



A Green & Resilient City

Discussion Paper

HDR

NRSI

The Planning Partnership + Nethery Planning

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1

An Introduction to “Our Niagara Falls Plan”

The City of Niagara Falls is creating a new Official Plan - “Our Niagara Falls Plan,” a long-term vision to 2051 that guides us through a future of unprecedented growth while providing a high-quality living experience for our residents and our visitors from around the world.

The Official Plan is a high-level, visionary document that guides and shapes the future of a community identifying where, and under what circumstances, specific types of land uses can be located. The Provincial *Planning Act* requires that all local public works projects, official plans, zoning by-laws, related amendments, and all future development must conform to an approved Official Plan.

Our Niagara Falls Plan is going to define a vision for the City to 2051 - how we are going to create a complete community

Our Niagara Falls Plan will serve a broad range of community and municipal objectives. In addition to establishing appropriate land uses, it also establishes the goals, objectives and policies related to all of the essential components of making and sustaining a complete community. It sets policy requirements on how to create attractive and livable communities with a variety of housing and employment opportunities. It specifies means to protect, conserve, and enhance the city’s cultural and natural heritage and agricultural land base. It identifies locations for new growth to make the most efficient use of land and infrastructure. It outlines the structure around parks and open space, and how to acquire and grow such spaces. It directs how to move

people and goods in and around a city. It details how to plan and provide for community needs such as schools, recreation centres and libraries.

It provides all of this in a way to ensure that Provincial and Regional policy is implemented, as required by law. To this end the Official Plan must conform to the Provincial Growth Plan for the Greater Golden Horseshoe and Niagara Escarpment Plan, and the Niagara Region Official Plan, and “consistency” with the Provincial Policy Statement. This is done while also providing the critical local context and input, to ensure implementation happens in the manner Niagara Falls intends it to occur, to address the unique needs of our community.

1.1 A Little Bit About Niagara Falls

Niagara Falls is an international landmark and destination for visitors, residents, businesses and employees alike. It is a high growth municipality, forecasted to take on the largest share of growth in Niagara Region over the next 25 years. Identified as one of Southern Ontario's 29 large and fast growing municipalities in the draft 2024 Provincial Planning Statement, Niagara Falls Council has pledged to build 8,000 new homes by 2031. It hosts two international crossings, the Rainbow and Whirlpool Bridges, with the major Queenston-Lewiston Bridge just north of the city limits—together, responsible for 3.6 million vehicle crossings in 2023.¹ It hosts a significant concentration of hydro-electrical generation facilities. The Niagara Parks Commission is a major partner agency in Niagara Falls, founded in 1885 and overseeing over 16 square kilometres of parkland and lands along the Niagara Parkway connecting Niagara-on-the-Lake with Fort Erie. Niagara Parks Commission facilities welcomed just under 3.0 million visitors from April 2022 through March 2023.²

Transportation Access. Niagara Falls is bisected by the Queen Elizabeth Way (QEW) freeway connecting Buffalo and the Niagara Region to the Golden Horseshoe, including Toronto. Highway 420 crosses through Niagara Falls to connect the QEW to the Rainbow Bridge border crossing. Intercity and international rail service is provided by Via Rail and Amtrak, with more frequent commuter rail and bus connections to Hamilton and Toronto via Metrolinx/GO Transit. In 2023, Niagara Falls Transit's fleet

was transferred to Niagara Region Transit, who also support paratransit service and connections between the cities of Niagara Region.

Landmarks and Attractions. In addition to the Falls themselves, Niagara Falls is a tourist destination, with multiple hotels, convention space, observation towers, multiple theme parks and resorts, and entertainment destinations across the City, including the bustling Clifton Hill area. The Niagara Parks Commission operates with a mandate to manage and develop the many public spaces along the Niagara River shoreline, including entertainment and recreational facilities. A short trip along the Niagara River Parkway brings guests past the Flower Clock, Botanical Gardens, Butterfly Conservatory, Niagara Glen, the former Toronto Power Generating Station, Spanish Aero Car, and Queen Victoria Park. The river itself is a feature, with the Iron Scow shipwreck and International Control Weir part of the falls environment. Away from the falls are the Gale Centre, Firemen's Park, The Exchange, and an emerging culinary scene. It is easy for local landmarks to be overlooked, which are as core and foundational to creating a sense of place as the all-day buzz of the tourist areas. The city is home to a branch of the Niagara Health Hospital network (Greater Niagara Hospital). The new South Niagara Hospital is being constructed with a targeted in-service date of 2029, creating an opportunity for a new purpose for the existing hospital lands.

¹ As reported by the Bridge and Tunnel Operators Association and [South Niagara Chambers of Commerce](#)

² [Niagara Parks 2022/2023 Annual Report](#)

Commercial and Recreation Amenities.

Niagara Falls is serviced with a full range of local shopping amenities. Niagara Square is a former indoor mall that fully completed a transition into a power centre format in 2020. It is located at the southwest corner of the McLeod Road interchange and the QEW. A similar cluster of large format commercial uses can be found in the middle of the urban area, at the intersections of Morrison Street and Dorchester Road. Other commercial nodes can be found along Lundy's Lane such as the Canada One Outlets, in the Stamford neighbourhood, and the historic Downtown Niagara Falls, north of the main tourist area. Local-level commercial blocks are found throughout the city.

A recent cultural development is the opening of The Exchange, a 10,000-square-foot indoor/outdoor multipurpose event space with gallery and working studio facilities. schedule farmers market and supper market events, bring a variety of interest to this new community space.

The Niagara Falls History Museum, Battle Ground Hotel Museum, and Willoughby Historical Museum cater to those interested in documents pasts and historic preservation.

Niagara Falls has the Gale Centre (four-pad arena), Willoughby Memorial Arena, and the MacBain Community Centre with an indoor pool, gym, and multi-purpose rooms.

There are four locations of the Niagara Falls Public Library.

The City is in Growth Mode. According to the 2021 Census of Canada, the population of Niagara Falls was 94,415, with 44,600 having reported being in the labour market. The City's current Official Plan was approved by the Ministry of Municipal Affairs on October 6, 1993. The 1993 Plan was written to guide growth to the year 2011 and a population of 83,000. The planning horizon was extended in 2014 (three years beyond the original target) to guide growth to the year 2031, with an anticipated population of 106,800 and 53,640 jobs. At 7.2% population growth between 2016 and 2021, Niagara Falls is on pace to exceed that 2031 population forecast. The city has completed a number of urban boundary expansions since 1993, with three new expansion areas added through the 2022 Niagara Official Plan. Niagara Falls is a growing and expanding community.

The Legislative and Policy Framework around Planning has Changed. Another major change since 1993 is the complete overhaul of the Provincial and Regional Planning Policy framework. There are new documents at both levels, whose directions need to be reflected in local policy. From an administrative perspective, the current Official Plan has been amended over 160 times over the past 30 years. The various edits have created an Official Plan with some internal conflicts and inconsistencies, duplications, some confusion in intent of policies—and, overall, an outdated planning vision that is in need of replacement.

1.2 Intent of the Discussion Papers and the Path to Our Niagara Falls Plan

To initiate the process of creating Our Niagara Falls Plan, the project team has prepared six “Discussion Papers”. These papers are about starting a conversation with the community about what the city will look like in 2051, what jobs will be here, how do we move in and around that community, how do we integrate nature and resiliency, how do we effectively manage growth and climate adaptation, and what infrastructure, features or amenities are needed for the community.

Community input is essential to delivering the Our Niagara Falls Plan. The Discussion Papers are intended to guide a conversation that will ultimately form the basis for policy.

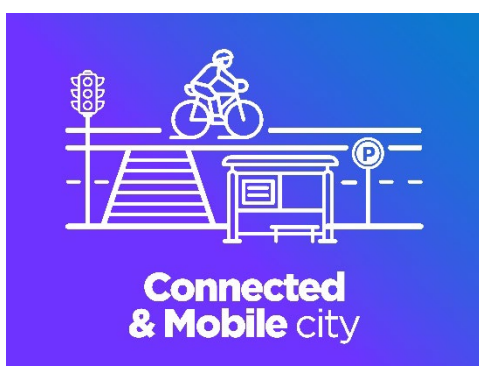
The Discussion Papers have structured several contemporary issues in land use planning in Ontario into digestible sources of information in six thematic areas:



1. **A Growing City.** Niagara Region’s 2051 Land Needs Assessment forecasts Niagara Falls to add the greatest number of new housing units in the Region, even more than St. Catharines and its large assignment of apartment dwellings. Further infrastructure master planning work can look at growth beyond the 2051 planning horizon, opening a door for even longer-term planning. This means a considerable outlay of infrastructure and soft services will be required to support the building of complete communities connected through a resilient, layered mobility network. The new Official Plan must also ensure the infrastructure is available (planned or existing) to accommodate this growth, and will either accommodate or be ready to accommodate the outcomes of the City’s range of ongoing growth management projects and planning, the housing pledge to 2031, urban boundary expansions, affordable housing goal, and volume of development applications.



2. **An Attractive City.** Niagara Falls is a gateway to our country and a destination in its own right. Growth will need to build upon this foundation—more accurately, it will raise the bar for excellence in design and architecture, even in a world where exterior design elements cannot be completely regulated through Site Plan Control. This is achieved by comprehensively identifying landmark locations where priority design treatment is expected, while leveraging further placemaking opportunities through planning for a complete community that contributes to health and civic pride.



3. **A Connected and Mobile City.** Communities are grappling with how and where goods and people move through them. In addition to needing to serve the vehicle demands, the transportation system of a city is also a public good. This means it contributes to the overall

quality of life for residents, contribution to the economic well-being for businesses, and supports tourists and visitors to the area. Key to this is designing a transportation system that is premised on the principles of safety, equity, accessibility, and mobility for all users and modes. Our Niagara Falls Plan will aim to address these questions and be complemented with street design policies and guidelines.



4. **A Green and Resilient City.** The effects of climate change are becoming known. Cities can and need to do more to prepare for and incorporate these new systems and patterns into growth and development. Whether that is through right-sized infrastructure, a comprehensive natural heritage system, low impact design techniques, sensitively designed community facilities, or increased expectations from private development, Our Niagara Plan should build upon City and Regional studies to incorporate the best elements in a manner that readies the community for adaptation to climate change. It must also consider the fiscal and economic implications of policies related to building a green and resilient city.



5. **An International City.** Our Niagara Falls Plan will incorporate design policies and community improvement principles and a framework for intensification that will maximize the opportunities for creating landmarks and physical presence at major locations to support the many places of entry to the city. Our Niagara Falls Plan needs to leverage its location, multiple attractions, and quality of life to continue encouraging tourism, new economic development, and a range of jobs to support overall well-being.



6. **A Cultural City.** Our Niagara Falls Plan will incorporate multiple goals, objectives, and policies to continue to build upon Niagara Falls' recent growth in diversifying cultural options. This is

more than just the Falls area itself and must incorporate the entire city, providing the places and spaces necessary for an enriching social experience. There is a strong base of significant cultural heritage resources at a local and national scale in Niagara Falls, for which Our Niagara Falls Plan can work to conserve. This also requires planning for and providing community facilities to support a growing population.

The six Discussion Papers together represent a thorough, comprehensive and interconnected approach to initiating this discussion about the future of Niagara Falls. Each Paper contributes its own piece to this project. A further paper on Planning Policy Conformity and Implementation will be prepared once current Provincial reform proposals are complete.

Project team staff are available at any time to answer questions about this project. All public input received will be summarized into a “What We Heard” engagement summary report throughout the process to prepare the new Official Plan.

1.3 Public Engagement So Far

This diagram illustrates the engagement that will be completed up to the end of June 2024. The following two pages summarize what we are hearing with respect to each one of the topics for discussion.



