Subject: Niagara Official Plan Consolidated Policy Report

Report to: Planning and Economic Development Committee

Report date: Wednesday, May 12, 2021

Recommendations

1. That Council **RECEIVE** Report PDS 17-2021, which provides significant information and draft policies for the Niagara Official Plan;

2. That Council **ENDORSE** Natural Environment System Option 3B or an alternative Natural Environment System Option, as described in this Report and Appendix 6;

2. That consultation **BE INITIATED** as set out in this Report, with a request for feedback by July 2, 2021, to allow sufficient time for Staff to review those comments and make recommendations based on that feedback; and

3. That this Report and all Appendices **BE CIRCULATED** to the Province, local municipalities, agencies, and stakeholder groups, and all parties who have indicated an interest.

Key Facts

- This Report provides a comprehensive outline of the Niagara Official Plan ("NOP"). It includes the following components:
    - Executive Overviews of many Official Plan policy sections;
    - Background Reports for sections, where available; and
    - Draft policies for many sections.
- With the exception of the Natural Environment System Options, staff are not requesting any decisions from Council. The information provided is for information and further consultation.
- This Report sets out a recommendation for the Natural Environment System ("NES") Option 3B. This option was selected with careful consideration of all technical work completed on the project to date, feedback gathered at nearly 130 individual points urban areas of the region. The Option selected provides enhanced protection while still balancing other important considerations.

- All NES Options are an improvement over the existing Official Plan systems. For this and other reasons, Regional staff do not oppose any of the Options, should they be preferred, and all Options could be designed and implemented.

- Critically, a decision on the NES Options should be made now, so that the next phase of work on the natural environment work program can begin; being the development of the mapping and policies for the NES, based on the selected Option. The NES Option decision influences outcomes for other policies.

- For many topics, draft policies and background reports are included for review and discussion. Staff will receive input and report further in the summer and fall 2021.

- The *Growth Plan* requires the NOP to contain policies allocating local population and employment forecasts to 2051. Through the Land Needs Assessment, the Region determines if additional lands are needed for community area (generally, residential lands and mixed use) or employment area (generally, traditional industrial lands).

- This Report sets out the NOP steps through to completion in early 2022. The next major reporting will be after the consultation noted above, in late summer 2021, at which time the Region will report on that consultation and provide a recommendation on land needs.

- The Province is the approval authority for the NOP. This means that the NOP can only come in to effect if the Province agrees with its content, including that it conforms, is consistent with, or does not conflict with, applicable Provincial Policies. The Region will continue to engage the Province on draft policy and process. The required date for the Region to adopt the NOP remains July 1, 2022.

Financial Considerations

There are no financial considerations directly related to this report.

Council approved the resources to complete the new Niagara Official Plan (NOP) over a 5 year period as part of the 2017 Budget Process. The NOP is predominantly funded through Development Charges.

Analysis
The NOP is the first comprehensive review since the original Policy Plan was approved in the early 1970s.

The NOP process – in its current form – started in 2017. Before that, other Official Plan initiatives like Imagine Niagara were completed, which provided certain direction that carried forward to the NOP process. Other projects started prior to the NOP have been merged with the NOP work program.

The NOP is a long range planning document that implements a planning horizon to 2051, which conforms with the timeframe *in A Place to Grow, Growth Plan for the Greater Golden Horseshoe* (2019, amended 2020) ("*Growth Plan*").

The requirements for an Official Plan is set out in the *Planning Act, 1990*. Additionally, the NOP must be consistent with the *Provincial Policy Statement* (2020), conform with the *Growth Plan*, the *Greenbelt Plan* and not conflict with the *Niagara Escarpment Plan*. Decisions of Council and advice from staff must also meet these requirements.

Until now, background reports have been reported by subject matter. We are now reporting subject matters and policies together since they are interconnected. For this reason, we have shared NOP policies on most subjects, so they can be reviewed comprehensively.

This Report includes the following six parts:

1. Why a new Official Plan
2. Official Plan Pillar Statements
3. Consultation
4. Decision on the Natural Environment System Option
5. What is Included in this Report
6. What is Happening Next

1. Why a New Official Plan

For many reasons, Niagara needs a whole new Official Plan. Some of the key reasons are as follows:

- **Improve our natural environment system** over the existing Plan's system. Regardless of the Option chosen by Council, it will be an improvement to what currently exists.

- **Address Climate Change**. The new Official Plan will prioritize climate change throughout, with the goal of mitigation and adaptation to achieve resiliency. Our existing Plan is deficient in this area.

- **Consider Affordability and Market Demand.** Housing prices have gone up 42% in Niagara over the last 5 years. Housing affordability is a problem – we need to address that by adding new housing, and in particular, higher density forms of housing. We need a plan that promotes the range and forms of housing to help address this issue.

- **Intensification and Density policies to help create complete communities**. Our new Official Plan will have policies for more compact, efficient forms of development, including clear, strategic intensification policies. The Province requires a 50% intensification rate; the NOP draft policies exceed that at 56%. The current Plan only requires a 40% intensification rate.

- **Related to the above, we will have focused Strategic Growth Areas.** This includes GO Station Areas and other locations where more intense forms of growth are anticipated. This is needed to help meet affordability and climate change goals, and to provide clearer direction to municipalities on how and where to focus denser forms of development.

- **Clearly defined employment areas and policies to provide stability and predictability.** Currently, the Region's employment area policies and mapping are unclear, unlike most other regions. Niagara needs to better direct employment area investment and limit risk of undesired conversion to non-employment uses.

- **Easier to implement by local municipalities.** Niagara Region's existing plan has inefficiencies that can be improved. Likewise, local municipalities are waiting for the NOP to be approved for them to make corresponding changes to their Plans.

- **Efficiently coordinate with key engineering and finance programs**. Specifically, the NOP's timeline aligns with the Development Charges update, Water and Wastewater Master Plan and Transportation Master Plan update. The Region needs a plan that is infrastructure-coordinated and will work to help capture growth-related costs set out in the Development Changes Background Study, so growth can pay for growth.

As previously noted, the NOP covers a horizon to the year 2051; Niagara in 2051 will look different than it does today. The Region needs a plan that preserves what's important, while permitting growth for a future generation of businesses and residents.

Not everyone will agree on the best way to achieve this plan; in fact, there can be more than one good planning approach on a given topic. Consultation to date has identified a variety of competing interests. The NOP must strike a balance between these interests to ensure the social and economic health of our communities. A balanced policy approach can mean fewer people or groups being highly satisfied.

Once the NOP is approved, local municipalities must undergo a local exercise to conform to the NOP. As a first step, this involves an update to its local Official Plan. This process is to be guided by Provincial and Regional policy and will involve further study so that it can address local, context-specific outcomes.

After approval, the NOP will be carefully monitored for what is and isn't working. The Region seeks to be flexible and adapt to changes when necessary. Policies will be reviewed at regular intervals to ensure Regional and Local interests are aligned and that growth planning is monitored to determine if changes should be advanced.

2. Official Plan Pillar Statements

The NOP is based on Pillar Statements; these form the basis for policy development. Like the NOP policies themselves, Pillar Statements are interconnected and must be considered holistically.

These Pillar Statements were originally drafted by staff and subsequently presented to Regional Councillors for reflection and comment. The feedback received generally confirmed the Pillar Statements as the basis for preparing the NOP. Council's recognition of competing interests associated with the Pillar Statements highlights the need for a balanced approach built on creativity and collaboration.

The following are those Pillar Statements:

EXCEPTIONAL development and communities - Well planned, high quality development in appropriate locations that improves our communities, while protecting what is valuable;

- Niagara must proactively manage growth by strategically locating it. We must utilize tools such as District Plans, Secondary Plans, and intensification strategies to allow places to evolve, while being sensitive to established areas.

- Urban design plays an important role in ensuring our communities are aesthetically pleasing and functional as they evolve.

- Growth must take place in a manner that creates resilient communities and does not negatively impact the Natural Environment System.

DIVERSE housing types, jobs and population - A wide mix of housing types and employment opportunities that attract diverse populations to Niagara across all ages, incomes and backgrounds;

- Niagara must diversify its housing stock to address affordability and meet market needs. To manage growth and remain competitive, Niagara must address the diversity of its housing.

- A competitive employment sector that offers a wide range or variety of employment options will attract people to live in the Region.

- Residential and employment areas should be connected by active transportation linkages and serviced by sustainable green infrastructure, to help address our changing climate.

THRIVING agriculture and tourism - A prosperous agricultural industry and world-class tourism opportunities that grow our economy and elevate the Niagara experience.

- The Agricultural System objectives and policies support agricultural uses, normal farm practices, and diversification of activities to ensure the industry continues to prosper in Niagara.

- A world class tourism industry built on diverse and accessible attractions, including, amongst many, Niagara Falls, Niagara on the Lake, and the grape & wine industry.

RESILIENT urban and natural areas - Areas rich in biodiversity that mitigate and adapt to climate change while strengthening Niagara's ability to recover from extreme weather events.

- Niagara is the most biodiverse region in Ontario and includes the Niagara Escarpment World Biosphere Reserve. The physical and biotic features of the Region provide the character that defines it. The NOP is guided by policies and objectives that prioritize the protection and enhancement of the natural environment system.

- In addition to biodiversity, natural areas need to be protected for air purification and assisting with water quality and retention.

- Niagara's urban and natural areas must be resilient to address our changing climate.

- Growth needs to be supported by public transit, active transportation, sustainable and green infrastructure and energy efficient development.

3. Consultation

Consultation is key to establishing a good Plan.

A significant amount of consultation has occurred to date, and more is planned before the NOP is advanced for final consideration.

A detailed list of past consultation is set out in Appendix 1.

As detailed in that Appendix, hundreds of consultation events have happened since 2017. Approximately 130 points of consultation have occurred on the Natural Environment Work Program alone.

PEDC has been informed by 35 Reports relating to the NOP between 2018 and 2021. These reports and presentations provided updates on the work program, individual sections of the Plan, and consultation.

The background work for the Official Plan has been informed by this consultation, including comments from the general public; stakeholder groups; local Councils; Indigenous groups; local municipal planners; local planning workshops, and meetings with the Planning Advisory Committee.

Additional consultation is planned for the spring and summer 2021. Further consultation will occur after a complete draft NOP is prepared in the fall: see section “6. What is Happening Next.”

4. Decision on Natural Environment System Option

The Natural Environment Work Program (“NEWP”) is a critical part of the NOP. The NEWP sets out the regional-scale natural heritage system (“NHS”) and water resource system (“WRS”), including policies and mapping.

Previously, the NHS and WRS were described separately. These are now described together as the integrated **Natural Environment System (“NES”).** This was done since the NHS and WRS are ecologically linked, rely on and support each other, and have many overlapping components. A further description of the merged NHS and WRS is provided below (and more fully set out in the Status Update and Recommendation Report at Appendix 6.2.)

The NEWP was endorsed by Regional Council in 2018 (see PDS 18-2018). Staff were directed to take an incremental approach to developing the policies and mapping. This included a number of decision points for Council; we are now at one of those decision points.

It is critically important that Council choose a NES Option, so staff can proceed to the next step of NES mapping and policy development. Staff need significant time to complete the balance of the NEWP to integrate with the rest of the NOP prior to finalizing the NOP in 2022.

On July 15, 2020, Council was provided 3 NHS Options and 2 WRS Options. As noted above, these have now been combined into the NES. This merger arose after further review of the WRS by the Region's consulting team, who concluded that there are no 'optional' components of the WRS. Rather, only one option for the WRS exists, which includes all of the required water resource features, areas, and systems as informed from provincial direction and the Niagara Watershed Plan ("NWP") project. Thus, a single WRS will proceed, regardless of the NES Option.

A significant amount of analysis was undertaken in developing and refining the Options. Two major reports from our consultant team have been dedicated to the NES Options: Technical Report #2 – June 2020 & Technical Memorandum #1 – March 2021, included as Appendix 6.3.

All of the NES Options are an improvement over the existing, deficient system. All Options conform with, are consistent with, or do not conflict with, Provincial policy. For these reasons, all Options are acceptable systems that can be balanced with other NOP policies to achieve provincial and local goals.

The NES Options are reviewed in detail in Appendix 6.

As previously noted, all Options are supported by Staff. Staff are of the opinion that Option 3B is most preferred, and therefore is Staff's recommended Option. This opinion is summarized below.

- Option 3B **exceeds the required provincial standards** for the identification of features and systems which in the long-term will support a more resilient and biodiverse NES.

- Option 3B **ensures that there is not a reduction in the area of treed vegetation communities** included within the Region's NES.

- Option 3B **helps support other objectives, such as helping mitigate the impacts of climate change**.

- Option 3B provides a balanced approach for the protection of the natural environment by **increasing the number of components and features outside of settlement areas** and limiting additional constraints to development in settlement areas. This option works from both an ecological and land-use planning perspective.

- Option 3B provides **flexibility for local municipalities to plan for local needs** and priorities in their communities. Local municipalities would not be prevented from going beyond the Regional system, either through their Local Official Plans or Secondary Plans. Regional Planning Staff are available to provide support for those exercises should they be desired by local municipalities.

- Option 3B **considers the significant public input received** through the first and second Points of Engagement. A comprehensive outline of the Engagement is set out in Appendix 1. Through the second Point of Engagement, it was clear that there was no consensus on which NES Option was most desirable. This speaks to the **need for a balance between the Options**.

Mapping of the Options and associated data contained in this Report was shared with stakeholders in March 2021, electronically, and at focused meetings and local Council workshops. These meetings helped inform the positions set out in this Report.

The Option 3B recommendation is made with consideration of local municipalities' implementation of such system. As previously noted, **Options 3B has the advantage of allowing flexibility for local municipalities to plan for local needs and priorities in their communities.**

After the Option decision is made, planning staff can immediately proceed with detailed mapping review and refinement and policy development. Staff will report further on that progress in the summer and fall 2021.

Timeline details are provided below, in section 6 "What is Happening Next".

5. <u>What else is Included in this Report</u>

This Report includes substantive materials on many subjects. A detailed list of what is included is provided in the NOP Draft Framework (Appendix 2).

The inclusion of detailed material is intentional to help readers understand the interconnectedness of the NOP. Sections should be read together to gain an

understanding of the comprehensive nature of the Plan. Adjustments to one section often effect others.

Each NOP topic is covered in a separate Appendix. Within the topic-specific appendices, one or more of the following is included:

- An Executive Overview; a short summary of what's covered in that policy section or subject and a chart depicting connections to other Sections;
- One or more memos or reports relating to the topic;
- Draft policies on certain topics;
- Draft schedules to accompany policies on certain topics.

Please refer to the NOP Framework (Appendix 2) for what is included within each topic-specific Appendix, and how to locate that information.

Within the draft policies, the subheadings state the objective of the following policy group. Comment boxes are not part of the policies; they are provided for context. Schedules and maps are draft for future inclusion in the NOP.

Where a document is described as a guidance document, discussion paper, study, criteria or supporting map, it is provided for information purposes only and will not form part of the NOP.

Some NOP sections are not drafted due to ongoing work programs, direction from other policies or need for ongoing coordination. An update on these sections, including status of draft policy and any supplemental information, will be provided for circulation at the next NOP report in summer 2021.

The NOP is divided in to the following 7 Chapters:

- Chapter 1 - Introduction
- Chapter 2 - Growing Region
- Chapter 3 - Sustainable Region
- Chapter 4 - Competitive Region
- Chapter 5 - Connected Region

- Chapter 6 - Vibrant Region
- Chapter 7- Implementation

Below is a short description of the Chapters.

As previously noted, the executive overviews (and other materials, where included) provide further details on these subjects (see NOP Framework, Appendix 2).

Chapter 1 – Introduction – Making Our Mark

The introduction will include Niagara's planning context, Pillar Statements and Directives, the legislative basis of the Plan and outline the plan's structure and organization.

This is not included as an Appendix; an update will be provided during the next reporting in summer 2021.

Chapter 2 - Growing Region

The *Growth Plan* requires Niagara to plan for a significant increase in population and employment growth to 2051. Proactive growth management is needed to ensure we are ready for this growth, including having the appropriate infrastructure and housing available.

Section 2.1 - Growth Allocations and Land Needs - Appendix 3

Niagara must plan to accommodate a minimum population of 674,000 people and 264,000 jobs to 2051. It is essential to coordinate these growth forecasts with land use planning to ensure there is sufficient land available to meet projected population and employment needs.

To do this, the Region is required to allocate population and employment growth to its local municipalities and undertake a Land Needs Assessment ("LNA"), in conformance with a provincial methodology. The LNA is a technical, Region-led process, which determines the amount of "community area" (mostly, where people live and shop) and "employment area" (mostly, where traditional-type businesses are located) required to accommodate the forecast referenced above.

The LNA suggests the Region has an overall need for approximately 460 ha of community area land and a slight oversupply of 20 ha of employment area.

On a municipal-scale, some municipalities need community or employment lands, or both, to accommodate growth: Fort Erie, Niagara Falls and West Lincoln. Other municipalities may have too much land to accommodate forecasted growth: Thorold and Pt. Colborne. The rest have an appropriate amount of land.

The Province approves the LNA; the Region must satisfy the Province that the assessment conforms to the Provincial LNA methodology. Most importantly, the Region must have an overall amount of land need for community and employment lands, regardless of individual municipal needs.

The draft LNA is presented now for information only – no decisions are sought. Staff provide it to seek input in advance of further reporting in August 2021.

Staff ask that comments be provided by July 2, 2021 so that there is sufficient time to consider and report on it, with recommendations, in August 2021.

Section 2.2 - Regional Structure – Appendix 4

The Regional Structure directs how growth within settlement areas can be accommodated.

A significant amount of forecasted growth is focused in “strategic growth areas” as directed by Provincial policy. Strategic growth areas are those locations with existing or planned transit service, areas with existing or planned public service facilities, and those which can more easily integrate more intense forms of development.

In addition to strategic growth areas, growth will occur in built-up areas through intensification and redevelopment, and within designated greenfield areas. General policies are provided; most of the implementation will be done by local municipalities.

Regional Structure policies set minimum density targets for strategic growth areas, provide direction for infill and intensification in built-up areas, density targets for designated greenfield areas, and contain policies for settlement area boundary expansions (as described later in this report).

Section 2.3 – Housing - Appendix 5

This Housing section includes a consultant report from CANCEA which sets out Niagara's needs for a greater supply of housing to address affordability (being the main component of core housing needs).

The Region currently has a core housing need at 13% of its population; primarily driven by a lack of affordable housing options within the community. This core housing need will remain at the same rate if the Region achieves its forecasted growth set out above. If the Region does not accommodate this forecasted growth, and grows at a slow rate, core housing need will be 19%. The Region needs to improve on its 13% core housing need; more housing is needed to do so.

Housing policies focus on providing a mix of housing and built form, incorporating more affordable housing options for low and moderate households and ensuring a full spectrum of housing options along the housing continuum. The provision of more affordable housing options is a needed to support the Region's economy.

Chapter 3 - Sustainable Region

Niagara must enhance the sustainability and resilience of its built and natural environment. Protection of the natural environment systems will assist in maintaining ecological health, conserving biodiversity and support recovery from changing conditions.

Section 3.1 - Natural Environment Section - Appendix 6

The NES is described in the above section 4, "Decision on Natural Environment System Option."

In order to meet the NOP conformity timelines, a decision on the NES Option must be made at this time.

Section 3.2 - Watershed Planning - Appendix 7

The Niagara Watershed Plan is informing the NOP. This work is ongoing on an iterative basis, which is the typical way that watershed planning informs land use planning.

This work includes:

- Informing what features and systems should be considered required components of the WRS;
- The integration of the NHS and WRS. It was the work of the NWP that confirmed the need to consider these systems collectively as the integrated NES.
- Providing criteria to support the settlement area boundary review portion of the NOP.

Section 3.5 - Climate Change – Appendix 8

The NOP will include policies to mitigate and adapt to climate change. This will be done throughout the NOP, including policies that support the achievement of resilient complete communities that are compact, walkable, and transit-supportive, implementing sustainable design principles, protecting agricultural lands, and water resources and natural areas.

Draft climate change policies are not yet included in this Appendix. They will be in the consolidated draft Official Plan following consultant prepared climate modeling and projections work set to conclude in the fall of 2021.

Although climate change will be addressed throughout the NOP, a specific section of the NOP will include policy supporting the development of a Regional Greening Initiative, among other things. This section will also identify future required studies such as vulnerability assessments.

CHAPTER 4 - Competitive Region

Plan and manage growth to position Niagara for economic prosperity.

Section 4.1 – Agriculture – Appendix 9

Niagara Region has an active and vibrant farming sector that must be protected and enhanced through the NOP.

Niagara has approximately 218,251 acres of farmland, which has a $1.41 billion impact on Gross Domestic Product. Agriculture in Niagara has an employment impact of approximately 19,892 jobs.

NOP agricultural policies will enable the agri-food sector to thrive and support agricultural uses, normal farm practices, and diversification of uses.

Section 4.2 - Employment - Appendix 10

The Region and local municipalities have different policy roles for managing employment.

The Region primarily addresses “Employment Areas”, a term used for clusters of generally more traditional industrial-type businesses. It’s critical that these areas are protected from sensitive uses over the long-term.

The Region has identified 34 draft employment areas. These were identified after considerable collaboration with local municipalities and stakeholders.

Employment policies identify and protect employment areas, establish density targets for those areas, assist with evaluation of any proposed conversion of employment areas or employment lands, and establish a process to identify and implement future employment areas.

Section 4.3 – Aggregates - Appendix 11

Protecting aggregate resources, and providing for extraction where appropriate, is important to Niagara’s economy.

Mineral aggregate resources, such as sand, gravel, stone, and shale, are located throughout Niagara Region. These resources are finite and must be protected from incompatible land uses or uses that would limit their extraction in the future. The extraction, processing, and transportation of mineral aggregate resources must take place in a manner that minimizes environmental and social impacts.

Chapter 5 - Connected Region

Provide connections within and between communities and outside the Region.

Section 5.1 – Transportation - Appendix 12

The Region must plan for a sustainable transportation system that appropriately accommodates forecasted population and employment growth.

The transportation policies are mostly carried-forward from the recently approved Regional Official Plan Amendment No. 13 that covered these matters.

The policies prioritize investments in public transit, the design and construction of complete streets at the regional and local levels, and the incorporation of active transportation infrastructure into the transportation system and new development.

Section 5.2 – Infrastructure - Appendix 13

Well planned and managed infrastructure is fundamental to attaining the Region's vision for thriving and resilient communities. Forecasted population and employment growth should be aligned with planned infrastructure to ensure that growth can be accommodated.

Infrastructure policies address the Region's existing and future infrastructure needs relating to drinking water, wastewater, waste, energy, and utility services. The planning and development of infrastructure must ensure capacity for growth, ensure financial sustainability and integrate climate change resiliency.

Chapter 6 - Vibrant Region

Elevate the livability and engaging qualities of communities, facilities and attractions.

Section 6.1 - District Plans and Secondary Plans - Appendix 14

District Plans and Secondary Plans provide a framework for proactive, coordinated and comprehensive growth management planning within defined areas.

District Plans are prepared by the Region to strategically direct a significant portion of population and employment growth to areas that have cross-jurisdictional interests and require regional level planning.

Secondary Plans follow a similar process, although they may, or may not, be used to help direct anticipated population and employment growth. Secondary plans will help to implement the regional structure at the local level, and will be required for strategic growth areas, newly designated greenfield areas and to implement district plan direction.

Section 6.2 - Urban Design - Appendix 15

Urban design assists the Region in achieving a high-quality built environment with buildings and streetscapes. By committing to excellence in urban design, the Region is taking a leadership role in guiding the design of the built environment towards attractive, safe, diverse, and functional communities.

Section 6.3 – Archaeology – Appendix 16

Cultural heritage resource conservation is an important priority and needs to be balanced with the forecasted growth to the Region.

The Region's Archaeological Management Plan will set out a more coordinated and consistent planning system in Niagara that accurately screens *Planning Act* applications for significant archaeological resources prior to development occurring.

Chapter 7 – Implementation

An update on this Chapter's policies will be provided at the next report, in August 2021. Policies will address Plan Interpretation, Performance Indicators and Monitoring, Roles, Coordination, Complete Applications, Phasing and Site Specific Policies.

Other Niagara Official Plan Items

The Niagara Official Plan will include Schedules (maps) that will compliment policies. For the purpose of this Report, draft schedules are included within the relevant Appendix.

Also included is a **Glossary of Terms** (Appendix 17).

Further, the Region has developed a “Settlement Area Boundary Review” (SABR) program. This is the process by which the Region will review and determine whether Settlement Areas should be adjusted, including expansions.

At this time, no recommendations are being made relating to SABR.

The Region has received a number of requests for consideration of both urban area and rural settlement boundary expansions. The Region has started its review of these requests and will continue to do so over the coming months.

Draft criteria have been prepared to guide this SABR process. The SABR criteria is included in Appendix 18. This Appendix includes criteria for urban area, rural settlement, and technical boundary reviews. These documents are draft for consideration. The SABR criteria is not intended to form part of the NOP; rather, it is intended to inform boundary recommendations as transparently as possible.

Local Municipal Conformity

The *Planning Act, 1990* sets out that local municipalities have one year after the NOP is approved by the Province to have their respective Official Plans conform with the NOP.

Each draft policy section in the draft NOP contains policies to help guide local municipal conformity.

The Region will continue to work with local municipalities to assist this local conformity and provide support through the process. The Region is the approval authority for local Official Plan conformity.

4. What is Happening Next

As noted, a decision on the NES Option is critical to allowing the entire NOP to move forward.

All other sections are provided for information and to receive feedback.

Assuming a decision is made on the NES Options at this Committee meeting, the following are the key future steps:

- Circulate all materials in this Report to local municipalities, agencies, stakeholders and the public (if not already complete prior to consideration of this Report).

- Prepare and distribute the next edition of Niagara Official Plan Newsletter to notify the approximately 390 subscribers of the materials in this Report.

- Notify all those who have attended consultation events and submitted previous comments of the materials in this Report.

  Those persons and groups noted in the above bullets can be directed to the Region's website dedicated to all information included in this Report, at: **Official Plan** (www.niagararegion.ca/official-plan/consolidated-policy-report.aspx)

- Continue the Region's regular meeting with Provincial staff. Critical to the NOP's success is the Province's support. The Ministry of Municipal Affairs and Housing is the approval authority for the whole of the NOP; therefore, those staff must be satisfied with the NOP. The draft land needs assessment will be of particular focus in the near term.

- **Staff ask that comments on the materials included in this Report be submitted by July 2, 2021.** This is important to allow staff sufficient time to review those submissions and report in August 2021.

- **The July 2, 2021 date is particularly important for those interested in commenting on the land needs assessment, settlement area boundary expansions, or employment conversions. The Region will report further on those matters in August 2021. Only those submissions received prior to**

July 2, 2021 will be considered for comment in the Region's August 2021 Report.

- Parties with requests for settlement area boundary expansions that cannot be considered due to explicit prohibits on expansion restrictions, such as those within the Protected Countryside of the *Greenbelt Plan*, will be notified of such.

- In June and/or July, the Region will hold a series of public consultation events to seek feedback on the materials included in this Report.

- Additional consultation events will be planned with stakeholder groups, including those involved in agricultural, environmental, development, and business. Also, input will be sought from the Region's Planning Advisory Committee.

- Focused consultation with indigenous groups will continue.

As noted above, the next major reporting on the NOP will be in August 2021.

Regional Planning staff will continue to finalize background studies, collect data and prepare/revise draft policies to complete a full consolidated draft NOP by the end of 2021.

The above date cannot be met if there is a delay in the NES Option selection. It will take considerable time to develop the policies and mapping after the Option is selected.

The NOP must be adopted by July 1, 2022 to meet the conformity deadline set by the Province.

Alternatives Reviewed
Several NES Options are outlined in this Report and Appendices. Staff recommend Option 3B, but are able to advance any of the Options as all meet the Provincial standards. It is important that a decision be made on an NES to provide the opportunity to complete the Official Plan for the end of the year.

The decision on an NES Option is an important step in the development of the NOP, to ensure it is compete and adopted in this term of Council.

No alternatives are offered for the balance of the material presented since it is presented for information only, without recommendations.

Relationship to Council Strategic Priorities
The Niagara Official Plan will support the following Strategic Priority Objectives:

Objective 1.1: Economic Growth and Development
- Enhance integration with local municipalities' economic development and planning departments to provide supports and improve interactions with businesses to expedite and navigate development processes.
- Forward thinking approach to economic development in Niagara through long term strategic planning and leveraging partnerships with post-secondary institutions.

Objective 1.4: Strategically Target Industry Sectors
- Define Niagara's role in tourism including areas such as sport, eco, agricultural and culture tourism.

Objective 2.3: Addressing Affordable Housing Needs
- Retain, protect and increase the supply of affordable housing stock to provide a broad range of housing to meet the needs of the community.

Objective 3.2: Environmental Sustainability and Stewardship
- A holistic and flexible approach to environmental stewardship and consideration of the natural environment, such as in infrastructure, planning and development, aligned with a renewed Official Plan
- Drive environmental protection and addressing climate change such as through increasing waste diversion rates and reducing our carbon footprint

Objective 3.3: Maintain Existing Infrastructure
- Sound asset management planning to ensure sustainable investments in the infrastructure needed to support existing residents and businesses, as well as future growth in Niagara.

Other Pertinent Reports
The NOP has many pertinent reports. Please see Consultation Events Appendix 1.

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This report was prepared in consultation with **all staff** in the Community and Long Range Planning divisions, and reviewed by Erik Acs, MCIP, RPP, Manager of Community Planning, Kirsten McCauley, MCIP, RPP, Acting Manager of Long Range Planning, and Isaiah Banach, Acting Director of Community and Long Range Planning.

Appendices:
***Located at: Official Plan**
(www.niagararegion.ca/official-plan/consolidated-policy-report.aspx**)**

Appendix 1	Consultation Events
Appendix 2	Draft Framework
Appendix 3.1	Growth Allocations and Land Needs Assessment Executive Overview
Appendix 3.2	Report: Draft Land Needs Assessment Summary
Appendix 3.3	Memorandum: Niagara Region Municipal Comprehensive Review – Growth Allocation Update to 2051 (Hemson Consulting)
Appendix 3.4*	Draft Growth Forecasting Policies
Appendix 4.1	Regional Structure Executive Overview
Appendix 4.2	Report: Regional Structure Policy Paper

Appendix 4.3*	Draft Regional Structure Policies
Appendix 4.4*	Draft Regional Structure Schedule
Appendix 5.1	Housing Executive Overview
Appendix 5.2	Memorandum: Housing Affordability and Growth Plan 2051 (CANCEA)
Appendix 5.3*	Draft Housing Policies
Appendix 6.1	NES Executive Overview
Appendix 6.2	Report: Status Update and Recommendations
Appendix 6.3	Memorandum: Preliminary Policy Intent for the Natural Environment System in the Region's Settlement Areas & Discussion on Implications
Appendix 7.1	Watershed Planning Executive Overview
Appendix 8.1	Climate Change Executive Overview
Appendix 8.2	Report: Climate Change Section Update
Appendix 9.1	Agriculture Executive Overview
Appendix 9.2*	Draft Agriculture Policies
Appendix 9.3*	Draft Agricultural Land Base Schedule
Appendix 10.1	Employment Executive Overview
Appendix 10.2*	Report: Employment Policy Paper
Appendix 10.3*	Draft Employment Policies
Appendix 10.4*	Draft Employment Areas Schedule
Appendix 11.1	Aggregates Executive Overview
Appendix 11.2*	Draft Mineral Aggregate Resources Policies

Appendix 11.3*	Draft Known Deposits of Mineral Aggregate Resources – Sand and Gravel Schedule
Appendix 11.4*	Draft Known Deposits of Mineral Aggregate Resources – Bedrock Schedule
Appendix 11.5*	Draft Mineral Aggregate Operations Schedule
Appendix 12.1	Transportation Executive Overview
Appendix 12.2*	Draft Transportation Policies
Appendix 12.3*	Draft Transportation Infrastructure Schedule
Appendix 12.4*	Draft Strategic Cycling Network Schedule
Appendix 13.1	Infrastructure Executive Overview
Appendix 13.2*	Draft Infrastructure Policies
Appendix 14.1	District and secondary Plans Executive Overview
Appendix 14.2*	Draft District and Secondary Plans Policies
Appendix 15.1	Urban Design Executive Overview
Appendix 15.2*	Draft Urban Design Policies
Appendix 16.1	Archaeology Executive Overview
Appendix 17	Glossary of Terms
Appendix 18.1	Settlement Area Boundary Revisions Executive Overview
Appendix 18.2	Criteria: MCR Urban Area Boundary Expansion Assessment Criteria
Appendix 18.3	Criteria: Rural Settlement Boundary Review Process
Appendix 18.4	Criteria: Boundary Technical Mapping Updates

CONSULTATION EVENTS

This Appendix outlines all consultation with the pubic, stakeholder groups and consultants. There is some overlap between the categories below, particularly as it relates to Natural Environment Work Program consultation.

Public Outreach

Public Information Centres

Date		Topics
1	**30-May-19**	Natural Environment – Public Information Centre (West Lincoln)
2	**6-Jun-19**	Natural Environment – Public Information Centre (Welland)
3	**6-Nov-19**	Niagara Official Plan Background Initiatives – Public Information Centre (Thorold)
4	**7-Nov-19**	Niagara Official Plan Background Initiatives – Public Information Centre (Niagara Falls)
5	**13-Nov-19**	Niagara Official Plan Background Initiatives – Public Information Centre (Grimsby)
6	**14-Nov-19**	Niagara Official Plan Background Initiatives – Public Information Centre (Fort Erie)
7	**23-Sep-20**	(Web PIC via Zoom) Natural environment • Natural heritage system (information and options)
8	**24-Sep-20**	(Web PIC via Zoom) Natural environment • Water resource system (Information and options) and watershed plan
9	**7-Oct-20**	(Web PIC via Zoom) Growth management • Regional structure, land needs, growth allocations, settlement area boundary review and housing
10	**8-Oct-20**	(Web PIC via Zoom) Employment Lands and Community Planning • District and secondary plans, urban design, employment lands
11	**20-Oct-20**	(Web PIC via Zoom) Agriculture, Aggregates and Archaeology • Rural and agriculture, mineral and aggregate resources, archaeology and culture
12	**21-Oct-20**	(Web PIC via Zoom) Transportation and Servicing • Infrastructure, water and wastewater, transportation

Public Outreach Surveys

Date		Topics
1	9-Jul-20	Employment Policy Paper Survey (MetroQuest and SurveyGizmo) 106 Responses
2	10-Sep-20	Growth Management Survey (MetroQuest and SurveyGizmo) 219 Responses
3	15-Dec-20	Official Plan - Pillars and Directives (MetroQuest and SurveyGizmo) 873 Responses

Local Council Presentations

Date		Municipality
1	22-May-18	Pelham
2	29-May-18	Wainfleet
3	4-Jun-18	Niagara-on-the-Lake
4	5-Jun-18	Thorold
5	12-Jun-18	Welland
6	18-Jun-18	Fort Erie
7	19-Jun-18	Niagara Falls
8	25-Jun-18	Port Colborne
9	9-Jul-18	Lincoln
10	23-Jul-18	West Lincoln
11	13-Aug-18	St. Catharines
12	11-Sep-18	Grimsby
13	15-Apr-19	St. Catharines
14	23-Apr-19	Fort Erie
15	6-May-19	Grimsby
16	7-May-19	Thorold
17	13-May-19	Niagara-on-the-Lake
18	14-May-19	Niagara Falls
19	27-May-19	Port Colborne
20	28-May-19	Wainfleet
21	3-Jun-19	Pelham
22	10-Jun-19	West Lincoln
23	11-Jun-19	Welland
24	17-Jun-19	Lincoln

Local OP Council Workshops

Date		Municipality
1	**22-Mar-21**	Niagara-on-the-Lake
2	**24-Mar-21**	Pelham
3	**24-Mar-21**	West Lincoln
4	**25-Mar-21**	Fort Erie
5	**25-Mar-21**	Welland
6	**26-Mar-21**	Grimsby
7	**26-Mar-21**	Port Colborne
8	**31-Mar-21**	Thorold
9	**31-Mar-21**	Wainfleet
10	**1-Apr-21**	Lincoln
11	**7-Apr-21**	Niagara Falls
12	**7-Apr-21**	St. Catharines

Local Municipal Planner Meetings

Date		Topics
1	**24-Jul-17**	• Municipal Comprehensive Review • Niagara Official Plan • Growth Plan – Employment Lands Strategy
2	**25-Aug-17**	• Provincial Policy • Greater Golden Horseshoe – Agricultural System and Natural Heritage System
3	**27-Oct-17**	• Niagara Official Plan Update – Employment Areas and Employment Lands Strategy
4	**17-Nov-17**	• Land Needs Methodology • Growth Plan – Agricultural Impact Assessment and Natural heritage System
5	**26-Jan-18**	• Land Needs Assessment • Process for Individual Urban Boundary Expansion Requests • Urban Structure • Employment Lands Strategy • Housing • Natural Environment • Aggregates • Agriculture • Climate Change

Date		Topics
6	**16-Mar-18**	• Natural Environment Framework • Agriculture Framework • Climate Change Framework • Watershed Planning • MNR Species at Risk
7	**22-Jun-18**	• Greenbelt Alternative Land Use Analysis • Urban Boundary Expansion Requests
8	**28-Sep-18**	• Niagara Official Plan – Open Houses • Secondary Plans • 2016 Census Population
9	**25-Jan-19**	• Regional Official Plan Amendment – Exemptions from Approval • Niagara Official Plan Update • Rural Lots
10	**22-Mar-19**	• Niagara Official Plan Consultation Strategy • Growth Plan Comments
11	**11-Jul-19**	• New Growth Plan – Employment Land Conversion and Urban Expansion Criteria
12	**26-Jul-19**	• Niagara Official Plan Update • Employment Land • Housing • Urban Strategy • Land Needs • Natural Environment • Agriculture • Aggregates • Climate Change
13	**27-Sep-19**	• Niagara Official Plan – Public Information Centres • Employment Land Strategy and Regional Official Plan Amendment 16 • Provincially Significant Employment Zones
14	**8-Oct-19**	Employment Strategy Municipal Workshop with Area Planners
15	**24-Jan-20**	• Niagara Official Plan – Update on Consultation • Employment Land Strategy and Regional Official Plan Amendment 16
16	**28-Aug-20**	Area Planners (All)

Local Area Municipal Consultations – General Official Plan - Growth Management and Natural Environment

Meetings with Local Municipal Planners

Date		Topics
1	**15-Sep-17**	Meetings with Local Planners: Planning Issues for new Niagara Official Plan (Niagara-on-the-Lake)
2	**28-Sep-17**	Meetings with Local Planners: Planning Issues for new Niagara Official Plan (Fort Erie)
3	**29-Sep-17**	Meetings with Local Planners: Planning Issues for new Niagara Official Plan (Niagara Falls)
4	**29-Sep-17**	Meetings with Local Planners: Planning Issues for new Niagara Official Plan (Thorold)
5	**12-Oct-17**	Meetings with Local Planners: Planning Issues for new Niagara Official Plan (Pelham)
6	**12-Oct-17**	Meetings with Local Planners: Planning Issues for new Niagara Official Plan (West Lincoln)
7	**16-Oct-17**	Meetings with Local Planners: Planning Issues for new Niagara Official Plan (Grimsby)
8	**16-Oct-17**	Meetings with Local Planners: Planning Issues for new Niagara Official Plan (Lincoln)
9	**17-Oct-17**	Meetings with Local Planners: Planning Issues for new Niagara Official Plan (Welland)
10	**29-Oct-17**	Meetings with Local Planners: Planning Issues for new Niagara Official Plan (St. Catharines)
11	**3-Nov-17**	Meetings with Local Planners: Planning Issues for new Niagara Official Plan (Wainfleet)
12	**1-Feb-18**	• Individual Meetings with Local Municipal Planners to discuss: o Key Issues Relative to Framing of Background Studies
13	**25-Mar-19**	Niagara Housing Data Consultation Sessions with Local Municipal Planners
14	**26-Mar-19**	Niagara Housing Data Consultation Sessions with Local Municipal Planners
15	**3-May-19**	Natural Environment Workshop with Development Community, Consultants, and Local Planning Staff
16	**6-Jun-19**	Housing Database/Market Analysis and Scenario Development Workshop with Area Planners and Local Municipal Staff
17	**8-Jul-19**	Town of Fort Erie
18	**16-Jul-19**	Town of Lincoln
19	**17-Jul-19**	Town of Pelham
20	**18-Jul-19**	City of Thorold
21	**23-Jul-19**	City of St. Catharines
22	**25-Jul-19**	Township of West Lincoln
23	**26-Jul-19**	City of Welland

	Date	Topics
24	**30-Jul-19**	Township of Wainfleet
25	**31-Jul-19**	Town of Grimsby
26	**13-Aug-19**	Town of Niagara-on-the-Lake
27	**15-Aug-19**	City of Port Colborne
28	**28-Aug-19**	City of Niagara Falls
29	**11-Sep-20**	City of Port Colborne
30	**14-Sep-20**	City of Niagara Falls
31	**15-Sep-20**	City of St. Catharines
32	**17-Sep-20**	Town of Fort Erie
33	**18-Sep-20**	Town of Lincoln
34	**21-Sep-20**	Township of Wainfleet
35	**22-Sep-20**	Township of West Lincoln
36	**23-Sep-20**	Town of Grimsby
37	**25-Sep-20**	Town of Pelham
38	**28-Sep-20**	City of Welland
39	**29-Sep-20**	City of Thorold
40	**1-Oct-20**	Town of Niagara-on-the-Lake
41	**6-Oct-20**	City of Niagara Falls
42	**6-Oct-20**	Town of Fort Erie
43	**8-Oct-20**	Township of West Lincoln
44	**9-Oct-20**	Town of Grimsby
45	**19-Oct-20**	Township of West Lincoln / Township of Wainfleet
46	**22-Oct-20**	Town of Fort Erie
47	**27-Oct-20**	City of Thorold
48	**3-Nov-20**	City of St. Catharines
49	**3-Nov-20**	Town of Fort Erie
50	**5-Nov-20**	City of Niagara Falls
51	**10-Nov-20**	Town of Fort Erie
52	**18-Feb-21**	City of Niagara Falls
53	**18-Feb-21**	Town of Fort Erie
54	**18-Feb-21**	Town of Grimsby
55	**18-Feb-21**	Town of Lincoln
56	**19-Feb-21**	City of St. Catharines
57	**19-Feb-21**	City of Welland
58	**19-Feb-21**	Town of Pelham
59	**19-Feb-21**	Township of West Lincoln
60	**22-Feb-21**	City of Port Colborne
61	**22-Feb-21**	City of Thorold
62	**22-Feb-21**	Town of Niagara-on-the-Lake
63	**22-Feb-21**	Township of Wainfleet

Stakeholder Sessions

Workshops/Sessions

	Date	Topics
1	15-Sep-17	Meeting with Greater Niagara Chamber of Commerce
2	16-May-19	Natural Environment Workshop with Agricultural Community
3	16-May-19	Natural Environment Workshop with Environmental Stakeholder Groups
4	10-Oct-19	Employment Strategy Industry Workshop with Industry Stakeholders
5	25-Feb-20	Employment Area Strategy Update and Q/A Session with Industry Stakeholders
6	27-Jun-18	• Meeting with Niagara Parks Commission Senior Staff to discuss: o Background Studies for Official Plan

Niagara Peninsula Conservation Authority Meetings

	Date	Topics
1	19-Oct-17	Meeting with Niagara Peninsula Conservation Authority
2	1-Feb-18	Meeting with NPCA Staff – Natural Environment Work Program
3	6-Jun-19	Meeting with NPCA Senior Staff – Natural Environment Work Program
4	13-Jun-19	Meeting with NPCA Technical Staff – Natural Environment Work Program
5	23-Jul-19	Meeting with NPCA Technical Staff – Natural Environment Work Program
6	18-Sep-19	Presentation to NPCA Board – Natural Environment Work Program

Meetings with Indigenous Groups

	Date	Topics
1	1-May-19	Haudenosaunee Development Institute – Niagara Official Plan
2	1-May-19	Six Nations Elected Council – Niagara Official Plan
3	7-May-19	Fort Erie Friendship Centre – Niagara Official Plan
4	29-May-19	Niagara Region Métis Council – Niagara Official Plan
5	5-Jun-19	Niagara Regional Native Centre – Niagara Official Plan
6	11-Jun-19	Mississauga of the Credit First Nation – Niagara Official Plan
7	21-Aug-19	Haudenosaunee Development Institute – Regional Archaeological Management Plan
8	21-Aug-19	Mississauga of the Credit First Nation – Regional Archaeological Management Plan

Date		Topics
9	**11-Dec-21**	Meeting with Mississauga of the Credit First Nations staff (Official Plan)

Planning and Economic Development Committee Meetings

Date		Topics
1	**November, 2016**	PDS 40-2016 Regional Official Plan Update
2	**December, 2017**	PDS 41-2017 New Official Plan Structure and Framework
3	**January, 2018**	PDS 6-2018 Natural Environment Project Initiation Report
4	**January, 2018**	PDS 7-2018 Agricultural Policy Initiation Report (incl. Presentation)
5	**February, 2018**	PDS 3-2018 New Official Plan Update
6	**April, 2018**	PDS 17-2018 Agricultural Framework
7	**April, 2018**	PDS 18-2018 Natural Environment – Project Framework
8	**May, 2018**	PDS 21-2018 Municipal Comprehensive Review Update: New Regional Official Plan & Growth Management Program
9	**May, 2018**	PDS 21-2018 Municipal Comprehensive Review Update: New Regional Official Plan & Growth Management Program
10	**May, 2018**	PDS 22-2018 Climate Change Framework
11	**February, 2019**	PDS 10-2019 Update on Natural Environment Work Program – New Regional Official Plan
12	**March, 2019**	PDS 9-2019 New Official Plan Consultation Timeline Framework
13	**July, 2019**	PDS 27-2019 Niagara Housing Statement Final Summary Report
14	**September, 2019**	PDS 33-2019 Growth Management Program Update for New Regional Official Plan
15	**October, 2019**	PDS 35-2019 Employment Policies Update: Project Initiation Report

	Date	Topics
16	**November, 2019**	PDS 32-2019 Natural Environment Work Program – Phases 2 & 3: Mapping and Watershed Planning Discussion Papers and Comprehensive Background Study
17	**January, 2020**	PDS 1-2020 New Niagara Official Plan – Public Consultation Summary
18	**February, 2020**	PDS 3-2020 Ecological Land Classification Mapping Update

	Date	Topics
19	**March, 2020**	PDS 9-2020 Niagara Official Plan – Consultation Details and Revised Framework
20	**March, 2020**	PDS 9-2020 Niagara Official Plan - Consultation Details and Revised Framework
21	**May, 2020**	PDS 14-2020 Employment Area Strategy - Background Report & Recommendations
22	**July, 2020**	PDS 21-2020 Updated Employment Work Program for the New Niagara Official Plan
23	**July, 2020**	PDS 26-2020 Natural Environment Work Program – Phase 4: Identification and Evaluation of Options”
24	**July, 2020**	PDS 26-2020 Natural Environment Work Program – Phase 4: Identification and Evaluation of Options
25	**September, 2020**	PDS 29-2020 Settlement Area Boundary Review Program: Growth Plan Forecasts and Land Needs Assessment Update
26	**September, 2020**	PDS 28-2020 Regional Structure Background Report
27	**October, 2020**	PDS-C 15-2020 Regional Official Plan Update
28	**December, 2020**	PDS 35-2020 Niagara Official Plan Consultation Update
29	**December, 2020**	PDS 33-2020 Ecological Land Classification Mapping Project
30	**December, 2020**	PDS 38-2020 Growth Management Survey Results
31	**January, 2021**	PDS 4-2021 Niagara Official Plan - Steps and Directions Moving Forward

Date		Topics
32	**January, 2021**	PDS 6-2021 Climate Change Work Program Update
33	**February, 2021**	PDS 1-2021 Natural Environment Work Program – 2nd Point of Engagement
34	**February, 2021**	PDS 7-2021 Niagara Official Plan Process and Local Municipality Conformity

Planning Advisory Committee Meetings

Date		Topics
1	**12-Sep-18**	• Welcome and Introductions • Planning Areas of Responsibility • Planning Advisory Committee – Points of Interest • Official Plan Framework and Document Structure • Official Plan Themes – Key Priority Background Studies • Urban Structure
2	**14-Nov-18**	• Provincial Workshop Overview • Natural Environment • Urban Structure • Secondary Plans – Content and Performance Measures
3	**20-Mar-19**	• Provincial Planning Policy Restructuring • Update on Employment Lands Strategy • Performance Measures/Urban Structure and Secondary Plans
4	**14-Aug-19**	• Housing Strategy • Draft Vision and Directives
5	**23-Oct-19**	• Archaeological Management Plan • Employment Lands Strategy • Vision and Directives • Proposed Provincial Policy Changes
6	**15-Jan-20**	• Climate Change • Official Plan Consultation Feedback
7	**16-Sep-20**	Updates on Growth Management and Natural Heritage & Water systems background work.

Natural Environment Work Program

Date		Topics
1	**20-Feb-19**	Presentation to Planning and Economic Development Committee (PDS 10-2019)
2	**22-Feb-19**	Presentation to the Agricultural Policy and Action Committee (APAC)

Date		Topics
3	**22-Feb-19**	Technical Advisory Group (TAG) Meeting
4	**23-Apr-19**	Presentation to Fort Erie Council
5	**1-May-19**	Meeting with Haudenosaunee Confederacy Chiefs Council
6	**1-May-19**	Meeting with Six Nations Elected Council Staff
7	**3-May-19**	Workshop – Development Community, Consultants, and Local Planning Staff
8	**6-May-19**	Presentation to Grimsby Council
9	**7-May-19**	Meeting with Fort Erie Friendship Centre Staff
10	**7-May-19**	Presentation to Thorold Council
11	**13-May-19**	Presentation to Niagara-on-the-Lake Council
12	**14-May-19**	Presentation to Niagara Falls Council
13	**16-May-19**	Workshop – Agricultural Community
14	**16-May-19**	Workshop – Environmental Stakeholder Groups
15	**22-May-19**	Workshop – Planning Advisory Committee (PAC)
16	**27-May-19**	Presentation to Port Colborne Council
17	**28-May-19**	Presentation to Wainfleet Council
18	**29-May-19**	Meeting with Niagara Region Metis Council
19	**30-May-19**	Public Information Centre – West Lincoln
20	**3-Jun-19**	Presentation to Pelham Council
21	**5-Jun-19**	Meeting with Niagara Region Native Centre Staff
22	**6-Jun-19**	Meeting with NPCA Senior Staff
23	**6-Jun-19**	Public Information Centre - Welland
24	**10-Jun-19**	Information Package to St. Catharines Council
25	**10-Jun-19**	Presentation to West Lincoln Council
26	**11-Jun-19**	Meeting with Mississauga-of-the-Credit Staff
27	**11-Jun-19**	Presentation to Welland Council
28	**13-Jun-19**	Meeting with NPCA Technical Staff
29	**17-Jun-19**	Presentation to Lincoln Council
30	**23-Jul-19**	Meeting with NPCA Technical Staff
31	**18-Sep-19**	Presentation to NPCA Board
32	**15-Jul-20**	Presentation to Planning and Economic Development Committee (PEDC) (PDS 26-2020)
33	**28-Aug-20**	Introduction Presentation to Area Planners
34	**11-Sep-20**	Meeting with Port Colborne Planning Staff
35	**14-Sep-20**	Meeting with Niagara Falls Planning Staff
36	**15-Sep-20**	Meeting with St. Catharines Planning Staff
37	**16-Sep-20**	Presentation to Niagara Escarpment Commission (NEC) Staff
38	**16-Sep-20**	Presentation to Planning Advisory Committee (PAC)
39	**16-Sep-20**	Presentation to Provincial Planning Staff (MMAH, MNRF, & MECP)
40	**17-Sep-20**	Presentation to Niagara Peninsula Conservation Authority (NPCA) Board

Date		Topics
41	**18-Sep-20**	Meeting with Lincoln Planning Staff
42	**18-Sep-20**	Stakeholder Workshop – Development Community & Planning and Ecological Consultants
43	**21-Sep-20**	Meeting with Fort Erie Planning Staff
44	**21-Sep-20**	Meeting with Wainfleet Planning Staff
45	**21-Sep-20**	Stakeholder Workshop – Agricultural Community
46	**22-Sep-20**	Meeting with West Lincoln Planning Staff
47	**22-Sep-20**	Stakeholder Workshop – Environmental Stakeholder Groups
48	**23-Sep-20**	Meeting with Grimsby Planning Staff
49	**23-Sep-20**	Virtual Public Information Centre 1 (Natural Heritage System)
50	**24-Sep-20**	Presentation to NPCA Public Advisory Committee
51	**24-Sep-20**	Virtual Public Information Centre 2 (Water Resource System and Watershed Planning)
52	**25-Sep-20**	Meeting with Pelham Planning Staff
53	**25-Sep-20**	Presentation to the Agricultural Policy and Action Committee (APAC)
54	**28-Sep-20**	Meeting with Welland Planning Staff
55	**29-Sep-20**	Meeting with Thorold Planning Staff
56	**29-Sep-20**	Presentation to Niagara Parks Commission (NPC) Staff
57	**29-Sep-20**	Presentation to NPCA Staff
58	**30-Sep-20**	Participate in Trout's Unlimited 12 Mile Creek Subwatershed Study Meeting
59	**1-Oct-20**	Meeting with Niagara-on-the-Lake Planning Staff
60	**19-Nov-20**	Presentation to Team Niagara
61	**11-Dec-20**	Meeting with Mississauga of the Credit First Nation Staff

NIAGARA OFFICIAL PLAN – DRAFT FRAMEWORK

The following is the draft framework for the Niagara Official Plan ("NOP").

This framework sets out the type of materials in the NOP, what is provided in this Report, and where to find it.

All information is available on the Region's website at the following link: NOP Website (https://www.niagararegion.ca/official-plan/consolidated-policy-report.aspx). Some material is also included with the May 12, 2021 Planning and Economic Development agenda (not all, due to size limitations).

Chapter / Section - Key Points	What is Provided in this Report	Appendix	Where to find it
1. INTRODUCTION - MAKING OUR MARK			
1.1 Niagara Context • Planning context • Challenges and opportunities • Two Tier Organization	For incorporation in next OP draft		N/A
1.2 Niagara's Strategy for the Future • Vision and key directions	For incorporation in next OP draft		N/A
1.3 How to use the Niagara Official Plan • Legislative basis • Format • Provincial Plans • Status of Comment boxes, Appendices, Guidance documents	For incorporation in next OP draft		N/A

Chapter / Section - Key Points	What is Provided in this Report	Appendix	Where to find it
2. GROWING REGION			
2.1 Growth Allocation and Land Needs • Coordinate Regional population and employment growth forecasts • Provide direction for municipalities to implement forecasts • Ensure a sufficient supply of developable land is available within municipalities	Executive Overview Report: Draft Land Needs Assessment Summary Memorandum: Niagara Region Municipal Comprehensive Review – Growth Allocation Update to 2051(Hemson Consulting) Draft Forecasted Growth Policies	**Appendix 3.1** **Appendix 3.2** **Appendix 3.3** **Appendix 3.4**	Included in this Report & NOP Website Included in this Report & NOP Website Included in this Report & NOP Website NOP Website
2.2 Regional Structure • Accommodate growth in settlement areas through intensification rates and density targets • Manage growth by directing a significant portion to Strategic Growth Areas • Plan for the orderly implementation of infrastructure and land use patterns	Executive Overview Report: Regional Structure Policy Paper Draft Regional Structure Policies Draft Regional Structure Schedule	**Appendix 4.1** **Appendix 4.2** **Appendix 4.3** **Appendix 4.4**	Included in this Report & NOP Website Included in this Report & NOP Website NOP Website NOP Website

Chapter / Section - Key Points	What is Provided in this Report	Appendix	Where to find it
2.3 Housing • Provide for a mix of housing options, including affordable options for low and moderate income households • Coordinate with the Region's Housing and Homelessness Action Plan • Establish an affordable housing target	Executive Overview Memorandum: Housing Affordability and Growth Plan 2051 (CANCEA) Draft Housing Policies	**Appendix 5.1** **Appendix 5.2** **Appendix 5.3**	Included in this Report & NOP Website Included in this Report & NOP Website NOP Website
3. SUSTAINABLE REGION			
3.1 Natural Environment System • Identify a regional-scale natural heritage and water resource system • Determine appropriate goals, objectives, and targets	Executive Overview Report: Status Update and Recommendations Memorandum: Preliminary Policy Intent for the Natural Environment System in the Region's Settlement Areas & Discussion on Implications	**Appendix 6.1** **Appendix 6.2** **Appendix 6.3**	Included in this Report & NOP Website Included in this Report & NOP Website Included in this Report & NOP Website
3.2 Watershed Planning • Ensure the NOP and other land-use planning is appropriately informed by watershed planning in accordance with Provincial direction • Provide a framework and policies for subsequent watershed planning in the Region	Executive Overview	**Appendix 7.1**	Included in this Report & NOP Website

Chapter / Section - Key Points	What is Provided in this Report	Appendix	Where to find it
3.3 Source Water Protection • Protect existing and future sources of drinking water	For incorporation in next OP draft		N/A
3.4 Stewardship • Greening initiative link • Partnerships • Rehabilitation	For incorporation in next OP draft		N/A
3.5 Climate change • Principles to address climate change • Climate modeling and projections, vulnerability assessments, adaptation strategies • Regional Greening Initiative	Executive Overview Report: Climate Change Section Update	**Appendix 8.1** **Appendix 8.2**	Included in this Report & NOP Website Included in this Report & NOP Website
3.6 Niagara Escarpment Plan • Direction from the Niagara Escarpment Plan	For incorporation in next OP draft		N/A
3.7 Excess Soils • Municipal excess soil reuse strategies • Excess soil reuse best practices	For incorporation in next OP draft		N/A

Chapter / Section - Key Points	What is Provided in this Report	Appendix	Where to find it
4. COMPETITIVE REGION			
4.1 Agriculture • Maintain and enhance the geographic continuity of the agricultural land base and connections to the Agri-food network • Protect the agricultural land base • Promote a full range of agricultural & value added uses • Requirements for Agricultural Impact Assessments (AIA)	Executive Overview Draft Agriculture Policies Draft Agricultural Land Base Schedule	**Appendix 9.1** **Appendix 9.2** **Appendix 9.3**	Included in this Report & NOP Website NOP Website NOP Website
4.2 Employment Areas • Identify and plan for Employment Areas • Further protect Employment Areas against conversions and sensitive land use encroachment • Identify opportunities for strategic investments, future employment areas and Provincially Significant Employment Zones	Executive Overview Report: Employment Policy Paper Draft Employment Policies Draft Employment Areas Schedule	**Appendix 10.1** **Appendix 10.2** **Appendix 10.3** **Appendix 10.4**	Included in this Report & NOP Website Included in this Report & NOP Website NOP Website NOP Website

Chapter / Section - Key Points	What is Provided in this Report	Appendix	Where to find it
4.3 Aggregates • Protect mineral aggregate resources and existing mineral aggregate operations • Provide for efficient, compatible extraction of mineral aggregate resources with minimal impacts	Executive Overview Draft Mineral Aggregate Resources Policies Draft Known Deposits of Mineral Aggregate Resources – Sand and Gravel Schedule Draft Known Deposits of Mineral Aggregate Resources – Bedrock Schedule Draft Mineral Aggregate Operations Schedule	**Appendix 11.1** **Appendix 11.2** **Appendix 11.3** **Appendix 11.4** **Appendix 11.5**	Included in this Report & NOP Website NOP Website NOP Website NOP Website NOP Website
4.4 Economic Prosperity • Sustainable tourism development • Partnerships with higher education institutions • Diversified rural economy	For incorporation in next OP draft		N/A
5. CONNECTED REGION			

Chapter / Section - Key Points	What is Provided in this Report	Appendix	Where to find it
5.1 Transportation • Support the needs and safety of all road users through a complete streets approach • Prioritize investments in public transit and active transportation infrastructure • Support goods movement facilities and transportation corridors	Executive Overview Draft Transportation Policies Draft Transportation Infrastructure Schedule Draft Strategic Cycling Network Schedule	**Appendix 12.1** **Appendix 12.2** **Appendix 12.3** **Appendix 12.4**	Included in this Report & NOP Website NOP Website NOP Website NOP Website
5.2 Infrastructure • Co-ordinate land use and infrastructure planning • Ensure servicing capacity for growth. • Ensure servicing is financially sustainable and assists in addressing a changing climate. • Integrated waste management	Executive Overview Draft Infrastructure Policies	**Appendix 13.1** **Appendix 13.2**	Included in this Report & NOP Website NOP Website
5.3 Public Spaces, Recreation, Parks, Trails, and Open Space • Publicly accessible and connected systems, within settlement area	For incorporation in next OP draft		N/A

Chapter / Section - Key Points	What is Provided in this Report	Appendix	Where to find it
6. VIBRANT REGION			
6.1 District and Secondary Planning • Prepare District Plans to guide urban growth in regionally significant areas • Prepare Secondary Plans to implement regional and local planning priorities	Executive Overview Draft District and Secondary Plans Policies	**Appendix 14.1** **Appendix 14.2**	Included in this Report & NOP Website NOP Website
6.2 Urban Design • Urban design direction for more attractive, safe, diverse, and functional communities • Regional interest • Urban/rural transition (edge planning)	Executive Overview Draft Urban Design Policies	**Appendix 15.1** **Appendix 15.2**	Included in this Report & NOP Website NOP Website
6.3 Archaeology • Archaeological screening criteria	Executive Overview	**Appendix 16.1**	Included in this Report & NOP Website
6.4 Cultural Heritage • Cultural heritage conservation • Built heritage and Cultural Heritage Landscapes • Cultural heritage districts	For incorporation in next OP draft		N/A
7. IMPLEMENTATION			
7.1 Plan Interpretation • **How to read the Plan**	For incorporation in next OP draft		N/A

Chapter / Section - Key Points	What is Provided in this Report	Appendix	Where to find it
7.2 Region and Local Roles • Coordination • Exemptions • Memorandum of Understandings • Guidance documents	For incorporation in next OP draft		N/A
7.3 Performance Indicators and Monitoring • Monitor intensification and density targets • Land developed • Natural environment mapping updates • AMP potential mapping updates	For incorporation in next OP draft		N/A
7.4 Phasing • Local municipalities phasing growth • Excess lands	For incorporation in next OP draft		N/A
7.5 Health Impact Assessment • Criteria - Secondary Plans	For incorporation in next OP draft		N/A
7.6 Asset Management Plan • Infrastructure planning	For incorporation in next OP draft		N/A
7.7 Complete Applications • Studies required	For incorporation in next OP draft		N/A
7.8 Review / Updates / Amendments to OP • List of Amendments	For incorporation in next OP draft		N/A

Chapter / Section - Key Points	What is Provided in this Report	Appendix	Where to find it
7.9 Consultation and engagement • Public consultation • Consulting with other governments • Engaging local municipalities • Engaging Indigenous groups	For incorporation in next OP draft		N/A
8. SITE SPECIFIC POLICIES			
8.1 Site Specific Policies • Policies to address site specific developments (carried over from existing OP)	For incorporation in next OP draft		N/A
9. DEFINITIONS			
9.1 Glossary of Terms	Glossary of Terms	**Appendix 17**	Included in this Report
SCHEDULES/MAPS			
• Schedule A - Local Municipalities	Incorporation in next OP draft		
• Schedule B - Regional Structure	Included in this Report	**Appendix 4.4**	NOP Website
• Schedule C1 - Natural Environment System - TBD	Incorporation in next OP draft		
• Schedule C2 - Natural Environment System - TBD	Incorporation in next OP draft		
• Schedule D - Source Water Protection	Incorporation in next OP draft		
• Schedule E - Agricultural Land Base	Included in this Report	**Appendix 9.3**	NOP Website
• Schedule F - Employment Areas	Included in this Report	**Appendix 10.3**	NOP Website

Chapter / Section - Key Points	What is Provided in this Report	Appendix	Where to find it
• Schedule G1 - Known Deposits of Mineral Aggregate Resources – Sand and Gravel	Included in this Report	**Appendix 11.3**	NOP Website
• Schedule G2 - Known Deposits of Mineral Aggregate Resources – Bedrock	Included in this Report	**Appendix 11.4**	NOP Website
• Schedule G3 - Mineral Aggregate Operations in the Region	Included in this Report	**Appendix 11.5**	NOP Website
• Schedule H - Mineral and Petroleum Resources Areas - TBD	Incorporation in next OP draft		
• Schedule I1 - Transportation Infrastructure	Included in this Report	**Appendix 12.3**	NOP Website
• Schedule I2 - Strategic Cycling Network	Included in this Report	**Appendix 12.4**	NOP Website
• Schedule J - Areas of Archaeological Potential - TBD	Incorporation in next OP draft		
APPENDICES			
1. Settlement Area Boundary Review	Executive Overview	**Appendix 18.1**	Included in this Report & NOP Website
	Criteria: MCR Urban Area Boundary Expansion Assessment Criteria	**Appendix 18.2**	Included in this Report & NOP Website
	Criteria: Rural Settlement Boundary Review Process	**Appendix 18.3**	Included in this Report & NOP Website

Chapter / Section - Key Points	What is Provided in this Report	Appendix	Where to find it
	Criteria: Boundary Technical Mapping Updates	**Appendix 18.4**	Included in this Report & NOP Website

EXECUTIVE OVERVIEW

Chapter 2 - Section 1. GROWTH ALLOCATION AND LAND NEEDS

SUMMARY

The Province assigned Niagara Region a minimum population and job forecast to 2051. The Region must plan to this minimum: 674,000 people and 272,000 jobs to 2051.

