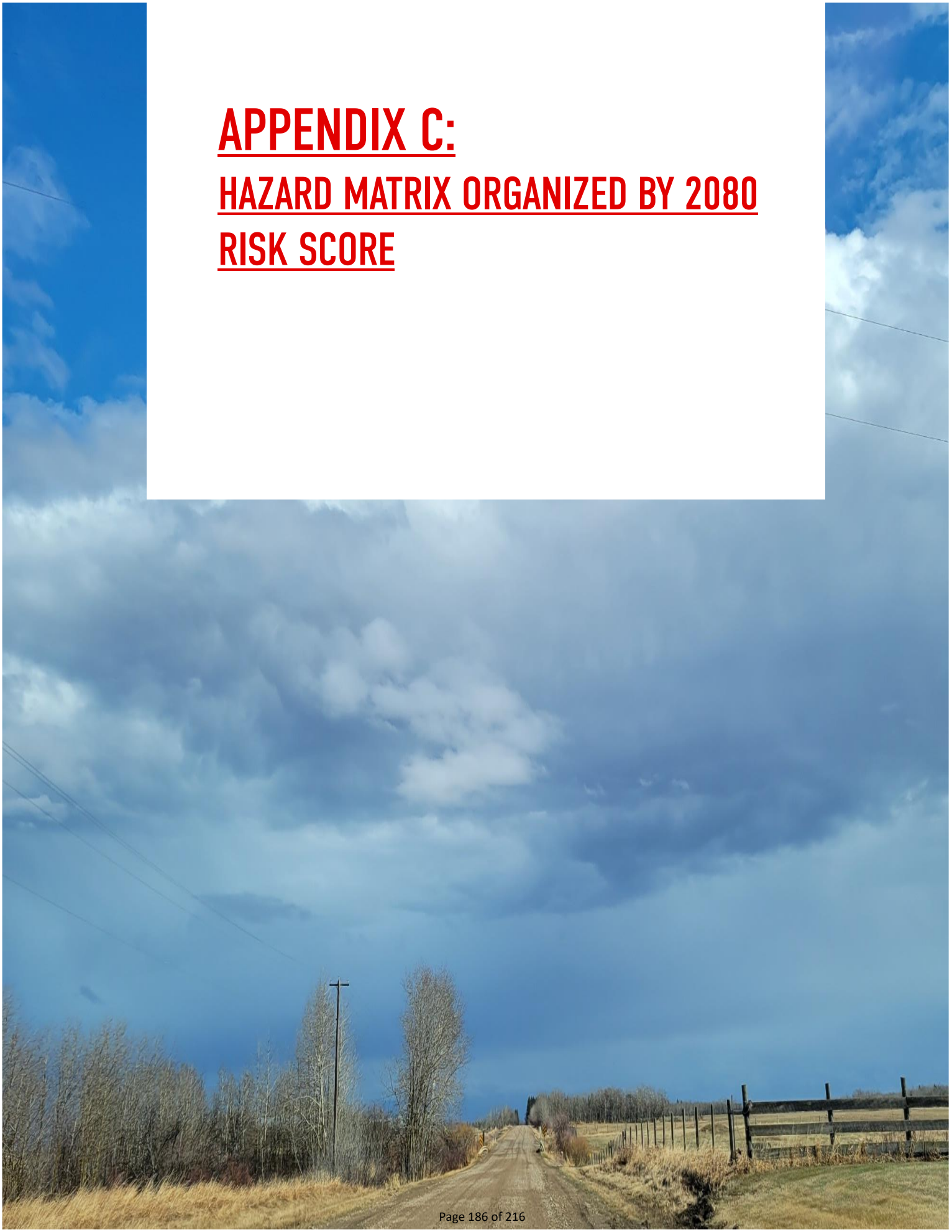
Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Transport System	Railway	Wildfire	12	15	15	Can cause direct damage to the railway, the train, the goods it transports. Railway closure due to wildfire can cause economic losses.
		Extreme Rainfall	9	12	12	Erosion due to overland flooding can compromise track stability. Potential economic impacts of the train not running/operating. Goods being transported can be damaged due to extreme rainfall.
		Extreme Heat	10	10	10	Can warp the tracks and cause service disruption + economic losses + increased O&M costs
		Freeze/thaw cycles	6	4	4	Can impact railway stability and safety due to softening track foundations. More icy conditions than normal can affect railway operations
		Extreme Cold	4	4	2	service disruption + increased o&m
		Flooding (Lamont Creek)	0	0	0	
		Drought	0	0	0	
		Extreme Wind	0	0	0	
	Streetlights	Wildfire	12	15	15	Can be directly damaged or destroyed by wildfire
		Extreme Wind	6	6	6	Extreme winds or flying debris caused by extreme wind can damage the light poles or lights
		Extreme Rainfall	3	4	4	Overland flooding can damage electrical components, may cause direct damage to light poles
		Flooding (Lamont Creek)	3	4	4	Flood waters can damage or destroy electrical components, can wash away light poles in extreme circumstances
		Freeze/thaw cycles	0	0	0	
		Extreme Heat	0	0	0	
		Drought	0	0	0	
		Extreme Cold	0	0	0	
	The local roadway network (gravel)	Flooding (Lamont Creek)	12	16	16	Can cause erosion, direct damage, impair access and evacuation routes. (creek goes right across one of the gravel roads - could wash the road out)
		Extreme Rainfall	12	16	16	Can cause overland flooding leading to erosion, direct damage, impair access and compromise evacuation routes. Extreme rainfall turns roads to mud.
		Extreme Heat	10	10	10	Problems with dust suppression on gravel roads
		Drought	6	8	10	Problems with dust suppression on gravel roads
		Extreme Wind	6	6	6	Problems with dust suppression on gravel roads
		Wildfire	4	5	5	Can cause direct damage, impair access and evacuation routes (minor access impacts)
		Freeze/thaw cycles	6	4	4	Ice buildup on roads - (manageable)
		Extreme Cold	4	4	2	Excess sanding creates operational challenges
	The local roadway network (paved)	Flooding (Lamont Creek)	9	12	12	Can cause erosion, direct damage, impair access and evacuation routes
		Extreme Rainfall	9	12	12	Can cause overland flooding leading to erosion, direct damage, impair access and compromise evacuation routes. Standing water creates potholes. Softens base which impacts element lifecycle
		Extreme Heat	10	10	10	Can cause warping (locations w heavy traffic - hospital, main street etc)
		Wildfire	8	10	10	Can cause direct damage, impair access and evacuation routes (larger equipment coming in etc.)
		Drought	3	4	5	Difficult to achieve compaction on new roads being built (or existing that are being rehabilitated), without moisture (limited water usage due to drought restrictions
		Freeze/thaw cycles	6	4	4	Ice buildup on roads
		Extreme Cold	4	4	2	Increased maintenance required due to possible warping and heaving
		Extreme Wind	0	0	0	
	Traffic signage	Wildfire	12	15	15	wildfire can directly damage or destroy signage.
		Extreme Wind	9	9	9	Extreme winds or flying debris caused by extreme wind can physically damage or destroy traffic signage
		Extreme Rainfall	3	4	4	Can damage or destroy the element
		Flooding (Lamont Creek)	3	4	4	Can damage or destroy the element
		Freeze/thaw cycles	0	0	0	
		Extreme Heat	0	0	0	
		Drought	0	0	0	
		Extreme Cold	0	0	0	

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Wastewater Collection Systems	Lift Station (Creekside)	Flooding (Lamont Creek)	12	16	16	Due to the combined system and inflow and infiltration, water from flooding enters the wastewater collection system and overwhelms the system. The lift stations maximum pumping rate, and forcemain diameter are both undersized, they were originally constructed in 1972 based on a smaller system. They are not able to keep up with the demand, creating a bottleneck. - (**have had to replace and reline about 170m of the line in the past; replaced some, raised, sealed manholes in the past ~2 years). (2 pumps in liftstaion - does not match the forcemain. only 1 pump works at a time usually, even power system is unable to handle the 2 pumps**) - all the work done on the system in the past couple years reduces the risk
		Extreme Rainfall	12	16	16	Due to the combined system and inflow and infiltration, water from flooding enters the wastewater collection system and overwhelms the system. The lift stations maximum pumping rate, and forcemain diameter are both undersized, they were originally constructed in 1972 based on a smaller system. They are not able to keep up with the demand, creating a bottleneck.
		Extreme Heat	5	5	5	Pumps could overheat, would need more power to work
		Freeze/thaw cycles	0	0	0	
		Wildfire	0	0	0	
		Drought	0	0	0	
		Extreme Wind	0	0	0	
		Extreme Cold	0	0	0	
	Lift Station (Edna)	Extreme Rainfall	9	12	12	Due to the combined system and inflow and infiltration, water from flooding enters the wastewater collection system and overwhelms the system. The lift stations maximum pumping rate, and forcemain diameter are both undersized, they were originally constructed in 1972 based on a smaller system. They are not able to keep up with the demand, creating a bottleneck **(contract with pump company - maintenance is prompt if needed; pumps and wet well inspected and cleaned once a year.) all the work done on the system in the past couple years reduces the risk (3 rating instead of a 4)**
		Extreme Heat	5	5	5	Pumps could overhead, would need more power to work
		Flooding (Lamont Creek)	0	0	0	
		Freeze/thaw cycles	0	0	0	
		Wildfire	0	0	0	
		Drought	0	0	0	
		Extreme Wind	0	0	0	
		Extreme Cold	0	0	0	
	Wastewater Mains	Flooding (Lamont Creek)	12	16	16	There is a combined sewer/ storm system, when the creek floods and overwhelms this, backups of wastewater may occur.
		Extreme Rainfall	12	16	16	Combined sewer/storm system shared by 60% of the Town gets overwhelmed, to reduce flooding risk to private houses due to the sewer system becoming overwhelmed, direct pumping into Lamont Creek occurs.
		Freeze/thaw cycles	6	4	4	Some gravity mains are shallow (mostly laterals) - See locations on MAP
		Extreme Cold	4	4	2	If wastewater mains are constructed above the frost depth, then flows may freeze and create blockages, cracks or breaks. See locations on MAP
		Wildfire	0	0	0	
		Extreme Heat	0	0	0	
		Drought	0	0	0	
		Extreme Wind	0	0	0	
	Wastewater Treatment Facility	Extreme Heat	10	10	10	Increased demand due to higher consumption may put holding and treatment facilities at risk of reaching capacity. Effluent release after treatment is regulated to prevent impacts to the receiving aquatic environment. Reviving waters have naturally lower flows during high temperature periods, low volumes and high temperatures can increase the toxicity of wastewater effluent.
		Drought	6	8	10	Increased demand due to higher consumption may put holding and treatment facilities at risk of reaching capacity. Effluent release after treatment is regulated to prevent impacts to the receiving aquatic environment. Reviving waters have naturally lower flows during high temperature periods, low volumes and high temperatures can increase the toxicity of wastewater effluent.
		Extreme Wind	9	9	9	Damage to lagoon from erosion due to wind and water
		Extreme Rainfall	6	8	8	Effluent volumes that are being treated by the facility increase. Wastewater treatment and release schedule will need to be modified to account for increased volume in the lagoons. Lagoons can flood and have an uncontrolled discharge, which would cause harm to the surrounding environment. **(Lagoon has been expanded in approx 2013 so early release needs have not arisen)**
		Wildfire	4	5	5	Can cause direct damage to the facility. Can affect operations if access is removed. Change to drainage patterns.
		Extreme Cold	4	4	2	Effluent volumes that are being treated by the facility increase. Wastewater treatment/chemicals will need to be modified. Freezing of the inlet/ outlet and control structures. If the inlet control freezes up, backing up of the system may occur.
		Freeze/thaw cycles	3	2	2	Need to level ponds to ensure the inlets and outlets are not freezing
		Flooding (Lamont Creek)	0	0	0	