A Growing City

- The aim should be on growth that is orderly, cost-effective, and sustainable.
- Re-connect city's decision-making with the Official Plan.
- Planning priorities should be within the built boundaries
- Downtown should not be just for visitors - try to get people living in this area
- Plenty of room for growth south of McCleod near Garner South; Grassy Brook and Hospital site
- Tourist commercial across from residential – incompatible. Transition and buffer are important.
- Niagara Falls does not need densification: lots of space. Large number of rental units available, many houses for sale
- Should do more with what we have instead of taking over more green space.
- Need better facilities for residents, including those with addictions (e.g. shelters, long term treatment facilities)

“This city has potential to become a true beacon of education, natural beauty, job opportunities, and more. Niagara University seems like a good start, but one win after a mountain of disappointments means nothing if it leaves locals in the dust.”

- Diversify the local economy by drawing other industries beside tourism to the city
- Don't need more industrial parks but do need co-working spaces.
- Like to see something like University Village, Seattle: a shopping destination/village rather than large format shopping
- Currently, a lot of homeless, need single person residences; more apartments for baby boomers who give up their houses, and housing for seniors - but not stacked townhouses.
- Need to bring back good, permanent, year-round jobs - seasonal jobs contributing to local homelessness.

An Attractive City

- Niagara Falls is not the showcase I remember. We have to do a lot of work to do to bring us to a standard to welcome people back.
- Want to see better quality parks, cycling trails, no space between houses, more public places.
- Growth of short-term rentals causing issues in residential areas – needs some control.
- Niagara Falls has lots of beautiful parks – no complaints or recommendations, done a good job on parks.

“I hope for a city that focuses on keeping the city clean. There is a huge issue with litter - take a look at the side of major roads, off ramps, on ramps, and even city trails.”

A Green & Resilient City

- Love the McBain Centre – need more spaces like that where communities can gather.
- Green space very important, need to think about how to build urban green space as different kinds of landscapes. (Kansas City good model for green space revitalization.)
- Prefer planted medians – woodland boulevard is a great example of a suburban street, no bike lanes, but safe, with median with trees.
- Queen Street signs, sidewalks, - walking to Queen from e.g. Victoria library - walk is not good. Need to enhance the larger context.
- Planting street trees does not make up for removing a forest.
- Niagara Falls wetlands are mainly complexes, which should appear in the Official Plan. Mapping of natural corridors is key to their protection. Ideally, should be under public ownership (e.g. the Conservation Authority).

“In 2051, my Niagara will have many public gardens for its residents to grow vegetables annually, positively impacting the lives of those in low income neighborhoods and teaching a skill that is transferrable. Teaching people how to grow their own food could be life saving to those who cannot afford fresh produce.”

“Our watershed and forests, wetlands and all remaining green areas are our assets to protect...Our Official Plan must reflect our respect, appreciation and gratefulness of being blessed with these magnificent natural features.”

- Need better language in the Official Plan about our remaining natural areas and woodlots to make environmental protection enforceable.
- Would like to see public gardens/vegetable gardens replacing some of the lawn area in parks

A Mobile & Connected City

- Niagara Falls should think about light rail transit as well as GO. The only semi-good public transportation are the WeGo buses, which almost exclusively serve Niagara Parks and the tourist districts.
- Need different measures to slow traffic, without speed bumps and stop signs.
- Investigate a new people mover system, LRT using CP rail corridor, and connect to train station.

“Niagara Falls 2011 Active Transportation Plan was to develop a robust bike lane network in the city. Looking back on this document in 2024, so few of these plans and ideas have actually been completed.”

- Traffic is bad. Roads to be expanded: Dorchester, Drummond, Thorold Stone Road - easily expanded, use their wide boulevards to create 3 lanes.
- Regional Transit system has resulted in a lot of vacant buses. Not getting value for money.
- Clifton Hill on a summer day - lots of people walking but not enough space. Need bigger, accessible, sidewalks, bike, and electric scooter rentals. (Kitchener Waterloo is doing a good job integrating cars, rentals, walking.)
- Stanley is another street that can be better planned, now a mini highway - opportunity for a better sidewalk connection.
- Lots of bike lanes that just stop. Love to see city with specific requirements for new build areas, things to make areas more pedestrian friendly, including bike paths through new builds/shopping areas.

An International City

- Niagara Falls is tourist town, but that's what makes the region unique. The city has "a community vibe" and whatever tourists use, locals will use.
- Transit issue: tourists don't have change; need better signage re: presto, no cards, cash.

"One thing Niagara Falls needs is an environment that attracts foreign visitors who want to slow down and enjoy the scenery. Bring some European style culture to Niagara Falls. NPC owns lots of land and they can designate areas for cafes and sit down space looking out over the falls or just as people walk about on the grounds. Let's make the Falls area not just a viewing opportunity but a refreshing experience."

A Cultural City

- Niagara Falls does not seem to care about history – razed historic neighbourhoods, demolish heritage-designated school to expand cemetery.
- Public buildings need to be maintained. The new Exchange location is not good and took away parking at the corner of Main and Central.

"Find out what features make us stand out from other cities around the world. Highlight the features that make the city worth traveling to. This can include unique cultural activities, historical landmarks, diversity welcoming places and cultural foods, different museums unique architecture, streets, and also attractive game zones for visitors."

"Let's spend less on fireworks and more on feeding Niagara's families. Let's make the city more fun and inviting for all with cultural events and attractions such as a state of the art children's museum, aquarium, theme park, hockey team, indigenous events, etc."

2

A Green & Resilient City Overview

2.1 What is a Green and Resilient City?

A green and resilient city is one that contains a lot of green spaces, including woodlands, wetlands, parks, trails, and similar areas. These features provide habitat, enjoyment, and mitigation from the effects of weather. Urban areas can be designed to be green and sustainable, creating complete communities, which have less environmental impact and provide climate change adaptation and mitigation strategies. Green and resilient cities contain Natural Heritage Systems, which are to be identified in Ontario by each municipality to provide connectivity among natural heritage features and to support natural processes required to maintain biological and geological diversity, natural functions, viable populations of native species, and ecosystems.

2.2 Natural Heritage Systems

A municipality is required by the Provincial Policy Statement (2020) to protect and plan for a “natural heritage system.” It has a formal definition in the Provincial Policy Statement: “The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.”³ Natural features and areas include significant wetlands, coastal wetlands, fish habitat, significant woodlands, significant valleylands, habitat of endangered species and threatened species, significant wildlife habitat, and significant Areas of Natural and Scientific Interest.

A Natural Heritage System typically includes natural features such as woodlands, wetlands, watercourses, valleylands, and habitat for species-at-risk and other significant wildlife. These provide society with important ecosystem services that are life-sustaining and improve the overall quality of life—today and for future generations.

A natural heritage system is made up of natural heritage features and linkages intended to provide the ecological connectivity required to support natural processes. Those processes are necessary to maintain biological and geological diversity, habitat for indigenous species, and ecosystem health as a whole

³ Policy 2.1.2

A comprehensive identification of natural heritage features was undertaken through the Niagara Region Official Plan process (approved in 2022). This work will be reviewed as part of preparing Our Niagara Falls Plan. Early feedback from the public has suggested there are additional features located outside of the Region's system, and the study team commits to considering this feedback and investigating policy options.

2.3 A Requirement to Plan and Adapt to Climate Change

The release of greenhouse gases and their increasing concentration in the atmosphere are impacting the environment, human health, and the economy. This is evident in increases in annual temperatures, frequency and severity of extreme weather events, risk of respiratory and cardiovascular problems, and damage to infrastructure, among others. Greenhouse gases are generated through various activities, but the largest contribution is from burning fossil fuels, including coal, transportation fuels, heating oil, and natural gas.

The City of Niagara Falls' Climate Change Adaptation Implementation Plan, approved by Council in 2023, concluded that the impacts of climate change are expected to include increased average daily and annual temperatures, increased number of extreme heat days, increased annual precipitation with wetter days in the spring and winter, and increased intensity of precipitation events. In response to these challenges, the Adaptation Implementation Plan put forth a series of recommendations to mitigate and/or adapt to the impacts of climate change. The document puts forth specific goals to address the challenge of climate change, and strategic direction for doing so; details in this regard are provided further in this document. Niagara Falls' vision entails reducing greenhouse gas emissions, becoming a resilient and climate-ready city, promoting sustainable practices, preserving and enhancing the city's natural beauty and assets, and taking continued action to support residents and visitors to adapt to climate change. Green and sustainable design practices represent a key component of the strategy to mitigate and/or adapt to the impacts of climate change.

2.4 Implications on our Investments in Infrastructure

In recent years, municipalities across the province have been confronted with increased costs for maintaining their infrastructure. These challenges are attributable in part to the age of the infrastructure in various locations, dated design standards associated with the systems, and the physical condition which has in many instances deteriorated due to reliance on these systems. These challenges are compounded by climate change, as noted by increased frequency and intensity of storm events, which impose further demands on the storm sewers and overland drainage systems.

In response to these challenges, many municipalities have required that resiliency be incorporated into the planning and design of municipal infrastructure in order to reduce demand on the infrastructure, extend the design life, and reduce costs. Building a green and resilient city requires a comprehensive approach towards planning, design, maintenance, and decision-making for communities and infrastructure, and is necessary in the face of climate change, municipal growth and development, and aging existing infrastructure.

Assessing the City's resilience against climate change impacts requires an assessment of infrastructure risks and vulnerabilities against climate change, in parallel with the infrastructure goals in the City's Climate Change Adaptation Implementation Plan (particularly Actions 9, 17, and 19). The City's infrastructure and assets, including its transportation network, municipal services, and energy and utility systems, are all under varying degrees of risk, based on factors such as their location, age, and condition. In addition, the drainage infrastructure within the city includes instances of combined sewers, which would be anticipated to produce increased incidences of basement flooding and combined sewer overflows under climate change conditions. Identifying critical assets and their level of risk, in connection with the City's asset management plan, informs the prioritization of maintenance and rehabilitation efforts. Further, the new Official Plan will include land use planning tools and processes to minimize climate change risks by establishing policies that guide development and redevelopment towards more resilient communities.

2.5 Innovation and Resiliency

Resiliency is the capacity of a system to withstand or recover quickly from difficulties. This concept has been applied to characterize a variety of systems (physical, conceptual, technological) under a variety of stressful conditions (natural, social, political, economic). Despite the vast and subjective nature of characterizing the resiliency of a given system, this notion has gained increased attention in recent years primarily in recognition of costs to municipalities to maintain existing infrastructure, the direct

and indirect impacts of climate change, and the susceptibility of financial and economic systems to local and global shifts.

Social resiliency focuses on the ability of a community to meet its current and future needs. It is the capacity of the citizens of a community to withstand or recover quickly from conditions that lead to a reduction in quality of life. This concept incorporates notions of community sustainability, the capacity of the residents of a community to

meet their needs using their time and skills, and the resources, energy, and ecological functions of the land to which they are stewards of, in perpetuity. Policies which address social resiliency should also support needs security, being the capacity of a community to ensure that the needs of the residents are able to be met in the long term. This requires a more holistic approach toward defining the structure of the community, and also corresponds with a number of the goals in the City’s Climate Change Adaptation Implementation Plan (particularly in the categories of Health and Well-being, Economy and Workers, and Resilient Governance, such as Actions 3, and 19 to 40).

McQuesten Urban Farm occupies 3 acres of a former school playground in Hamilton, providing a sustainable food source and volunteer opportunities in this underserved neighbourhood

Hamilton’s official plan permits a range of urban agriculture across the City

Achieving resiliency necessarily requires innovation and changing practices from the past. The resiliency encompasses land use planning through promotion of green land uses, transportation planning to reduce reliance on private vehicles and promote alternative forms of transportation, stormwater management planning and design to promote Low Impact Development technologies and developing policies to promote all of the foregoing.