Staff's recommendations and Council's decisions must conform to the Provincial *Growth Plan* that sets out this minimum population and job forecast.

To do this, the Region is required to allocate population and job (employment) growth to its local municipalities and undertake a Land Needs Assessment ("LNA"), in conformance with a provincial methodology.

The LNA is a technical, Region-led process, which determines the amount of Community Area (mostly, where people live, work and shop) and Employment Area (mostly, where traditional-type businesses are located) that is needed to accommodate the growth forecasts within municipalities and the overall Region.

The following summarizes the growth Allocations and LNA:

- Niagara Region must plan for a minimum population of 674,000 people and 272,000 jobs to 2051.

- The Province makes the decision on the Region's LNA. They will assess the overall growth across Niagara, not just what may be needed in individual municipalities, to determine whether or not to approve.

- Balancing interests is important in creating the LNA. This includes inputs from other strategies set out in this Report. For example:

    - The Regional Structure, **Appendix 4.3**, sets out Regional Intensification Rate of 56%, above the minimum Provincial *Growth Plan* target of 50%. This is important to support affordable housing, reduce overall Community Area land need, greater preservation of agricultural lands, and helps climate change mitigation. Changes to the Regional Intensification Rate will directly impact the Region's ability to support market-based housing demand.

    - The Housing Report, **Appendix 5.2**, sets out that that the Region's core housing need (including, affordability) will get worse if we continue growth at the existing level. Growing at the minimum rates set out the Provincial *Growth Plan* will keep core housing need level at about 13%. To reduce core housing need, even more housing is needed.

    - The Employment Strategy, **Appendix 10.2**, sets out existing and planned densities for Employment Areas. This is used in calculating Employment

Area need for the LNA, and helps ensure a consistent location and supply of Employment Area lands.

- The LNA requires a Market-Based Demand assessment. Such an assessment suggests lower-density housing demand remains significant in municipalities outside of the *Greenbelt Plan* area.

- The draft LNA sets out that Niagara Region requires approximately 460 ha of Community Area land and has a slight oversupply of 20 ha of Employment Area to accommodate 2051 growth. As previously noted, the Province considers these overall numbers rather than municipal-specific numbers.

- When reviewing individual municipalities, Fort Erie, Niagara Falls and West Lincoln suggests they have a need for additional Community Area lands to accommodate population growth to 2051. Pelham has a small need of Community Area land.

- The LNA suggests Fort Erie and West Lincoln have a need for additional Employment Area land to accommodate employment growth to 2051.

- In January 2021, Regional Council approved Welland's urban boundary expansion of approximately 95 Ha – no additional land is required in Welland.

- Grimsby, Lincoln, St. Catharines and Niagara-on-the-Lake have an appropriate supply of Community and Employment Area lands to accommodate 2051 forecasts. Wainfleet is entirely rural lands, which has assigned growth, but not in the Community and Employment Area lands categories.

- The LNA information provided here is for review and discussion. Comments are sought by **July 2, 2021**. After receiving feedback, a recommended LNA will advanced for Regional Council consideration in August 2021.

- After receiving direction on the LNA, recommendations to settlement area boundaries will be made. A discussion of the Settlement Area Boundary Review (SABR) process is set out in **Appendix 18.1**.

- The LNA itself does not propose policy direction nor does it provide a range of options; it is simply the calculated land required for growth to 2051 based on inputs identified in associated strategies.

- Included in this Appendix are the following:

- LNA Executive Overview (This document, **Appendix 3.1**)
- Land Needs Assessment Summary Document (**Appendix 3.2**). This document has details about the draft 2051 LNA calculation and results.
- Memo from Hemson Consulting Ltd. "Niagara Region Municipal Comprehensive Review – Growth Allocation Update to 2051" (**Appendix 3.3**). Hemson provided the Region with background information and recommendations that formed the input to this LNA.
- Draft Forecasted Growth policies (**Appendix 3.4**).

A Draft Policy set and supporting information is provided with this sub-section document.

Integration Guide for Sub-sections Reported in PDS 17-2021			
☑	Regional Structure	☐	Archaeology
☑	Housing	☑	Employment
☑	Land Needs	☐	Agriculture
☑	SABR	☐	Aggregates
☑	Transportation	☑	Natural Heritage incl.
☑	Infrastructure	☐	Water Systems Options
☑	District/Secondary Plans	☑	Watershed Planning
☐	Urban Design	☑	Climate Change

OVERVIEW

The Region of Niagara must plan to accommodate a minimum population of 674,000 people and 264,000 jobs to 2051 as identified in the *Growth Plan* Schedule 3. This growth must be proactively planned to help achieve it in a fiscally and environmentally sustainable manner.

The *Provincial Policy Statement, 2020* ("PPS") and *Growth Plan* provide direction to municipalities on how to plan for, accommodate and manage growth. The *PPS* directs municipalities to accommodate an appropriate range and mix of land uses to meet long-term needs and ensure sufficient land is made available to meet projected needs for a time horizon consistent with the *Growth Plan*.

An updated Provincial LNA methodology ("LNAM") was released in August 2020. The LNAM introduced new requirements to ensure land need is analyzed in terms of total housing, as well as housing by type, so that a "market-based supply of housing" is

provided to the extent possible when determining lands required to accommodate growth.

Market demand consideration is a requirement for planning to *Growth Plan* targets.

The Region is solely responsible for allocating population and employment growth to local municipalities. The Region does so through a LNA to identify the land required to accommodate minimum 2051 forecasts assigned by the Province.

Growth Forecasts and Municipal Allocations

The Region has been working on the growth allocations and LNA for a number of years. Initial forecasts were based on a planning horizon of 2041. In August 2020, the Province released an amended *Growth Plan* which extended the planning horizon from 2041 to 2051. Significant consultation has been ongoing with municipalities, stakeholders and the public since the release of the amended *Growth Plan.*

Hemson Consulting, the Region's consultants on land need matters, provided the Region with updated municipal-level forecasts based on inputs from consultation and associated Official Plan background strategies, including Watershed Planning, the Natural Environment Strategy, Employment Strategy and Regional Structure Strategy.

A copy of the Hemson Consulting memo that addresses municipal-level forecasts (and several other matters later discussed) is attached as **Appendix 3.3**.

Table 1 provides an overview of municipal allocations to 2051 as set out by Hemson Consulting.

Table 1: Municipal Population, Household and Employment Forecasts (2021 and 2051)

Municipal Growth Allocations: 2021 and 2051						
Municipality	**Population**		**Households**		**Employment**	
	2021	**2051**	**2021**	**2051**	**2021**	**2051**
Fort Erie	33,930	48,050	14,150	21,510	10,530	17,430
Grimsby	30,300	37,000	11,470	16,070	10,690	14,670
Lincoln	26,860	35,660	9,590	14,190	11,390	15,960
Niagara Falls	97,220	141,650	38,520	58,740	37,780	58,110
Niagara-on-the-Lake	19,970	28,900	7,910	12,500	11,800	16,960
Pelham	19,320	28,830	7,150	11,280	4,810	7,140
Port Colborne	19,250	23,230	8,210	10,500	5,910	7,550
St. Catharines	140,250	171,890	58,550	78,320	61,780	81,010
Thorold	24,440	39,690	9,230	15,660	8,530	12,080
Wainfleet	7,000	7,730	2,580	3,040	1,400	1,830
Welland	56,210	73,000	23,610	32,340	18,030	28,790
West Lincoln	16,370	38,370	5,330	14,060	4,460	10,480
Niagara Region	**491,120**	**674,000**	**196,300**	**288,200**	**187,110**	**272,000**

Source: Niagara Region Municipal Comprehensive Review – Growth Allocation Update to 2051 (Hemson Consulting, 2021). **Appendix 3.3**.

Preliminary Land Needs Assessment Summary

The LNA sets out a plan for managing growth by calculating the overall Community Area and Employment Area land needs associated with *Growth Plan* forecasts.

Community Area is defined as the Urban Area, minus Employment Areas, and is made up of both the Built-Up Area (as defined and mapped by the Province in 2006) and the Designated Greenfield Area.

Employment Area is defined as a cluster of business and economic activities including, but limited to, manufacturing, warehousing, offices, and associated retail and ancillary facilities.

The LNA requires household and employment forecasts be categorized by housing and employment type prior to allocating forecasts to the Community and Employment Areas.

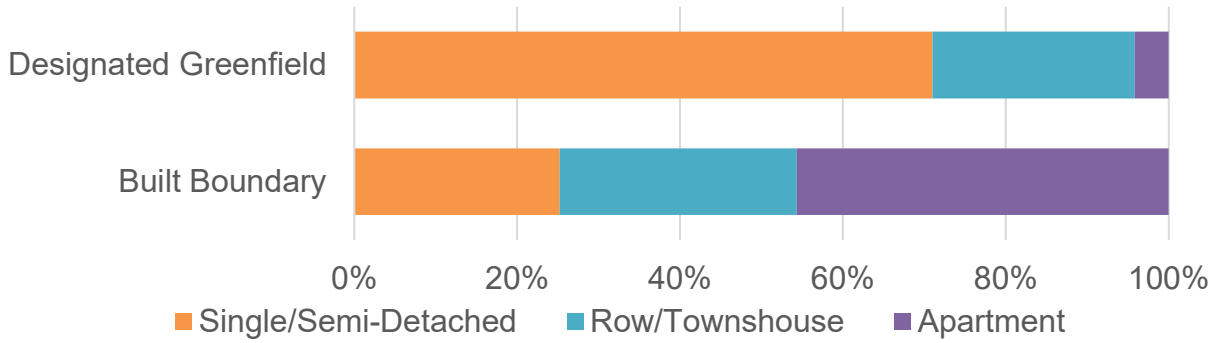
The starting point to look at housing by type is from a market-based demand forecast. Hemson did so in their work, and concluded a mix of 23% apartment units and 77% ground-related units. Further details is provided in **Appendix 3.3**.

This overall housing by type mix is allocated across the Community Area to the Delineated built-up area ("BUA") and Designated greenfield area ("DGA") based on municipal Intensification Rates identified within the Regional Structure Strategy. Those terms are further explained in the Regional Structure Policies (**Appendix 4.3**).

The BUA has a greater concentration of higher density and more affordable housing types; the DGA has a greater share of lower density housing types.

Figure 1 identifies the share of housing units within the Community Area geographies.

Figure 1: Share of Housing Unit Types within Delineated Built-Up Area and Designated Greenfield Area

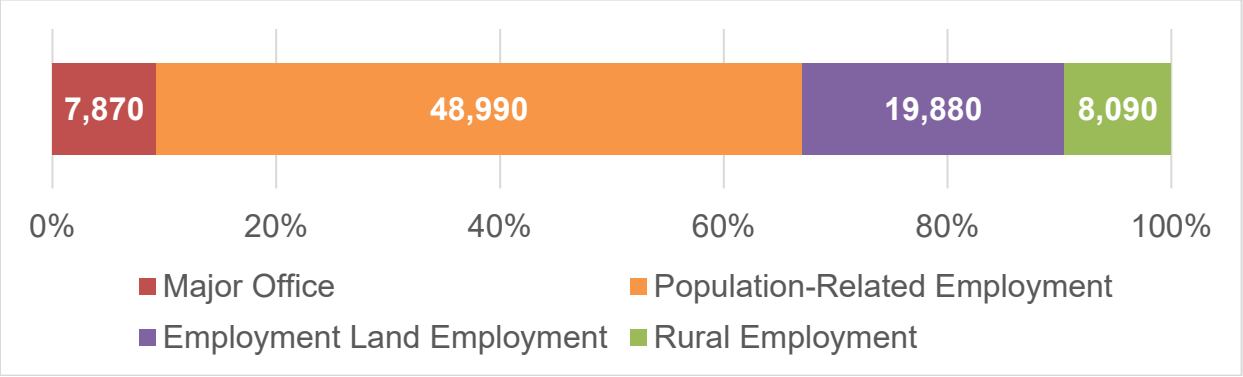


Hemson Consulting, Niagara Region Municipal Comprehensive Review – Growth Allocation Update to 2051, Tables 13 and 15.

Employment growth is factored into both the Community and Employment Areas based on employment type. The *Growth Plan* provides a preliminary breakdown of employment by type. That data was further refined by Hemson Consulting from data provided by the Region from the Niagara Region Employment Inventory.

Figure 2 provides a breakdown of employment growth by type.

Figure 2: Growth Plan Employment Forecasts by Employment Type



Source: Hemson Consulting, Niagara Region Municipal Comprehensive Review – Growth Allocation Update to 2051, Tables 22-25.

The majority of Population-Related employment and half of Major Office employment jobs are allocated to the Community Area. The majority of Employment Land Employment, remainder of Major Office employment and a small portion of Population-Related employment are allocated to the Employment Area.

The remaining rural households and employment are directed to the Rural area. The Provincial LNAM does not provide detail on calculating need for additional Rural Settlement Area lands and, therefore, are not a component of the draft Land Needs Assessment. Additional consultation is underway with West Lincoln and Wainfleet to ensure Rural Settlement Areas also have a sufficient supply of developable land to support growth to 2051.

Table 2 provides the draft Community and Employment Area Land Needs. This is further detailed in the Land Needs Assessment Summary Document (**Appendix 3.2**).

Table 2: Draft Community and Employment Area Land Needs Assessments

Draft Land Needs Assessment Summary		
Municipality	**New Community Area Land Need (ha)**	**New Employment Area Land Need (ha)**
Fort Erie	105	130
Grimsby	5	0
Lincoln	0	15
Niagara Falls	260	(35)
Niagara-on-the-Lake	0	(25)
Pelham	40	0
Port Colborne	(175)	(120)
St. Catharines	15	30
Thorold	(160)	(55)
Wainfleet	0	0
Welland	0	(10)
West Lincoln	370	50
Niagara Region	**460**	**(20)**

Although Table 2 shows Community Area and Employment Area land needs as two separate assessments, the Province requires one overall land need number Region-wide. The final LNA will present local municipal needs, but ensure an overall Region-wide supply to meet the 2051 forecasts.

Relationship between LNA and Other Official Plan Strategies in this Report

The **Regional Structure** (**Appendix 4.3**) proposes an overall Intensification Rate of 56%, which is above the *Growth Plan* minimum of 50%. This allows for a housing mix that conforms to market-based demand. The higher intensification rate provides a stronger focus on higher density units, reduced Community Area land need, a greater preservation of agricultural lands, and assists with climate change mitigation.

Significant changes to municipal allocations or Intensification Rates will directly impact the housing by type mix as currently identified. This may impact the Region's ability to support a market-based supply of housing.

The Region is responsible for identifying Employment Areas. The **Employment Strategy** (**Appendix 10.2**) provides direction to the LNA on the Region's Employment Areas including proposed density targets, land supply and characteristics of the area.

Since Employment Areas are discounted from Community Area land needs, there is a direct relationship between the two assessments.

If an Employment Area boundary is changed, it will directly impact the Community Area land need. If the Employment Area is within the BUA, the result may be an increase to the Intensification Rate. If the Employment Area is within the DGA, the result would be a decrease in Community Area land needs.

Finally, developable land supply is a core component of both the Community Area and Employment Area calculations. Developable supply removes natural heritage features and will be based on the Natural Environment System (NES). Generally, there is little impact on the LNA results between the NES Options under consideration.

Consultation

The draft LNA was prepared over many years with significant input from local municipal planners, public feedback and direction from our consultant, Hemson (refer to the Public Consultation and Engagement section in **Appendix 3.2** for more information).

Most recently, the Region reported on land needs in September 2020, in PDS 29-2020: Settlement Area Boundary Review Program: Growth Plan Forecasts and Land Needs Assessment Update.

The Region has consulted with the Province on several occasions, including most recently, in mid-March. This is critical as it is the Province which will approve the LNA.

Additional consultation is planned for the spring and summer 2021. Consultation will seek to confirm and refine the LNA results as necessary. Outside the LNA specifically, changes to the Natural Environment System option, Regional Structure and Employment Strategy will all result in changes to the final LNA.

We welcome all feedback and ask that it be provided no later than July 2, 2021. This date is selected to allow the Region sufficient time to review and comment for reporting to Planning and Economic Development Committee in August 2021. At that meeting, the Region will seek endorsement of a final land needs assessment to establish 2051 land needs.

Doing so at that time will allow Regional staff to, at a later time, make recommendations on Settlement Area Boundaries. Details of the Settlement Area Boundary Review is provided in Appendix **18.1**.

PDS 17-2021 – Appendix 3.2

making our mark

NIAGARA
OFFICIAL PLAN

NIAGARA OFFICIAL PLAN

Draft Land Needs Assessment Summary

Preliminary results, subject to refinement following consultation with the Province, local municipalities, and public

Niagara Region
May 2021

GROWING REGION

Table of Contents

Land Needs Assessment Overview

The Land Needs Assessment ("LNA") is a technical, Region-led process that determines the amount of land required for each local municipality based on the Provincially-allocated overall growth to 2051.

Specifically, the Region must calculate the amount of designated land each local municipality requires to accommodate population, housing and employment forecasts provided in *A Place to Grow: Growth Plan for the Greater Golden Horseshoe* ("Growth Plan").

The Minister of Municipal Affairs and Housing, as directed by the *Growth Plan*, released the *Land Needs Assessment Methodology for the Greater Golden Horseshoe* ("the *Methodology*") in August 2020. The Region is required to use the Methodology in combination with the policies of the *Growth Plan* to determine the amount of land required to accommodate forecasted growth.

The *Methodology* is used to calculate two separate land needs, one for *Community Area* and one for the *Employment Area*.

Conducting the LNA is an iterative process and requires substantial direction and input from background strategies associated with the Niagara Official Plan ("NOP") as well as consultation with the public, local municipalities and Province.

This report provides a summarized version of a LNA and the results are to be considered preliminary and for the purpose of engagement and consultation.

Following this consultation, a final Land Needs Assessment will be prepared for Regional Council consideration in August 2021. Feedback is requested by July 2, 2021 to ensure the August 2021 date can be met.

How to Read this Report

This report follows the Provincial *Methodology* process and provides a summary for each component outlined within it. The report does not represent the final land needs assessment.

Updated Provincial Methodology

The *Methodology* replaces a previous 2018 version. The revised *methodology* follows a similar process, but includes a focus on providing for market-based demand for housing mix and targets. An interim draft LNA was conducted in 2019 using the previous 2018 methodology. A summary of the results between the 2019 and current *methodology* is provided later in this report.

Importantly, if other associated Official Plan Strategies are revised, inputs from those revisions may change the output of the LNA.

The Region retained Hemson Consulting to provide assistance with land needs assessment work. The Region worked with Hemson Consulting to revise and extend growth allocations to 2051. Previous work from Hemson Consulting identified growth to 2041, since that was the time horizon prior to the release of the August 2020 *Growth Plan* and *Methodology*.

Appendix 3.3 contains the Hemson Technical update *Niagara Region Municipal Comprehensive Review – Growth Allocation Update to 2051* ("2051 Growth Update Memo").

The *2051 Growth Update Memo* should be read in conjunction with this Report. That document provides greater details on allocations, housing mix, employment forecasts and accommodating market-demand. The *2051 Growth Update Memo* is referenced frequently within this document.

Finally, the results of the LNA must be viewed as preliminary and will continue to be refined through the Official Plan process and consultation noted above.

The Province is the approval authority on the LNA and requires consultation be done prior to submitting the final LNA.

A **Glossary of Terms** is provided at the end of this summary to provide clarity on frequently used terms and/or terms from Provincial policy.

Relationship to Official Plan Strategies

The Land Needs Assessment implements the directions of other Official Plan strategies provided as part of this overall Joint Report.

The LNA itself does not propose policy direction nor does it provide a range of options – it is simply the calculated land required for growth to 2051 based on inputs identified in associated Official Plan strategies.

The table below sets out how other Official Plan Strategies provide input in to the LNA.

Official Plan Strategy or Report	Input in LNA
2051 Growth Update	Population Forecast Housing Forecast Employment Forecast
Regional Structure	Intensification Rate Designated Greenfield Area Density Strategic Growth Area Density
Employment Strategy	Employment Area Delineation Employment Area Supply Vacant Employment Area (ha)
Natural Environment Strategy	Non-Developable Natural Features Vacant Designated Community Area Lands

Changes made to the inputs in the above Official Plan strategies may impact the *Community* or *Employment Area* land needs.

Details about the above inputs, and the relationship to the identified Strategies, is provided throughout this LNA Summary.

Public Consultation and Engagement

The Municipal Comprehensive Review (now, called the Niagara Official Plan) was first initiated in 2014 and has been through significant consultation and continuous evolution.

The following summary identifies milestone consultation efforts made so far which covered growth allocations and land needs assessment.

Project Phase	Date	Description
Niagara 2041: Growth Options	November 17, 2015	Public Information Center: Town of Grimsby
	November 18, 2015	Public Information Centre: City of Port Colborne
	November 19, 2015	Public Information Centre: City of St. Catharines
Council approved Phase 1 and 2 Report (PDS 15-2016)		
Niagara 2041: Preferred Growth Option	June 15, 2016	Public Information Centre: Town of Fort Erie
	June 16, 2016	Public Information Centre: Township of West Lincoln
	June 22, 2016	Public Information Centre: City of Welland
	November 30, 2016	Public Information Centre: City of Niagara Falls
	December 6, 2016	Public Information Centre: City of Thorold
	December 7, 2016	Public Information Centre: Town of Niagara-on-the-Lake
	December 8, 2016	Public Information Centre: Town of Lincoln
Preferred Growth Option Forecast approved for Development Charges Study (PDS 37-2016)		

Project Phase	Date	Description
2017 Provincial Plan Review and Release of Growth Plan (2018)		
Regional Council deem Pre-2017 Growth Plan MCR complete and Growth Management work transitioned into new Niagara Official Plan (PDS 21-2018)		
Niagara Official Plan: Employment Strategy	October 10, 2019	Industry Stakeholder Session: Town of Niagara-on-the-Lake
Niagara Official Plan: Growth Strategy	November 6, 2019	Public Information Centre: City of Thorold
	November 7, 2019	Public Information Centre: City of Niagara Falls
	November 13, 2019	Public Information Centre: Town of Grimsby
	November 14, 2019	Public Information Centre: Town of Fort Erie
Niagara Official Plan: Employment Strategy	February 25, 2020	Industry Stakeholder Session: Town of Niagara-on-the-Lake
Release of Growth Plan (2020) and Revised Land Needs Assessment Methodology		
Settlement Area Boundary Review Program: Growth Plan Forecasts and Land Needs Assessment Update presented to Council (PDS 29-2020)		
Niagara Official Plan: Growth Management Survey	September – October, 2020	Online Survey related to Growth Management directions and options
Niagara Official Plan: Land Needs, Growth Allocations and Settlement Area Boundary Adjustment	October 7, 2020	Virtual Public Information Centre
Niagara Official Plan: Employment Strategy	October 8, 2020	Virtual Public Information Centre

Community Area Land Needs Assessment

Community Area is defined as the Urban Area, minus *Employment Areas*, and is made up of both the *Delineated Built-Up Area* (as defined and mapped by the Province in 2006) and the Designated Greenfield Area (DGA).

The *Community Area* part of the Land Needs Assessment seeks to quantify the amount (in hectares) of DGA lands that is needed to accommodate the required growth forecasts to 2051.

The *Community Area* Land Needs Assessment is comprised of six components. Below is a discussion of those components and the results.

Component 1: Population Forecasts

The starting point is the population projection by age group for the Region. This comes from *Growth Plan* Schedule 3, which provides a forecast 2051 population of **674,000** for Niagara Region. The Region must plan to this forecast population, at minimum.

Component 2: Housing Need

The *Methodology* requires population to be converted into housing units based on household formation rates. Household formation rates are based on the likelihood or tendency of age groups to live in households.

Niagara's household formation rates are anticipated to increase between 2016 (the base Census year) and 2051. A contributing factor is Niagara's aging demographic, which will continue to grow to 2051, with a significant increase in households maintained by people 75 years of age and older. Details are provided in the *2051 Growth Update Memo*.

Table 1 identifies a need for **288,600** households based on the 2051 population forecast of 674,000.

Table 1: 2016 and 2051 Occupied Households by Age of Household Maintainer

Age	Headship Rate	Occupied Households		2016-2051 Growth	2016-2051 Growth %
		2016	2051		
15 - 19	1.7%	430	550	120	27.9%
20 - 24	14.5%	4,000	4,920	920	23.0%
25 - 29	35.2%	8,640	12,400	3,760	43.5%
30 - 34	48.7%	11,435	17,060	5,625	49.2%
35 - 39	52.9%	12,385	18,900	6,515	52.6%
40 - 44	54.1%	13,825	19,550	5,725	41.4%
45 - 49	57.4%	16,365	21,580	5,215	31.9%
50 - 54	57.7%	19,920	24,180	4,260	21.4%
55 - 59	58.6%	20,050	25,200	5,150	25.7%
60 - 64	58.9%	18,845	24,370	5,525	29.3%
65 - 69	61.2%	18,015	24,970	6,955	38.6%
70 - 74	61.7%	13,675	23,630	9,955	72.8%
75 - 79	65.3%	10,480	23,510	13,030	124.3%
80 - 84	66.5%	8,190	21,120	12,930	157.9%
84 - 89	60.7%	5,185	15,530	10,345	199.5%
90 +	46.3%	2,390	10,730	8,340	349.0%
Total	48.2% **(2016)** 50.8% **(2051)**	183,830	288,200	104,370	56.8%

Source: Hemson Consulting, Niagara Region Municipal Comprehensive Review – Growth Allocation Update to 2051, Table 3

The forecast population age structure and household formation information is further used to determine households by housing type. The *Methodology* requires housing forecast by four housing types; single/semi-detached, row houses, accessory dwelling and apartment.

As referenced in the *2051 Growth Update Memo*, the starting point for household forecast by housing type was a market-based demand. Market-based demand is a key consideration within the LNA process and, along with housing affordability, is one of the main drivers in establishing housing mix and land need requirements.

Table 3 provides a summary of household forecast by housing type between 2021 and 2051.

Table 2: Household Forecast by Housing Type - 2021 to 2051

Household Forecast by Housing Type: 2021 to 2051					
Niagara Region	**Single/Semi-Detached**	**Row House**	**Accessory Dwelling**	**Apartment Building**	**Total**
Units	45,150	24,860	1,890	20,140	92,040
Share	49%	27%	2%	21%	100%

Source: Hemson Consulting

Component 3: Allocation of Housing Need to Local Municipalities

Allocation of Housing Need to local municipalities is based on collaboration with local municipalities and consultation with public and private stakeholders.

Draft allocation covering the period between 2016 and 2041 was completed through Niagara 2041 (see PDS 37-2016) and formed the basis for completion of the pre-2017 Municipal Comprehensive Review (see PDS 21-2018).

After that, additional consultation was undertaken through the Niagara Official Plan process, including Public Information Centres, Official Plan surveys and continued collaboration with local municipalities. The Consultation and Engagement section earlier in this report provides specific details.

Final adjustments to municipal allocations were done to reflect direction from associated Official Plan strategies, including Watershed, Housing and Employment Strategies.

Housing Affordability

The Housing Report, **Appendix 5.2**, sets out that that the Region's core housing need (including, affordability) will get worse if we continue growth at the existing level. Achieving the minimum forecasts set out the *Growth Plan* will keep the core housing need level at about 13%. To reduce core housing need, even more housing is needed.

One way to create more housing is to provide a greater share of higher density housing types. Row/townhouse and apartment units have a lower average number of people per unit compared to single and semi-detached units. Therefore, increasing the supply of higher density units will require more housing options and reduce core housing need.

The LNA considers a market-based housing mix and its relationship to the planned housing mix. This is a requirement of the *Methodology.* A market-based approach is useful to identify an appropriate variety of housing units to be built to meet the needs of Niagara's population.

The Greenbelt specialty crop designation, present in northern Niagara municipalities, prohibits expansion of Settlement Areas boundaries. In the communities of Grimsby, Lincoln, St. Catharines and Niagara-on-the-Lake, growth is proposed within existing Settlement Areas through intensification of the Built-Up Area – requiring a greater proportion of higher density housing types.

Municipalities outside of the *Greenbelt Plan* area have a relatively lower intensification rate and, therefore, a higher proportion of lower density housing types. The balance between these two geographies is important for supporting market-based demand for housing and protection of specialty crop lands within the Greenbelt Plan area.

Table 3 provides municipal-level housing allocations by housing type.

Table 3: Housing Unit Growth by Type and Municipality, 2021 to 2051

Housing Unit Growth by Type and Municipality, 2021 to 2051				
Municipality	**Single/Semi**	**Row**	**Apartment**	**Total**
Fort Erie	4,060	2,700	600	7,360
Grimsby	120	1,350	3,130	4,600
Lincoln	1,590	1,540	1,470	4,600
Niagara Falls	11,980	5,090	3,150	20,220
Niagara-on-the-Lake	3,050	910	630	4,590
Pelham	2,390	1,070	680	4,140
Port Colborne	1,690	430	170	2,290
St. Catharines	3,040	4,500	12,230	19,770
Thorold	3,890	2,390	150	6,430
Wainfleet	450	0	10	460
Welland	3,590	2,450	2,690	8,730
West Lincoln	6,030	2,390	310	8,730
Niagara Region	**41,880**	**24,800**	**25,220**	**91,900**

Source: Hemson Consulting, Niagara Region Municipal Comprehensive Review – Growth Allocation Update to 2051, Table 17

Component 4: Housing Supply Potential by Policy Area

The *Methodology* requires municipalities to plan for growth within three policy areas:

1. Delineated Built-Up Area
2. Designated Greenfield Area
3. Rural Area

Development within the *delineated built-up area* is referred to as Intensification. The *delineated built-up area* was established by the Province in 2008 and was further refined through Niagara 2031, the Region's Growth Management Strategy that implemented the policies of the 2006 Growth Plan.

The *Growth Plan* requires 50% of future household growth in Niagara to be directed to the *delineated built-up area.* This is an increase from 40% in the Region's current Official Plan, which was the intensification target in the 2006 Growth Plan.

The Region seeks to exceed this requirement. The analysis conducted through the Regional Structure Strategy (**Appendix 4.2**) identified a **Regional Intensification Rate of 56%.** This target is well above the minimum 50% identified in the *Growth Plan*.

The impact of the higher intensification rate is a reduction in overall *Community Area* Land Need. Changes to the Regional Structure, allocations of growth or density targets, will have a direct impact on overall land need and may impact the Region's ability to support market-based demand for housing.

The *Designated Greenfield Area* ("DGA") is the remainder of the designated urban area outside of the *delineated built-up area*.

The *Growth Plan* sets out that the Region must plan for a minimum density target of 50 people and jobs per hectare within the DGA.

The Rural Area is considered all areas outside of Urban Settlement Areas, and includes the Agricultural System and Rural Settlements (Hamlets). Rural housing need will be addressed in the final Land Needs Assessment.

Housing forecasts by municipality, within the three policies areas, is based on an assessment of intensification opportunities and development potential within the DGA. Intensification rates, established through the Regional Structure, are based

on a combination of consultation with local municipalities and an assessment of the capacity for growth within the *delineated built-up area*.

Table 4 provides household forecast by policy area for each municipality and identifies the overall intensification rate of 56%.

Table 4: Housing Forecast by Policy Area and Municipality, 2021 to 2051

Shares of Household Growth by Policy Area Niagara Region by Local Municipality, 2021-2051				
Municipality	**Built Up Area**	**DGA**	**Rural**	**Total**
Fort Erie	50.0%	49.5%	0.5%	100%
Grimsby	98.0%	1.5%	0.5%	100%
Lincoln	80.0%	19.5%	0.5%	100%
Niagara Falls	50.0%	49.5%	0.5%	100%
Niagara-on-the-Lake	25.0%	74.5%	0.5%	100%
Pelham	25.0%	74.5%	0.5%	100%
Port Colborne	30.0%	69.5%	0.5%	100%
St. Catharines	95.0%	4.5%	0.5%	100%
Thorold	25.0%	74.5%	0.5%	100%
Wainfleet	0.0%	0.0%	100.0%	100%
Welland	60.0%	39.5%	0.5%	100%
West Lincoln	13.0%	86.5%	0.5%	100%
Niagara Region	**56.0%**	**43.0%**	**1.0%**	**100.0%**

Source: Hemson Consulting, Niagara Region Municipal Comprehensive Review – Growth Allocation Update to 2051, Table 8

As with Component 3, the *Methodology* requires housing forecasts within each of the policy areas to be broken out into housing type. The distribution of housing type within each policy area must be based on an achievable housing mix and consider market-demand.

Within the *delineated built-up area*, the housing mix is predominately higher density forms of housing including row and apartment housing. In contrast, the housing forecast within the DGA and Rural area is predominately ground-related, with 72% of units anticipated to be single or semi-detached.

Table 5 and **Table 6** provide housing unit forecasts by municipality within the *delineated built-up area* and DGA.

The Township of Wainfleet is excluded from both tables as Wainfleet does not have an Urban Settlement Area and all forecast housing growth will occur within the *Rural Area*, in Rural Settlements and on other agricultural lands.

Table 5: Housing Forecast by Unit Type, Delineated Built-Up Area, 2021 to 2051

Delineated Built-Up Area Housing Unit Growth, 2021 to 2051				
Municipality	**Single/Semi**	**Row**	**Apartment**	**Total**
Fort Erie	1,520	1,620	540	3,680
Grimsby	110	1,330	3,060	4,500
Lincoln	1,430	920	1,320	3,670
Niagara Falls	4,220	3,050	2,830	10,100
Niagara-on-the-Lake	240	350	560	1,150
Pelham	350	500	180	1,030
Port Colborne	400	130	160	690
St. Catharines	2,480	4,370	11,930	18,780
Thorold	580	890	140	1,610
Welland	920	1,730	2,590	5,240
West Lincoln	760	120	250	1,130
Niagara Region	**13,020**	**15,010**	**23,560**	**51,590**

Source: Hemson Consulting, Niagara Region Municipal Comprehensive Review – Growth Allocation Update to 2051, Table 13

Table 6: Housing Forecast by Unit Type, DGA, 2021 to 2051

Designated Greenfield Area Housing Unit Growth, 2021 to 2051				
Municipality	**Single/Semi**	**Row**	**Apartment**	**Total**
Fort Erie	2,500	1,080	60	3,640
Grimsby	0	10	60	70
Lincoln	140	610	150	900
Niagara Falls	7,660	2,040	310	10,010
Niagara-on-the-Lake	2,800	564	66	3,430
Pelham	2,010	570	500	3,080
Port Colborne	1,280	300	20	1,600
St. Catharines	460	130	300	890
Thorold	3,290	1,500	20	4,810
Welland	2,630	720	100	3,450
West Lincoln	5,230	2,270	60	7,560
Niagara Region	**28,000**	**9,794**	**1,646**	**39,440**

Source: Hemson Consulting, Niagara Region Municipal Comprehensive Review – Growth Allocation Update to 2051, Table 15

Component 5: Community Area Jobs

The *Methodology* requires *Community Area* jobs be allocated within the DGA portion of the *Community Area* to calculate the total number of residents and jobs occurring within it.

Community Area jobs are predominately within the Major Office and Population-Related Employment categories. For the purposes of the *Community Area* assessment, *Community Area* jobs are further distinguished between the *delineated built-up area* and *designated greenfield area*.

Community Area jobs were calculated based on existing development proposals, land use permissions, and factoring in Work At Home employment.

Work At Home

How Work at Home employment is incorporated into the Land Needs Assessment impacts *Community* and *Employment Area* Land needs.

Since the onset of the Covid-19 pandemic to the time of preparing this LNA Summary, many jobs have shifted to a Work at Home setting, although the Region does not have specific data quantifying such a shift.

At the time of writing, the Region and other experts are unsure the long-term impacts for Work at Home. For the preparation of the LNA, this is an important consideration for how Work at Home may impact the calculation of different Employment Types.

In Niagara, the majority of *Employment Areas* are considered Core and Dynamic (as defined in the Employment Strategy, **Appendix 10.2**). Jobs within these areas are largely categorized as Employment Land Employment and occur onsite. Therefore, moving Employment Land Employment jobs out of *Employment Areas* would result in an erroneous reduction in *Employment Area* land requirements.

Alternatively, Major Office and Population-Related Employment jobs are those that are most likely to be Work at Home. In other words, those are the types of jobs that may see long-term Work from Home changes. That type of job is predominantly located within the *Community Area*.

The approach taken in the draft LNA is to maintain similar Work at Home rates, generally consistent with pre-Covid-19 pandemic conditions. This ensures the greatest flexibility within *Employment Areas* and maintains a sufficient supply of lands in the event there is not a significant long-term shift to Work at Home.

In this way, the Region is being conservative in its LNA. Work from Home trends will be carefully monitored and, if warranted, future Official Plan changes will be advanced to address those trends.

Table 7 provides an estimated number of jobs within the DGA portion of the Community Area for each urban municipality.

Table 7: DGA Community Area Job Forecast, 2021 to 2051

DGA Community Area Job Forecast, 2021-2051	
Municipality	**Total**
Fort Erie	250
Grimsby	5
Lincoln	745
Niagara Falls	565
Niagara-on-the-Lake	630
Pelham	560
Port Colborne	110
St. Catharines	1,555
Thorold	500
Welland	265
West Lincoln	2,000
Niagara Region	**7,185**

Component 6: Need for Additional Land

The final component of the *Community Area* LNA brings together the forecast housing units and employment within the DGA to establish an overall land need based on achieving the minimum density target of 50 people and jobs per hectare.

To determine land need, the forecast housing units in **Table 6** are compared to the planned units (units that are within either a draft or registered Plan of Subdivision) within each municipality. The surplus, or shortfall, of units is converted into residents based on the Persons Per Unit rate[1] for each unit type.

Finally, DGA Community Area job forecasts in **Table 7** are added to establish an overall people and jobs target for the DGA.

[1] The Person Per Unit (PPU) rate is based on the 2017 Niagara Region Development Charges Background Study. This Study provides a PPU of 2.91 for single/semi-detached, 2.12 for row and 1.62 for apartment. PPU rates may be revised based on forthcoming Development Charges Study work undertaken later in 2021.

The overall population and employment target is converted to a land need in hectares based on the minimum density target of 50 people and jobs per hectare.[2]

Table 8 provides the *Community Area* Land Needs Assessment results.

Table 8: Overall Community Area Land Need, 2021 to 2051

DGA Community Area Land Need, 2021-2051				
Municipality	**Population and Employment Growth within the Unplanned DGA**	**Area Required (ha)**	**Area Designated[3] (ha)**	**Additional Land Need (ha)***
Fort Erie	8,170	165	60	105
Grimsby	120	5	0	5
Lincoln	2,410	25	25	0
Niagara Falls	22,970	460	200	260
Niagara-on-the-Lake	9,435	75	75	0
Pelham	3,215	65	25	40
Port Colborne	4,365	85	260	-175
St. Catharines	3,655	75	60	15
Thorold	4,795	95	255	-160
Welland	5,770	115	115	0
West Lincoln	20,545	410	40	370
Niagara Region	**85,450**	**1,595**	**1,115**	**460**

Note: Above numbers have been rounded to the nearest 5.

[2] The density target of 50 people and jobs per hectare excludes Lincoln and Niagara-on the Lake, which have a vacant DGA target of 100 people and jobs per hectare due to the land use permissions within the Major Transit Station Area and Glendale District Plan.

[3] The Area Designated is the gross developable land, within the Designated Greenfield Area, free of non-developable features identified within the *Growth Plan.* The Natural Environment System area removed is based on Option 3B as recommended by the Natural Environment Strategy.

Community Area Land Needs Summary

Niagara's 12 local municipalities can be placed into three general categories as it pertains to the preliminary LNA results for Community Area:

1. Additional Community Area Land Required

   Based on the draft LNA, the Town of Fort Erie, City of Niagara Falls and Township of West Lincoln do not have sufficient land to accommodate the 2051 forecast.

   The Town of Pelham has a small insufficiency of land.

2. No Additional Community Area Land Required

   Based on the draft LNA, The Town of Grimsby, Town of Lincoln, Town of Niagara-on-the-Lake, City of St. Catharines, and City of Welland have a sufficient supply of designated lands to accommodate the 2051 forecast.

3. Excess Lands

   Based on the draft LNA, the City of Thorold and City of Port Colborne have a surplus of designated lands to 2051. The Region is considering tools to address *Excess Lands*.

Additional Considerations and Revisions

The *Methodology* allows for final adjustments to be made to *Community Area* Land Needs, including a minor increase to land in the event of any expansions, to create a logical boundary.

The *Methodology* also allows for refinements based on constrained lands due to infrastructure and servicing. Determining servicing constraints will be important in assessing *Excess Lands* and where lands may be considered constrained, rather than surplus.

Finally, revisions to associated strategies will require updates to the Land Needs Assessment. Significant changes to municipal allocations or Intensification Rates will directly impact the housing by type mix as currently identified. This may impact the Region's ability to support a market-based supply of housing and change overall land needs.

If an *Employment Area* boundary is changed, it will directly impact the *Community Area* land need. If the *Employment Area* is within the BUA, the result may be an increase to Intensification Rate. If the *Employment Area* is within the DGA, the result would be a decrease in *Community Area* land needs.

All of these considerations will need to be reviewed prior to finalizing the Land Needs Assessment.

The final Land Needs Assessment will need to be a single overall number, endorsed by Council, and provided to the Province for approval.

Employment Area Land Needs Assessment

Component 1: Employment Forecasts

Similar to the *Community Area* assessment, the starting point for determining the overall *Employment Area* land need is the employment forecast set out in *Growth Plan* Schedule 3. The *Growth Plan* requires Niagara Region to plan for a minimum employment base of **272,000** jobs by 2051.

The *Methodology* requires the employment forecast to be allocated to local municipalities and be categorized by employment type, including Major Office, Population-Related Employment, Employment Land Employment and Rural based employment. These employment types are defined within the **Glossary of Terms** section at the end of this report.

2051 Growth Update Memo sets out the distribution of employment forecasts for Niagara Region.

Table 9 provides an overview of employment growth by municipality, by employment type, from 2021 to 2051.

Table 9: Niagara Region Employment Growth, 2021 to 2051, by Employment Type

Total Employment Growth by Employment Type, 2021-2051					
Municipality	**Major Office**	**Population-Related Employment**	**Employment Land Employment**	**Rural Employment**	**Total Employment**
Fort Erie	140	2,890	3,430	440	6,900
Grimsby	380	2,070	1,130	390	3,970
Lincoln	100	1,580	1,390	1,500	4,570
Niagara Falls	1,150	15,550	2,770	850	20,320
Niagara-on-the-Lake	350	3,040	290	1,480	5,160
Pelham	10	1,600	0	710	2,320
Port Colborne	0	750	350	540	1,640
St. Catharines	4,970	10,780	2,880	590	19,220
Thorold	250	2,540	580	170	3,540
Wainfleet	0	0	0	420	420
Welland	360	4,610	5,300	480	10,750
West Lincoln	160	3,580	1,760	520	6,020
Niagara Region	**7,870**	**48,990**	**19,880**	**8,090**	**84,830**

Source: Hemson Consulting, Niagara Region Municipal Comprehensive Review – Growth Allocation Update to 2051

Component 2: Employment Allocation

The *Methodology* requires municipalities to further refine forecasts by allocating employment to the *Community*, *Employment,* and *Rural Areas*.

Employment that is expected to occur outside of urban settlement area boundaries is allocated to the *rural area*. The *Methodology* sets out that a small share of employment land employment and population-related employment should be allocated to the *rural area*. This is particularly important in Niagara where certain local municipalities have existing industrial, manufacturing and greenhouse operations within the *rural area*.

The remaining, non-rural jobs are allocated to *Community Area* and *Employment Areas* within settlement areas. Within Niagara, the vast majority of population-

related employment is based within the *Community Area*; only about 5%[4] occurring within *Employment Areas*.

Major office growth is also predominately within the *Community Area*, however, some major office growth will occur within *Employment Areas* that are classified as Knowledge and Innovation within the Employment Strategy.

Finally, the vast majority of employment-land-employment job growth will occur within the remaining *Employment Areas*.

Table 10 provides a summary of employment forecasts by location.

Table 10: Employment Growth by Type and Municipality, 2021 to 2051

Employment Growth by Policy Area, 2021-2051			
Municipality	**Community Area**	**Employment Area**	**Rural Area**
Fort Erie	2,785	3,610	505
Grimsby	2,135	1,410	420
Lincoln	1,535	1,240	1,795
Niagara Falls	15,785	3,500	1,035
Niagara-on-the-Lake	2,860	790	1,515
Pelham	1,595	0	725
Port Colborne	705	385	550
St. Catharines	14,255	4,270	725
Thorold	2,640	680	230
Wainfleet	0	0	420
Welland	4,515	5,660	580
West Lincoln	3,445	2,000	575
Niagara Region	**52,255**	**23,545**	**9,075**

Component 3: Employment Area Capacity

The *Methodology* requires employment potential within existing Employment Areas be determined.

[4] 5% is an average. This varies by municipality, particularly those with Knowledge and Innovation Employment Areas as they have a higher share of population-related employment compared to Core and Dynamic Employment Areas.

This is calculated based on the vacant *Employment Area* employment lands and densities identified within the Employment Strategy.

The Employment Policy Paper (**Appendix 10.2**) provides a breakdown of occupied and vacant lands, as well as associated densities, for each of the 34 Employment Areas across the Region.

Table 11 provides a summary of existing capacity within Employment Areas, by municipality.

Table 11: Existing Employment Area Potential for Additional Employment

Existing Employment Area Potential	
Municipality	**Additional Employment Potential**
Fort Erie	1,670
Grimsby	1,375
Lincoln	500
Niagara Falls	4,720
Niagara-on-the-Lake	3,615
Pelham	0
Port Colborne	4,010
St. Catharines	2,745
Thorold	4,470
Wainfleet	0
Welland	5,830
West Lincoln	835
Niagara Region	**29,765**

Component 4: Need for Additional Employment Area Land

The final step in determining the *Employment Area* land need is to compare the forecast growth (**Table 10**) with the job growth potential within existing *Employment Areas* (**Table 11**). The difference between the forecast and the potential is divided by the municipal level vacant *Employment Area* land density target.

The vacant density target is based on the sub-grouping of employment type determined through the Employment Strategy. Generally, Core Employment Areas, with traditional/heavier employment type uses, have the lowest vacant land density target. Knowledge and Innovation Employment Areas, with more major office type uses, have the highest density target. Dynamic Employment Areas can have a mix of traditional and lighter employment type uses and have densities that fall in between Core and Knowledge and Innovation.

Employment Area Densities

Changes to any Employment Area density target within the Employment Strategy will directly impact the Existing Employment Area Potential in **Table 11** and Vacant Employment Area Density Target in **Table 12**. This will either increase or decrease the associated amount of Employment Area land required to meet 2051 forecasts.

Table 12 provides a summary of the Employment Area Land Needs.

Table 12: Employment Area Land Need, by Municipality, 2021 to

Employment Area Land Need by Municipality, 2021-2051			
Municipality	**Unaccommodated Employment Growth**	**Vacant Employment Area Density Target (Jobs/ha)**	**Employment Area Land Need (ha)***
Fort Erie	1,940	15	130
Grimsby	40	50	0
Lincoln	740	45	15
Niagara Falls	(1,300)	35	(35)
Niagara-on-the-Lake	(2,220)	95	(25)
Pelham	0	0	0
Port Colborne	(3,625)	30	(120)
St. Catharines	1,450	50	30
Thorold	(1,690)	30	(55)
Wainfleet	0	0	0
Welland	(175)	20	(10)
West Lincoln	1,165	25	50
Niagara Region	**(3,670)**	**30**	**(20)**

Note: Above numbers have been rounded to the nearest 5.

Employment Area Land Needs Summary

The result of the *Employment Area* component of the LNA suggests the Town of Fort Erie and Township of West Lincoln do not have sufficient supply of *Employment Area* to accommodate the forecast growth to 2051.

Other municipalities that have a perceived surplus of *Employment Area* land, and a deficit of *Community Area* land, are encouraged to convert surplus lands prior to expanding settlement area boundaries. The conversion of *Employment Area* lands to *Community Area* lands can only occur under certain conditions. A discussion of conversions is provided in the Employment Policy Paper, **Appendix 10.2**.

Differences between Draft 2019 LNA Results and 2020 LNA Results

As referenced in the Overview section of this report, the Province released a new Land Needs Methodology in August, 2020. The *Methodology* replaced the previous 2018 version that had been a companion piece with the 2018 *Growth Plan*.

The Region and Hemson Consulting prepared an interim draft LNA in September 2019 based on the 2018 methodology and *Growth Plan*. The draft assessment was included in PDS 29-2020 *Settlement Area Boundary Review Program: Growth Plan Forecasts and Land Needs Assessment Update*, which was received by Council on September 17, 2020.

The 2019 draft LNA considered a planning horizon of 2016 to 2041.

The current draft LNA, presented here, is based on the revised *Methodology* and 2020 Growth Plan with a planning horizon of 2021 to 2051.

The 2020 *Growth Plan* continues to use the same Designated Greenfield Area density target and minimum Intensification Rate as the previous version of the *Growth Plan*.

The revised *Methodology* simplifies the process for calculating *Community Area* land needs and adds emphasis for ensuring the planned housing mix can accommodate market-based housing demands.

Comparing the results of the draft *Community Area* land needs between the 2019 and current LNA is a challenge given the different planning horizons, increased population, employment and housing forecasts and methodology changes.

The draft *Employment Area* (2019) and current LNA may be compared more easily. The process for calculating Employment Area land need is generally consistent between the two methodologies. Notwithstanding different planning horizons, the overall forecast for Employment Land Employment is consistent between the two documents. In other words, the updated 2051 employment forecasts have a similar number of Employment Land Employment jobs as the previous 2041 forecast.

In comparing the 2019 and current LNA, there is a difference of approximately 95 hectares of *Employment Area* land need. The difference can be attributed to revised *Employment Area* boundaries and associated densities between 2019 and 2021.

Employment Area Revisions

The Employment Policy Paper work has been ongoing since 2018. Throughout the Paper, numerous changes and revisions have been made based on consultation with local municipalities and industry.

As such, the draft *Employment Area* LNA conducted in 2019 used the best available information at the time and was based on consultation undertaken up until that point.

Appendix B within the Employment Policy Paper (**Appendix 10.2**) provides a comprehensive overview of changes made to each *Employment Area* since the draft 2019 assessment.

Natural Environment System Impacts

The Natural Environment System ("NES") impacts the overall land need within both the *Community Area* and *Employment Area*.

The draft *Community Area* and *Employment Area* LNA set out in this report is based on NES Option 3B.

Generally, the LNA differences between the NES Options is relatively minor.

Looking specifically at *Community Area* LNA, the determination of future need is based on unplanned, vacant lands within the *Designated Greenfield Area*. The approach set out in the *Methodology* is to remove all natural features and systems from the developable land supply (i.e. DGA). This is done for the specific purpose of ensuring a sufficient land supply is designated within each municipality to accommodate 2051 forecasts.

Impacts on the *Employment Area* LNA is also minor given the *Methodology* is focused on vacant, developable lands and some intensification on developed lands.

In other words, since DGA land supply is relatively similar between the NES Options, the impact between Options on LNA is relatively small.

We note that additional lands may be added to the land supply through future Environmental Impact Studies; this occurs through the development application process and is not associated with the determination of land need for purposes of the LNA.

The *Community Area* LNA impact between Options 1, 2, 3A and Option 3C is relatively small at **37 hectares**.

Table 13 provides a comparison of developable land supply based on NES Options on the vacant and unplanned Designated Greenfield Area.

Table 13: Unplanned DGA Land Supply based on Natural Environment System Options

Developable Unplanned DGA Land Supply by Natural Environment System Option				
Municipality	**NES Options 1,2, and 3A Dev Area (ha)**	**NES Option 3B Dev Area (ha)**	**NES Option 3C Dev Area (ha)**	**Difference from 1 to 3C (ha)**
Fort Erie	60	59	59	-1
Grimsby	0	0	0	0
Lincoln	28	26	25	-3
Niagara Falls	207	201	197	-9
Niagara-on-the-Lake	77	75	74	-3
Pelham	26	25	25	-1
Port Colborne	260	258	251	-9
St. Catharines	61	59	59	-2
Thorold	258	256	250	-8
Welland	116	114	114	-2
West Lincoln	41	40	40	-1
Niagara Region	**1,132**	**1,114**	**1,094**	**-37**

Conclusion

This LNA Summary provides a draft assessment of how *Community Area* and *Employment Area* land need is calculated.

The *Growth Plan* requires that the Province approve the Region's final LNA. The Region has been consulting with the Province on the draft LNA and will continue to communicate until a final assessment is presented to Council for endorsement.

Prior to releasing this document, the Region provided local area municipalities with draft summary information related to land need, as well as population and employment allocations. The Region will continue to consult with local municipalities and refine the draft LNA based on inputs from local strategies where applicable.

This Report and related materials are available for the public and stakeholder consultation following the release of this Joint Report. Public consultation is planned for spring and summer 2021.

The Region will report back to Council in late summer with a final LNA after the above consultation is complete and refinements have been made based on direction from associated Strategies and consultation efforts.

Once Council has endorsed the LNA, substantive changes to the LNA should not occur for the remainder of the NOP process. Small refinements to the overall LNA, or distribution between municipalities may be required, however, overall LNA should remain static. This is to ensure consistent recommendations and decisions can be advanced for consideration based on the established Region-wide LNA.

Glossary of Terms

Community Area: Areas where most of the housing required to accommodate the forecasted population will be located, as well as most population-related jobs, most office jobs and some employment land employment jobs. Community areas include delineated built-up areas and designated greenfield areas (Provincial Land Needs Assessment Methodology).

Delineated Built-Up Area: The limits of the developed urban area as defined by the Minister in consultation with affected municipalities for the purpose of measuring the minimum intensification target in the Growth Plan (Growth Plan).

Designated Greenfield Area: Lands within *settlement areas* (not including *rural settlements*) but outside *of delineated built-up areas* that have been designated in an official plan for development and are required to accommodate forecasted growth to the horizon of this Plan. *Designated greenfield areas* do not include *excess lands* (Growth Plan).

Employment Area: Areas where most of the employment land employment jobs are (i.e. employment in industrial-type buildings), as well as some office jobs and some population-related jobs, particularly those providing services to the employment area. Employment areas may be located in both delineated built-up areas and designated greenfield areas (Provincial Land Needs Assessment Methodology).

Employment Land Employment: all employment in urban industrial-type employment areas, excluding major office. As well, large retail concentrations and major institutions that lie within employment areas are excluded from the Employment Land Employment category (2020 Growth Plan).

Excess lands: Vacant, unbuilt but developable lands within settlement areas but outside of delineated built-up areas that have been designated in an official plan for development but are in excess of what is needed to accommodate forecasted growth to the horizon of this Plan (Growth Plan).

Headship Rate: The headship rate is defined as the ratio of the number of household heads or household maintainers to the population 15 years of age and older (Government of Canada).

Intensification: The development of a property, site or area at a higher density than currently exists through:

a. *redevelopment*, including the reuse of *brownfield sites*;

b. the development of vacant and/or underutilized lots within previously developed areas;

c. infill development; and

d. the expansion or conversion of existing buildings (PPS, 2020).

Major Office: Freestanding office buildings of approximately 4,000 square metres of floor space or greater, or with approximately 200 jobs or more (Growth Plan).

Population-Related Employment: Population-Related Employment is all employment within urban community areas, except major office, and is mainly commercial retail, institutional and urban work at home employment. Major concentrations of retail or large institutions excluded from Employment Land Employment are also part of Population-Related Employment (2051 Growth Update).

Rural Area: Rural Area, for the purposes of the Land Needs Assessment, refers to all lands outside of urban Settlement Area Boundaries. The Rural Area includes Rural Settlements, Prime Agricultural Lands and Rural Lands.

Rural Employment: all employment occurring within the rural geography with the few exceptions for major industrial uses or larger rural industrial areas. Work at home employment is typically a substantial proportion of the rural employment base (Hemson Consulting, Niagara Region Municipal Comprehensive Review – Growth Allocation Update to 2051).

HEMSON

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MEMORANDUM

To: Greg Bowie, Community Planning & Development Services, Niagara Region

From: Russell Mathew, Hemson Consulting

Date: April 5, 2021

Re: Niagara Region Municipal Comprehensive Review – Growth Allocation Update to 2051

Hemson Consulting has provided support to staff from the Region of Niagara in the preparation of various phases of the development of a Municipal Comprehensive Review (MCR) originally designed to bring the Regional Official Plan into conformity with the *Growth Plan, 2006* with a 2041 planning horizon. Once the *Growth Plan,* 2017 came into force with its new policies, the *Niagara 2041* MCR process shifted to the new planning regime including the preparation of population, housing and employment forecasts for the Region and constituent municipalities. Hemson provided this Phase 4 work to Regional staff in July 2018.

Regional staff then prepared a Land Needs Assessment in accordance with the *Land Needs Assessment Methodology for the Greater Golden Horseshoe* (LNA). Municipalities across the *Greater Golden Horseshoe* (GGH) are required to apply this methodology in assessing the need for lands to accommodate growth consistent with growth management policy and targets found in the *Growth Plan*, 2017. In May 2019, the Province released *A Place to Grow: Growth Plan for the Greater Golden Horseshoe* (the *Growth Plan*, 2019) which amended a number of policy targets that affect the Region of Niagara's LNA work. Significant adjustments were made to the intensification target, for development within Delineated Built-Up Areas (BUA), as well as the density targets for new Designated Greenfield Areas (DGA) and for Employment Areas. The planning horizon remained at 2041.

In September 2019, Hemson Consulting provided an update to the forecast allocations for the MCR based on the policy changes in the *Growth Plan*, 2019, and the implications these changes could have to the LNA. This effort confirmed the population and housing allocations to 2041 and revised the employment forecast based on important findings arising from the Niagara Employment Inventory survey. More recently, Hemson Consulting has been retained by the Region of Niagara to update our previous work on the growth outlook for Niagara Region and extend the forecast horizon to 2051, to be consistent with the revised forecast schedule of the *Growth Plan*, 2019.

A. THE FORECAST HORIZON HAS BEEN EXTENDED TO 2051

In August 2020, the Province amended the *Growth Plan*, 2019 by incorporating a new Schedule 3 growth forecast and extending the planning horizon to 2051. Additionally, the LNA Methodology has been revised requiring municipalities to address a market-

based supply of housing and its relationship to the planned housing mix that will be determined through an MCR. Upper and single-tier municipalities throughout the GGH have until mid-2022 to complete an MCR and incorporate the new Schedule 3 outlook for growth in their official plans. The Region of Niagara is well positioned to meet this deadline with the advance work completed to date for the 2041 MCR including the LNA. This memorandum represents an update to the current regional forecast and the allocation reflecting the principles of the *Niagara 2041* Strategic Growth Option population and employment allocation. This Preferred Growth Option population and employment allocation uses the new Schedule 3 forecasts with planning horizon extended to 2051.

For Niagara Region, the new Growth Plan Schedule 3 forecast means the Regional Official Plan must incorporate a population of 674,000 in 2051 (replacing the 2041 total of 611,000) and a total employment base of 272,000 jobs at 2051 (replacing the previous forecast of 267,000 jobs at 2041).

Summary tables in the remainder of this memorandum provide the household, housing by type, population and employment by type forecast and municipal allocation to 2051 by municipality and by *Growth Plan* policy area.

B. ADJUSTING THE FORECAST BASE YEAR TO 2021

Niagara Region must bring the official plan into conformity with the *Growth Plan*, 2019 by mid-2022. Much of the work done to date on Niagara 2041 has used 2016 as the base year for the forecast, LNA and policy analyses, aligning with the quinquennial Census. However, with 2021 being a Census year and the MCR completed by mid-2022 for submission to the Province, it is likely that most municipalities, including Niagara will shift to a new 2021 base year, resulting in an even 30-year planning period to 2051. To this end, all of the population housing and employment forecasts and allocations in this memorandum provide both a 2016 base and a 2021 (estimated) base year. Even though mid-2021 is in the (near) future, it is described as an estimate rather than a forecast because most associated statistics can be estimated with a much higher level of accuracy than a more distant forecast year. In housing, for example, all new housing units that will be added to the housing stock during the 2016 to 2021 period are completed or currently under construction as of late fall of 2020. Specifically, total occupied dwelling units from the 2016 Census are updated to 2021 by adding post-mid-2016 newly completed units and construction in-progress to estimate total occupied dwelling Units for 2021 along with Total Population for 2021, by municipality (Table 1). Total Population includes Census net undercoverage.

When adjusting the base for the forecast to 2021, it was noted that there has been an exceptional take up of housing in Thorold with the share of new units for the 2016-2021 period now estimated at 14.2% of Regional housing growth; this is up from the 11.3% share that had been applied in the 2018 update. These recent housing market shifts, the largest happens to be in Thorold, but occurring less dramatically in a number of other communities, are part of the basis for adjustments to the allocation of growth to the local municipalities; this is described in more detail below along with Table 5.