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Water Systems	Reservoirs (2)	Wildfire	16	20	20	Can damage/destroy pumphouse and equipment. SCADA does not require daily monitoring but if that fails due to wildfire damage, there is no way to check operations.
		Extreme Rainfall	9	12	12	Can cause flooding and direct damage to pumphouse building. Can cause direct damage to equipment. If groundwater table is high and reservoir has existing damages (i.e. cracks) it could contaminate the holding supply - low likelihood considering inspections are conducted every 5-7 years. (ACCESS to bigger reservoir (#2) due to gravel road)
		Extreme Heat	10	10	10	More water will be used, pumps will have to be used more, extreme heat can also reduce the efficiency of pumps - more power to pump aswell, more susceptible to damage and failure when overheating. (One fan in the bigger reservoir to cool down system). Campbell manual venting, 54th automatic venting system. Redundancy in pumps
		Drought	6	8	10	More water would be used, increased pumping requirements (system overheating..) will require more maintenance leading to added costs.
		Extreme Wind	6	6	6	can cause direct damage to buildings
		Flooding (Lamont Creek)	3	4	4	Building close to Creek but much higher elevations than the creek
		Freeze/thaw cycles	0	0	0	
		Extreme Cold	0	0	0	
	The source water	Wildfire	12	15	15	damage to facility, equipment
		Drought	6	8	10	Reduced consumption allowances
		Extreme Rainfall	6	8	8	Some flooding in area
		Flooding (Lamont Creek)	3	4	4	Source water line crosses creek but unlikely to be impacted by erosion scour
		Freeze/thaw cycles	0	0	0	
		Extreme Heat	0	0	0	
		Extreme Wind	0	0	0	
		Extreme Cold	0	0	0	
	Water Mains	Wildfire	16	20	20	Can hinder firefighting abilities due to breaks in the watermain (pressure fluctuations), draw on system increases significantly - could lead to pipe bursts; hydrant contamination is a possibility as well
		Extreme Heat	10	10	10	Service disruption, increased load on system reducing water available for flushing
		Drought	6	8	10	Water restrictions can impact service delivery
		Freeze/thaw cycles	12	8	8	Ground very susceptible to vibration transmit frosting, water line breaks
		Extreme Rainfall	3	4	4	Access to hydrants / troubleshooting
		Extreme Cold	6	6	3	More frequent main breaks because of frost, fire hydrants - use antifreeze in the winters
		Flooding (Lamont Creek)	0	0	0	
		Extreme Wind	0	0	0	

APPENDIX C:

HAZARD MATRIX ORGANIZED BY 2080 RISK SCORE



APPENDIX C: HAZARD MATRIX ORGANIZED BY 2080 RISK SCORE

Risk Score	Risk Classification		
0		No risk identified	N/A
1 - 9		Low Risk	Risks requiring minimal action
10 - 16		Medium Risk	Risks that may require further action
15 - 16		Medium-High Risk	Risks that require further action
17 - 25		High Risk	Risks that require immediate action

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Human Health	**Physical**	**Extreme Heat**	25	25	25	Increased incidence of heat-related illnesses (especially among vulnerable populations), decreased air quality, risks for outdoor workers, increased demand for cooling and shade. Limited access to outdoor socializing or recreational facilities. (vulnerable/ high risk populations!! lodges)
Commercial Buildings	**Stores/ Businesses**	**Wildfire**	20	25	25	Can cause direct damage/destroy the element. Can result in economic losses if wildfire smoke or proximity limits accessibility for customers
Human Health	**Physical**	**Wildfire**	20	25	25	Risk of injury or death to residents, may require community evacuation, impaired air quality (high risk for residents/vulnerable populations with respiratory issues), hampered access to healthcare/EMS
Local Economy	**Local Economy**	**Wildfire**	20	25	25	Can cause direct damage or destroy industrial centers resulting in considerable economic impacts. Challenges for tourism industry and business customers due to poor air quality or impaired access. Prolonged recovery may cause insurance challenges. Risk of financial impacts to businesses and organizations from direct damage or interruptions to assets, operations, supply chain, transport needs, and employee safety;
Transport System	**Bridge (on 50th)**	**Wildfire**	20	25	25	Will cause direct damage or destruction. Can cause impaired access or evacuation route (wildfire proximity or wildfire smoke) - (bridge is made of WOOD)
Environment	**Parks**	**Extreme Heat**	20	20	20	Danger to plant health and vegetation. Parks need more watering to stay healthy (Trees take really long to grow - Lamont has had to initiate tree watering programs for mature trees in the last couple years!!, also impacts to cost, having to take down trees)
Community Buildings	**Arena + Rec Facility / Hall**	**Wildfire**	16	20	20	At risk of direct damage, damage due to embers and impaired access due to smoke or wildfire proximity
Community Buildings	**Beaver Hill/Creek Lodge (TBC)**	**Wildfire**	16	20	20	At risk of direct damage, damage due to embers and impaired access due to smoke or wildfire proximity
Community Buildings	**Curling Rink**	**Wildfire**	16	20	20	At risk of direct damage, damage due to embers and impaired access due to smoke or wildfire proximity
Community Buildings	**Firehall**	**Wildfire**	16	20	20	At risk of direct damage, damage due to embers and impaired access due to smoke or wildfire proximity, impaired service delivery (firefighting) during a time of increased demand.
Community Buildings	**Hospital**	**Wildfire**	16	20	20	At risk of direct damage, damage due to embers and impaired access due to smoke or wildfire proximity. Serious consequences if residents cannot acccess healthcare services.
Community Buildings	**Lamont County Office**	**Wildfire**	16	20	20	At risk of direct damage, damage due to embers and impaired access due to smoke
Community Buildings	**Lamont Town Office**	**Wildfire**	16	20	20	At risk of direct damage, damage due to embers and impaired access due to smoke or wildfire proximity
Community Buildings	**Private Homes**	**Wildfire**	16	20	20	At risk of direct damage, damage due to embers and impaired access due to smoke
Community Buildings	**Schools**	**Wildfire**	16	20	20	At risk of direct damage, damage due to embers and impaired access due to smoke or wildfire proximity
Environment	**Natural Forests**	**Wildfire**	16	20	20	Can cause major, direct damage to natural forests. Can cause injury and loss of wildlife and natural eco-systems (long regenerative periods)
Environment	**Parks**	**Wildfire**	16	20	20	Possible direct damage to the plants and vegetation within parks from wildfire. 4 days recorded in 2022 where the air quality was rated as an extreme danger, might lead to access issues (Trees take really long to grow)
Transport System	**Equipment**	**Wildfire**	16	20	20	Can damage or completely destroy equipment (service disruptions and costly to replace)
Water Systems	**Reservoirs (2)**	**Wildfire**	16	20	20	Can damage/destroy pumphouse and equipment. SCADA does not require daily monitoring but if that fails due to wildfire damage, there is no way to check operations.
Water Systems	**Water Mains**	**Wildfire**	16	20	20	Can hinder firefighting abilities due to breaks in the watermain (pressure fluctuations), draw on system increases significantly - could lead to pipe bursts; hydrant contamination is a possibility as well