There are economic benefits and return on investments in planning for resiliency. In 2023 alone, the Toronto and Region Conservation Authority’s “Partners in Project Green” delivered over \$825,000 in savings from 9 projects

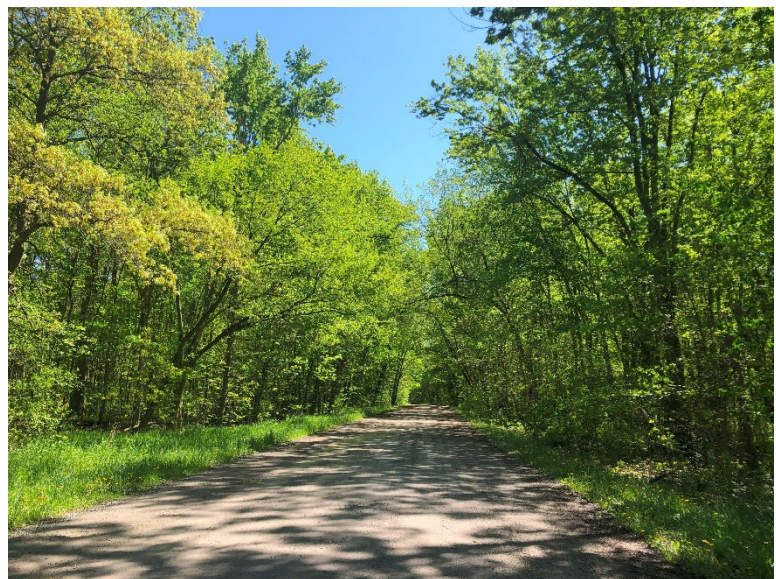
Urban agriculture is also of increased importance as a measure of resiliency. Urban agriculture relates to the growing of food in urban areas and can take many forms, including yard gardens, community gardens, planter boxes on balconies, and roof-top gardens, plus potentially the keeping or raising of animals such as through beekeeping, or holding chickens or rabbits. It also includes enabling the selling or sharing of food, be that through farmers markets or community pantries. Urban agriculture provides greater food security and food safety, lowers greenhouse gas emissions, and can be a community development and capacity building tool.

2.6 Win-win Situations in Planning for Resiliency

There are important linkages between actions that reduce greenhouse gas emissions (climate change mitigation) and actions that build resilience to deal with climate change impacts (climate change adaptation). Co-benefits and synergies between adaptation and mitigation decisions, referred to as sustainable “win-win” approaches, can be obtained for actions that have both adaptation and mitigation objectives. These include the use of nature-based approaches to adaptation in cities to create urban environments that are more resilient to heat waves (reducing associated health impacts) and to intense rainfall (reducing associated flooding), while also sequestering carbon and reducing energy demand. This corresponds with several of the goals in the City’s Climate Change Adaptation Implementation Plan (particularly Action 1).

It is recognized that risk trade-offs can emerge from particular actions that are designed to meet only one objective (adaptation or mitigation), but that can adversely affect the other objective, such as certain adaptation decisions which can result in an increase in greenhouse gas emissions (e.g., the increased use of air conditioners during heat events), as well as certain mitigation choices which would increase local vulnerability or risk (e.g., the increased exposure of the electricity grid to water supply shortages, which could result from expanded use of hydroelectricity). As a general practice and preference, priority should be given to minimizing or avoiding these negative consequences when responding to climate change.

Within Niagara Falls, the opportunities to achieve these “win-win” scenarios must necessarily consider opportunities within greenfield development areas, and opportunities within the existing urban area. While greenfield development generally offers many opportunities through appropriate planning processes with supporting study, the existing urban area presents several constraints related to limited publicly owned lands, existing infrastructure, and extent of hard surfaces within the existing urban area. While resiliency planning within greenfield development areas offers the opportunity to consider those practices which would both promote mitigation and adaptation to climate change, attempts to achieve co-benefits and synergies within the existing urban centre may necessarily need to incorporate separate practices for mitigating and adapting to climate change. These opportunities would necessarily depend upon site-specific conditions and need to be evaluated on a case-by-case basis.



3

Key Topics for Discussion

3.1 Protecting and Enhancing Natural Systems

Municipalities are required to identify a Natural Heritage System through the 2020 Provincial Policy Statement.⁴ The city's location is unique environmentally, as it is located between Lakes Erie and Ontario and situated along the Niagara River. Along with its American counterpart and its regional and agency partners, it is a steward of one of the most recognizable waterfalls in the world, along with the unique biome of the Niagara Falls gorge and river system. The City of Niagara Falls currently identifies its Natural Heritage System very generally but protects its significant natural heritage resources within Environmental Protection Areas and Environmental Conservation Areas. Buffers, linkages, and watershed plan land cover targets are also to be considered in the City's Natural Heritage System.

Why It's Important

It is estimated that 80,000 different species are found within Canada, of which 300 are found nowhere else in the world.⁵ Many species are experiencing population declines and certain ecosystems, such as wetlands and grasslands, have experienced significant and continuing loss in Canada.⁶ The City of Niagara Falls is located in the Carolinian Zone of Canada, which is Canada's most biodiverse region with many at-risk and rare species and habitats, but is also among its most threatened as it contains Canada's most densely populated and most intensively developed landscapes. Habitat loss, species isolation, and habitat fragmentation are some of the leading causes for the loss of biodiversity.⁷ The need to protect species and their habitats is paramount to sustain ecological integrity and function of natural features and to maintain ecological services that many people rely on.⁸ Natural Heritage Systems are an important policy tool for

⁴ Policy 2.1.3

⁵ Enns, A., Kraus, D., Hebb, A. 2020. Ours to save: the distribution, status, and conservation needs of Canada's endemic species. NatureServe Canada and Nature Conservancy of Canada.

⁶ Ray, J.C., Grimm, J. & Olive, A. 2021. The Biodiversity Crisis in Canada: failures and challenges of federal and sub-national strategic and legal frameworks. Facets Journal: Volume 6, Number 1. June 24, 2021. <https://www.facetsjournal.com/doi/10.1139/facets-2020-0075>

⁷ Environment and Climate Change Canada (ECCC). 2021. Adapting to Climate Change: Solutions to Enhance Great Lakes Coastal Wetland Resilience. Mayne, G., S. Hazen, G. Milner, P. Rivers, K. MacMillan, P. Zuzek, and L. Mortsch; and Ontario Biodiversity Council. 2011. Ontario's Biodiversity Strategy, 2011: Renewing Our Commitment to Protecting What Sustains Us. Ontario Biodiversity Council, Peterborough, ON; and Ontario Ministry of Natural Resources (OMNR). 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition.

⁸ Ontario Ministry of Natural Resources (OMNR). 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition.

municipalities and other jurisdictions to guide and regulate the protection of natural areas, thereby protecting species and their habitats, and to encourage the creation and expansion of habitats and spaces that both wildlife and humans can utilize or from which they can benefit.⁹

Buffers are also typically applied through policy to set up a transition or protective zone to the core of these features. How that works also forms a part of the conversation of policy studies. Also included in this is how parks, stormwater or low impact development infrastructure, trails, and other connections can potentially support the enhancement and protection of the overall natural heritage system.

A comprehensive Natural Heritage System must be delineated in Our Niagara Falls Plan. The Region's Natural Environment System is extensive and provides policy direction by geographic area. The City must adopt this system as a starting point, and in doing so incorporate a clearly defined and comprehensive Natural Heritage System and Water Resources System. The City's natural heritage policies should at least be considering the protections afforded by the Regional Natural Environment System and its policies which surpass provincial minimum protection standards.



Things to Think About

1. Ecosystem-based planning recognizes that natural heritage features that are connected within a Natural Heritage System are more likely to function over the long-term than those that are highly fragmented.
2. Clear policy direction is a best practice, listing the specific components of its Natural Heritage System, including recommended buffers and linkages. Identifying minimum buffer widths from specific natural feature types would provide greater clarity and help achieve watershed plan targets.
3. The city's Natural Heritage System should include buffers, linkages, and enhancement lands in conformity with the Regional Official Plan. Requirements that differ between the greenfield and urban areas can be considered. Minimum buffer widths should be identified for greenfield areas, outside of the city's urban area, that are consistent with Regional requirements.¹⁰ For redevelopment within the urban area, an Environmental Impact Study could identify "mandatory buffers" considering the natural heritage features and functions the buffer is to protect.¹¹
4. The city's natural features and areas should be preserved *in situ* as an integrated part of land development, rather than being removed and replaced in a different location. In doing so, natural features and areas should be protected

⁹ Ontario Nature. 2014. Best Practices Guide to Natural Heritage System Planning. April 2014. ontariounature.org/greenway; and Ontario Ministry of Natural Resources (OMNR). 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition.

¹⁰ Niagara Official Plan, Policy 3.1.9.9

¹¹ Niagara Official Plan, Policy 3.1.9.10

in a manner that protects their long-term ecological integrity while showcasing a portion of Niagara Falls' Natural Heritage System and natural features, as well as providing passive recreational and aesthetic value for residents. To this end, policies or guidelines should clarify where public pedestrian trails may be considered appropriate in relation to protected natural heritage features.

5. Niagara Falls contains large expanses of land that fall within Provincial natural heritage systems and land cover designations that are governed by separate policy plans including the Greenbelt Plan, the Growth Plan for the Greater Golden Horseshoe, and the Niagara Escarpment Plan. The city's natural heritage policies should have appropriate regard for the Natural Heritage System policies where they apply.
6. The current City Official Plan natural heritage policies identify the need for vegetative setbacks or buffers from features such as woodlands and wetlands.¹² However, detailed guidance for minimum buffer requirements should be provided in the Official Plan. Naturalization of buffer zones is highlighted as a goal in the City's Climate Change Adaptation Implementation Plan (Action 4).
7. The City's current Official Plan maps Potential Natural Heritage Corridors. However, mapping of these corridors should be clarified by associating the corridors with other mapped natural heritage features, such as woodlands,

wetlands, and watercourses. potential for additional linkages should be identified through completion of Subwatershed Studies or Environmental Impact Studies.

8. Natural areas assist with mitigating the impacts of climate change and providing ecological services that benefit human and environmental health. Trees and natural areas sequester vast amounts of carbon dioxide from the atmosphere. Green spaces can provide protection from storms, flooding, and erosion. Wetlands filter and regulate water supplies. Preserving, protecting, and enhancing these areas are goals within the City's Climate Change Adaptation Implementation Plan (Actions 6 and 15).
9. The Regional Natural Environment System includes "Supporting Features and Areas", which include Enhancement Areas. These areas may include grasslands, thickets, and meadows that support ecological functions of the adjacent significant natural features, non-significant valleylands, and non-significant wildlife habitats.¹³ Enhancement Areas are further defined as areas that are intended to comprise natural, self-sustaining vegetation, which through enhancement (e.g., increasing the size or connectivity, or modifying the shape of the area) enhances the ecological resilience and function of the adjacent significant natural features.¹⁴ Our Niagara Falls Plan should consider incorporating these forms of supporting environmental features as a distinct form of natural area that should be considered

¹² Part 2, Section 11, Policies 11.2.6 and 11.2.40

¹³ Policy 3.1.15

¹⁴ Policy 3.1.16

for retention and enhancement as part of land development plans.

10. In addition to the foregoing, the City's policies should consider the contribution of Recreational Areas and Urban Green Spaces toward supporting the Natural Heritage System. These supporting uses could include natural heritage features outside of the natural heritage system, the urban forest, parkland and trails, and urban agriculture.
11. The components of the City's Natural Heritage System should be clearly described and defined to ensure consistent interpretation and application of policy. This should include listing criteria to determine the significance of natural feature types, other than those features for which significance is determined by Provincial methods (e.g., wetlands, wildlife habitats).
12. The City's Official Plan should also consider protections for non-significant woodlands and other treed features, to increase urban tree canopy. Establishing a tree canopy target for the City should be considered. While considering these policies, the City may wish to explore going above and beyond existing by-laws for individual tree removals. The Regional Official Plan incorporates policy protections for "Other Woodlands",¹⁵ which forms a part of the Natural Environment System. Special guidance

is also provided in classifying the category of "Cultural and Regenerating Woodlands".¹⁶ Differentiating these different classes of woodland will provide additional direction and clarity such that woodland protections can be enhanced while recognizing the value of smaller urban woodlands that may not meet "significance" criteria.