Table 1

2016 and 2021 Estimated Occupied Housing Units and Population by Local Municipality									
Municipality	Total Population (including Census Net Undercoverage)				Total Occupied Dwelling Units (Households)				
	2016	2021	2016 2021 Growth	Growth Rate	2016	2021	2016 2021 Growth	Growth Rate	Share of Growth
Fort Erie	31,490	33,910	2,420	1.5%	13,180	14,150	970	1.4%	7.8%
Grimsby	28,010	30,280	2,270	1.6%	10,380	11,470	1,090	2.0%	8.7%
Lincoln	24,390	26,700	2,310	1.8%	8,710	9,590	880	1.9%	7.1%
Niagara Falls	90,310	97,520	7,210	1.5%	35,760	38,520	2,760	1.5%	22.1%
Niagara-on the Lake	17,960	19,930	1,970	2.1%	7,090	7,910	820	2.2%	6.6%
Pelham	17,540	19,370	1,830	2.0%	6,475	7,150	675	2.0%	5.4%
Port Colborne	18,770	19,300	530	0.6%	8,015	8,210	195	0.5%	1.6%
St. Catharines	136,490	140,530	4,040	0.6%	56,880	58,550	1,670	0.6%	13.4%
Thorold	19,280	24,160	4,880	4.6%	7,460	9,230	1,770	4.4%	14.2%
Wainfleet	6,530	7,020	490	1.5%	2,415	2,580	165	1.3%	1.3%
Welland	53,620	56,450	2,830	1.0%	22,490	23,610	1,120	1.0%	9.0%
West Lincoln	14,870	15,980	1,110	1.5%	4,965	5,330	365	1.4%	2.9%
Niagara Region	**459,260**	**491,150**	**31,890**	**1.4%**	**183,820**	**196,300**	**12,480**	**1.3%**	**100.0%**

Source: Population and housing data to 2016 from Statistics Canada Census and housing growth based, in part, on CMHC Housing Information.

C. HOUSING FORECAST TO 2051 BEGINS WITH A "MARKET-BASED" DEMAND FOR HOUSING

In keeping with the policy changes introduced to the *Growth Plan* in 2019 and the *Provincial Policy Statement* (PPS), 2020 the updated LNA now requires the Region to address a market-based housing mix and its relationship to the planned housing mix for long-term planning in Niagara Region. The Province's intention in referencing market housing in the LNA and codifying it in the PPS is understood to be addressing a concern that municipalities may not be planning for a sufficient supply of ground-related housing to 2051. A perceived municipal rush to plan for higher levels of intensification and multiple higher-density mixed-use nodes and corridors, is seen by some as being at the expense of providing greenfield development lands. Intensification and mixed-use areas are typically mostly apartment housing, while the greenfield areas meet the demand for single, semi and row housing from (mostly) family households. At the same time, it is the *Growth Plan* that sets out the policies favouring intensification, more higher-density mixed-use development and reduced consumption of greenfield land.

Our approach to addressing the market-based demand requirement is to compare a regional market-based demand forecast to a policy-based housing allocation approach to determine how well the mix of housing types is aligned. The first forecast is prepared in accordance with the LNA. The second approach would typically involve undertaking the forecast and municipal allocation portion of the MCR, according to the policies for the Delineated Built-Up Area (BUA) and the Designated Greenfield Area (DGA). To implement the policies of the *Growth Plan* through the MCR, as well as comply with the LNA, both analyses use housing units by structure type. Once the market forecast and the policy-based allocation are completed, the two are compared and, if the housing mix in each are similar, in our view, nothing further need be done. If there were a wide difference, then, at minimum, Council would need to be clearly aware of how significant

a shift in housing market pattern is required to meet policy goals. Alternatively, policies or targets could be reconsidered to bring a better alignment between anticipated market demand and achieving *Growth Plan* policy. However, the analysis in Niagara Region did not require the approach just described. As is demonstrated later in this memorandum, the market-based forecast of housing mix, or a mix quite close to it, can be achieved while meeting intensification targets consistent with the *Growth Plan*.

The residential allocation starts with a market-based housing demand forecast, consistent with the housing forecast provided in Appendix B to the report *Greater Golden Horseshoe: Growth Forecasts to 2051*. This forecast is based on applying adjusted occupancy characteristics to reflect the current and anticipated market mix of housing. The result reflects the housing mix experienced over the past 10 to 20-year period, while considering anticipated shifts in the market arising from a changing age structure. We have endeavoured to incorporate as many of the key principles of the prior 2041 Strategic Growth Option as possible in this 2051 Preferred Growth Option.

The population forecasts, consistent with Schedule 3 of the *Growth Plan* are shown in Table 2. Table 3 shows how the age of household maintainer data (headship rates) are applied to the population age structure in order to yield the forecast of total households. For those 75 years of age and older there is a very high rate of growth in households to 2051. This high growth is the demonstrable aging of population. The fast growing elderly age group is the result of the aging of the baby boom generation moving though their senior years; those born in 1959, the peak birth year of the baby boom, who survive to 2051, will be 92 years of age. The large increase in elderly households is also the result of continuous increases in life expectancy.

Table 2

Region of Niagara Population Forecast				
Historic and Forecast Population, 1986 to 2051				
Year	Census Population	Total (including Census Net Undercoverage)		
		Total	Growth	Growth Rate
1986	370,100	380,600		
1991	393,900	406,000	25,400	1.3%
1996	403,500	414,700	8,700	0.4%
2001	410,600	426,800	12,100	0.6%
2006	427,400	442,500	15,700	0.7%
2011	431,400	442,900	400	0.0%
2016	447,800	459,300	16,400	0.7%
2021	478,800	491,100	31,800	1.3%
2026	507,500	520,500	29,400	1.2%
2031	536,100	549,500	29,000	1.1%
2036	565,900	579,800	30,300	1.1%
2041	596,200	610,600	30,800	1.0%
2046	621,000	642,200	31,600	1.0%
2051	658,200	674,000	31,800	1.0%

Source: Data to 2016 from Statistics Canada Census

Table 3

2016 and 2051 Occupied Households by Age of Household Maintainer					
Age	Headship Rate	Occupied Households			
		2016	2051	2016-2051 Growth	2016-2051 Growth %
15 - 19	1.7%	430	550	120	27.9%
20 - 24	14.5%	4,000	4,920	920	23.0%
25 - 29	35.2%	8,640	12,400	3,760	43.5%
30 - 34	48.7%	11,435	17,060	5,625	49.2%
35 - 39	52.9%	12,385	18,900	6,515	52.6%
40 - 44	54.1%	13,825	19,550	5,725	41.4%
45 - 49	57.4%	16,365	21,580	5,215	31.9%
50 - 54	57.7%	19,920	24,180	4,260	21.4%
55 - 59	58.6%	20,050	25,200	5,150	25.7%
60 - 64	58.9%	18,845	24,370	5,525	29.3%
65 - 69	61.2%	18,015	24,970	6,955	38.6%
70 - 74	61.7%	13,675	23,630	9,955	72.8%
75 - 79	65.3%	10,480	23,510	13,030	124.3%
80 - 84	66.5%	8,190	21,120	12,930	157.9%
84 - 89	60.7%	5,185	15,530	10,345	199.5%
90 +	46.3%	2,390	10,730	8,340	349.0%
Total	48.2% (2016) 50.8% (2051)	183,830	288,200	104,370	56.8%

Source: Data to 2016 from Statistics Canada Census

Table 4 then provides the forecast of housing units by type using a market-based approach. In this case, the growth from 2001 to 2021 is about 78% ground-related units and 22% apartments and the forecast going forward for the next 30 years is a similar 77% ground-related housing and 23% apartments. The result is that the market-based forecast is similar going forward as to the mix of housing in the recent past, though with a somewhat higher share in apartment units. A higher share of apartments is expected given the higher occupancy of apartments among elderly households and the rapid growth anticipated in elderly-led households.

Table 4

Region of Niagara Housing Forecast: Market Based Housing Mix Occupied Dwelling Units by Census Structure Type Note: This is an initial step in the analysis and is not the concluding housing mix information in this memorandum					
Total Units					
Year	Single	Semi	Row	Apt All Types	Total
2001	114,550	8,520	7,770	31,680	162,520
2021	130,100	10,330	17,220	38,650	196,300
2051	171,910	15,420	41,110	59,760	288,200
Housing Mix of Total Units					
Year	Single	Semi	Row	Apt All Types	Total
2001	70.5%	5.2%	4.8%	19.5%	100.0%
2021	66.3%	5.3%	8.8%	19.7%	100.0%
2051	59.6%	5.4%	14.3%	20.7%	100.0%
Unit Growth					
Period	Single	Semi	Row	Apt All Types	Total
2001-06	860	280	1,730	4,110	6,980
2006-11	4,740	50	960	(570)	5,180
2011-16	3,850	760	2,590	1,960	9,140
2016-21	6,110	580	3,900	1,880	12,480
2001-2021	**15,560**	**1,660**	**9,170**	**7,380**	**33,780**
2021-26	8,720	920	3,320	4,110	17,060
2026-31	7,800	820	3,520	3,710	15,840
2031-36	7,360	830	3,750	3,790	15,710
2036-41	7,020	890	4,130	3,710	15,750
2041-46	5,610	800	4,330	3,140	13,870
2046-51	5,320	840	4,860	2,680	13,690
2021-2051	**41,810**	**5,090**	**23,890**	**21,110**	**91,900**
Housing Growth Unit Type Mix					
Period	Single	Semi	Row	Apt All Types	Total
2001-2021	46.1%	4.9%	27.1%	21.8%	100.0%
2021-2051	45.5%	5.5%	26.0%	23.0%	100.0%

Source: Data to 2016 from Statistics Canada Census

Note: For the purposes of this allocation unit types are presented as the Census housing types grouped as apartments: apartments of five or more storeys, apartments under five storeys, flat or apartment in a duplex and other single attached units.

D. HOUSING GROWTH IS ALLOCATED BY MUNICIPALITY AND POLICY AREA TO 2051

In the previous iterations of the MCR growth management work, housing shares had been allocated to municipalities based on a share assumption of the total new households in the forecast. We have updated both the 2016 to 2021 estimated shares of growth based on housing that has recently completed plus projects currently under construction (based on the assumption that any unit occupied by Census Day 2021 is already under construction).

i. Housing Allocation Assumptions Require Small Adjustments for 2021 to 2051

The review of recent construction activity shows the high share of the market that Thorold is now experiencing. The allocation shares were originally established in keeping with planned intensification rates, in addition to the observed market conditions. Table 5 contrasts the assumptions from the 2018 update to the MCR allocation with suggested assumptions for the new forecast from 2021 to 2051. These share assumptions combine the previous assumptions used for 2016-2041, recent market activity and current development expectations as well a set of adjusted rates

Table 5

Housing Allocation Assumption by Area Municipality 2018 Allocation for 2016 to 2041 and Suggested New Assumptions for 2021 to 2051						
Municipality	Share Assumptions from 2018 Update to MCR Municipal Allocation			Suggested Share Assumptions for new 2021 to 2051 MCR Municipal Allocation		Difference in Share between previous 2016-2041 shares and suggested 2021 2051 share
	Estimated Share of Regional Housing Unit Growth, 2016 2021	Assumed Share of Regional Housing Unit Growth, 2021-2041	Overall Share Assumption for Regional Housing Unit Growth, 2016-2041	Estimated Share of Regional Housing Unit Growth, 2016-2021	Upadted Share Assumption of Regional Housing Growth for 2021-2051	
Fort Erie	7.5%	8.1%	8.0%	7.9%	**8.0%**	0.0%
Grimsby	9.8%	6.4%	7.0%	8.9%	**5.0%**	-2.0%
Lincoln	4.3%	5.2%	5.0%	7.6%	**5.0%**	0.0%
Niagara Falls	27.7%	21.9%	23.0%	21.2%	**22.0%**	-1.0%
Niagara-on the Lake	8.0%	5.4%	6.0%	6.7%	**5.0%**	-1.0%
Pelham	6.2%	4.7%	5.0%	5.3%	**4.5%**	-0.5%
Port Colborne	1.6%	2.1%	2.0%	1.4%	**2.5%**	0.5%
St. Catharines	12.6%	24.3%	22.0%	13.0%	**21.5%**	-0.5%
Thorold	11.3%	4.2%	5.5%	14.7%	**7.0%**	1.5%
Wainfleet	0.2%	0.6%	0.5%	1.3%	**0.5%**	0.0%
Welland	8.0%	8.0%	8.0%	8.2%	**9.5%**	1.5%
West Lincoln	2.9%	9.2%	8.0%	3.9%	**9.5%**	1.5%
Niagara Region	100%	100%	100%	100%	**100%**	0.0%

While keeping the principle of the share allocations from recent work, a few adjustments are warranted, as indicated in the last three columns in Table 5. The municipalities where the growth shares have been adjusted by more than ± 0.5%, have been adjusted for the following reasons:

- Grimsby is reduced from a 7.0% share allocation from 2016 to 2041 to a 5.0% allocation for the 2021 to 2051 period. About one-third of this change is from not including the high 8.9% 2016 to 2021 market share within the calculation. The remaining change is largely because of Grimsby's singular reliance on intensification for growth. Over the next 30 years, the "easy" intensification sites will be taken up leaving a slower long-term rate of growth as development increasingly requiring land assembly or new infrastructure slows the process.

- The rate of growth in Niagara Falls as well as its share of the Region has slowed over the past three years. As a result, Niagara Falls' share of forecast

Regional growth is marginally reduced by 1.0% to 22%, from 23%. This share still leaves the City of Niagara Falls with the largest share of new housing allocation in the Region.

- Niagara-on-the-Lake has been reduced by 1.0% from 6.0% for 2016-2041 to 5.0% for 2021-2051. Most of the change is the result of not including the higher-growth 2016-2021 period within the calculation, plus some further market change in the 2040s when the Town's available land supply will be in fewer locations and farther from Lake Ontario and Niagara River amenities.

- The share of growth allocated to St. Catharines has been changed little (reduced by a marginal 0.5%), but it is being noted here because it continues to be far short of the expected market share. The 21.5% share allocation to St. Catharines is based in large part on policies directing a significant amount of growth the City's intensification areas, particularly the Downtown St. Catharines Urban Growth Centre. The policy goal for growth is well above the City's current 13.0% share of the Niagara housing market.

- Thorold had previously been allocated a 5.5% overall share from 2016 to 2041 based mainly on its history of a relatively small share of the market despite its very large urban supply potential. In the 2018 allocation Thorold would have been allocated 11.3% of unit growth from 2016 to 2021, then decline to 4.2% for the 2021-2041 period, to end with an average share of 5.5% overall from 2016 to 2041. This appears quite unlikely from today's perspective, where Thorold is estimated to be at 14.7% of the regional market for the 2016-2021 period. We are suggesting the long-term assumption move up from 5.5% to 7.0%, the 7.0% applying to the 2021 to 2051 period.

- Welland's share of housing growth is adjusted upward from a previous 8.0% for the 2016-2041 period to 9.5% for the 2021 to 2051 period. Welland was already running ahead of 8.0% for the recent five-year period. Its share is expected to increase over time as part of the general increase in the shares to Thorold/Welland/Pelham; new greenfield lands coming on stream over the next decade; and a significant supply of intensification lands suitable for ground-related housing.

- West Lincoln appears to have a much higher share of growth, rising from 8.0% for the 2016 to 2021 period in the 2018 work to 9.5% in the 2021-2051 period. However, the difference is primarily about the 2016-2021 period not being included in the latter calculation. The 2018 analysis was based on 2.9% for 2016-2021 and then 9.2% for the 20 years from 2021 to 2041, working out to about 8.0% overall. The current allocation share does not include the low-growth 2016-2021 period, meaning the 9.5% 2021 to 2051 is very similar to the previous 9.2% for the first 20 years of the 30-year period. The growth share is low now because of new secondary plans and draft plans in the Smithville area not yet being fully approved and serviced. Once the plans and infrastructure are in place and, in the longer-term, additional lands are added to Smithville, it is very likely to achieve the high rates of growth it has in the past due to its strategic location relative to Hamilton and desire to build out as a complete community.

The share of housing growth to each of the local municipalities may vary from decade to decade over next 30 years, as shown in Table 6. Some of the shares in the table may give the appearance of a high level of precision. However, undue precision was not the intention; rather they are arithmetically required in order for the results to be the "even" figures that apply to the overall 30 year period from 2021 to 2051.

Table 6

Household Growth Share by Time Period to 2051 by Local Municipality Preferred Growth Option to 2051					
Municipality	**Share 2016 to 2021**	**Share 2021 to 2031**	**Share 2031 to 2041**	**Share 2041 to 2051**	**Share 2021 to 2051**
Fort Erie	7.8%	8.0%	8.0%	8.0%	8.0%
Grimsby	8.8%	5.0%	5.0%	5.0%	5.0%
Lincoln	7.1%	5.0%	5.0%	5.0%	5.0%
Niagara Falls	22.1%	23.0%	21.8%	21.0%	22.0%
Niagara-on the-Lake	6.6%	5.0%	5.0%	5.0%	5.0%
Pelham	5.4%	5.0%	4.4%	4.0%	4.5%
Port Colborne	1.5%	2.0%	2.6%	3.0%	2.5%
St. Catharines	13.4%	22.9%	21.8%	19.5%	21.5%
Thorold	14.2%	6.2%	7.0%	8.0%	7.0%
Wainfleet	1.3%	0.5%	0.5%	0.5%	0.5%
Welland	9.0%	8.7%	9.0%	11.0%	9.5%
West Lincoln	2.9%	8.7%	9.9%	10.0%	9.5%
Niagara Region	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Based on the total household counts in Tables 3 and 4 then applying the growth shares from Tables 5 and 6 results in the total households by municipality for each Census year and for the 35-year period from 2016 to 2051 and the 30-year period for 2021 to 2051 shown in Table 7.

Table 7

Total Households, 2016-2051 by Local Municipality Preferred Growth Option to 2051											
Municipality	**Households (Dwelling Units Occupied by Ususal Residents)**								**2016-2051 Growth**	**2021 2051**	
	2016	**2021**	**2026**	**2031**	**2036**	**2041**	**2046**	**2051**		**Unit Growth**	**Compound Annual Growth Rate**
Fort Erie	13,180	14,150	15,510	16,780	18,030	19,300	20,380	21,510	8,330	7,350	1.4%
Grimsby	10,380	11,470	12,350	13,120	13,900	14,690	15,390	16,070	5,690	4,600	1.1%
Lincoln	8,710	9,590	10,430	11,230	12,010	12,810	13,500	14,190	5,480	4,600	1.3%
Niagara Falls	35,760	38,520	42,480	46,080	49,550	52,950	55,860	58,740	22,980	20,220	1.4%
Niagara-on the-Lake	7,090	7,910	8,780	9,560	10,350	11,130	11,820	12,500	5,410	4,600	1.5%
Pelham	6,480	7,150	8,000	8,790	9,480	10,180	10,730	11,280	4,810	4,140	1.5%
Port Colborne	8,020	8,210	8,550	8,870	9,270	9,680	10,090	10,500	2,490	2,300	0.8%
St. Catharines	56,880	58,550	62,450	66,090	69,530	72,940	75,710	78,320	21,440	19,760	1.0%
Thorold	7,460	9,230	10,290	11,260	12,370	13,460	14,560	15,660	8,200	6,440	1.8%
Wainfleet	2,420	2,580	2,670	2,740	2,820	2,900	2,970	3,040	620	460	0.5%
Welland	22,490	23,610	25,090	26,480	27,870	29,310	30,820	32,340	9,850	8,730	1.1%
West Lincoln	4,970	5,330	6,760	8,190	9,730	11,300	12,670	14,060	9,090	8,730	3.3%
Niagara Region	**183,820**	**196,300**	**213,360**	**229,190**	**244,900**	**260,650**	**274,510**	**288,200**	**104,380**	**91,900**	**1.3%**

ii. Shares of Housing Growth Are Allocated to Policy Areas to 2051

While the above shares of household growth apply to the total municipalities, the *Growth Plan* and the LNA also require an allocation to the policy areas. Those policy areas are the Built-Up Area, the Designated Greenfield Area and the Rural Area. Within each municipality, the Rural Area is allocated a minimal 0.5%. New rural residential development is not generally encouraged by the policies of the *Growth Plan* or the Region of Niagara. Though there are legacy approvals and lots of record where limited rural development will still occur. The exception is the Town of Wainfleet, which has no urban serviced residential communities. By definition, it is 100% rural development. During further work in the MCR, the rural shares can be adjusted, if necessary, to reflect a more precise expectation for rural unit growth. Any adjustment to rural allocation would simply add or deduct the units from the DGA to gain a better calculation of land need. Adjusting the rural share for LNA purposes, for example, would not affect any other matters contained in this memorandum respecting the population, housing mix or employment.

The share to the Built-Up Area, otherwise referred to as the intensification rate, is set at a minimum of 50% for most of the urban communities in the GGH, including the Region of Niagara. In two tier systems, the Growth Plan and the LNA require that Regions work with local municipalities to establish an appropriate intensification rates for each and results in at least the minimum 50% intensification. The intensification rate for each local municipality is shown in Table 8. The rates have been set at those agreed to by staff at the Region and the local municipalities through the MCR consultation process over the past year. These rates are the same or a little higher in each of the municipalities compared to those used in 2018 and, in large part, are based on the significant potential to accommodate ground-related housing within the Built-Up Area in most of the Region. In the period from 2015 to 2019, intensification units in Niagara Region were about 70% ground-related units and 30% apartments. Intensification is likely to be higher in places where intensification can provide a full range of housing types, compared to other jurisdictions where intensification units are nearly all apartments. Niagara Region is quite unlike Hamilton and the Regions of the GTAH in this respect.

The resulting overall intensification rate of 55.9% between 2021 and 2051 is very little higher than the 55% rate assumption for 2016 to 2041 in the previous MCR work in 2018. This level of intensification is not difficult for Niagara Region to achieve, given that in the five-year period from 2015 through 2019, intensification represented about 50% of new units. This growth occurred in a period when the intensification rate policy was only 40%. High levels of intensification should not be surprising, as we would expect a high rate in Niagara because about half of the Regional population and its growth is in communities where the greenbelt and the preservation of tender fruit lands limit the amount of urban land to accommodate housing growth.

Table 8

Shares of Household Growth by Policy Area Niagara Region by Local Municipality, 2021-2051				
Municipality	**Built-Up Area**	**DGA**	**Rural**	**Total**
Fort Erie	50.0%	49.5%	0.5%	100%
Grimsby	98.0%	1.5%	0.5%	100%
Lincoln	80.0%	19.5%	0.5%	100%
Niagara Falls	50.0%	49.5%	0.5%	100%
Niagara-on-the-Lake	25.0%	74.5%	0.5%	100%
Pelham	25.0%	74.5%	0.5%	100%
Port Colborne	30.0%	69.5%	0.5%	100%
St. Catharines	95.0%	4.5%	0.5%	100%
Thorold	25.0%	74.5%	0.5%	100%
Wainfleet	0.0%	0.0%	100.0%	100%
Welland	60.0%	39.5%	0.5%	100%
West Lincoln	13.0%	86.5%	0.5%	100%
Niagara Region	56.1%	42.9%	1.0%	100.0%

Applying these shares of housing growth to the forecast of occupied dwelling units required by 2051 yield a forecast growth in households by policy area for each municipality for the period 2021 to 2051, as shown in Table 9.

Table 9

Household Growth by Policy Area Niagara Region by Local Municipality, 2021-2051				
Municipality	**Built Up Area**	**DGA**	**Rural**	**Total**
Fort Erie	3,680	3,640	40	7,360
Grimsby	4,500	70	20	4,590
Lincoln	3,680	900	20	4,600
Niagara Falls	10,110	10,010	100	20,220
Niagara-on the Lake	1,150	3,420	20	4,590
Pelham	1,030	3,080	20	4,130
Port Colborne	690	1,600	10	2,300
St. Catharines	18,770	890	100	19,760
Thorold	1,610	4,790	30	6,430
Wainfleet	0	0	460	460
Welland	5,240	3,450	40	8,730
West Lincoln	1,130	7,550	40	8,720
Niagara Region	51,590	39,400	900	91,890

E. A HOUSING MIX CLOSE TO THE MARKET-BASED DEMAND IS POSSIBLE WITHIN THE PLANNED INTENSIFCATION RATE

As already noted, Niagara Region is unique among most of the GGH municipalities in that a high proportion of ground-related housing can be built within the current Delineated BUA. This capacity to address the market demand for detached, semi-detached and row housing while meeting planned intensification targets means that a housing mix could be provided at or close to the market-based demand housing mix. The market-based demand housing mix for 2021 to 2051 provided in Table 4 was 51% singles/semis, 26% rows and 23% apartments.

Recent development in the Region has been about 85% ground-related units and 15% apartment units. Within the policy areas, the Delineated BUA has been 71% ground-related units and 39% apartments and in the Designated Greenfield ground-related units are well over 95% of new construction. For this purpose, share to ground-related housing includes accessory units, since they are typically part of what would otherwise be a single or semi-detached unit.

i. Degree that Market-Based Housing Demand Aligns with Policy Is a Test of How Much Ground-Related Housing Can Be Supplied within the BUA

Within the two-tier system in Niagara, the local municipalities, not the Region, establish the housing mix through local planning. The purpose of considering housing mix at the Regional level is that housing mix is a key component of the LNA for which the Region is responsible. The Region will need a clear housing mix so it can appropriately calculate land need, which is based on the capacity of existing DGA to accommodate housing types compared to the forecast housing demand is by type. The purpose here is to demonstrate that there is (or is not) an ability to accommodate the unit growth by type within the policy areas at a mix that represents a market-based housing mix. Alternatively, the analysis would demonstrate the difference between market-based demand and what units can be accommodated when Growth Plan policies are applied.

In Niagara the starting point to look at housing by type is the market-based demand forecast already described which indicated 2021 to 2051 market-based demand for 23% apartment units and 77% ground-related units. At the same time units to be built within the BUA are to be almost 57% of all units built in the Region. These figures mean that an allocation of units to policy areas will result in well less than half of BUA units will be apartment form, the structure type that, in other jurisdictions, dominates intensification development. DGA development is currently and is forecast to be almost entirely ground-related units.

Put simply, in this section we are looking at a housing mix allocation to the BUA that is substantially ground-related units and want to answer the question of whether these units could reasonably “fit” into the BUA of each municipality. The starting point is in Tables 10 and 11 that provides an allocation by type to the BUA, using the market-based demand housing mix.

Table 10

Initial Allocation to Delineated Built Up Area by Housing Unit Type Using Market Based Demand Housing Unit Types Housing Units by Census Housing Types				
2021-51	Single/Semi	Row	Apartment	Total
Fort Erie	1,520	1,620	540	3,680
Grimsby	110	1,330	3,060	4,500
Lincoln	1,490	990	1,190	3,680
Niagara Falls	4,300	3,070	2,740	10,110
Niagara-on-the-Lake	470	380	290	1,150
Pelham	350	500	180	1,030
Port Colborne	400	130	160	690
St. Catharines	4,030	4,370	10,380	18,770
Thorold	580	890	140	1,610
Wainfleet	0	0	0	0
Welland	3,290	1,080	870	5,240
West Lincoln	760	120	250	1,130
Niagara Region	17,300	14,490	19,800	51,590

Table 11

Initial Allocation to Delineated Built Up Area by Housing Unit Type Using Market Based Demand Housing Unit Types Housing Mix by Census Housing Type				
2021-51	Single/Semi	Row	Apartment	Total
Fort Erie	41.3%	44.0%	14.6%	100.0%
Grimsby	2.5%	29.5%	68.0%	100.0%
Lincoln	40.5%	27.0%	32.5%	100.0%
Niagara Falls	42.5%	30.4%	27.1%	100.0%
Niagara-on-the-Lake	41.2%	33.3%	25.5%	100.0%
Pelham	34.3%	48.4%	17.3%	100.0%
Port Colborne	58.5%	18.6%	22.9%	100.0%
St. Catharines	21.5%	23.3%	55.3%	100.0%
Thorold	35.8%	55.6%	8.6%	100.0%
Wainfleet	0.0%	0.0%	0.0%	0.0%
Welland	62.8%	20.7%	16.5%	100.0%
West Lincoln	66.6%	11.0%	22.4%	100.0%
Niagara Region	33.5%	28.1%	38.4%	100.0%

To consider how the housing mix by local municipality in Tables 10 and 11 might be accommodated, a rough land area calculation was undertaken. The land area was then compared to the identified vacant residential land inventory within the BUA. In Fort Erie, Niagara-on-the-Lake, Pelham, Port Colborne, Thorold and West Lincoln there was more than sufficient land to accommodate the intensification units with the housing mix shown. This conclusion did not even require consideration of redevelopment and infill potential beyond the identified vacant parcels, which would generally form a substantial proportion of intensification units.

In Grimsby and Lincoln there are some vacant lands, but most intensification potential is in two secondary plan areas in each municipality. The remainder of the Winston Plan and the GO Station Secondary Plan areas in Grimsby can accommodate all

apartments shown and most of the ground-related units. It is likely the rest of the ground-related could be accommodated through other infill in the community over the next 30 years. Similarly in Lincoln the Beamsville GO and the Prudhommes plans can accommodate all of the units overall but not likely all of the ground related units. Accommodating this growth may need some shift upwards in density type, particularly from singles up to Rows and, likely, to apartments, particularly given the development proposed at Prudhommes.

In Niagara Falls, there is identified vacant land sufficient to accommodate about 70% of the units shown in the chart. A small shift in unit type from singles and semis at typical densities to smaller lot singles or up to rows could raise the 70% figure significantly. As well, the Grand Niagara area, which is within the Built-Up Area, is planned for 1,400 units, mostly singles and semis. The Transit Station Secondary Plan area as well as other nodes and corridors provide enough development potential that the intensification figures for Niagara Falls likely could be accommodated.

In the City of Welland, the vacant residential lands within the Built-Up Area could accommodate about half of the intensification housing shown Table 14. The mix shown for Welland is very focussed on singles and semis and reduces the likelihood that there is reasonable development potential for these units. A shift in housing mix reducing the singles/semis and increasing the apartment would make the physical potential for these units more likely. The City of Welland has done some of this analysis and is expecting an overall housing mix for the City for 2016 to 2041 of 34% singles and semis and 33% each of rows and apartments. The portion of this housing in the BUA could certainly fit within the available supply potential.

Finally, the City of St. Catharines has a large amount development potential for higher density housing in the downtown UGC and other sites in the city. A mix of medium and high-density units in the GO Station Plan area and on the former General Motors Ontario Street sites will provide for a large unit potential. However, the amount of lower density housing shown in Table 14 for St. Catharines is likely just too much to accommodate reasonably within the BUA.

The conclusion to be drawn from all of this housing type analysis is that a housing mix in the Region that represented a market-based housing demand could mostly fit within the policy areas with growth as currently allocated. Lincoln, St. Catharines and Welland probably need fewer single and semi detached units and more rows and apartments for the intensification units to reasonably fit.

The housing mix for the BUA was then adjusted to account for conditions described above, plus providing a bit better balance of unit type within intensification in some of the other communities, relative to the initial housing mix.

ii. Housing Mix to Be Used by the Region for Land Needs Assessment Purposes Is Very Close to the Market-Based Housing Demand

The result of the adjustments to the housing mix to establish a reasonable fit between demand and supply in the BUA, is Region-wide change to the housing mix. From 2021 to 2051, growth would shift from a market-based demand of 51/26/23 singles/semis, rows and apartments to an adjusted mix to align with intensification policy of 46/27/27.

On the total housing stock the difference between the two is very small, a total mix in initial market-based forecast is 65/14/21 at 2051 and the adjusted mix results in a 63/15/22 mix.

These two housing mixes are sufficiently close to conclude that the housing mix arising from the intensification rate applied to Niagara municipalities for 2021 to 2051 is a housing mix that is a reasonable representation of a market-based demand in the context of Growth Plan policies representing a direction to plan for a high levels of intensification.

Table 12 provides the adjusted housing mix information for the overall region (this is the same as Table 4 except using the adjusted housing mix).

Table 12

Region of Niagara Housing Forecast: Policy Adjusted Housing Mix
Preferred Growth Option to 2051
Occupied Dwelling Units by Census Structure Type

Total Units					
Year	Single	Semi	Row	Apt-All Types	Total
2001	114,540	8,670	8,050	31,270	162,520
2021	130,100	10,330	17,220	38,650	196,300
2051	167,560	14,900	42,000	63,770	288,220
Housing Mix of Total Units					
Year	Single	Semi	Row	Apt-All Types	Total
2001	70.5%	5.3%	5.0%	19.2%	100.0%
2021	66.3%	5.3%	8.8%	19.7%	100.0%
2051	58.2%	5.2%	14.6%	22.0%	100.0%
Unit Growth					
Period	Single	Semi	Row	Apt-All Types	Total
2001-06	860	280	1,730	4,110	6,980
2006-11	4,740	50	960	(570)	5,180
2011-16	3,850	760	2,590	1,960	9,140
2016-21	6,110	580	3,900	1,880	12,480
2001-2021	**15,560**	**1,660**	**9,170**	**7,380**	**33,780**
2021-26	8,110	850	3,370	4,720	17,050
2026-31	7,140	740	3,600	4,350	15,840
2031-36	6,640	740	3,870	4,460	15,720
2036-41	6,250	790	4,290	4,410	15,750
2041-46	4,820	710	4,520	3,830	13,870
2046-51	4,500	720	5,110	3,350	13,690
2021-2051	**37,460**	**4,570**	**24,780**	**25,120**	**91,920**
Housing Growth Unit Type Mix					
Period	Single	Semi	Row	Apt-All Types	Total
2001-2021	46.1%	4.9%	27.1%	21.8%	100.0%
2021-2051	40.7%	5.0%	27.0%	27.3%	100.0%

Tables 13 through 18 present the resulting housing mixes for each of the municipalities for the BUA and the DGA + Rural and the total for each municipality. The housing mixes in the table are suitable for use by the Region for the LNA for growth in housing from 2021 to 2051 by local municipality.

Tables 13 and 14 show a housing mix for the Delineated Built-Up Areas in each municipality. As described above, the purpose here was to demonstrate a housing mix for intensification that could be accommodated within the BUA. These housing mixes are could reasonably fit within the BUA as established within each municipality.

Table 13

Delineated Built Up Area Housing Unit Growth, 2021 to 2051 Preferred Growth Option to 2051				
2021-51	Single/Semi	Row	Apartment	Total
Fort Erie	1,520	1,620	540	3,680
Grimsby	110	1,330	3,060	4,500
Lincoln	1,430	920	1,320	3,670
Niagara Falls	4,220	3,050	2,830	10,100
Niagara-on the-Lake	240	350	560	1,150
Pelham	350	500	180	1,030
Port Colborne	400	130	160	690
St. Catharines	2,480	4,370	11,930	18,780
Thorold	580	890	140	1,610
Wainfleet	0	0	0	0
Welland	920	1,730	2,590	5,240
West Lincoln	760	120	250	1,130
Niagara Region	13,020	15,010	23,560	51,590

Table 14

Delineated Built Up Area Housing Mix of Growth, 2021 to 2051 Preferred Growth Option to 2051				
2021 51	Single/Semi	Row	Apartment	Total
Fort Erie	41.3%	44.0%	14.6%	100.0%
Grimsby	2.5%	29.5%	68.0%	100.0%
Lincoln	39.0%	25.1%	35.9%	100.0%
Niagara Falls	41.8%	30.2%	28.0%	100.0%
Niagara-on the Lake	20.9%	30.4%	48.7%	100.0%
Pelham	34.3%	48.4%	17.2%	100.0%
Port Colborne	58.6%	18.6%	22.8%	100.0%
St. Catharines	13.2%	23.3%	63.5%	100.0%
Thorold	35.8%	55.6%	8.6%	100.0%
Wainfleet	0.0%	0.0%	0.0%	0.0%
Welland	17.5%	33.0%	49.5%	100.0%
West Lincoln	67.2%	10.4%	22.4%	100.0%
Niagara Region	25.2%	29.1%	45.7%	100.0%

Tables 15 and 16 show housing growth from 2021 to 2051 by housing type, by municipality for the DGA and Rural area combined. There is nothing surprising in the DGA/Rural area. A very large proportion of units are expected to be ground-related housing and apartments, a small share of units in the market. The LNA will later show how this DGA demand may fit within the DGA areas.

Table 15

Designated Greenfield Area and Rural Housing Unit Growth, 2021 to 2051 Preferred Growth Option to 2051				
2021 51	Single/Semi	Row	Apartment	Total
Fort Erie	2,540	1,080	60	3,680
Grimsby	10	20	60	90
Lincoln	160	610	150	920
Niagara Falls	7,760	2,040	310	10,110
Niagara on-the Lake	2,810	560	70	3,440
Pelham	2,030	570	500	3,100
Port Colborne	1,290	300	20	1,610
St. Catharines	560	130	300	990
Thorold	3,320	1,500	20	4,840
Wainfleet	450	0	10	460
Welland	2,670	720	100	3,490
West Lincoln	5,270	2,270	60	7,600
Niagara Region	28,850	9,790	1,660	40,300

Table 16

Designated Greenfield Area and Rural Housing Mix of Growth, 2021 to 2051 Preferred Growth Option to 2051				
2021-51	Single/Semi	Row	Apartment	Total
Fort Erie	69.0%	29.4%	1.6%	100.0%
Grimsby	10.8%	21.2%	68.0%	100.0%
Lincoln	17.2%	66.8%	16.0%	101.0%
Niagara Falls	76.8%	20.1%	3.1%	100.0%
Niagara on-the-Lake	81.7%	16.3%	2.0%	100.0%
Pelham	65.5%	18.3%	16.2%	100.0%
Port Colborne	80.3%	18.6%	1.1%	100.0%
St. Catharines	56.5%	13.6%	30.0%	101.0%
Thorold	68.7%	31.0%	0.3%	100.0%
Wainfleet	97.2%	0.0%	2.8%	100.0%
Welland	76.5%	20.6%	2.9%	100.0%
West Lincoln	69.3%	29.9%	0.8%	100.0%
Niagara Region	71.6%	24.3%	4.1%	100.0%

Tables 17 and 18 show the housing growth from 2021 to 2051 by housing type for the total municipality. Table 17 is the simple addition of Tables 13 and 15.

Table 17

Housing Unit Growth by Unit Type, 2021 to 2051 by Municipality Preferred Growth Option to 2051				
2021 51	Single/Semi	Row	Apartment	Total
Fort Erie	4,060	2,700	600	7,360
Grimsby	120	1,350	3,130	4,600
Lincoln	1,590	1,540	1,470	4,600
Niagara Falls	11,980	5,090	3,150	20,220
Niagara on-the-Lake	3,050	910	630	4,590
Pelham	2,390	1,070	680	4,140
Port Colborne	1,690	430	170	2,290
St. Catharines	3,040	4,500	12,230	19,770
Thorold	3,890	2,390	150	6,430
Wainfleet	450	0	10	460
Welland	3,590	2,450	2,690	8,730
West Lincoln	6,030	2,390	310	8,730
Niagara Region	41,880	24,800	25,220	91,900

Table 18

Designated Greenfield Area and Rural Housing Mix of Growth, 2021 to 2051 Preferred Growth Option to 2051				
2021-51	Single/Semi	Row	Apartment	Total
Fort Erie	55.2%	36.7%	8.1%	100.0%
Grimsby	2.7%	29.3%	68.0%	100.0%
Lincoln	34.7%	33.5%	31.9%	101.0%
Niagara Falls	59.3%	25.2%	15.6%	100.0%
Niagara-on-the-Lake	66.4%	19.8%	13.7%	100.0%
Pelham	57.7%	25.8%	16.5%	100.0%
Port Colborne	73.8%	18.6%	7.6%	100.0%
St. Catharines	15.4%	22.8%	61.9%	101.0%
Thorold	60.5%	37.1%	2.4%	100.0%
Wainfleet	97.2%	0.0%	2.8%	100.0%
Welland	41.1%	28.0%	30.8%	100.0%
West Lincoln	69.0%	27.4%	3.6%	100.0%
Niagara Region	45.6%	27.0%	27.4%	100.0%

F. TOTAL POPULATION AND TOTAL HOUSEHOLDS ARE FORECAST BY MUNICIPALITY FOR FIVE-YEAR CENSUS PERIODS TO 2051

Based on the all of the housing growth analysis presented above, Table 19 now provides the total population by municipality for each five-year Census period from 2016 to 2051.

Table 19

Total Population Forecast, 2016 to 2051 by Local Municipality Preferred Growth Option to 2051											
Municipality	Total Population Including Census Net Undercoverage								2016-2051 Growth	2021 2051	
	2016	2021	2026	2031	2036	2041	2046	2051		Net Change	Compound Annual Growth Rate
Fort Erie	31,490	33,930	36,320	38,640	40,910	43,240	45,460	48,050	16,560	14,120	1.17%
Grimsby	28,010	30,300	31,270	32,180	33,220	34,330	35,610	37,000	8,990	6,700	0.67%
Lincoln	24,390	26,860	28,290	29,710	31,090	32,540	34,040	35,660	11,270	8,800	0.95%
Niagara Falls	90,310	97,220	104,780	112,030	119,960	127,870	135,730	141,650	51,340	44,430	1.26%
Niagara-on the-Lake	17,960	19,970	21,480	22,930	24,380	25,850	27,300	28,900	10,940	8,930	1.24%
Pelham	17,540	19,320	21,100	22,770	24,480	26,150	27,720	28,830	11,290	9,510	1.34%
Port Colborne	18,770	19,250	19,600	20,010	20,670	21,350	22,250	23,230	4,460	3,980	0.63%
St. Catharines	136,490	140,250	145,350	150,700	155,600	160,800	165,910	171,890	35,400	31,640	0.68%
Thorold	19,280	24,440	26,710	28,890	31,390	33,900	36,650	39,690	20,410	15,250	1.63%
Wainfleet	6,530	7,000	7,070	7,150	7,260	7,370	7,540	7,730	1,200	730	0.33%
Welland	53,620	56,210	58,560	60,920	63,420	65,960	69,290	73,000	19,380	16,790	0.88%
West Lincoln	14,870	16,370	20,010	23,530	27,420	31,240	34,730	38,370	23,500	22,000	2.88%
Niagara Region	**459,260**	**491,120**	**520,540**	**549,460**	**579,800**	**610,600**	**642,230**	**674,000**	**214,740**	**182,880**	**1.06%**

To conclude the residential element of this review, it appears that Niagara Region will be able to provide sufficient housing to meet the revised population forecast of 674,000 in 2051. The housing can be provided through a combination of intensification and greenfield development consistent with Growth Plan policies and the housing can be accommodated at a housing mix that is close to that representing market-based demand.

G. EMPLOYMENT FORECAST TO 2051

In 2019, in concert with Regional staff, Hemson undertook an analysis of the employment surveys conducted by the Region in 2016 and 2018; referred to as the Niagara Employment Inventory (NEI). This analysis revealed that enterprises categorized as manufacturing and warehousing are less concentrated in employment areas across the Region than is typical in other municipalities. A significant number of these businesses are located in the Community Areas and the rural area, largely related to the agricultural base and food and wine production. In our advisory memorandum of September 2019 Hemson undertook to revise the employment forecast to 2041. This partial re-categorization of employment within the land use based employment categories in Niagara was a large part of the basis for a further redefinition of the employment categories provided in the Appendix to the Greater Golden Horseshoe: Growth Forecasts to 2051.

Based on these updated definitions of the land use based employment categories, the 2016 base employment has been restated into the categories which are now more explicitly geographically based and less NAICS based than in the past. The Place of Work employment data by Dissemination area from the 2016 Census is the primary

data that allowed for the restatement of the base employment. The employment categories are:

- Major office employment is any employment in a freestanding office building of 20,000 sq. ft. or greater including public buildings such as City Halls and Police Stations. Major Office buildings can be within any of the geographic areas of the other categories.

- Population-Related Employment is all employment within urban community areas, except major office, and is mainly commercial retail, institutional and urban work at home employment. Major concentrations of retail or large institutions excluded from Employment Land Employment are also part of Population-Related Employment.

- Employment Land Employment is all employment in urban industrial-type employment areas, excluding major office. As well, large retail concentrations and major institutions that lie within employment areas are excluded from the Employment Land Employment category. In Niagara Region these exclusions were Brock University, Niagara Health St. Catharines Site Hospital and the nearby large retail concentration in west St. Catharines.

  Rural industrial areas that are substantial are included in Employment Land Employment as are large freestanding non-agricultural industrial uses that are in the rural area or within the community area. These are quite few in number, with only the rural industrial at Allen's corners in West Lincoln being included within Employment Land Employment.

- Rural Employment is now all employment occurring within the rural geography with the few exceptions for major industrial uses or larger rural industrial areas. Work at home employment is typically a substantial proportion of the rural employment base. This new rural category is substantially larger than the old Rural-Based employment that was largely limited to agricultural and extraction uses. The new industry in cannabis production, which is quite labour intensive, may be located in greenhouses in the rural area, as in Pelham and Lincoln or in serviced urban facilities as one in Grimsby. The jobs are counted as either Rural or Employment Land Employment wherever the facility happens to be located.

The categorization of employment used in 2019 is shown in Table 20 in comparison to the updated 2020 categorizations used in the background work to Schedule 3. Notably, a more complete office data set from CoStar data allowed for a significant update to the space and employment, now showing nearly double the office employment. Similarly, the rural employment is significantly higher based on the new definition of Rural Employment and the use of the Dissemination Area data for much of the allocation.

In addition, we would also focus attention on the Employment Land Employment in Lincoln and West Lincoln, both of which were significantly overstated in 2019. In West Lincoln, this was partly related to counting the new Stanpac Plant in Smithville as if it had been completed in 2016, rather than 2018. In Lincoln, some the rural employment in the greenhouses had been mistakenly included within the Employment Land

Employment. Lastly, in Wainfleet the updated definition of employment means that all employment within the Township is classified as Rural Employment.

The forecast of total employment is based on the background work to Schedule 3 for the years prior to 2051, while 2051 is straight from Schedule 3. The total Regional employment at 2051 is 272,000, only 7,000 higher than the previous forecast figure of 265,000 for 2041. The total increment from 2016 is similar between both forecasts and the growth increment by category is quite similar. As a result, the growth from 2016 to 2051 by category for each of the municipalities is also quite similar to the 2019 forecast.

Table 20

2016 Employment Base Using Updated Land Use Based Employment Categorires Compared to the 2019 Categorization Niagara Region by Local Municipality										
Municipality	2019 Niagara MCR Categorization					2020 Categorization as Defined in the Background Work to Schedule 3 to the Growth Plan				
	Major Office	Population Related	Employment Land	Rural	Total	Major Office	Population Related	Employment Land	Rural	Total
Fort Erie	0	6,520	3,160	670	10,350	0	5,390	3,100	1,860	10,350
Grimsby	0	6,210	3,260	310	9,780	230	5,700	3,220	600	9,760
Lincoln	0	3,970	3,590	3,520	11,080	120	2,350	3,110	5,510	11,080
Niagara Falls	0	32,420	8,340	1,210	41,970	3,120	28,910	8,340	1,620	41,990
Niagara-on the Lake	0	8,910	1,660	2,460	13,030	0	6,770	1,720	4,490	12,990
Pelham	0	3,310	40	1,160	4,510	260	2,440	0	1,820	4,520
Port Colborne	0	3,610	1,970	630	6,210	0	3,370	1,990	850	6,200
St. Catharines	8,950	37,590	14,030	1,550	62,120	9,690	37,060	14,170	1,220	62,140
Thorold	0	4,100	2,940	1,360	8,400	1,470	2,950	2,810	1,160	8,390
Wainfleet	0	450	440	520	1,410	0	0	0	1,460	1,460
Welland	0	15,020	2,610	110	17,740	480	14,280	2,660	340	17,760
West Lincoln	0	1,970	1,470	900	4,340	0	1,720	900	1,720	4,330
Niagara Region	**8,950**	**124,080**	**43,510**	**14,400**	**190,940**	**15,360**	**110,940**	**42,020**	**22,640**	**190,960**

Table 21 shows the total employment for each census year from 2016 through 2051. A decline in employment is shown in many municipalities because of COVID-19 related job losses. The decline is especially large in Niagara Falls and Niagara-on-the-Lake due to the enormous effects the pandemic has had on the tourism related sectors of food and accommodation, and entertainment and recreation. The forecast assumes that all of these job losses will have fully recovered well before 2026. Tables 22, 23, 24 and 25 provide the total employment at Census years for the local municipalities, with one table for each of the four employment categories.

Table 21

Total Employment Forecast, 2016 to 2051, Niagrara Region and Local Municipalities Preferred Growth Option to 2051											
Municipality	Total Place of Work Employment								2016-2051 Growth	2021 2051	
	2016	2021	2026	2031	2036	2041	2046	2051		Growth	Annual Growth Rate
Fort Erie	10,350	10,530	11,890	12,670	13,630	14,710	16,060	17,430	7,080	6,910	1.7%
Grimsby	9,760	10,690	11,980	12,280	12,720	13,320	13,920	14,670	4,910	3,980	1.1%
Lincoln	11,080	11,390	12,340	12,830	13,490	14,190	15,080	15,960	4,870	4,570	1.1%
Niagara Falls	41,990	37,780	45,160	46,780	49,200	52,080	55,270	58,110	16,120	20,330	1.4%
Niagara on the Lake	12,990	11,800	13,720	14,210	14,880	15,490	16,210	16,960	3,970	5,160	1.2%
Pelham	4,520	4,810	5,320	5,620	6,020	6,410	6,810	7,140	2,630	2,330	1.3%
Port Colborne	6,200	5,910	6,200	6,340	6,590	6,850	7,180	7,550	1,350	1,640	0.8%
St. Catharines	62,140	61,780	66,890	68,850	71,360	74,450	77,570	81,010	18,870	19,220	0.9%
Thorold	8,390	8,530	9,230	9,620	10,190	10,710	11,430	12,080	3,690	3,540	1.2%
Wainfleet	1,460	1,400	1,520	1,560	1,620	1,680	1,750	1,830	370	420	0.9%
Welland	17,760	18,030	20,820	21,750	23,110	24,640	26,550	28,790	11,030	10,760	1.6%
West Lincoln	4,330	4,460	5,550	6,260	7,250	8,280	9,340	10,480	6,140	6,020	2.9%
Niagara Region	**190,960**	**187,110**	**210,610**	**218,780**	**230,050**	**242,810**	**257,170**	**272,000**	**81,040**	**84,890**	**1.3%**

Table 22

Major Office Employment Forecast, 2016 to 2051, Niagrara Region and Local Municipalities Preferred Growth Option to 2051											
Municipality	Major Office Employment								2016-2051 Growth	2021-2051	
	2016	2021	2026	2031	2036	2041	2046	2051		Growth	Annual Growth Rate
Fort Erie	0	0	0	50	50	50	140	140	140	140	0.0%
Grimsby	230	650	890	890	890	950	950	1,030	800	380	1.5%
Lincoln	120	120	130	130	130	130	220	220	100	100	2.0%
Niagara Falls	3,120	3,210	3,520	3,650	3,800	3,970	4,160	4,360	1,240	1,150	1.0%
Niagara on-the-Lake	0	0	0	80	170	170	260	350	350	350	0.0%
Pelham	260	260	270	270	270	270	270	270	10	10	0.1%
Port Colborne	0	0	0	0	0	0	0	0	0	0	0.0%
St. Catharines	9,690	9,810	10,320	11,050	11,870	12,860	13,790	14,780	5,090	4,970	1.4%
Thorold	1,470	1,470	1,610	1,630	1,630	1,630	1,720	1,720	250	250	0.5%
Wainfleet	0	0	0	0	0	0	0	0	0	0	0.0%
Welland	480	480	660	660	740	740	740	850	360	360	1.9%
West Lincoln	0	0	0	0	0	80	80	160	160	160	0.0%
Niagara Region	**15,360**	**15,990**	**17,400**	**18,410**	**19,550**	**20,850**	**22,330**	**23,870**	**8,510**	**7,880**	**1.3%**

Table 23

Population Related Employment Forecast, 2016 to 2051, Niagrara Region and Local Municipalities Preferred Growth Option to 2051											
Municipality	Population-Related Employment								2016-2051 Growth	2021-2051	
	2016	2021	2026	2031	2036	2041	2046	2051		Growth	Annual Growth Rate
Fort Erie	5,390	5,850	6,420	6,750	7,210	7,690	8,200	8,730	3,340	2,890	1.3%
Grimsby	5,700	6,400	7,130	7,280	7,520	7,820	8,120	8,470	2,760	2,070	0.9%
Lincoln	2,350	2,850	3,170	3,370	3,630	3,880	4,140	4,430	2,070	1,580	1.5%
Niagara Falls	28,910	24,880	31,340	32,480	34,260	36,390	38,630	40,430	11,520	15,550	1.6%
Niagara-on-the-Lake	6,770	5,730	7,260	7,480	7,820	8,140	8,450	8,760	1,990	3,040	1.4%
Pelham	2,440	2,770	3,110	3,340	3,640	3,920	4,180	4,370	1,940	1,600	1.5%
Port Colborne	3,370	3,110	3,220	3,280	3,410	3,540	3,690	3,860	490	750	0.7%
St. Catharines	37,060	37,510	41,120	42,020	43,290	44,930	46,530	48,290	11,230	10,780	0.8%
Thorold	2,950	3,210	3,630	3,930	4,390	4,790	5,280	5,750	2,800	2,540	2.0%
Wainfleet	0	0	0	0	0	0	0	0	0	0	0.0%
Welland	14,280	15,060	16,690	17,030	17,530	18,160	18,890	19,680	5,400	4,610	0.9%
West Lincoln	1,720	1,980	2,610	3,090	3,770	4,390	5,000	5,560	3,840	3,580	3.5%
Niagara Region	**110,940**	**109,330**	**125,700**	**130,050**	**136,470**	**143,650**	**151,110**	**158,330**	**47,380**	**48,990**	**1.2%**

Table 24

Employment Land Employment Forecast, 2016 to 2051, Niagrara Region and Local Municipalities Preferred Growth Option to 2051											
Municipality	Employment Land Employment								2016 2051 Growth	2021-2051	
	2016	2021	2026	2031	2036	2041	2046	2051		Growth	Annual Growth Rate
Fort Erie	3,100	2,880	3,530	3,920	4,380	4,910	5,570	6,310	3,210	3,430	2.6%
Grimsby	3,220	3,070	3,290	3,400	3,550	3,720	3,940	4,200	980	1,130	1.1%
Lincoln	3,110	3,040	3,310	3,450	3,630	3,840	4,120	4,430	1,330	1,390	1.3%
Niagara Falls	8,340	8,110	8,550	8,810	9,170	9,620	10,210	10,890	2,550	2,770	1.0%
Niagara-on the-Lake	1,720	1,700	1,760	1,780	1,820	1,860	1,920	1,990	270	290	0.5%
Pelham	0	0	0	0	0	0	0	0	0	0	0.0%
Port Colborne	1,990	1,980	2,040	2,070	2,110	2,170	2,240	2,330	340	350	0.5%
St. Catharines	14,170	13,320	14,170	14,430	14,750	15,110	15,620	16,200	2,030	2,880	0.7%
Thorold	2,810	2,720	2,810	2,870	2,950	3,040	3,160	3,290	480	580	0.6%
Wainfleet	0	0	0	0	0	0	0	0	0	0	0.0%
Welland	2,660	2,160	3,060	3,610	4,310	5,130	6,220	7,470	4,810	5,300	4.2%
West Lincoln	900	810	1,150	1,330	1,550	1,820	2,170	2,570	1,670	1,760	3.9%
Niagara Region	**42,020**	**39,790**	**43,670**	**45,670**	**48,220**	**51,220**	**55,170**	**59,680**	**17,670**	**19,880**	**1.4%**

Table 25

Rural Employment Forecast, 2016 to 2051, Niagrara Region and Local Municipalities Preferred Growth Option to 2051											
Municipality	Rural Employment								2016-2051 Growth	2021-2051	
	2016	2021	2026	2031	2036	2041	2046	2051		Growth	Annual Growth Rate
Fort Erie	1,860	1,800	1,930	1,940	1,990	2,060	2,150	2,250	390	440	1.5%
Grimsby	600	580	670	710	770	830	900	970	370	390	1.7%
Lincoln	5,510	5,380	5,730	5,880	6,090	6,330	6,600	6,880	1,370	1,500	0.8%
Niagara Falls	1,620	1,580	1,750	1,840	1,970	2,110	2,270	2,430	810	850	1.4%
Niagara-on-the-Lake	4,490	4,380	4,710	4,860	5,070	5,310	5,580	5,860	1,370	1,480	1.0%
Pelham	1,820	1,780	1,940	2,010	2,110	2,220	2,360	2,500	670	710	1.1%
Port Colborne	850	820	940	990	1,070	1,150	1,250	1,360	510	540	1.7%
St. Catharines	1,220	1,150	1,270	1,350	1,450	1,550	1,640	1,740	520	590	1.4%
Thorold	1,160	1,140	1,180	1,200	1,220	1,250	1,280	1,310	160	170	0.5%
Wainfleet	1,460	1,400	1,520	1,560	1,620	1,680	1,750	1,830	370	420	0.9%
Welland	340	320	410	460	520	610	700	800	460	480	3.1%
West Lincoln	1,720	1,670	1,790	1,840	1,920	2,000	2,100	2,190	480	520	0.9%
Niagara Region	**22,640**	**22,010**	**23,840**	**24,640**	**25,800**	**27,100**	**28,580**	**30,120**	**7,480**	**8,090**	**1.1%**

EXECUTIVE OVERVIEW

Chapter 2 – Section 2. REGIONAL STRUCTURE

SUMMARY

The Regional Structure is the basis for growth management in Niagara. It provides direction on critical factors needed to allocate population and employment forecasts within Urban Areas and Rural Settlements.

The Regional Structure will coordinate and support a range of land use considerations, including: investments in infrastructure and public service facilities; the protection of employment areas and agricultural lands; the creation of sustainable and resilient communities; and the preservation of key natural heritage and water resource systems.

- Schedule B identifies the land use components that comprise the Regional Structure, including Settlement Area boundaries. The Regional Structure is used to determine where forecasted growth will and will not be directed.

- Urban Areas will accommodate the majority of forecasted growth through strategic intensification and redevelopment opportunities. Growth will also be accommodated through development of Designated Greenfield Areas that support the creation of complete communities with a range of land uses and housing options.

- Intensification rates are provided for each area municipality. Local municipalities will be required to update or develop intensification strategies that support their applicable intensification target, identify priority areas for growth, and establish design and development standards for development in Built-Up Areas.

- Strategic Growth Areas are the focus for higher density, mixed-use development and major investments in transit infrastructure, public service facilities, and improvements to the public realm. For Niagara, Strategic Growth Areas include:

    - Downtown St. Catharines Urban Growth Centre;

    - Major Transit Station Areas, including the confirmed and future proposed GO Transit Stations;

    - Regional Growth Centres, including Downtown Welland; and

    - District Plan Areas, including the Brock and Glendale Niagara District Plans.

- Local municipalities, in consultation with the Region, will complete secondary plans for Strategic Growth Areas that support and refine identified density targets and implement the growth management objectives of the Niagara Official Plan (“NOP”).

- The limited amount of growth that occurs outside of Urban Areas will be accommodated in Rural Settlements. Rural Settlements will support existing residential, agricultural, commercial, and employment uses, and will continue to be serviced through private water and wastewater treatment systems.

A Draft Policy set is provided with this sub-section document.

Integration Guide for Sub-sections Reported in PDS 17-2021	
☑ Regional Structure	☑ Archaeology
☑ Housing	☑ Employment
☑ Land Needs	☑ Agriculture
☑ SABR	☐ Aggregates
☑ Transportation	☑ Natural Heritage incl.
☑ Infrastructure	☑ Water Systems Options
☑ District/Secondary Plans	☑ Watershed Planning
☑ Urban Design	☑ Climate Change

OVERVIEW

The *Growth Plan* requires municipalities to plan for forecasted growth in a manner that supports the achievement of complete communities.

Complete communities are defined as areas within a town or city that offer opportunities for people of all ages and abilities to conveniently access most of the necessities for daily living, including an appropriate mix of jobs, local stores and services, and a full range of housing and transportation options.

The Regional Structure accomplishes this by identifying land use components that manage the growth forecasted in the *Growth Plan* Schedule 3 and allocated through the Region's Land Needs Assessment.

Specifically, the Regional Structure strategically directs growth in alignment with *Growth Plan* Policy 2.2.2.1, which requires the majority of forecasted growth to be directed to Urban Areas that are serviced by existing or planned infrastructure.

This growth is to be focused in Built-Up Areas, Strategic Growth Areas, locations with existing or planned transit service, and areas with existing or planned public service facilities.

Only limited amount of growth can be directed to areas outside of Urban Area boundaries where development will be concentrated within Rural Settlements, including villages and hamlets.

Intensification rates for Built-Up Areas and density targets for Strategic Growth Areas and Designated Greenfield Areas are set to guide the location and form of future development.

Intensification refers to development or redevelopment within the Built-Up Area and can include a range of housing forms. The *Growth Plan* requires a minimum of 50% of new development across the Region occur within the Built-Up Area. Formerly, this minimum was 40%. The in-effect *Growth Plan* requires more intensification than in the current Official Plan.

Municipal intensification rates were determined based on significant consultation with local municipalities. The rates were determined based on thorough assessment of the capacity to accommodate growth within the Built-Up Area through intensification and infill opportunities and the geographic context of the municipality. Municipalities within the *Greenbelt Plan* area typically have a higher intensification rates due to the inability to expand its Urban Area boundary.

The result is a 56% overall intensification rate, higher than the 50% Growth Plan requirement.

Table 1 below sets out the intensification rates by municipality.

Table 1: Intensification Rates for Built-Up Areas by Local Municipality

Municipality	Intensification Rate
Fort Erie	50%
Grimsby	98%
Lincoln	80%
Niagara Falls	50%
Niagara-on-the-Lake	25%
Pelham	25%
Port Colborne	30%
St. Catharines	95%
Thorold	25%
Wainfleet	0%
Welland	60%
West Lincoln	13%
Niagara Region	**56%**

In addition to intensification rates, the Region sets density targets, as directed by the Growth Plan.

Density is a measure of the number people and jobs that are located within a specific area. Density targets can be achieved in a number of ways, and does not in of itself dictate the built form of a community.

The Province requires Designated Greenfield Areas to achieve a minimum density of 50 people and jobs per hectare. This minimum density target is to be measured over the entire Designated Greenfield Area of the Region, excluding certain take-outs (i.e. natural heritage features, areas and systems). Unlike the intensification rate, the Designated Greenfield Area density target is the same for all local municipalities.

Strategic Growth Areas ("SGAs") are a new land use component introduced through the NOP, in line with the Growth Plan. SGAs are intended to accommodate significant intensification and higher-density, mixed use development over time.

Density targets for SGAs were established by undertaking the following background analysis:

- a jurisdictional scan and review of intensification and growth area targets within the Official Plans of comparable single-tier and upper-tier municipalities;
- a review of the land use designations, permissions, and design standards outlined within applicable secondary plans, district plans, and/or Official Plans and Zoning By-laws;
- calculating the minimum and maximum densities that could be implemented within the SGA as established by the aforementioned policy structure; and
- applying Provincial policy to the relationship between Niagara's identified SGAs.

Table 2 provides draft SGA density targets.

Table 2: Density Targets for Strategic Growth Areas

Municipality	Minimum Density Target
Downtown St. Catharines Urban Growth Centre	150 people & jobs per hectare to **2031**
GO Transit Station Areas in St. Catharines, Lincoln, Niagara Falls, and Grimsby	125 people & jobs per hectare to **2051**
Downtown Welland Regional Growth Centre	125 people & jobs per hectare to **2051**
Brock and Glendale Niagara District Plans	100 people & jobs per hectare to **2051**

Regional Structure policies support the above-noted land use components and establish intensification and density targets. Related policies implement other Provincial growth management objectives, including:

- the efficient use of infrastructure, public service facilities, and the public realm that meet the needs of residents over time and sustain the financial well-being of municipalities;
- the development of affordable housing for low and moderate income households, including housing for specialized needs;
- support for a range and mix of residential, employment, institutional, recreation, park and open space uses that incorporate sustainable design and facilitate the use of public transit and active transportation;
- conservation of the region's biodiversity and protection of the region's natural heritage and water resource systems; and
- use of secondary planning to identify and address the challenges and opportunities specific to strategic and priority areas of growth, and provide detailed policies that guide future development and design of buildings, parks, and public spaces within these areas.