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Environment	**Parks**	**Drought**	12	16	20	Grass isn't growing well in parks and has to be watered down, operations need to spend more time on maintenance, trees require regular watering which is a strain on resources (depends on length of the drought too)
Commercial Buildings	**Stores/ Businesses**	**Extreme Rainfall**	12	16	16	Can cause direct damage to element.
Community Buildings	**Private Homes**	**Extreme Rainfall**	12	16	16	Some residences' sump pumps never stop pumping, can cause direct damage, can impair evacuation
Local Economy	**Local Economy**	**Extreme Rainfall**	12	16	16	Overland flooding can damage agricultural industry, can result in flooding in industrial locations, impairing service delivery and enhancing negative economic impacts - businesses could be closed down completely
Stormwater Systems	**Culverts + Ditching**	**Flooding (Lamont Creek)**	12	16	16	Overland flooding due to heavy flows overwhelming the major system. Bedding and bank material around culverts may wash out, uncontrolled high flows can damage downstream infrastructure (other culverts damaged or clogged, ditches may eroded).
Stormwater Systems	**Culverts + Ditching**	**Extreme Rainfall**	12	16	16	Overland flooding due to heavy flows as culverts become overwhelmed. Uncontrolled flows can damage to downstream infastructure, backwater effects at culverts may cause roadways to overtop and wash out. Culverts may become clogged and damaged due to high flows. Ditches may fill with debris can block the drainage channel.
Stormwater Systems	**Stormwater Mains**	**Flooding (Lamont Creek)**	12	16	16	Stormwater system linked to creek and becomes easily overwhelmed as creek levels rise. Combined system located in the low part of town. High flows causing deterioration of system. Residential weeping tile system tied into the storm network
Stormwater Systems	**Stormwater Mains**	**Extreme Rainfall**	12	16	16	Past extreme rainfall events resulted in overland flooding, minor system becomes overwhelmed due to runoff from surrounding areas. In 2016, a storm pipe flooded in Duke Drive due to extreme rainfall. Increased flows will lead to increased maintenance as debris from runoff is trapped. Combined storm/sewer system located where there are increased inflows, greater risk of either system being overwhelmed.
Transport System	**Bike/ Pedestrian Network/ Sidewalks**	**Flooding (Lamont Creek)**	12	16	16	Can cause damage to the element, require increased maintenance (between Edna and Campbell, have previosuly seen areas washed out)
Transport System	**The local roadway network (gravel)**	**Flooding (Lamont Creek)**	12	16	16	Can cause erosion, direct damage, impair access and evacuation routes. (creek goes right across one of the gravel roads - could wash the road out)
Transport System	**The local roadway network (gravel)**	**Extreme Rainfall**	12	16	16	Can cause overland flooding leading to erosion, direct damage, impair access and compromise evacuation routes. Extreme rainfall turns roads to mud.
Wastewater Collection Systems	**Lift Station (Creekside)**	**Flooding (Lamont Creek)**	12	16	16	Due to the combined system and inflow and infiltration, water from flooding enters the wastewater collection system and overwhelms the system. The lift stations maximum pumping rate, and forcemain diameter are both undersized, they were originally constructed in 1972 based on a smaller system. They are not able to keep up with the demand, creating a bottleneck. - (**have had to replace and reline about 170m of the line in the past; replaced some, raised, sealed manholes in the past ~2 years). (2 pumps in liftstaion - does not match the forcemain. only 1 pump works at a time usually, even power system is unable to handle the 2 pumps**) - all the work done on the system in the past couple years reduces the risk
Wastewater Collection Systems	**Lift Station (Creekside)**	**Extreme Rainfall**	12	16	16	Due to the combined system and inflow and infiltration, water from flooding enters the wastewater collection system and overwhelms the system. The lift stations maximum pumping rate, and forcemain diameter are both undersized, they were originally constructed in 1972 based on a smaller system. They are not able to keep up with the demand, creating a bottleneck.
Wastewater Collection Systems	**Wastewater Mains**	**Flooding (Lamont Creek)**	12	16	16	There is a combined sewer/ storm system, when the creek floods and overwhelms this, backups of wastewater may occur.
Wastewater Collection Systems	**Wastewater Mains**	**Extreme Rainfall**	12	16	16	Combined sewer/storm system shared by 60% of the Town gets overwhelmed, to reduce flooding risk to private houses due to the sewer system becoming overwhelmed, direct pumping into Lamont Creek occurs.
Culture & Daily Life	**Social Wellbeing**	**Extreme Heat**	15	15	15	Extreme heat can limit outdoor recreational opportunities for residents
Environment	**Natural Forests**	**Extreme Heat**	15	15	15	Added stress on local forests, increased susceptibility to disease, survivability of native species affected, favourable conditions for invasive species and pests
Community Buildings	**AHS Operations Building**	**Wildfire**	12	15	15	At risk of direct damage, damage due to embers and impaired access due to smoke or wildfire proximity. Evacuation orders may impair service delivery
Community Buildings	**Playgrounds (3)**	**Wildfire**	12	15	15	At risk of direct damage, damage due to embers and impaired access due to smoke or wildfire proximity. Risk of injury if playground is occupied
Culture & Daily Life	**Historical/ Cultural Locations**	**Wildfire**	12	15	15	Wildfire can damage or destroy locations of cultural/historical significance. Wildfire smoke or proximity can impede access
Culture & Daily Life	**Personal Autonomy**	**Wildfire**	12	15	15	Can limit access and agency
Culture & Daily Life	**Social Wellbeing**	**Wildfire**	12	15	15	Wildfire proximity, smoke or evacuation orders can limit access to socializing and recreational opportunities for residents

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Environment	The Creek	Wildfire	12	15	15	Could damage surrounding areas and vegetation that would take time to replenish - debris falling into the creek
Human Health	Mental / Emotional	Wildfire	12	15	15	Can lead to emotional distress. Exposure to particulate matter may increase risk of depression and anxiety. Wildfire proximity or smoke can impair access to healthcare services. Evacuation orders or loss of property can trigger mental health issues.
Stormwater Systems	Culverts + Ditching	Wildfire	12	15	15	After wildfires, lack of vegetation can impact ditch conveyance ability (can result in erosion challenges). Drainage patterns often also change due to lack of forests/ earth moved in different patterns from fire berms/ and widescale erosion (from trees being gone so no longer providing shelter, and also the root systems of forests no longer holding the dirt together). This could impact general overland flow paths, altering where overland flooding occurs, and capacity of the overall system.
Transport System	Railway	Wildfire	12	15	15	Can cause direct damage to the railway, the train, the goods it transports. Railway closure due to wildfire can cause economic losses.
Transport System	Streetlights	Wildfire	12	15	15	Can be directly damaged or destroyed by wildfire
Transport System	Traffic signage	Wildfire	12	15	15	wildfire can directly damage or destroy signage.
Water Systems	The source water	Wildfire	12	15	15	damage to facility, equipment
Environment	Farmland	Drought	9	12	15	Drought can impact irrigation quotas if water conservation measures are in place. Changes in seasonal water supply may reduce access to freshwater supplies for agriculture and other industries, resulting in seasonal loss of livelihood. Impacts will also depend on the duration of the drought.
Environment	Natural Forests	Drought	9	12	15	Stunted vegetation and tree growth, acess to water to local wildlife limited, tree mortality rate increases
Community Buildings	AHS Operations Building	Extreme Rainfall	9	12	12	At risk of direct damage from overland flooding, can impede access, asset may have monitoring requirements which can be disrupted by extreme rainfall events
Community Buildings	Beaver Hill/Creek Lodge (TBC)	Extreme Rainfall	9	12	12	At risk of direct damage from overland flooding, impaired access
Community Buildings	Hospital	Extreme Rainfall	9	12	12	At risk of flooding, direct damage from overland flooding, can impede access to healthcare services for residents
Community Buildings	Private Homes	Flooding (Lamont Creek)	9	12	12	Can cause direct damage to houses within the vicinity of the Creek, can impair evacuation
Community Buildings	Schools	Flooding (Lamont Creek)	9	12	12	At risk of direct damage, impaired access (Elementary school at a higher risk).
Community Buildings	Schools	Extreme Rainfall	9	12	12	Schools have flooded in the past (2016), significant water ponding, impaired access. (Swale area where children play - overland flow north). High school usually does not get impacted as it is at a higher altitude.
Culture & Daily Life	Social Wellbeing	Extreme Rainfall	9	12	12	Extreme rainfall and overland flooding can impair social interactions and affect recreational opportunities for residents
Environment	Natural Forests	Flooding (Lamont Creek)	9	12	12	Limited consequences (Erosion, trees and bushes dying, get saturated)
Human Health	Mental / Emotional	Flooding (Lamont Creek)	9	12	12	Can lead to depression, anxiety and psychological distress amongst residents, can impair access to mental health services
Human Health	Mental / Emotional	Extreme Rainfall	9	12	12	Can lead to stress and anxiety amongst residents, can impair access to mental health services
Local Economy	Local Economy	Flooding (Lamont Creek)	9	12	12	Flooding can impact agricultural industry, economic impacts. (Farmland!)
Stormwater Systems	Gutters and Catch basins	Flooding (Lamont Creek)	9	12	12	Flooding can cause overflows
Stormwater Systems	Gutters and Catch basins	Extreme Rainfall	9	12	12	High volumes will overwhelm the conveyance and acceptance of water into the minor system. The catchbasins within town are sparsely located and hinders quick acceptance into the system, ponding and flooding is created due to the minimal quantity of catchbasins.
Stormwater Systems	Stormwater Management Facility	Flooding (Lamont Creek)	9	12	12	backups in facilities
Stormwater Systems	Stormwater Management Facility	Extreme Rainfall	9	12	12	Wet and dry ponds may overflow causing excessive system stress, may result in overland flooding
Transport System	Highways	Flooding (Lamont Creek)	9	12	12	Water ponding on highway, impaired access, can compromise evacuation routes (Just south of 56 ave by hwy 831)
Transport System	Railway	Extreme Rainfall	9	12	12	Erosion due to overland flooding can compromise track stability. Potential economic impacts of the train not running/operating. Goods being transported can be damaged due to extreme rainfall.

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Transport System	**The local roadway network (paved)**	**Flooding (Lamont Creek)**	9	12	12	Can cause erosion, direct damage, impair access and evacuation routes
Transport System	**The local roadway network (paved)**	**Extreme Rainfall**	9	12	12	Can cause overland flooding leading to erosion, direct damage, impair access and compromise evacuation routes. Standing water creates potholes. Softens base which impacts element lifecycle
Wastewater Collection Systems	**Lift Station (Edna)**	**Extreme Rainfall**	9	12	12	Due to the combined system and inflow and infiltration, water from flooding enters the wastewater collection system and overwhelms the system. The lift stations maximum pumping rate, and forcemain diameter are both undersized, they were originally constructed in 1972 based on a smaller system. They are not able to keep up with the demand, creating a bottleneck **(contract with pump company - maintenance is prompt if needed; pumps and wet well inspected and cleaned once a year.) all the work done on the system in the past couple years reduces the risk (3 rating instead of a 4)**
Water Systems	**Reservoirs (2)**	**Extreme Rainfall**	9	12	12	Can cause flooding and direct damage to pumphouse building. Can cause direct damage to equipment. If groundwater table is high and reservoir has existing damages (i.e. cracks) it could contaminate the holding supply - low likelihood considering inspections are conducted every 5-7 years. (ACCESS to bigger reservoir (#2) due to gravel road)
Commercial Buildings	**Stores/ Businesses**	**Extreme Heat**	10	10	10	Can damage the element, increased cooling costs / O&M may cut into profit margins, may decrease element lifespan
Community Buildings	**AHS Operations Building**	**Extreme Heat**	10	10	10	Increased cooling requirements
Community Buildings	**Arena + Rec Facility / Hall**	**Extreme Heat**	10	10	10	Increased cooling requirements
Community Buildings	**Beaver Hill/Creek Lodge (TBC)**	**Extreme Heat**	10	10	10	Increased cooling requirements
Community Buildings	**Curling Rink**	**Extreme Heat**	10	10	10	Increased cooling requirements
Community Buildings	**Firehall**	**Extreme Heat**	10	10	10	Increased cooling requirements
Community Buildings	**Hospital**	**Extreme Heat**	10	10	10	Increased cooling requirements
Community Buildings	**Lamont County Office**	**Extreme Heat**	10	10	10	Increased cooling requirements
Community Buildings	**Lamont Town Office**	**Extreme Heat**	10	10	10	Increased cooling requirements
Community Buildings	**Playgrounds (3)**	**Extreme Heat**	10	10	10	Can restrict access as children/parents will probably avoid using the asset/element in extreme heat conditions
Community Buildings	**Private Homes**	**Extreme Heat**	10	10	10	Can damage plant health in residential gardens, increased cooling requirements and costs
Community Buildings	**Schools**	**Extreme Heat**	10	10	10	Extreme heat may possibly increase cooling costs, may have to provide shade for students/staff
Culture & Daily Life	**Historical/ Cultural Locations**	**Extreme Heat**	10	10	10	Extreme heat may cause damage to historical/cultural locations outside, may have to provide shade and cooling for visitors. Indoor locations may face an increase in cooling costs
Culture & Daily Life	**Personal Autonomy**	**Extreme Heat**	10	10	10	Can limit access and agency
Environment	**Farmland**	**Extreme Heat**	10	10	10	Drying soils and hotter temperatures can leading to heat stress and damage to crops and fields. (groundwater impacts)
Environment	**The Creek**	**Extreme Heat**	10	10	10	Added stress on local fish populations, survivability of native species in danger, warmer temperatures impact water ecosystems - algae blooms
Environment	**Wetlands/ Waterbodies**	**Extreme Heat**	10	10	10	Extreme heat can affect water oxygen levels. At higher temperatures, water can't hold as much oxygen which has negative imapcts on aquatic life. Due to higher temperatures, algal blooms may begin early and last longer
Human Health	**Mental / Emotional**	**Extreme Heat**	10	10	10	Can lead to stress and anxiety. There is evidence to suggest that extreme heat can cause cognitive issues, sleep issues and has been associated with increased rates and risk of violence.
Human Health	**Spiritual**	**Extreme Heat**	10	10	10	Can impair access to places of faith
Local Economy	**Local Economy**	**Extreme Heat**	10	10	10	Can impact agricultural industry (increased maintenance + damage to crops).
Stormwater Systems	**Gutters and Catch basins**	**Extreme Heat**	10	10	10	expansion and contraction of concrete - minor damage and repairs