**The Niagara Peninsula
Conservation Authority's
South Niagara Falls Watershed
Report recommends at least
10% of each major watershed
be protected as wetland, at
least 6% of each subwatershed
as wetland (or to restore the
original percentage of wetlands
in the watershed), at least 30%
of the watershed should be
protected as forest cover; and
75% of each stream length
should be naturally vegetated**

¹⁵ Policy 3.1.9.6.2

¹⁶ Policy 3.1.19

3.2 The Urban Forest and Tree Preservation

An urban forest is integral to the ecological health of a city and the well-being of its citizens. The urban forest is a dynamic system that includes the trees, shrubs and other green space within an urban area, including the soil and water that supports this vegetation. Whether those trees are in public spaces, along streets or in private yards, a robust urban forest contributes significantly to climate change resiliency, providing many other benefits as well, including mental health improvements.

Why It's Important

It is recognized that the urban forest provides many benefits to Niagara Falls, such as reducing air pollution, mitigating the urban heat island effect, energy savings, habitat for urban wildlife, biodiversity, and opportunities for recreation and physical activity. Through the Our Niagara Falls Plan, the urban forest policies will be reviewed, considering updates related to a tree canopy target, minimum tree cover requirements, tree compensation requirements and planting guidelines, naturalization programs, and species selection to support climate change adaptation.

The Regional Official Plan incorporates policy protections for “Other Woodlands”,¹⁷ which form part of the Natural Environment System. Special guidance is also provided in classifying the category of “Cultural and Regenerating Woodlands”.¹⁸ Differentiating these different classes of woodland will provide additional direction and clarity such that woodland protections can be enhanced while recognizing the value of smaller urban woodlands that may not meet “significance” criteria.

The City has prepared a Woodland Management Plan pertaining to woodlands owned or managed by the City. The recommendations of this plan will be reviewed to inform the future direction of the City’s woodland and tree preservation policies in the new Official Plan. The City is currently working towards an Urban Forest Management Plan, which should establish a canopy target for the city, which can be tracked over time. A robust natural heritage system and urban forest provide excellent climate change mitigation. Additional green infrastructure that contributes towards a green and resilient city includes green roofs, green walls, and urban agriculture.

Things to Think About

13. Our Niagara Falls Plan should consider protections for non-significant woodlands and other treed features to increase urban tree canopy. Establishing a tree canopy target for the City should be considered. In developing these policies, the City may wish to also explore going above and beyond existing by-laws for individual tree removals.

¹⁷ Policy 3.1.9.6.2

¹⁸ Policy 3.1.19

14. Council has also previously asked for investigation or consideration of

compensation for tree removals. This project can answer this question.

3.3 What is the Water Resources System?

The Water Resources System is comprised of those features and systems which interact with the surface and groundwater within the area, and thus contribute toward sustaining the aquatic and terrestrial ecology, as well as human health.

Why It's Important

These systems also include natural hazards related to flooding and erosion, and thus directly affect public safety. The definition of the Water Resources System in relation to future development can identify sensitive areas which should be protected *in situ* with appropriate restrictions and limitations on development form and extent, areas where development may be permitted with specific conditions or requirements for managing and mitigating impacts, and areas with no restrictions or limitations to development. In addition, the Water Resources System informs the planning of public infrastructure (i.e. roads, water/wastewater servicing, stormwater management planning) to minimize potential disruption to the Water Resources System.

Although not identified as part of the Water Resources System explicitly, the Provincial Policy Statement also directs planning authorities to maintain linkages and related functions among components of the Water Resources System. With the basic direction set out in the Provincial Policy Statement, interactions and relationships between a Natural Heritage System and Water Resources System are identified through the inclusion of natural heritage features and areas.

Things to Think About

15. Key hydrologic areas represent areas of significant and/or sensitive groundwater recharge, and areas of surface water contributions. Significant and sensitive groundwater recharge areas may be identified based upon Significant Groundwater Recharge Areas mapping developed through the Source Water Protection Plans, which represent areas of relatively higher groundwater recharge rates that are important for providing groundwater recharge to an aquifer. Ecologically Significant Groundwater Recharge Areas (ESGRAs) represent areas of land where groundwater recharge may directly support groundwater-dependent features such

as coldwater streams, wetlands and their ecological functions.

16. Areas of significant surface water contributions represent those areas which contribute surface runoff toward surface water dependent features such as streams and wetlands. Surface water dependent features located within the limits of regulated watercourses and/or the defined Natural Heritage System would be sustained through the minimizing of drainage area modifications from grading post-development. Smaller surface water dependent features located on the tableland would be identified as part of



subsequent studies, and management strategies developed accordingly to provide a supply of clean runoff to the features to mimic the pre-development hydroperiod.

Paper goes into detail on Niagara Peninsula Source Protection Plan.

17. The City is required to maintain Official Plan policies and zoning regulations that conform to an in-effect Source Protection Plan. Section 4.14 of this Discussion

3.4 Climate Change Mitigation and Resilience

Becoming resilient to changing weather patterns and extreme weather events requires a multi-faceted approach that addresses integrated stormwater management, green infrastructure, energy supply and distribution, and precautionary land use planning. A well-rounded approach also incorporates climate change mitigation strategies that are focused on reducing greenhouse gas emissions by promoting multi-modal transportation systems, a supportive mixed use and compact urban structure, efficient and sustainable subdivision design, and ensuring the preservation of green spaces and the urban and rural tree canopy. These considerations can provide a foundational approach for the Our Niagara Falls Plan process.

Why It's Important

In 2014, the Intergovernmental Panel on Climate Change stated that, “warming of the climate system is unequivocal”.¹⁹ Evidence of climate change has amassed since that time, in the form of observed increases in temperature, rising sea levels, loss of snow and ice, increased number and size of wildfires, increased droughts, and shifting precipitation patterns at the global scale. The Government of Canada issued a National Issues Report specifically related to the impacts and adaptation issues.²⁰ Observed evidence of climate change impacts to Canada’s water cycle include melting ice, thawing permafrost, shorter duration of snow cover, increasing precipitation, a transition from snow to rain, and changes in the nature of extreme events.

It is projected that these impacts will impact Canada’s water cycle, resulting in reduced water availability in southern basins, particularly in the summer, increasing the frequency and intensity of water-related extremes, and reducing water quality and more harmful algae blooms. Some specific impacts of anticipated changes to Canada’s water cycle caused by climate change include:

- Increased nutrients in water systems and incidences of harmful algae blooms
- Decreased water availability in hotter months for energy and food production

¹⁹ Intergovernmental Panel on Climate Change. 2014. AR5 Climate Change 2014: Impacts, Adaptation, and Vulnerability. Section 1.3.3.

²⁰ Warren, F.J. and N. Lulham, editors (2021). Canada in a Changing Climate: National Issues Report. Government of Canada, Ottawa, ON.

- Disruption of farming and industrial operations, and disruption of natural ecosystem patterns
- Increased flood and shoreline erosion events
- Damaged infrastructure and increased operating costs
- Increased property and casualty insurance payments

The Niagara Falls Climate Change Adaptation Implementation Plan recognizes the need for both adaptation and mitigation to protect against climate change impacts. Key planning-related recommendations from the Plan include:

- Developing and implementing the City's Urban Forest Strategy
- Enhancing naturalization of buffer zones around waterways and wetlands
- Identifying opportunities to implement alternatives to grey infrastructure, such as expanding natural assets and low impact development
- Protecting natural assets as part of stormwater management plans
- Reviewing zoning by-laws to encourage densification
- Updating parking lot by-laws to reduce parking requirements and require a minimum amount of permeable surface and green infrastructure and trees
- Identifying and preserving land for future green spaces through Official Plan and by-laws



Things to Think About

18. Explore opportunities in the Our Niagara Falls Plan to support Emergency Preparedness Planning with respect to development, infrastructure, and systems to ensure access basic needs are designed in a way that mitigates the impacts of climate change and related extreme weather events, such as flooding, heat waves, severe winter storms, and supply chain disruption.

19. Municipalities and conservation authorities have historically relied on statutory approaches such as a hazard-based model, that separates people and assets from known hazards. This model uses standards, such as a 100-year flood, as a basis for public infrastructure

decisions. The increasing severity and occurrence of extreme weather events and the risks they pose may prove that this approach is costly and unsustainable in the long-term. A combination of approaches to flood mitigation may be required. At the local level, policies for Low Impact Development are measures to promote increased evapotranspiration, infiltration and groundwater recharge, and lower surface runoff volumes and flow rates.

20. In alignment with the Climate Change Adaptation Implementation Plan (Action 5), ensure an appropriate policy basis exists to support appropriate urban agriculture and alternative forms of food

sales and delivery such as farmer's markets and community pantries.

The Federal “Canada in a Changing Climate” report references Niagara Falls’ rain barrel rebate program as an example of a Low Impact Development adaptive measure

One of the consequences of a changing climate is the development of heat islands. This term refers to urban areas with higher temperatures, typically caused by heat-absorbing buildings, roads, and other hard surfaces, such as surface parking lots. Responding to heat islands requires strategies related to both the built and natural environments and may include promoting green or white roofs, establishing a tree canopy target (in conjunction with the Urban Forest Management Plan project), and supporting green building standards.

3.5 Innovation and Resiliency

Besides being an environmental concern, climate change and climate resilience is a business and economic concern. Climate change can impact the finances of businesses and the municipality through:

- Physical risks, including damage from extreme weather events and changing weather patterns.
- Transition risks, including policy and legal risks, changes in technology, and changes in customer behaviour.
- The cost of inputs and supply chains.
- Through reputational risks, if a location or practice is a perceived threat.

Why It's Important

Growth, development, and renewal in the city brings forth opportunities to increase energy and operational efficiency. Compact footprints and higher density do reduce the overall costs for implementing and maintaining energy transmission infrastructure. This also translates to more compact and efficient infrastructure, which, when coupled with new innovation and technology, can improve Niagara Falls’ resiliency.

Things to Think About

Resilience in the face of these risks in climate change requires a comprehensive approach. The Sendai Framework for Disaster Risk Reduction describes the four priorities for disaster risk reduction. These priorities are categorized as:

- Understanding disaster risk.
- Strengthening disaster risk governance to manage disaster risk.



- Investing in disaster reduction for resilience.
 - Enhancing disaster preparedness for effective response, and to “Build Back Better” in recovery, rehabilitation, and reconstruction.
21. Recommendations from the Niagara Region Climate Change Discussion Paper included more efficient building designs through green standards for buildings, and requirements for higher energy efficiency building standards (e.g., Energy Star, LEED). This could also include water reuse measures and green/blue roofs to contribute to runoff reduction and urban heat island effect reduction. This parallels several goals within the City’s Climate Change Adaptation Implementation Plan (particularly Actions 11, 12, and 14).
 22. The City’s transportation infrastructure is comprised of physical assets and systems, including roads and highways, sidewalks and bicycle lanes, and transit, which collectively make up a network and enable movement across the city. A resilient transportation network supports alternative transportation mode choices to provide multiple options for users to reach their destination. With the anticipated growth in residential density and employment density, designing communities with a more compact footprint will allow for transit and active transportation facilities to service a greater number of people, and corresponds with the infrastructure goals in the City’s Climate Change Adaptation Implementation Plan (particularly Actions 10 and 13). The Connected and Mobile City Discussion Paper goes into greater detail on this work.
 23. To adapt to the increasing risk of extreme weather events, increasing the City’s resilience requires reducing the consequences of asset failure (e.g., multiple transportation mode options to reach emergency service locations, siting critical infrastructure away from flood-prone areas). At the same time, reducing the risk of asset failure will also contribute to more efficiently increasing the resilience of infrastructure systems in the longer term (e.g., more stringent stormwater management criteria for new developments, oversizing watercourse crossings, preventing development within the floodplain and buffer zones). The City’s Asset Management Plan (2022) contains an Asset Criticality (Consequence of Failure) Rating to help guide prioritization of maintenance projects that is to be updated regularly based on climate change impacts to identify areas of vulnerability and be tied to the asset management and maintenance strategy.
 24. Understanding disaster risk is the first step to improving financial resilience. Municipalities can support the creation of risk maps along with educating the public about using these maps and working to avoid development conflicting with such hazard areas. Additionally, municipalities can assess how their assets and finances (including revenue streams, operating and capital costs, and financing costs) are exposed to various risks.