Regional Structure also includes policies for local municipalities to update or develop new intensification strategies as part of local Official Plan conformity. Intensification strategies and secondary plans can help direct growth and manage change within their communities.

Intensification strategies will also benefit from NOP urban design policies and local Official Plans. Urban design can assist with implementing or establishing community identity,

provide direction to address compatibility for infill and support complete communities and complete streets.

The policies and targets of the Regional Structure are informed by the results and recommendations of the various studies and matters of interest related to growth management, land use planning, and infrastructure and asset management, including the Niagara 2041: Preferred Growth Option Report (Hemson, 2019) and Niagara Region Municipal Comprehensive Review – Growth Allocation Update to 2051 (**Appendix 3.3**); Niagara Region Housing Market Analysis and Growth Scenario Analysis (CANCEA, 2019); the Memorandum: Housing Affordability and Growth Plan 2051 (CANCEA) (**Appendix 5.2**); and the Employment Policy Paper (**Appendix 10.2**), and the Water/Wastewater Master Servicing Plan and Transportation Master Plan.

The policies are also informed by input from members of the public, local area municipalities, Regional Committee and Council, and other stakeholder groups. The feedback received through many engagement sessions identified growth management as the key challenge and opportunity for Niagara. Specifically, that strategic growth management is needed to accommodate incoming growth in a manner that creates thriving, complete, and resilient communities that mitigate and adapt to our changing climate and protect the Region's significant natural heritage and water resource systems.

Responsible, efficient use of land and infrastructure needs to be coordinated. This will be achieved through a monitoring program. Monitoring will play a critical role in tracking levels of new growth and development following implementation of the NOP. The ability to monitor growth will assist with decisions concerning allocations and targets set for the horizon of the planning period for all local municipalities.

Included in this section is the Regional Structure Policy Paper, **Appendix 4.2** and Regional Structure Draft Policies, **Appendix 4.3** and draft schedule mapping, **Appendix 4.4**.

PDS 17-2021 – Appendix 4.2

making our mark

NIAGARA
OFFICIAL PLAN

NIAGARA OFFICIAL PLAN

Regional Structure Policy Paper

Growth Management for the Niagara Region

Niagara Region
May 2021

GROWING REGION

Table of Contents

Executive Summary

This Discussion Paper identifies the Regional Structure and outlines the direction of growth management policies and mapping for the new Niagara Official Plan ("NOP").

A Place to Grow: Growth Plan for the Greater Golden Horseshoe ("Growth Plan") sets out that Niagara Region will grow by 85,000 jobs and 182,000 people from 2021 to 2051. We are planning for this growth by identifying areas in the Region that can accommodate future jobs and residents.

The Regional Structure will ensure that the distribution of growth within local municipalities is directed appropriately and achieved in a manner that conforms to the *Growth Plan*.

The Region has undertaken numerous studies to understand the characteristics of our existing population and built infrastructure.

Updates to the Region's Growth Allocations and Land Needs Assessment ("LNA") identify over 91,000 dwelling units to be added to the Region's housing stock by the year 2051. The form in which these dwelling units are developed depends on how the Region seeks to grow over time.

The Niagara Region Housing Affordability and Growth Plan Report ("2021 Housing Report"), concluded that meeting the Growth Plan's population forecasts will better address rates of core housing need compared to the status quo or a slower growth scenario. In other words, the Region needs to grow at the minimum *Growth Plan* targets to maintain the same level of affordability.

Achieving the *Growth Plan* (targeted growth) forecasts can be accomplished by establishing policies as part of the Regional Structure that encourage the development of townhouses, apartments, and other higher-density dwelling units that provide more affordable housing choices.

The Regional Structure is informed through consultation, including meetings with local municipalities and the Planning Advisory Committee. Additionally, information regarding the Regional Structure was made available to members of the public as part of a series of Public Information Centre ("PIC") meetings held in November 2019 and October 2020 for the NOP, as well as the release of a Growth Management Survey.

Engagement with the public identified the top priorities for managing growth strategically in Niagara. Our communities need to be planned in ways which offer more housing options, make use of existing infrastructure, improve existing transportation systems, including transit and cycling networks, and support jobs and economic prosperity.

The policies and mapping of the Regional Structure must be consistent with the *Provincial Policy Statement* and must conform to the Provincial land use plans that apply to Niagara, including the *Growth Plan* and the *Greenbelt Plan*.

Provincial Policy directs municipalities to achieve the creation of complete communities that are well-designed, efficiently serviced, and protect and preserve key agricultural and natural heritage resources.

The achievement of complete communities is dependent on the location and development of the future population and jobs.

In recent years, the majority of the Region's growth has been directed to its Urban Areas. Specifically, the Region's:

- Built-Up Areas, which are characterized primarily by infill intensification and redevelopment. Intensification rates, which measure the amount of new development that occurs within the Built-Up Area, are assigned to the local municipalities with an overall minimum intensification rate of 50% Region-wide; and
- Designated Greenfield Areas (DGA), which are characterized primarily by larger scale community planning and development projects. Overall, the Region must meet a density target of 50 person and jobs per hectare in the DGA.

The Downtown St. Catharines Urban Growth Centre is the only Urban Growth Centre identified in Niagara in the *Growth Plan*. The Urban Growth Centre will be planned as a regional focal point for accommodating population and employment growth, with a higher density target of 150 persons and jobs per hectare. The Urban Growth Centre is also a Strategic Growth Area ("SGA"), as that term is used in the *Growth Plan*.

Through the Regional Structure, additional SGAs have been identified, including the Major Transit Station Areas (GO Station Areas), Downtown Welland and the District Plan areas. SGAs require higher density targets and have specific policy direction.

The Regional Structure includes the following:

1. A comprehensive set of policies that implement the relevant intensification and density targets and incorporate strategic infrastructure planning, climate change considerations, and urban design principles for the creation of complete communities. This is included as **Appendix 4.3.**
2. A new "Schedule B" that maps the Regional Structure and includes: Urban Areas and related land use components, such as Built-Up Areas, Designated Greenfield Areas, Major Transit Station Areas, Employment Areas, Regional Growth Centres, and other Strategic Growth Areas; Rural Settlement Areas (Hamlets); Agricultural Areas; Rural Lands, and Excess Lands. This is included as **Appendix 4.4**.

Monitoring will play a critical role in tracking performance of new growth and development following implementation of the NOP.

Further consultation on the Regional Structure, and other NOP items, is planned for the Summer and Fall 2021.

Staff ask that **comments be made by July 2, 2021 on the Regional Structure,** to allow sufficient time to review and report for August 2021.

Following this comment period, revisions to the draft Regional Structure will be made, as appropriate, and presented to Council for consideration.

1.0 Introduction

Niagara's Official Plan guides the short- and long-term development of the Region, including:

- where population and employment growth should and should not occur;
- the size and location of land uses within a municipality;
- the infrastructure and services needed to support planned land uses; and
- the regulatory framework used to implement its policies and objectives.

The policies and mapping of the new OP will be grouped into the five key components described in **Figure 1** below.

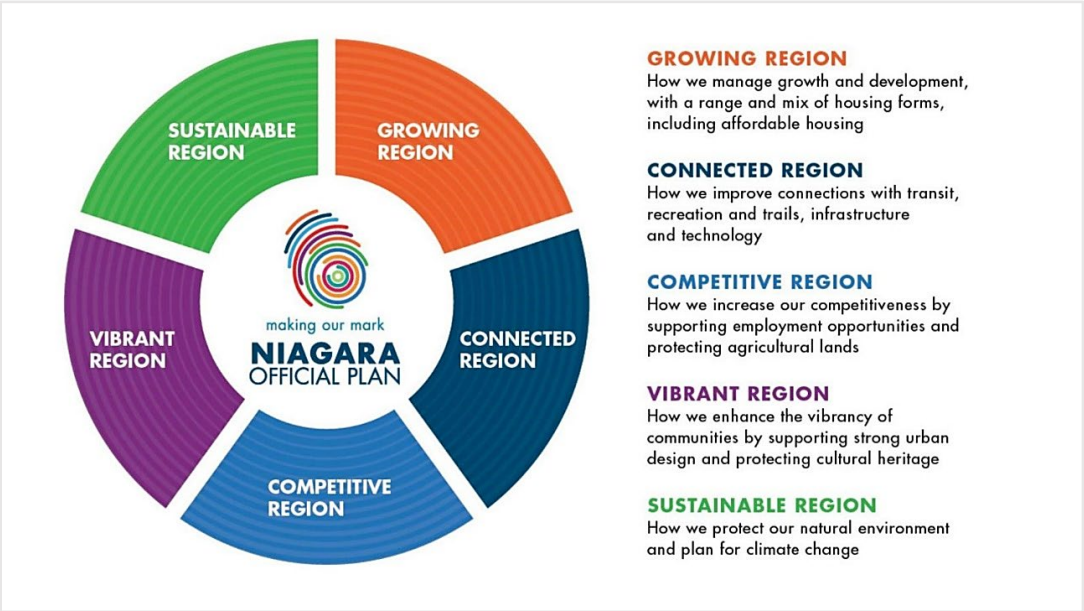


Figure 1: *Key Components of the new Niagara Official Plan*

An important component of the NOP is the development of the Regional Structure; a growth management framework that establishes land use components and policy tools to achieve the objectives, forecasts and targets of Provincial policy.

Planning for the Regional Structure is considered within the Growing Region component of the NOP; however, its recommendations are based on a range of land use considerations, including investments made in infrastructure and municipal servicing; the protection of employment lands, employment areas, and agricultural lands; and the preservation of key natural heritage and hydrologic systems. These matters are each informed by background studies or work programs and will be included in other sections of the NOP.

The Regional Structure includes:

1. A comprehensive set of policies that implement the relevant intensification and density targets and incorporate strategic infrastructure planning, climate change considerations, and urban design principles for the creation of complete communities. This is included as **Appendix 4.3.**

2. A new "Schedule B" that maps the Regional Structure and includes: Urban Areas and related land use components, such as Built-Up Areas, Designated Greenfield Areas, Major Transit Station Areas, Employment Areas, Regional Growth Centres, and other Strategic Growth Areas; Rural Settlement Areas (Hamlets); Agricultural Areas; Rural Lands. This is included as **Appendix 4.4**.

2.0 Purpose

This Regional Structure Policy Paper is a follow-up to the Regional Structure Background Report (Report No. PDS 28-2020) prepared in September 2020. That report was received by Council at its meeting on September 17, 2020.

Since the receipt of the Regional Structure Background Report, Staff have further consulted, including through virtual public information sessions in October 2020 and individual meetings with local planning staff in September-October 2020 and February-March 2021. Further consultation details are provided in **Subsection 2.1** below.

As a result of those consultation events, and further research and refinement, this Regional Structure Policy Paper was prepared.

This Regional Structure Policy Paper is appended to the Joint Report on the NOP (**Appendix 4.2**). This Paper should be read in conjunction with the Regional Structure Executive Overview, Regional Structure policies, and balance of the materials provided with Report No. PDS 17-2021.

This Report provides the following:

- recent background studies relevant to the development of the Regional Structure;
- pertinent growth management concepts and land use planning practices;
- recommended actions related to the identification of strategic growth areas, and proposed intensification rates and density targets; and
- additional matters that have informed policies.

The Regional Structure Policy Paper is one of several steps undertaken by the Region for the developing the Regional Structure.

The Region has consulted with local municipal planning staff, stakeholders and the public on the Regional Structure. Further consultation will be conducted prior to finalizing the draft policies and mapping outlined within this report. A consultation discussion is provided in **Subsection 2.1** below.

3.0 Background

The existing policy for Niagara's urban areas was initially established in the 1970s through the creation of its original Official Plan. Although there have been many amendments over the years, the Region's Official Plan structure is out-of-date with modern planning policies.

Over the past several decades, there have been significant changes to the planning system. Today's system is hierarchical and policy-lead, requiring the Region to be consistent with, conform to, or not conflict with the *Provincial Policy Statement, 2020* (PPS), *A Place to Grow: Growth Plan for the Greater Golden Horseshoe* (*Growth Plan*), the *Greenbelt Plan*, and the *Niagara Escarpment Plan*.

A comprehensive review of the Official Plan and its urban area policies occurred in 2009 with the development of the Niagara 2031 Growth Management Strategy, as implemented by Regional Policy Plan Amendment 2-2009 ("RPPA 2-2009"). This amendment established a new vision for the long term growth and development of Niagara, which recognized the changes in economic drivers and infrastructure investments made in the Region since the Official Plan's inception.

RPPA 2-2009 was initiated to ensure conformity with the policies and growth forecasts in the 2006 Growth Plan. This exercise led to the creation of the existing "Regional Urban Structure" as mapped in Schedule A of the existing Official Plan.

RPPA 2-2009 also introduced new areas for residential and employment intensification, added policies and mapping that guide the development of the Niagara Economic Gateway and Centre, and established design, construction, and maintenance standards for Regional water, wastewater, and transportation infrastructure.

Since the passing of RPPA 2-2009, there have been several significant changes to Provincial Policy that necessitate a reevaluation of Niagara's growth management policies and mapping. In 2014, the Province completed a comprehensive review of the PPS, which in turn, lead to extensive updates to the *Growth Plan*, the *Greenbelt Plan*, and the *Niagara Escarpment Plan* in 2017.

Further revisions were made to the policies and mapping in the *Growth Plan* and *PPS* in 2019 and 2020, respectively, which emphasized the provision of affordable and market-based housing, the promotion of economic competitiveness, and efficiency in the development process.

In response, the Region initiated a new growth management strategy, known as Niagara 2041, which until recently, formed the basis for the MCR and numerous companion strategies, such the Water and Wastewater Master Servicing Plan, the Transportation Master Plan, the Housing Report, and the Employment Strategy. Further details on this background work are outlined in **Subsection 2.2**.

In August 2020, the Province approved Amendment 1 to the 2019 *Growth Plan* (Amendment 1), which, among other things, extended the horizon for land use planning from the year 2041 to the year 2051. Amendment 1 revised Schedule 3 of the *Growth Plan* in order to institute new regional population and employment forecasts, and revised the methodology for assessing land need.

As an upper-tier municipality, the Region is required to conform to the *Growth Plan* and revise its Regional Structure as part of its MCR to ensure that the distribution of growth to local municipalities can be achieved.

3.1 Consultation for the Regional Structure

Prior to the 2019 *Growth Plan* changes, the Region met on numerous occasions with the Planning Advisory Committee and, separately, with planning staff of local municipalities, to discuss the development of Niagara 2041 and the Regional Structure.

In September 2019, Regional staff provided a Growth Management Program Update to the Planning and Economic Development Committee (Report No. PDS 33-2019), which included preliminary information on the Regional Structure (at the time referred to as the "Urban Structure"). That same year, Public Information Centre (PIC) meetings were held at various locations across the Region in order to provide the public an opportunity to learn about and comment on the Regional Structure and other components of the NOP.

In 2020, Staff prepared the Regional Structure Background Report outlining recent changes and addressing key matters for the Regional Structure that would be determined through further study and consultation. Subsequently, Regional staff:

- engaged Hemson Consulting and the Canadian Centre for Economic Analysis (CANCEA) to update the previous data and analyses conducted for Niagara 2041 (as outlined in **Subsection 2.2**);

- prepared an online survey to assess the public's priorities for growth management in the NOP;
- met with local municipal planning staff on numerous occasions to discuss updated population and employment allocations, employment policies and mapping, and matters related to the Regional Structure; and
- hosted a series of virtual public information sessions in October 2020 and held additional meetings with key stakeholders on the components of the NOP, including discussions on the Regional Structure.

The feedback received through this engagement generally identified growth management as both the key challenge and opportunity for Niagara. Specifically, that strategic growth management is needed to accommodate growth in a manner that creates thriving, complete, and resilient communities that mitigate and adapt to our changing climate and protect the Region's significant natural heritage and water systems.

In addition, there was significant interest in ensuring that the NOP could facilitate an increase in affordable housing options; improve existing transportation systems, especially transit and cycling networks; and properly manage the Region's employment areas to support job creation and economic prosperity.

3.2 Growth Management Studies

The Regional Structure is informed by a number of considerations related to growth management, many of which are informed by their own respective studies. These studies collectively inform the current and future plan for growth and development in Niagara.

Figure 2 demonstrates the relationship between the *Growth Plan*, the Regional Structure, and other key growth management studies completed as part of the NOP.

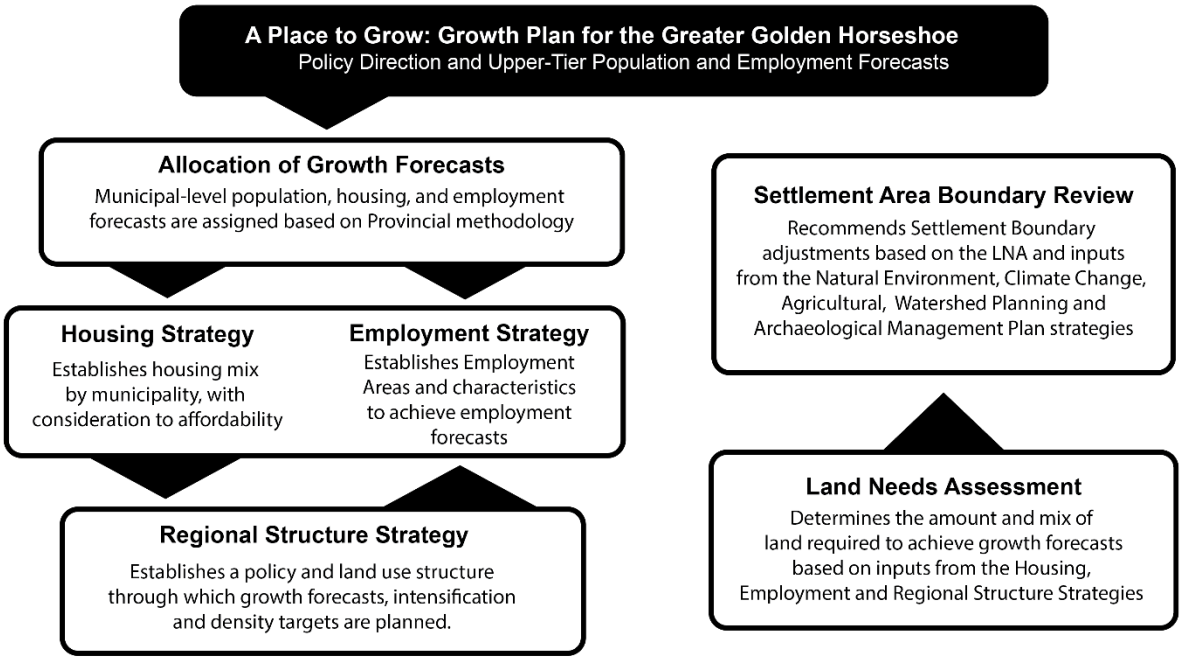


Figure 2: Relationship between the Plans and studies that inform the Regional Structure

3.2.1 Niagara 2041: Preferred Growth Option Report

A series of reports were completed by Hemson Consulting between 2014 and 2019 that provide detailed population and employment forecasts at a regional and local municipal level to 2041, in conformity with the in-effect Growth Plans at the time.

Following consultation with local municipalities and relevant stakeholders, population and employment allocations were further refined to identify a Preferred Growth Option, which was used to inform the Niagara Region Master Servicing Plan and Transportation Master Plan, and ultimately led to the forecasts used within the 2016 Development Charges Background Study. Associated housing forecasts were later revised through the development of the 2019 Housing Strategy.

This work is now outdated as it does not conform to the in-effect Growth Plan with a 2051 horizon.

3.2.2 Niagara Region Municipal Comprehensive Review – Growth Allocation Update to 2051 and Land Needs Assessment

As noted, the Region has been working on the growth allocations and land needs assessment ("LNA") for a number of years. The Niagara Region Municipal Comprehensive Review - Growth Allocation Update to 2051 (Hemson, 2021) builds off

the results of the Niagara 2041*:* Preferred Growth Option (Hemson, 2019) analysis to align regional forecasts with those established through the 2020 *Growth Plan*. Significant consultation has been ongoing with municipalities, stakeholders and the public since the release of the amended *Growth Plan.*

The allocations are used to directly inform the Region's LNA. The LNA is a Provincial requirement of the NOP – the Region must follow a Provincial methodology to determine the amount of land needed to accommodate forecasted population and employment growth to 2051.

Hemson Consulting provided the Region with updated municipal-level forecasts based on inputs from consultation and certain Official Plan background strategies. The Hemson, 2021 memo is included in the Joint Report as **Appendix 3.3.**

Accompanying the 2020 *Growth Plan* was a revised LNA methodology that that requires municipalities to consider market-based housing demand as part of the LNA.

The updates provided in the Hemson, 2021 memo inform the corresponding updates to the Housing Report (described in **Subsection 2.2.4** below), and identified housing by type and location forecasts, by municipality, consistent with intensification rates and density targets identified within the Regional Structure.

The Draft Lands Needs Summary document is included with the Joint Report as **Appendix 3.2**. This provides details on how the Region has performed the LNA using the Provincial Methodology. Like the Regional Structure, the Draft LNA will be finalized following consultation.

3.2.3 Master Servicing Plan and Transportation Master Plan

The Master Servicing Plan ("MSP") and the Transportation Master Plan ("TMP") were completed in 2016 and 2017, respectively, to evaluate the capacity requirements of the Region's existing water, wastewater, and transportation infrastructure. These studies inform where growth and development can be accommodated by Regional infrastructure, and how it can be designed and constructed to support the key planning principles outlined in **Section 5.0**.

The MSP and the TMP utilize growth forecasts to identify where and when infrastructure improvements will be made to meet the demands of future households and businesses. Both these studies currently align with the work of the previous *Growth Plan* and the Niagara 2041: Preferred Growth Option report (Hemson, 2019).

The full costs associated with maintaining and replacing infrastructure over its life-cycle often extend beyond established planning horizons. To ensure that public funds spent on physical assets are costed and planned over a predicted life cycle, it is important to ensure that growth planning is considered comprehensively with the MSP and TMP.

At this time, the MSP, TMP and the Development Charges By-law are all under review, with cooperative work underway between the Public Works, Corporate Services and Planning and Development Services. The updated forecasts provided in the Hemson, 2021 memo and the policy direction of the Regional Structure will be used to inform these reviews.

The Regional Structure supports alignment between infrastructure and land use planning, and uses available information to direct future growth and development to areas where infrastructure investments are or will be made, including those beyond the current planning horizon of 2051.

3.2.4 Niagara Region Growth Scenario Analysis Report (Housing Report)

In 2019, Niagara Region engaged CANCEA to prepare a regional housing database that aggregated existing sources of housing-related data to determine the region's current and future demand for affordable housing.

The results of this analysis found that as of 2016, over 20,000 households in Niagara were considered to be in "core housing need", primarily driven by a lack of affordable housing options within the community.

Core housing need is a measure tracked through Statistics Canada as part of the national census. The term refers to households that are either in need of major repair; do not have enough bedrooms to suitably house its residents; or cost more than 30% of the household's annual income without more affordable housing alternatives available within the market area.

In Niagara, core housing need is primarily driven by affordability, and especially impacts single-person, rental, and low income households**.**

To determine how best to address growing rates of core housing need, CANCEA subsequently prepared a housing report title Niagara Region Housing Market Analysis, Trends, Current State and Forecasts, 1996-2041 ("2019 Housing Report") that tested the impacts of several growth scenarios on the capacity of the Region's housing stock to accommodate future growth.

The 2019 Housing Report concluded that a targeted growth scenario, in which population growth in the region occurs at a rate that is targeted to achieve the population numbers forecasted by the 2019 Growth Plan, had the most positive impact in mitigating rates of core housing need and maintaining housing affordability. The 2019 Housing Report was received by Planning and Economic Development Committee as Report PDS 27-2019 on April 17, 2019 and Report PDS 37-2019 on November 6, 2019.

After the release of the 2020 *Growth Plan*, the Region reengaged CANCEA to test the impacts of the revised 2051 growth numbers. CANCEA produced a report, Niagara Region Housing Affordability and *Growth Plan* 2051 ("2021 Housing Report"), which is appended to the Joint Report as **Appendix 5.2**.

The 2021 Housing Report updated the housing database and growth scenario analysis based on the growth allocations and housing mix identified in the Hemson, 2021 memo. The 2021 Housing Report identified similar conclusions as the 2019 report.

Specifically, achieving the minimum population forecasts within the *Growth Plan* would maintain the current rate of core housing need in Niagara at 13% of households. This means that core housing need will not be improved, but will be kept the same, at 13%.

This is compared to status quo scenario of growth at a similar rate to what has occurred, which put core housing need at 16% to 2051. In a slow growth scenarios core housing need will reach 19% by 2051.

Core housing needs cannot be met unless a certain volume of population forecasts are achieved and that a range of housing types and densities are incorporated. Specifically, to address core housing need, more townhouses, apartment units, and other forms of housing are needed over what has traditionally been developed in Niagara.

To improve affordability in Niagara over time, other policy and financial tools will be required, in addition to more total housing and denser forms of housing noted above.

These are addressed, in part, through the Regional Structure, as outlined in **Subsection 5.4**, as well as through the NOP housing policies, set out in the Joint Report as **Appendix 5.3**.

3.2.5 Employment Area Strategy

The Employment Area Strategy and Policy Paper was prepared by the Region in 2020. It identifies and designates employment areas within the Region.

The employment areas identified by the Strategy are largely based on existing local land use designations, as well as the site characteristics, location characteristics and market impacts of individual parcels. The recommendations of the Strategy inform the employment area policies in the NOP, which is explored in detail through the Employment Policy Paper included as set out in the Niagara Official Plan Consolidated Policy Report as **Appendix 10.2**.

3.2.6 Settlement Area Boundary Review

As part of the NOP, the Region may also consider Settlement Area boundary changes. This includes possible boundary expansions, where it is demonstrated that the municipality has an identified land need that cannot be accommodated within its existing urban boundary.

This review is further discussed in **Subsection 7.4**.

4.0 Provincial Land Use Planning Framework

The Provincial government sets the direction for municipal planning through a framework of statutes, regulations, and policy plans. As an upper-tier municipality, the NOP will implement this and provide direction for conformity of local Official Plans and subsequent conformity of Zoning By-laws to the local Official Plan.

In Niagara, the applicable Provincial land use plans are the *PPS*, which provide policy direction on a range of Provincial interests; the *Growth Plan*, which dictates how and where employment and residential intensification is to be developed, amongst other things; and the *Greenbelt Plan* and *Niagara Escarpment Plan*, which provide protection for a system of agricultural and rural lands (i.e. the Agricultural System) and ecological areas and features (i.e. the Natural Heritage System or “NHS”) located within the Greater Golden Horseshoe and along the Niagara Escarpment.

The Regional Structure must comprehensively apply the principles of these land use plans. Beyond the identification of areas in which urban development will be restricted, the influence of the *Greenbelt Plan* and *Niagara Escarpment Plan* is limited in urban areas. As such, the discussion of the legislation and policy below is focused on the *Planning Act, 1990,* PPS and *Growth Plan*.

The requirements of the NOP are set out in the *Planning Act, 1990*. The NOP must be consistent with the *Provincial Policy Statement (2020)*, conform with the *Growth Plan*, the *Greenbelt Plan* and not conflict with the *Niagara Escarpment Plan*. Decisions of

Council and planning advice and recommendations made by staff must adhere to these requirements.

4.1 The Planning Act, 1990

The *Planning Act, 1990* outlines the manner in which development and redevelopment can be controlled, and the role and responsibilities of the Province, municipalities, and other participants in implementing and managing these planning processes.

Section 2 of the *Planning Act, 1990* lists the areas of provincial interest that municipalities must have regard for when making land use decisions and creating new Official Plans. These include the appropriate location of growth and development; the promotion of development that is designed to be sustainable, to support public transit, and pedestrian oriented; and the promotion of a built form that is well-designed, encourages a sense of place, and provides for high quality, accessible and safe public spaces.

4.1.1 Land Use Planning Tools

To proactively plan for growth, the *Planning Act, 1990* provides municipalities with a range of land use tools and processes, including the use of **secondary plans** to help manage future growth and development.

A secondary plan is a land use plan for a particular area or neighbourhood within a municipality, whose implementing policies are adopted into an Official Plan. Secondary plans are usually prepared and approved by local municipalities, and completed through extensive public consultation.

These land use plans help to identify and address challenges and opportunities specific to the area, and provide detailed policies that guide the development and design of buildings, parks, and public spaces.

District plans are similar to secondary plans in that they provide land use guidance for defined locations within a municipality, with implementing policies that are adopted into the Region's Official Plan.

District Plans are Region-led initiatives. The areas selected for District Plans are typically high-growth areas that require collaboration between multiple municipalities or stakeholders, levels of government and/or private and public partnerships, or are areas that currently are, or have the potential to become, iconic in nature.

District plan policies provide a framework for land use, urban design and development that supports the key planning principles outlined in **Section 5.0**.

4.2 The Provincial Policy Statement, 2020 (PPS)

The PPS provides direction for areas of provincial interest. Municipalities must plan and develop Official Plans that are consistent with PPS policies.

The PPS provides for appropriate development while protecting key municipal resources, public health and safety, and the quality of the natural and built environment. Development within a municipality is to be directed to Settlement Areas (see adjacent definition), and then more specifically, to designated areas of growth that can service and support residential and employment intensification.

> The PPS defines **Settlement Areas** as *"urban areas and rural settlement areas within municipalities (such as cities, towns, villages and hamlets) that are:*
>
> *(1) built up areas where development is concentrated and which have a mix of land uses;*
>
> *(2) lands which have been designated in an official plan for development in accordance with the policies of [the PPS].*
>
> *Where there are no lands that have been designated for development, the settlement area may be no larger than the area where development is concentrated.*

The PPS is to be read in conjunction with the *Growth Plan*, the *Greenbelt Plan,* and the *Niagara Escarpment Plan*.

4.3 A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2019

The *Growth Plan* provides additional policy direction for municipalities located in the Greater Golden Horseshoe ("GGH"), which is planned to receive a significant share of the Province's population and employment growth.

The *Growth Plan* promotes the efficient use of existing and planned infrastructure, increased housing density and choice, and land use patterns which balance pressures for growth and development with the protection of key agricultural and natural heritage resources.

Growth Plan Schedule 3 provides population and employment forecasts for all upper-tier and single-tier municipalities in the GGH. The Region is responsible for implementing these forecasts through its Official Plan by completing the LNA. Local Official Plans would then be updated through conformity exercises to implement this direction.

The Regional Structure directs forecasted growth to specific areas within local municipalities that will implement the density and intensification targets provided in the *Growth Plan.*

5.0 Key Planning Principles

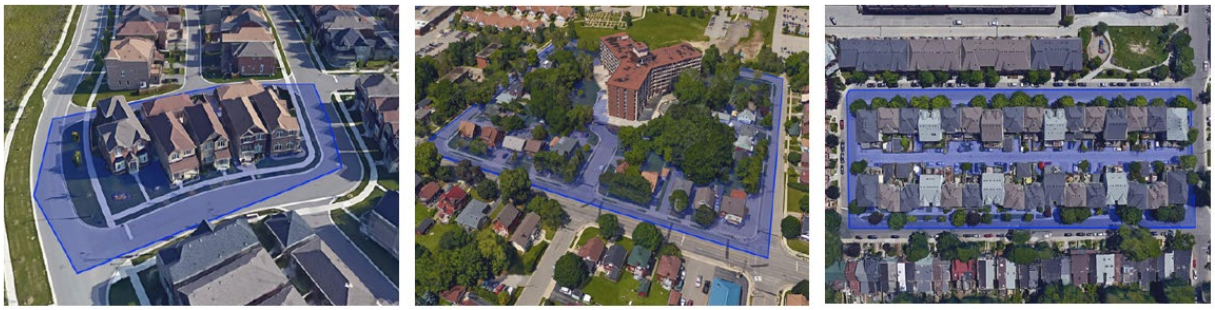
5.1 Intensification of Urban Areas

The intensification of urban areas is a key part of Ontario's planning documents.

Intensification refers to the redevelopment or repurposing of existing parcels, buildings, or other vacant lands at a higher density than what currently exists. Intensification is measured across a municipality's Built-Up Area.

Intensification is intended to redirect new residential development away from the periphery of urban areas in order to avoid urban sprawl into agricultural lands and key natural heritage systems. It will also make more efficient use of serviced urban land.

Intensification is different from the concept of density. Intensification measures the number of new dwelling units that are accommodated within existing Built-Up Areas. Density reflects the number of people and jobs that are located within a specified area. Intensification is a measure used to direct forecasted growth; density is usually used to guide the scale and form of new development within identified neighbourhoods.



16	0.34	47	188	3.0	63	195	1.25	169
people	hectare (ha)	people/ha	people	hectare (ha)	people/ha	people	hectare (ha)	people/ha

Figure 3: Demonstration of density. Source: MMAH

Many Built-Up Areas in Niagara have limited opportunities for large-scale, community planning, with the exception of larger **brownfield** and **greyfield** sites.

Brownfields refer to vacant or underutilized properties that were previously used for commercial or industrial activity, which often contain leftover soil contamination that can pose a risk to public health and safety.

Redevelopment of brownfield properties can require costly and lengthy soil remediation; however, these sites also provide significant opportunities for intensification, as they are often comprised of one or more large parcels of land within existing Built-Up Areas and have access to municipal water and wastewater infrastructure.

Greyfields offer a similar opportunity for community planning in built-up areas. Greyfield sites refer to stretches of paved areas, such as parking lots, or other large structures, such as shopping malls and commercial plazas, which are underutilized. The development of greyfield sites provide opportunities to provide a mix of commercial, higher-density residential, and employment uses within existing neighbourhoods, that often have existing connections to transit, pedestrian networks, and other community facilities.

As available, serviced land become more scarce or costly, brownfield and greyfield sites will become more attractive for redevelopment. Additional direction for brownfields and greyfields is contained in the Employment Policy Paper, included in the Joint Report as **Appendix 10.2**.

Figure 4: The former GM Lands in the City of St. Catharines is an example of a brownfield site. ***Image Source****: Julie Jocsak, The St. Catharines Standard.*

Figure 5: Niagara Square in the City of Niagara Falls is an example of a greyfield site. ***Image Source****: Julie Jocsak, The Toronto Star*

5.2 Complete Communities

Achieving complete communities is how the Province anticipates lands to be developed, resources to be managed and protected, and investments to be made in public infrastructure.

Complete communities are defined in the *Growth Plan* as mixed-use neighbourhoods or other areas within a town or city that offer opportunities for people of all ages and abilities to conveniently access most of the necessities for daily living, including an appropriate mix of jobs, local stores and services, and a full range of housing and transportation options.

Complete communities are to be designed in a way that reduces urban sprawl and supports the appropriate intensification of existing built-up areas. The *Growth Plan* accomplishes this by establishing minimum intensification and density targets for designated areas of growth within a municipality.

In meeting these targets and establishing policies which support the appropriate intensification of built-up areas, municipalities are able to make more effective use of investments in infrastructure and the public realm, and in turn provide a better quality of life for its residents.

Some of the benefits of complete communities include:

- Construction or adaptation of existing street networks to accommodate all modes of transportation, including walking, cycling, and running, which result in healthier communities;
- Use of existing infrastructure in built up areas, meaning that less public funds are spent on constructing and maintaining new municipal services;
- More efficient building design and land use patterns that help reduce our carbon footprint and mitigate the impacts of climate change; and
- A fostered sense of community through the provision of an adequate number of accessible, well-designed public spaces.

Creating complete communities is foundational to the NOP; it guides the policies and objectives of the Regional Structure. The successful implementation of these policies is predicated on ensuring that an appropriate scale and form of development takes place on individual land parcels.

5.3 Compact Form and Transit-Supportive Development

PPS Section 1.1.3.4 encourages municipalities and other planning authorities to establish appropriate development standards that facilitate "intensification, redevelopment and compact form, while avoiding or mitigating risks to public health and safety."

A compact built form is guided by massing, scale, and footprint of development and redevelopment by promoting land use patterns that allow residents to live, work, shop, and play within the same neighbourhood. The form of development should vary depending on local needs; they may include low-rise, detached housing on small lots, or larger, multi-storey developments with a mix of housing types and uses.

The layout and design of the street network is another key component of complete community, and is an important influence on the character, built form and quality of a neighbourhood. Modern principles suggest streets should be designed in ways that are easily accessible by active transportation (i.e. by walking, cycling, or running) and encourage the use of transit. This is closely related to the concept of "transit-supportive development", which reflects the same principles of the compact built form, but with a higher concentration of employment and residential development to improve the viability, quality, and frequency of transit service.

Figure 4 and **Figure 5** are examples of planned complete communities. Mount Pleasant Village in the City of Brampton and the Glendale District Plan Area are characterized by their municipal transit presence and access, and proximity to higher-order transit corridors, the provision of well-designed public spaces, the mix of commercial, office, recreational, and residential uses within walkable distances, and the range of housing choices available at densities which support the investments made in infrastructure and servicing to these areas.

Figure 4 and **Figure 5** are examples only. The Regional Structure will identify appropriate densities within designated growth areas across Niagara, with careful consideration of locational context. Further, the Regional Structure will work in tandem with the Urban Design policies of the NOP to establish design and development standards for implementation within local municipal Official Plans, Zoning By-laws, and secondary plans.

***Figure 4**: Mount Pleasant Village in the City of Brampton, known as the "urban transit village", is an example of a transit-supportive, mixed-use community. Image Source: NAK Design Strategies.*

***Figure 5**:* The Conceptualized Main Street from the Glendale District Plan. The Plan demonstrates urban form in a contemporary example of a purpose-built complete community, which contains transit supportive density, a mix of housing types, land uses and an innovative, sustainable urban design. Image Source: Niagara Region.

5.4 Housing Mix and Affordability

Planning for forecasted growth means ensuring there is enough land, servicing, and housing available to accommodate the anticipated population and employment growth.

In terms of housing, Provincial policy requires the Region, as the upper-tier municipality, provide and identify a range and mix of housing options and densities that support identified intensification rates and density targets that meet the market-based and affordable housing needs of current and future residents.

Affordability, in the context of land use planning, refers to shelter costs that amount to less than 30% of annual household income for low and moderate income households.[1] This can include housing provided by the private, public and non-profit sectors, and all forms of housing tenure, including rental, ownership and co-operative ownership, as well as temporary and permanent housing.

Market-based housing as a concept was first introduced through the earlier changes to the *Growth Plan* and the *PPS*, and was incorporated into the land needs assessment methodology at the time of the 2020 *Growth Plan*. No formal definition was provided; however, it is understood that market-based housing requirements were included to help balance between the provision of ground-related housing, such as single-detached, semi-detached, and row housing, and the higher-density dwelling types, such as apartment buildings.

Local municipalities are responsible for establishing and planning for a local housing mix through its Official Plans. A housing mix is also established for the purpose of undertaking the LNA and addressing affordability. This is discussed in detail in the Draft Land Needs Assessment Summary document included as **Appendix 3.2**.

The Regional Structure plays a key role in establishing a housing mix. Municipal intensification rates, and density targets for Strategic Growth Areas and Designated Greenfield Areas all shape the housing mix that can be planned and accommodated within the Region.

Additionally, to support the conclusions of the Housing Report as outlined in Section 2.2.4, the housing policies of the NOP support and encourage alignment with the

[1] Low and moderate income households refer to households with incomes in the lowest 60 per cent of the income distribution for the regional market area. In Niagara, this includes households making $84,000 per year or less.

outcomes and objectives of the Region's Housing and Homelessness Action Plan, which also target an increase in more dense forms of housing.

6.0 Components of the Regional Structure

The *PPS* and *Growth Plan* suggest that areas of growth will differ depending on their context and location. Provincial policy distinguishes areas designated for growth and development based on function and level of intensification. The NOP must direct growth to these components in different ways, while using the principles of complete communities, compact built form, and transit-supportive development.

The proposed Regional Structure policies and mapping are included in the Joint Report as **Appendix 4.2** and **4.3**.

The following section provides a description of each land use component to be identified in the NOP, and, if applicable, their specific policy requirements under the Growth Plan.

6.1 Settlement Areas

PPS Section 1.1 directs growth and development to occur within Settlement Areas. The Niagara Region is currently comprised of 58 distinct Settlement Areas; 27 of which are Urban and 31 of which are Rural (also referred to as Hamlets).

Urban Areas are the focus for future development and the provision of municipal infrastructure and public service facilities. The majority of growth will be accommodated within Urban Areas.

Provincial policy only directs limited growth and development to Rural Settlements. Rural Settlements often have a distinct rural character, provide rural commercial and employment opportunities and support the surrounding agricultural community.

All components described in **Subsection 6.2** to **Subsection 6.5** below are located within the boundaries of Urban Areas.

A very small amount of growth is permitted outside Rural Settlements and Urban Areas and thus are not described further below.

6.2 Built-Up Areas

The Built-Up Area was identified by the Province in 2008. It represents the general location of existing development within the Region's Urban Areas prior to 2006. The Built-Up Area is defined as:

> *"The limits of the developed urban area as defined by the Minister in consultation with affected municipalities for the purpose of measuring the minimum intensification target in this Plan."*

Residential development occurring within the Built-Up Area is referred to as intensification. *Growth Plan* Section 2.2.2 requires a minimum intensification target be achieved across all Built-Up Areas within Niagara. Intensification refers to new development or redevelopment within the Built-Up Area and can include a range of housing forms.

The Growth Plan requires a minimum of 50% of new development across the Region occur within the Built-Up Area. Formerly, this minimum was 40%. In other words, the in-effect *Growth Plan* requires more intensification than in the current Official Plan.

Municipal intensification rates were determined based on thorough assessment of the capacity to accommodate growth within the Built-Up Area through intensification and infill opportunities. The geographic context of the municipality, size of the Urban Area, and existing constraints were also considered in evaluating the level of intensification that could be accommodated.

Table 1 sets out the intensification rate for each local municipality.

Table 1: Municipal Intensification Rates

Municipality	**Built Up Area**
Fort Erie	50.0%
Grimsby	98.0%
Lincoln	80.0%
Niagara Falls	50.0%
Niagara-on-the-Lake	25.0%
Pelham	25.0%
Port Colborne	30.0%
St. Catharines	95.0%
Thorold	25.0%
Wainfleet	0.0%
Welland	60.0%
West Lincoln	13.0%
Niagara Region	**56.0%**

Municipal intensification rates were determined based on significant consultation with local municipalities. This resulted in a higher overall intensification rate than the minimum 50% required by the Province.

The Region has established a 56% draft intensification rate to 2051 – exceeding the minimum requirement.

The rate is fluid and municipalities might exceed their target percentage in some years and fall short in others. The intent is that local municipalities encourage growth and development opportunities that will assist in meeting or exceeding their identified rate on average. The Region will use development monitoring, as discussed in **Subsection 7.5.2,** to track how the overall intensification rate is being met.

As seen in **Table 1**, some municipalities have a much higher intensification rates (i.e. Town of Grimsby and City of St. Catharines) than others. Municipalities within the Greenbelt Plan area typically have a higher intensification rates due to the inability to expand urban area boundaries that were tightly drawn around the affected Urban Areas when the Greenbelt Plan was first introduced in 2005. These municipalities will need to accommodate the majority of the allocated growth within their Built-Up Area as Designated Greenfield Areas are effectively built out.

In order to do so, local municipalities will be encouraged to update or undertake local intensification strategies that will assist in guiding intensification within their existing communities. Planning for intensification requires thoughtful, long term goals and objectives to consider how best to achieve the outcome of complete communities.

Secondary planning is another tool for proactively managing and directing growth. This process considers specific policies and land use for a certain area of the municipality. These plans are based on technical studies to inform and refine policy direction. They are also informed by landowners, stakeholders and the public through numerous engagement activities.

Both secondary planning and intensification strategies can be used to assist local municipalities in proactively directing growth management efforts. Both processes will engage residents and businesses to provide input in broader areas of local interest.

6.3 Designated Greenfield Areas

Designated Greenfield Areas (DGA) represent the remaining lands within the Urban Area that are outside the Built-Up Area (excluding Excess Lands), as they were at the time of Provincial mapping in 2006. Generally, DGAs are comprised of large, undeveloped parcels that have access to municipal servicing and are able to accommodate a significant amount of growth and development.

Growth Plan Section 2.2.7 a) requires DGAs to achieve **a minimum density target of 50 residents and jobs combined per hectare**. This is consistent with the density target identified in Niagara's current Official Plan.

The minimum density target is to be measured over the entire Designated Greenfield Area of Niagara Region (excluding certain parts that are discounted such as natural heritage features, areas and systems, and other specified lands).

Unlike the intensification rate, each municipality is required to meet the same minimum 50 person and jobs per hectare within their urban boundaries.

A visualization of what this density may look like at a neighbourhood level is outlined in **Figure 6.** As discussed in **Subsection 5.1**, however, density targets in and of themselves do not determine the built form developed.

Figure 6*:* Visual representation of what a density target of 50 people and jobs per hectare may look like at the neighbourhood level. Image Source: MMAH.

Through the Settlement Area Boundary Review, the Region will determine which municipalities will require additional urban land to accommodate their allocated growth forecasts to 2051 (see **Subsection 7.4**). Any new urban lands added to the Urban Area boundary will become a DGA, subject to the requirements set out in this section.
For new DGAs and existing, unplanned DGAs, secondary plans will be used to provide specific land use direction for accommodating growth within their boundaries. Additional direction is found within the District and Secondary Plan policies in **Subsection 6.1**.

6.4 Strategic Growth Areas

Strategic Growth Areas (SGAs) are lands within Urban Areas that are the focus for more significant intensification and higher-density uses. Introduced as part of the recent updates to the Growth Plan, SGAs identified by Provincial policy include:

- Urban Growth Centres;
- Major Transit Station Areas; and
- Other Strategic Growth Areas, which in Niagara, include Regional Growth Centres and District Plan Areas.

The Region will plan for growth and development in SGAs through the preparation of Secondary Plans and will work with municipalities with SGAs to ensure minimum targets are being achieved in local Official Plans and Zoning By-laws. Further discussion on the options related to identifying and planning for SGAs is outlined in **Section 7.0**.

6.4.1 Urban Growth Centre: Downtown St. Catharines

The *Growth Plan* maps one Urban Growth Centres in Niagara: Downtown St. Catharines. This designation is for areas of existing or emerging downtown that are to

be the focus of a substantial amount of growth and development, as well as focal area for investment in regional public service facilities, commercial uses, recreational uses, and major employment centres.

The *Growth Plan* requires that Downtown St. Catharines be planned to achieve a minimum density target of 150 residents and jobs combined per hectare by the year 2031. The existing density in the Downtown St. Catharines Urban Growth Centre is approximately 100 residents and jobs per hectare.

A visualization of what this density may look like is shown in **Figure 7**.

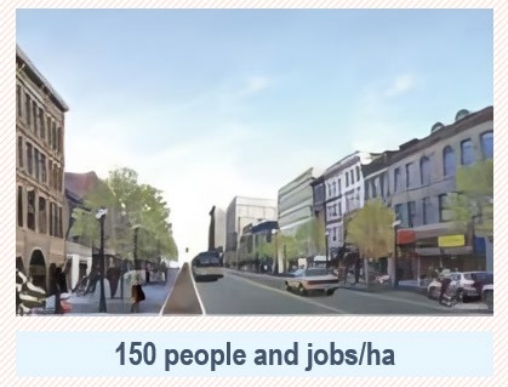


Figure 7: Visual representation of what a density target of 150 people and jobs per hectare may look like at the neighbourhood level. Image Source: MMAH.

As described further in the next section, the Region also considers the Downtown St. Catharines Bus Station as a Major Transit Station Area. The bus terminal is located within the Urban Growth Centre, supports the Downtown as a civic, commercial, and recreational destination, and will play a role in future planning within the Urban Growth Centre.

The City will be required to prepare a Secondary Plan for the Urban Growth Centre, which will demonstrate how it will achieve the minimum target to 2031, as well as how growth and intensification will continue to be accommodated beyond 2031 to the horizon of the NOP.

6.4.2 Major Transit Station Areas

Major Transit Station Areas are defined by the *Growth Plan* as the area including and around any existing or planned *higher order transit* station or stop within a *settlement area*; or the area including and around a major bus depot in an urban core. *Major transit*

station areas generally are defined as the area within an approximate 500 to 800 metre radius of a transit station, representing about a 10-minute walk.

Major Transit Station Areas encompass the lands around any existing or planned higher order transit station or stop within an Urban Area. For Niagara, these include the planned GO Transit Stations in the Town of Grimsby, City of St. Catharines, and City of Niagara Falls, and the future proposed GO Transit Station in the Town of Lincoln. Also included is the Downtown St. Catharines Bus Station, as noted above.

Growth Plan policies for Major Transit Station Areas only apply to areas located along an identified "priority transit corridor". Currently, the Region's GO Transit Stations are not identified along this corridor. As such, the *Growth Plan* has limited policy direction for Niagara's MTSAs.

The Region, in partnership with its local municipalities, proactively approved Secondary Plans for each station area to position and plan for higher densities similar to those identified as being on a priority transit corridor.

Following the approval of the NOP, the Secondary Plans will be reviewed through local Official Plan conformity to ensure they are in line with the Regional Structure.

In all instances, a multi-modal approach should be applied in planning around MTSAs and will be supported through the transportation and urban design policies of the NOP.

6.4.3 Regional Growth Centres

The *Growth Plan* allows municipalities to determine the location and extent of other SGAs. Unlike the Urban Growth Centre and MTSAs, other SGAs do not have specific *Growth Plan* policy sections that guide the form, density, and land use types permitted. These are referred to as "Other SGAs" or "Regional Growth Centres" interchangeably.

Other SGAs should be proactively planned to evolve in manner that shares the same principles of other areas that anticipate more robust growth. The Region will direct a significant amount of Niagara's population and employment forecast to these areas even where those SGAs do not have the highest order transit the same density thresholds as others.

Currently identified is the Regional Growth Centre of Downtown Welland. A minimum density target is assigned.

Further to the discussion on the MTSAs, the same consideration is needed for connection to the Downtown Welland Regional Growth Centre. The Regional Growth Centre needs to strengthen its public transit connections by extending or offering new transit services. This will be a critical link in providing access throughout the communities and the Region in general. Enhanced access to transit can improve opportunities for housing choice and access to employment opportunities, as well as Regional destinations of broader interest and reliance.

Secondary Plans will provide a vision to guide growth within these areas. The process can proactively support infill, growth and intensification opportunities, urban design to support compatibility and technical studies prepared in support of infrastructure and transportation capacity. This proactive process will ensure that the lands within the SGA are development-ready.

In addition to Downtown Welland, Other Strategic Growth Areas include in part the District Plan Areas of Brock and Glendale. Both these areas have been identified and planned through the District Plan process to provide specific direction for growth and development to transition into complete communities. Both areas will offer frequent transit service in the form of transit hubs to connect different routes and modes of transit. They will play an important role in connecting local, inter-municipal and inter-regional transit level services.

Through the District Planning exercise, ongoing monitoring and implementation has been identified to ensure success.

6.5 Employment Areas

The Growth Plan sets out four categories of forecasted employment:

- Major Office Employment
- Population-Related Employment
- Employment Land Employment
- Rural Area Employment

The majority of Major Office Employment and Population-Related Employment are anticipated to occur within Built-Up Areas, SGAs, and DGAs. These types of jobs support the development of mixed-use and complete communities, rely on transportation infrastructure, and are generally more compatible with sensitive land uses, such as residential, institutional and recreational uses.

Employment Areas are defined in the *PPS* as "areas designated in an official plan for clusters of business and economic activities including, but not limited to, manufacturing, warehousing, offices, and associated retail and ancillary facilities*".* Employment Land Employment and some Major Office Employment, are planned within designated Employment Areas.

Employment Areas are mapped to help support existing businesses' locations, offer a higher degree of protection from encroachment of more sensitive land uses such as residential (which are prohibited), and to secure a long-term future for the types of employment that often require separation from community use for compatibility purposes. Employment Areas provide a supply of jobs to those within the community.

Employment planning in Niagara has been carefully researched and analyzed as part of the NOP process since 2018. The location, type, characteristics, and density of Employment Areas are discussed in detail within the Employment Policy Paper, included with the Joint Report as **Appendix 10.2**.

The remaining employment category, Rural Area Employment, occurs outside of Urban Areas within Rural Lands and Agricultural Areas.

6.6 Rural Settlements (Hamlets)

Rural Settlements are non-serviced areas with clusters of rural residential and business uses that support surrounding agricultural lands. Rural Settlements generally contain a mix of low density residential, rural commercial and employment uses, and, in some cases, public service facilities.

Hamlet development relies on private water and wastewater systems. Rural Settlements are not areas of focused population or employment growth, and will develop in a manner consistent with the rural character of the local community.

6.7 Rural Lands

Rural Lands are areas located outside of Settlement Areas and Agricultural Areas. Rural Lands allow for a range of land uses that are compatible with the rural landscape and sustained by rural service levels.

Although limited development is permitted on Rural Lands, the Region's planned population and employment growth is not directed to these lands.

6.8 Agricultural Area

Agricultural Areas are located outside of Settlement Areas and are lands that are suitable for agriculture and agricultural-related uses. Agriculture is a major component

of the Region's economy, and the protection and effective use of these lands are a priority of the NOP.

Niagara is subject to the policies of the *Greenbelt Plan*. The identification of the Agricultural System within the Niagara Region is an important component of the Regional Structure, in that it helps us determine where growth and development should *not* be directed, in order to preserve these lands for their intended agricultural use. Population and housing growth is generally not contemplated within agricultural lands.

The Region has reviewed its agricultural land base as part of the NOP process. Candidate areas analyzed in consultation with the local municipalities.

Draft agricultural policies are included for discussion in the Joint Report as **Appendix 9.2**.

6.9 Natural Environment System (NES)

The NES is comprised of core natural heritage and hydrological areas and features that support the natural environment. The NES is necessary to maintain biological and geological diversity, natural function, and viable populations of indigenous species and ecosystems by restricting new development and limiting Settlement Area expansions within these identified areas and features. The Regional Structure does not contemplate development within the NES.

6.10 Excess Lands

Excess Lands refer to vacant, unbuilt but developable lands within Urban Areas, but outside of the Built-Up Area, that have been designated in an Official Plan for development but are in excess of what is needed to accommodate forecasted growth to 2051.

The Region will develop an approach for excess lands in the NOP and local Official Plans in consultation with applicable local municipalities.

7.0 Policy Direction for the Regional Structure

The Regional Structure establishes policies and mapping to manage forecasted growth to 2051. This is done in a manner that reflects recent changes in Provincial policy and the various land use plans and infrastructure projects undertaken in the Region since RPPA 2-2009, as set out earlier in this Policy Paper.

Regional Structure policies provide direction for complete communities, promotes the development of a compact built form, emphasizes the need to plan for the impacts of a

changing climate, and supports the efficient use of infrastructure and public service facilities and a diverse range and mix of housing to ensure housing in Niagara remains affordable.

A number of specific Provincial policy requirements must be included in the Regional Structure. Other policies are discretionary, and are included to aid decision-making by the Region or local municipalities.

The following section outlines key direction of the Regional Structure policies, which addresses Provincial policy requirements and the land use planning concepts and background studies described earlier in the report.

7.1 Intensification Rates and Density Targets for Area Municipalities

Subsection 6.2 describes the minimum 50% intensification rate for all Built-Up Areas, to achieve the densities and built form that support key planning principles.

As noted, local municipal rates are reflective of the local context and ability for redevelopment and infill opportunities. The intensification rate was confirmed through discussions with local municipal planners.

Subsection 6.3 sets out the minimum density of 50 people and jobs per hectare for development within the Designated Greenfield Area. This target is applied uniformly for all local municipalities.

7.1.1 Minimum Density Targets within SGAs

The Region carefully considered the plans detailed in **Subsection 6.4**, and the previous work and development activity within the St. Catharines Urban Growth Centre and elsewhere, to determine the appropriate density targets for the SGAs.

Staff reviewed potential build out over time in relation to envisioned land uses and permissions to set a proposed target that could reasonably be achieved.

Specifically, density targets for SGAs were established by undertaking the following background analysis:

- a jurisdictional scan and review of intensification and growth area targets within the Official Plans of comparable single-tier and upper-tier municipalities;
- a review of the land use designations, permissions, and design standards outlined within applicable secondary plans, district plans, and/or Official Plans and Zoning By-laws;

- calculation of the minimum and maximum densities that could be implemented within the SGAs, as established by the aforementioned policy structure; and
- applying Provincial policy to the relationship between Niagara's identified SGAs.

Table 2 provides the draft SGA density targets.

Table 2: Density Targets for Identified Strategic Growth Areas

Municipality	Minimum Density Target
Downtown St. Catharines Urban Growth Centre	150 people & jobs per hectare to **2031**
GO Transit Station Areas in St. Catharines, Lincoln, Niagara Falls, and Grimsby	125 people & jobs per hectare to **2051**
Downtown Welland Regional Growth Centre	125 people & jobs per hectare to **2051**
Brock and Glendale Niagara District Plans	100 people & jobs per hectare to **2051**

As noted, secondary plans will be prepared or updated to reflect these targets and provide supporting land use direction for the achievement of complete communities.

7.2 Local Municipal Intensification Strategies and Local Growth Centres

Many local municipalities have prepared intensification strategies to identify and provide direction for allocating growth within its Built-Up Area. An intensification strategy may be an effective way to protect stable residential neighbourhoods and direct development to those areas that can better accommodate increased population and jobs.

Regional Structure policies provide direction for local municipalities to update or develop new intensification strategies as part of local Official Plan conformity. Intensification strategies and secondary plans can help municipalities direct growth and manage change within their communities.

In line with the direction for Regional Growth Centres, local municipalities will be encouraged to identify **Local Growth Centres**, which refer to focus areas for growth and investment within the local municipality, and may include traditional downtowns and key mixed uses areas.

Local Centres may vary in size, nature and characteristic. They are envisioned as areas that will develop over the long term as compact, complete communities through the incorporation of higher density housing forms that support existing or planned transit routes and the expansion of the public realm.

Local Centres will not be mapped in the NOP. Instead, they will be identified in local Official Plans and will have broad policies for local municipalities to implement through conformity.

Intensification strategies will also benefit from the urban design direction of the NOP and local Official Plans. Urban design can assist with implementing or establishing community identity, provide direction to address compatibility for infill and support complete communities and complete streets.

Local municipalities will require planning documents to include development standards that permit and facilitate a compact built form, a vibrant public realm and all forms of intensification throughout the Built-Up Area.

7.3 Future Strategic Growth Areas

The purpose and components of Strategic Growth Areas are described in **Subsection 6.4**.

All SGAs have common elements, including proximity to major transportation infrastructure, major civic/institutional/public service facilities and existing or planned mixed use areas with a host of commercial uses.

SGAs are meant to contribute to or evolve into a complete community that offers a mix of uses, supports opportunities for people of all ages and abilities and where residents can meet their daily living needs.

The Region may identify new SGAs in the future. If a new SGA is identified, the Region will process an amendment to the NOP to map its boundary on the Regional Structure schedule. A Secondary Planning exercise will be required to provide the appropriate direction to manage growth and the development of this new SGA and provide the development standards to achieve a complete community.

7.4 Settlement Area Boundary Review

The Growth Plan prohibits municipalities from establishing new Settlement Areas; however, the Region may consider expansions to existing Settlement Areas, where a complex series of conditions are meet through the NOP.

The Region has exclusive jurisdiction to determine Urban Area and Rural Settlement boundaries and any changes to them.

Managing growth requires balancing a broad array of interests from the environment, agriculture, servicing, transportation, community and industry. Decisions concerning one area of interest will have impacts on one or more of those remaining and therefore, there is no one single solution or consideration when considering boundaries.

The Region must follow explicit direction from Provincial Plans when considering Settlement Area boundary expansions. In particular, policies of the *PPS*, the *Greenbelt Plan* and *Growth Plan* may restrict or prohibit expansions.

As discussed in **Subsection 5.4**, new Provincial Policy directs municipalities to consider market-based housing demand as a component of the LNA and the accommodation of forecasted growth. In Niagara, market-demand includes the considerable market for low-density housing forms, such as single- and semi-detached dwellings. The need to provide single- and semi-detached housing types is one of the driving factors in Settlement Area expansions.

The LNA takes into account the location and density of Strategic Growth Areas, municipal intensification rates, and existing DGA land supply. The LNA output will provide an amount of land needs to determine the threshold question of whether an expansion is notionally needed. Detailed requirements are included in the *Growth Plan*.

Draft criteria for the Urban Settlement Area Boundary Review (SABR) can be found in the Joint Report as **Appendix 18.2**.

The Region is not making any boundary recommendations at this time. Recommendations will be made by Regional staff based on conclusions drawn from the SABR process in a future report.

7.4.1 Other Settlement Area Expansions and Adjustments

The NOP process is the primary means in which expansion should be considered; however, the *Growth Plan* provides two other tools to consider expansions or adjustments to Urban Area boundaries.

First, *Growth Plan* policy 2.2.8.4 outlines the process and criteria for considering **adjustments** to Settlement Area boundaries.

A municipality may consider boundary adjustments where the result is no net increase in land within settlement areas. Any consideration given to this option still requires NOP-related expansion policies of the Growth Plan being addressed and support a municipality's ability to meet with its established intensification and density targets.

The settlement area to which the lands are to be added is serviced and has sufficient reserve infrastructure capacity.

This option would not be permitted in the Greenbelt or for rural settlements.

The second way in which expansions may be considered is through permissions set out in *Growth Plan* policy 2.2.8.5 and 2.2.8.6 that allows for consideration of **an expansion of up to 40 hectares to occur in *advance of* a municipal comprehensive review** (which, for Niagara, is the NOP).

This option requires a significant amount of study work that meets the criteria listed in Policy 2.2.8.3.

The municipality must also ensure that growth allocated within the expansion area will be fully accounted for in the *next* LNA conducted by the Region.

This option may be used where a municipal comprehensive review is not underway, when it is apparent a municipality has outperformed its projected growth rate, and the municipality is in need of additional land to maintain its ability to accommodate growth.

Policies related to the process and criteria for allowing the expansion and adjustments to Settlement Areas, as listed above, will be included in Regional Structure policies.

7.5 Phasing and Monitoring of Development

Phasing and monitoring policies will be included in the Implementation Chapter of the NOP and required to be added to local Official Plans during conformity. The Region will work collaboratively with local municipalities to ensure minimum standards are being met or exceeded.

7.5.1 Development Phasing

Development phasing within the DGA, including any expansions or excess lands provided through the NOP, will play a critical role in ensuring growth is occurring in a balanced manner as intended by the Growth Plan.

District or secondary planning will be required to manage how expansion lands develop. The Region, in conjunction with local municipalities, will implement a monitoring program that will track and measure the achieved local intensification rates and new DGA development. The program will provide timely and accurate results to ensure growth is being managed as efficiently as possible.

Responsible, efficient use of land and infrastructure need to be optimized to maintain appropriate expectation of capital planning and works. Phasing of development will play a critical role in achieving the needed controls on growth to avoid sprawl.

7.5.2 Development Monitoring

The Region will carefully track new development following NOP implementation. Growth monitoring will help make future decisions on allocations and targets.

The Region will monitor how municipalities are achieving growth beyond or less than forecasted. Forecasts associated with the *Growth Plan* are minimums, and therefore, monitoring development will allow the Region to request alternative forecasts or revise allocations between municipalities, if warranted, through future Official Plan changes.