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Transport System	**Bike/ Pedestrian Network/ Sidewalks**	**Extreme Heat**	10	10	10	Can cause damage to the element, require increased maintenance
Transport System	**Equipment**	**Extreme Heat**	10	10	10	May require increased maintenance or specialized storage
Transport System	**Highways**	**Extreme Heat**	10	10	10	Can cause warping
Transport System	**Railway**	**Extreme Heat**	10	10	10	Can warp the tracks and cause service disruption + economic losses + increased O&M costs
Transport System	**The local roadway network (gravel)**	**Extreme Heat**	10	10	10	Problems with dust suppression on gravel roads
Transport System	**The local roadway network (paved)**	**Extreme Heat**	10	10	10	Can cause warping (locations w heavy traffic - hospital, main street etc)
Wastewater Collection Systems	**Wastewater Treatment Facility**	**Extreme Heat**	10	10	10	Increased demand due to higher consumption may put holding and treatment facilities at risk of reaching capacity. Effluent release after treatment is regulated to prevent impacts to the receiving aquatic environment. Reviving waters have naturally lower flows during high temperature periods, low volumes and high temperatures can increase the toxicity of wastewater effluent.
Water Systems	**Reservoirs (2)**	**Extreme Heat**	10	10	10	More water will be used, pumps will have to be used more, extreme heat can also reduce the efficiency of pumps - more power to pump aswell, more susceptible to damage and failure when overheating. (One fan in the bigger reservoir to cool down system). Campbell manual venting, 54th automatic venting system. Redundancy in pumps
Water Systems	**Water Mains**	**Extreme Heat**	10	10	10	Service disruption, increased load on system reducing water available for flushing
Environment	**Farmland**	**Wildfire**	8	10	10	Wildfire can cause direct damage, embers may be of danger to growing crops (yield for only that year would be impacted most likely)
Human Health	**Spiritual**	**Wildfire**	8	10	10	Can impair access to places of faith
Stormwater Systems	**Gutters and Catch basins**	**Wildfire**	8	10	10	Added debris may get into gutters and catch basins due to heightened erosion after wildfires occur.
Stormwater Systems	**Stormwater Management Facility**	**Wildfire**	8	10	10	Wildfires increase erosion and sediment runoff, plants that work to provide sediment entrapment around the pond may become burned. Pond may no longer provide filtration.
Transport System	**Highways**	**Wildfire**	8	10	10	Can cause direct damage, impair access and evacuation routes (ERP CHECK)
Transport System	**The local roadway network (paved)**	**Wildfire**	8	10	10	Can cause direct damage, impair access and evacuation routes (larger equipment coming in etc.)
Community Buildings	**Private Homes**	**Drought**	6	8	10	Can damage plant health in residential gardens due to water conservation measures
Culture & Daily Life	**Personal Autonomy**	**Drought**	6	8	10	Can limit access and agency
Culture & Daily Life	**Social Wellbeing**	**Drought**	6	8	10	Drought and resultant water conservation measures can limit outdoor recreational and socialization opportunities for residents
Environment	**The Creek**	**Drought**	6	8	10	Impacts would depend on the length of the droughts
Environment	**Wetlands/ Waterbodies**	**Drought**	6	8	10	Drought can cause wetlands to dry up, impacting their carbon sink functions, the flora and fauna that are present in wetland ecosystems. Low levels of precipitation and the loss of water from water bodies like streams means that pollutants accumulate on land and in remaining surface water resources.
Human Health	**Mental / Emotional**	**Drought**	6	8	10	Longer drought periods can cause negative impacts, especially on farmers or residents associated with agricultural industries
Human Health	**Physical**	**Drought**	6	8	10	Increased demand for cooling and shade. Limited access to outdoor socializing or recreational facilities.
Local Economy	**Local Economy**	**Drought**	6	8	10	Can impact agricultural industry. Drought will result in water conservation measures which will impact the agricultural industry. (different business impacted differently)
Transport System	**The local roadway network (gravel)**	**Drought**	6	8	10	Problems with dust suppression on gravel roads
Wastewater Collection Systems	**Wastewater Treatment Facility**	**Drought**	6	8	10	Increased demand due to higher consumption may put holding and treatment facilities at risk of reaching capacity. Effluent release after treatment is regulated to prevent impacts to the receiving aquatic environment. Reviving waters have naturally lower flows during high temperature periods, low volumes and high temperatures can increase the toxicity of wastewater effluent.
Water Systems	**Reservoirs (2)**	**Drought**	6	8	10	More water would be used, increased pumping requirements (system overheating..) will require more maintenance leading to added costs.
Water Systems	**The source water**	**Drought**	6	8	10	Reduced consumption allowances
Water Systems	**Water Mains**	**Drought**	6	8	10	Water restrictions can impact service delivery

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Commercial Buildings	Stores/ Businesses	Extreme Wind	9	9	9	Can cause direct damage to element. Beaver Creek Shop has suffered extensive damage due to extreme wind events in the past.
Environment	Parks	Extreme Wind	9	9	9	Limited consequences (harder to establish trees - example hillside park)
Transport System	Traffic signage	Extreme Wind	9	9	9	Extreme winds or flying debris caused by extreme wind can physically damage or destroy traffic signage
Wastewater Collection Systems	Wastewater Treatment Facility	Extreme Wind	9	9	9	Damage to lagoon from erosion due to wind and water
Water Systems	Water Mains	Freeze/thaw cycles	12	8	8	Ground very susceptible to vibration transmit frosting, water line breaks
Community Buildings	Arena + Rec Facility / Hall	Extreme Rainfall	6	8	8	Arena parking lot has flooded in the past (2016), impaired access
Community Buildings	Curling Rink	Extreme Rainfall	6	8	8	At risk of direct damage from overland flooding, impaired access to asset/element
Community Buildings	Firehall	Extreme Rainfall	6	8	8	Resultant overland flooding can cause damage to the building, can impair access. May have an effect on service delivery and ability to deploy rapidly or access certain routes
Community Buildings	Lamont County Office	Extreme Rainfall	6	8	8	At risk of direct damage from overland flooding, impaired acccess, impaired service delivery
Community Buildings	Lamont Town Office	Extreme Rainfall	6	8	8	At risk of direct damage from overland flooding, can impede access and therefore impair service delivery
Community Buildings	Playgrounds (3)	Flooding (Lamont Creek)	6	8	8	May cause damage to playground equipment and/or impede access. Can be a health and safety risk. (Catch Basins added by the playground with the splash park only)
Community Buildings	Playgrounds (3)	Extreme Rainfall	6	8	8	Playground equipment may be damaged, impaired access to asset/element, risk of possible injury
Culture & Daily Life	Historical/ Cultural Locations	Flooding (Lamont Creek)	6	8	8	Lamont Alliance church is within the vicinity of Lamont Creek, where flooding can cause significant damage.
Culture & Daily Life	Historical/ Cultural Locations	Extreme Rainfall	6	8	8	Can cause damage to historical/cultural locations. May impede access.
Culture & Daily Life	Personal Autonomy	Flooding (Lamont Creek)	6	8	8	Can limit access and agency
Culture & Daily Life	Personal Autonomy	Extreme Rainfall	6	8	8	Can limit access and agency
Culture & Daily Life	Social Wellbeing	Flooding (Lamont Creek)	6	8	8	Flooding from the Creek can block off access routes and seriously curtail social interactions between residents
Environment	Natural Forests	Extreme Rainfall	6	8	8	Limited consequences
Environment	Parks	Flooding (Lamont Creek)	6	8	8	Danger of parks flooding if the creek overflows (playground just a block away). Damage to plants and natural environment. Access impacted.
Human Health	Physical	Flooding (Lamont Creek)	6	8	8	Boil water advisories, hampered access to healthcare/EMS, potential waterborne diseases and risk of injury, access to walking trails etc
Human Health	Physical	Extreme Rainfall	6	8	8	Flooding in low lying areas, hampered access to healthcare/EMS, risk of injury
Human Health	Spiritual	Flooding (Lamont Creek)	6	8	8	Can impair access to places of faith
Human Health	Spiritual	Extreme Rainfall	6	8	8	Can impair access to places of faith
Transport System	Bike/ Pedestrian Network/ Sidewalks	Extreme Rainfall	6	8	8	Can cause damage to the element, require increased maintenance. Sidewalks are shifting, heaving and dipping. Minor service disruptions)
Transport System	Bridge (on 50th)	Flooding (Lamont Creek)	6	8	8	erosion / abutments minor damages
Transport System	Equipment	Extreme Rainfall	6	8	8	Can cause minor damage to equipment, may impair access
Transport System	Highways	Extreme Rainfall	6	8	8	Can cause overland flooding leading to erosion, direct damage, impaired access, compromise evacuation routes
Wastewater Collection Systems	Wastewater Treatment Facility	Extreme Rainfall	6	8	8	Effluent volumes that are being treated by the facility increase. Wastewater treatment and release schedule will need to be modified to account for increased volume in the lagoons. Lagoons can flood and have an uncontrolled discharge, which would cause harm to the surrounding environment. **(Lagoon has been expanded in approx 2013 so early release needs have not arisen)**
Water Systems	The source water	Extreme Rainfall	6	8	8	Some flooding in area