25. Renewable energy sources present the opportunity for a distributed generation model – meaning the energy is produced, stored, and used near where it will be consumed. This approach can create a more efficient and resilient system, and can be applied to residential, commercial, and/or industrial uses. Renewable energy and energy efficiency/conservation models includes the generation and capture of electricity from a variety of sources.

Municipal governments can also provide climate-related disclosures like those recommended by the Task Force on Climate-Related Financial Disclosures. Key information to disclose would include:

- **Governance:** mayor and council's oversight of climate-related risks, along with the staff involved with assessing and managing climate-related risks
- **Strategy:** identified climate-related risks and opportunities along with their impacts; how resilient the City's policies and plans are to climate-related risks and scenarios
- **Risk management:** processes for identifying, assessing, and managing climate-related risks, and how these are integrated with the City's risk management process
- **Metrics and targets:** disclose the metrics used to assess and manage climate-related risks, including Scope 1, Scope 2, and (if appropriate) Scope 3 GHG emissions

4

Policy Review

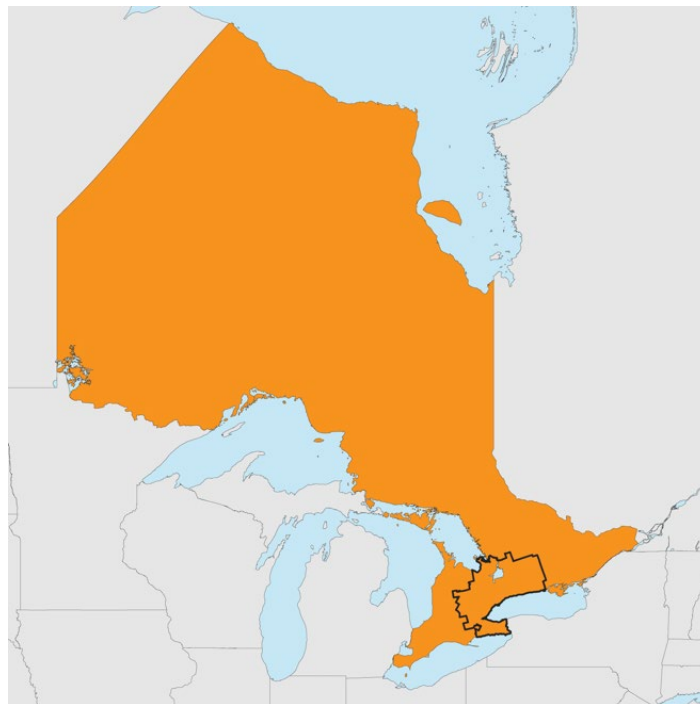
Each Discussion Paper provides narrative on key components of legislation and policy governing that Paper's subject matter. The approach to environmental planning is largely set out by Provincial policies that are implemented by municipalities using the tests and procedures prescribed in those higher order plans. Opportunities for refinement or expansion are frequently considered in local policy projects such as the Our Niagara Falls Plan project.

There is a chance these documents may be updated by the Province during the life of this study—in particular, that the Niagara Region Official Plan would transition to become a local plan administered by the City of Niagara Falls. Any changes will be reflected in the Our Niagara Falls Plan, with updates provided by City staff and the project team as required.

4.1 Provincial Policy Statement (2020)

POLICY REFERENCE: Section 1.1 (Managing and Directing Land Use to Achieve Efficient and Resilient Development and Land Use Patterns); Section 1.6 (Infrastructure and Public Service Facilities); Section 1.8 (Energy Conservation, Air Quality and Climate Change); Section 2.1 (Natural Heritage); Section 2.2 (Water); Section 3.1 (Natural Hazards)

The Provincial Policy Statement, 2020, provides policy direction on matters of provincial interest related to land use planning and development. The Provincial Policy Statement sets the policy foundation for regulating the development and use of land. The Provincial Policy Statement is issued under the authority of Section 3 of the *Planning Act*. Section 3 of the *Planning Act* requires that decisions affecting planning matters “shall be consistent with” policy statements issued under the *Act*. Comments, submissions, or advice that affect a planning matter that are provided by the Council of a municipality, a local board, a planning board, a minister or ministry, board, commission or agency of the government “shall be consistent with” the Provincial Policy Statement.



An overarching theme of the Provincial Policy Statement is the promotion of sustainable, complete communities and the careful coordination and management of land uses to accommodate appropriate development to meet the full range of current and future needs of the community, while achieving cost effective development patterns. Stronger emphasis must also be given to preparing for the impacts of a changing climate through maximizing energy conservation, effective management of stormwater, and the use of green infrastructure.

The Provincial Policy Statement advises that healthy and livable cities are sustained in part by promoting development and land use patterns that conserve biodiversity and by preparing for the regional and local impacts of a changing climate.²¹ Land use patterns within settlement areas is to be based on a mix of land uses which minimize negative impacts to air quality and climate change and promote energy efficiency.²²

Planning authorities should promote green infrastructure to complement infrastructure²³ (Policy 1.6.1) and planning for stormwater management shall minimize erosion and changes in water balance and prepare for the impacts of a changing climate.²⁴

The Provincial Policy Statement recognizes the connection between land use patterns and transportation choices and calls for integrated planning that minimizes the length and number of vehicle trips and supports transit and active transportation.²⁵ Planning authorities shall support energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions, and climate change adaptation through land use and development patterns which:

- | | |
|--|---|
| a) <i>Promote compact form and a structure of nodes and corridors</i> | e) <i>Encourage transit-supportive development and intensification to improve the mix of employment and housing uses to shorten commute journeys and decrease transportation congestion</i> |
| b) <i>Promote the use of active transportation and transit in and between residential, employment (including commercial and industrial) and institutional uses and other areas</i> | f) <i>Promote design and orientation which maximizes energy efficiency and conservation, and considers the mitigating effects of vegetation and green infrastructure; and</i> |
| c) <i>Focus major employment, commercial and other travel-intensive land uses on sites which are well served by transit where this exists or is to be developed, or designing these to facilitate the establishment of transit in the future</i> | g) <i>Maximize vegetation within settlement areas, where feasible.</i> ²⁶ |
| d) <i>Focus freight-intensive land uses to areas well served by major highways, airports, rail facilities and marine facilities</i> | |

²¹ Policy 1.1.1

²² Policy 1.1.3.2

²³ Policy 1.6.1

²⁴ Policy 1.6.6.7

²⁵ Policy 1.6.7.4

²⁶ Policy 1.8.1

The Provincial Policy Statement recognizes the importance of protecting and conserving natural resources and requires that natural features not only be protected for the long term, but that the diversity and connectivity of natural features, and the long-term ecological function and biodiversity be maintained, restored or, where possible, improved.²⁷ Natural heritage systems are, “made up of natural heritage features and areas [features and areas, including significant wetlands, significant coastal wetlands, other coastal wetlands in Ecoregion 7E, fish habitat, significant woodlands and significant valleylands, habitat of endangered species and threatened species, significant wildlife habitat, and significant areas of natural and scientific interest], and linkages intended to provide connectivity (at the regional or site level) and support natural processes which are necessary to maintain biological and geological diversity, natural functions, viable populations of indigenous species, and ecosystems.”²⁸ The Provincial Policy Statement does not allow development or site alteration to take place in areas with significant natural heritage features or their adjacent lands. However, if it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions, then development and site alteration may occur, with the exception of significant wetlands or coastal wetlands.²⁹

Policy 2.2.1 requires planning authorities to protect, improve or restore the quality and quantity of water by minimizing potential negative impacts, identifying important water resource systems that are necessary for the integrity of the watershed, maintaining linkages and related functions among water and natural heritage features and implementing necessary restrictions on development and site alteration to protect drinking water supplies and vulnerable water features and resources. In addition, municipalities shall plan for the efficient use of water resources, consider environmental lake capacity, and ensure that stormwater management practices are performing properly.³⁰

The Provincial Policy Statement directs development away from areas of natural or human made hazards, as defined in the PPS, where there is an unacceptable risk to public health, safety, or property and that development should not create new or aggravate existing hazards.³¹ However, development and site alteration may be permitted in certain hazardous lands and sites, when the risks to public safety are minor and all necessary mitigation efforts have been undertaken.³² Notwithstanding this, development and site alteration shall not be permitted within floodways or areas inaccessible during a flooding event, unless appropriate access can be ascertained.³³

To ensure that communities avoid and mitigate catastrophic losses due to wildland fire, development is to be directed away from lands that are unsafe due to the presence of hazardous forest types for wildland fire. However, development may be permitted in lands with hazardous forest types for wildland fire where risk is mitigated in accordance with wildland fire assessment and mitigation standards.³⁴ As development encroaches into areas containing hazardous forest

²⁷ Policies 2.1.1 and 2.1.2

²⁸ Definitions, p. 47

²⁹ Policies 2.1.4 through 2.1.8

³⁰ Policy 2.2.1

³¹ Policy 3.1.1

³² Policy 3.1.7

³³ Policy 3.1.2; note some exceptions do apply to this prohibition

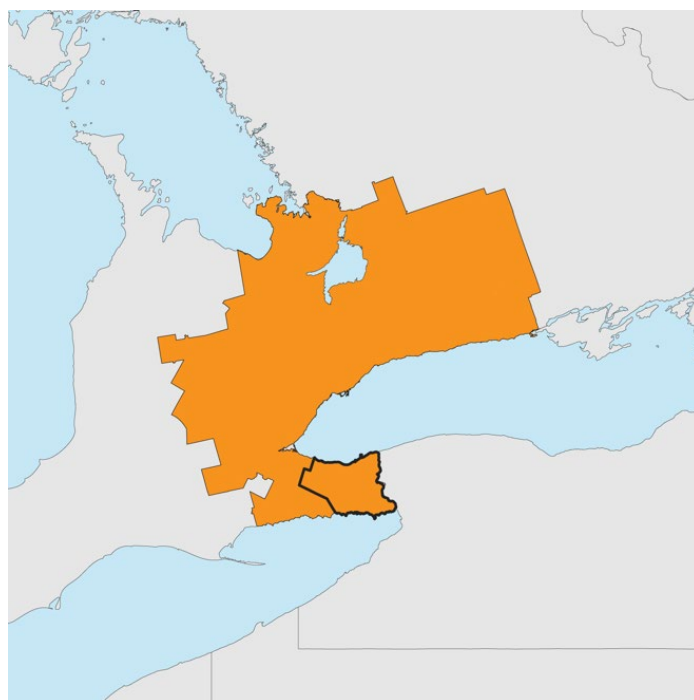
³⁴ Policy 3.1.8

types for fire, the likelihood of a fire occurring increases due to the introduction of human ignition sources. Fire – Potential Hazardous Forest Types for Wildland Fire, is a dataset created by the MNRF that provides a high-level assessment identifying areas that historically may have contained potential hazardous forest types for wildland fire. These data show areas with the greatest potential for risks associated with high to extreme wildland fire.