Monitoring development within municipalities with excess lands will allow for revisions to excess lands and related policies, if necessary.

Data collection will provide the factual evidence needed to determine if infrastructure investment is being outpaced or underutilized. It will also inform whether reevaluation on timing of infrastructure may be warranted when Master Plans are reviewed.

The Region will have minimum standards for the types of data and frequency of reporting. Leveraging technology to aid in performance monitoring is expected and will better provide for real-time (or as close to real-time) analysis that can be used across all departments and jurisdictions that would benefit from “up-to-date” measures.

Furthermore, performance monitoring will provide more accurate and frequent reporting to support decisions concerning phasing strategies as a means of ensuring balanced growth (intensification and Greenfield) is occurring and if needed, curtailing sprawl.

Phasing and Monitoring policies will be developed and made available for the next draft release of the NOP.

8.0 Next Steps for the Regional Structure

Following this report release, and the balance of the Niagara Official Plan Consolidated Policy Report in May 2021, the Region will undertake a series of planned Public Information Centres in Spring/Summer of 2021, and other focused consultation. Regional staff can provide additional details on this draft material, as needed, and provide the public with opportunities to pose questions, seek clarification and offer comments.

Regional staff will compile a comprehensive record of feedback received on all components of the NOP, including Regional Strcture. Moving forward, consultation is expected to include all components of the NOP to maintain a complete appreciation of interconnectedness of the NOP policies.

Staff ask that comments on the Regional Structure, and the balance of the NOP materials provided, be circulated **by July 2, 2021**. This is to allow staff sufficient time to review and comment in advance of its next report in late summer 2021.

EXECUTIVE OVERVIEW

Chapter 2 – Section 3. HOUSING

SUMMARY

A range and mix of housing options and densities are needed in Niagara to safely, affordably, and adequately house Niagara's current and future residents at all stages of life.

Housing policies set out land use planning tools to facilitate a diverse housing supply that meets affordable and market-based housing needs. Affordable housing options supports important regional economic sectors such as hospitality and tourism.

- The Region must ensure there is an adequate amount of designated land and residential units available to meet long-term housing needs.
- Consultant work from CANCEA concluded that Niagara needs to diversify its housing stock, particularly higher density housing forms, to address rates of core housing need.
- The rate of core housing need is inversely related to how much housing is built. The Region can address core housing need by building more of all forms of housing, and particularly, those of higher density.
- The Region will monitor and maintain a regional housing database that describes the demographic and economic factors used to determine the demand for and supply of housing in Niagara.
- The Region will support the action items and objectives identified in the Council approved Housing and Homelessness Action Plan ("HHAP"), including movement towards the targeted housing mix identified in the plan.
- The Region will work with Niagara Regional Housing and other departments and agencies to support the development of community housing and specialized housing needs.
- An annual target for the development of affordable ownership and rental housing is identified and included.
- Local municipalities are encouraged to use the regional housing database to develop local housing strategies that identify land use planning tools, financial incentives, and other initiatives that support the Region's affordable housing target and the HHAP's targeted housing mix.

A Draft Policy set is provided with this sub-section document.

Integration Guide for Sub-sections Reported in PDS 17-2021	
☑ Regional Structure	☐ Archaeology
☑ Housing	☐ Employment
☑ Land Needs	☐ Agriculture
☑ SABR	☐ Aggregates
☑ Transportation	☐ Natural Heritage incl.
☐ Infrastructure	☐ Water Systems Options
☑ District/Secondary Plans	☐ Watershed Planning
☑ Urban Design	☑ Climate Change

OVERVIEW

The responsibility to provide affordable, accessible, and adequate housing is governed by a complex set of policy and legislation that requires coordination between land use planning, infrastructure planning, economic development, public health, community services, housing service providers, and the development industry.

In 2019, Niagara Region engaged the Canadian Centre for Economic Analysis ("CANCEA") to prepare a regional housing database that aggregated existing sources of housing, demographic, and economic data to determine the region's current and future demand for affordable housing.

The resulting database found that, as of 2016, over 20,000 households in Niagara were in core housing need, primarily driven by a lack of affordable housing options within the community. Additional results of this work were reported to the year 2041 (the Growth Plan horizon at the time) through the Region's Affordable Housing and Growth Scenario Analysis reports in PDS 27-2019 on April 17, 2019 and PDS 37-2019 on November 6, 2019.

Since 2019, the Province released amendments to the Provincial Policy Statement (PPS) and Amendment 1 to *A Place to Grow: Growth Plan for the Greater Golden Horseshoe* ("Growth Plan"), which, among other things:

- extended the *Growth Plan* population and employment forecasts to the year 2051; and
- required planning authorities to support an appropriate range and mix of housing options and densities to meet both affordable <u>and</u> market-based housing needs.

Market-based housing needs, though not formally defined, refers to the balance between the medium and higher-density dwelling types generally encouraged by the

Growth Plan and the established housing markets. Niagara's housing market has traditionally been comprised of ground-related housing, such as single-detached dwellings, semi-detached dwellings, and townhouses.

The Region's draft Land Needs Assessment ("LNA"), further described in **Appendix 3**, identifies population and housing to 2051, and includes the consideration of market-based housing need.

To assess the housing affordability impacts of the revised 2051 Growth Plan period, the Region reengaged CANCEA.

CANCEA updated the Region's Affordable Housing and Growth Scenario Analysis, which is attached as **Appendix 5.2.**

The CANCEA report provided the following conclusions (consistent with their previous work):

1. The rate of core hosing needs – at 13% – can be maintained if the Region achieves the *Growth Plan's* population forecasts and associated housing allocations. If the Region's housing grows at a slower rate, consistent with its historic rate (defined as the "status quo"), core housing need would increase to 16%. Worse is if the Region's housing supply grows at a slow growth scenario, which leads to a core housing need rate of 19%.

2. Achieving the *Growth Plan* population forecasts will require diversification of the Region's housing stock. This means building a higher portion of medium and high-density housing forms to better address core housing need.

3. Housing affordability is directly tied to economic development in the region, as a lack of housing options can impact the ability to attract and retain the labour force necessary to support key sectors of Niagara's economy, including the tourism and hospitality sectors.

The CANCEA report also concludes that, in addition to building more housing, improvements to core housing need will require other policy, financial, and infrastructure supports that holistically address economic development and affordability pressure in the Region.

In addition to the core housing need work, the Region's Housing program includes work on the HHAP. The HHAP provides a comprehensive strategy for addressing homelessness and access to affordable housing in Niagara. Accordingly, the housing

policies in the Niagara Official Plan (NOP) will align with the goals, action items, and outcomes of this plan.

Affordability, in the context of land use planning, refers to shelter costs, such as mortgage and rent payments, property taxes, and utility costs, that amount to less than 30 per cent of the annual household income for low and moderate income households. In Niagara, low and moderate income households refer to household incomes equal to or below $84,000 per year.

Affordable housing can include temporary and permanent housing provided by the private, public and non-profit sectors and all forms of housing tenure, including rental, ownership, and co-ownership housing.

Goal 3 of the HHAP outlines objectives and action items related to the provision of permanent, affordable housing, including:

- identifying a targeted mix of housing that increase the supply of higher-density housing forms, including townhouse and apartments units;
- increasing the number of new community housing units developed, and the proportion of new community housing units that are one-bedroom units or four or more bedroom units; and
- preventing the loss of current community housing stock.

In addition to establishing a minimum target for the provision of affordable housing, the NOP supports HHAP objectives by directing local municipalities to permit and facilitate a range of housing types, densities, and tenures that support the targeted housing mix.

The NOP also encourages local municipalities to consider implementing the following strategies:

- flexible as-of-right permissions related to the form and scale of housing that would reduce inefficiencies in the development approvals process;
- as-of right permissions for secondary suites/additional residential units to encourage gentle intensification within existing neighbourhoods and increase the availability of rental tenure in Niagara;
- development and site standards, such as reduced lot setbacks and road allowances, narrower lot sizes, cash-in-lieu of parking, and reduced parking standards, that facilitate the development of secondary suites/additional residential units;

- demolition control and residential replacement by-laws that would prohibit the demolition of existing rental units without replacement of the same or higher number of rental units within the municipality; and

- development of local housing strategies that identify land use planning tools, financial incentives, and other housing initiatives and programs that support the housing needs within the Area Municipality.

Finally, the NOP will coordinate with the Region's Incentive Review to support potential future programs, such as grants, development charge deferrals, property tax reductions, or other programs that promote residential intensification, brownfield redevelopment, and affordable housing options, including community housing and purpose-built rental units.

Housing policies are based on recent consultation for the HHAP Five-Year-Review, as well as engagement undertaken specifically for the Growing Region chapter of the NOP.

To date, feedback from the public and stakeholders suggests a strong interest in ensuring the NOP facilitates an increase in affordable housing options. Concerns have also been raised regarding increased densities and residential intensification in established neighbourhoods.

This is addressed in part through the identification of Strategic Growth Areas, which are expected to accommodate a significant portion of a municipality's growth and high density, mixed use development. The use of intensification strategies, secondary plans, and urban design can assist to identify strategic locations for allowing, or not allowing, certain densities and housing forms within neighbourhoods.

Included in this Appendix is the CANCEA Report as **Appendix 5.2** and draft housing policy as **Appendix 5.3**.

PDS 17-2021 - Appendix 5.2

Niagara Region Housing Affordability and Growth Plan 2051

April 2021

Canadian Centre for Economic Analysis

About the Canadian Centre for Economic Analysis

The Canadian Centre for Economic Analysis (CANCEA) is a socio-economic research and data firm. CANCEA provides objective, independent and evidence-based analysis and is dedicated to a comprehensive, collaborative, and quantitative understanding of the short- and long-term risks and returns behind market changes, policy decisions and economic behaviour.

CANCEA uses modern techniques in data science, including agent-based modelling, for econometric analysis, risk management assessments, demographic forecasts and epidemiology. CANCEA's work includes market analysis, policy evaluation and risk management, business model optimization, cost-effectiveness and rate of return analysis, macroeconomic analysis, insurance risk evaluation, land use and infrastructure planning, logistics, and labour market analysis. CANCEA also provides comprehensive Canadian data services.

At the centre of CANCEA's analytical capabilities is an agent-based platform called Prosperity at Risk® that is an extensive, data-driven model of 56,000 locations across Canada. Given the systems focus behind all of CANCEA's work, CANCEA has a one model approach to its analysis which allows various disciplines and stakeholders to be incorporated into a single analysis.

About the Report

CANCEA does not accept any research funding or client engagements that require a pre-determined result or policy stance, or otherwise inhibits its independence.

In keeping with CANCEA's guidelines for funded research, the design and method of research, as well as the content of this study, were determined solely by CANCEA.

This information is not intended as specific investment, accounting, legal or tax advice.

Citation: Niagara Region Housing Affordability and Growth Plan 2051. April 2021.

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1.0 INTRODUCTION

1.1 BACKGROUND

In 2019, the Canadian Centre for Economic Analysis examined the trends, current state and forecasts for housing for the Niagara Region up to 2041[1]. In August 2020, the Ontario Government released updated population and employment targets for the Greater Golden Horseshoe in *A Place to Grow Growth Plan for the Greater Golden Horseshoe (*the *Growth Plan)* up to 2051. The *Growth Plan* outlines obligations for upper- and single-tier municipalities, which must plan for housing to meet population targets, as well as meet intensification and density targets. Furthermore, per the *Growth Plan*, an adequate mix of housing options much be ensured, and municipalities must set targets for affordable housing.

1.2 OBJECTIVES

As a follow up to the *Niagara Region Housing Market Analysis* and *Growth Scenario Analysis, 2018-2041*, this study examines Niagara Region's future housing stock up to the year 2051 under different scenarios. These scenarios are designed to present the implications of pursuing differing growth trends over the coming three decades for the population, housing stock and local economic development.

Growth scenarios are used to project the characteristics of Niagara Region's population and housing stock up to a defined planning horizon under different construction rates, including a baseline that represents the Region's status quo growth to determine the risks, benefits and potential pressures the Region could face under alternative growth paths. The results are intended to support evidence-based policy-making that considers the consequences of these different paths.

1.3 SUMMARY OF RESULTS

The trends identified in *Niagara Region Housing Market Analysis* and *Growth Scenario Analysis, 2018-2041*, are expected to continue under the new *Growth Plan* to 2051. Meeting core housing need will continue to be an issue. To meet the growth targets, the rate of construction of new units would have to increase significantly, particularly for higher-density building forms. By 2051, the status quo rate of construction could result in just over 24,000 fewer households in the region than required in the *Growth Plan*. In that case, the Region risks not only falling short of the 2051 population targets set out by the Provincial government, but also increasing the percentage of the population in core housing need.

To reach the population growth targets to 2051 in the *Growth Plan* and to minimize overall levels of core housing need, Niagara Region can continue to consider adopting policies that incentivize the development of a mix of housing to accommodate the future population. This could include a variety of housing densities, tenures and affordability levels, as well as right-sizing and maximizing the

[1] Niagara Region Housing Market Analysis, CANCEA. June, 2019; Niagara Region Growth Scenario Analysis *2018-2041*, CANCEA. October 2019

the productivity of Niagara Region's existing housing stock. By providing a wider range of options to households, a more diversified housing stock can help mitigate some of the demographic trends identified in this report and the previous report, and make it easier for people of all ages and income levels to live in the Niagara Region.

2.0 METHODOLOGY

2.1 OVERVIEW

The analysis was completed using CANCEA's statistical analysis and data simulation platform. The new population targets, along with life expectancies and birth rates, were used to determine the number of households under different conditions and over time, and the dwelling sizes that would be required. Information about the current housing stock, the way in which the current population is housed (i.e. affordability, suitability, and adequacy), and dwelling formation rates (both market and non-market) are used to assess the supply of housing over time and the corresponding population housed in a given scenario.

This study draws primarily from Statistics Canada census datasets and CMHC tables. Additional data was provided by Niagara Region, including population targets and community housing data.

The growth scenarios considered were created by relying on CMHC construction completion rates at the municipal level. The three growth scenarios are as follows:

- Status Quo Growth: maintains the average construction rates seen in Niagara Region over the last five years.
- Slow Growth: the average construction rate over the last five years less two standard deviations, with a minimum threshold equal to half the average.
- Target Growth: the growth required to achieve the number of dwellings needed to house the 2051 population targets set out by the Provincial government in *the Growth Plan*.

For a complete description of the methodology, please refer to the 2019 reports.

2.2 UPDATED DATA

While the same analysis was completed as in the earlier report, it was updated with the most recent data available. In addition to the *Growth Plan* 2051 population and household targets, updated data included:

- Population, birth, death, and migration rates
- Household numbers,
- Employment rates,
- Community housing stock;
- Average market rents;
- Average market housing sales data; and
- Housing starts and completions.

3.0 GROWTH SCENARIO ANALYSIS

3.1 CURRENT HOUSING STOCK

Niagara Region's current housing stock consists primarily of low-density dwelling types like single-detached and semi-detached homes. Table 1 below provides a breakdown of the estimated housing stock in the region by dwelling type based on census data and CMHC completions. Single-detached homes are by far the most common dwelling type, followed by low-rise apartments and row houses.

Table 1 Estimated Housing Stock by Dwelling Type, 2021

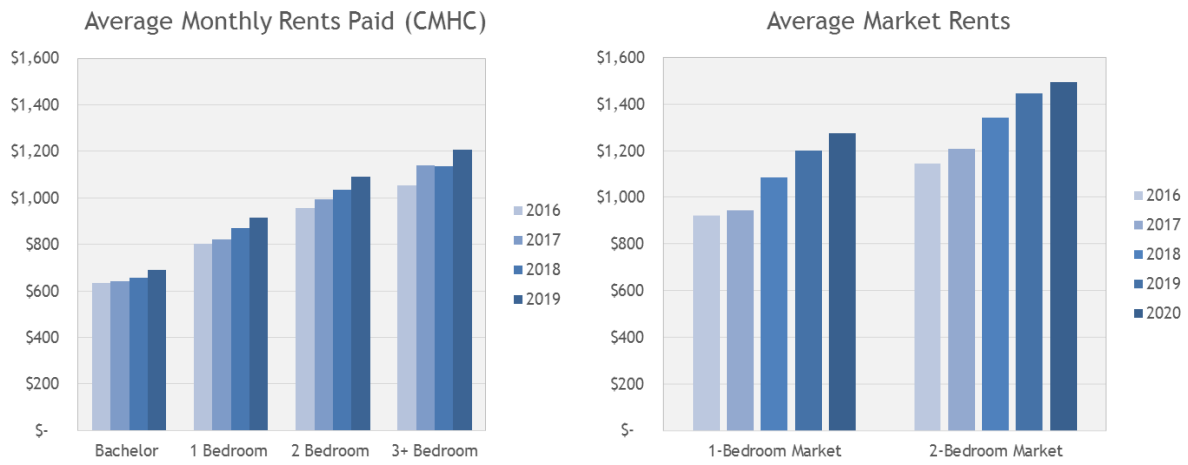
Dwelling Type	Number of Dwellings	Percentage of Total Stock
Single-detached	138,900	68%
Semi-detached	10,600	5%
Duplex Apartment	6,600	3%
Row house	14,900	7%
Apartment 5 stories or less	21,800	11%
Apartment over 5 stories	10,600	5%
Other	540	0%
Total	**203,000**	**100%**

As an update to CANCEA's previous analysis of the Region's housing market, recent market prices for homes and recent market rents are shown below. Table 2 shows the average market price for newly built and newly sold homes from 2016 to 2020. Prices have increased 42% in this time, including a 6% increase in 2020. CMHC average rents and average market rents are shown in Figure 1. As a result of Ontario's rent control system, which combines rent increase limits for sitting tenants and vacancy decontrol, average rents are considerably less than market rents that must be paid by households looking for a new home. For example, average rent paid for a one bedroom apartment was just over $900 in 2019, whereas average market rent for a one bedroom was $1200 that year. Both rents and house prices are increasing at rates considerably greater than wages resulting in increased affordability pressures across the region.

Table 2 Recent Market Average Home Prices, 2016-2020

Year	All Dwelling Types	Change from previous year	Change from 2016
2016	$333,030	—	—
2017	$403,099	21%	21%
2018	$405,063	0.5%	22%
2019	$444,571	10%	33%
2020	$473,045	6.4%	42%

Figure 1 Average and Market Rents, 2016-2020



An update to the community housing stock is shown in Table 3. The 8,510 units of community housing (as of December 31, 2019) represents an increase of more than 100 units from the data included in our previous report. The most common type of community housing is not-for-profit/co-op buildings, and senior housing makes up a third of all community housing units. This housing stock is concentrated largely in St. Catharines (3,804 units), Niagara Falls (2091 units), and Welland (1,180 units), which together account for over 83% of community housing.

Table 3 Community Housing, December 2019

Mandate	NFP / Co-op	NRH Owned	Rent Supplement	New Development	Total
Family	2,158	888	0	20	**3,066**
Senior	918	1,642	0	315	**2,875**
None	371	0	1,433	0	**1,804**
Adult	0	154	0	356	**510**
Aboriginal	128	0	0	0	**128**
Alternative	84	0	0	43	**127**
Total	**3,659**	**2,684**	**1,433**	**734**	**8,510**

3.2 Growth Scenarios

The growth scenario analysis conducted allows one to understand the implications of different rates of housing construction for Niagara Region. Three different forward looking scenarios were analyzed:

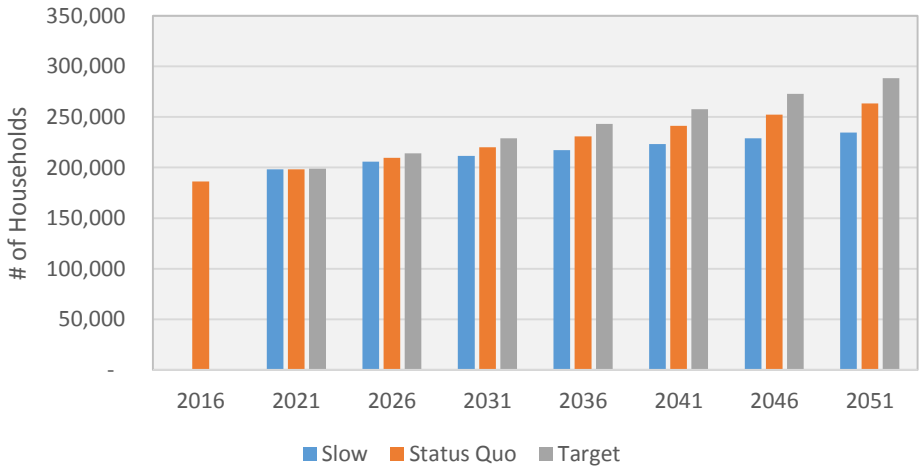
1. Status Quo Growth: maintaining current construction rates, or the average construction rates seen in Niagara Region over the last five years.
2. Slow Growth: growing at a slower pace, or the average construction rate over the last five years less two standard deviations, with a minimum threshold equal to half the average.
3. Target Growth: increasing the pace of housing construction to achieve the number of dwellings needed for municipalities set out in the *Growth Plan*.

The population and housing targets for each municipality to year 2051 used in this analysis align with those presented in Niagara Region's Draft Land Needs Assessment.

Accommodating the target population would mean accommodating approximately 91,900 additional households, with the number of households varying slightly for the same target population depending on the average household size by 2051. It is important to note that the housing mix that is constructed can significantly alter the population housed. For example, 1,000 units of 1 bedroom apartments could suitably house at most 2,000 people (but would likely be less in practice.) However, 1,000 units of 3 bedroom row-houses could provide housing for over twice that population.

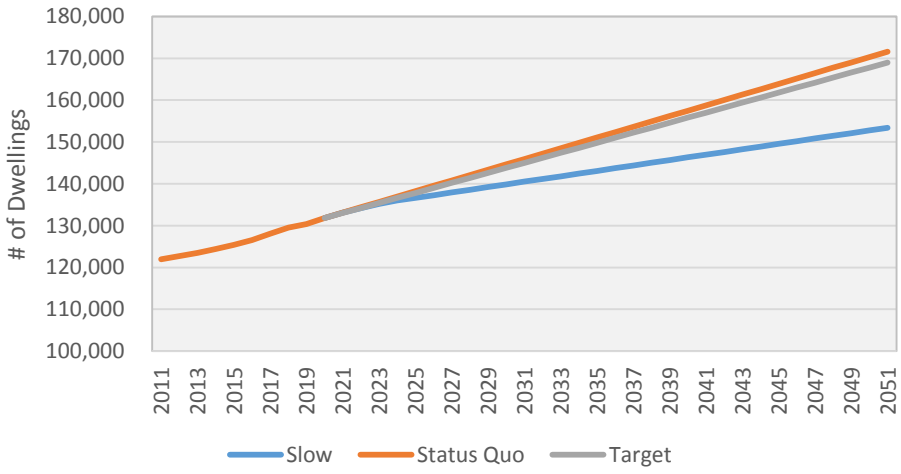
As we can see below, in Figure 2, if the status quo rate of construction is maintained, there will be insufficient dwellings to house the region's target population. By 2051, the status quo growth rate of construction could result in just over 24,000 fewer households in the region than in the target growth scenario. If housing construction rates decrease so as to be in line with the slow growth scenario, this shortfall could reach nearly 53,000 households by 2051. Aside from the ability to adequately house its target population, status quo growth or slow growth could result in increased affordability pressures in the region and the displacement of lower income families.

Figure 2 Number of Households in Different Growth Scenarios, 2021-2051



Housing Niagara's target population while also meeting the Regions housing mix targets will require increasing construction rates for higher density housing types, like apartments and row houses. This is can be seen by examining the results of the growth scenario analysis by different dwelling types. Maintaining current construction rates would not only result in the region falling short of its growth targets, but would also result in an over-supply of single-detached homes, as we can see in Figure 3. Under the status quo scenario, over 2,500 more single-detached dwellings would be completed than in the target growth scenario in which the target population is housed and the Region's housing mix targets achieved.

Figure 3 Single-Detached Dwellings Under Growth Scenarios



Meanwhile, the status quo growth scenario would result in an under-supply of row houses, semi-detached homes, and, most significantly, apartments, relative to the growth plan targets. Figure 4 shows the supply of apartments, row houses, and semi-detached homes in the different growth scenarios. The gap between the target scenario and the status quo scenario is over 18,000 units in the case of apartments, over 4,500 in the case of row houses, and over 3,000 in the case of semi-detached homes, by 2051. As we can see, this gap only widens when the target growth scenario is compared to the slow growth scenario.

Figure 4 Apartments, Row Houses, and Semi-Detached Dwellings Under Growth Scenarios

The Region will thus need to see both an increase in construction and a shift from single-detached homes to apartments and other dwelling types if it is to achieve its *Growth Plan* targets.

3.2.1 LABOUR FORCE TRENDS

Figure 5 shows the estimated labour force participation resulting from the expected demographic shifts in the region under the *Growth Plan*. Note that these statistics reflect the population residing in Niagara rather than the jobs located in Niagara. While there is considerable overlap with many people both living and working in Niagara, for housing-related issues, it is the resident population that is of interest. If labour force participation patterns and industry mix of employment, with its relatively high concentration of tourism and agricultural industries, remain similar, the fraction of the population not participating in the work force will increase over time, while the reliance on seasonal employment will remain steady. These

trends could continue to exacerbate housing affordability issues, due to lower incomes in these two groups. As we can see below, in Figure 6, by 2051 if the regional industry mix and employment trends continue, there would be around 250,000 people in Niagara Region not participating the labour force and nearly 150,000 employed seasonally. The large number of seasonal employees, with generally lower incomes compared to full-time employees, will continue to create added pressure on housing affordability. This could also negatively impact the ability of employers to find and retain employees.

Figure 5 Labour Force Breakdown in 2016 (on left) and 2051 (on right)

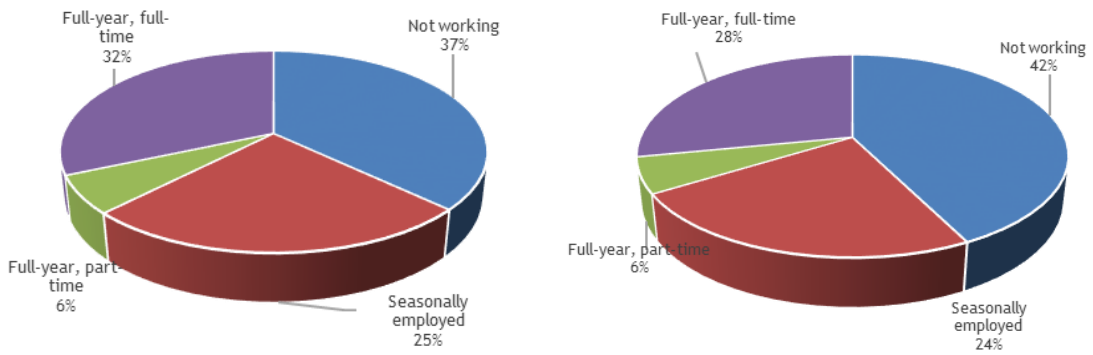
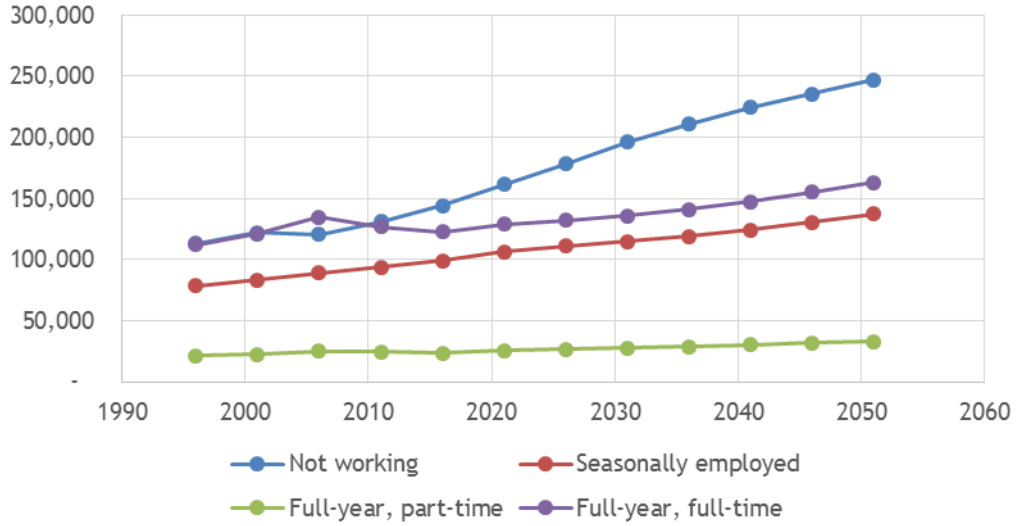


Figure 6 Niagara Region Employment Over Time

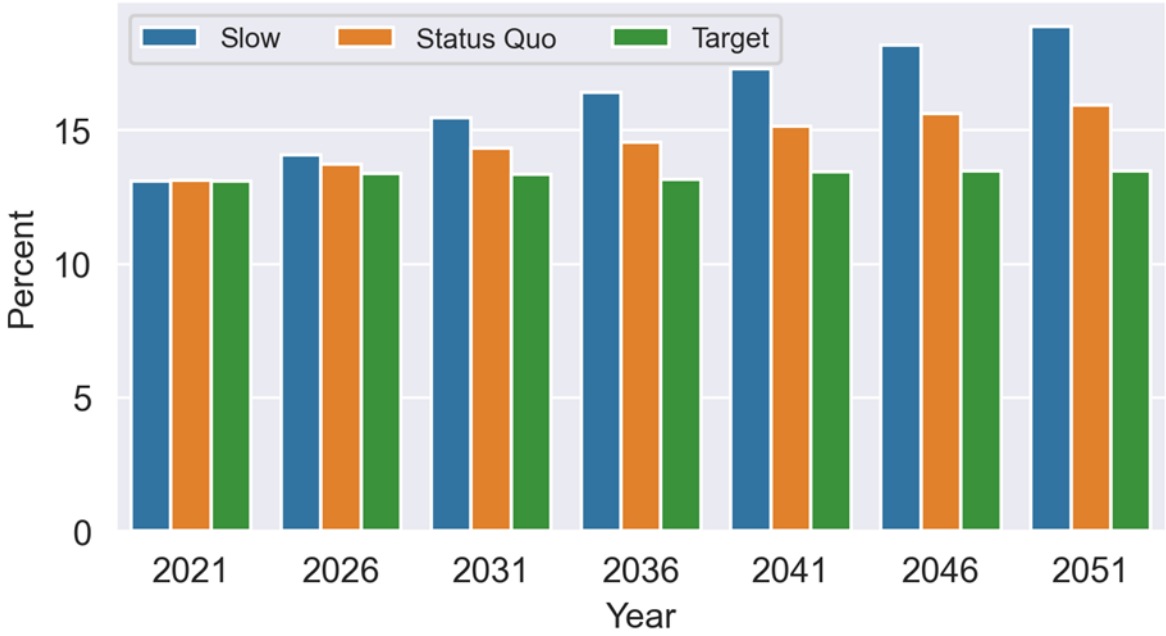


3.2.2 CORE HOUSING NEED

A household is considered to be in core housing need if its dwelling is too expensive given its budget, if its dwelling does not meet its needs, or is in major state of disrepair and there is no alternative housing that would be within its budget. A dwelling is considered to be within budget if shelter costs are less than 30% of total household income.

Both the slow growth and status quo growth scenarios would result in an increase in the percentage of households in core housing need in the region. As shown in Figure 7, 16% of households could be in core housing need by 2051 if construction rates remain stable, and 19% of households could be in core housing need by 2051 in the slow growth scenario. In the target growth scenario, core housing need would remain at around 13% of households. Thus, by simply meeting target growth, core housing pressures could be maintained, but the percentage of households in core housing need is not expected to decrease without additional housing or supports.

Figure 7 Percentage of Households in Core Housing Need by Growth Scenario



Maintaining the fraction of households in core housing need would mean the number of households in core need will increase as the region's population increases towards its growth targets. Figure 8 shows how the number of families in core housing need may increase over time in the target growth scenario. Shown are the number of households in core need spending 30% to 50% of household income on shelter and households spending more than 50%, sorted by tenure type.

Figure 8 Households in Core Housing Need to 2051

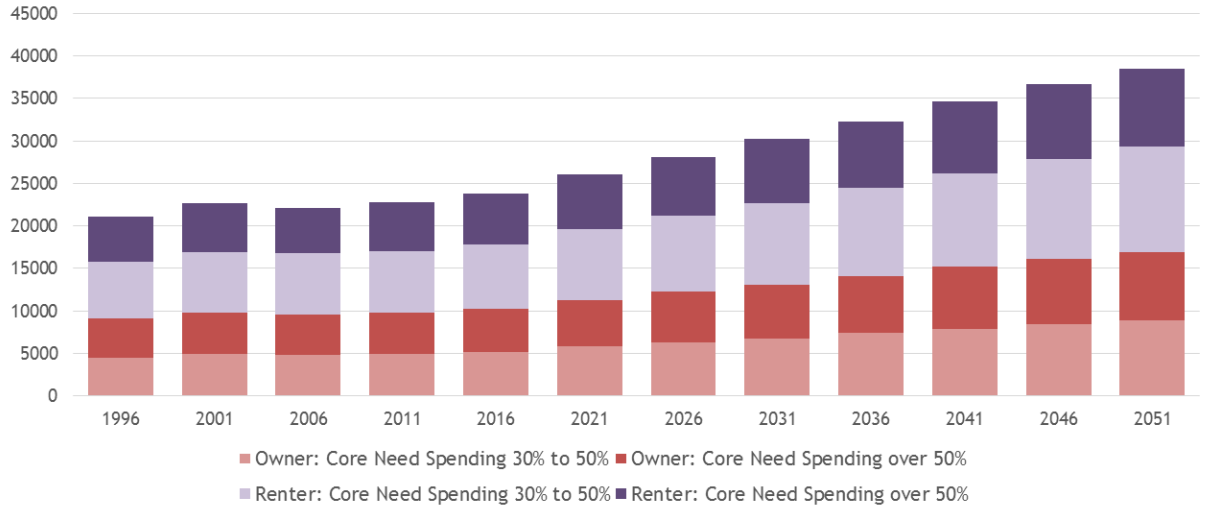


Table 4 shows the percentage of households in core housing need in each growth scenario by 2051, broken down by income bracket. As noted, the status quo growth and slow growth scenarios would result in a larger percentage of households being in core housing need, as compared to the target growth scenario. In the slow growth and status quo growth scenarios, a larger share of households are in core housing need across income brackets. For example, in the target growth scenario, 7% of households in the $50,000 to $59,999 bracket are in core housing need, but this more than doubles to 15% of such households in the slow growth scenario.

Table 4 Percentage of Households in Core Housing Need by Income

Income	Slow Growth	Status Quo Growth	Target Growth
Under $10,000	96%	94%	93%
$10,000 to $19,999	70%	63%	54%
$20,000 to $29,999	44%	35%	27%
$30,000 to $39,999	27%	20%	15%
$40,000 to $49,999	19%	14%	9%
$50,000 to $59,999	15%	10%	7%
All incomes	**19%**	**16%**	**13%**

Lower income households, in particular, are at risk of spending over 30% or 50% of their income on shelter. Across growth scenarios, at least 93% of households with incomes under $10,000 are in core housing need, and at least 54% of households in the $10,000 to $19,999 bracket are in core housing need. While the share of families in core housing need is lowest in the target growth scenario, these families are concentrated in the lower income brackets. Of the approximately 38,700 households in core housing need in the target scenario, over 28,500 of these (or almost three-quarters) have household incomes below $30,000.

3.2.3 AFFORDABLE HOUSING TARGETS

The number of households in deep core housing need (spending more than 50% of their income on shelter) could grow to over 15,000 households by 2051 under the target growth scenario while the total number of households in core need (spending more than 30% of their income on shelter) could increase to 38,000 households (or about 13% of all households.) This in an increase of 12,500 above the 2021 estimates of households in core need. The majority of households in core need are renters in apartments and over 70% of households in deep core need residing in apartments.

The number of households potentially in core housing need provides a natural target for affordable housing in Niagara Region. At a minimum, in order to prevent an increase in the number of households in core need, an additional 12,500 affordable units would be needed over the next 30 years. This corresponds to about 14% of all new dwelling construction. However, in order the actually reduce core housing need, a greater rate of affordable construction is required. To reduce the number of households in core need by 50% compared to the number in 2021, 28% of all new dwellings would need to be affordable. Therefore, it would be reasonable to target at least 25% of new dwellings to be affordable in order to significantly reduce core housing need in Niagara Region.

4.0 CONCLUSIONS

The analysis of the updated growth targets indicates that the conclusions presented in the earlier analysis remain relevant under the updated 2051 targets. Maintaining the region's current housing growth rate could result in the region falling short of the updated population targets set out by the provincial government. In addition, the rate at which Niagara Region builds new housing does not only impact the future population the region can accommodate, but also the affordability of housing. If current growth rates are maintained, the percentage of the population in core housing need may increase from around 13% to 16%, by 2051. However, even if sufficient housing is built to house the 2051 population targets, core housing need will remain a considerable challenge.

Achieving its population and housing mix targets will require to continue the shift from a focus on single-detached homes to increased construction of higher density dwellings, including row houses and, particularly, apartments. In doing so, Niagara Region may not only ensure adequate housing to accommodate its target population, but do so in a way that ensures households of varying sizes find dwellings that are more likely able meet their housing needs. However, the ongoing shift to higher-density should not come at the expense of being able to house a wide variety of household type and sizes, or the Region may fall short of its growth targets.

EXECUTIVE OVERVIEW

Chapter 3 – Section 1. NATURAL ENVIRONMENT

SUMMARY

The natural environment work program ("NEWP") is a critical part of the Niagara Official Plan ("NOP"). The NEWP is focused on establishing a regional-scale **natural heritage system** (NHS) and **water resource system** (WRS), including policies and mapping. The NHS and WRS are ecologically linked, rely on and support each other, and have many overlapping components. **Together these systems collectively form the integrated Natural Environment System ("NES").**

A range of options for the NES were identified, consulted on, and evaluated. From these, Option 3B (NHS Option 3B + the single WRS option) is the recommended NES option.

Consultation on the NEWP has included 2 major points of engagement totaling nearly **130 individual points** of engagement to date, with many future engagement sessions planned. A 3rd POE has been planned after the complete set of draft policies and mapping is prepared.

The attached '*Natural Environment Work Program Status Update & Recommendations Report'* (April 2021) [**Appendix 6.2**] provides a detailed overview of the work completed to date, including an overview and discussion of the revised NES options, an overview of the preliminary policy intent for the NES, the recommendation for the preferred option, next steps, implications, and timelines.

Regardless of the NES option selected and implemented, environmental planning will change for the better: in terms of the total coverage of the NES in the Region and the level of protection provided to some features in the system. These changes are required to meet provincial conformity.

Further, regardless of the NES option selected by Regional Council, there will be a range of improvements in environmental planning in the Region to address known gaps, including significantly improved final mapping and better alignment with the regulations and land use policies of the NPCA.

Integration Guide for Sub-sections Reported in PDS 17-2021	
☐ Regional Structure	☐ Archaeology
☑ Housing	☐ Employment
☑ Land Needs	☐ Agriculture
☑ SABR	☑ Aggregates
☑ Transportation	☐ Natural Heritage incl.
☐ Infrastructure	☐ Water Systems Options

SUSTAINABLE REGION

Integration Guide for Sub-sections Reported in PDS 17-2021	
☑ District/Secondary Plans	☑ Watershed Planning
☐ Urban Design	☑ Climate Change

OVERVIEW

On July 15, 2020, PDS 26-2020 was presented to the Region's Planning and Economic Development Committee (PEDC). This report presented options for the NHS and WRS. It also directed staff to initiate the 2nd Point of Engagement (POE) for the NEWP with the public and other stakeholders.

Through the 2nd POE it became clear that Regional Council, local municipalities, and other stakeholders wanted additional details on each of the NES options, including the spatial extent of each NES option, to assist with making a decision on the preferred option.

Regional Planning staff, with the support of the consultant team, have worked hard to be in a position where **all of the additional mapping requested by members of Regional Council and other stakeholders has been prepared**. This information includes 135 new maps and 81 new tables of data, representing all 27 urban areas in the Region. The mapping and supporting data has been shared with the local municipalities, the public, and other stakeholders to allow options to be more easily compared. The mapping for a selected option will be refined for accuracy in accordance with the system methodology and in consultation with local municipalities.

To meet the 2022 Provincial deadline for conformity of the NOP, it is critical that Regional Council make a decision on the preferred NES option. Planning Staff, with the support of the consultant team, need sufficient time to complete the detailed mapping process based on the selected option, and to undertake the 3rd POE.

Growth is coming to the Region, the sooner the new NES and NOP can be approved and implemented, the sooner growth can be better managed, known limitations of the existing Core NHS can be addressed, and important natural features and areas can be better protected.

NES option 3B (NHS option 3B + the single WRS option) is recommended as the preferred NES option. In making this recommendation it should be noted that all options are in conformance with Provincial requirements, and could be fully designed and implemented by Regional Planning Staff through the NOP. NES option 3B:

- **Exceeds the required provincial standards** for the identification of features and systems which in the long-term will support a more resilient and biodiverse NES.

- **Ensures that there is not a reduction in the area of treed vegetation communities** included within the Region's NES.

- **Support other objectives, such as helping mitigate the impacts of climate change**.

- Provides a balanced approach for the protection of the natural environment by **increasing the number of components and features outside of settlement areas** and limiting additional constraints to development in settlement areas. This option works from both an ecological and land-use planning perspective.

- Provides **flexibility for local municipalities to plan for local needs** and priorities in their communities. Local municipalities would not be prevented from going beyond the Regional system, either through their Local Official Plans or Secondary Plans. Regional Planning Staff are available to provide support for those exercises should they be desired by local municipalities.

- Option 3B **considers the significant public input received** through the 1st and 2nd Points of Engagement. Through the 2nd Point of Engagement, **it was clear that there was no consensus** on which NES Option was most desirable. This speaks to the **need for a balance between the Options**.

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NIAGARA OFFICIAL PLAN

Status Update & Recommendation Report

Natural Environment Work Program

Niagara Region
May 2021

SUSTAINABLE REGION

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1.0 Purpose

The purpose of this Status Update and Recommendations Report is to: provide a summary of the work completed to date on the Natural Environment Work Program (NEWP), provide an overview of the new mapping and analysis of the options that has been completed in the urban areas of the Region, outline the importance of selecting a preferred option, provide a recommendation for the preferred option, and communicate the next steps.

2.0 Introduction

Niagara Region is in the process of preparing a new Niagara Official Plan (NOP). As part of this project, a NEWP is being undertaken. The NEWP is focused on establishing a regional-scale **natural heritage system** (NHS) and **water resource system (WRS)**, including policies and mapping, which will be implemented through the NOP. The NHS and WRS are ecologically linked, rely on and support each other, and have many overlapping components, **together these systems collectively form the integrated Natural Environment System (NES).**

On July 15, 2020, PDS 26-2020 was presented to the Region's Planning and Economic Development Committee (PEDC). This report presented options for the NHS and WRS. It also directed staff to initiate the 2nd Point of Engagement (POE) for the NEWP with the public and other stakeholders. The results of the 2nd POE were presented to PEDC through PDS 1-2021 (February 17, 2020).

Through the 2nd POE it became clear that Regional Council, local municipalities, and other stakeholders wanted additional details on each of the NES options, including the spatial extent of each option, to assist with making a decision on the preferred option. The request for additional information was focused on the urban areas in the Region. It was generally well understood through the 2nd POE that there will be a range of exemptions in the NES policies for agricultural uses, and therefore there is less likely a conflict between land uses outside of urban areas.

All of the additional information requested by members of Regional Council and other stakeholders has been prepared and distributed. This information was communicated through CWCD 2021-70 (March 19, 2021). Posted on the Region's website there is now 135 new maps and 81 new tables of data, representing all urban areas in the Region. This additional Information has also been shared with local Planning Departments, local Councils, the public, and other stakeholders.

Based on all the information previously presented and the additional information included in this Status Update & Recommendations Report **a decision is now being requested from Regional Council on the preferred NES option.** Once an option is selected, the mapping for the system will be refined in accordance with the system methodology and in close consultation with local municipalities.

2.1. Relationship between Environmental Protection and Growth and Development

Natural environment planning supports the identification of appropriate areas for growth and development and is therefore a crucial component of managing growth through the NOP. For example:

- At a regional level, it helps us understand what features, areas, and systems need to be protected and this helps to inform us where new growth areas should be. It is important that this exercise is done in a proactive, thoughtful, and comprehensive manner in advance of growth and development occurring;
- At a neighborhood level, through Local Official Plans and Secondary Plans, it allows us to plan how the human and natural environments will interact; and
- At a site-specific level, it allows us to identify all features that need to be protected, any management or mitigation that is required, and ultimately what are the developable areas of an individual property or site.

2.2. Provincial Direction

Natural environment planning is a complex and evolving science. There is a wide range of Provincial requirements, guidance, and direction; scientific and technical requirements; industry best practices; and local context that must be taken into consideration.

In preparing and implementing the NES and NOP there is Provincial policy that must be implemented by the Region for the NOP to be considered 'in conformance' with Provincial requirements. The Province is the approval authority for the NOP, and cannot approve the NOP if it is not in conformance.

- Provincial direction starts with the *Provincial Policy Statement* (PPS). The *PPS* identifies the types of natural features, areas, functions, and systems that must be identified and protected. There is a Provincial requirement for the Region to have a NHS and WRS. The requirement for a comprehensive WRS is new, includes surface and groundwater features and systems, and is being developed and implemented in the Region for the first time.

- Through the *PPS* there is now a requirement for a 'systems-based' approach to natural environmental planning. The current Core NHS in the Region is more reflective of a 'features-based' approach which was common in the late '90 and early 2000s. A 'system-based' approach requires the protection of areas adjacent to, and connecting natural features in addition to the features themselves.
- In Niagara, the Region is also responsible for implementing the Provincial Greenbelt Natural Heritage System (NHS) and the Provincial Growth Plan NHS. Both of these systems apply outside of urban areas. The Greenbelt NHS has been in place since 2005 and is generally well reflected in existing Regional policies. The Growth Plan NHS was introduced in 2017, and is being implemented in a Regional Official Plan for the first time. The policies of the Growth Plan NHS and Greenbelt Plan NHS are very prescriptive. They include considerable detail on what features, systems, and connecting areas must be protected, how this is to be done, and what exemptions for a range of other land uses must be included. The mapped Growth Plan NHS and Greenbelt Plan NHS provided by the Province must also be included in the NOP.

3.0 Natural Environment Work Program (NEWP) and Work Completed to Date

The direction for the NEWP endorsed by Regional Council through PDS 18-2018 was to take an incremental approach to developing the policies and mapping for the new NOP, including a number of decision points of Council and several formal opportunities for engagement with the public and other stakeholders. In practice this means that Planning Staff would be reporting to Committee and Council at several interim points in the project, both to provide information and to request decisions.

There are several incremental steps that need to be taken before the mapping and policy development phases. Draft policies and mapping are not prepared until Phase 7 of the NEWP. Similarly, the 1st and 2nd Points of Engagement (POE) (which are now complete) were at interim points in the project. It is through the 3rd POE that a complete set of draft policies and mapping for the NES will be presented to Regional Council, local municipalities, the public, and other stakeholders. This report is one of several interim point of the project. **A decision is being requested on an interim step of the project; a decision is not being requested on the final NES, policies, or mapping**. Assuming a decision is made on the preferred NES option – the 3rd POE is scheduled to occur in late-2021/early-2022.

3.1. Phasing of the NEWP and Reporting to Committee and Council

Table 1 below present the key phases of the approved NEWP as well as a summary of the formal reporting to Committee and Council to date. In addition to the formal PDS reports, there has also been several Council Weekly Correspondence Distribution (CWCD) memos prepared to provide informal updates on the NEWP or to respond to Councilor requests for additional information.

Phase 4 and Phase 5 of the work program are now complete. Phase 4 was the incremental step in the work program between the background reports and the mapping and policy development. Phase 5 was the 2nd Point of Engagement. The intent of Phase 4 was to identify and evaluate the NES options at a conceptual level. The goal being to set the direction for the NES. **It is fundamental that Planning Staff has the direction and general intent of the NES established and supported by Regional Council before the detailed mapping and policy development phases can occur**.

As discussed in more detail throughout this report, the mapping of the NES is a significant undertaking. The identification of a preferred NES option is the mechanism to establish the intent of the NES, and to provide direction for how the mapping and policy develop phase will be undertaken. **The NEWP cannot advance without the selection of a preferred option.**

Table 1: Phasing of the NEWP and Reporting to Committee and Council

Project Phase	Description	Reporting to Committee and Council
1	Project Initiation and Procurement	• PDS 6-2018 • PDS 18-2018
2	Background Study and Discussion Papers for Mapping and Watershed Planning Priority Areas	• PDS 10-2019 • PDS 32-2019
3	1st Point of Engagement: Inform on Background Study	• PDS 32-2019
4	Develop and Evaluate Options for Natural System(s)	• PDS 26-2020
5	2nd Point of Engagement: Consultation on Options for the Natural System(s)	• PDS 1-2021
6	Develop Regional Natural System(s)	*to be completed*
7	Develop OP Policies & Finalize Mapping	*to be completed*

Project Phase	Description	Reporting to Committee and Council
8	3rd Point of Engagement: Draft OP Policies and Schedules	*to be completed*

3.2. Background Reports

The following reports have been completed to date to inform the NEWP. Additional reports will be prepared at the project proceeds through the next phases.

- Mapping Discussion Paper (September 2019) https://www.niagararegion.ca/projects/rural-and-natural-systems/pdf/natural-environment-mapping-discussion.pdf
- Watershed Planning Discussion Paper (October 2019) https://www.niagararegion.ca/projects/rural-and-natural-systems/pdf/natural-environment-watershed-planning.pdf
- Technical Report #1 – Natural Environment Background Study (September 2019) https://www.niagararegion.ca/projects/rural-and-natural-systems/pdf/natural-environment-work-program-study.pdf
- Consultation Summary Report #1 (September 2019) https://www.niagararegion.ca/projects/rural-and-natural-systems/pdf/natural-environment-consultation-summary-report.pdf
- Technical Report #2 – Identification and Evaluation of Options (June 2020) https://www.niagararegion.ca/projects/rural-and-natural-systems/pdf/technical-report-identification-evaluation.pdf
- Niagara Watershed Plan – Goals and Objectives Discussion Paper (October 2020) https://www.niagararegion.ca/projects/rural-and-natural-systems/pdf/niagara-watershed-plan-discussion-paper.pdf
- Consultation Summary Report #2 (January 2021) https://pub-niagararegion.escribemeetings.com/filestream.ashx?DocumentId=14363
- Technical Memorandum – Preliminary Policy Intent for the Natural Environment Systems in the Region's Settlement Areas & Discussion on Implications (April 2021) [Attached]

3.3. Consultation and Engagement

Consultation of the NEWP has included 2 major points of engagement **totaling nearly 130 individual points of engagement to date**. The input received during these POEs is documented and summarized in Consultation Summary Report #1 and Consultation Summary Report #2 respectively. A summary of the activities undertaken includes:

- 6 reports and presentation to Planning and Economic Development Committee (PEDC) and numerous CWCD memos to Regional Council
- 3 series of Public Information Centres (PICs)
- 2 series of stakeholder workshops (Agricultural Community, Environmental Stakeholder Groups, Development Community)
- Several presentations to the Region's Planning Advisory Committee (PAC) and the Agricultural Policy and Action Committee (APAC)
- Presentations to Local Councils and numerous meetings with Local Planning Directors and Planning Staff (including one-on-one meetings)
- Several meetings and discussions with NPCA Staff and presentations to the NPCA Board and the NPCA Public Advisory Committee (PAC)
- Meetings with, and presentations to staff at Provincial Ministries, the Niagara Escarpment Commission, and Niagara Parks Commission
- Ongoing meetings with Indigenous Groups
- Significant input received directly from the public by e-mail and through the Region's website
- **With More to Come** – A 3rd POE is planned once the preferred option has been selected by Regional Council and the complete set of draft policies and mapping is prepared.

4.0 Natural Environment System (NES) Options

The options for the Region's NHS and WRS were first presented in PDS 26-2020 (July 15, 2020) as follows:

4.1. NHS Options

Three main options for the NHS were identified for consideration:

- Option 1 – Required Standards – Overlay

- Option 2 – Required Standards – Designation
- Option 3 – Going Beyond the Required Standards

Option 1 implements Provincial Policy in a manner that achieves Provincial standards. This option treats the entire system throughout the Region as an overlay.

Option 2 is similar to Option 1, but designates some natural heritage features and areas in an exclusive land use designation.

Option 3 exceeds the required Provincial standards (as permitted by the *PPS*) by including an increasing number of optional components, linkages, and buffers. Option 3 includes sub-options (3A, 3B, and 3C).

4.2. WRS Options

Two main options for the WRS were identified for consideration:

- WRS Option 1 – required standards.
- WRS Option 2 – going beyond required standards including an increasing number of components and potential connections.
    - WRS Option 2 was further subdivided into Option 2A and 2B. Option 2A introduced additional features outside of settlement areas only. Option 2B introduced additional features across the entire Region.

4.3. Integrated Natural Environment System (NES) Options

As work on NEWP progressed, the required standards for the WRS was further informed by the ongoing work of the Niagara Watershed Plan (NWP) project. The *Growth Plan* requires that the WRS be informed by watershed planning. The attached technical memorandum 'Preliminary Policy Intent for the Natural Environment Systems in the Region's Settlement Areas & Discussion on Implications' (Meridian Planning & North-South Environmental, April 2020) has analyzed the requirements of the WRS and come to the conclusion that in fact there are no 'optional' components. There is only one option for the WRS. This WRS option includes all of the required water resource features, areas, and systems as informed from provincial direction and the NWP project. Refinements and additions to the WRS would be informed by watershed planning or equivalent at subsequent stages in the planning process (e.g. a subwatershed study completed to inform a Secondary Plan, etc.).

Further, as Planning Staff and the consultant team began the process of completing additional mapping and analysis of the options it became clear that **within the**

Provincial definitions and requirements of the NHS and WRS, there is significant overlap. If this overlap is left unaddressed there would be ongoing confusion, low confidence in the NES, and barriers to implementation.

To respond to this overlap, to better recognize the ecological interconnectedness of the NHS and WRS, and to support a more fulsome systems based approach to natural environmental planning in the Region, **the NHS and WRS are now collectively referred to as the integrated Natural Environment System (NES)**. This approach to integrating the two natural systems is supported by the ongoing work of the Niagara Watershed Plan (NWP) project and by input received from NPCA Staff. The integration of the systems is simplified by the fact that there is now only one option for the WRS. The options for the integrated NES are as follows. It should be made clear that these NES options are not a fundamental change to the options that were previously presented through the 2nd Point of Engagement, rather this is the result of an iterative approach to planning that was envisioned for the NEWP.

- NES Option 1 = NHS Option 1 + the WRS
- NES Option 2 = NHS Option 2 + the WRS
- NES Option 3A = NHS Option 3A + the WRS
- NES Option 3B = NHS Option 3B + the WRS
- NES Option 3C = NHS Option 3C + the WRS

Additionally, based on the ongoing work of the NEWP, information from the NWP, and the input received from the local municipalities, the public, and other stakeholders during the 2nd Point of Engagement, the following other refinements have been made to the NES options:

- One of the components which was identified as ‘optional’ for the NHS was 'other wetlands' (i.e., non-PSWs). However, ‘wetlands’ (i.e., both PSWs and non-PSWs) are a required component of the WRS. Many wetlands are also features that are regulated by the NPCA. To more accurately reflect the required standards of the NES, ‘other wetlands’ are no longer included as an ‘optional’ component. They are a required component of the WRS and therefore a required component for all options of the integrated NES.
- Similarly, several other components that are required to be included in the WRS but were identified as optional components of the NHS (e.g., permanent and intermittent streams, seepage areas and springs, and inland lakes and their littoral zones) are no longer discussed as optional components of the NHS. They

are a required component of the WRS and therefore a required component for all options of the integrated NES.

- Following an additional review of the required standards of a WRS as directed by the *PPS* and the *Growth Plan*, and based on stakeholder feedback, headwater drainage features (HDF) that would be classified as "protection" and "conservation" are included as a required component of the NES.
- The definition of 'woodlands' was updated. The result of this update is that a smaller subset of woodlands are identified as 'significant' (many of the woodlands previously identified as significant woodlands are also PSWs or 'other wetlands'. Wetlands have a higher-level of protection than what is currently afforded to significant woodlands – see detailed discussion in the attached technical memorandum). The analysis in the memorandum concludes **"The change in definitions would not result in reduction in the area of treed vegetation communities included within the Region's NES [if Option 3B or 3C is selected]** …"
- Due to a smaller subset of woodlands being captured by the criteria for significant woodlands, the inclusion of 'other woodlands' was moved up from Option 3C to 3B in settlement areas, and moved up from Option 3B to 3A outside of settlement areas.
- One of the most common pieces of specific feedback from both the 1st and 2nd points of engagement was the need to ensure that there was consistency and alignment between the Region's natural systems and the regulation and land use planning policies of the NPCA. Refinements have been made to the options to reflect this feedback. Firstly several features which were described as optional NHS features, but regulated by the NPCA, and required by the WRS (e.g. other wetlands, watercourses, etc.) are now described as required components of the integrated NES. Secondly, the NPCA regulates a setback or buffers from features. Where there is a regulated buffer or setback this is described as a required component of the integrated NES to reflect the fact that it is a required component of the environmental planning regime in the Region.

  The intent of this change is not to duplicate the role of the NPCA, rather to provide greater certainty and transparency to the public and other stakeholders in the Region. There will be policies in place, and the MOU/environmental planning protocol will be clear on who has the responsibility for implementing policies for regulated features.

4.4. Introducing 'Other Wetlands'

With the introduction and development of the water resource system (WRS) in the Region there will need to be a shift in how wetlands are understood. Currently in the Region, wetlands are generally understood to be 'provincially significant wetlands (PSWs)' and 'locally significant wetlands', both of which are natural heritage features and regulated by the NPCA.

The *PPS* and *Growth Plan* both include the requirement for a WRS. Both require 'wetlands' to be included; the policies of the *PPS* allow for more flexibility regarding the identification of non-PSWs in settlement areas, while the policies of the *Growth Plan* require all wetlands (under the definition of key hydrologic feature) to be included in the WRS outside of settlement areas. This new Provincial direction requires wetlands beyond PSW's and 'other wetlands' which are regulated by Conservation Authorities to be included in a municipality's natural environment system (NES). The implication of this change is that wetlands which are regulated and protected by the NPCA will continue to be, however there may be other wetlands on the landscape which may warrant a different manner of protection than regulated wetlands. This reflects a growing understanding that wetlands are important features of the WRS, and the NES as a whole, and have both an ecological and hydrological role.

Take for example a non-PSWs in a settlement area that does not meet the definition of 'other wetland' (which includes regulated non-PSWs) and to which the NPCA policies would not apply, but does meet the more general definition of 'wetland' as defined by Province in regards to the WRS. The Region and/or the NPCA may require that an appropriate study (e.g., E.I.S., hydrologic evaluation, etc.) be undertaken to determine if the wetland should be protected in situ with appropriate buffers/setbacks or if the hydrologic function provided by wetland should be maintained or managed as part of the design of the development.

For the purpose of the 135 new maps and 81 new tables of data that were prepared to compare the options, as this information was prepared at an interim phase in the project, a methodology was required to demonstrate the extent to which 'other wetlands' existed on the landscape. The ELC methodology was chosen because it is the industry accepted methodology and 2020 data existed. The ELC methodology however does not differentiate between 'other wetlands' which may be regulated by the NPCA and wetlands which are part of the WRS. **It should not be interpreted that all 'other wetlands' identified on the mapping would be treated the same through policy.**

Through the consultation and engagement that was completed on the mapping to compare the NES in late March and early-April 2021, one of the most discussed items was 'other wetlands'. There was concern that "new" wetlands were being identified. This concern is understood; the requirement for a WRS is new, as is the requirement for

wetlands to be protected as part of this WRS, and this represents a fairly significant change.

Based on the input that we have received to date, there may be a need to adjust the methodology for how these features are mapped. For example it may only be appropriate to map 'other wetlands' that are of a minimum size (e.g., 0.5 ha, which is the minimum size for isolated wetlands evaluated through the Ontario Wetland Evaluation System) that are not within 30m of another natural heritage feature and area or key hydrologic feature. It should be noted that this change in mapping methodology would not mean that wetlands smaller than 0.5 ha wouldn't be regulated according NPCA policies or dealt with through another policy that may require a study be completed.

4.5. Overview of Integrated NES Options

The attached memorandum entitled 'Preliminary Policy Intent for the Natural Environment Systems in the Region's Settlement Areas & Discussion on Implications' (Meridian Planning & North-South Environmental, April 2021) provides a detailed discussion of the NES options for consideration. The included features, areas, and systems for each options is summarized as follows:

4.5.1. NES Option 1 and 2

There is no difference between the features, areas, and systems with Option 1 and 2. The difference is that in Option 1 the NES is an 'overlay'. In Option 2 some features and areas are a 'designation'. The implications of this difference is discussed in more detail in the attached memorandum.

The following are the required standards to be included in the integrated NES. It is important to note that not all features, areas, and systems will be mapped or have the same type of policy attached to them.

- Provincial Natural Heritage Systems (NHS)
    - Growth Plan NHS
    - Greenbelt Plan NHS
- Natural heritage features and areas
    - Provincially significant wetlands (PSW)
    - Significant coastal wetlands
    - Habitat of endangered species and threatened species

    - Fish habitat
    - Significant areas of natural and scientific interest (ANSI)
    - Significant valleylands
    - Significant woodlands
    - Significant wildlife habitat (SWH)
- Key hydrologic features
    - Permanent streams and intermittent streams
    - Inland lakes and their littoral zones
    - Seepage areas and springs
    - Wetlands (both PSW non-PSW)
- Key hydrologic areas
    - Significant groundwater recharge areas (SGRA)
    - Highly vulnerable aquifers (HVA)
    - Significant surface water contribution areas
- Shoreline areas
- Hydrologic functions
    - floodplains, flooding hazards, floodways
- Vegetation Protection Zones (VPZs) to:
    - Natural heritage features and areas in the Growth Plan NHS and Greenbelt Plan NHS
    - All key hydrologic features outside of settlement areas
- Buffers/Setbacks on features regulated by the NPCA

The following features and areas would also be included as required components of the integrated NES. However, they are not appropriately identified or managed until more detailed watershed planning or equivalent is completed at a subsequent stage of the planning process (e.g. a subwatershed study completed in support of a secondary plan, etc.).

- Ground water features (as informed by watershed planning or equivalent)
    - Recharge/discharge areas
    - Water tables

    - Aquifers and unsaturated zones
- Surface water features (as informed by watershed planning or equivalent)
    - Headwater drainage features (HDF)
    - Recharge/discharge areas
    - Associated riparian lands that can be defined by their soil moisture, soil type, vegetation or topographic characteristics.
- Other hydrologic functions (as informed by watershed planning or equivalent)

4.5.2. NES Option 3A

Option 3A includes all of the required components identified in Option 1/2 plus the following:

Within settlement areas:

- No additional components

Outside of settlement areas:

- Other woodlands
- Large linkages
- Mandatory (non-prescribed) buffers to natural heritage features and other woodlands outside of Provincial NHSs

4.5.3. NES Option 3B

Option 3B includes all of the components identified in Option 1/2/3A plus the following:

Within settlement areas:

- Other woodlands

Outside of settlement areas:

- Supporting features and areas (including enhancement areas)
- Medium linkages
- Minimum (prescribed) buffers to natural heritage features and other woodlands outside of Provincial NHSs

4.5.4. NES Option 3C

Option 3C includes all of the components identified in Option 1/2/3A/3B plus the following:

Within settlement areas:

- Supporting features and areas (including enhancement areas)
- Small linkages
- Mandatory (non-prescribed) buffers to natural heritage features and other woodlands

Outside of settlement areas:

- Small linkages

4.6. Summary of the Differences between the NES Options

A summary of the differences between the features, areas, and systems in the NES options is as follows. The differences in policy are discussed in a subsequent section of this report.