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Human Health	**Physical**	**Freeze/thaw cycles**	9	6	6	risk of injury
Transport System	**Equipment**	**Freeze/thaw cycles**	9	6	6	Harder for equipment to deal with ice, extended use (example- changing blades on equipment
Community Buildings	**Beaver Hill/Creek Lodge (TBC)**	**Extreme Wind**	6	6	6	Can cause direct damage to buildings
Community Buildings	**Firehall**	**Extreme Wind**	6	6	6	Can cause direct damage to buildings
Community Buildings	**Hospital**	**Extreme Wind**	6	6	6	Can cause direct damage to buildings
Community Buildings	**Lamont County Office**	**Extreme Wind**	6	6	6	Can cause direct damage to buildings
Community Buildings	**Lamont Town Office**	**Extreme Wind**	6	6	6	Can cause direct damage to buildings
Community Buildings	**Private Homes**	**Extreme Wind**	6	6	6	Can cause direct damage to homes
Community Buildings	**Schools**	**Extreme Wind**	6	6	6	Can cause direct damage to buildings
Environment	**Farmland**	**Extreme Wind**	6	6	6	Can damage or destroy growing crops. Can remove topsoil/cause **erosion** and tear crops out of the ground.
Environment	**Natural Forests**	**Extreme Wind**	6	6	6	Loss of trees and pollinators, less biomass to reduce wind impacts
Human Health	**Physical**	**Extreme Wind**	6	6	6	Risk of injury or death. Can cause greater physical damage to vulnerable populations such as the homeless.
Transport System	**Streetlights**	**Extreme Wind**	6	6	6	Extreme winds or flying debris caused by extreme wind can damage the light poles or lights
Transport System	**The local roadway network (gravel)**	**Extreme Wind**	6	6	6	Problems with dust suppression on gravel roads
Water Systems	**Reservoirs (2)**	**Extreme Wind**	6	6	6	can cause direct damage to buildings
Stormwater Systems	**Culverts + Ditching**	**Extreme Heat**	5	5	5	Can cause damage to culverts and ditches, through erosion of dry bedding material. Animals may seek refuge in culverts and create blockages.
Stormwater Systems	**Stormwater Management Facility**	**Extreme Heat**	5	5	5	algal blooms
Transport System	**Bridge (on 50th)**	**Extreme Heat**	5	5	5	Can cause direct damage - minor
Wastewater Collection Systems	**Lift Station (Creekside)**	**Extreme Heat**	5	5	5	Pumps could overheat, would need more power to work
Wastewater Collection Systems	**Lift Station (Edna)**	**Extreme Heat**	5	5	5	Pumps could overhead, would need more power to work
Environment	**Wetlands/ Waterbodies**	**Wildfire**	4	5	5	Wildfire ash and smoke can carry harmful chemicals and deposit them in waterbodies
Transport System	**Bike/ Pedestrian Network/ Sidewalks**	**Wildfire**	4	5	5	can impair access
Transport System	**The local roadway network (gravel)**	**Wildfire**	4	5	5	Can cause direct damage, impair access and evacuation routes (minor access impacts)
Wastewater Collection Systems	**Wastewater Treatment Facility**	**Wildfire**	4	5	5	Can cause direct damage to the facility. Can affect operations if access is removed. Change to drainage patterns.
Culture & Daily Life	**Historical/ Cultural Locations**	**Drought**	3	4	5	Minimal consequences
Stormwater Systems	**Stormwater Management Facility**	**Drought**	3	4	5	erosion around pond and increased vegetation cover

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Transport System	**The local roadway network (paved)**	**Drought**	3	4	5	Difficult to achieve compaction on new roads being built (or existing that are being rehabilitated), without moisture (limited water usage due to drought restrictions
Human Health	**Physical**	**Extreme Cold**	8	8	4	Risk of injury. Extreme cold may limit access to healthcare, especially for vulnerable populations such as the elderly.
Commercial Buildings	**Stores/ Businesses**	**Freeze/thaw cycles**	6	4	4	Damage to the structure of the building.
Community Buildings	**Playgrounds (3)**	**Freeze/thaw cycles**	6	4	4	heaving of equipment
Culture & Daily Life	**Social Wellbeing**	**Freeze/thaw cycles**	6	4	4	curtail social interactions between residents, isolation
Stormwater Systems	**Culverts + Ditching**	**Freeze/thaw cycles**	6	4	4	Can lead to blockages due to ice formation
Stormwater Systems	**Gutters and Catch basins**	**Freeze/thaw cycles**	6	4	4	heaving
Stormwater Systems	**Stormwater Mains**	**Freeze/thaw cycles**	6	4	4	Limited consequences - depends if mains are installed above frost line freezing, and flooding, and clogging of lines with backup may occur -O&M requirements increase. (during large variations)
Stormwater Systems	**Stormwater Management Facility**	**Freeze/thaw cycles**	6	4	4	Inlet / outlet from pond may become blocked due to ice buildup. Backups into the system or uncontrolled discharge may occur. (Edna - people do have access - skating, safety issues)
Transport System	**Bike/ Pedestrian Network/ Sidewalks**	**Freeze/thaw cycles**	6	4	4	Limited consequences (heaving on sidewalks seen)
Transport System	**Highways**	**Freeze/thaw cycles**	6	4	4	Ice buildup on roads (more of a maintenance consideration)
Transport System	**Railway**	**Freeze/thaw cycles**	6	4	4	Can impact railway stability and safety due to softening track foundations. More icy conditions than normal can affect railway operations
Transport System	**The local roadway network (gravel)**	**Freeze/thaw cycles**	6	4	4	Ice buildup on roads - (manageable)
Transport System	**The local roadway network (paved)**	**Freeze/thaw cycles**	6	4	4	Ice buildup on roads
Wastewater Collection Systems	**Wastewater Mains**	**Freeze/thaw cycles**	6	4	4	Some gravity mains are shallow (mostly laterals) - See locations on MAP
Environment	**Farmland**	**Flooding (Lamont Creek)**	3	4	4	There is farmland present in the vicinity of Lamont Creek, where flooding can cause significant damage. Can cause movement of any contamination or leaching of inorganic fertilizer/pesticides into the soil. Can cause algal blooms.
Environment	**Farmland**	**Extreme Rainfall**	3	4	4	Farmland in Lamont is susceptible to overland flooding which can cause significant damage to crops, erosion and draiange issues. Could cause leaching of inorganic fertilizer/pesticides into the soil due to flooding.
Environment	**Parks**	**Extreme Rainfall**	3	4	4	Impacts on natural filtering and storage capacity and drainage issues due to intense rainfall, residents unable to use parks and facilities
Environment	**The Creek**	**Flooding (Lamont Creek)**	3	4	4	Overland flooding experienced in the past and storm system is interconnected to the creek. Large floods may result in erosion or damage to the creek bed or associated habitats. (couple days usually to go back to normal)
Environment	**The Creek**	**Extreme Rainfall**	3	4	4	Numerous past instances of the creek flooding due to extreme rainfall leading to water logging, overland flooding. Creek becomes clogged since the water does not flow fast enough to clear obstructions due to high volume of discharge during heavy rainfall
Environment	**Wetlands/ Waterbodies**	**Flooding (Lamont Creek)**	3	4	4	Floodwater can be contaminated with pollutants such as agricultural pesticides, industrial chemicals, debris, and sewage leading to overall degradation of the wetlands/waterbodies
Environment	**Wetlands/ Waterbodies**	**Extreme Rainfall**	3	4	4	Can cause overland flooding. Pollutants like oil, fertilizers, road salts can make their way into waterbodies and harm wildlife, can make them unsafe for swimming/recreational puproses, can even contaminate sources of drinking water
Transport System	**Bridge (on 50th)**	**Extreme Rainfall**	3	4	4	Can cause direct damage, impaired access, impaired evacuation route - limited concequences (erosion and abutments minor damages)
Transport System	**Streetlights**	**Extreme Rainfall**	3	4	4	Overland flooding can damage electrical components, may cause direct damage to light poles
Transport System	**Streetlights**	**Flooding (Lamont Creek)**	3	4	4	Flood waters can damage or destroy electrical components, can wash away light poles in extreme circumstances
Transport System	**Traffic signage**	**Extreme Rainfall**	3	4	4	Can damage or destroy the element
Transport System	**Traffic signage**	**Flooding (Lamont Creek)**	3	4	4	Can damage or destroy the element

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Water Systems	Reservoirs (2)	Flooding (Lamont Creek)	3	4	4	Building close to Creek but much higher elevations than the creek
Water Systems	The source water	Flooding (Lamont Creek)	3	4	4	Source water line crosses creek but unlikely to be impacted by erosion scour
Water Systems	Water Mains	Extreme Rainfall	3	4	4	Access to hydrants / troubleshooting
Stormwater Systems	Stormwater Management Facility	Extreme Cold	6	6	3	Impacts to inlet / outlet of pond due to freeze ups of ponded water which creates blockages and prevents intended flow.
Transport System	Equipment	Extreme Cold	6	6	3	May require increased maintenance or specialized storage- (TOL already has practices around working in extreme cold, fuelling considerations)
Water Systems	Water Mains	Extreme Cold	6	6	3	More frequent main breaks because of frost, fire hydrants - use antifreeze in the winters
Community Buildings	AHS Operations Building	Extreme Wind	3	3	3	Can cause direct damage to buildings
Community Buildings	Arena + Rec Facility / Hall	Extreme Wind	3	3	3	Can cause direct damage to buildings
Community Buildings	Curling Rink	Extreme Wind	3	3	3	Can cause direct damage to buildings
Community Buildings	Playgrounds (3)	Extreme Wind	3	3	3	Can cause direct damage to asset/element. Impaired access
Culture & Daily Life	Historical/ Cultural Locations	Extreme Wind	3	3	3	Can cause direct damage to historical/cultural locations
Culture & Daily Life	Personal Autonomy	Extreme Wind	3	3	3	Minimal consequences
Culture & Daily Life	Social Wellbeing	Extreme Wind	3	3	3	Can possibly curtail socialization and recreational opportunities
Environment	The Creek	Extreme Wind	3	3	3	Limited or no consequences
Human Health	Mental / Emotional	Extreme Wind	3	3	3	Can cause stress and anxiety to residents regarding injury or property damage caused by extreme wind events
Human Health	Spiritual	Extreme Wind	3	3	3	Limited consequences
Local Economy	Local Economy	Extreme Wind	3	3	3	Can cause direct damage to industrial buildings. Increased cost of cleanup after extreme weather events.
Transport System	Bridge (on 50th)	Extreme Wind	3	3	3	Limited consequences
Transport System	Equipment	Extreme Wind	3	3	3	Dust - maintenance issues!
Commercial Buildings	Stores/ Businesses	Extreme Cold	4	4	2	Increase in heating costs, may decrease element lifespan
Community Buildings	Schools	Extreme Cold	4	4	2	May increase heating requirements for students/staff
Culture & Daily Life	Social Wellbeing	Extreme Cold	4	4	2	Can limit access to socializing and recreational opportunities for residents
Human Health	Mental / Emotional	Extreme Cold	4	4	2	Can lead to stress and anxiety.
Human Health	Spiritual	Extreme Cold	4	4	2	Can impair access to places of faith
Local Economy	Local Economy	Extreme Cold	4	4	2	Delay in the transportation of goods can have economic impacts.
Stormwater Systems	Culverts + Ditching	Extreme Cold	4	4	2	Can cause damage to culverts via sudden freeze up of standing water. Damage could also occur to and ditches or block them due to heavy snowfall
Stormwater Systems	Gutters and Catch basins	Extreme Cold	4	4	2	If pooling water is present, freezing can cause blockages and impair functionality. expansion and contraction of concrete - minor damage and repairs
Transport System	Bike/ Pedestrian Network/ Sidewalks	Extreme Cold	4	4	2	Can cause damage to the element, require increased maintenance
Transport System	Highways	Extreme Cold	4	4	2	May require snow clearing
Transport System	Railway	Extreme Cold	4	4	2	service disruption + increased o&m
Transport System	The local roadway network (gravel)	Extreme Cold	4	4	2	Excess sanding creates operational challenges