4.2 A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2019)

POLICY REFERENCE: Section 2.2.1 (Managing Growth); Section 3.2 (Policies for infrastructure to support growth); Section 4.2 (Policies for protecting what is valuable)

A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2019 (Growth Plan), builds on the Provincial Policy Statement to establish a unique planning framework for the Greater Golden Horseshoe that supports the achievement of complete communities, a thriving economy, a clean and healthy environment, and social equity. It provides detailed policy direction across a range of issue areas, with an overarching principal being to support the achievement of complete communities that are designed to support healthy and active living and meet people's needs for daily living throughout an entire lifetime. It does this by promoting intensification improving the integration of land use planning with investments in infrastructure and public service facilities and providing for different approaches to manage growth that recognize the diversity of communities subject to this Plan.



Guiding principles of the Growth Plan are to:

- Support the achievement of complete communities that are designed to support healthy and active living and meet people's needs for daily living throughout an entire lifetime; and,
- Integrate climate change considerations into planning and managing growth such as planning for more resilient communities and infrastructure – that are adaptive to the impacts of a changing climate – and moving towards environmentally sustainable communities by incorporating approaches to reduce greenhouse gas emissions.

Section 2.2.1.4 further supports the achievement of complete communities through encouraging a diverse mix of land uses, access to services, range and mix of housing options, access to transportation options, and use of active transportation, a vibrant public realm, integration of green infrastructure, and climate change mitigation.

Municipalities will assess infrastructure risks and vulnerabilities, including those caused by the impacts of a changing climate, and identify actions and investments to address these challenges, which could be identified as part of municipal asset management planning.³⁵

The Growth Plan emphasizes that transportation system planning, land use planning, and transportation investment will be coordinated. The transportation system should be planned and managed to support connectivity, balance mobility options reducing reliance on the private automobile, be sustainable and reduce greenhouse gas emissions by supporting the use of zero- and low-emission vehicles.³⁶

Municipalities are directed to develop stormwater master plans or equivalent for serviced settlement areas that examine the cumulative environmental impacts of stormwater from existing and planned development, including an assessment of how extreme weather events will exacerbate these impacts and the identification of appropriate adaptation strategies; and incorporate appropriate Low Impact Development and green infrastructure, among others.³⁷

Municipalities will also develop and implement official plan policies and other strategies in support of water conservation,

energy conservation for existing buildings and planned developments, air quality improvement and protection, waste management, and soil reuse.

Section 4.2.1 of the Growth Plan for the Greater Golden Horseshoe requires that upper-tier municipalities, partnering with lower-tier municipalities and conservation authorities as appropriate, will ensure that watershed planning is undertaken to support a comprehensive, integrated, and long-term approach to the protection, enhancement, or restoration of the quality and quantity of water within a watershed. Water resource systems will be identified to provide for the long-term protection of key hydrologic features, key hydrologic areas, and their functions.

A guiding principle of the Growth Plan is to protect and enhance natural heritage, hydrologic, and landform systems, features, and functions. Municipalities will incorporate the Natural Heritage System for the Growth Plan as an overlay in official plans, and will apply appropriate policies to maintain, restore, or enhance the diversity and connectivity of the system and the long-term ecological or hydrologic functions of the features and areas.³⁸

Beyond the Natural Heritage System, including within settlement areas, municipalities:

³⁵ Policy 3.2.1.4

³⁶ Policy 3.2.2.2

³⁷ Policy 3.2.7.1

³⁸ Policy 4.3.2.2

- Will continue to protect any other natural heritage features and areas in a manner that is consistent with the Provincial Policy Statement
- May continue to protect any other natural heritage system or identify new systems in a manner that is consistent with the Provincial Policy Statement³⁹

To address greenhouse gas emissions and climate change adaptation goals, municipalities are to develop policies and actions in their official plans to support complete communities, reduce automobile dependence, support transit and active transportation, assess infrastructure risks,

promote stormwater management planning that incorporates Low Impact Development, protect the natural environment, and promote local food.⁴⁰ Further, municipalities are encouraged to develop:

- Strategies to reduce greenhouse gas emissions
- Greenhouse gas inventories for transportation, buildings, waste management and municipal operations; and,
- Interim and long-term greenhouse gas emission reduction targets.⁴¹

4.3 Draft 2024 Provincial Planning Statement

On April 10, 2024, the Government of Ontario released the proposed Provincial Planning Statement (2024). The proposed Provincial Planning Statement would be a single, province-wide policy framework along with implementing legislative changes, which combines the Provincial Policy Statement 2020 and Growth Plan into one consolidated policy. At the time of writing this Discussion Paper, the public consultation stage had just closed (May 12, 2024).

Natural heritage and natural hazards policies generally remain the same between the Provincial Policy Statement 2020 and draft Provincial Planning Statement 2024. There is a new requirement for large and fast-growing cities to undertake watershed planning, although Niagara Falls (which would be captured by this proposed policy) is already doing this work in greenfield areas.

The Provincial Planning Statement 2024 contains general policies requiring municipalities to plan for climate change, but has eliminated several direct references to the term, as well as policies that were intended to prepare for and mitigate the impacts of a changing climate. Although the title of the section “Energy Conservation, Air Quality and Climate Change” is the same as the current Provincial Policy Statement 2020, very little policy language is the same. While this section still requires municipalities to plan to reduce greenhouse gas emissions through a number of approaches including building complete transit-supportive communities, energy conservation, green infrastructure, and active transportation, the overall consistent thread and stronger climate change messaging has been deleted.

³⁹ Policy 4.2.2.3

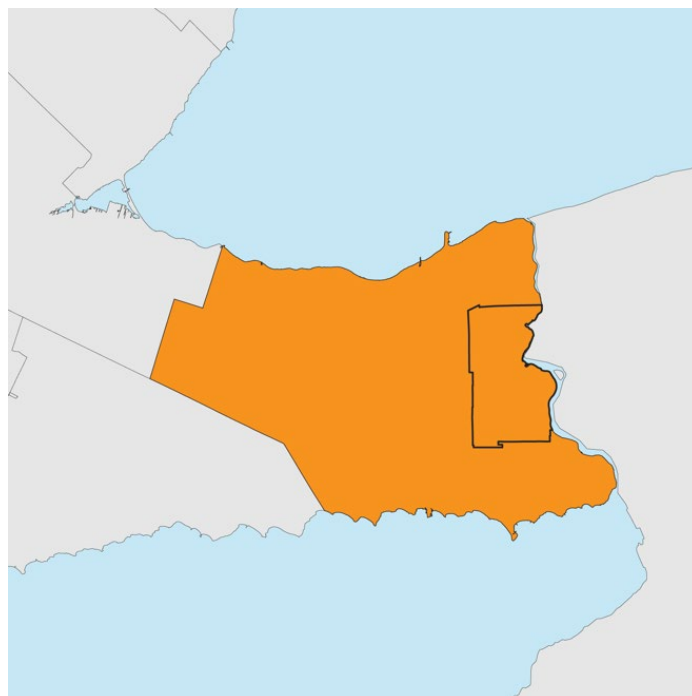
⁴⁰ Policy 4.2.10.1

⁴¹ Policy 4.2.10.2

4.4 Niagara Region Official Plan (Niagara Official Plan), 2022

The Niagara Official Plan, 2022 (Regional Official Plan) is the vision document for growth across Niagara Region. Approved in 2022, it replaced a 1973 Plan (reformatted in 2014) with a new vision to 2051. Its four pillars include “Exceptional Development and Communities,” “Diverse Housing Types, Jobs and Population,” “Thriving Economy,” and “Resilient Urban and Natural Areas.” It is a key guiding document for development of the new Our Niagara Falls Plan.

The new Niagara Official Plan defines a Natural Environment System. The Natural Environment System collectively includes both a Natural Heritage System and a Water Resource System, as mandated by the Province. The Natural Environment System also incorporates the provincial Growth Plan and Greenbelt Plan Natural Heritage Systems. These provincial Natural Heritage Systems have specific policies that conform to their respective provincial plans. Finally, the Region’s Natural Environment System also incorporates the environmental land designations of the Niagara Escarpment Plan.



The City and the Region share the overarching principles and policies governing natural heritage protection, pursuant to their obligations for consistency with Provincial direction as laid out in the Provincial Policy Statement. This includes the need to protect “natural features and areas” for the long term, including significant wetlands, woodlands, Areas of Natural and Scientific Interest, valleylands, and wildlife habitats, as well as fish habitats and habitats for endangered and threatened species. Provincial direction also requires that protections be achieved by following a systems-based approach, whereby a Natural Heritage System, and their ecological functions, are to be identified and preserved. A key element of this strategy is to maintain and enhance a series of landscape-level ecological linkages between features to facilitate ecological connectivity and enhance biodiversity.

The Niagara Official Plan has strong environmental objectives, beyond the typical minimums expected by the Province, wanting to maintain and enhance woodlands and wetlands, wanting to increase ecological connectivity, increase tree cover, protect shorelines and water resources, and identify supporting natural features and areas to support long term ecological integrity. The Region’s Official Plan places high value on natural heritage features that may not be included within the Natural Environment System, encouraging the protection of wetlands, other woodlands, supporting features and areas (such as meadows and thickets), and other areas, as listed as

objectives of the Natural Environment System.⁴² Whereas the City's Official Plan currently allows for compensation of natural heritage features, particularly trees,⁴³ the Regional Official Plan does not permit offsetting for any natural heritage feature and areas, key natural heritage features, or key hydrologic features.⁴⁴ Under the Niagara Official Plan, cultural and regenerating woodlands may be removed in whole or in part, subject to a woodland enhancement plan.⁴⁵ Wetlands not regulated by the Niagara Peninsula Conservation Authority are addressed by Niagara Official Plan Policy 3.1.9.6.7 and may be protected by policies pertaining to other natural heritage features and areas.

Accordingly, the Region, through their 2022 Official Plan, has defined a Natural Heritage System comprised of wetlands, woodlands, valleylands, and wildlife habitats, as well as buffers, linkages, supporting features and areas, and enhancement areas. While robust within the rural area, it is minimal in the established urban area, focusing mostly on the Hydro Canal, Welland Canal, and large woodlands in the southern portion of the urban area associated with the Welland Canal. Many of these remaining woodlands in the southern portion of the settlement area contain provincially significant wetlands, including the Lower Grassy Brook, Lyons Creek, Niagara Falls Slough Forest, Thompson Creek, Warren Creek, and Welland River East Provincially Significant Wetland complexes. The revised Ontario Wetland Evaluation System⁴⁶ guidelines generally no longer include the practice of complexing numerous wetland units into one wetland system, meaning individual wetland units may be evaluated on their own, thereby making it much more likely wetlands are not provincially



Figure 4-1: Excerpt from Schedule C1 (Natural Heritage) of the Niagara Region Official Plan. The two green areas represent various natural heritage features as shown in the Regional Plan—notable is the near-total lack of features within older areas of the City.

⁴² Section 3.1

⁴³ Part 2, Policy 11.1.45 of the City of Niagara Falls Official Plan

⁴⁴ Policy 3.2.9.6.6

⁴⁵ Policy 3.1.19.2

⁴⁶ Government of Ontario. 2022. Ontario Wetland Evaluation System. Southern Manual 4th Edition. <https://www.ontario.ca/files/2023-02/mnrf-pd-rpd-pb-ontario-wetlands-evaluation-system-southern-manual-2022-en-2023-02-02.pdf>

significant if reevaluated. The City can consider ensuring the wetlands currently identified as provincially significant remain protected by including them in the City’s Natural Heritage System and applying protective policies.