- Addition of 'other woodlands' in NES Option 3A (outside of settlement areas) and 3B (within settlement areas)
- Addition of 'supporting features and areas' (including enhancement areas) in NES Option 3B (outside of settlement areas) and 3C (within settlement areas)
- Addition of large linkages outside of settlement areas in NES Option 3A
- Addition of medium linkages outside of settlement areas in NES Option 3B
- Addition of small linkages inside and outside of settlement areas in NES Option 3C
- Requirement for *mandatory (non-prescribed) buffers on 'natural features and areas' and 'other woodlands' outside of settlement areas in NES Option 3A. Buffers/setbacks to features that are regulated by the NPCA are a 'required standard' in all NES options. VPZs required by the *Growth Plan* and *Greenbelt Plan* NHS (outside of settlement areas) are also a 'required standard' in all NES options.
- Requirement for *minimum (prescribed) buffers on 'natural features and areas' and 'other woodlands' outside of settlement areas in NES Option 3B & 3C. Buffers/setbacks to features that are regulated by the NPCA are a 'required

standard' in all options. VPZs required by the Growth Plan and Greenbelt Plan NHS (outside of settlement areas) are also a 'required standard' in all NES options.

- Requirement for mandatory (non-prescribed) buffers on 'natural features and areas' and 'other woodlands' within settlement areas in NES Option 3C. Buffers/setbacks to features that are regulated by the NPCA are a 'required standard' in all options.

* The difference between mandatory (non-prescribed) and minimum (prescribed) buffers is that for mandatory buffers, the policy would state that a buffer is required to the feature but would not state any minimum for the buffer width, that determination would be made through a site-specific study. For a minimum buffer, the policy would state what minimum buffer width would be required. As the term implies, the buffer width cannot be less than the required minimum, but may be larger as determined through a site-specific study. A minimum buffer does not provide any flexibility for a site-specific study to recommend a lesser width based on an analysis of the sensitivity of the feature and potential impacts to the feature and the ecological functions resulting from the proposed change in adjacent land use; this is generally considered more restrictive to development. A minimum buffer is generally considered more restrictive to development.

5.0 Mapping and Data in Urban Areas

The mapping of the natural systems is a significant undertaking that requires dozens of sources of data to be compiled and vetted; a detailed methodology to be determined, communicated, and documented; technical criteria for each feature-type in each geography of the Region to be established; and tens of thousands of individual features/polygons on the landscape to be analysed. There is also a range in ownership for the data used to map the NES. The Region is responsible for producing and maintaining the data for some features. For other features, the Region is reliant on datasets maintained by others (e.g. the Province, NPCA, etc).

The mapping of the natural systems in Niagara has long been a contentious issue, and is an important tool for many stakeholders in the Region. It is important to ensure that any information produced in map form is accurate, transparent, and defendable both in terms of methodology and criteria.

5.1. Mapping and Data for the Comparison of NES Options

Region Planning staff, with the support of the consultant team, have worked extremely hard to be in a position where **all of the additional mapping requested by members**

of Regional Council and other stakeholders has been prepared. This information includes 135 new maps and 81 new tables of data, representing all urban areas in the Region.

Specifically, 5 maps have been prepared for each of the 27 urban areas, as follows:

A. A map showing NHS Options 1, 2, and 3A and key hydrologic features
B. A map showing NHS Option 3B and key hydrologic features
C. A map showing NHS Option 3C and key hydrologic features
D. A map showing key hydrologic areas, shoreline areas, and areas that support hydrologic functions
E. A map showing the existing Regional Core NHS

To support the understanding of the mapping, for each of the 27 urban areas in the Region the following 3 tables have been prepared:

A. A table providing details of the spatial coverage of features and comparing the NHS options and key hydrologic features
B. A table providing details of the spatial coverage of key hydrologic areas, shorelines areas, and areas that support hydrologic functions
C. A table providing details of the spatial coverage of the existing Regional Core NHS

The maps and data tables can be accessed at the following link:
https://www.niagararegion.ca/official-plan/natural-environment-options.aspx

As discussed extensively throughout this report, the NHS and WRS are inherently linked and have significant overlap (i.e. the use of the term integrated NES moving forward). Given this interrelationship, it was necessary to show “NHS options and key hydrologic features” on the same map (recall that key hydrologic features are a component of the WRS and a required standard for all options).

Key hydrologic areas, shoreline areas, and areas that support hydrologic functions are shown on a different map because the policies type associated with these components of the NES are different, and spatially their coverage should not be analyzed in the same way.

As discussed in previous sections of this report, within urban area, Options 1, 2, and 3A include the same features and areas, and can therefore be depicted using the same map.

The Core NHS from the existing Regional Official Plan was also mapped in each of the 27 urban area with accompanying data. This mapping is being provided for information purposes only, and is not, and should not be compared to mapping and data provided for the Options. This would not be a direct or appropriate comparison because the current Core NHS mapping contains a different set of components (e.g., valleylands are not proposed to be a mapped feature in the new NES, etc), and the existing Core NHS is not reflective of current required standards for the identification and protection of the NES. Additionally, the current Core NHS does not include all of the key hydrological features (most notably non-PSWs) that are required components of the NES, and some of which are regulated by the NPCA.

Mapping of the NES for the entirety of the Region will be prepared based on the selected NES option through Phase 7 of the NEWP, and will be presented to Regional Council, Local Municipalities the public, and other stakeholders in draft form as part of the 3rd POE in Phase 8 of the NEWP.

5.2. Understanding and Using NES Mapping

When reviewing the NES mapping that was requested to facilitate a comparison of the options, or any subsequent NES mapping that is prepared for the NOP, it is important to fully understand the purpose and intent of the mapping, and any limitations that are inherent with mapping natural systems. The following must be taken into consideration:

- Mapping only tells part of the story: mapping alone is not the NHS, WRS, or NES for the Region. The mapping needs to be considered together with policy, as well as the criteria, methodology, and definitions that were used to identify, protect, and implement the system.
- Mapping is intended to be used as a tool to screen for features and areas, and to trigger the need for a review as part of an application for a proposed change in land use. It should not be interpreted as the exact delineation for all natural features that do, or do not exist on the landscape.
- Generally, the NES is a ‘policy’ or ‘text’ based system. This means that a feature is protected by the policies of the system, if it exists on the landscape, whether or not it is mapped.
- Not all NES features can or will be mapped. At a Regional-level, some features are protected through policy and are more appropriately identified through site-specific study. This is typical for municipalities across the Province.
- The NES is dynamic. The mapping of features represents a snap-shot in time. For example one of the primary sources of data for the NES mapping will be the

2020 Ecological Land Classification (ELC) mapping. The 2020 ELC data is based on aerial imagery taken in 2018. In the context of mapping a Regional NES this is considered highly accurate mapping, but changes will occur between the time that the aerial imagery is taken and the NOP is approved.

- A fundamental principal of natural environment planning is that the system can, and will be better understood through more detailed site-specific studies. This is a principal that will be reflected in policy and in any guidelines that are prepared to support the implementation of the system (e.g. EIS guidelines, hydrologic study guidelines, etc.). For example is typical to allow refinements to mapped features based on site-specific analysis, staking and surveying of features, etc. Refinement of features is typically done by the landowner/applicant at the time there is a proposed change in land use.

6.0 Preliminary Policy Intent

As noted above, to fully understand the implications of the NES options there needs to be a consideration of what is the policy intent, in addition to the mapping. The policy intent inside of settlement areas (i.e. urban) needs to be considered separately from the policy outside of settlement area (i.e. rural). The reason for this is that the policies of the *Growth Plan* NHS and *Greenbelt Plan* NHS do not extend into settlement areas. The Province is more prescriptive with the NES policies that apply in rural areas, with municipalities being provided somewhat more discretion for the policies that will apply to the NES in urban areas.

Throughout this report the interconnectedness of the NHS and WRS has been stressed, as has the need to consider these two systems as an integrated NES. However, when considering the policy intent there is still a need to provide some differentiation. This is generally for two reasons. Firstly, the *PPS* and Provincial Plans still differentiate between the systems, and Regional policies need to be in conformance. Secondly is the difference between certain components of the NES, take for example the difference between a groundwater system and a significant woodland. The woodland is a well defined feature of the landscape and is generally protected in a way that restricts development. Groundwater systems are vast and cover significant portions of the Region, and are protected in ways that do not necessarily restrict development. The policies used to identify and protect these features will need to be different.

The discussion below is intended to provide an overview of the policy intent for the NES. This policy intent is being provided to support the understanding of the NES options, and the selection of a preferred option. **What is being presented below**

should not be interpreted as being final, or a fulsome set of draft policies. A full set of draft NES policies will be prepared once a NES option is selected.

6.1. Inside of Settlement Areas (i.e. urban)

The attached memorandum entitled 'Preliminary Policy Intent for the Natural Environment Systems in the Region's Settlement Areas & Discussion on Implications' (Meridian Planning & North-South Environmental, April 2021) provides a detailed discussion and analysis of the preliminary policy intent within the Region's settlement areas. That discussion and analysis is summarized as follows.

As noted above, the policies of the *Growth Plan* and *Greenbelt Plan* NHS do not apply within settlement areas. The primary source of Provincial direction is the *PPS*. Natural heritage policies are S. 2.1 of the *PPS*, water resource policies are S. 2.2 of the PPS.

6.1.1. Natural Heritage Features and Areas

Based on the direction from the *PPS*, policies for natural heritage features and areas within settlement areas generally fall into 4 main categories:

- Protection of Features and Areas
    - In accordance with S. 2.1.4 development and site alteration is not permitted.

This would apply to PSWs in all options, and is proposed to apply to significant woodlands in options 3A, 3B, and 3C. Modifications to confirmed feature boundaries will be restricted.

- Protection of the Health and Integrity of Features and Ecological Functions
    - In accordance with S. 2.1.5 development and site alteration is also not permitted, unless is has been demonstrated that there will be no negative impacts.
    - This would apply to significant valleylands, significant wildlife habitat, and ANSIs in all options. It would apply to significant woodlands in Options 1 & 2. It would also apply to 'other woodlands' which are introduced in settlement areas in Option 3B and 3C.
- Opportunities to Enhance Features and Areas
    - Features and areas in this category would require additional study as part of a more detailed study to be identified, appropriately protected and managed, and included as part of the NES.

    - This would apply to the optional components that are introduced in settlement areas in Option 3C: supporting features and areas (including enhancement areas), linkages, and buffers to non-regulated features. Buffers/setbacks to regulated features would be protected in accordance with the regulations and land use policies of the NPCA.

- Protection of Features and Areas Determined by the Federal or Provincial Governments
    - Development and site alteration is not permitted except in accordance with provincial and federal requirements.
    - In accordance with S. 2.1.6 and 2.1.7 of the *PPS* this would include fish habitat and habitat of endangered species and threatened species.

For each of the 4 categories described above there would certain limitations and exemptions similar to those outlined in Provincial Plans. See the attached technical memorandum for additional details.

6.1.2 Water Resource Features and Areas

The requirement to identify a WRS is relatively new in natural environment planning; as such, there is little direction in Provincial plans or other guidance documents to inform policy approaches to protect the WRS. Within settlement areas, the policy intent is informed by the direction of the *PPS* and *Growth Plan*, and a stated desire from many stakeholders to see alignment between Regional policies, and the regulations and land-use policies of the NPCA.

- For PSWs and other wetlands which are regulated by the NPCA there would be a prohibition to development and the need to provide a 30m buffer. This aligns with the *PPS* which requires a prohibition to development on PSWs and the NPCA which regulates both PSWs and other wetlands. It is also noted that NPCA policies allow for offsetting for 'other wetlands'. Offsetting is not being considered in Regional policy in accordance with the stated desire of Regional Council and many stakeholders.
- For 'wetlands' which are required as part of the WRS, but are not considered regulated features by the NPCA additional study will be required (e.g. through an EIS, or hydrologic evaluation). *PPS* section 2.2.1. d) refers to the "ecological and hydrological integrity of the

watershed". There are various types of protection and management that can be used to achieve this test.

- Similarly, for watercourse, Regional policy would align with the policies of the NPCA which generally prohibit development.
- There are a number of other key hydrologic features and key hydrologic areas that also require protection in accordance with Provincial policy. These include seepage areas and springs within settlement areas, significant groundwater recharge (and discharge) areas, highly vulnerable aquifers and significant surface water contribution areas (which include headwater drainage features), all of which are key hydrological areas. For each of the above components of the WRS, there will be a need for policies in the NOP that require the submission of appropriate studies that evaluate the impacts of the proposed development and which identify how the quality and quantity of water can be protected, enhanced or restored. To inform the completion of studies considered acceptable to the Region, WRS guidelines could be developed, similar to Environmental Impact Study (EIS) guidelines.

6.2 Outside of Settlement Areas (i.e. rural)

Outside of settlement areas the Province provides very prescriptive NES policies that must be implemented by municipalities. These new policies have been in place since the new *Growth Plan* and *Greenbelt Plan* were implemented in 2017, and are being formally integrated into the natural environment planning regime in the Region through the NES and NOP. To date, the Provincial requirement to implement the new Provincial policies along with the policies of the existing Regional Official Plan has caused significant confusion. One of the objectives of the NOP is to eliminate this confusion. The Provincial policies to be incorporated into the NES are summarized as follows. For a complete list of the Provincial policies refer to the text of the *Growth Plan* and *Greenbelt Plan*.

- For key natural heritage features and key hydrologic features within the *Growth Plan* and *Greenbelt Plan* NHS there is a prohibition to development and the need to provide a 30m vegetation protection zone (VPZ) (subject to certain criteria and a range of exemptions for agricultural uses).
- For key hydrologic features, the prohibition to development and need to provide a 30m VPZ extends beyond the mapped Provincial NHSs to all areas of the Region outside of settlement areas.

- Within the *Greenbelt Plan* there is a Niagara-specific policies that reduces the required VPZ to 15m for certain permanent and intermittent streams when the proposed adjacent land use will be for agricultural purpose (subject to certain tests being met).
- For lands within the required VPZs of the *Growth Plan* and *Greenbelt Plan* there are detailed policies of what is, and what is not permitted. These policies are proposed to be implemented as provided by the Province.
- The *Growth Plan* and *Greenbelt Plan* NHS both include policies for the 'system'. These policies apply to the lands between the natural features (whether they exist in a natural state or not) and can be thought of as 'linkages' (although that terminology is not used by the Provincial Plans). Within these areas, not occupied by a key feature, there is a broad range of exemptions for agricultural uses. For most other forms of development and site alteration there are restrictions to the amount of development permitted and the need to demonstrate no negative impacts (subject to certain exemptions and conditions as described by the Provincial Plans).
- For components of the NES outside of settlement areas that are not addressed specifically by the policies of the *Growth Plan* and *Greenbelt Plan* (i.e. natural heritage features and areas outside of the Provincial NHSs, supporting features and areas, other woodlands). The policy intent would align with what is proposed within settlement areas as described above.

7.0 Analysis and Implications

7.1. Summary of Additional Mapping and Data

As discussed throughout this report, 135 new maps and 81 new tables of data, representing all urban areas in the Region have been prepared to allow for a more fulsome analysis and comparison of the NES options. As these maps were being prepared at an interim phase of the project several assumptions needed to be made. Each map that was prepared included a number of notes, as follows:

- This map has been prepared for discussion. **It was prepared to compare natural environment options in urban areas and should not be used for any other purpose**. **<u>This map is draft and not the final Natural Heritage System (NHS) or Water Resource System (WRS) map.</u>**
- Not all features of the NHS and WRS have been mapped. Certain components of the NHS and WRS are more appropriately and accurately identified through

detailed or site-specific studies, outside the scope of this work. Additionally, **development approvals on specific sites may not be reflected on the maps. Site-specific approvals and mapping must be considered, as applicable.**

- Buffers will not be mapped as part of Official Plan schedules. Where shown, buffers have been included to demonstrate their coverage based on modelling assumptions. Mandatory buffers (i.e. setbacks from features regulated by the NPCA) and optional buffers introduced through Option 3C will be identified through policy.

Table 2 below provides a summation of the NES options across all urban areas of the Region.

The tables for each individual urban area in the Region can be accessed here:

https://www.niagararegion.ca/official-plan/natural-environment-options.aspx

Table 2: Summation of NES Options across all Urban Areas of the Region

	Option 1, 2, & 3A		**Option 3B**		**Option 3C**	
Feature	Hectare	% of UA	Hectare	% of UA	Hectare	% of UA
Significant Wetland	1592.6	4.6%	1592.6	4.6%	1592.6	4.6%
Significant Wetland	1486.2	4.3%	1486.2	4.3%	1486.2	4.3%
Life Science ANSI	28.4	0.1%	28.4	0.1%	28.4	0.1%
Earth Science ANSI	45.7	0.1%	45.7	0.1%	45.7	0.1%
Other Wetlands	1309.1	3.8%	1309.1	3.8%	1309.1	3.8%
Permanent and Intermittent Stream (metres)	302446.3	N/A	302446.3	N/A	302446.3	N/A
Permanent and Intermittent Stream (poly)	773.0	2.2%	773.0	2.2%	773.0	2.2%
Other Woodlands	N/A	N/A	548.2	1.6%	548.2	1.6%
Linkages	N/A	N/A	N/A	N/A	34.2	0.1%
Buffers	2192.2	6.3%	2101.3	6.1%	2587.0	7.5%
Total	**7250.7**	**21.0%**	**7677.7**	**22.2%**	**8194.7**	**23.7%**

Table 2 Notes:

1. There is some overlap between features. The "total" presented is the total coverage of the listed features as opposed to a summation of the individual components.
2. Buffers in 1/2/3A & 3B are setbacks to regulated features as required by the NPCA. In Option 3C buffers are also applied to non-regulated features (i.e. significant woodlands and other woodlands). Buffers would not be mapped as part of the new Regional Official Plan and buffer widths for non-regulated features would be determined though site-specific study. For the purpose of the comparison of options only in the exercise a buffer of 10m to significant woodlands and 5m to other woodlands was used. The buffer is calculated as the buffer area where there is no overlap with any features. Buffers on features outside of the UA boundaries (where the buffer extends into the UA) are not captured in these calculations.
3. “Permanent and Intermittent Streams (polygon features)” are watercourses, such as rivers, that are wider and represented by a polygon in GIS mapping datasets.

7.2. Discussion and Implications

To support the understanding of this additional information, and to consider the impacts of preliminary policy intent, the consultant team for the project was tasked with analysing and discussing the implications within the urban settlement areas in the Region. The complete discussion of implications can be reviewed in the attached memorandum entitled ‘Preliminary Policy Intent for the Natural Environment Systems in the Region’s Settlement Areas & Discussion on Implications’ (Meridian Planning & North-South Environmental, April 2021). Several key highlights include:

- The change in spatial coverage, impact of the NES options, and changes in the amount of land available for new development differs across the 27 urban areas in the Region for several factors including:
    - The extent to which the urban area is already developed and the size of the urban area. For example, urban areas that are fully developed the change between the options will be less. For urban areas which have greenfield and other undeveloped areas, the change between the options will be greater.
    - The topography of the urban area. For example urban area with large area of lowland vegetation communities trends towards being PSWs with more marginal areas being ‘other wetlands’, as both types of wetlands are

required components of the NES there is no change in spatial coverage. However urban areas with more upland communities trend towards being Significant Woodlands with more marginal areas being ‘other woodlands’. Since ‘other woodlands’ are considered optional components and not introduced in settlement areas until Option 3B, there tends a greater difference in spatial coverage between the options in urban areas with more upland vegetation communities.

- Although mandatory buffers to significant woodlands and ‘other woodlands’ are considered an optional component introduced in 3C, in practice a buffer of some type is often required to satisfy the no negative impact test in accordance with the *PPS*. In practice and implementation this will minimize the impacts to developable area in adding buffers to significant woodlands and 'other woodlands' in Option 3C.
- Similarly, while other supporting features and areas (including enhancement areas) are introduced in Option 3C, in practice they can often be used to meet the test of no negative impact.
- The addition of ‘other woodlands’ has the most potential to impact developable land within urban areas, resulting in an addition of 548.2 ha of land to the NES or a 1.3% increase to the required standards. While having a policy that requires buffers to be identified will result in a slightly larger increase in the mapping of the NES than ‘other woodlands’, they are required in many cases to meet the test of no negative impact and are not expected to add a significant additional constraint to development.
- Hydrologic areas of the WRS (as shown in Map D for each urban area) comprise a large proportion of some of the urban areas. These features are required components of WRS/integrated NES according to Provincial policy and therefore impact each NES option equally. In most case, hydrologic areas are managed and protected in other ways and typically do not represent a strict prohibition to development.
- There are a number of ‘natural heritage features and areas’ that have not been mapped including significant wildlife habitat and habitat of endangered and threatened species. Their identification may also have an impact on the amount of potentially developable land within urban areas. That said, within settlement areas the majority of natural features where significant wildlife habitat and habitat of endangered and threatened species would be located is largely contained within natural features already included within the NES (e.g., woodlands and

wetlands, etc.), so the impact on the amount of potentially developable land would likely be marginal.

8.0 Recommendation for Preferred NES Option

8.1. Importance of Selecting a Preferred Option

The NEWP was initiated in early 2018, and the project is entering its 4th year. **As described throughout this report, significant research, analysis, and consultation has been already been undertaken, with additional phases still to come before the NES is approved and implemented.** Work to date has included 8 major background reports, 6 reports and presentations to Committee and Council, and 2 major points of consultation with the public and full range of other stakeholders. Through the completion of the 2nd POE additional mapping and analysis of the options was requested by Regional Council. **All of the requested additional mapping and analysis has been prepared, communicated, and summarized in this report.** The preparation of this additional information was a significant undertaking.

To meet the Provincial deadline for conformity of the NOP, it is critical that Regional Council make a decision on the preferred NES option. Planning Staff, with the support of the consultant team, need sufficient time to complete the detailed and mapping process based on the selected option, and to undertake the 3rd POE. **Growth is coming to the Region, the sooner the new NES and NOP can be approved and implemented, the sooner growth can be better managed, known limitations of the existing Core NHS can be addressed, and important natural features and areas can be better protected.**

The detailed mapping and policy development process is a significant and labour-intensive process that will take several months to complete. Given the time and resources required to complete this task it is not practical to move forward beyond this point without the selection of a preferred option.

In addition, as is explored in further detail in PDS 17-2021, the NES is interrelated with many of sections of the NOP. Without a decision on the NES option many other work programs will become stalled or not able to be finalized.

8.2 Recommendation

NES Option 3B (NHS Option 3B + the single WRS option) is recommended as the preferred NES option. In making this recommendation it should be noted that all options are in conformance with Provincial requirements, and could be fully designed and implemented by Regional Planning Staff through the NOP. NES Option 3B:

- **Exceeds the required provincial standards** for the identification of features and systems which in the long-term will support a more resilient and biodiverse NES.
- **Ensures that there is not a reduction in the area of treed vegetation communities** included within the Region's NES.
- **Supports other objectives, such as helping mitigate the impacts of climate change**.
- Provides a **balanced approach** for the protection of the natural environment **by increasing the number of components and features outside of settlement areas and limiting additional constraints to development in settlement areas.** This option works from both an ecological and land-use planning perspective.
- Provides **flexibility for local municipalities to plan for local needs** and priorities in their communities. Local municipalities would not be prevented from going beyond the Regional system, either through their Local Official Plans or Secondary Plans. Regional Planning Staff are available to provide support for those exercises should they be desired by local municipalities.
- Option 3B considers the **significant public input received** through the 1st and 2nd Points of Engagement. Through the 2nd Point of Engagement, it was clear that **there was no consensus** on which NES Option was most desirable. This speaks to the **need for a balance between the Options.**

9.0 Takeaway and Key Message

A key takeaway from the NEWP is that regardless of the NES option selected and implemented through the NOP. There will be changes in environmental planning in the Region, both in terms of the spatial extent of the NES and the level of protection provided to some features in the system. These changes are required to meet provincial conformity and are primarily being driven by:

- The need for a systems based approach to natural environment planning as required by the *PPS*;
- The need for a comprehensive WRS as required by the *PPS* and *Growth Plan*; and
- The identification of the *Growth Plan* NHS and associated policies by the Province, and the requirement for it to be implemented by Municipalities.

Further, regardless of the NES option selected by Regional Council the following improvements in environmental planning in the Region should also be anticipated:

- Significantly improved mapping of the NES as a result of new data from the 2020 Ecological Land Classification (ELC) Mapping project, the Contemporary Mapping of Watercourses (CMW) project, and other updated Provincial sources;
- Improved and more easily understood policies;
- Modernized definitions, criteria, and methodology for the identification of environmental features; and
- Better alignment with the regulations and land use policies of the NPCA as requested by a range of stakeholders.

10.0 Next Steps and Timeline

Once a preferred NES option has been selected, work can begin on Phase 6 and 7 of the NEWP including:

- Preparing Technical Report #3 (Phase 6) which will:
    - Expand on the preferred option to fully develop definitions, criteria, system components, sources of information, direction for preparing final mapping schedules.
    - Develop detailed recommendations for Official Plan policies to support implementation of the system building on the recommendations that were prepared in the earlier phases of the work program.
    - Prepare an 'Implementation Framework '(e.g. how will local municipalities incorporate this into their Official Plans, what are the responsibilities of landowners and local municipalities at the time of development, refinement policies, process for boundary interpretations, etc) to be reflected in the Official Plan policies.
    - Provide recommendations for implementation tools that will need to be recognized in the NOP (e.g. Environmental Impact Study (EIS) guidelines, stewardship policies, etc.)
    - Review of current Regional EIS guidelines and preliminary recommendations for updating.
- Draft Official Plan policies (Phase 7)
- Final NES mapping/NOP schedules (Phase 7)

Once Phases 6 & 7 are complete the 3rd Point of Engagement (Phase 8) will be undertaken. The goal of the 3rd POE is to provide Regional Council, Local Municipalities, the public, and other stakeholders a sufficient opportunity to review, understand, and provide comments on the draft policies and mapping. **The final recommendation and decision on NES mapping and policies will not occur until the 3rd POE has been completed.**

MERIDIAN PLANNING

north-south ENVIRONMENTAL

Technical Memorandum

To: Sean Norman, Senior Planner, Niagara Region

From: North-South Environmental Inc. and Meridian Planning Consultants

Date: April 12, 2021

File: Niagara Region Natural Environment Work Program

Re: Preliminary Policy Intent for the Natural Environment System in the Region's Settlement Areas & Discussion on Implications

Introduction

As part of the new Niagara Official Plan (N.O.P.) the Region will be developing new policies and mapping for the Region's natural environment systems (N.E.S.). The N.E.S. is made up of the natural heritage system (N.H.S.) and the water resource system (W.R.S.); these systems rely on and support each other and have overlapping components (e.g., provincially significant wetlands) that collectively form the integrated N.E.S. The N.E.S. provides a holistic systems-based approach to natural environment planning and protection of environmental features and areas.

In order to inform the development of options for the policies and mapping of the N.E.S., two discussion papers and two technical reports were completed in Phases 2 and 4 of the Natural Environment Work Program:

- Mapping Discussion Paper – September 2019
- Watershed Planning Discussion Paper– September 2019
- Technical Report #1: Natural Environment Background Study – September 2019
- Technical Report #2: Identification and Evaluation of Options for Regional Natural Environment Systems(s) – June 2020.

Through consultation with stakeholders and members of the public as part of the 1st and 2nd Point of Engagement, completed in Phase 3 and 5 respectively, the topics reviewed in these documents and the options developed for the N.E.S. were discussed. The identification and

review of options prepared as part of Technical Report #2 was intended to allow for an evaluation of the options at a conceptual–level in order to engage with stakeholders and the public through the 2nd Point of Engagement and received feedback and direction on a preferred option. Technical Report #2 and the 2nd Point of Engagement were intended to set the direction for the N.H.S. and W.R.S. This is a fundamental step to ensure staff have the direction and general intent of the N.H.S. and W.R.S. established and supported by Council before the detailed mapping and policy development occurs.

However, after the 2nd Point of Engagement it became clear that Council and other stakeholders were seeking additional details on each of the options to assist with making a decision on which option should be selected, as it relates to settlement areas, which is where Provincial policy also directs the majority of expected growth to occur.

To satisfy this request, the Region has engaged the consultant team to assist in completing additional analysis on each of the options for the N.H.S. and W.R.S. This additional work includes identifying a policy intent for the options of the N.H.S. and W.R.S., establishing a preliminary methodology and criteria for to identify each feature-type (Appendix A) and providing mapping and detailed statistics for comparison of each option as they apply to urban areas.

The policy intent of each option is intended to further inform Council on the differences between the options. It is intended that the results of the more detailed mapping, statistics and policy intent for each option will be presented to the Planning and Economic Development Committee (P.E.D.C.) in early 2021 to support the selection of the preferred N.H.S. and W.R.S. options.

The purpose of this Technical Memorandum is to review a number of policy approaches to protecting ‘natural heritage features and areas’ of the N.H.S. and components of the W.R.S. in the Region's settlement areas (which includes the Urban Areas) for consideration as part of the policy framework for the new Niagara Official Plan (N.O.P.).

In developing these options, guidance is provided in Provincial policy documents including the Provincial Policy Statement (P.P.S.), the Greenbelt Plan and the Growth Plan. The policies in these documents establish direction for the identification and protection of ‘required’ components and the identification of ‘optional’ components; based on this direction Technical Report #2: Identification and Evaluation of Options for Regional Natural Environment System(s), identified options for the N.H.S. and W.R.S. with a general policy framework. This Technical Memorandum provides more specific policy intent for the protection of components of the N.H.S. and the W.R.S. within each of the options identified in Technical Report #2 for the Region's settlement areas.

Natural Heritage System Policy Intent

Technical Report #2 identified three main options for the N.H.S. across the Region:

- Option 1 – Required Standards – Overlay
- Option 2 – Required Standards – Designation
- Option 3 – Going Beyond the Required Standards

Option 1 implements Provincial Policy in a manner that achieves Provincial standards. This option treats 'natural heritage features and areas' throughout the Region as an overlay. Linkages would not extend beyond the two Provincial N.H.S.s.

Option 2 is similar to Option 1, but designates the same 'natural heritage features and areas' in an exclusive land use designation.

Option 3 exceeds Provincial standards (per the P.P.S.) by including sub-options (3A, 3B and 3C) which provide greater protections for significant woodlands and which includes an increasing number of optional components, linkages, and enhancements.

One of the optional components in some of the N.H.S. options identified in Technical Report #2 was 'other wetlands' (i.e., evaluated non-provincially significant wetlands and unevaluated wetlands). All wetlands (i.e., Provincially Significant Wetlands, evaluated non-provincially significant wetlands and unevaluated wetlands) are identified as key hydrologic features in the Growth Plan and a required component of the W.R.S. The N.H.S. and W.R.S. collectively make up the N.E.S., as such, the required component of one system cannot be considered an optional component to another system; when taken together, the required components of the N.E.S. should reflect the required components of both systems as a minimum standard. Therefore, to more accurately reflect minimum requirements of the N.E.S., 'other wetlands' are no longer included as an 'optional' component of the N.H.S. since they are a required component of the W.R.S. It is noted however that there is more flexibility in how evaluated non-provincially significant wetlands and unevaluated wetlands are dealt with from a development and site alteration perspective within settlement areas than outside settlement areas, where development and site alteration is prohibited in all wetlands by the Growth Plan. This is reflected in the policy discussion related to 'other wetlands'.

Common Base Assumptions for N.H.S. Options 1, 2, 3A, 3B and 3C in Settlement Areas

1. Growth Plan N.H.S. policy framework and mapping does not apply.
2. Greenbelt Plan N.H.S. policy framework and mapping does not apply.

3. Key hydrological features policies in Growth Plan do not apply.
4. Development and site alteration policies of the P.P.S. apply to identified ‘natural heritage features and areas’ and apply in settlement areas.
5. Development and site alteration within fish habitat and the habitat of endangered and threatened species would be in accordance with provincial and federal requirements.
6. Provincially Significant Wetlands (P.S.W.s), which are a natural heritage feature and areas as defined by the P.P.S., and key hydrologic features as defined by the Growth Plan, are also regulated by the Niagara Peninsula Conservation Authority (N.P.C.A.) and protected from development.
7. N.P.C.A. policies currently restrict most forms of development within 30 metres of P.S.W.s; however, exceptions can be considered and reliance will be placed on the N.P.C.A. policy framework (with the exception of the off-setting permissions) to determine buffer requirements.
8. Buffers could be required to demonstrate no negative impact and there would still be a need to determine 'adjacent lands' width to satisfy P.P.S. no negative impact policy on adjacent lands as it relates to all ‘natural heritage features and areas’ that are subject to the P.P.S.

Common Base Policy Intents for N.H.S. Options 1, 2, 3A, 3B and 3C

1. To ensure that ‘natural heritage features and areas’ identified in P.P.S. are protected.
2. To ensure that P.P.S. policies on where development and site alteration is not permitted is implemented in the new N.O.P.
3. To ensure that N.O.P. policies on development and site alteration within and adjacent to all wetlands are aligned with N.P.C.A. policies and regulations (with the exception of offsetting, which will not be permitted in the new N.O.P.).

N.H.S. Option 1 - Required Standards – Overlay in Settlement Areas

Assumptions

1. Identifies ‘natural heritage features and areas’ as an “overlay” to a land use designation. The “overlay” would prohibit development affecting certain features and would require the 'no negative impact test' be satisfied for certain other features and areas.

Policy Intent

1. To protect significant features and areas where development is restricted in accordance with the P.P.S.

2. To ensure consistency with P.P.S. policies on where development and site alteration is permitted (feature and adjacent lands) subject to the no negative impact test.
3. To include the 'natural heritage features and areas' identified in Sections 2.1.4 and 2.1.5 of the P.P.S. in an overlay designation to provide flexibility on study requirements and to recognize the underlying land use designation.

Components of the N.H.S. within Settlement Areas

The following features would be considered 'natural heritage features and areas':

- Significant wetlands;
- Significant coastal wetlands;
- Habitat of endangered species and threatened species;
- Fish habitat;
- Significant areas of natural and scientific interest;
- Significant valleylands;
- Significant woodlands; and
- Significant wildlife habitat.

Development and site alteration within fish habitat and the habitat of endangered and threatened species would be in accordance with provincial and federal requirements.
There is a small area of Niagara Escarpment Plan (N.E.P.) Escarpment Natural Area that is located on the escarpment in St. Catharines. Within the Escarpment Natural Area and Escarpment Protection Area designations, Habitat of Special Concern Species would also be considered a natural heritage feature and area. In addition, wetlands (including Provincially significant wetlands and non-Provincially significant wetlands), life and earth science areas of natural and scientific interest (A.N.S.I.s) and significant woodlands would be identified on lands subject to the N.E.P.

Buffers of any kind adjacent to 'natural heritage features and areas' in settlement areas would not be mapped, since there are no standard buffer requirements in the P.P.S. nor the N.E.P. Instead, it is anticipated that through the completion of an impact study, buffers may be required to demonstrate no negative impact in accordance with the P.P.S. In addition, it is also recognized that the N.P.C.A. may require setbacks from Provincially significant wetlands (among other regulated features and areas included in the W.R.S.) in accordance with their policies.

N.H.S. Option 2 – Required Standards - Designation in Settlement Areas

Assumptions

1. Include features and areas in an exclusive land use designation. The designation would prohibit development within certain features and would require the 'no negative impact test' be satisfied for other features and areas.

Policy Intent

1. To protect significant features and areas where development is restricted in accordance with the P.P.S.
2. To ensure consistency with P.P.S. policies on where development and site alteration is permitted (feature and adjacent lands) subject to the no negative impact test.
3. To include the 'natural heritage features and areas' identified in Sections 2.1.4 and 2.1.5 of the P.P.S. in an exclusive land use designation.

Components of the N.H.S. within Settlement Areas

This option would include the same natural features and areas as Option 1. The only difference between Options 1 and 2 is that the natural features and areas within Option 1 would be included within an overlay designation whereas they would be included in an exclusive land use designation in Option 2.

Natural Heritage System Options 3A, 3B and 3C in Settlement Areas

N.H.S. Option 3 builds on N.H.S. Option 2 by establishing three scenarios that progressively exceed standard provincial requirements. Within settlement areas in Options 3A, 3B and 3C, development would be prohibited in significant woodlands as it is for significant wetlands (see a discussion on woodlands and rationale for the policy prohibition for significant woodlands in **Appendix B**). Additional areas are added in Option 3B and both additional component features and areas and small linkages are added in Option 3C.

N.H.S. Option 3A

Assumptions

1. Include features and areas in an exclusive land use designation. The designation would prohibit development within certain features and would require the 'no negative impact test' be satisfied for other features and areas (same as Option 2).

2. Development and site alteration would also be prohibited in significant woodlands as it would be for P.S.W.s (more restrictive than Options 1 and 2).

Policy Intent

1. To protect significant features and areas where development is restricted in accordance with the P.P.S. (same as Options 1 and 2).
2. To ensure consistency with P.P.S. policies on where development and site alteration is permitted (feature and adjacent lands) subject to the no negative impact test (same as Options 1 and 2).
3. To include the 'natural heritage features and areas' identified in Sections 2.1.4 and 2.1.5 of the P.P.S. in an exclusive land use designation (more restrictive than Option 1 but same as Option 2).
4. To protect significant woodlands from development and site alteration and restrict any modifications to their boundaries (more restrictive than Options 1 and 2).

Components of the N.H.S. within Settlement Areas

Option 3A would include the same natural features and areas as Option 1 and 2. The primary difference is that development is prohibited in significant woodlands as opposed to meeting the test of no negative impact, which is how significant woodlands are dealt with in Options 1 and 2.

N.H.S. Option 3B

Assumptions

1. Include features and areas in an exclusive land use designation. The designation would prohibit development within certain features and would require the 'no negative impact test' be satisfied for other features and areas (same as Options 2 and 3A).
2. Development and site alteration would also be prohibited in significant woodlands as it would be for P.S.W.s (more restrictive than Options 1 and 2 but the same as Option 3A).
3. To include the 'natural heritage features and areas' identified in Sections 2.1.4 and 2.1.5 of the P.P.S. in an exclusive land use designation (same as Option 2 and 3A).
4. Certain 'other natural heritage features and areas' (restricted to 'other woodlands') would be identified in an exclusive land use designation and would be subject to the no negative impact test (more restrictive than Options 1, 2 and 3A).

Policy Intent

1. To protect significant features and areas where development is restricted in accordance with the P.P.S. (same as Options 1, 2 and 3A).
2. To ensure consistency with P.P.S. policies on where development and site alteration is permitted (feature and adjacent lands) subject to the no negative impact test (same as Options 1, 2 and 3A).
3. To include the 'natural heritage features and areas' identified in Sections 2.1.4 and 2.1.5 of the P.P.S. in an exclusive land use designation (more restrictive than Option 1 but same as Options 2 and 3A).
4. To protect significant woodlands from development and site alteration and restrict any modifications to their boundaries (more restrictive than Options 1 and 2 but same as Option 3A).
5. To identify certain 'other natural heritage features and areas' (restricted to 'other woodlands'), include them in an exclusive land use designation and require that the no negative impact test be applied to recognize the role these features and areas play in supporting a resilient N.H.S. (more restrictive than Options 1, 2 and 3A).

Components of the N.H.S. within Settlement Areas

Option 3B would include the same natural features and areas as Option 1 and 2 and 3A, with the addition of 'other woodlands' (see discussion of woodlands in **Appendix B**).

Note: 'Other woodlands' have been moved from the category of 'supporting features and areas' into the category of 'other natural heritage features and areas' following a review of, and recommended changes to, the definition of woodland and criteria related to the identification of significant woodlands in Niagara Region. The review of the woodland definition, recommendations for revisions and the rationale for making these revisions, and the discussion of significant woodlands is provided **Appendix B** of this Technical Memorandum. As a result, 'other woodlands' are now introduced in Option 3B as opposed to Option 3C as they were previously.

N.H.S. Option 3C

Assumptions

1. Include features and areas in an exclusive land use designation. The designation would prohibit development within certain features and would require the 'no negative impact test' be satisfied for other features and areas (same as Options 2, 3A and 3B).

2. Development and site alteration would also be prohibited in significant woodlands as it would be for P.S.W.s (more restrictive than Options 1 and 2 but the same as Options 3A and 3B).
3. To include the 'natural heritage features and areas' identified in Sections 2.1.4 and 2.1.5 of the P.P.S. in an exclusive land use designation (same as Options 2, 3A and 3B).
4. Certain 'other natural heritage features and areas' (restricted to 'other woodlands') would be identified in an exclusive land use designation and would be subject to the no negative impact test (more restrictive than Options 1, 2 and 3A but same as Option 3B).
5. 'Supporting features and areas' would be included as components of the N.H.S. (more restrictive than Options 1, 2, 3A and 3B).
6. Small linkages that are in a natural state would be identified and included in an overlay designation (more restrictive than Options 1, 2, 3A and 3B).
7. Enhancement areas would be required in policy (more restrictive than Options 1, 2, 3A and 3B) but not mapped in a schedule to the new N.O.P. since their identification within a settlement area is more appropriately determined through a site-specific study.
8. A buffer will be required in policy adjacent to 'natural heritage features and areas' including 'other woodlands' but the buffer width would not be specified (more restrictive than Options 1, 2, 3A and 3B). Buffers would not be mapped as part of the schedule to the new N.O.P. since their width would not be prescribed in advance. They would be identified as policy only. It is recognized that the N.P.C.A. will require buffers/setbacks from P.S.W.s.

Policy Intent

1. To protect significant features and areas where development is restricted in accordance with the P.P.S. (same as Options 1, 2, 3A and 3B).
2. To ensure consistency with P.P.S. policies on where development and site alteration is permitted (feature and adjacent lands) subject to the no negative impact test (same as Options 1, 2, 3A and 3B).
3. To include the 'natural heritage features and areas' identified in Sections 2.1.4 and 2.1.5 of the P.P.S. in an exclusive land use designation (more restrictive than Option 1 but same as Options 2, 3A and 3B).
4. To protect significant woodlands from development and site alteration and restrict any modifications to their boundaries (more restrictive than Options 1 and 2 but same as Options 3A and 3B).
5. To identify certain 'other natural heritage features and areas' (restricted to 'other woodlands'), include them in an exclusive land use designation and require that the no

negative impact test be applied (more restrictive than Options 1, 2 and 3A but same as Option 3B).

6. To require further study of ‘supporting features and areas’, including enhancement areas, to determine their form and function as part of the N.H.S., with consideration of compatible uses within ‘supporting features and areas’ (more restrictive than Options 1, 2, 3A and 3B).
7. To protect small linkages that they can form part of an overall settlement area N.H.S., with the intent of providing ecological connectivity between natural features and areas, with consideration of compatible land uses within linkages (more restrictive than Options 1, 2, 3A and 3B).
8. To require in policy buffers adjacent to all ‘natural heritage features and areas’ including 'other woodlands' (more restrictive than Options 1, 2, 3A and 3B).

Components of the N.H.S. within Settlement Areas

Option 3C would include the same natural features and areas as Option 1, 2, 3A and 3B, with 'supporting features and areas' (which include enhancement areas) and linkages being added into the N.H.S., as determined through future study. Given the addition of these components in Option 3C, a discussion is provided on policy intent below.

Supporting Features and Areas

These policies would apply to grasslands/meadows, other valleylands and other wildlife habitat. It is noted that some of the other valleylands may also be regulated by the N.P.C.A if it contains a permanent or intermittent watercourse. Policies for enhancement areas, which are also a ‘supporting feature and area’, are addressed separately below. following this section. Linkages are not considered to be a ‘supporting feature or area’, rather they are considered a separate component of the N.H.S.

As mentioned above, 'supporting features and areas' would not be mapped. As a result, they may be identified when an environmental study is completed in support of a secondary plan or through the development approvals process.

In this regard, and if Option 3C is selected, it is anticipated that new N.O.P. policies would indicate that ‘supporting features and areas’ be identified early on through a screening process and when identified, an environmental evaluation would be completed that assesses and determines:

- Whether the ‘supporting feature or area’ is a ‘natural heritage feature or area’ or an 'other natural heritage feature or area' that should be protected;
- The boundary of the ‘supporting feature or area’ along with its ecological functions and relationship to nearby natural heritage features or areas; and
- What conditions should be attached to the approval of the proposed development to enhance the ‘supporting feature or area’ where possible.

Note: The above policies get triggered when there is a Planning Act application. Until such a Planning Act application is triggered, uses permitted in both the land use designation and the zoning by-law can be developed. For example, development on existing lots of record would be permitted if the approval required was only a building permit. However, an application to create a new lot on which permission would be sought later to build a new house would trigger the need for an environmental evaluation.

Enhancement Areas

Like other ‘supporting features and areas’, enhancement areas will not be mapped, which means that they would only be identified when an environmental study is completed in support of a large scale secondary plan or through the development approvals process. In this regard, the policies would indicate that enhancement areas should be identified early on through a screening process, with the principle being that enhancement areas are intended to consist of natural self-sustaining vegetation and increase the ecological resilience and function of individual natural features or groups of natural features by:

- Increasing the size of natural features;
- Connecting key natural features and significant features to create larger contiguous natural areas;
- Improving the shape of natural features to increase interior habitat conditions; and
- Including critical function zones and important catchment areas critical to sustaining ecological functions.

When carrying out an environmental evaluation, it should:

- Assess the ecological benefit of an enhancement to the nearby natural heritage feature or area (e.g., does it fill a gap, close in an indent, connect two separate features, etc.);
- Consider the most appropriate shape/extent of an enhancement area so that the ecological functions of the nearby natural heritage feature or area are enhanced;
- Consider how the function and spatial extent of an enhancement area can be incorporated into the design and layout of the proposed development; and

- Assess the potential for compatible uses such as stormwater management facilities within the enhancement area to ensure that the intended ecological function of the enhancement area is achieved.

In a case where an enhancement area is identified as per the above, the lands within the enhancement area would be planted and left as natural self-sustaining vegetation. The enhancement area could also be designed to include other compatible land uses such as stormwater management ponds if it can be demonstrated that the long-term ecological function of the enhancement area would be retained.

Note: The above policies get triggered when there is a Planning Act application as there would be for other 'supporting areas and features' as discussed above.

Linkages

Linkages will be mapped as an overlay designation in the N.O.P. if Option 3C is selected. Over time and if a linkage is retained, as determined through a site-specific study, the area within the linkage should consist of natural self-sustaining vegetation and support the movement of target wildlife species between ‘natural heritage features and areas’.

When development or site alteration that is permitted by the underlying land use designation is proposed within a mapped linkage shown on a schedule to the new N.O.P., the required environmental evaluation should:

- Assess the ecological features and functions of a linkage, including its vegetative, wildlife, and/or landscape features or functions;
- Identify appropriate boundaries/widths that permit the movement of wildlife between nearby ‘natural heritage features and areas’ (including ‘other woodlands’);
- Describe the ecological functions the linkage is intended to provide and identifies how these ecological functions can be maintained or enhanced within a development proposal;
- Assess the potential for compatible uses such as stormwater management ponds, passive recreational uses and trails within the linkage to determine how the intended ecological functions of the linkage can be maintained or enhanced;
- Assess potential impacts on the linkage as a result of the development; and
- Make recommendations on how to protect, enhance, or mitigate impacts on the linkage and its ecological functions through avoidance and planning, design and construction practices.

Note: The above policies get triggered when there is a Planning Act application. Until such a Planning Act application is triggered, uses permitted in both the underlying land use designation and the zoning by-law can be developed. For example, development on existing lots of record would be permitted if the approval required was a building permit. However, an application to create a new lot on which permission would be sought later to build a new house would trigger the need for an environmental evaluation.

If a Planning Act application is submitted, possible outcomes include:

- The elimination of the linkage area based on site specific analysis and confirmation that maintaining a linkage area in this location is not necessary for ecological reasons;
- The refinement of the form (i.e., width) and ecological function (i.e., vegetation and wildlife habitat features) of the linkage based on a site-specific environmental evaluation; or
- The incorporation of the linkage area as is into the development plan, such that development would not occur on those lands.

In a case where all or part of a linkage area is retained as per the above, the lands within the linkage area would be planted and left as natural self-sustaining vegetation. The linkage could also be designed to permit trails and other passive recreational purposes so long as the ecological function of the linkage was not impacted. Furthermore, other compatible land uses such as stormwater management ponds could be considered in linkage areas if it can be demonstrated that the long-term ecological function of the linkage area would be retained.

Buffers, Setbacks and Vegetation Protection Zones

Up until this point and because this technical memorandum is focused on settlement areas, the term ‘buffer’ has been used to describe the area that may need to be protected adjacent to natural features and areas in order to mitigate potential impacts to features and functions resulting from a change in adjacent land use. In this regard, buffers of any kind adjacent to ‘natural heritage features and areas’ in settlement areas would not be mapped in any of the options, since there are no standard buffer requirements in the P.P.S. However, since the P.P.S. requires that no negative impact be demonstrated when development is proposed adjacent to all features (i.e., P.P.S. policy 2.1.8), it is anticipated that a buffer of some width would be required in most cases, although the potential exists for no buffer to be required.

The options presented for the N.H.S. make recommendations for “mandatory (non-prescribed) buffers” and “minimum (prescribed)” buffers. The difference between mandatory (non-

prescribed) and minimum (prescribed) buffers is that for mandatory (non-prescribed) buffers, the policy would state that a buffer is required to the feature but would not state any minimum for the buffer width; that determination would be made through a site-specific study. For a minimum buffer, the policy would state the minimum buffer width required. As the term implies, the buffer width cannot be less than the required minimum, but may be larger as determined through a site-specific study. A minimum buffer does not provide any flexibility for a site-specific study to recommend a lesser width based on an analysis of the sensitivity of the feature and potential impacts to the feature and the ecological functions resulting from the proposed change in adjacent land use; this is generally considered more restrictive to development.

In the case of N.H.S. Option 3C within settlement areas, a mandatory (non-prescribed) buffer would be required from all 'natural heritage features and areas' and 'other natural heritage features and areas' as a precautionary approach to protect the long-term ecological function of the feature itself. The width of an ecologically appropriate buffer would be determined through study and be based on the sensitivity of the ecological functions from the change in adjacent land use, and the potential for impacts to the feature and ecological functions as a result of that change in land use.

When identifying ecologically appropriate buffers, it is important to recognize that the purpose of a buffer is to protect features and areas and their ecological functions from the impacts of the proposed land use or site alteration. A buffer is not intended to become part of the feature or area; however, a buffer should consist of natural self-sustaining vegetation as a condition of development (except where certain agricultural uses are exempt from the requirement of a buffer). Consideration can be given to including passive recreational uses such as trails in buffer areas as part of undertaking an environmental evaluation that determines the ecologically appropriate buffer width and what compatible uses may be considered within the buffer.

The buffer discussed above is a term that will only be used in the N.O.P. as it applies to 'natural heritage features and areas' outside of the N.H.S. for the Growth Plan, the Greenbelt Plan and outside of the Niagara Escarpment Plan area. The term buffer will apply to 'other woodlands' throughout the Region. Within the N.H.S. for the Growth Plan, the Greenbelt Plan, and within the N.E.P. area, the term 'vegetation protection zone' (V.P.Z.) will be used to be consistent with the use of that term in those plans (except for 'other woodlands', where buffers apply). Similarly, the term V.P.Z. will be used as they apply to key hydrologic features outside of settlement areas, whereas the term buffer will be used as it applies to key hydrologic features within settlement areas. This is also necessary since both the Growth Plan and Greenbelt Plan establish specific minimum V.P.Z. requirements for 'natural heritage features and areas' and key

hydrologic features where they apply. While the N.E.P. also uses the term V.P.Z., it does not establish a minimum vegetation protection zone requirement.

The N.P.C.A. policies require a buffer to watercourses based on a certain thermal regime, which is typically 15 metres from watercourse containing permanent flow, cool water or coldwater systems, or specialized aquatic or riparian habitat, and 10 metres from intermittent watercourses, warmwater systems or general aquatic or riparian habitat. Reductions to this buffer may be considered by the N.P.C.A. in special circumstances as outlined in their policies.

The N.P.C.A. also require setbacks from features it regulates as natural hazards. The Conservation Authority Act regulations and N.P.C.A. policies requiring setbacks are intended to manage and minimize the potential for risk of harm to people and property resulting from the hazards associated with flooding, erosion and slope instability. It is important to note that the purpose of setbacks to hazard lands regulated by the N.P.C.A. is different than the purpose and function of a buffer to 'natural features and areas' as previously described. In this regard, N.P.C.A. policies provide some direction on what this setback to natural hazards should be with regard to site specific considerations.

It is important to note that the P.P.S. requires that the no negative impact test be applied whenever a Planning Act application is being considered, with the final determination being made by the municipality. As a result, and in the case of P.S.W.s, it is anticipated that the determination of an ecologically appropriate buffer width would be made by the municipality making a decision on the Planning Act application with input from the N.P.C.A. In all other cases (such as for 'other wetlands', watercourses and natural hazards) reliance would more be placed on the N.P.C.A. policy and regulatory framework.

Policy Approaches to Protect the N.H.S.

With multiple features and areas and different policies for each, it is often challenging to determine the implications of the policies that apply to these features, particularly in settlement areas where growth is directed. Furthermore, it is challenging to understand how these options for the N.H.S. protect features and areas, and conversely, how the options impact development requiring a Planning Act approval. The purpose of this section is to highlight the differences in the level of protection afforded to each component of the N.H.S.; in this regard, there are four categories, as discussed below.

Protection of Features and Areas Determined by the Federal or Provincial Governments

In the case of fish habitat and the habitat of endangered and threatened species (both of which are 'natural features and areas' by the P.P.S.), decisions affecting these features are made in accordance with provincial and federal requirements. For the habitat of endangered and threatened species, the responsibility for making decisions in this regard is the Ministry of Environment, Conservation and Parks. For fish habitat, the responsibility lies with the Department of Fisheries and Oceans (D.F.O.). This is consistently the case in Options 1, 2, 3A, 3B and 3C.

Protection of Features and Areas

For certain features, they are afforded a high-level of protection where development is prohibited as set out in Section 2.1.4 of the P.P.S. This applies to P.S.W.s in all options, and also applies to significant woodlands in Options 3A, 3B and 3C.

For these features, it is anticipated that only the following would be permitted:

a) Forest, fish, and wildlife management;
b) Conservation and flood or erosion control projects, if they have been demonstrated to be necessary in the public interest and after all alternatives have been considered;
c) Activities that create or maintain infrastructure authorized under an environmental assessment process; and
d) Small-scale structures for recreational uses, including boardwalks, footbridges, fences, docks, and picnic facilities, if measures are taken to minimize the number of such structures and their negative impacts.

For significant woodlands in Options 3A, 3B and 3C, the following additional permissions could be considered:

a) Expansions to existing buildings and structures, accessory structures and uses, and conversions of legally existing uses which bring the use more into conformity with this Plan, subject to demonstration that the use does not expand into the natural heritage features or their buffers, unless there is no other alternative, in which case any expansion will be limited in scope and kept within close geographical proximity to the existing structure;
b) Expansions or alterations to existing buildings and structures for agricultural uses, agriculture-related uses, or on-farm diversified uses and expansions to existing residential dwellings if it is demonstrated that:

i. there is no alternative, and the expansion or alteration in the feature is minimized and, in the buffer, is directed away from the feature to the maximum extent possible; and
ii. the impact of the expansion or alteration on the feature and its functions is minimized and mitigated to the maximum extent possible.

In addition to the above, development and site alteration would not be permitted on adjacent lands to the 'natural heritage features and areas' unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

Lastly, it is noted that the N.H.S. policies would not limit the ability of existing agricultural uses to continue.

Protection of the Health and Integrity of Features and Ecological Functions

In this case, development is also prohibited, unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions, in accordance with Section 2.1.5 of the P.P.S., where negative impact to 'natural heritage features and areas' (and 'other woodlands' where they are included in the system) is defined as "degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development or site alteration activities" (P.P.S. 2020). This policy would apply to the following features and areas:

a) significant woodlands (in Options 1 and 2);
b) significant valleylands (in Options 1, 2, 3A, 3B and 3C);
c) significant wildlife habitat (in Options 1, 2, 3A, 3B and 3C); and
d) significant areas of natural and scientific interest (in Options 1, 2, 3A, 3B and 3C).

'Other woodlands', which are included in Options 3B and 3C in settlement areas, would also be subject to the above policy.

In addition to the above, development and site alteration would not be permitted on adjacent lands to the 'natural heritage features and areas' unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

Opportunities to Enhance Features and Areas

This category applies to the following, which is a component of Option 3C in settlement areas:

- ‘Supporting features and areas’ including:
    - Grasslands/meadows/thickets not meeting the criteria as Significant Wildlife Habitat that are continuous with ‘natural heritage features and areas’ and ‘other natural heritage features and areas’ (not proposed to be mapped in the new N.O.P.);
    - Other valleylands (not proposed to be mapped in the new N.O.P.);
    - Other wildlife habitat (not proposed to be mapped in the new N.O.P.); and
    - Enhancement Areas (not proposed to be mapped in the new N.O.P.).
- Linkages (to be included in overlay designation).

- Since ‘supporting features and areas’ will not be mapped, they would only be identified when an environmental study is completed in support of a large-scale secondary plan or through the development approvals process. For linkages, which will be mapped, the policies on linkages would only be triggered when a Planning Act application is submitted, which means that an evaluation would then need to be completed. In this regard, possible outcomes include:

- The incorporation of the linkage area as is into the development plan, such that development would not occur on those lands;
- The refinement of the form (i.e., width) and ecological function (i.e., vegetation and wildlife habitat features) of the linkage based on a site-specific environmental evaluation; or
- The elimination of the linkage area based on site specific analysis and confirmation that maintaining a linkage area in this location is not necessary for ecological reasons.

Water Resource System Policy Intent

Technical Report #2 recommended two options for a W.R.S. framework including the following:

- W.R.S. Option 1 – required standards related to Provincial planning requirements.
- W.R.S. Option 2 – going beyond required standards including an increasing number of components and potential connections.
    - W.R.S. Option 2 was further subdivided into Option 2A and 2B.

Following an additional review of the required standards of a W.R.S. as directed by the P.P.S. and the Growth Plan, and based on stakeholder feedback, one option has been identified for the

W.R.S.; this option includes the standard requirements as informed from provincial direction and best practices, where refinements to the system would be informed by watershed planning or equivalent.

To be consistent with the approach of the N.H.S. to provide an option for an overlay designation (N.H.S. Option 1) and an exclusive land use designation (N.H.S. Option 2), all wetlands would be identified in an exclusive land use designation in conjunction with N.H.S. Options 2 and 3.

Base Assumptions for the W.R.S.

1. Growth Plan requires that a W.R.S. that protects key hydrologic features, key hydrologic areas and their functions be protected - this is the Growth Plan required standard and applies both inside and outside settlement areas and is mandatory. However, Growth Plan policies that prohibit development and site alteration within and adjacent to key hydrological features do not apply in settlement areas. This means that the potential exists for more flexibility to be afforded to evaluated non-Provincially significant wetlands and unevaluated wetlands in settlement areas when development and site alteration is proposed within and adjacent to these wetlands in settlement areas.
2. The Growth Plan requires that planning for large-scale development in designated greenfield areas in settlement areas (including secondary plans) be informed by a subwatershed plan or its equivalent. The subwatershed plan should consider existing development and evaluate impacts of any potential or proposed land uses and development; identify hydrologic features, areas, linkages, and functions; identify natural features, areas, and related hydrologic functions; and provide for protecting, improving, or restoring the quality and quantity of water within a subwatershed.
3. One of the features typically considered in sub-watershed plans or its equivalent are headwater drainage features; for the purposes of the W.R.S., headwater drainage features classified as ‘protection’ or ‘conservation’ are considered required components.
4. The Greenbelt Plan also indicates that W.R.S. shall be identified in settlement areas and be informed by watershed planning and other available information, and the appropriate designations and policies shall be applied in official plans to provide for the long-term protection of key hydrologic features, key hydrologic areas and their functions. However, Greenbelt Plan policies on development and site alteration within and adjacent to key hydrologic areas and key hydrologic features do not apply in settlement areas.
5. The P.P.S. requires that planning authorities protect, improve or restore the quality of water by identifying W.R.S.s consisting of ground water features, hydrologic functions, ‘natural heritage features and areas’, and surface water features including shoreline

areas, which are necessary for the ecological and hydrological integrity of the watershed and this mandatory requirement applies to lands within settlement areas as well.

6. The P.P.S. also requires that sensitive surface water and ground water features and their hydrologic functions be protected, improved or restored, provided they are sensitive.
7. P.S.W.s are also a 'natural heritage feature and area', and as such are subject to the policies of the P.P.S. that prohibit development in P.S.W.s and require the test of no negative impact be met for developed proposed on adjacent lands to 'natural heritage features and areas'.
8. Components of the W.R.S. (most notably wetlands and watercourses) are also protected in accordance with Conservation Authority Regulations and are subject to N.P.C.A. regulation and policies.

Policy Intent

1. To include the location of readily identifiable surface water components (most notably all wetlands) of the W.R.S. in an overlay designation or an exclusive land use designation depending on whether N.H.S. Option 1 or either of N.H.S. Options 2, 3A, 3B or 3C is selected;
2. To include policies in the N.O.P. that build upon and support N.P.C.A. policies on wetlands and watercourses, except that N.P.C.A. policies on off-setting will not be carried forward into the N.O.P;
3. To provide some flexibility in how development and site alteration applications are assessed in and adjacent to evaluated non-Provincially significant wetlands and unevaluated wetlands in settlement areas (referred to as 'other wetlands');
4. To ensure that a W.R.S. with all of the components listed in the Growth Plan, Greenbelt Plan and the P.P.S. is identified through policy as a system that needs to be protected and where possible, enhanced or restored;
5. To indicate that other components of the W.R.S. that cannot be mapped be prioritized for identification through watershed planning exercises;
6. To require the identification of W.R.S. components through urban Secondary Plan exercises that also make recommendations on how components of the W.R.S. will be protected, enhanced or restored;
7. To ensure policies are consistent for those components included in the W.R.S. that are also regulated by the Conservation Authority regulations and N.P.C.A. policies; and,
8. To allow appropriate flexibility for refinement of hydrological features through future study, being mindful that a systems-based approach must be preserved, and features and functions must be maintained and/or enhanced.

Components of W.R.S.