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Transport System	**The local roadway network (paved)**	**Extreme Cold**	4	4	2	Increased maintenance required due to possible warping and heaving
Wastewater Collection Systems	**Wastewater Mains**	**Extreme Cold**	4	4	2	If wastewater mains are constructed above the frost depth, then flows may freeze and create blockages, cracks or breaks. See locations on MAP
Wastewater Collection Systems	**Wastewater Treatment Facility**	**Extreme Cold**	4	4	2	Effluent volumes that are being treated by the facility increase. Wastewater treatment/chemicals will need to be modified. Freezing of the inlet/ outlet and control structures. If the inlet control freezes up, backing up of the system may occur.
Culture & Daily Life	**Historical/ Cultural Locations**	**Freeze/thaw cycles**	3	2	2	Minimal consequences
Culture & Daily Life	**Personal Autonomy**	**Freeze/thaw cycles**	3	2	2	Can limit access and agency
Transport System	**Bridge (on 50th)**	**Freeze/thaw cycles**	3	2	2	Limited consequences (bridge is smaller - shorter stretch)
Wastewater Collection Systems	**Wastewater Treatment Facility**	**Freeze/thaw cycles**	3	2	2	Need to level ponds to ensure the inlets and outlets are not freezing
Community Buildings	**AHS Operations Building**	**Extreme Cold**	2	2	1	Can impede access to asset/element
Community Buildings	**Arena + Rec Facility / Hall**	**Extreme Cold**	2	2	1	Can impede access to asset
Community Buildings	**Beaver Hill/Creek Lodge (TBC)**	**Extreme Cold**	2	2	1	Can impede access to asset/element
Community Buildings	**Curling Rink**	**Extreme Cold**	2	2	1	Can impede access to asset, possible increased heating costs
Community Buildings	**Firehall**	**Extreme Cold**	2	2	1	May cause minor issues with service delivery, might incur small increase in operating costs for snow clearing
Community Buildings	**Hospital**	**Extreme Cold**	2	2	1	May impede access to asset/element
Community Buildings	**Lamont County Office**	**Extreme Cold**	2	2	1	Can impede access to asset/element
Community Buildings	**Lamont Town Office**	**Extreme Cold**	2	2	1	Can impede access to asset/element
Community Buildings	**Playgrounds (3)**	**Extreme Cold**	2	2	1	Can impede access to asset/element
Community Buildings	**Private Homes**	**Extreme Cold**	2	2	1	Limited consequences
Culture & Daily Life	**Historical/ Cultural Locations**	**Extreme Cold**	2	2	1	May impede access to locations
Culture & Daily Life	**Personal Autonomy**	**Extreme Cold**	2	2	1	Minimal consequences
Environment	**Farmland**	**Extreme Cold**	2	2	1	May cause damage to crops and fields
Environment	**Natural Forests**	**Extreme Cold**	2	2	1	Limited consequences
Environment	**Parks**	**Extreme Cold**	2	2	1	Limited consequences
Stormwater Systems	**Stormwater Mains**	**Extreme Cold**	2	2	1	Limited consequences, if mains are installed above frost line freezing and clogging of system may occur.
Transport System	**Bridge (on 50th)**	**Extreme Cold**	2	2	1	May impair access
Commercial Buildings	**Stores/ Businesses**	**Flooding (Lamont Creek)**	0	0	0	
Commercial Buildings	**Stores/ Businesses**	**Drought**	0	0	0	
Community Buildings	**AHS Operations Building**	**Flooding (Lamont Creek)**	0	0	0	

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Community Buildings	AHS Operations Building	Freeze/thaw cycles	0	0	0	
Community Buildings	AHS Operations Building	Drought	0	0	0	
Community Buildings	Arena + Rec Facility / Hall	Flooding (Lamont Creek)	0	0	0	
Community Buildings	Arena + Rec Facility / Hall	Freeze/thaw cycles	0	0	0	
Community Buildings	Arena + Rec Facility / Hall	Drought	0	0	0	
Community Buildings	Beaver Hill/Creek Lodge (TBC)	Flooding (Lamont Creek)	0	0	0	
Community Buildings	Beaver Hill/Creek Lodge (TBC)	Freeze/thaw cycles	0	0	0	
Community Buildings	Beaver Hill/Creek Lodge (TBC)	Drought	0	0	0	
Community Buildings	Curling Rink	Flooding (Lamont Creek)	0	0	0	
Community Buildings	Curling Rink	Freeze/thaw cycles	0	0	0	
Community Buildings	Curling Rink	Drought	0	0	0	
Community Buildings	Firehall	Flooding (Lamont Creek)	0	0	0	
Community Buildings	Firehall	Freeze/thaw cycles	0	0	0	
Community Buildings	Firehall	Drought	0	0	0	
Community Buildings	Hospital	Flooding (Lamont Creek)	0	0	0	
Community Buildings	Hospital	Freeze/thaw cycles	0	0	0	
Community Buildings	Hospital	Drought	0	0	0	
Community Buildings	Lamont County Office	Flooding (Lamont Creek)	0	0	0	
Community Buildings	Lamont County Office	Freeze/thaw cycles	0	0	0	
Community Buildings	Lamont County Office	Drought	0	0	0	
Community Buildings	Lamont Town Office	Flooding (Lamont Creek)	0	0	0	
Community Buildings	Lamont Town Office	Freeze/thaw cycles	0	0	0	
Community Buildings	Lamont Town Office	Drought	0	0	0	
Community Buildings	Playgrounds (3)	Drought	0	0	0	
Community Buildings	Private Homes	Freeze/thaw cycles	0	0	0	

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Community Buildings	Schools	Freeze/thaw cycles	0	0	0	
Community Buildings	Schools	Drought	0	0	0	
Environment	Farmland	Freeze/thaw cycles	0	0	0	
Environment	Natural Forests	Freeze/thaw cycles	0	0	0	
Environment	Parks	Freeze/thaw cycles	0	0	0	
Environment	The Creek	Freeze/thaw cycles	0	0	0	
Environment	The Creek	Extreme Cold	0	0	0	
Environment	Wetlands/ Waterbodies	Freeze/thaw cycles	0	0	0	
Environment	Wetlands/ Waterbodies	Extreme Wind	0	0	0	
Environment	Wetlands/ Waterbodies	Extreme Cold	0	0	0	
Human Health	Mental / Emotional	Freeze/thaw cycles	0	0	0	
Human Health	Spiritual	Freeze/thaw cycles	0	0	0	
Human Health	Spiritual	Drought	0	0	0	
Local Economy	Local Economy	Freeze/thaw cycles	0	0	0	
Stormwater Systems	Culverts + Ditching	Drought	0	0	0	
Stormwater Systems	Culverts + Ditching	Extreme Wind	0	0	0	
Stormwater Systems	Gutters and Catch basins	Drought	0	0	0	
Stormwater Systems	Gutters and Catch basins	Extreme Wind	0	0	0	
Stormwater Systems	Stormwater Mains	Wildfire	0	0	0	
Stormwater Systems	Stormwater Mains	Extreme Heat	0	0	0	
Stormwater Systems	Stormwater Mains	Drought	0	0	0	
Stormwater Systems	Stormwater Mains	Extreme Wind	0	0	0	
Stormwater Systems	Stormwater Management Facility	Extreme Wind	0	0	0	
Transport System	Bike/ Pedestrian Network/ Sidewalks	Drought	0	0	0	
Transport System	Bike/ Pedestrian Network/ Sidewalks	Extreme Wind	0	0	0	
Transport System	Bridge (on 50th)	Drought	0	0	0	
Transport System	Equipment	Flooding (Lamont Creek)	0	0	0	
Transport System	Equipment	Drought	0	0	0	
Transport System	Highways	Drought	0	0	0	
Transport System	Highways	Extreme Wind	0	0	0	

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Transport System	Railway	Flooding (Lamont Creek)	0	0	0	
Transport System	Railway	Drought	0	0	0	
Transport System	Railway	Extreme Wind	0	0	0	
Transport System	Streetlights	Freeze/thaw cycles	0	0	0	
Transport System	Streetlights	Extreme Heat	0	0	0	
Transport System	Streetlights	Drought	0	0	0	
Transport System	Streetlights	Extreme Cold	0	0	0	
Transport System	The local roadway network (paved)	Extreme Wind	0	0	0	
Transport System	Traffic signage	Freeze/thaw cycles	0	0	0	
Transport System	Traffic signage	Extreme Heat	0	0	0	
Transport System	Traffic signage	Drought	0	0	0	
Transport System	Traffic signage	Extreme Cold	0	0	0	
Wastewater Collection Systems	Lift Station (Creekside)	Freeze/thaw cycles	0	0	0	
Wastewater Collection Systems	Lift Station (Creekside)	Wildfire	0	0	0	
Wastewater Collection Systems	Lift Station (Creekside)	Drought	0	0	0	
Wastewater Collection Systems	Lift Station (Creekside)	Extreme Wind	0	0	0	
Wastewater Collection Systems	Lift Station (Creekside)	Extreme Cold	0	0	0	
Wastewater Collection Systems	Lift Station (Edna)	Flooding (Lamont Creek)	0	0	0	
Wastewater Collection Systems	Lift Station (Edna)	Freeze/thaw cycles	0	0	0	
Wastewater Collection Systems	Lift Station (Edna)	Wildfire	0	0	0	
Wastewater Collection Systems	Lift Station (Edna)	Drought	0	0	0	
Wastewater Collection Systems	Lift Station (Edna)	Extreme Wind	0	0	0	
Wastewater Collection Systems	Lift Station (Edna)	Extreme Cold	0	0	0	
Wastewater Collection Systems	Wastewater Mains	Wildfire	0	0	0	
Wastewater Collection Systems	Wastewater Mains	Extreme Heat	0	0	0	
Wastewater Collection Systems	Wastewater Mains	Drought	0	0	0	
Wastewater Collection Systems	Wastewater Mains	Extreme Wind	0	0	0	
Wastewater Collection Systems	Wastewater Treatment Facility	Flooding (Lamont Creek)	0	0	0	
Water Systems	Reservoirs (2)	Freeze/thaw cycles	0	0	0	
Water Systems	Reservoirs (2)	Extreme Cold	0	0	0	
Water Systems	The source water	Freeze/thaw cycles	0	0	0	
Water Systems	The source water	Extreme Heat	0	0	0	