The Region’s Natural Heritage System is in turn a part of a broader Natural Environment System, which along with the Natural Heritage System includes a Water Resource System. The Water Resource System comprises an interconnected hydrological system that includes groundwater features and surface water features, and their hydrologic functions. Collectively, the Natural Environment System framework allows for a comprehensive, coordinated and holistic approach to identifying and protecting the ecological and hydrological systems that are intrinsically linked and co-dependent.

The Natural Heritage System may be supported through restoration and enhancement lands, as well as complimentary and compatible built areas including parks, school yards, stormwater management facilities, Low Impact Development systems, pedestrian trails, and other such low intensity “green spaces”. Such greenspace connections and green infrastructure can contribute towards a robust and sustainable Natural Heritage System, providing greater resiliency to climate change, and supporting many other environmental, social, and economic benefits.

The Niagara Official Plan makes a strong commitment to addressing climate change, dedicating Section 3.5 to the topic. The policies “recognize the important role the Natural Environment System plays in mitigating the impacts of climate change by protecting and enhancing natural features”. Proposed tools include:

- A Regional Greening Initiative to restore and enhance vegetative cover that sequesters carbon to mitigate climate change (Policy 3.5.1.4)
- Protecting and enhancing the ecological integrity and biodiversity (Policy 3.5.3.1.c.i)
- Maximizing vegetation and promoting tree planting (Policy 3.5.3.1.c.ii)
- Integrating climate change considerations into planning for parks, open space, and trails, including opportunities for tree planting and Low Impact Development (Policy 3.5.3.1.c.iii)
- Integrating green infrastructure and low-impact development into the design of infrastructure, public works projects, public service facilities, and private development (Policy 3.5.4.1.vi)

The Niagara Official Plan also recognizes opportunities to support tourism through the protection of the Region’s Natural Environment System, parks and trails network and geological and cultural heritage resources. Equally important, is that it supports the improvement of linkages from nearby neighbourhoods to major trip generators, including tourist destinations, employment area, post-secondary institutions, and other key locations.⁴⁷

⁴⁷ Policy 5.1.2.2

4.5 City of Niagara Falls Official Plan, 1993

The City's current Official Plan was approved by the Ministry of Municipal Affairs on October 6, 1993. The City's current Official Plan supports an ecosystem-based approach for the enhancement of its natural heritage resources⁴⁸ and includes enhancement of linkages and corridors,⁴⁹ enhancement of open spaces,⁵⁰ and enhancement of tree cover.⁵¹

The City's current Official Plan recognizes the unique value and significance of the natural heritage features and areas that exist within its boundaries. Its policies recognize the importance of an ecosystem-based and landscape-level approach to natural heritage protection with identification, maintenance and enhancement of linkage features. The City's Official Plan includes policy protections for water resources (groundwater and surface water features and their functions), with understanding of their connections and value to natural heritage features and functions.

The City of Niagara Falls currently identifies its Natural Heritage System very generally but protects its significant natural heritage resources within Environmental Protection Areas and Environmental Conservation Areas .

The City's Environmental Protection Areas lands include the following: ⁵²	The City's Environmental Conservation Areas lands include" ⁵³
• Provincially Significant Wetlands • Wetlands regulated by the Niagara Peninsula Conservation Authority that are greater than 2.0 hectares in area • Provincially Significant Life Science Areas of Natural and Scientific Interest (ANSIs) • Significant habitat of threatened and endangered species • Floodways and erosion hazard areas • Environmentally sensitive areas.	• Significant woodlands • Significant valleylands • Significant wildlife habitat • Fish habitat • Significant Life Science and Significant Earth Science ANSIs • Sensitive groundwater areas • Locally significant wetlands or NPCA-regulated wetlands less than 2.0 hectares in area

Of note, significant woodlands are defined by the City as, "treed areas identified by the City, Region, or the province, as contributing to the health of the environment based on their provision of wildlife habitat, species diversity, hydrological value and identified significant species. Publicly owned woodlands are considered significant as a feature and for its natural function."⁵⁴

⁴⁸ Part 2, Policy 11.1.1

⁴⁹ Part 2, Policies 11.1.23 and 11.2.30

⁵⁰ Part 2, Policy 11.1.29(b)

⁵¹ Part 2, Policy 11.1.41

⁵² Part 2, Policy 11.2.13

⁵³ Part 2, Policy 11.2.22

⁵⁴ On Appendix I of the Official Plan

The Natural Heritage System is further detailed within specific Secondary Plan Areas. Since these correspond with greenfield development areas of the city, the end result is that a greater density of natural features has been mapped and identified for protection in these areas. Figure 4-1 above, the excerpt out of the Niagara Official Plan, characterizes the deficit of features in urbanized area of Niagara Falls compared to rural or greenfield areas.

The City's current Official Plan states that the City intends to play a major role in the protection and conservation of resources. Specifically, it recognizes the high value and benefits to "trees, hedgerows and woodlands to the overall environmental health of the community" and protects woodlands greater than 0.2 hectares in size, as well as individual trees or small stands of trees on private land.⁵⁵

The current municipal Official Plan does not address climate change, although the City of Niagara Falls has developed and approved a Climate Change Adaptation Implementation Plan with multiple land use and development strategic actions. Climate change is referenced as a consideration in the Grand Niagara Secondary Plan and the Riverfront Community Plan. Sustainability is referenced a little more in the Secondary Plans in relation to the environment, with references to developing a transit and pedestrian friendly city,⁵⁶ sustainable development,⁵⁷ and provision for infrastructure in a financially and environmentally sustainable manner.⁵⁸ Once again, the Secondary Plans provide more guidance, referring to sustainable building design practices to lower greenhouse gas emissions and operating costs.⁵⁹ Sustainable practices are listed as building orientation, sustainable landscape design, urban heat island mitigation, stormwater management, alternative transportation methods, renewable energy, green roofs, building envelope design, natural ventilation, day light design, dark sky design, bird friendly design, waste management, and water use reduction and waste water technologies. Each Secondary Plan also has its own natural heritage policies, developed in conformity with contemporary planning policy.

4.6 Niagara Escarpment Plan (2017)

The Niagara Escarpment is designated as a Biosphere Reserve by the Bureau of the United Nations Educational Scientific and Cultural Organization (UNESCO) Man and Biosphere program in 1990 and reconfirmed in 2016. The escarpment's geological and ecological features are unparalleled anywhere else in Canada. The Niagara Escarpment Plan builds on the Provincial Policy Statement and serves as a foundation of objectives and policies to balance the needs of infrastructure/development, versus the protection and the enjoyment of this significant landform and its resources. It generally applies to the face of the Escarpment itself, plus lands above and below the feature.

Within the City of Niagara Falls, the Niagara Escarpment lands include Escarpment Natural Area, Escarpment Protection Area, Escarpment Rural Area, Mineral Resource Extraction Area, and

⁵⁵ Part 2, Policies 11.2.39 through 42

⁵⁶ Part 1, Section 2, Growth Objective 3

⁵⁷ Part 4, Section 2, Policy 2.3.14

⁵⁸ Part 4, Section 2, Policy 2.8.4

⁵⁹ Part 5, Section 2, Policy 3.13.11, as an example

Urban Area. Development within lands subject to the Niagara Escarpment Plan is required to conform to this Plan. While municipalities can be more stringent with their policies than those in the base plan, many municipalities tend to be deferential to the Niagara Escarpment Plan.

4.7 Niagara Falls Climate Change Adaptation Plan

The City of Niagara Falls Climate Change Adaptation Plan was completed in September 2023, with the objectives around minimizing the negative impacts of climate change for the wellbeing of the community. The City developed this plan to tailor climate change adaptation strategies to local circumstances and use this opportunity to plan for new actions and expand existing tools and processes for greater resilience. The Climate Change Adaptation Plan built upon the following higher level planning direction for mitigating and/or adapting to the impacts of climate change:

- The reduction of greenhouse gas emissions is a priority issue that needs to be implemented in all municipal documents and directives. A well-rounded approach incorporates climate change mitigation strategies that are focused on reducing greenhouse gas emissions by promoting multi-modal transportation systems, creating mixed use and compact urban structures, maximizing opportunities for energy efficiency, and ensuring the preservation of green spaces and tree canopy.
- Becoming resilient to changing weather patterns and extreme weather events also requires a multi-faceted approach that addresses integrated stormwater management, green infrastructure, energy supply and distribution, and precautionary land use planning. There is an urgent need to promote the reduction of greenhouse gas emissions and improve city resiliency in land use planning. The need for resiliency is becoming more urgent as communities like Niagara Falls experience the impacts of a changing climate, including weather extremes and severe storm events.
- The Provincial and Regional policy frameworks direct municipalities to plan for the impacts of a changing climate, and Provincial policy in particular has placed a stronger emphasis on this concern with its most recent Growth Plan and Provincial Policy Statement—both the current 2020 version and the draft 2024 Provincial Planning Statement. One of the guiding principles of the Growth Plan specifically cites integrating climate change considerations and minimizing greenhouse gas emissions, and there is also an emphasis on ensuring that the impacts of a changing climate are considered in planning for infrastructure investments. The Growth Plan further directs municipalities to identify actions to reduce greenhouse gas emissions and address climate change adaptation, such as creating complete communities and promoting active transportation, and encourages the development of greenhouse gas inventories and reduction targets.

A total of 14 goals were established within five themes, with a total of 41 action items, each with an implementation schedule. The themes of Nature & Biodiversity and Infrastructure particularly address the broader strategy towards the “Green and Resilient City”. Within the theme of Nature & Biodiversity, the primary goals are to:

- Foster the resilience of Niagara Falls’ natural landscape to ongoing changes in climate and enhance its value in providing both climate change adaptation and mitigation benefits
- Integrate the management of the urban forest, parks, open spaces and natural features into City plans, policies, and procedures

Within the theme of Infrastructure, the primary goals are to:

- Design, construct, and maintain physical infrastructure that is resilient to climate impacts while considering affordability, energy efficiency, natural assets, and reduction in greenhouse gases
- Manage land use that ensures that community assets and livelihoods are sustainable, counter sprawl, optimize existing infrastructure, enhance neighbourhood connections, and are resilient to the impacts of climate change
- Ensure energy supply and infrastructure is sufficient, affordable, net-zero and resilient to weather-related disruption

The other three themes of Health and Wellbeing, Economy and Workers, and Resilient Governance, and the action items within these themes (Actions 19 to 42) also contribute towards developing the resilience of the City from social, economic, and governance perspectives.

Monitoring metrics and baselines were identified within each Action Implementation Schedule to identify the progress and allow for recalibration or adjustment. Indicators for each action item were either process-based, which measures progress towards the specific targets, or outcome-based, which measures whether the expected benefits of the actions are being achieved. While the monitoring metrics are intended to assess the progress of the action items, there is a need for periodic review to determine if they remain relevant and representative towards broader goals.

The Adaptation Plan is to be implemented within five years of its completion with a baseline year of 2023, recognizing that prioritization of actions will vary on an annual basis. The annual progress report should be publicly available to demonstrate the City’s comprehensive efforts towards climate change adaptation and the effectiveness of the established measures towards completion of the action items. There are also opportunities to integrate the action items and monitoring metrics into updates for existing design guidelines and plans, which will make it easier to explicitly track and expedite the progress of the action items, while simultaneously supporting the broader goals of the City’s official plan. Recognizing that five years is a fairly short time frame regarding the design life of natural and built infrastructure, the steps taken towards the implemented action items may not immediately demonstrate effectiveness towards the goals of the Adaptation Plan. However, the updates to design standards, management strategies, and the establishment of the partnerships are intended to guide longer-term infrastructure performance and decision-making.

4.8 Niagara Falls Strategic Plan 2023-2027

In October 2023, Council approved a new Strategic Plan, which is intended to act as its road map throughout its terms. It lays out three strategic pillars to guide its goals and actions; one of those is Sustainability, defined to include Environmental Sustainability. As explained in the Plan:

Implementing practices and policies to ensure the health and well-being of the environment for current and future generations. Environmental sustainability is vital for adapting to the impacts of climate change, preserving biodiversity, and improving the quality of life for residents in the community.