At a minimum, the following would comprise the W.R.S.:

- The following features would be included as key hydrologic features in the W.R.S.:
    - Permanent streams and intermittent streams (these will be mapped in the new N.O.P.);
    - Inland lakes and their littoral zones (these will be mapped in the new N.O.P.);
    - Seepage areas and springs (these will not be mapped in the new N.O.P.); and
    - Wetlands (these will be mapped in the new N.O.P.).
- The following areas would be included as key hydrologic areas in the W.R.S.:
    - Significant groundwater recharge areas (these will be mapped in the new N.O.P. and included in an overlay designation regardless of which N.H.S. option is selected);
    - Highly vulnerable aquifers (these will be mapped in the new N.O.P. and included in an overlay designation regardless of which N.H.S. option is selected); and
    - Significant surface water contribution areas (these will not be mapped in the new N.O.P.)
        - These include headwater drainage features classified as “protection” and “conservation”;
- Floodplains, flooding hazards, floodways (these will be mapped in the new N.O.P. and included in an overlay designation regardless of which N.H.S. option is selected.); and
- Shoreline areas (these will be mapped in the new N.O.P. and included in an overlay designation regardless of which N.H.S. option is selected)

The following components are included as part of the W.R.S. It is anticipated that they would be identified through subwatershed studies completed as part of future secondary planning exercises, where they are considered “necessary to sustain healthy aquatic and terrestrial ecosystems and human water consumption” (Growth Plan Section 4.2.1.3), or “are necessary for the ecological and hydrological integrity of the watershed” (P.P.S. 2.1.1):

- Ground water features:
    - recharge/discharge areas;
    - water tables; and
    - aquifers and unsaturated zones.
- Surface water features:

  - headwaters;
  - recharge/discharge areas; and
  - associated riparian lands that can be defined by their soil moisture, soil type, vegetation, or topographic characteristics.
- Hydrologic functions

Policy Approaches to Protect the W.R.S

The requirement to identify a W.R.S. is relatively new in natural environment planning; as such, there is little direction in Provincial plans or other guidance documents to inform policy approaches to protect the W.R.S. With the direction provided in the Growth Plan and P.P.S. related to the intention of the W.R.S. to “provide for the long-term protection of key hydrologic features, key hydrologic areas, and their functions” (Growth Plan, policy 4.2.1.2), as well as the policies of the N.P.C.A. related to regulated features, policy approaches have been developed to protect the W.R.S. The purpose of this section is to highlight the proposed policy approaches in order to highlight the differences in the level of protection afforded to each component of the W.R.S. according to Provincial policy and the policies of the N.P.C.A. In this regard, there are three categories, as discussed below.

Protection of Key Hydrologic Features

Wetlands

Outside of settlement areas, all wetlands (i.e., P.S.W.'s and non-P.S.W.'s) are prohibited from development in accordance with the Growth Plan policies on key hydrologic features, which also requires a minimum V.P.Z. be applied to key hydrologic features. In addition, the P.P.S. prohibits development in P.S.W.s. both outside and inside settlement areas.

Watercourses

The Greenbelt Plan prohibits development within key hydrologic features within the N.H.S., including watercourses. The Growth Plan also prohibits development within key hydrologic features, including permanent and intermittent streams; however, this policy only applies outside of settlement areas. The Growth Plan and Greenbelt Plan both require a 30 m V.P.Z.s be provided to watercourses, which would apply outside of settlement areas. However, within the Greenbelt Plan there is a Niagara-specific policy that reduces the required V.P.Z. to 15m for certain permanent and intermittent streams when the proposed adjacent land use will be for agricultural purpose (subject to certain tests being met).

In general, interference with a watercourse is not permitted by N.P.C.A. policies and this also means that development is therefore prohibited within watercourses. This prohibition should

also be included in the N.O.P. Given that the N.P.C.A prohibits development within a watercourse anywhere in the Region, this prohibition should apply within settlement areas.

Inland Lakes and Their Littoral Zones

As a key hydrologic feature, it is also recommended the N.O.P. prohibit development and site alteration within inland lakes and their littoral zones. Outside of settlement areas the Growth Plan requires V.P.Z.s be applied to key hydrologic features, including inland lakes. Inside of settlement areas buffers consistent with those applied to watercourses should be applied as well, where supported by a site-specific study considered acceptable to the Region and subject to input from the N.P.C.A.

Seepage Areas and Springs

Outside of settlement area, development and site alteration within and adjacent to seepage areas and springs and inland lakes and their littoral zones is not permitted according to the Growth Plan and Greenbelt Plan. As with all key hydrologic features, a minimum V.P.Z. of 30 m is required outside of settlement areas. This policy will need to be incorporated within the N.O.P.

Protection of the Health and Integrity of Features and Hydrologic Functions

Wetlands

The N.P.C.A. generally restricts development and/or site alteration within a wetland (policy 8.2.2.1) as defined by the N.P.C.A. With the intent to align policies in the new N.O.P. with those of the N.P.C.A., in particular with regulated non-P.S.W.s in settlement areas (i.e., ‘other wetlands’), it is anticipated that only the following would be permitted within ‘other wetlands’ by the N.O.P.:

a) Forest, fish, and wildlife management;
b) Conservation and flood or erosion control projects, if they have been demonstrated to be necessary in the public interest and after all alternatives have been considered
c) Activities that create or maintain infrastructure authorized under an environmental assessment process; and
d) Small-scale structures for recreational uses, including boardwalks, footbridges, fences, docks, and picnic facilities, if measures are taken to minimize the number of such structures and their negative impacts.

It is noted that N.P.C.A. policies also permit replacement of structures in wetlands subject to a number of criteria. It is also noted that N.P.C.A. policies allow for offsetting (policy 8.2.2.8) which will not be permitted in accordance with the new N.O.P.

N.P.C.A. policies require that an area of interference be established within 120 metres of regulated wetlands that have an area of greater than 2 hectares and within 30 metres for wetlands smaller than 2 ha. This area of interference would be analogous to the 'adjacent lands' that is located adjacent to significant natural heritage features and areas according to the P.P.S. Within the area of interference and within 'adjacent lands', studies are typically required to determine the impacts of proposed development on the wetland. For P.S.W.'s, the P.P.S. requires that the 'no negative impact test' be demonstrated when development is proposed on 'adjacent lands.' For ‘other wetlands’, the N.P.C.A. policies do not require that the no negative impact test be satisfied; instead, a number of site-specific factors are taken into account when considering development adjacent to wetlands.

In terms of the approach going forward in the N.O.P. as it relates to the area of interference and 'adjacent lands' where development may be permitted, it is recommended that satisfying the no negative impact test be a requirement when development is proposed adjacent to P.S.W.'s. For all ‘other wetlands’ within settlement areas, it is recommended that N.P.C.A. policies that take context into account when development is proposed adjacent to ‘other wetlands’ be incorporated into the N.O.P.

The N.P.C.A policies do not specify the need for a vegetation protection zone from wetlands, nor do they specify that a buffer from wetlands is required. Instead, the N.P.C.A. policies simply state that no development is permitted within 30 metres of a wetland, and this would be considered a setback. However, within settlement areas the N.P.C.A. may consider the following within this 30-metre area:

a) Infrastructure;
b) Conservation and restoration projects;
c) Passive recreational uses
d) Replacement structures, accessory structures and minor additions
e) Other forms of development and site alteration which do not adversely impact the ecological and hydrological function of the wetland, and where the proposed development meets the five tests under the Conservation Authorities Act

It is recommended that a similar policy be incorporated in the new N.O.P. N.P.C.A policies also deal with lot creation through the consent and plan of subdivision processes and these policies also indicate that new development should be 30 metres away from wetlands; however, exceptions are provided based on the characteristics of the wetland, the characteristics of the area adjacent to the wetland and the potential for impact resulting from the proposed development. It is recommended that similar polices be included within the N.O.P.

The above is intended to make a distinction between P.S.W.s and non-P.S.W.s (i.e., 'other wetlands') in policy such that while development and site alteration is clearly prohibited in P.S.W.s, there is some flexibility afforded with non-P.S.W.s, with a focus more on protecting hydrological functions.

It should also be noted that for non-P.S.W.s in settlement areas that do not meet the definition of 'other wetland' and to which the N.P.C.A. policies would not apply, but do meet the definition of 'wetland', the Region and/or the N.P.C.A. may require that an appropriate study (e.g., E.I.S., hydrologic evaluation) be undertaken to determine if the wetland should be protected in situ with appropriate buffers/setbacks or if the hydrologic function provided by the wetland should be maintained or managed as part of the design of the development. This is consistent with N.P.C.A. policies that also require that evaluations be carried out when development is proposed within a wetland that has not been evaluated in accordance with the Ontario Wetland Evaluation System; a similar policy should be included in the N.O.P.

Watercourses

N.P.C.A. policies also require a 10 to 15 metre buffer from watercourses depending on thermal regime, and it is recommended that the new N.O.P. also include a similar requirement from watercourses within settlement areas. However, N.P.C.A. policies do allow for a reduction in the size of the buffer. As a consequence, the policies in the N.O.P. should also allow for a reduction in the size of the buffer within settlement areas where supported by a site-specific study considered acceptable to the Region and subject to input from the N.P.C.A.

Floodplains, Flooding Hazards, Floodways and Shoreline Areas

It is recommended that the N.O.P. policies restrict development in flood hazards consistent with the policy concepts for flood hazards of the N.P.C.A. This includes the policies related to the 'One Zone Concept' and the 'Two Zone Concept' which provides varying degrees of restrictions to development within the floodway and flood fringe of the flooding hazard. The N.O.P. should also be consistent with identifying restricted and permitted uses within the food hazard that is consistent with the objectives of the Conservation Authorities Act and subject to the Regulation 155/06.

The new N.O.P. should also align policies related to shoreline hazards as they related to the identification of the shoreline areas of the W.R.S. This includes restricting development in the shoreline hazard area including the shoreline flooding hazard, shoreline erosion and slope stability hazard, and the dynamic beach hazard.

The N.P.C.A. policies (5.1.5.2) identify a generic setback for development along the Great Lakes shoreline as 30 metres from the limits of the shoreline food hazard. Consistent with the

N.P.C.A. policies, the extent of the setback can be refined based on a site-specific analysis completed by a qualified engineer to determine the extent of the dynamic beach hazard.

Protect, Enhance or Restore

There are a number of other key hydrologic features and key hydrologic areas that also require protection in accordance with Provincial policy. These include seepage areas and springs within settlement areas (a key hydrological feature), significant groundwater recharge (and discharge) areas, highly vulnerable aquifers and significant surface water contribution areas (which include headwater drainage features), all of which are key hydrological areas. Of these, significant groundwater recharge areas and highly vulnerable aquifers will be mapped in the N.O.P. and included within an overlay designation. The location of seepage areas and springs and significant surface water contribution areas can only be identified through future study.

For each of the above components of the W.R.S., there will be a need for policies in the N.O.P. that require the submission of appropriate studies that evaluate the impacts of the proposed development and which identify how the quality and quantity of water within a subwatershed can be protected, enhanced or restored. To inform the completion of studies considered acceptable to the Region, W.R.S. guidelines could be developed, similar to Environmental Impact Study Guidelines. The requirement that appropriate studies demonstrate that the quality and quantity of water within a subwatershed will be protected, enhanced or restored would be consistent Regional Council direction on the South Niagara Aquifer, which is considered a highly vulnerable aquifer. In this regard, Regional Council directed staff to consider the South Niagara highly vulnerable aquifer as an important vital source of water for rural residents and that specific N.O.P. policies be developed to reflect the importance and subsequent protection of this water source.

The above policy would only be triggered when a Planning Act application is submitted and would not apply to development that is already permitted as-of-right on a property. However, it is also recommended that consideration be given to requiring site plan approval for all development and redevelopment on private services in significant groundwater recharge (and discharge) areas, highly vulnerable aquifers and significant surface water contribution areas as well. Requiring site plan approval would allow the approval authority to require enhancements to existing septic systems through the establishment of on-site phosphorus management and impact mitigation measures.

In addition to the above, enhanced stormwater management policies could be included in the N.O.P. that would apply to significant groundwater recharge (and discharge) areas, highly vulnerable aquifers and significant surface water contribution areas. These enhanced policies would require all proposals to be designed based on a treatment train approach to address

requirements for water quality, erosion control, flood control, thermal mitigation and water budget. Low Impact Development Best Management Practices such as bioswales/biofilters with underdrains, infiltration trenches, rain gardens and perforated pipes would also be encouraged through policy in addition to wet end of pipe facilities to conserve water use and to manage stormwater on-site. These policies would also require that the approval authority be satisfied that:

a) New buildings are designed where possible to collect rainwater for irrigation on site, and reduce excess stormwater runoff, which carries pollutants into natural waterways and groundwater recharge areas, with these features allowing for the consideration of reduced sizes for stormwater management facilities;

b) Stormwater management features are strategically located to take advantage of the existing topography and drainage patterns and to minimize their footprint;

c) Stormwater management features are developed as naturalized facilities, and incorporate native planting to help support pollinator species, and enhance biodiversity;

d) Stormwater management facilities are designed to support key features and ecological functions in the N.H.S.;

e) Rainwater harvesting systems, such as rain barrels and other simple cisterns, are installed where feasible to capture rainwater, which can be used for landscape irrigation, thereby reducing unnecessary use of potable water;

f) All buildings are designed for efficient water use using conventional methods, such as ultra-low flow fixtures and dual flush toilets and other innovative water saving measures like waterless urinals, and grey-water recycling systems;

g) Landscaped areas are located to optimize water infiltration potential;

h) The landscaping of public and private facilities utilizes drought tolerant native and non-invasive species that require minimal irrigation;

i) Surface parking areas minimize the use of impervious surface materials, such as through the incorporation of permeable pavers and trenches, where feasible;

j) Impermeable hard surfaced areas (i.e., driveways and parking areas) are reduced and opportunities for ground water infiltration are encouraged; and

k) Rain gardens, complete with native plant species and soil media, are developed to detain, infiltrate and filter runoff discharge from roof leaders, and/or are integrated into surface parking areas where feasible.

Natural Environment System Summary

As described in the introduction to this Technical Memorandum, the N.H.S. and the W.R.S. are ecologically interconnected and are thus collectively referred to as the N.E.S. While the policy framework for the N.H.S. and W.R.S. and the options developed for each system are reviewed independently because of the different Provincial policies that apply to each system, collectively these systems form the integrated N.E.S.

Through the exercise of mapping the N.H.S. and W.R.S. options in settlement areas and preparing policy intent for each of the options, refinements to those options have been made as noted in the preceding sections. Some of the changes to the original options proposed in Technical Report #2 include the following:

1. The definition of 'woodlands' was updated resulting in a smaller subset of woodlands being identified as 'significant' (many of the features previously identified as significant woodlands are P.S.W.s or 'other wetlands' which have a higher-level of protection currently afforded to significant woodlands – see discussion in Appendix B). The analysis in Appendix B concludes the change in definitions would not result in reduction in the area of treed vegetation communities included within the Region's N.E.S.s if Option 3B or 3C is selected.
2. Due to a smaller subset of woodlands being captured by the criteria for significant woodlands, the category of 'other woodlands' was moved from N.H.S. Option 3C to 3B in settlement areas, and moved from N.H.S. Option 3B to 3A outside of settlement areas.
3. Components that are required to be included in the W.R.S. but were identified as optional components of the N.H.S. (e.g., 'other wetlands', permanent and intermittent streams, seepage areas and springs, and inland lakes and their littoral zones) are no longer discussed as optional components of the N.H.S. options. Rather, these components are considered a required component of the integrated N.E.S.
4. Following an additional review of the minimum requirements of a W.R.S. as directed by the P.P.S. and the Growth Plan, and based on stakeholder feedback, headwater drainage features that would be classified as "protection" and "conservation" are included as a required component of the N.E.S.
5. Lastly, only one option for the W.R.S. is being proposed based on what are considered standard requirements as informed from provincial direction and best practices, where refinements to the system would be informed by watershed planning or equivalent.

Based on the updated approach to identifying options for the N.E.S., the following standard required components have been identified for the integrated N.E.S.:

- 'natural heritage features and areas'
    - Provincially significant wetlands
    - Significant coastal wetlands
    - Habitat of endangered species and threatened species
    - Fish habitat
    - Significant areas of natural and scientific interest
    - Significant valleylands
    - Significant woodlands
    - Significant wildlife habitat
- Key hydrologic features
    - Permanent streams and intermittent streams
    - Inland lakes and their littoral zones
    - Seepage areas and springs
    - Wetlands (both P.S.W. non-P.S.W.)
- Key hydrologic areas
    - Significant groundwater recharge areas
    - Highly vulnerable aquifers
    - Significant surface water contribution areas (including headwater drainage features classified as "protection" and "conservation")
- Ground water features
- Surface water features
- Hydrologic functions;
- Shoreline areas
- Hydrologic functions
    - Floodplains, flooding hazards, floodways
- Vegetation Protection Zones
    - to 'natural heritage features and areas' in the Growth Plan N.H.S. and Greenbelt Plan N.H.S.
    - to key hydrologic features outside of settlement areas; and
- Setbacks/buffers to regulated features and areas in accordance with N.P.C.A. policies.

The policy intent for each of the options for the N.H.S. and W.R.S. as described above would apply to the integrated N.E.S., including policies for Significant Woodlands (recall the prohibition to development in N.H.S. Option 3), and the addition of 'other natural heritage features and areas' (previously identified in N.H.S. Option 3B, now identified in N.H.S. Option 3A). **Table 1**

provides an overview of the options for the N.E.S. which is consistent with the approach to identifying the options for the N.H.S. and W.R.S identified in Technical Report #2.

The approach to an overlay vs. designation described previously in N.H.S. Options 1 and 2 would be similarly applied where the following features would be identified in an exclusive land use designation in N.H.S. Options 2, 3A, 3B and 3C and the Option for the W.R.S. within settlement areas:

- Wetlands (including P.S.W.s and 'other wetlands')
- Inland lakes and their littoral zones[1]
- Significant Areas of Natural and Scientific Interest
- Significant Woodlands
- 'Other woodlands' (where introduced in N.H.S. Option 3B and 3C)

[1] Through applying the criteria established for inland lakes as part of the exercise to map the N.E.S. in urban areas it was determined that there are no inland lakes in urban areas. Therefore while inland lakes are not identified in the mapping of the N.E.S. in urban areas, they are part of the N.E.S. and would be identified in mapping of the N.E.S. outside of urban areas.

Table 1. Overview of the options for the N.E.S. both inside and outside of settlement areas - Note: Not all of the features on this table will be mapped.

	N.H.S. Option 1 and 2 + W.R.S.	N.H.S. Option 3A + W.R.S.	N.H.S. Option 3B + W.R.S.	N.H.S. Option 3C + W.R.S.
Component Features and Areas	• Natural heritage features and areas • Key hydrologic features • Key hydrologic areas • Ground water features • Surface water features • Hydrologic functions • Shoreline areas	• Same as N.H.S. Option 2, plus: ○ 'Other woodlands' outside of settlement areas	• Same as N.H.S. Option 3A, plus: ○ 'Other woodlands' Region-wide (i.e., added in settlement areas) ○ 'Supporting Features and Areas' outside of settlement areas	• Same as N.H.S Option 3B, plus: ○ 'Supporting features and areas' Region-wide (i.e., added in settlement areas)

Connecting the System (linkages)	• None in addition to those identified in the Growth Plan N.H.S. and Greenbelt Plan N.H.S.	• Large linkages only between 'natural heritage features and areas' (including 'other woodlands') outside of settlement areas • None in settlement areas	• Large and medium linkages between 'natural heritage features and areas' (including 'other woodlands') outside of settlement areas • None in settlement areas	• Large and medium linkages between 'natural heritage features and areas' (including 'other woodlands') outside of settlement areas • Small linkages between 'natural heritage features and areas' (including 'other woodlands') Region-wide (including within settlement areas)
	N.H.S. Option 1 and 2 + W.R.S.	**N.H.S. Option 3A + W.R.S.**	**N.H.S. Option 3B + W.R.S.**	**N.H.S. Option 3C + W.R.S.**
Buffers, Setbacks, and Vegetation Protection Zones (V.P.Z.)	• No mandatory or minimum buffers to 'natural heritage features and areas' outside of the Growth Plan and Greenbelt Plan N.H.S. (except for P.S.W.s in accordance with N.P.C.A. policies)	• Same as N.H.S. Options 1 and 2 plus: ○ Mandatory (non-prescribed) buffers to 'natural heritage features and areas' and 'other woodlands' outside of provincial	• Same as N.H.S. Options 1 and 2 plus: ○ Minimum (prescribed) buffers to 'natural features and areas' and 'other woodlands' outside of provincial N.H.S.s,	• Same as N.H.S. Option 3B, plus: ○ Mandatory (non-prescribed) buffers to 'natural heritage features and areas' and 'other woodlands' inside of settlement areas

	• Buffers to watercourses as per N.P.C.A. policies • Setbacks to regulated features and areas as per N.P.C.A. policies • Minimum V.P.Z.s to 'natural heritage features and areas' inside of the Growth Plan NHS and Greenbelt Plan NHS • Minimum V.P.Z.s to Key Hydrologic Features outside of settlement areas as required by the Growth Plan	N.H.S.s and outside of settlement areas	outside of settlement areas	

Review of Policy Implications Related to Natural Environment System Options in Settlement Areas

Niagara Region staff have prepared mapping of the options of the integrated N.E.S. in the 27 urban areas based on direction provided by the consultant team (**Appendix C**). In addition, the Region has prepared statistics related to the mappable components in each of the options within each urban area (**Appendix D**). The purpose of preparing the mapping and statistics for each of the options within the 27 urban areas is to provide a visual and quantitative comparison of the options within each urban area. For the purpose of evaluating the implications of N.E.S. policies, the mapping of features and areas previously identified as suitable for mapping in Technical Report #2, and statistics related to natural area cover for each of the options has been combined to review natural features and areas and key hydrologic features in a series of maps with related statistics into three main groups:

- Map A - N.H.S. Option 1/2/3A + Key Hydrologic Features
- Map B - N.H.S. Option 3B + Key Hydrologic Features
- Map C - N.H.S. Option 3C + Key Hydrologic Features

Map A (**Appendix D**) includes N.H.S. Options 1, 2 and 3A because the 'natural heritage features and areas' in each are the same (within settlement areas). Map B is different because of the addition of 'other woodlands' in N.H.S. Option 3B, and then Map C (**Appendix D**) is different because of the addition of linkage areas and buffers (buffers shown for comparison purposes only). The same key hydrological features (most notably 'other wetlands') are shown on each map.

An additional map (Map D, **Appendix B**) with related statistics was prepared for each settlement area that identifies the following hydrologic areas of the W.R.S.:

- Key Hydrologic Areas
    - Significant Groundwater Recharge Areas
    - Highly Vulnerable Aquifers
- Shoreline Areas
- Floodplains, Flooding Hazards

For information purposes, the Core N.H.S. from the existing Regional Official Plan was mapped (Map E, **Appendix D**) in each settlement area with accompanying statistics. This is being provided for information purposes only and is not being compared to mapping presented in Maps A, B and C because it would not be an appropriate comparison. This is because the

current Core N.H.S. mapping contains a different set of components (e.g., valleylands are not mapped in options prepared for consideration in the new N.O.P.), and the current N.O.P is not reflective of current required Provincial standards for the identification and protection of the N.E.S. The current Core N.H.S. does not include all of the key hydrological features (most notably non-Provincially significant wetlands) that are regulated by the N.P.C.A. The following section provides an overview of the statistics generated for each option within each urban area.

Grimsby – Review of N.E.S. Options

Grimsby has a total land area of 1,323 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 60.4 ha (4.6%), 70.8 ha (5.3%) and 87.9 ha (6.6%) of Grimsby respectively (**Appendix D**, Table 1A). When comparing the options, the increase in cover occurs as result of the addition of 'other woodlands' in N.H.S. Option 3B which adds 13 ha (1%) of natural features, followed by an additional 14.8 ha (1.1%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A. This means that the size of the N.E.S. increases by 27.3 ha (2%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 1,201.8 ha (90.8%) of the urban area, which consists of 1,174.7 ha of highly vulnerable aquifers, 8.4 ha of significant groundwater recharge areas, 28.7 ha of shoreline areas, and 33.0 ha of floodplains and flooding hazards (**Appendix D**, Table 1B).

Beamsville – Review of N.E.S. Options

Beamsville has a total land area of 660 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 62.9 ha (9.5%), 68.9 ha (10.4%) and 75.3 ha (11.4%) of Beamsville respectively (**Appendix D**, Table 2A).

When comparing the options, the increase in cover occurs is a result of the addition of 'other woodlands' in N.H.S. Option 2B which adds 8.6 ha (1.3%) of natural features followed by an additional 3.8 ha (0.6%) of buffers in N.H.S. Option 3C when compared with N.H.S. Option 3A. This means that the size of the N.E.S. increases by 12.4 ha (1.9%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 404.5 ha (61.3%) of the urban area, which consists of 324.5 ha of highly vulnerable aquifers, 158.5 ha of significant groundwater recharge areas, 17.3 ha of shoreline areas, and 17.3 ha of floodplains and flooding hazards (**Appendix D**, Table 2B).

Campden – Review of N.E.S. Options

Campden has a total land area of 47.8 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 9.9 ha (20.7%), 10.8 ha (22.5%) and 11.9 ha (24.8%) of the urban area respectively (**Appendix D**, Table 3A).

When comparing the options, the increase in cover occurs is a result of the addition of 'other woodlands' in N.H.S. Option 2B which adds 1.1 ha (2.4%) of natural features followed by an additional 0.8 ha (1.9%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A. This means that the size of the N.E.S. increases by 2.0 ha (4.2%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 32.7 ha (68.4%) of the urban area, which consists of 27.6.5 ha of highly vulnerable aquifers, 2.0 ha of shoreline areas, and 6.0 ha of floodplains and flooding hazards (**Appendix D**, Table 3B).

Jordan – Review of N.E.S. Options

Jordan has a total land area of 39.6 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 2.1 ha (5.3%), 2.1 ha (5.3%) and 4.1 ha (10.5%) of the urban area respectively (**Appendix D**, Table 4A). The increase in cover that is observed in N.H.S. Option 3C occurs solely as a result of adding buffers to significant woodlands, which adds 2.1 ha, or an additional 2% of cover of N.H.S. to the urban area.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 2.0 (5.1%) of the urban area, which consists of 2.0 ha of highly vulnerable aquifers and 0.1 ha of significant groundwater recharge areas (**Appendix D**, Table 4B).

Jordan Station– Review of N.E.S. Options

Jordan Station has a total land area of 36.5 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 1.0 ha (2.7%), 1.0 ha (2.7%) and 1.8 ha (5.0%) of the urban area respectively (**Appendix D**, Table 5A).

The increase in N.H.S. cover between N.H.S. Options 3A and 3B with N.H.S. Option 3C is a result of the addition of mapped buffers to the significant woodlands.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 33.6 ha (92.2%) of the urban area, which consists of 33.2 ha of highly vulnerable aquifers, 10.1 ha of significant groundwater recharge areas, and 0.1 ha of shoreline areas (**Appendix D**, Table 5B).

Prudhommes – Review of N.E.S. Options

Prudhommes has a total land area of 52.7 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 10.5 ha (19.9%), 12.1 ha (23.1%) and 14.3 ha (27.1%) of the urban area respectively (**Appendix D**, Table 6A).

When comparing the options, the increase in cover occurs is a result of the addition of 'other woodlands' in N.H.S. Option 2B which adds 1.7 ha (3.1%) of natural features followed by an additional 2.1 ha (4.0%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A. This means that the size of the N.E.S. increases by 3.8 ha (7.2%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 43.3 ha (82.1%) of the urban area, which consists of 41.4 ha of highly vulnerable aquifers, 13.4 ha of shoreline areas, and 1.0 ha of floodplains and flooding hazards (**Appendix D**, Table 6B).

Vineland – Review of N.E.S. Options

Vineland has a total land area of 144.9 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 4.4 ha (3.1%), 6.7 ha (4.6%) and 9.0 ha (6.2%) of the urban area respectively (**Appendix D**, Table 7A).

When comparing the options, the increase in cover occurs is a result of the addition of 'other woodlands' in N.H.S. Option 2B which adds 2.3 ha (1.6%) of natural cover followed by an additional 2.4 ha (1.7%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A. This means that the size of the N.E.S. increases by 4.6 ha (3.1%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 96.9 ha (66.9%) of the urban area, which consists of 96.0 ha of highly vulnerable aquifers, 32.5 ha of significant groundwater recharge areas, 0.5 ha of shoreline areas, and 1.0 ha of floodplains and flooding hazards (**Appendix D**, Table 7B).

Vineland South – Review of N.E.S. Options

Vineland South has a total land area of 17.0 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 1.5 ha (8.7%), 1.5 ha (8.7%) and 3.3 ha (19.7%) of the urban area respectively (**Appendix D**, Table 8A). The total cover of the N.H.S. as identified in N.H.S. Option 3C is greater than N.H.S. Options 3A and 3B as a result of mapping of buffers to woodlands (1.9 ha; 11.0%).

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 1.0 ha (5.8%) of the urban area, which consists of 1.0 ha of highly vulnerable aquifers (**Appendix D**, Table 8B).

St. Catharines – Review of N.E.S. Options

St. Catharines has a total land area of 6,852.0 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 911.8 ha (13.3%), 963.0 ha (14.1%) and 1,106.5 ha (16.1%) of the urban area respectively (**Appendix D**, Table 9A).

The increase in cover observed in the mapping of N.H.S. Options 3B and 3C is combination of mapping of 'other woodlands' (67.4 ha; 1.0%), and mapping of buffers to woodlands (128.1 ha; 1.9%).

This means that the size of the N.E.S. increases by 194.7 ha (2.8%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 4,061.9 ha (59.3%) of the urban area, which consists of 3,916.0 ha of highly vulnerable aquifers, 4.6 ha of significant groundwater recharge areas, 211.9 ha of shoreline areas, and 135.5 ha of floodplains and flooding hazards (**Appendix D**, Table 9B).

Glendale – Review of N.E.S. Options

Glendale has a total land area of 370.6 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 76.3 ha (20.6%), 77.2 ha (20.8%) and 84.6 ha (22.8%) of the urban area respectively (**Appendix D**, Table 10A).

When comparing the options, the increase in cover occurs is a result of the addition of 'other woodlands' in N.H.S. Option 2B which adds 0.9 ha (0.3%) of natural cover followed by an additional 7.5 ha (2.0%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A.

This means that the size of the N.E.S. increases by 8.3 ha (2.2%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 37.1 ha (10.0%) of the urban area, which consists of 4.7 ha of highly vulnerable aquifers, 17.8 ha of significant groundwater recharge areas, 19.5 ha of shoreline areas, and 7.6 ha of floodplains and flooding hazards (**Appendix D**, Table 10B).

Niagara-on-the-Lake – Review of N.E.S. Options

Niagara-on-the-Lake (Old Town) has a total land area of 461.6 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 36.9 ha (8.0%), 43.1 ha (9.3%) and 49.3 ha (10.7%) of the urban area respectively (**Appendix D**, Table 11A).

When comparing the options, the increase in cover occurs is a result of the addition of 'other woodlands' in N.H.S. Option 2B which adds 6.7 ha (1.5%) of natural cover followed by an additional 5.7 ha (1.2%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A.

This means that the size of the N.E.S. increases by 12.4 ha (2.7%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 117.0 ha (25.3%) of the urban area, which consists of 94.3 ha of highly vulnerable aquifers, 10.9 ha of shoreline areas, and 21.6 ha of floodplains and flooding hazards (**Appendix D**, Table 111B.

Queenston – Review of N.E.S. Options

Queenston has a total land area of 63.9 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 10.2 ha (16.0%), 10.2 ha (16.0%) and 14.9 ha (23.3%) of the urban area respectively (**Appendix D**, Table 12A).

When comparing the options, the increase in cover occurs is a result of the addition of buffers to woodlands in N.H.S. Option 3C, which adds 5 ha (7.8%) to the N.H.S. compared with N.H.S. Option 3A.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 52.8 ha (82.7%) of the urban area, which consists of 52.4 ha of highly

vulnerable aquifers, 0.5 ha of significant groundwater recharge areas, and 1.7 ha of shoreline areas (**Appendix D**, Table 12B).

St. Davids – Review of N.E.S. Options

St. Davids has a total land area of 245.4 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 31.7 ha (12.9%), 32.4 ha (13.2%) and 40.9 ha (16.7%) of the urban area respectively (**Appendix D**, Table 13A).

When comparing the options, the increase in cover occurs is a result of the addition of 'other woodlands' in N.H.S. Option 2B which adds 1.0 ha (0.4%) of natural cover followed by an additional 8.2 ha (3.3%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A.

This means that the size of the N.E.S. increases by 9.2 ha (3.7%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 178.5 ha (72.7%) of the urban area, which consists of 162.6 ha of highly vulnerable aquifers, 33.6 ha of significant groundwater recharge areas, 4.5 ha of shoreline areas, and 3.2 ha of floodplains and flooding hazards (**Appendix D**, Table 13B).

Virgil – Review of N.E.S. Options

Virgil has a total land area of 253.6 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 19.1 ha (7.5%), 20.6 ha (8.1%) and 21.9 ha (8.6%) of the urban area respectively (**Appendix D**, Table 14A).

When comparing the options, the increase in cover occurs is a result of the addition of 'other woodlands' in N.H.S. Option 2B which adds 2.0 ha (0.8%) of natural cover followed by an additional 0.7 ha (0.3%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A.

This means that the size of the N.E.S. increases by 2.8 ha (1.1%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 169.5 ha (66.8%) of the urban area, which consists of 150.3 ha of highly vulnerable aquifers, 44.4 ha of significant groundwater recharge areas, 7.3 ha of shoreline areas, and 12.0 ha of floodplains and flooding hazards (**Appendix D**, Table 14B).

Smithville – Review of N.E.S. Options

Smithville has a total land area of 565.0 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 76.3 ha (13.5%), 77.0 ha (13.6%) and 82.3 ha (14.6%) of the urban area respectively (**Appendix D**, Table 15A).

When comparing the options, the increase in cover occurs is a result of the addition of 'other woodlands' in N.H.S. Option 2B which adds 0.9 ha (0.2%) of natural cover followed by an additional 5.1 ha (0.9%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A.

This means that the size of the N.E.S. increases by 6.0 ha (1.1%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 296.9 ha (52.6%) of the urban area, which consists of 283.1 ha of highly vulnerable aquifers, 23.7 ha of shoreline areas, and 48.5 ha of floodplains and flooding hazards (**Appendix D**, Table 15B).

Fenwick – Review of N.E.S. Options

Fenwick has a total land area of 251.3 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 38.0 ha (15.1%), 48.0 ha (19.1%) and 55.4 ha (22.0%) of the urban area respectively (**Appendix D**, Table 16A).

When comparing the options, the increase in cover occurs is a result of the addition of 'other woodlands' in N.H.S. Option 2B which adds 11.3 ha (4.5%) of natural cover followed by an additional 6 ha (2.4%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A.

This means that the size of the N.E.S. increases by 17.4 ha (6.9%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 232.6 ha (92.5%) of the urban area, which consists of 232.3 ha of highly vulnerable aquifers, 169.7 ha of significant groundwater recharge areas, and 1.9 ha of shoreline areas (**Appendix D**, Table 16B).

Fonthill – Review of N.E.S. Options

Fonthill has a total land area of 788.3 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 120.4 ha (15.3%), 128.2 ha (16.3%) and 144.3 ha (18.3%) of the urban area respectively (**Appendix D**, Table 17A).

When comparing the options, the increase in cover occurs is a result of the addition of 'other woodlands' in N.H.S. Option 2B which adds 8.9 ha (1.1%) of natural cover followed by an additional 15.7 ha (2.0%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A.

This means that the size of the N.E.S. increases by 23.9 ha (3.0%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 775.2 ha (98.3%) of the urban area, which consists of 715.2 ha of highly vulnerable aquifers, 341.9 ha of significant groundwater recharge areas, and 5.3 ha of shoreline areas (**Appendix D**, Table 17B).

Port Robinson – Review of N.E.S. Options

Port Robinson has a total land area of 597.4 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 242.6 ha (40.6%), 244.9 ha (41.0%) and 259.0 ha (43.4%) of the urban area respectively (**Appendix D**, Table 18A).

When comparing the options, the increase in cover occurs is a result of the addition of 'other woodlands' in N.H.S. Option 2B which adds 3.1 ha (0.5%) of natural cover followed by an additional 9.3 ha (1.6%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A. The addition of a small linkage in N.H.S. Option 3C also resulted in an increase of 3.5 ha (0.6%) of the N.E.S.

This means that the size of the N.E.S. increases by 16.4 ha (2.7%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 260.5 ha (43.6%) of the urban area, which consists of 70.8 ha of highly vulnerable aquifers, 265.1 ha of significant groundwater recharge areas, 11.9 ha of shoreline areas, and 42.4 ha of floodplains and flooding hazards (**Appendix D**, Table 18B).

Thorold North – Review of N.E.S. Options

Thorold North has a total land area of 778.2 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 32.7 ha (4.2%), 32.7 ha (4.2%) and 35.8 ha (4.6%) of the urban area respectively (**Appendix D**, Table 19A).

When comparing the options, there is a minor increase in cover resulting from the addition of buffers to woodlands in N.H.S. Option 3C, which adds 3.1 ha (0.4 %).

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 290.7 ha (37.4%) of the urban area, which consists of 291.3 ha of highly vulnerable aquifers and 3.6 ha of shoreline areas (**Appendix D**, Table 19B).

Thorold South – Review of N.E.S. Options

Thorold South has a total land area of 1,073.0 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 184.8 ha (17.2%), 189.1 ha (17.6%) and 204.1 ha (19.0%) of the urban area respectively (**Appendix D**, Table 20A).

When comparing the options, the increase in cover occurs is a result of the addition of ‘other woodlands’ in N.H.S. Option 2B which adds 5.6 ha (0.5%) of natural cover followed by an additional 13.6 ha (1.3%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A.

This means that the size of the N.E.S. increases by 19.3 ha (1.8%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 214.5 ha (20.0%) of the urban area, which consists of 202.4 ha of highly vulnerable aquifers and 23.7 ha of shoreline areas (**Appendix D**, Table 20B).

Welland – Review of N.E.S. Options

Welland has a total land area of 4,994.6 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 1,494.1 ha (29.9%), 1,542.3 ha (30.9%) and 1,567.6 ha (31.4%) of the urban area respectively (**Appendix D**, Table 21A).

When comparing the options, the increase in cover occurs is a result of the addition of ‘other woodlands’ in N.H.S. Option 2B which adds 60.9 ha (1.2%) of natural cover followed by an additional 3.2 ha (0.07%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A. The addition of a small linkage in N.H.S. Option 3C also resulted in an increase of 9.6 ha (0.2%) of the N.E.S.

This means that the size of the N.E.S. increases by 73.5 ha (1.5%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 452.5 ha (9.1%) of the urban area, which consists of 223.8 ha of highly vulnerable aquifers, 23.7 ha of significant groundwater recharge areas, 141.0 ha of shoreline areas, and 141.3 ha of floodplains and flooding hazards (**Appendix D**, Table 21B).

Niagara Falls – Review of N.E.S. Options

Niagara Falls has a total land area of 8,221.4 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 1,893.8 ha (23.0%), 2,037.2 ha (24.8%) and 2,196.3 ha (26.7%) of the urban area respectively (**Appendix D**, Table 22A).

When comparing the options, the increase in cover occurs is a result of the addition of 'other woodlands' in N.H.S. Option 3B which adds 199.6 ha (2.4%) of natural cover followed by an additional 121.7 ha (1.5%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A. The addition of a small linkage in N.H.S. Option 3C also resulted in an increase of 11.7 ha (0.1%) of the N.E.S.

This means that the size of the N.E.S. increases by 302.5 ha (3.7%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 2,947.6 ha (35.9%) of the urban area, which consists of 2,611.2 ha of highly vulnerable aquifers, 2.7 ha of significant groundwater recharge areas, 193.8 ha of shoreline areas, and 296.3 ha of floodplains and flooding hazards (**Appendix D**, Table 22B).

Port Colborne – Review of N.E.S. Options

Port Colborne has a total land area of 2,378.1 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 607.4 ha (25.5%), 678.8 ha (28.5%) and 707.1 ha (29.7%) of the urban area respectively (**Appendix D**, Table 23A).

When comparing the options, the increase in cover occurs is a result of the addition of 'other woodlands' in N.H.S. Option 2B which adds 85.4 ha (3.6%) of natural cover followed by an additional 5.8 ha (0.2%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A. The addition of a small linkage in N.H.S. Option 3C also resulted in an increase of 9.3 ha (0.4%) of the N.E.S.

This means that the size of the N.E.S. increases by 99.7 ha (4.2%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 2,227.4 ha (93.7%) of the urban area, which consists of 2,212.9 ha of highly vulnerable aquifers, 0.7 ha of significant groundwater recharge areas, 62.2 ha of shoreline areas, and 72.1 ha of floodplains and flooding hazards (**Appendix D**, Table 23B).

Crystal Beach – Review of N.E.S. Options

Crystal Beach has a total land area of 882.8 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 135.2 ha (15.3%), 140.2 ha (15.9%) and 151.1 ha (17.1%) of the urban area respectively (**Appendix D**, Table 24A).

When comparing the options, the increase in cover occurs is a result of the addition of 'other woodlands' in N.H.S. Option 2B which adds 5.4 ha (0.6%) of natural cover followed by an additional 10.5 ha (1.2%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A.

This means that the size of the N.E.S. increases by 15.9 ha (1.8%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 704.8 ha (79.8%) of the urban area, which consists of 693.2 ha of highly vulnerable aquifers, 22.7 ha of significant groundwater recharge areas, 82.0 ha of shoreline areas, and 28.7 ha of floodplains and flooding hazards (**Appendix D**, Table 24B).

Douglastown – Review of N.E.S. Options

Douglastown has a total land area of 179.6 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 46.7 ha (26.0%), 56.4 ha (31.4%) and 57.6 ha (32.1%) of the urban area respectively (**Appendix D**, Table 25A).

When comparing the options, the increase in cover occurs is a result of the addition of 'other woodlands' in N.H.S. Option 2B which adds 9.7 ha (5.4%) of natural cover followed by an additional 1.1 ha (0.6%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A.

This means that the size of the N.E.S. increases by 10.9 ha (6.1%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 25.1 ha (14.0%) of the urban area, which consists of 3.1 ha of highly vulnerable aquifers, 14.6 ha of shoreline areas, and 20.7 ha of floodplains and flooding hazards (**Appendix D**, Table 25B).

Fort Erie – Review of N.E.S. Options

Fort Erie has a total land area of 2,855.9 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 1,071.5 ha (37.5%), 1,114.1 ha (39.0%) and 1,139.2 ha (39.9%) of the urban area respectively (**Appendix D**, Table 26A).

When comparing the options, the increase in cover occurs as a result of the addition of 'other woodlands' in N.H.S. Option 2B which adds 52.6 ha (1.8%) of natural cover followed by an additional 15.1 ha (0.5%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A.

This means that the size of the N.E.S. increases by 67.7 ha (2.4%) in Option 3C over the Provincial standard requirements in N.H.S. Options 1, 2 and 3A as more components are added in each of Options 3B and 3C.

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 2,009.5 ha (70.4%) of the urban area, which consists of 1,990.6 ha of highly vulnerable aquifers, 17.3 ha of significant groundwater recharge areas, 75.1ha of shoreline areas, and 79.0 ha of floodplains and flooding hazards (**Appendix D**, Table 26B).

Stevensville – Review of N.E.S. Options

Stevensville has a total land area of 211.6 ha. The mapping of the three options in Maps A, B and C results in the N.E.S. covering 68.6 ha (32.4%), 68.6 ha (32.4%) and 69.2 ha (32.7%) of the urban area respectively (**Appendix D**, Table 27A).

When comparing the options, the increase in cover occurs as a result of the addition of 'other woodlands' in N.H.S. Option 3B which adds 0.1 ha (0.05%) of natural cover followed by an additional 0.5 ha (0.2%) of buffers in N.H.S. Option 3C compared with N.H.S. Option 3A.

There is a minor increase in environmentally protected lands between the minimum requirements and N.H.S. Option 3C (0.6 ha or 0.3%).

The mapping of the Key Hydrologic Areas, Shoreline Areas, and Areas that Support Hydrologic Functions (Map D) covers 39.8 ha (18.8%) of the urban area, which consists of 12.1 ha of highly vulnerable aquifers, 23.5 ha of significant groundwater recharge areas, 31.0 ha of shoreline areas, and 14.5 ha of floodplains and flooding hazards (**Appendix D**, Table 27B).

Discussion – Implications of Natural Environment System Options

As mentioned above, N.H.S. Options 1, 2 and 3A within settlement areas and the one W.R.S. Option reflect Provincial standards and are considered to be required standards in accordance with Provincial policy. Combined, the land areas that reflect Provincial standards are generally fixed. However, the boundaries of the 'natural heritage features and areas' (including 'other woodlands') and key hydrological features can be reviewed in more detail through the preparation of secondary plans, watershed studies and through the review of development applications.

It must first be recognized that there are a number of 'natural heritage features and areas' that have not been mapped including significant wildlife habitat and habitat of endangered and threatened species. Their identification through site-specific studies may have an impact on the amount of potentially developable land. That said, within settlement areas the majority of natural features where significant wildlife habitat and habitat of endangered and threatened species would mostly be located within natural features already included within the N.E.S. (e.g., woodlands and wetlands), so the impact on the amount of potentially developable land would likely be marginal.

The total amount of land within the urban areas that is comprised of mapped 'natural heritage features and areas' and key hydrologic features that is based on Provincial standards is 7,260 ha. Given that the total land area of the Region's urban areas is 34,346 ha, these components of the N.E.S. comprise about 21.1% of the Region's urban area. The amount of land available for new development within each urban area will depend on how much of the urban area is already developed and the size of the urban area. For example, while mapping of the 'natural heritage features and areas' and key hydrologic features amounts to 4.6% of Grimsby's urban area, much of the urban area is developed meaning any increase to the system beyond Provincial standards would have a relatively greater impact to the remaining area of developable land. In comparison, large undeveloped areas remain in Niagara Falls, even where 1,893.8 hectares or 23.0% of the urban area is comprised of required components of natural heritage features and key hydrologic features.

There is a distinction in natural cover and feature type throughout the Region depending on the topography of the urban area. For example, urban areas with relatively flat topography and poor draining soils support wetland communities include P.S.W.s and 'other wetlands', both required components of the W.R.S. In these urban areas, there is little change in spatial coverage of the N.E.S. across the options. However, in urban areas with more upland communities, there is a higher proportion of significant woodlands and 'other woodlands'. Since 'other woodlands' are considered an 'optional component' and not introduced in settlement areas until N.H.S. Option

3B, there tends to be a greater difference in spatial coverage between the options in urban areas with more upland vegetation communities. In this regard, the amount of land area that is occupied by 'other woodlands' added in Option 3B is very little in some cases such as 0.1 ha in Stevensville to 199.6 ha in Niagara Falls. However, while 199.6 hectares is a large amount of land on its own, it only adds 2.4% of the land in the Niagara Falls urban area to the N.E.S. This is due to the larger size of the Niagara Falls urban area, which is 8,221.4 ha. In total, the amount of 'other woodlands' added to the N.E.S. in all of the Region's urban areas is 548.2 ha, and results in 1.6% of the total combined area of the Region's urban area potentially being added into the N.E.S. as a result. To put this in perspective, 26,659.3 ha of land within the Region's urban areas remain outside of the N.E.S. if Option 3B is selected.

It is noted that buffers[2] are already required for wetlands and watercourses in accordance with N.P.C.A. policy and as a result 2,192.2 ha of land in buffer areas is included within Options 1, 2, 3A and 3B. The only buffers that are being added in Option 3C are to non-regulated features such as significant woodlands and 'other woodlands'. In this regard, the amount of land added to the N.E.S. for these buffers in Option 3C is directly proportional to the amount of land that is significant woodland or 'other woodlands' in the urban area. Again, taking Niagara Falls as an example, it contains 554.7 hectares of significant woodlands and 199.6 hectares of 'other woodlands' and as a consequence, 121.7 hectares in buffers are added as a result. For an urban area with less woodland, a correspondingly smaller area of land would be added as buffers.

In terms of the total amount of buffer lands being added in Option 3C compared with Option 3A, it is 394.8 ha which increases the percentage of the urban areas in the N.E.S. by 1.1%. It is noted that the extent of the buffer can be reviewed on a case-by-case basis, however; buffers would most likely be required for both significant woodlands and 'other woodlands' to satisfy the no negative impact test in accordance with the P.P.S. This means that it is very likely that the majority of the lands so identified would be required for buffers in any event, which to a very large extent neutralizes the impacts of adding buffers to significant woodlands and 'other woodlands' in Option 3C.

While Option 3C includes 'supporting features and areas', linkages and enhancement areas, only linkages will be mapped. It is anticipated that the policies in the N.O.P. will allow for some flexibility in how linkages are dealt with (size and location) when they are looked at comprehensively through future secondary planning and watershed planning exercises and

[2] Regarding buffers, it is first important to recognize that the statistics generated from the mapping are intended to inform the assessment of the implication of buffers. The actual width of buffers will be informed by site-specific study and may be wider or narrower than what has been mapped.

through the review of major development applications. The amount of land included within linkages in all of the urban areas is 34.2 ha (0.1%), which when compared to the amount of land within the urban areas is not substantial.

As a result of the above, the most significant change in the amount of land being added to the N.E.S. across urban areas occurs in Option 3B, when 548.2 ha of land is being added to the N.E.S. as a result of adding 'other woodlands'. While 'other woodlands' occupy a total area of 548.2 ha, they are often located adjacent to or abutting 'natural heritage features and areas' including significant woodlands and P.S.W.s. to which a buffer is mapped for the purposes of understanding the potential extent of the N.E.S. Therefore, with the overlap of 'other woodlands' on buffers to 'natural heritage features and areas', the net increase in total natural area cover of the N.E.S. resulting from the addition of 'other woodlands' in N.H.S. Option 3B is 427 ha.

Buffers to significant woodlands and 'other woodlands' adds 394.5 ha to the N.E.S. Buffers would most likely be required from these woodlands as part of demonstrating 'no negative impact'.

While other 'supporting features and areas' and enhancement areas are required to be considered in Option 3C, the amount of land included within these areas is expected to be limited in settlement areas due to the extent of developed area and limited opportunities for incorporate other natural areas into the N.E.S. The identification of 'supporting features and areas' is best determined through future study.

In terms of the impacts of the addition of 'other woodlands' in Option 3B within settlement areas, the location of these features may have an impact on the ability to efficiently lay out and service new development areas, particularly if the 'other woodland' areas are separate from other components of the N.E.S. and are isolated or if the addition of the 'other woodland' has the effect of creating smaller development areas that may be more costly and less efficient to develop as a result. However, a determination of the impacts in this regard can only be made after carrying out a review of the location of 'other woodlands' in each of the settlement areas and completing a more detailed analysis that takes into account a number of factors, most notably servicing feasibility.

Review of Hydrologic Areas of the Water Resource System in Urban Areas

As mentioned previously, Map D identifies the following hydrologic areas of the W.R.S.:

- Key Hydrologic Areas
    - Significant Groundwater Recharge Areas
    - Highly Vulnerable Aquifers

- Shoreline Areas
- Floodplains, Flooding Hazards

The intent of Map D is to illustrate other components of the W.R.S. (i.e., in addition to key hydrologic features) where additional constraints to development exist; while some of these hydrologic areas may be coincident with 'natural heritage features and areas' and 'other wetlands', these hydrologic areas will pose constraints to development in addition to the mapped components of the N.H.S. and key hydrologic features.

These hydrologic areas of the W.R.S. comprise a large proportion of some of the urban areas (e.g., 90.8% of Grimsby, 98.3% of Fonthill, 82.1% of Prudhommes, and 92.2% of Jordan Station). While these areas are required components of a W.R.S. according to Provincial policy, the policies related to these features are considerably different than policies for well-defined feature of the landscape, such as wetlands and significant woodlands that are generally protected in a way that restricts development. Groundwater systems are vast and cover significant portions of the Region and are protected in ways that do not necessarily restrict development. The policies and regulations used to protect these hydrologic areas are therefore different and consider the requirement to protect, enhance and restore water quality and quantity. These Provincial policies and regulations currently in place establish a framework for the protection and management of the water resources within the N.E.S. As such, the formal identification of a W.R.S. and components therein will not substantially increase the amount of land within the Region that is already the subject of Provincial policies that require that consideration of impacts be a part of the review of development applications and the preparation of Official Plans and secondary plans.

In addition to the above, there is now a requirement in the Growth Plan that requires that watershed planning or equivalent inform "a) the identification of water resource systems, b) the protection, enhancement, or restoration of the quality and quantity of water, c) decisions on allocation of growth, and d) planning for water, wastewater, and stormwater infrastructure" (Growth Plan policy 4.2.1.3). In addition, there is a requirement that "planning for large-scale development in designated greenfield areas, including secondary plans, will be informed by a subwatershed plan or equivalent" (Growth Plan policy 4.2.1.4). As such, there will be a need through future secondary planning and watershed planning exercises to identify components of the W.R.S, including those that cannot be mapped at this time, "which are necessary for the ecological and hydrological integrity of the watershed" (P.P.S. policy 2.2.1. d.). The identification of the components of the W.R.S. and applicable policies will also have an impact on the amount of land potentially available for development.

Implementation of the Natural Environment System

The implementation of one of the N.E.S. options presented in this technical memorandum will occur first through the preparation of updated policies and mapping in the N.O.P. Once this occurs, updates will then be required to each of the local Official Plans as well. The purpose of this section is to discuss implementation options.

Overlay and Mapping Implications

If N.E.S. Option 1A is selected, all of the mappable 'natural heritage features and areas' and key hydrological features would be included in an overlay designation on the schedules to the N.O.P. This means that decisions would need to be made on what the underlying land use designation would be. However, since the current N.O.P. does not currently establish separate land use designations within the settlement areas, those decisions would not need to be made at the Regional level; however, it is acknowledged that the Growth Plan now requires in Section 2.2.5.6 that upper-tier planning authorities such as Niagara Region designate employment areas to protect them for appropriate employment uses over the long term.

If the N.E.S. is included within an overlay designation in the N.O.P., modifications to the boundary of the N.E.S. would not require an amendment to the N.O.P.

If N.E.S. Option 1A is selected, the local municipalities will also include the same area on their Official Plan schedules as well and if they do so, it will then be up to each local municipality to determine what the underlying land use designation should be. However, this may not be appropriate for all of the 'natural heritage features and areas' within the N.E.S., particularly P.S.W.s, where development and site alteration is already prohibited by Provincial policy. In this case, designating these lands for development may not be appropriate and consistent with the P.P.S.

As a result, the local municipalities may need to include components of the N.E.S. in a land use designation that prohibits development and include the other components of the mapped N.E.S. in an overlay designation. For the component of the N.E.S. that is designated, it will be up to the local Official Plans to determine whether amendments are required, if modifications to the boundary of the designated area were proposed. For those components of the N.E.S. that are in the overlay, it is not anticipated that a local municipality would require an amendment to the Official Plan to facilitate changes in the boundaries of an overlay designation, as long as whatever was proposed conformed to the policies of the underlying land use designation.

In addition to updating the mapping as discussed above, updated N.H.S. and W.R.S. policies will need to be included in the N.O.P. and then in the local Official Plans as well. These policies would establish development permissions in each natural heritage feature or area and within each component of the W.R.S. Policies on land securement, existing uses and requirements for supporting studies (e.g., environmental impact studies) would also be included in the N.O.P. and the local Official Plans. It is also anticipated that the N.O.P. would provide direction on how natural heritage feature or areas and components of the W.R.S. would be zoned by the local municipalities. This direction will be required to ensure firstly that lands that are prohibiting from developing are zoned accordingly and secondly, to ensure that lands are not pre-zoned for development particularly in designated greenfield areas, where secondary plans and watershed studies or their equivalent will be required to support development.

Designation and Mapping Implications

If one of N.H.S. Options 2 or 3 are selected, 'natural heritage features and areas' (and 'other woodlands' in N.H.S. Option 3B and 3C within settlement areas), and 'other wetlands' would be included within an exclusive land use designation in the new N.O.P. The same would occur in the local Official Plans as well.

Given the strategic focus of upper tier Official Plans, it is recommended that consideration be given to not requiring an amendment to the N.O.P. provided the proposed change has been justified in accordance with criteria established with the N.O.P., with these criteria implementing Provincial policy requirements, such as demonstrating no negative impact in particular.

Given that several components of the N.E.S would be included as a designation in the N.O.P., these components would also be a designation in the local Official Plan in order to conform to the N.O.P. The local Official Plan would also include policies on whether local Official Plan Amendments would be required if boundary changes were proposed.

In addition, updated N.H.S. and W.R.S. policies will need to be included in the N.O.P. and then in the local Official Plans as well as already discussed. It is also anticipated that the N.O.P. would provide direction on how features and areas of the N.H.S. and W.R.S. would be zoned by the local municipalities.

Impacts of the Natural Environment System on Long-Term Planning

The Growth Plan requires that planning for large-scale development in designated greenfield areas in settlement areas (including secondary plans) be informed by a subwatershed plan or its equivalent. Such a subwatershed plan should consider existing development and evaluate

impacts of any potential or proposed land uses and development; identify hydrologic features, areas, linkages, and functions; identify natural features, areas, and related hydrologic functions; and provide for protecting, improving, or restoring the quality and quantity of water within a subwatershed. This requirement will need to be included in both the new N.O.P. and the local Official Plans.

Summary and Conclusions

This technical memorandum has had prepared in order to provide more details on the policy intent for each of the options for the N.H.S. and W.R.S. as identified in Technical Report #2. This additional work included establishing a preliminary methodology and criteria for each feature-type in order to prepare mapping within each urban area in the Region for each of the options and provide detailed statistics to allow for a comparison of each option as they apply to the mapped urban areas.

These options were informed by guidance provided in Provincial policy documents including the P.P.S., the Greenbelt Plan and the Growth Plan. The policies in these documents informed the identification of the options and policy intent for the N.E.S. in each option. The policy intent of each option is intended to further inform local area municipalities and Council on the differences between the options, including the required standards for the N.E.S.

The main differences between the Options for the N.E.S. in urban areas include:

- Overlay vs. designation
- Prohibition on development in significant woodlands in N.H.S. Option 3
- Addition of ‘other woodlands’ in N.H.S. Options 3B and 3C
- Addition of ‘supporting features and areas’ in N.H.S. Option 3C
- Policy requirement for mandatory buffers on ‘natural features and areas’ and ‘other woodlands’ in N.H.S. Option 3C
- Small linkages in urban areas added in N.H.S. Option 3C

Based on the review of the options for the N.E.S., the main difference in area between the options was a result of mapping ‘other woodlands’ and buffers to significant woodlands and ‘other woodlands’. The addition of ‘other woodlands’ has the most potential to impact developable land within urban areas, resulting in a net increase of 427 ha of natural cover to the N.E.S. or a 1.3% increase to the standard requirements of the N.E.S. While having a policy that requires buffers to be identified will result in a slightly larger increase in the mapping of the

N.E.S. than ‘other woodlands’, they are typically necessary in most cases to meet the test of no negative impact and are not expected to add an additional constraint to development.

This technical memorandum has also concluded that in fact there are no ‘optional’ components for the W.R.S. and therefore there is only one option for the W.R.S. There will be a need for the new N.O.P. to provide direction for large-scale development in designated greenfield areas, including secondary plans, to be informed by a subwatershed plan or equivalent to further refine and identify components of the W.R.S, including those that cannot be mapped at this time, in order to maintain or enhance the ecological and hydrological integrity of the watershed.

In summary, the options for the N.E.S. provide a standard requirement for the N.E.S. in settlement areas (N.H.S. Options 1, 2 and 3A) with increasing numbers of optional components and protection for components of the N.E.S. moving through N.H.S. Options 3B and 3C. The options were developed to ensure consistency with Provincial standard requirements, clarify and simplify a policy intent for the identification and protection of the features and areas of the system, and provide a range of options that exceed standard requirements that identify a Region-wide N.E.S. based on a systems-based approach to natural environment planning.

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Appendix A: Definitions and Criteria for Components of the N.H.S. and W.R.S and Methodology for Mapping

Preliminary Definitions and Criteria for Features and Areas

The two discussion papers, Technical Report #1 and Technical Report #2 provided a review of best practices for the identification of various components of the N.E.S., including definitions and criteria for the identification of some of the components. **Table 1** includes the proposed definitions for each component recommended for mapping in urban areas as well as the criteria for identifying the component or a reference to the agency responsible for creating the dataset.

Table 1. Preliminary definitions and criteria for features and areas proposed for mapping within settlement areas.

Feature and Area	Definition	Criteria
Natural Heritage System		
Provincially Significant Wetland	**Provincially Significant Wetlands** are those identified as provincially significant by the Ontario Ministry of Natural Resources and Forestry using evaluation procedures established by the Province, as amended from time to time (P.P.S. 2020)	The criteria for identifying Provincially Significant Wetlands are established by the Province. At the time of writing this report the Ontario Wetland Evaluation System, Southern Manual, 3rd Edition, Version 3.3. (M.N.R.F. 2014) is considered the document by which an evaluation should be undertaken. The MNRF is responsible for review and approval of a wetland evaluation.
Significant Woodland	**Woodlands** - treed areas that provide environmental and economic benefits to both the private landowner and the general public, such as erosion prevention, hydrological and nutrient cycling, provision of clean air and the long-term storage of carbon, provision of wildlife habitat, outdoor recreational opportunities, and the sustainable harvest of a wide range of woodland products. Woodlands include treed areas, woodlots or forested areas and vary in their level of significance at the local, regional and provincial levels. Woodlands will be delineated according to the Province's Ecological Land Classification system definition for "forest" (P.P.S. 2020). For the purposes of this definition, forests include terrestrial vegetation communities as defined in accordance with the Province's Ecological Land Classification system, where the tree cover is greater than 60%. **Significant Woodlands** are woodlands that are ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history. (P.P.S. 2020).	To be identified as significant a woodland must meet the definition of E.L.C. "forest" (as per the definition of 'woodland'), and a woodland must meet one or more of the following criteria: 1. Any woodland 2 ha or greater in size; 2. Any woodland 1 ha or greater in size meeting at least one of the following criteria: a. Naturally occurring (i.e., not planted) trees (as defined in the species list of Appendix D in the Greenbelt Technical Paper); b. 10 or more trees per ha greater than 100 years old or 50 cm or more in diameter; c. Any woodland wholly or partially within 30 m of a significant wetland; habitat of an endangered or threatened species; significant woodland; d. Any woodland overlapping or abutting one or more of the following features: i. Permanent streams or intermittent streams; ii. Fish habitat; iii. Significant valleylands; 3. Any woodland 0.5 ha or greater in size meeting at least one of the following criteria: a. A provincially rare treed vegetation community with an S1, S2 or S3 in its ranking by the M.N.R.'s N.H.I.C; b. Habitat of a woodland plant species with an S1, S2 or S3 in its ranking or an 8, 9, or 10 in its Southern Ontario Coefficient of Conservatism by the N.H.I.C., consisting of 10 or more individual stems or 100 or more sqm of leaf coverage; c. Any woodland overlapping or abutting one or more of the following features: i. Significant wildlife habitat; and ii. Habitat of threatened species and endangered species; iii. 'Other wetlands'

Feature and Area	Definition	Criteria
		4. Any woodland of any size overlapping or abutting one or more of the following features: a. P.S.W.s; and b. Life Science A.N.S.I. Woodlands that "abut" another feature are considered adjacent when located within 20 m of each other. Guidance for delineating the boundary of a 'woodland' as defined by the Region should follow those of Appendix B in the Greenbelt Plan 2005 – Technical Definitions and Criteria for Key Natural Heritage Features in the Natural heritage System of the Protected Countryside (Ontario Ministry of Natural Resources, 2012)
Linkages	**Linkage** means an area, that may or may not be associated with the presence of existing natural features and areas, that provides and maintains ecological connectivity between natural heritage features, and supports a range of community and ecosystem processes enabling plants and animals to move among natural heritage features, in some cases over multiple generations, thereby supporting the long-term sustainability of the overall N.H.S.	In urban areas, the following criteria are applied to identify small linkages: 1. consist of natural vegetation (e.g., water courses, valleylands, meadow, thicket, woodland, wetland, and hedgerows) or rural/agricultural lands without major barriers (i.e., developed areas or major roads greater than 30 m in width); 2. be 60-100 m in width, as confirmed through a site-specific study evaluating the ecological function of the features being connected and the need to maintain ecological connectivity between natural features; and 3. connect core areas (i.e., a group of natural features and areas within 30 m of each other) with a combined area of ≥4 ha in size. For mapping purposes of small linkages, a 100 m wide linkage should be illustrated as part of the N.H.S. recognizing that the width of the linkage will be reviewed and may be refined through site specific studies.
Life Science A.N.S.I.	**Life Science A.N.S.I.s** are identified as being high quality example(s) of ecological form and function in each Ecodistrict in the province (provincially significant) and the Region (regionally significant) and are generally defined by natural heritage features (e.g., a woodland, valley top of bank, etc.) and generally exclude anthropogenic land uses (e.g., residential areas / properties). Life Science A.N.S.I.s include areas identified as provincially significant by the Ontario Ministry of Natural Resources and Forestry using evaluation procedures established by the Province, as amended from time to time (P.P.S. 2020)	The identification of Life Science A.N.S.I.s is determined by the Province using criteria established by the Province.
Earth Science A.N.S.I.	**Earth Science A.N.S.I.s** represent the best examples of geologic and geomorphic landforms and areas (e.g., a moraine) in each Ecodistrict in the province (provincially significant) and the Region (regionally significant). They may encompass a single feature or a group of related features (e.g., a drumlin field). As geologic / geomorphic	The identification of Earth Science A.N.S.I.s is determined by the Province using criteria established by the Province.