Asset	Element	Climate Hazard	2020 Risk Score	2050 Risk Score	2080 Risk Score	Impact
Water Systems	The source water	Extreme Wind	0	0	0	
Water Systems	The source water	Extreme Cold	0	0	0	
Water Systems	Water Mains	Flooding (Lamont Creek)	0	0	0	
Water Systems	Water Mains	Extreme Wind	0	0	0	

APPENDIX D:

COMPILED LIST OF MITIGATION MEASURES

APPENDIX D: COMPILED LIST OF MITIGATION MEASURES

RECCOMENDED MITIGATION MEASURES - LEGEND

TO: TOWN OF LAMONT

DATE: December 8, 2023

FILE: 5452.0001.01

Category	Phrase/ Symbol	Meaning
Timeline to Action	Short-Term	Aim to implement this item in 0-2 years
	Medium-Term	Aim to implement this item in 3-7 years
	Long-Term	Aim to implement this item in long term/ when funding becomes available
Scale of Estimated Cost	$	To enact this mitigation measure, it will cost roughly 0-5% of the departments or team's typical budget.
	$$	To enact this mitigation measure, it will cost roughly 5-15% of the departments or team's typical budget.
	$$$	To enact this mitigation measure, it will cost roughly >15% of the departments or team's typical budget.
Scale of Effort	Low-Level of Effort	The team will be able to work this adaptation measure into their existing workload.
	Moderate-Level of Effort	The team will need to put considerable effort beyond regular duties to achieve this adaptive measure and may need external support.
	High-Level of Effort	Significant planning, allocation of resources and external support will be needed to implement this adaptation measure.

Item No.	Recommended Action	Target Climate Hazard	Applicable Partners/ Lead Department	Timeline to Action	Applicable Grants	Scale of Estimated Cost	Scale of Effort Required
1	Enhance existing "cooling centre" a temperature-controlled facility (ie. Arena/ Community Centre) with proper ventilation, air conditioning, water, and emergency supplies available. Review advertising/communication to better engage residents.	Extreme Heat		Short – Term	Community Facility Enhancement Program Community Spaces Funding | Co-op	$$	Moderate Level of Effort
2	Communicate advice for outdoor worker safety and what to do for organized recreation, sporting and cultural events in extreme heat and identify temperature thresholds to activate additional resources and enhanced responses necessary to protect our most vulnerable populations (e.g. seniors, children, etc.).	Extreme Heat	Alberta Housing Foundation	Short – Term		$	Low Level of Effort
3	Introduce a heat alert program and committee (likely a subset of outdoor staff such as Bylaw, Parks, Public Works) that will be responsible for distributing social media/radio alerts and signage about heat events. Alerts will inform/direct community members to cooling centres/air-conditioned community buildings and provide information on heat safety. Ensure there are signs distributed around the community on heat safety, how to identify heat-related illness, and where to get help.	Extreme Heat	FCSS	Short – Term		$	Low Level of Effort
4	Manage vegetation on borders of town, ensuring dead and dying vegetation under high sun exposure are removed, incorporate vegetation management into emergency response plan.	Extreme Heat + Wildfire	Lamont County	Short – Term		$$	Moderate Level of Effort
5	Install erosion protection measures (ie. esc matting in ditches, filter fabric over catch basin, etc.) to prevent water backing up into streets/buildings.	Wildfire + Flooding + Extreme Rainfall		Short – Term	GMF - Stormwater quality, community project	$$.	Moderate Level of Effort
6	Ensure drainage channels and culverts within town boundaries are properly maintained, clear drainage paths of obstructions/debris and ensure vegetation that could act as fuel is managed (ditches are mowed regularly, tall grasses are maintained/cut-back).	Wildfire + Flooding + Extreme Rainfall		Short – Term		$	Moderate Level of Effort
7	Consider providing informational materials on Town resources and supports, and responsibilities for homeowners, landowners and business owners to ensure appropriate property and contents insurance is in place	Wildfire	Community/County Fire Department	Short – Term	Municipal Wildfire Assistance Program	$	Low Level of Effort
8	Develop a clear evacuation plan with multiple routes out of town and distribute (through social media/radio/signage) on preparing for an evacuation, what to bring (important documents, medications, spare clothing, food, etc.), and where to go if residents require assistance relocating (ie. community center).	Wildfire	Community/County Fire Department	Short – Term	Municipal Wildfire Assistance Program	$.	Moderate Level of Effort
9	Conduct regular maintenance on watermain, including valve exercising and annual pressure test of hydrants to help ensure the system will operate as required if immediate isolation of systems loops is required. Coordinate with Fire Department to create emergency backup plan for firefighting response in case of watermain failure.	Wildfire	Community/County Fire Department	Short – Term		$	High Level of Effort
10	Consider installing rain-collection systems or pulling water from natural sources (*potentially retention ponds* – review diversion licensing) to supplement watering program in frequently used park areas as a part of any capital facilities projects.	Extreme Heat		Medium – Term	GMF - Stormwater quality, community project	$$	Low Level of Effort
11	Consider a requirement/standard for the installation of rainwater collection systems (e.g., rain barrels or cisterns) in new ground-oriented developments/buildings.	Drought		Medium – Term	Municipal Sustainability Initiative	$	Low Level of Effort
12	Continue water conservation and efficiency actions; consider developing regulations to support the use of alternative water sources including groundwater, graywater, retention ponds, and blackwater for non-potable demand. The fit-for-purpose approach for water use will reduce pressure on the regional supply and delivery of treated drinking water.	Drought		Medium – Term	Municipal Sustainability Initiative	$	Moderate Level of Effort

Item No.	Recommended Action	Target Climate Hazard	Applicable Partners/ Lead Department	Timeline to Action	Applicable Grants	Scale of Estimated Cost	Scale of Effort Required
13	Where possible, plan additional operational budget each year, as will be required to more actively manage tree health through the hotter and drier months (may include existing tree-watering program, additional pruning/maintenance, etc.)	Extreme Heat		Medium – Term		$$	Low Level of Effort
14	Reinforce the creek bank (rip-rap, liners, gabion, etc.) to protect against erosion with the high flows associated with flooding	Wildfire + Flooding	Lamont County	Medium – Term		$$	Moderate Level of Effort
15	Implement development standard that requires large-scale buildings to be outfitted with sprinklers and fire suppressant systems	Wildfire		Medium – Term		$	Low Level of Effort
16	Outfit air purifiers in community buildings to combat health impacts of smoke inhalation	Wildfire		Medium – Term	Community Facility Enhancement Program	$$	Low Level of Effort
17	Establish local FireSmart (or similar) committee which maintains a community program to identify and assess ecological and human risk factors. For example, ensuring vegetation that could act as fuel is managed (ensuring ditches are mowed and cleared, tall grasses are maintained/cut-back, and removing combustible vegetation from 1.5m vicinity of businesses), replacing flammable vegetation with less combustible varieties (ie. replacing conifers with deciduous tree species).	Wildfire	Community/County Fire Department	Medium – Term		$$	High Level of Effort
18	Ensure key Town staff have basic training in Emergency Operations Response/Incident Command and Control and establish frequency of practice REOC sessions through the Regional Training Centre. Coordinate planning efforts with Lamont County. Provide all emergency workers with wildland urban interface (WUI) response training to familiarize emergency response organizations in Lamont with the equipment, procedures, and strategies each department employs.	Wildfire	Lamont County	Medium – Term	Municipal Wildfire Assistance Program	$$	High Level of Effort
19	Implement Community Wildfire Protection Plan (CWPP) and update any associated development regulations. Identify a department to undertake 'ownership and implementation' of the CWPP, update the CWPP with an eye to inform land use decisions on undeveloped lands, consider downzoning to restrict future growth in hazardous areas, prepare a water use strategy for combatting wildfires. Establish formal partnerships with regional organizations and forest harvesting companies to better manage interface fire areas, forest harvesting practices, and processing. Update the CWPP every ten years (or as warranted by significant changes to drought conditions or ecosystem profiles).	Wildfire	Lamont County	Medium – Term	Municipal Wildfire Assistance Program	$$	High Level of Effort
20	Review and update landscaping standards to reflect current and projected climate. Review community development bylaw.	Drought		Medium – Term		$	Low Level of Effort
21	Update development standards and implement recommendations from flood hazard study (ie. to install backflow valves to prevent sanitary tie-ins from backing up during periods with high influx of water into system, for buildings at or below flood elevations, ensure they are outfitted with sump pumps that are ready to operate in emergency situations).	Extreme Rainfall + Flooding		Medium – Term	Municipal Sustainability Initiative	$	Moderate Level of Effort
22	Incorporate upgrades identified in stormwater and sewer system into 10-year capital plan. Increase the resilience of the sewer network by undertaking a sanitary flow monitoring study and creating a plan for capacity improvements, assessing inflow and infiltration when replacing failing or aging infrastructure, review restrictions on commercial/industrial inputs to the sanitary system, and install portable pumps at lift stations to restore operations in event structure is damaged/flooded (to incorporate into 10 year operational plan)	Extreme Rainfall + Flooding		Medium – Term	Canada Community Building Fund GMF – Wastewater Study Municipal Sustainability Initiative	$$$	High Level of Effort
23	Review policies and engineering standards to develop an operational response plan (ie. bypass pumping) to address stormwater backup at key pinch points (ie. Hillside Park) to reduce impacts to sanitary system.	Extreme Rainfall		Medium – Term		$$	High Level of Effort