The Plan identifies a number of objectives to be implemented through a variety of projects:

- Implement the Climate Change Adaptation Plan recommendations through collaboration with various community partners and updates to the City's business practice
- Reduce the City's greenhouse gas emissions while enhancing energy efficiency
- Foster a healthy and resilient urban forest ecosystem that contributes to biodiversity and improved air quality
- Reduce the impact of wet weather events and combined sewer overflows on water bodies and ecosystems
- Ensure critical infrastructure assets' long-term sustainability and functionality through targeted repair and maintenance programs

4.9 Niagara Falls Master Servicing Plan and Wet Weather Management Strategy

The City of Niagara Falls is currently developing the Water and Wastewater Master Servicing Plan and Wet Weather Management Strategy, to be completed as an Approach 2 Master Plan Class Environmental Assessment focusing on City water, wastewater and stormwater infrastructure. As part of the project, The City is developing a detailed system inventory and capacity assessment to clearly identify the existing condition, State of Good Repair, risk and capacity of the City's existing water, wastewater, and stormwater infrastructure to meet level of service objectives and regulatory requirements (including MECP's requirements related to maintenance, upgrade and separation of the City's existing combined (sanitary and storm) sewer system. The two projects include a comprehensive review of existing and anticipated regulatory frameworks, existing system

performance, and the City’s existing financial constraints/tolerability to develop appropriate system level of service criteria, servicing policies and principles and performance priorities which will then be utilized to identify system needs and evaluate upgrade recommendations.

4.10 Niagara Region Stormwater Management Guidelines

Niagara Region’s Stormwater Management Guidelines were updated in December 2022, providing hierarchal guidance, direction and consistency for the planning, design, and review of regional master servicing plans, functional servicing reports, and stormwater management reports. The updated guidelines account for the shift of community planning and design towards an ecosystem-based approach for stormwater management. This shift integrates the concepts of community and development sustainability with requirements of the natural system and changes the way stormwater is managed and valued.

From a technical perspective, the goals of the stormwater management guidelines are to:

- Mitigate development impacts to the quality of surface water and groundwater
- Mitigate development impacts to conveyance and flooding
- Minimize development impacts to erosion within watercourses
- Replace existing hydrologic regime (water balance, infiltration, runoff)
- Specify requirements for development draining directly to Regional Roads
- Outline requirements for climate change adaptation
- Mitigate other water quality impacts such as phosphorus, chlorides, and temperature

The Region’s Stormwater Management Design Guidelines also include a policy review of Regional and Municipal guidelines with respect to climate change. From a Regional level, the Niagara Official Plan Climate Change Discussion Paper recommended further subwatershed and watershed planning to manage natural hazards from water resources, and the Adapting to Climate Change paper recommended capacity expansion of Regional and Municipal stormwater management systems to reduce flooding and release of contaminants into watercourses.

Additionally, the Region initiated a climate change modelling and projections study for short and long-term future time periods to support climate change adaptation initiatives, vulnerability assessments, and watershed plans. The data from the climate change projections, which generally suggests fewer days with rain but higher rainfall volumes and intensities for each event, have been made available for the local municipalities to update Intensity Duration Frequency (IDF) relationships. Municipalities typically update IDF relationships on a five-year basis, to account for climate change in risk and vulnerability assessments and are recommended to continue planning and designing stormwater infrastructure for possible future climate change impacts. The City of Niagara Falls updated their IDF curves as part of the 2015 Master Drainage Plan Update Study

and should be subsequently reviewed to ensure that a conservative approach has been adopted in the design of stormwater infrastructure.

4.11 Ontario Regulation 41/24

On April 1, 2024, O.Reg. 41/24: Prohibited Activities, Exemptions and Permits came into effect under Ontario’s *Conservation Authorities Act*. This regulation revokes the existing 36 distinct conservation authority regulations, including O.Reg. 155/06 which governed the Niagara Peninsula Conservation Authority’s regulation of development, interference with wetlands, and alterations to shorelines and watercourses. This new regulation consolidates the previous ones into a single Minister’s regulation, with the intent of streamlining approvals under the Conservation Authorities Act by focusing on natural hazards and providing consistency in decision-making.

Some key changes under Regulation 41/24 include:

- Updated definition of “watercourse”
- Exemptions for certain development activities (i.e., construction of small seasonal docks and non-habitable accessory buildings or structures, maintenance or repair of municipal drains and certain works for driveways or private laneways, certain activities for agricultural lands) from requiring conservation authority permits
- Limitations on the conditions which conservation authorities can attach to permits
- Requirements that conservation authorities create and annually update publicly available maps depicting areas where permits are required, issue annual reports on permitting statistics, and not request additional studies or technical information after an application is confirmed complete
- Redefinition of the regulatory allowance for conservation authorities, including a reduction of regulated areas around all wetlands to 30 metres (also noting that “complexing” wetlands as a regulatory grouping is no longer permitted)
- Redefining the Regulatory Event for flood hazard definition for conservation authorities
- Conservation authority permits are now valid for 5 years.

Conservation authorities across the province are in the process of reviewing the regulation and updating their policies and procedures accordingly. One sum total effect of these changes is that conservation authorities are no longer in the business of “natural heritage,” meaning that any policy role will fall to the Region of Niagara or the City of Niagara Falls to implement and administer.

4.12 Niagara Peninsula Conservation Authority Stormwater Management Guidelines

The Niagara Peninsula Conservation Authority Stormwater Management Guidelines were prepared to provide a consistent approach towards stormwater management for all municipalities within the watershed, as a companion document for local municipal stormwater management policies and guidelines. It was commissioned as a Direct Action from the Niagara Water Quality Protection Strategy. The main goals of the Guidelines are to reduce and eventually eliminate undesirable impacts of stormwater, erosion, and sediment on the built and natural environment, re-establish the benefits of precipitation, and protect and enhance water quality within the Region and water sources, emphasizing environmental, social, and economic considerations.

The strategy towards these goals includes the following measures:

- Development of the framework for integrated stormwater management, erosion, and sediment policies and criteria (principles, goals and objectives, priorities for action, and integration with other plans)
- Identification of a streamlined, coordinated institutional process for delivering stormwater management, erosion, and sediment control services (i.e., clarifying roles and mechanisms for external communications and cooperations)
- Development of needed support tools (e.g., stormwater management erosion and sediment policies, guidelines, by-laws, and implementation with the Official Plans)

The Guidelines provide a framework for master drainage planning, which include consideration of the legislative framework, watershed planning, subwatershed planning, and environmental management plan, and master drainage plans/studies. Highlighted within this framework are also adaptive environmental management and monitoring plans, as well as stormwater management retrofit studies to determine the best means of retrofitting stormwater management measures within selected urbanized areas.

4.13 Niagara Peninsula Conservation Authority Floodline Mapping

The Niagara Peninsula Conservation Authority is responsible for managing the watersheds in its jurisdiction and utilize floodplain mapping for flood forecasting and warning, emergency planning and response, prioritization and planning for flood mitigation works, community planning and land use decision making, and identifying the extent of the flood hazard. The floodplain mapping and analyses are conducted in accordance with the Ontario Ministry of Natural Resources and Forestry's guidelines and are supported by watershed-specific hydrologic and hydraulic studies.

The latest regulated floodplain extents are updated based on the completion of updated modelling and studies. Most of the floodplains within the Niagara Peninsula Conservation Authority's boundaries are based on the 100-year design storm event, but some of the systems within Niagara Falls are managed with the Regional storm event (Hurricane Hazel).

4.14 Niagara Region Watershed Plans

The Niagara Watershed Plan Equivalency document was prepared to support the development of the Natural Environment Work Program under the new Niagara Region Official Plan. The purpose of this document is to support the protection, enhancement, and restoration of natural resources within Niagara's watersheds, with an emphasis on water resources. Watershed planning informs land use planning, including decisions relating to growth and infrastructure, and planning for climate change.

In accordance with the terminology within the Watershed Plan Equivalency Document, the City of Niagara Falls is located within several quaternary watersheds, which drain to Lake Ontario and the Niagara River, as summarized in Table 1 below.

TERTIARY WATERSHED NAME (TOTAL AREA/NIAGARA REGION AREA)	QUATERNARY WATERSHED NAME (TOTAL AREA/NIAGARA REGION AREA)	OVERLAPPING MUNICIPALITIES
Lake Ontario (1184.7 km ² / 913.1 km ²)	Welland Canal North (92.4 km ² / 92.4 km ²)	Niagara-on-the-Lake, St. Catharines, Niagara Falls, Thorold, Welland, Pelham
	Four Mile Creek and Niagara-on-the-Lake (126.4 km ² / 126.4 km ²)	Niagara-on-the-Lake, St. Catharines, Niagara Falls
Niagara River (1136.1 km ² / 852.0 km ²)	Welland River East (136.6 km ² / 136.6 km ²)	Thorold, Niagara Falls, Welland, Port Colborne, Fort Erie
	Niagara River North (62.2 km ² / 62.2 km ²)	Niagara Falls, Niagara-on-the-Lake
	Niagara River South (185.4 km ² / 185.4 km ²)	Fort Erie, Port Colborne, Niagara Falls

As indicated in the Niagara Watershed Plan, the area municipality is responsible for taking the lead in subwatershed plans, which inform secondary plans and official plan amendments for land use planning, as well as master environmental servicing plans, which inform environmental assessment processes for land use planning.

4.15 Niagara Peninsula Source Protection Plan

The Niagara Peninsula Source Protection Plan is intended to eliminate or reduce significant threats to municipal drinking water sources under Ontario’s Clean Water Act . The Source Protection Plan is supported by the Assessment Report, which assesses the quality and quantity of municipal drinking water supplies across the source protection area and identifies significant threats and potential future threats.

Within the Niagara Peninsula Source Protection Area, surface water intakes for six municipal water treatment plants service 80% of the population, with the remaining 20% serviced by private drinking water systems (residential wells and cisterns). There are no municipal wells in the Source Protection Area, and therefore no Wellhead Protection Areas. Intake Protection Zones were identified for the Niagara Falls water treatment plant in the City of Niagara Falls, and significant drinking water threats related to land use were identified for Intake Protection Zone 1 (IPZ-1).

As mandated by the Clean Water Act and in supporting the implementation of the Source Protection Plan, municipalities are responsible for:

- Implementing Source Protection Plan policies into municipal planning processes
- Bringing Official Plans and Zoning By-laws into conformity with the significant threat policies contained in the Source Protection Plan
- Negotiating site-specific risk management plans with landowners where they are necessary through the appointed Risk Management Official
- Inspection and enforcement authority under Part IV tools – prohibition, risk management plans

The Workplan Proposal Final Report,⁶⁰ prepared as an update to the Source Protection Plan under a Section 36 order, recommended further study to determine if municipal intake water quality and supplies are vulnerable to climate change impacts, including storm events and changing water levels.

⁶⁰ Niagara Peninsula Conservation Authority. 2017. Niagara Peninsula Source Protection Area Action 36 Workplan Proposal Final Report. November 2, 2017. Section 3.5.

5

Next Steps

The six Discussion Papers have been prepared as a basis for starting the process of public engagement and engaging stakeholder feedback on the path forward for Our Niagara Falls Plan. These papers are not intended to answer any questions—quite the opposite. The hope and goal for these papers is to stimulate discussion and generate ideas to consider when preparing the new Official Plan.

The project team will be preparing a “What We Heard” engagement summary report that captured the feedback received and discussion generated by this report.

The next product in this exercise is the Policy Options Report. Research generated by the project team plus the above public feedback will inform a deeper discussion on several issue areas that an official plan generally governs. The project team will be back later this year to engage on these questions and obtain more ideas to shape Our Niagara Falls Plan itself.