Item No.	Recommended Action	Target Climate Hazard	Applicable Partners/ Lead Department	Timeline to Action	Applicable Grants	Scale of Estimated Cost	Scale of Effort Required
24	Reassess pathway alignment and materials considering proximity to Lamont Creek and adjust as part of capital upgrades to increase resiliency of network. Evaluate overall pedestrian/cycle network to ensure alternate routes are available.	Flooding		Medium – Term	GMF - Stormwater quality, community project Municipal Sustainability Initiative	$	Moderate Level of Effort
25	Identify vulnerable roads and areas prone to overland and extreme rain event flooding and establish procedure to address them, consult and collaborate with first responders to prepare road closure protocols, and develop a safe access standard for road evaluations.	Flooding		Medium – Term	Disaster Mitigation and Adaptation Fund Municipal Sustainability Initiative	$$	Moderate Level of Effort
26	Consider providing informational materials on Town resources and supports, and responsibilities for homeowners, landowners and business owners to ensure appropriate flood insurance is in place.	Extreme Rainfall + Flooding		Medium – Term		$	Low Level of Effort
27	Explore introducing ground cover plants (ie. clover instead of grass) within landscaping standards to guard and lower the temperature of the soil allowing the existing plants and trees to better absorb water (ensure someone upkeeps the ground cover plants to not create wildfire fuel).	Extreme Heat + Drought		Long – Term		$$	Low Level of Effort
28	Implement a rain collection/rain barrel system in community buildings	Extreme Heat + Drought		Long – Term		$$	Moderate Level of Effort
29	Create fire berms (refer to conceptual layout: conceptual berms 1-4, particularly berm 4 along Creek on North side of town) and implement firefighting best practices to contain the wildfire and reduce widespread effects	Extreme Heat + Drought	Lamont County Fire Department	Long – Term	Disaster Mitigation and Adaptation Fund Municipal Wildfire Assistance Program		
30	(Community buildings) Upgrade building envelopes (e.g., exterior cladding, roof) to material that provides protections and safeguards against fire and climate change effects. Outfit buildings with sprinklers and fire suppressant systems.	Wildfire		Long – Term	Investing in Canada Infrastructure Program	$$$	High Level of Effort
31	Ensure tree and plant species established are native where possible, diverse, disease resistant and have high climate adaptability, where appropriate, use an integrated pest management approach to park and urban forest maintenance, enhance tree maintenance programs to mitigate damage due to heat and extreme events, review and update new tree irrigation procedures to improve establishment success and therefore long-term survival and performance of trees.	Wildfire		Long – Term		$$	Moderate Level of Effort
32	Maintain forest management practices in partnership with Natural Resource Canada Forestry Department such as thinning to trees to reduce drought induced stress on soil or controlling populations of low story plants (typically species of grasses) to reduce competition for limited resources with mature vegetation.	Drought	Natural Resource Canada Forestry Department	Long – Term		$	Moderate Level of Effort
33	Develop and provide educational and information materials on community water-use (including frequency of lawn-watering, etc.) to increase awareness and prepare communication materials to encourage reduced water-use during times of drought. If needed, explore a policy on level of service for water restrictions during times of severe drought.	Drought		Long – Term		$	Moderate Level of Effort
34	Outfit essential community buildings with backup power sources (e.g., solar power and generators) so service does not get halted if regular power is interrupted.	Drought		Long – Term	Disaster Mitigation and Adaptation Fund	$$$	Moderate Level of Effort
35	Implement a grant/rebate program for residents to install backflow valves/sump pumps to prevent sanitary tie-ins from backing up during periods with high influx of water into system (overland flooding) due to existing combined sanitary/storm system. Incorporate the disconnection of weeping tiles into grant/rebate program. In all future developments ensure separate sanitary and storm networks are installed.	Extreme Rainfall		Long – Term	Investing in Canada Infrastructure Program Municipal Sustainability Initiative	$$$	High Level of Effort
36	Install high water detection equipment at critical infrastructure to monitor surface water levels and establish/explore regional approach to managing water flows in the area.	Extreme Rainfall + Flooding		Long – Term	Investing in Canada Infrastructure Program	$$$	Moderate Level of Effort

Item No.	Recommended Action	Target Climate Hazard	Applicable Partners/ Lead Department	Timeline to Action	Applicable Grants	Scale of Estimated Cost	Scale of Effort Required
37	Incorporate upgrades (paving) of gravel roadways adjacent to Lamont Creek into 10-year Capital Plan to ensure resilient design. Consider additional reinforcement or vegetation coverage on gravel roadsides to reduce erosion potential. Strategies could include adopting a maximum impermeable/hard surface coverage requirement in the zoning bylaw or other key bylaws, reviewing permeability definitions, ensuring that hardscape alternatives (e.g., permeable pavers) are achieving their intent, and encouraging the implementation of rain gardens/bioswales on private lands.	Flooding	Lamont County	Long – Term	GMF - Stormwater quality, community project Municipal Sustainability Initiative	$$$	High Level of Effort

MAYOR & COUNCIL REPORT

COUNCIL MEETING DATE: January 23, 2024
ELECTED OFFICIAL: Kirk Perrin
REPORT PERIOD, December 1 ,2024 – February 7, 2024

Boards and Committees:

- **Feb 7 - NAAGO meeting**

Town of Lamont Business:

- **Dec 13 – NAAGO Advisory meeting**
- **Jan 10 - RhPAP and Lamont meeting**
- **Jan 11 – NAAGO Budget meeting**

Professional Development (Workshops & Conferences)

Lamont Functions and Events:

MAYOR & COUNCIL REPORT

COUNCIL MEETING DATE: Feb. 13, 2024
ELECTED OFFICIAL: Al Harvey
REPORT PERIOD: Jan. 17 to Feb. 7, 2024

Boards and Committees:

- Jan. 23 Council
- Feb. 1 Regional Emergency Advisory Committee

Items for Council Discussion:

(Requires Input from Council to Take Back to Boards and Committees)

Town of Lamont Business:

- Jan. 25 ATB/RCMP Fraud Awareness and Prevention
- Jan. 25 Chamber Business Awards Gala
- Feb. 5 Government of Alberta engagement on improving police governance in Alberta (RCMP) via zoom
- Feb. 7 Chamber Meeting

Professional Development (Workshops & Conferences):

- Jan. 18 AB Munies LGFF Capital allocation -formula (zoom meeting)

Lamont Functions and Events:

-

MAYOR & COUNCIL REPORT

COUNCIL MEETING DATE: February 13, 2024
ELECTED OFFICIAL: Linda Sieker
REPORT PERIOD, January 24 ,2024 – February 10,2024

Boards and Committees:

- **Jan 29 - County of Lamont Housing Foundation Meeting**
- **Feb 5 – County of Lamont Housing Foundation Managers Meeting**
- **Feb 8 – County of Lamont Housing Foundation Finance Meeting**

Town of Lamont Business:

- **Jan 30 - Summerfest Meeting**

Professional Development (Workshops & Conferences)

Lamont Functions and Events:

- **Feb 10 – Lamont Fish & Game Banquet**

MAYOR & COUNCIL REPORT

COUNCIL MEETING DATE: February 13, 2024
ELECTED OFFICIAL: Jody Foulds
REPORT PERIOD: January 23, 2024 to February 8, 2024

Boards and Committees:

- **John S. Batiuk Water Region Water Service meeting – February 8/24**

Town of Lamont Business:

-

Professional Development (Workshops & Conferences):

- **Alberta Policing Information Session - Zoom – February 5/24**

Lamont Functions and Events:

- **John S. Batiuk Water Region Water Service Seasonal Event–January 27/24**

MAYOR & COUNCIL REPORT

COUNCIL MEETING DATE: February 13, 2024
ELECTED OFFICIAL: Colleen Holowaychuk
REPORT PERIOD: January 23 - February 13, 2024

Boards and Committees:

- January 25, 2025 - Lamont High School Meeting
    - There is interest in having a gym night for the community. How can the town help to facilitate this?

- January 30, 2024 – Summer Fest 2024 Planning

- February 5, 2024 – Lamont Public Library Meeting

Town of Lamont Business:

- NA

Professional Development (Workshops & Conferences):

- NA

Lamont Functions and Events:

- NA

INTERIM CAO REPORT

FOR THE PERIOD ENDING February 7, 2024

HIGHLIGHTS:

Jan 26, 2024

- Payroll
- LAPP year end reconciliation
- Year end tasks
- AP Cheque run with Jackii
- Audit preparation
- Meeting with Tyler

Feb 2, 2024

- Prepare for Feb 13 Council meeting.
- Audit preparations meeting with Robert
- Budget planning with Robert & Tyler
- Completed staff year end reviews
- T4 completed and sent

Feb 7, 2024

- Prepare for Feb 13 Council meeting
- Yearend WCB report completed
- 2024 Operational budget

MEETINGS/EVENTS & PROFESSIONAL DEVELOPMENT:

- Meeting with Fortis; Stakeholder relations Jan 23
- Meeting with CAO & Executive Assistant from Bruderheim Jan 25
- Fraud Prevention presentation Jan 25
- Summer Fest meeting Jan 30
- Regional Emergency Advisory Committee meeting Feb 1
- Engagement on improving police governance Feb 5
- JUPA meeting EIPS finalizing agreement Feb 5

OPERATIONS & INFRASTRUCTURE REPORT

FOR THE PERIOD ENDING February 13-24

HIGHLIGHTS

STAFF

- Weekly Operations team meetings Thursdays.
- Safety Meeting February 6, 2024.

Facilities

- 19 facility bookings since January 9, 2024.
- Ice scheduling and communication.
- Heating repairs Admin, Hall, Curling Rink, and PW shop.

Transportation Maintenance

- Sander Repair
- First snowfall Response.
- Road sanding as required.
- Transition from snow clearing to ice mitigation.

Parks & Recreation

- Outdoor arena installed.
- Christmas Tree Pick Up January 16, 2024.
- Take Down Christmas Decorations.

Utilities

- Clearing storm drains.
- Campbell Reservoir back up pump repair.
- Annual water reports completed.
- Annual Sewer Reports completed.
- Sewer Flushing.
- Water restriction coordination.

Projects & Requests:

- Engineering services review completed.
- Clay Pile Lease agreement meetings.
- Utility Safety Partnership Registration initiated.
- Joint Use and Planning Agreement Meeting February 5, 2024.
- Summer Festival Meeting Jan 31, 2024.
- Stats Canada Infrastructure Survey.
- FORTES Meeting January 23, 2024.
- Decker Properties Meeting January 11, 2024.
- AB Munis LGFF Webinar January 18, 2024.

CLOSED SESSION NOTICE

February 13, 2024

7.1 Summer Fest 2024

(Advice from Officials)

- *FOIP Section 24* – Advice from Officials

7.2 CAO

(Advice from Officials)

- *FOIP Section 24* – Advice from Officials

Motion to go into Closed Session:
"That Council convene in closed session pursuant to Section 197 of the Municipal Government Act to meet in private to discuss matters protected from disclosure by Section 24 of the Freedom of Information and Protection of Privacy Act at XXXX p.m."