Feature and Area	Definition	Criteria
	landforms, the overlying land use may include a composite of natural and anthropogenic uses (e.g., woodland, agricultural, rural residential, etc.). Earth Science A.N.S.I.s include areas identified as provincially significant by the Ontario Ministry of Natural Resources and Forestry using evaluation procedures established by the Province, as amended from time to time (P.P.S. 2020)	
Other Woodlands	**Other woodlands** are woodlands determined to be ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or natural heritage system. Other woodlands include all treed vegetation communities where the percent tree cover is >25%, in accordance with the 2nd Approximation of Ecological Land Classification for Southern Ontario (2008). Other woodlands would not include woodlands meeting the criteria as Significant Woodlands.	To be identified as an "other woodland", a treed area must have ≥ 25% tree cover and meet one or more of the following criteria: 1. The treed area has an average minimum width of 40 m and is ≥0.3 ha, measured to crown edges; or 2. Any treed area of any size abutting a significant woodland. Treed areas that "abut" a significant woodland or treed swamp are considered adjacent when located within 20 m of each other.
Water Resource System		
Wetlands	Wetlands are defined as "lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. In either case the presence of abundant water has caused the formation of hydric soils and has favoured the dominance of either hydrophytic plants or water tolerant plants. The four major types of wetlands are swamps, marshes, bogs and fens. Periodically soaked or wet lands being used for agricultural purposes which no longer exhibit wetland characteristics are not considered to be wetlands for the purposes of this definition. Wetlands are further identified, by the Ministry of Natural Resources and Forestry or by any other person, according to evaluation procedures established by the Ministry of Natural Resources and Forestry, as amended from time to time."	Wetlands will be identified according to evaluation procedures established by the Ministry of Natural Resources and Forestry, as amended from time to time.
Other Wetlands	**Other wetlands** (i.e., non-P.S.W.s in settlement areas) are defined in accordance with the N.P.C.A. definition for wetland, as follows: "land that a) is seasonally or permanently covered by shallow water or has a water table close to or at its surface, b) directly contributes to the hydrological function of a watershed through connection with a surface watercourse, c) has hydric soils, the formation of which has been caused by the presence of abundant water, and d) has vegetation dominated by hydrophytic plants or water tolerant plants, the dominance of which has been favoured by the presence of abundant water, but does not include periodically soaked or wet land that is used for agricultural purposes and no longer exhibits a wetland characteristic referred to in clause c) or d)." It should also be noted that for non-P.S.W.s in settlement areas that do not meet the definition of 'other wetland' and to which the N.P.C.A. policies would not apply, but do meet the definition of 'wetland', the Region and/or the N.P.C.A. may require that an appropriate study (e.g., E.I.S., hydrologic evaluation) be undertaken to determine if	Wetlands meeting the definition as 'other wetlands' will be identified according to evaluation procedures established by the Ministry of Natural Resources and Forestry, as amended from time to time

Feature and Area	Definition	Criteria
	the wetland should be protected in situ with appropriate buffers/setbacks or if the hydrologic function provided by wetland should be maintained or managed as part of the design of the development.	
Inland Lakes	**Inland lakes** are considered any inland body of standing water larger than a pool or pond or a body of water filling a depression in the earth's surface, where their water levels and hydrologic functions are not directly influenced by either Lake Erie or Lake Ontario.	Inland lakes include any body of water larger than a pool or pond, except for storm water management ponds, ponds constructed for irrigation purposes, such as those on a golf course or used for agriculture, lakes that have been constructed and managed with the sole purpose of supporting essential infrastructure, and where their ecological function is not a consideration in their management.
Permanent and intermittent streams	**Permanent streams** are watercourses that contain water during all times of the year. **Intermittent streams** are stream-related watercourses that contain water or are dry at times of the year that are more or less predictable, generally flowing during wet seasons of the year but not the entire year, and where the water table is above the stream bottom during parts of the year." (Greenbelt Plan 2017)	Criteria for the identification of a permanent or intermittent stream should follow protocols established by the Province, such as the Ontario Stream Assessment Protocol.
Significant Groundwater Recharge Areas	"An area that has been identified as: a) a significant groundwater recharge area by any public body for the purposes of implementing the P.P.S.; b) a significant groundwater recharge area in the assessment report required under the Water Act, 2006; or c) an ecologically significant groundwater recharge area delineated in a subwatershed plan or equivalent in accordance with provincial guidelines. For the purposes of this definition, ecologically significant groundwater recharge areas are areas of land that are responsible for replenishing groundwater systems that directly support sensitive areas like cold water streams and wetlands. (Greenbelt Plan 2017) Groundwater recharge areas are classified as "significant" when they supply more water to an aquifer (which is used as a drinking water source) than the surrounding area (N.P.C.A., 2013). This method is recommended where recharge rates are fairly homogenous such as is generally the case for NPCA. In other words, a recharge area is considered significant when it helps to maintain the water level in an aquifer that supplies a community with drinking water, or supplies groundwater recharge to a coldwater ecosystem that is dependent on this recharge to maintain its ecological function (N.V.C.A., 2015b). S.G.R.A.s were identified where groundwater is recharged by a factor of 1.15 or more than the average recharge rate for the whole watershed (average recharge rate for NPCA is 46 mm/year). Significant groundwater recharge areas are subdivided by the groundwater vulnerability and assigned scores of 6, 4 or 2 for groundwater vulnerabilities of high, medium and low, respectively (N.P.C.A., 2009).	Significant Groundwater Recharge Areas have been delineated for the entire Niagara Peninsula Source Protection Area using methodology developed by the Niagara Peninsula Conservation Authority in consultation with the Ministry of Natural Resources (M.N.R.), and was based on the March 2007 Draft Guidance Module – Water Budget and Water Quantity Risk Assessment (Guidance Module). The identification of the Significant Groundwater Recharge Areas adheres to the Assessment Report Technical Rules (M.O.E., 2009), Regulation 287/07 and Technical Bulletin methodology descriptions (M.N.R., M.O.E., 2009).

Feature and Area	Definition	Criteria
Highly Vulnerable Aquifers	**Highly Vulnerable Aquifers** are "aquifers, including lands above the aquifers, on which external sources have or are likely to have a significant adverse effect." (Greenbelt Plan) According to the 'Groundwater Vulnerability Analysis, Niagara Peninsula Source Protection Areas' study completed by the N.P.C.A. (2009) Highly Vulnerable Aquifers (H.V.A.s) are areas of high groundwater vulnerability that "typically consist of granular aquifer materials or fractured rock that have a high permeability, are exposed near the ground surface, and have a relatively shallow water table" (N.P.C.A., 2009). Aquifer Vulnerability Index (A.V.I.) groundwater vulnerability assessments have been completed to improve the delineation of highly vulnerable aquifers. The A.V.I. groundwater vulnerability assessments were based on regional hydrostratigraphic interpretations (N.P.C.A., 2009). The H.V.A. delineation reflects the increased vulnerability of the shallowest identified aquifers by transport pathways. H.V.A are also defined as aquifers, including lands above the aquifers, on which external sources have or are likely to have a significant adverse effect (Greenbelt Plan, 2017).	Highly vulnerable aquifers are identified based primarily on vulnerability mapping completed as part of the 2005 N.P.C.A. Groundwater Study (Waterloo Hydrogeologic Inc., 2005). The mapping combined two vulnerability assessment methods: (i) intrinsic susceptibility index (I.S.I.) and (ii) aquifer vulnerability index (A.V.I.). Transport pathways, such as unused private wells, were also considered as they can increase groundwater vulnerability.
Shoreline Areas	**Shoreline areas** are the interface between terrestrial and aquatic environments, allowing for interactions between them, providing: specialized habitats (e.g., natural beach, overhanging cover, bird stopover or nesting, etc.), natural cover, areas of shoreline erosion or accretion, nutrient and sediment filtration / buffering, shading, foraging opportunities.	Shoreline areas include any natural vegetation community (as determined according to Ecological Land Classification) ≥ 0.1 ha in size, located within 30 m of the limits of the shoreline flood hazard associated with the Great Lakes, or within 15 m of a surface water feature, as defined by the P.P.S.
Floodplains, flooding hazards, floodways	**Floodplains** are defined "for river, stream and small inland lake systems, means the area, usually low lands adjoining a watercourse, which has been or may be subject to flooding hazards" (P.P.S. 2020). **Flooding hazard**: "means the inundation, under the conditions specified below, of areas adjacent to a shoreline or a river or stream system and not ordinarily covered by water: a) along the shorelines of the Great Lakes - St. Lawrence River System and large inland lakes, the flooding hazard limit is based on the one hundred year flood level plus an allowance for wave uprush and other water related hazards; b) along river, stream and small inland lake systems, the flooding hazard limit is the greater of: 1. the flood resulting from the rainfall actually experienced during a major storm such as the Hurricane Hazel storm (1954) or the Timmins storm (1961), transposed over a specific watershed and combined with the local conditions, where evidence suggests that the storm event could have potentially occurred over watersheds in the general area; 2. the one hundred year flood; and 3. a flood which is greater than 1. or 2. which was actually experienced in a particular watershed or portion thereof as a result of ice jams and	The floodplain, flooding hazard and floodway are identified in accordance with technical guidelines established by the Ministry of Natural Resources and Forestry (e.g., Understanding Natural Hazards (2001); Technical Guide - River & Stream Systems: Flooding Hazard Limit (2002); Hazardous Sites – Technical Guide (1996); Great Lakes-St. Lawrence River Shorelines, Flooding, Erosion and Dynamic Beaches (2001); Technical Guide for Large Inland Lakes Shorelines, Flooding, Erosion and Dynamic Beaches (1996); Technical Guide - River and Stream Systems: Erosion Hazard Limit (2002)).

Feature and Area	Definition	Criteria
	which has been approved as the standard for that specific area by the Minister of Natural Resources and Forestry; except where the use of the one hundred year flood or the actually experienced event has been approved by the Minister of Natural Resources and Forestry as the standard for a specific watershed (where the past history of flooding supports the lowering of the standard).” (P.P.S. 2020). **Floodway**: “for river, stream and small inland lake systems, means the portion of the flood plain where development and site alteration would cause a danger to public health and safety or property damage. Where the one zone concept is applied, the floodway is the entire contiguous flood plain. Where the two zone concept is applied, the floodway is the contiguous inner portion of the flood plain, representing that area required for the safe passage of flood flow and/or that area where flood depths and/or velocities are considered to be such that they pose a potential threat to life and/or property damage. Where the two zone concept applies, the outer portion of the flood plain is called the flood fringe.”	

Components Recommended for Mapping the Natural Environment System

The Mapping Discussion Paper provided a review of the P.P.S., Provincial plans and policies, and a review of comparable municipal approaches to mapping N.H.S.s. The review of mapping datasets recommended a subset of components that should be mapped based on a review of the age of data, accuracy, completeness (i.e., representation of the data across the entire Region) and the need to provide a visual representation of the feature to support policy implementation. The Mapping Discussion Paper also provided a review of existing datasets in Table 9 of that report and provided a recommendation on the suitability of datasets and preliminary considerations for use of each dataset. Through applying a set of criteria related to the age, accuracy and areal (i.e., geographic) coverage of the dataset recommendations, as well as considerations of options to update existing datasets or develop new datasets, recommendations for mapping components were provided in Section 8.3.1 of the Mapping Discussion Paper. Technical Report #2 further assessed the available mapping and made additional recommendations for which datasets to use or not, and how to create datasets based on currently available information.

Through the development of natural environment system options provided in Technical Report #2 and in consideration of the data that will obtained through studies currently being completed (i.e., Ecological Land Classification (E.L.C.) mapping for the Region and the Watershed Equivalency Study) the following components are recommended for mapping the N.H.S. and W.R.S. in urban areas:

Natural Heritage System

- P.S.W.s;
- Significant woodlands;
- Life Science A.N.S.I.s;
- Earth Science A.N.S.I.s;
- Other woodlands; and
- Linkages

Water Resource System

- Wetlands (P.S.W.s and non-P.S.W.s);
- Inland lakes;
- Permanent streams (including rivers) and intermittent streams;

- Significant groundwater recharge areas;
- Highly vulnerable aquifers;
- Shoreline areas; and
- Floodplains, flooding hazards, floodways.

It should be noted that Technical Report #2 had recommended enhancement areas be mapped as part of the N.H.S. However, it has been determined through the mapping exercise in urban areas that mapping of enhancement areas in settlement areas at the Regional-scale is not appropriate due to the built environment in urban areas and the level of information required to accurately identify potential enhancement areas in urban areas. The identification and configuration of enhancement areas in urban areas requires site-specific knowledge of the natural feature and the ecological functions to be enhanced, therefore mapping of enhancement areas within urban areas is not recommended. The determination of enhancement areas is better determined through site-specific studies, including those completed in support of secondary plans.

Sources of Mapping Data and Recommendations for Mapping

The Mapping Discussion Paper and Technical Report #2 provided a review of available mapping as well as recommendations for how datasets could be improved, acquired, or created. **Table 5** provides recommendations for datasets that should be used to produce preliminary mapping of the N.H.S. and W.R.S. options within urban areas. Appendix 1 includes a table of the 54 different classification types, including anthropogenic and natural areas, that are included in the Ecological Land Classification (E.L.C.) dataset, indicating what classification codes should be used to develop another dataset.

Table 2. Datasets and recommendations for improving or creating datasets for the components considered for mapping in the Region's Natural Environment Systems within Urban Areas.

Component Features and Areas	Existing Source of Data	Notes
Natural Heritage System		
Provincially Significant Wetland	Wetlands (M.N.R.F., last updated November 2020)	Ensure most recent Land Information Ontario (L.I.O.) dataset is obtained.
Significant Woodland	Niagara Region 2020 Ecological Land Classification	The Region's 2020 Ecological Land Classification dataset is current and should be the most accurate dataset available to identify woodlands. Apply criteria established for significant woodlands.
Linkages	Niagara Region 2020 Ecological Land Classification Contemporary Mapping of Watercourses (Niagara Region, 2016)	Apply criteria established for linkages.
Life Science A.N.S.I.	Areas of Natural and Scientific Interest (M.N.R.F., last updated July 2020)	Ensure most recent L.I.O. dataset is obtained.

Component Features and Areas	Existing Source of Data	Notes
Earth Science A.N.S.I.	Areas of Natural and Scientific Interest (M.N.R.F., last updated July 2020)	Ensure most recent L.I.O. dataset is obtained.
Other woodlands	Niagara Region 2020 Ecological Land Classification	Apply criteria established for other woodlands.
Water Resource System		
Provincially Significant Wetlands	Wetlands (M.N.R.F., last updated November 2020)	Ensure most recent Land Information Ontario (L.I.O.) dataset is obtained.
Other Wetlands	Niagara Region 2020 Ecological Land Classification Wetlands (M.N.R.F., last updated November 2020)	Apply criteria established for 'other wetlands'. Select wetlands that were either "evaluated-other" or not evaluated
Inland Lakes	Contemporary Mapping of Watercourses (Niagara Region, 2016)	Apply criteria established for inland lakes.

Component Features and Areas	Existing Source of Data	Notes
Permanent and Intermittent Streams	Contemporary Mapping of Watercourses (Niagara Region, 2016)	Use watercourse layers with attribute of 'permanent' or 'intermittent' flow regime.
Significant Groundwater Recharge Areas (S.G.R.A.s)	N.P.C.A. Groundwater Protection Quantity S.G.R.A.s (created 2010)	Existing dataset can be obtained through the N.P.C.A. open data portal. Other sources of data or mapping as identified through the Watershed Equivalency Planning Study.
Highly Vulnerable Aquifers	HighlyVulnerableAquifer_NPCA (created June 2010)	This mapping is based on the N.P.C.A. Groundwater Study Final Report (Waterloo Hydrogeologic Inc. 2005). The recommended scale for usage is 1:50,000. Other sources of data or mapping as identified through the Watershed Equivalency Planning Study.
Shoreline Areas	N.P.C.A. Regulated Shoreline Extent (last updated June 2019) Niagara Region 2020 Ecological Land Classification	Apply criteria established for shoreline areas.

Component Features and Areas	Existing Source of Data	Notes
	Contemporary Mapping of Watercourses (Niagara Region, 2016)	
Floodplain, flooding hazard, floodway	N.P.C.A. Regulated Floodplain Extent (last updated May 2020)	Apply criteria established for floodplain, flooding hazard, floodway. "The data currently includes both regulatory floodplains, and advisory floodplains. This dataset was developed by creating polygons from the polyline geometry of the flood lines in the Authority's Riverine Floodplain Mapping database. Please note most of the floodplains are based on the 100 year event but some systems in Niagara Falls specifically are still managed with the Regional Storm (Hurricane Hazel)" (description of metadata from https://maps.niagararegion.ca/Metadata/md/Explorer/1616.aspx, accessed December 2020).

Assumptions and Limitations

The Mapping Discussion Paper and Technical Report #2 provided a review of the datasets available to map components of the N.H.S. and W.R.S. Through the review of the available datasets recommendations were made on which components to map and not to map; these recommendations were based on several factors related to the confidence that the mapping provides an accurate and complete representation of the feature it is intended to capture. There will always be a level of inaccurately and incompleteness of a dataset - this results from the fact that a) mapping represents a 'point in time' of a feature or area (i.e., some datasets may be older), b) methods for identifying some features may have been updated more recently that would result in changes to the delineation of a feature or area, and c) some datasets may have been developed at a smaller scale (i.e., developed for a larger area) and may not translate well into a larger scale map (i.e., depicting the extent of features on a property). The assumptions and limitations for the use of datasets and the application of criteria to some datasets to represent the extent of a significant feature or areas is discussed below.

Highly Vulnerable Aquifers Dataset

There are some limitations related to the scale at which the H.V.A. dataset was produced. This dataset was developed at a scale of 1:50,000 and is appropriate for use at a local municipal scale (i.e., to be viewed when looking at the entire municipality). However, this is not considered accurate at a site-specific scale (e.g., individual property scale). While sufficient for the purposes of as part of the Region's W.R.S. mapping, policies will need to be developed to require site-specific studies to be completed in order to assess the sensitivity of the aquifer to changes in landuse and the potential for impacts on the aquifer.

Floodplains, Flooding Hazards, Floodways

The metadata for this dataset notes that the floodplain mapping may not be complete for the entire Region "(technical criteria from MNR dictate that surface water reaches draining greater than 125 hectares be considered as part of the riverine flood hazard) and only represents what floodplains are currently mapped. Therefore, there are regulatory floodplains that are not mapped but are covered by the text of the [N.P.C.A.] regulation" (https://maps.niagararegion.ca/Metadata/md/Explorer/1616.aspx, accessed in December 2020). Therefore, it should be acknowledged that mapping of floodplains, flooding hazards, and floodways may not be fully represented on mapping of the W.R.S. However, like other datasets, mapping is typically not complete; for the purposes of including floodplains on mapping of the W.R.S., and recognizing boundaries of features and areas can be refined through detailed studies, this dataset is still considered appropriate for use in mapping as part of the W.R.S.

Ecological Land Classification

The recent E.L.C. mapping project was undertaken to produce a more accurate and complete dataset of natural cover in Niagara Region. The dataset includes 54 different classification types, including anthropogenic and natural areas (**Table 3**, located at the end of this appendix). The primary methodology used to produce this dataset is orthoimage interpretation using new 2018 aerial imagery. While this methodology is acceptable in accordance with the industry recognized E.L.C. methodology, and the accuracy of this method can be high, there will inevitably be some vegetation communities that are missed, erroneously included, or mis-identified – this results from the fact that not every vegetation community or area within Niagara Region can be ground-truthed, either due to high lack of available resources (e.g., person time and available capital) or lack of landowner permission. Furthermore, the minimum mapping unit used for the E.L.C. dataset was 0.1 ha. Therefore, some vegetated areas that are less than 0.1 ha are not captured. It should be acknowledged that like most datasets where ground-truthing is not possible for every feature and limitations exist in available resources, there will be a need for future ground-truthing as part of site-specific studies to confirm and refine the mapping of natural features.

Proposed Methodology for Mapping the NHS and WRS

Creating Datasets for the Natural Environment System

The following describes methods that should be applied to create new preliminary datasets for natural features and areas within the Region's urban areas. It should be noted that this methodology is for the purpose of a preliminary analysis of the options in the Region's urban areas to support the generation of statistics and a comparative evaluation. A final methodology will be prepared as part of the third technical paper for the Natural Environment Work Program.

Significant Wetlands Dataset

1. Import the LIO Wetland Layer
2. Definition Query or use the SELECT BY ATTRIBUTE tool to select all woodlands under the attribute column "Wetland_SI" that are 'Evaluated-Provincial' from the Significance column.
3. SELECT by LOCATION from current selection all wetlands that intersect or overlap urban areas
4. Export the selected data into a new dataset entitled "Provincially_Significant_Wetlands"
5. Clear the Selection and create another selection for Wetlands within the LIO Wetland layer that are not provincially significant wetlands (PSW). Use the Definition Query or the

SELECT BY ATTRIBUTES tool to create a NOT function “NOT "WETLAND_SI" = 'Evaluated-Provincial'”. SELECT by LOCATION from the current selection these Non-PSWs that intersect or overlap urban areas. Export all selected features into a new dataset entitled “LIO_Other_Wetlands” (This will be used within the Other Wetlands Dataset)

Other Wetlands Dataset

1. Import the Region’s 2020 E.L.C. dataset, the ’LIO_Other_Wetlands’ dataset, and ‘Provincially_Significant_Wetlands (Previously created) dataset.
2. Select the following wetland codes from the Region’s 2020 E.L.C. dataset:
    i. SWT, SWD, SWM, SWC, BOS, BOT, MAM, MAS, SAS, SAM, SAF.
        i. SELECT by LOCATION from the current selection that intersect or overlap urban areas. Export this layer as “Niagara_ELC_Wetlands”
3. Use the UNION tool to join the geographies of the two wetland layers inputting “Niagara_ELC_Wetlands” and “LIO_Other_Wetlands”. Ensure the Niagara_ELC_Wetlands is set as the highest rank as the geometry and attributes take precedence over the LIO_Other_Wetlands layer. Call this new feature “Niagara_Union_Other_Wetlands”
4. Use the ERASE tool to clip the “Niagara_Union_Other_Wetlands” mapping with the “Provincially_Significant_Wetlands” layer to ensure no overlap between wetland features as P.S.W.s are already captured in the Significant Wetland layer. Call this layer “Niagara_Other_Wetlands”

Permanent and Intermittent Streams

1. Import the Contemporary Mapping of Watercourses (CMW) dataset.
2. Select all watercourses within settlement areas and then use the SELECT BY ATTRIBUTE tool to select all features that are identified as “Intermittent” or Permanent”.
3. Export these selected features and call the layer “Watercourses_perm_inter_Niagara”

Woodlands Dataset

In order to create a woodlands dataset that contains woodlands in accordance with the definition of woodland proposed to be used for Niagara Region, the E.L.C. data will be used to extract woodlands.

1. Import the E.L.C. layer and SELECT BY ATTRIBUTE the following ELC classes:
    i. FOD, FOM, FOC, HOC, HOD, SVC, SVD, SVM, WOC, WOD, WOM, TAG, BLT, BOT, CLT, RBT, SBT, SHT, and TAT.

2. SELECT by LOCATION from the current selection that intersect or overlap urban areas. Export these selected features and save as a separate dataset entitled "Niagara_Woodlands".

Significant Woodlands Dataset

In order to consider the 20m connection between woodlands a processing step to the woodland layer will be done to identify where woodlands should be joined due to proximity.

1. Import the "Niagara_Woodlands" layer and SELECT BY ATTRIBUTE these ELC classes: FOC, FOM, FOD and call this dataset "Niagara_Woodlands_Connectivity". Import the "Niagara_Woodlands_Connectivity" and Edit the features by joining consecutive features, these features should be adjacent with a shared border. Merging these together will eliminate any overlaps. Using the editing tool select all features, then merge all polygons together. From there use the advanced editing tools to 'EXPLODE MULTIPART FEATURES" to separate the polygons so that all polygons are separate from non-adjoining geometries.

2. Use the BUFFER tool to buffer "Niagara_Woodlands_Connectivity" layer by 10 m. Use the INTERSECT tool on the newly formed buffer layer to identify any intersecting polygons that fall within a buffer of another polygon and call this 'Woodlands_Intersect'.

3. These intersecting buffers are where the woodland should be joined together to form one continuous feature. Zoom to each polygon created in the "Woodlands_Intersect" layer and select the polygons that should be merged. Use the merge tool once polygons are selected.

4. Use the "Woodlands_Intersect" to navigate to areas where a polygon should be considered continuous. To join the geometry of these features in the "Niagara_Woodlands_Connectivity" dataset use the editing tool to merge polygons together that are considered continuous based on the 10 m buffer (i.e., where their buffers overlap, they are considered within 20 m of each other).

5. Re-Calculate the area of the features within "Niagara_Woodlands_Connectivity" so any connecting woodland should now be joined and have a cumulative area.

Applying criteria for Significant Woodlands:

1. Import the following data layers:
    i. Urban Area boundaries
    ii. Niagara_Woodlands_Connectivity

   iii. Provincially Significant Wetlands
   iv. Other Wetlands
   v. Life Science ANSI; and
   vi. Watercourse_Perm_Inter_Niagara.
2. Create an attribute column entitled “Significance” within the Woodlands dataset.
3. To apply criterion “1” in Table 6 of this memo.
   i. SELECT by LOCATION woodlands that intersect or overlap urban areas where the woodland is greater or equal to 2 ha in size.
   ii. Classify these as ‘Significant’ under the “Significance” attribute column.
4. To apply criterion “2c”
   i. SELECT by LOCATION woodlands that intersect or overlap urban areas SELECT BY ATTRIBUTE and make sure to select “select from current selection” to select all woodlands which are greater or equal to 1 ha.
   ii. SELECT BY LOCATION, “select from current selection” to select overlapping woodland features that fall within or from a distance of the Provincially Significant wetlands, set the distance as 30m.
   iii. Run the selection and classify any selected as ‘Significant’ under the “Significance” attribute column.
5. To apply criterion “2d”
   i. SELECT by LOCATION woodlands that intersect or overlap urban areas SELECT BY ATTRIBUTE and make sure to select “select from current selection” to select all woodlands which are greater or equal to 1 ha.
   ii. SELECT BY LOCATION, “select from current selection” to select overlapping woodland features that fall within or from a distance of (abutting) ‘Watercourses_Perm_Inter_Niagara’, set the distance as 20m.
   iii. Run the selection and classify any selected as ‘Significant’ under the “Significance” attribute column.
6. To apply criterion “3c”
   i. SELECT by LOCATION woodlands that intersect or overlap urban areas SELECT BY ATTRIBUTE and make sure to select “select from current selection” to select all woodlands which are greater or equal to 0.5 ha.
   ii. SELECT BY LOCATION, “select from current selection” to select overlapping woodland features that fall within or from a distance of (abutting) ‘Other_Wetlands’, set the distance as 20m.
   iii. Run the selection and classify any selected as ‘Significant’ under the “Significance” attribute column.
7. To apply criterion “4”

   i. SELECT by LOCATION woodlands that intersect or overlap urban areas SELECT BY LOCATION and make sure to select “select from current selection” to select overlapping woodland features that fall within or from a distance of (abutting) P.S.W.s, set this distance as 20m.
   ii. Classify any woodlands selected as ‘Significant’ under the “Significance” attribute column.
   iii. Re-do these steps using the different datasets from criterion “4” using the Life Science ANSIs – LIO layer) as the intersecting feature and classify selections as ‘Significant’ under the “Significance” attribute column.
8. Create a layer named “Region_Significant_Woodland”. Update the Hectares column and select all woodlands that do not intersect PSWs or ANSIs. Select from this, the woodlands less than 4ha (roughly). Visually identify if these woodlands meet the 0.16ha and 40m average width criteria. If they do not, remove from layer. If a woodland patch has a long “finger” that results in the total average width to be < than 40m, the fingers should be applied against the 3:1 ratio.

Other Woodlands Dataset

1. Import the “Niagara_Woodlands” data previously created.
2. Assess Hedgerows:
   i. Export another woodlands layer from the “Niagara_Woodlands” and call it “NiagaraWoodlands_UA_Hedgerow_edits”. Definition query to select only hedgerows. Select by Location any hedgerow that intersects or is within 20m of Niagara_Woodlands.
   ii. Switch the selection to only select all isolated hedgerows (not that intersect or within 20m of a woodland) and those which are obviously single rowed tree lines.
   iii. Apply a 3:1 width to length ratio on remaining hedgerows where the fingered extension begins (this is a manual step that requires the polygons of hedgerows to be reshaped by editing tool).
   iv. Re-run the area calculation on the attribute table to recalculate area for edited features.
3. Import the dataset “Region_Significant_Woodland”.
   i. Use the ERASE tool to erase all Significant woodland features (Region_Significant_Woodland) from the “Niagara_Woodlands UA Hedgerow_edits” layer.
4. Export this to a new data set called “Niagara_Other_Woodlands”.
5. Edit the ‘Niagara_Other_Woodlands” layer.
   i. SELECT from “Niagara_Woodlands” those woodlands that are ≥ 0.16 ha in size.

ii. From these selections delete any polygons which do not “abut” (20m from other woodland polygons). Therefore, deleting small, isolated woodlands. Perform visual analysis on undersized woodlands that “abut” other wooded feature, roughly using these guides:
   - For woodlands that were only within the 20m “abut” threshold by slivers or fingers (that could technically have a 3:1 ratio applied) – they were removed.
   - For woodlands that were within the 20m “abut” threshold but were very clearly separate features within a highly developed area and not representative of aerial imagery – e.g., small patch of backyard trees – they were removed.
   - If it was adjacent to a significant woodland or other woodland feature – they were kept.

Linkages Dataset

Small linkages are to be placed between natural features and areas and are generally 60-100m wide. To identify the locations for linkages it will be necessary to identify ‘core areas’ (that consist of natural vegetation communities according to E.L.C.) within the landscape through area calculations.

Identifying Core Areas

1. To identify core areas, use the Niagara 2020 E.L.C. dataset and select all of the natural features (these natural features are identified in the ‘Natural Cover’ field within the E.L.C. Table found in Appendix 1). Export this data and call this dataset “Natural_Cover”
2. Edit the “Natural_Cover” features by joining consecutive features, these features should be adjacent with a shared border. Using the editing tool select all E.L.C. codes representing natural communities. Then merge all polygons together. From there use the advanced editing tools to ‘EXPLODE MULTIPART FEATURES” to separate the polygons so that all polygons are separate from non-adjoining geometries. Name this layer “Natural_Cover_UA_Exploded”.
3. Use the BUFFER tool to buffer these areas by 15 m. Use the INTERSECT tool on the newly formed buffer layer to identify any intersecting polygons that fall within a buffer of another polygon and call this ‘CoreAreas_Intersect’.
4. These intersecting buffers are where the core features should be joined together to form one continuous feature.
5. Use the “CoreAreas_Intersect” to navigate to areas where a polygon should be considered continuous. To join the geometry of these features in the “Natural_Cover_UA_Exploded” dataset use the editing tool to merge polygons together

that are considered continuous based on the 15 m buffer (i.e., where their buffers overlap, they are considered within 30 m of each other).

In order to refine and identify more specific core areas and identify priority core areas that will support biodiversity with linkages further methods are run on the core area layer. Some areas within the core area layer include long stretches of riparian zone or skinner long patches of natural cover that will not be enhanced by a linkage, therefore, to exclude them from the core areas the following methods were conducted:

6. Within the “Natural_Cover_UA_Exploded”” layer create a field called “Area_ha” make sure this field is a ‘short integer’ data type. Use the calculate geometry tool within the “Area_ha” attribute field to calculate the Area in hectares as an integer.
7. Use the Polygon to Raster tool to convert the “CoreAreas_Intersect” to a raster that only picks up 50% or more area covered by each 200x200m grid cell. Use the following parameters within the tool:
   – Input: CoreAreas_Intersect
   – Value Field: Area_ha
   - Output raster: Core_areas
   - Cell Assignment Type: Maximum Area (this will ensure that you are collecting cells with 50% or more cover.
   – Priority Field: NONE
   – Cellsize: 200 (this will ensure a 200x200m grid cell)
8. Use the Raster to Polygon tool to re-convert the Core_Areas raster to a vector in order to intersect the final core areas. Keep all defaults and call the vector layer “Core_areas_fromRaster”. Create an area field within the attribute column and populate it with the area.
9. Open the “Natural_Cover_UA” layer and intersect with “Natural_Cover_UA_Exploded” to select the polygons that were previously identified as core polygons. Once selected export to new layer and explode the polygons. Call new layer “Natural_Cover_UA_ExplodeForCores”. Use the Select by Location tool to select features from “Natural_Areas_UA_ExplodeForCores” layer that intersect the “Core_areas_fromRaster” layer. From this export the selected features from the “Core_areas_Intersect” and call this layer “CoreAreas_Final”.

Identifying Linkages

Linkages should be identified along corridors of natural areas or watercourses within settlement areas. This can be done through orthoimage interpretation or appropriate identification within the landscape where the linkage would promote landscape connectivity and biodiversity.

1. Create a new polyline Layer entitled ‘Small_Linkages’. Start editing the line feature to create the line that will be buffered to create the linkage.
2. Identify core areas that intersect from the previously created ‘CoreAreas_Final’. This layer identified core areas that were within 30m of each other. Use this layer to navigate to areas where a potential linkage could occur.
3. A linkage should occur from one natural heritage feature to another (not just a core area since it contains more than natural heritage features and areas); this includes significant woodlands, P.S.W.s, ‘other wetlands’, and LS-ANSI. Intersect the above noted natural heritage features layers on the “Core_Areas_Final” layer to determine which core areas should be considered for creating linkages.
4. Create the line features from the feature class ‘Small_Linkages’ to find the mid-area between features – these should either follow a watercourse, other natural cover types, or extend across agricultural lands. Create linear linkages between the core areas using this line feature.
5. Use the BUFFER tool and buffer the polyline “Small_Linkages” layer by 50m. For a total of 100m wide linkage entitled “Small_Linkages_100m”.
6. Edit the feature to CLIP the linkage to a key natural heritage feature (i.e., natural feature and area such as Significant Woodland or Significant Wetland).

Verify that linkages overlap with naturally vegetated areas and do not include developed areas (e.g., residential developments, industrial/commercial areas, roads wider than 20 m) or areas incompatible with ecological functions of a linkage.

1. Using the “Natural_cover” dataset, use the CLIP tool to clip out all the portions of the linkage features that overlap with built areas. Name this dataset “Small_Linkages_100m_nat_cover”.
2. Edit the “Small_Linkages_100m_nat_cover” dataset by using orthoimagery to identify where the linkages would not be ecologically function (i.e., where they are interrupted by developed areas or unachievable due to an incompatible use, or where the linkage narrows below a width that would provide a functional linkage). For example, where a linkage is entirely bisected by a road that is wider than 20 m, the potential to achieve a functional linkage (e.g., through future road work and installation of a wildlife passage) should be considered; if it is determined that the width of the road precludes current or future safe passage of wildlife, the linkage should be removed. Where the width of a segment of the linkage narrows to less than 20 m for a distance of 60 m or more, it should be removed. Edit the layer by deleting any linkages that would not be ecologically functionally.
3. Save the new edited layer as “Small_Linkages_100m_Final”

Shoreline Areas

1. Import the Natural_Cover dataset, Contemporary Mapping of Watercourses dataset and the N.P.C.A. Regulated Shoreline Extent dataset.
2. SELECT BY LOCATION any Natural Cover feature that is found within 15m of a Waterbody or permanent stream or intermittent stream.
3. Export these selected features and call the layer “natural_cover_water”
4. SELECT BY LOCATION any Natural Cover feature that is found within the N.P.C.A. Regulated Shoreline Extent.
5. Export these selected features and call the layer “natural_cover_reg_shoreline”
6. Merge the “natural_cover_water” dataset with the “natural_cover_reg_shoreline” dataset to create a new dataset to be labelled as “Niagara_Shoreline_Areas”
7. Create a buffer area that is 15m from a waterbody or permanent stream or intermittent stream, call this layer “Buffer_Watercourse_SL_15m” then merge this layer with the NPCA regulated shoreline extent dataset. Call this “Merged_Shoreline_Extent”. Clip the “Niagara_Shoreline_Areas” to this newly merged layer “Merged_Shoreline_Extent” and call this layer “Niagara_Shoreline_Areas_Clip”.
8. SELECT by LOCATION from “Niagara_Shoreline_Areas_Clip” that intersect or overlap urban areas. Export this data as “Niagara_Urban_Shoreline_Areas”.

Inland Lakes

1. Import the CMW permanent and intermittent shorelines polygon layer.
2. SELECT BY LOCATION all waterbody polygons within UAs and adjacent to UA boundaries by 100m.
3. Overlay the CMW permanent and intermittent flowlines polyline layer with a query to only show flowlines for the following feature types; ‘Lake’, ‘Pond-Other’, or ‘Reservoir’ (this will remove all agricultural and stormwater ponds, canals, rivers)
4. Select from the waterbody layer all polygons intersecting with the queried watercourse layer. Export and call “Inland_Lakes”.
5. Select all waterbodies that are physically connected to and within 30 m of the limits of the shoreline flood hazard associated with the Great Lakes. Delete these polygons from the Inland Lakes layer.
6. Visually assess remaining polygons using the following guides:
    i. If the waterbody is managed or maintained recreational or other related uses – delete
    ii. If the waterbody forms part of the reservoir/holding pond structure of the active Welland Canal – delete

iii. If the primary purpose and function of that water body is not natural or it does not contribute meaningfully to the functioning of the ecosystem and related water resource system – delete.

7. Assess remaining waterbodies and edit polygon with the "CUT POLYGON" tool to define exact extents of the inland lakes (i.e., separated the lake from the watercourse etc.).

Buffers

The mapping of the N.H.S. on the schedules of the new N.O.P. will not include buffers within urban areas. However, mandatory non-prescribed buffers are included as a component in N.H.S. Option 3C. While the width of these buffers is expected to be determined through site-specific studies, the purpose of the mapping and statistical analysis is to contrast and compare the options related to their ability to protect the natural environment systems, and the impact of the options on developable lands in urban areas. Therefore, for the purpose of allowing a fulsome comparison of the options, buffers will be mapped.

For the sake of generating statistics related to mapping N.H.S. Option 3C, the following buffer widths will be applied to the following features:

- significant woodlands = 10 m
- provincially significant wetlands = 30 m
- other woodlands = 5 m
- other wetlands = 15 m
- permanent and intermittent streams = 15 m
- inland lake = 15 m

Significant Woodlands buffer:

1. Use the BUFFER tool to produce a **10m** buffer on the 'Region_Significant_Woodland' dataset (Significant Woodland layer). Call this layer "Region_Significant_Woodland_Buffer".

Provincially Significant Wetland Buffer:

1. Use the BUFFER tool to produce a **30m** buffer on the 'Provincially_Significant_Wetlands' dataset. Call this layer "PSW_Buffer".

Other Woodlands Buffer:

1. Use the BUFFER tool to produce a **5m** buffer on the 'Niagara_Other_Woodlands' dataset (Other Woodlands layer). Call this layer "Other_Woodlands_Buffer".

Other Wetland Buffer:

1. Use the BUFFER tool to produce a **15m** buffer on the 'Niagara_Other_Wetlands' dataset (Other Wetlands layer). Call this layer "Other_Wetlands_Buffer".

Watercourse Buffer:

1. Use the BUFFER tool to produce a **15m** buffer on the 'Watercourses_perm_inter_Niagara dataset. Call this layer "Watercourses_perm_inter _Buffer".

Inland Lake Buffer:

8. Use the BUFFER tool to produce a **15m** buffer on the 'Inland_Lake_Niagara' dataset. Call this layer "Inland_Lake _Buffer".

Use the MERGE tool to merge all the buffers together (Region_Significant_Woodland_Buffer, PSW_Buffer, Other_Woodlands_Buffer, Other_Wetlands_Buffer, Watercourses_perm_inter _Buffer, Inland_Lake _Buffer). Call this layer "Natural_Feature_Buffers" It is recommended to select all the buffer features from 'Natural_Feature_Buffers' dataset and use the editing merge tool to merge all the features together to form one buffer as there may be overlapping features. After this is complete use the 'Explode multi-part feature' in advanced editing tools so all features that are separate from one another have their own buffer, but continuous features only have one buffered feature. Clip this layer to the Urban Area boundary and export as "Natural_Features_Buffer_UA".

Mapping the Natural Heritage System

The following describes the methods that should be applied to assemble the datasets for each of the N.H.S. options in the Region's urban areas (the source of the dataset has been identified in brackets).

N.H.S. Option 1

Bring into the map document the following natural features and areas:

- Provincially_Significant_Wetlands (L.I.O.)
- Region_Significant_Woodland (Niagara)
- Earth Science A.N.S.I.s (L.I.O.)
- Life Science A.N.S.I.s (L.I.O.)
- Watercourses_perm_inter_Niagara (Niagara)

N.H.S. Option 2

Map all of the natural features and areas from Option 1 – there is no difference in option 2 within settlement areas.

N.H.S. Option 3A

Map all of the natural features and areas from Option 1 – there is no difference in option 3A within settlement areas.

N.H.S. Option 3B

Map all natural heritage features and areas from Option 3A + **Other natural heritage features and areas**, including:

- Niagara_Other_Woodlands (Niagara)

N.H.S. Option 3C

Map all layers from Option 3B + **Buffers** + **Linkages**:

- Natural_Feature_Buffers (Niagara)
- Small_Linkages_100m_Final (Niagara)

Mapping the Water Resource System

The mapping discussion paper provided a review of available datasets and made recommendations for what should or should not be mapped. Technical Report #2 went further recommend mapping for the W.R.S. It was determined that at this time there is enough data to map many of the main components of the W.R.S. The following describes the methods that should be applied to assemble the datasets to map the W.R.S.

Bring into the map document the following components:

- Watercourses_perm_inter_Niagara (Niagara)
- Waterbodies (Niagara)
- Inland_Lake_Niagara (Niagara)
- Niagara_Other_Wetlands (Niagara)
- Provincially_Signficant_Wetlands (L.I.O.)
- Significant groundwater recharge areas (N.P.C.A)
- HighlyVulnerableAquifer_NPCA (N.P.C.A.)
- Niagara_Shoreline_Areas (Niagara)
- Floodplains, flooding hazards, floodways (N.P.C.A.)

Assumptions and Limitations

Through the review of the available mapping and application of criteria to develop some datasets (e.g., Significant Woodlands), it should be acknowledged that there are some limitations resulting from the lack of complete information and datasets. A few examples of these limitations are discussed below.

Significant Woodlands - The criteria developed for Significant Woodlands includes criterion that require site-specific information about the woodland, such as the age of the trees, vegetation type, or abundance of rare species or those with a high coefficient of conservatism. Since this information is mostly unknown, the application of the criteria can only include those related to size and proximity. This means that there will be some smaller woodlands (e.g., 0.5 ha ≥ 2 ha) that will not be identified as significant woodland but may otherwise qualify according to other criteria. Policies will therefore be required that require the completion of a site-specific study (e.g., Environmental Impact Study) as part of a development application when the woodland is ≥ 5 ha in size to undertake field studies to evaluate the significance of the woodland.

Linkages – Depending on the level of effort and time taken for identifying and reviewing linkages, there will be some linkages that may be mapped that are not be possible to achieve as they may contain essential infrastructure that prevents the establishment of vegetation that can be left in a ‘free-to-grow’ state (i.e., without regular maintenance), or where there is a recently approved development application, but natural vegetation still exists in orthoimagery.

Table 3. Classification of vegetation communities according to Ecological Land Classification prepared in November 2020 for Niagara Region.

ELC Code	ELC Full Name	woodland (>60% canopy)	other woodland (>25% canopy)	Natural Cover	Wetland
TAG	Treed Agriculture	x	x	x	
BOT	Treed Bog		x	x	x
HOC	Coniferous Hedgerow		x	x	
SVC	Coniferous Savanna		x	x	
WOC	Coniferous Woodland		x	x	
HOD	Deciduous Hedgerow		x	x	
SVD	Deciduous Savanna		x	x	
WOD	Deciduous Woodland		x	x	
SVM	Mixed Savanna		x	x	
WOM	Mixed Woodland		x	x	
BLT	Treed Bluff		x	x	
CLT	Treed Cliff		x	x	
RBT	Treed Rock Barren		x	x	
SBT	Treed Sand Barren and Dune		x	x	
SHT	Treed Shoreline		x	x	
TAT	Treed Talus		x	x	
FOC	Coniferous Forest	x	x	x	
FOD	Deciduous Forest	x	x	x	
FOM	Mixed Forest	x	x	x	

ELC Code	ELC Full Name	woodland (>60% canopy)	other woodland (>25% canopy)	Natural Cover	Wetland
SWC	Coniferous Swamp			x	x
SWD	Deciduous Swamp			x	x
SAF	Floating-leaved Shallow Aquatic			x	x
MAM	Meadow Marsh			x	x
SAM	Mixed Shallow Aquatic			x	x
SWM	Mixed Swamp			x	x
MAS	Shallow Marsh			x	x
SAS	Submerged Shallow Aquatic			x	x
SWT	Swamp Thicket			x	x
BOS	Shrub Bog			x	x
OAO	Open Aquatic			x	
IAG	Agricultural Infrastructure				
CVC	Commercial and Institutional				
THC	Coniferous Thicket			x	
THD	Deciduous Thicket			x	
MEF	Forb Meadow			x	
MEG	Graminoid Meadow			x	
CGL	Green lands			x	
MEM	Mixed Meadow			x	
THM	Mixed Thicket			x	
OAG	Open Agriculture			x	

ELC Code	ELC Full Name	woodland (>60% canopy)	other woodland (>25% canopy)	Natural Cover	Wetland
BLO	Open Bluff			x	
CLO	Open Cliff			x	
RBO	Open Rock Barren			x	
SHO	Open Shoreline			x	
TAO	Open Talus			x	
OAW	Open Water			x	
CVR	Residential				
SAG	Shrub Agriculture			x	
BLS	Shrub Bluff			x	
CLS	Shrub Cliff			x	
RBS	Shrub Rock Barren			x	
SHS	Shrub Shoreline			x	
TAS	Shrub Talus			x	
CVI	Transportation and Utilities				

Appendix B: Discussion on Woodlands in Niagara Region's Natural Heritage System

Discussion on Woodlands in Niagara Region's Natural Heritage System

The following discussion reviews the existing definition for woodlands in Niagara Region's Official Plan to inform an update to the woodland definition, and in turn criteria for determining significant woodlands and considerations for other components of the N.H.S. that contribute to maintaining and enhancing tree canopy cover in Niagara.

Definition for Woodlands

Current Definition of Woodland

Niagara Region currently defines woodlands as the following:

> "Woodland means a treed area that provides environmental and economic benefits to both the private landowner and the general public such as erosion prevention, hydrologic and nutrient cycling, provision of clean air and long-term storage of carbon, provision of wildlife habitat, outdoor recreational opportunities and the sustainable harvest of woodland products. It does not include a cultivated fruit or nut orchard, or a plantation used for the purpose of producing Christmas trees."

Based on the above definition and in recognition of the value of the treed areas in Niagara, woodlands were considered treed vegetation communities where the treed canopy cover was greater than 35%.

Mapping of woodlands in Niagara Region was previously prepared through orthoimage interpretation to identify those treed vegetation communities with >35% tree cover. In order to update the mapping and improve accuracy, the Region recently had the Natural Areas Inventory (N.A.I.) mapping, originally completed by the Niagara Peninsula Conservation Authority (N.P.C.A.) from 2006-2009, updated using Ecological Land Classification (E.L.C.) to the community series level. The E.L.C. mapping provides a more current and accurate dataset of natural features that is appropriate to support mapping of the N.H.S. for the new Niagara Official Plan.

Based on the new E.L.C. dataset, the Region has approximately 35,663 ha (18.9%) of treed vegetation communities, where treed vegetation communities are considered those that have >25% tree cover (see discussion of treed vegetation communities in the 'Treed Terrestrial Vegetation Communities' section below).

Of the total treed area in the Region, there is approximately 4,155 ha occupying urban areas, representing approximately 12.1% of urban areas, or 2.2% of the Region.

Proposed Definition of Woodland

The Greenbelt Plan (2017), Growth Plan (2019) and Provincial Policy Statement (P.P.S.) (2020) have the same definition for woodlands, as follows:

> "Treed areas that provide environmental and economic benefits to both the private landowner and the general public, such as erosion prevention, hydrological and nutrient cycling, provision of clean air and the long-term storage of carbon, provision of wildlife habitat, outdoor recreational opportunities, and the sustainable harvest of a wide range of woodland products. Woodlands include treed areas, woodlots or forested areas and vary in their level of significance at the local, regional and provincial levels. Woodlands may be delineated according to the Forestry Act definition or the Province's Ecological Land Classification system definition for "forest".

The main difference between the Region's definition for woodland and the definition for woodland in the Provincial Plans and the P.P.S. is the last sentence that provides direction for delineating woodlands based on the "Forestry Act definition or the Province's E.L.C. system for "forest"." The last sentence uses the word "may" indicating that other means of delineating a woodland would be acceptable, as determined by the municipality. Therefore, the definition could rely on, or not, the Forestry Act definition, or the E.L.C. definition for forest to identify woodlands. In that case, the Region's current definition is acceptable regarding the identification of woodlands. However, the current definition is not consistent with Provincial definitions and may lead to confusion with applying definitions and criteria across the Region. Furthermore, the current definition for woodland is not consistent with the Niagara Region Woodland Conservation By-law (January 2021) which applies the definition for woodland as identified in the Forestry Act. Since the Region will be responsible for incorporating the policies of the Provincial Plans into the new Niagara Official Plan for ease of implementation and be consistent with the definitions in the Provincial Plans and the P.P.S., it is recommended that the Provincial definition for woodland be adopted, with modifications, in the new Niagara Official Plan (N.O.P.).

The definition of woodland in the O.P. is intended to inform the application of criteria to identify significant woodlands as part of the N.H.S. The identification of a N.H.S. is intended to take an ecological systems-based approach to natural heritage protection. The Forestry Act definition of woodland is intended to identify woodland for the sake of applying the Forestry Act, which is focused on the wise use and sustainable management of woodlands. In comparison, the Province's Ecological Land Classification system definition for "forest" consider a broader scope of ecological functions associated with woodlands. Since the purpose of the definition of woodland should be more ecologically focused to support the identification of the N.H.S. and implementation of related policies, the Province's Ecological Land Classification will be used to delineate woodlands.

Proposed Modifications to the Province's Definition for Woodland

To be clear on the method to delineate woodlands, the word "may" will be replaced with the word "will", and reference to the Forestry Act definition will be removed, as follows:

"Woodlands will be delineated according to the Province's Ecological Land Classification system definition for "forest".

In addition, the following sentence will follow the definition:

"For the purposes of this definition, forests include terrestrial vegetation communities as defined in accordance with the Province's Ecological Land Classification system, where the tree cover is greater than 60%."

The proposed definition for woodland will then be:

> "Treed areas that provide environmental and economic benefits to both the private landowner and the general public, such as erosion prevention, hydrological and nutrient cycling, provision of clean air and the long-term storage of carbon, provision of wildlife habitat, outdoor recreational opportunities, and the sustainable harvest of a wide range of woodland products. Woodlands include treed areas, woodlots or forested areas and vary in their level of significance at the local, regional and provincial levels. Woodlands will be delineated according to the Province's Ecological Land Classification system definition for "forest". For the purposes of this definition, forests include terrestrial vegetation communities as defined in accordance with the Province's Ecological Land Classification system, where the tree cover is greater than 60%."

Implications to Changing the Definition for Woodland

The implication of adopting the Provinces definition for woodland is that there would be a smaller geographical subset of tree vegetation communities which meet this definition. This definition would only include treed areas classified as forest according to E.L.C. According to the First Approximation for Ecological Land Classification for Southern Ontario (Lee et. al. 1998), forest is defined as "a terrestrial vegetation community with at least 60% tree cover". That would mean those terrestrial vegetation communities (e.g., the E.L.C. community of 'woodland' which has a tree cover of greater than 35%, but less than 60%) that were previously included in the definition would no longer be considered as woodland and would therefore no longer qualify as significant woodland and be protected as such, according to Official Plan policy. Some vegetation communities, such as swamp communities, which are not considered 'terrestrial' vegetation communities on account of their hydric soils, would also not be considered as woodlands when strictly applying the definition that restricts forests to terrestrial vegetation communities. By applying the updated definition for 'woodland', there is approximately 11,623 ha of E.L.C. vegetation community considered 'forest' in Niagara Region, representing

approximately 6.2% of Niagara; in urban areas there would be approximately 1,726 ha of 'forest', representing approximately 5.0% of urban areas. Considering an objective in the current Region Official Plan is to maintain or enhance treed area, it will be important to determine how the other treed vegetation communities will be identified and protected under the new N.O.P. The following discussion provides an overview of the other treed vegetation communities (i.e., those that would no longer be considered woodlands under the new definition), how much land area they would occupy, and how they would be identified and protected according to Provincial and Regional policy.

Treed Wetlands (Swamps)

A large proportion (21,999 ha, or 11.7%) of the treed vegetation communities in Niagara are found in swamps; of this, 1,909 ha is found in urban areas, representing 5.6% of urban areas. Swamps are "a mineral-rich wetland characterized by a cover of deciduous or coniferous trees" with > 25% tree canopy cover (Lee et. al. 1998). Swamps include SWD, SWM and SWC classes in accordance with E.L.C. for southern Ontario. Since swamps are currently considered a "woodland" according to the Region's Official Plan, changing the definition to only include 'terrestrial' vegetation communities with >60% canopy cover will mean swamps would no longer be included as woodlands and therefore not be subject to policies protecting significant woodlands. However, swamps are wetlands that that are considered key hydrologic features according to the Growth Plan and Greenbelt Plan; both plans prohibit development (with few exceptions) in wetlands outside of settlement areas. Furthermore, in accordance with the policies of the Growth Plan wetlands outside of settlement areas would be subjected to a 30 m vegetation protection zone (VPZ). In addition, development is prohibited within wetlands in the Niagara Escarpment Plan area and all Provincially Significant Wetlands across the Region in accordance with P.P.S. policy 2.1.4. Wetlands are also considered a standard required component of the W.R.S., which extends into settlement areas; policies for non-provincially significant wetlands (or 'other wetlands') will be developed to be consistent with the regulations and policies of the Niagara Peninsula Conservation Authority (N.P.C.A.). Therefore, while swamps would no longer be considered a 'woodland' and therefore no longer qualify as significant woodlands, they would be afforded with greater protection than is currently provided for significant woodlands outside of the N.H.S. for the Growth Plan.

The net result of the increased protection afforded to wetlands would result in a greater level of protection than is currently provided to these wetlands under the current policy regime in Niagara.

Treed Terrestrial Vegetation Communities

Treed terrestrial vegetation communities are those "with a tree cover greater than 10%" according to the E.L.C. definition (Lee et. al. 1998). However, E.L.C. vegetation where tree cover is less than 25% can include shrub vegetation communities, which are not considered

'treed' communities. In consideration of the ecological function of treed vegetation communities and the intent of including those vegetation communities that contain a higher proportion of tree cover in the Region's N.H.S., those terrestrial vegetation communities with a canopy cover of >25% will be considered treed vegetation communities. Treed terrestrial vegetation communities with a canopy cover >25% as classified according to the 2nd Approximately for E.L.C. in Southern Ontario (2008), would include the following:

- Treed agriculture (TAG) (e.g., plantations, hedgerows)
- Treed Rock Barren (RBT)
- Treed Sand Barren or Dune (SBT/SDT)
- Treed Shoreline (BBT)
- Treed Talus (TAT)
- Treed bluff (BLT)
- Treed bog (BOT)
- Treed cliff (CLT)
- Coniferous, mixed or deciduous woodland (WOC, WOM, WOD)
- Coniferous, mixed or deciduous savanna (SVC, SVM, SVD)
- Coniferous, mixed or deciduous forest (FOC, FOM, FOD)

These treed vegetation communities cover approximately 35,663 ha of Niagara Region (18.9 %), including 4,155 ha within urban areas (12.1% of urban areas). Changing the definition of woodland to only include 'forest' (i.e., FOC, FOM, FOD) would exclude the remaining treed vegetation communities, potentially resulting in a loss in protection for these vegetation communities that had previously qualified as significant woodland, and that did not qualify as another type of 'significant' feature (e.g., significant wildlife habitat). The total area of these treed vegetation communities (i.e., excluding FOC, FOM and FOD) is 3,556 ha (1.9%) across the Region, or 519 ha (1.5%) within urban areas. As part of ensuring the Region is able to maintain or enhance treed area, these other treed terrestrial vegetation communities will comprise the category of 'other woodland'. 'Other woodlands' would be defined as:

> "woodlands determined to be ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or natural heritage system. 'Other woodlands' include all treed terrestrial vegetation communities, that have not been considered Significant Woodland, where the percent cover is >25%, as defined according to Ecological Land Classification for Southern Ontario."

In this case, 'other woodlands' would be considered a treed area with ≥ 25% tree cover and meet one or more of the following criteria:

1. The treed area has an average minimum width of 40 m and is ≥0.3 ha, measured to crown edges; or
2. Any treed area of any size abutting a significant woodland,

where, treed areas that "abut" a significant woodland or treed swamp are considered adjacent when located within 20 m of each other.

It is recommended a policy be developed that provides the following protection for 'other woodlands':

> "development and site alteration shall not be permitted" [in 'other woodlands'] "unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions" (P.P.S. policy 2.1.5).

This policy is currently in place for these 'other woodlands' that qualify as significant under the current Regional Official Plan. Therefore, the intent is to ensure these 'other woodlands' continue to be protected in the same manner as they are currently, while retaining flexibility in policy.

Definition of Significant Woodland and Criteria for Identifying Woodlands as Significant

The proposed definition for significant woodland is taken from the P.P.S., as follows:

> "woodlands that are ecologically important in terms of features such as species composition, age of trees and stand history; functionally important due to its contribution to the broader landscape because of its location, size or due to the amount of forest cover in the planning area; or economically important due to site quality, species composition, or past management history."

Appendix A of Technical Report #2: Identification and Evaluation of Options for Regional Natural Environment System(s), provides a review and recommendations for criteria to identify a woodland as significant in Niagara Region. Re-defining the definition for woodland in Niagara Region requires revisiting the size criteria for identifying a woodland as significant since the criterion are based on a previously estimated 17.5% treed area. Under the proposed definition of woodland, 'forest' in Niagara covers 11,623 ha (6.2%) of the Region, and 1,726 ha (5%) in urban areas. According to the Natural Heritage Reference Manual (MNR 2010) [N.H.R.M.], where woodland cover is between 5 and 15%, woodlands 4 ha or larger should be considered significant. That said, where there is an absence of information related to ecological functions, uncommon characteristics, and economic and social functional values, the N.H.R.M. recommends the size threshold be reduced. Therefore, as this is the case in Niagara, the size threshold for significant woodlands should be 2 ha across the Region.

The proposed criteria are as follows:

"To be identified as significant, a woodland must the definition of E.L.C. "forest" (as per the definition of 'woodland') and meet one or more of the following criteria:

- Any woodland 2 ha or greater in size;
- Any woodland 1 ha or greater in size meeting at least one of the following criteria:
    - 10 or more trees per ha greater than 100 years old or 50 cm or more in diameter;
    - Any woodland wholly or partially within 30 m of a significant wetland; habitat of an endangered or threatened species; significant woodland;
    - Any woodland overlapping or abutting one or more of the following features:
        - Permanent streams or intermittent streams;
        - Fish habitat;
        - Significant valleylands;
- Any woodland 0.5 ha or greater in size meeting at least one of the following criteria:
    - A provincially rare treed vegetation community with an S1, S2 or S3 in its ranking by the M.N.R.'s N.H.I.C;
    - Habitat of a woodland plant species with an S1, S2 or S3 in its ranking or an 8, 9, or 10 in its Southern Ontario Coefficient of Conservatism by the N.H.I.C., consisting of 10 or more individual stems or 100 or more sqm of leaf coverage;
    - Any woodland overlapping or abutting one or more of the following features:
        - Significant wildlife habitat; and
        - Habitat of threatened species and endangered species;
        - 'Other wetlands'
- Any woodland of any size overlapping with one or more of the following features:
    a. P.S.W.s; and
    b. Life Science A.N.S.I.

Woodlands that "abut" another feature are considered adjacent when located within 20 m of each other.

Guidance for delineating the boundary of a 'woodland' as defined by the Region should follow that of Appendix B in the Greenbelt Plan 2005 – Technical Definitions and Criteria for Key Natural Heritage Features in the Natural heritage System of the Protected Countryside (Ontario Ministry of Natural Resources, 2012)"

Maintaining Treed Area in Niagara Region

If the Region aims to maintain or enhance treed area there are different policy approaches that could be considered to achieve the goal to maintain treed area as part of the new N.O.P. A policy approach to protect Significant Woodlands may include the following:

- Afford a higher level of protection for those woodlands that are found to be significant by prohibiting development in significant woodlands across the Region similar to the requirements for significant woodlands in the N.H.S. for the Growth Plan and Greenbelt Plan.
- Protect 'other woodlands' in accordance with the test for no negative impact, consistent with P.P.S. policy 2.1.5.

As noted previously, the recommended policy approach to protect 'other woodlands' can be to apply the policy from the P.P.S. that sates "development and site alteration shall not be permitted" [in 'other woodlands'] "unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions" (P.P.S. policy 2.1.5).

If one of the goals for the N.H.S. is to maintain treed area in Niagara Region, the above policy will allow for some treed area removal to occur as part of development applications when the test of no negative impact is met – while this policy is intended to provide flexibility, some removal can occur so long as the impact does not lead to "degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified". As part of achieving the goal to maintain treed areas in Niagara, an additional policy can be considered that requires a vegetation planting plan that demonstrates a "net gain" in treed area is achieved, when tree removal is proposed. As an example, the City of Guelph Official Plan, 2018 consolidated version (policy 4.1.4.3) requires a "vegetation compensation plan" be prepared that demonstrates a net gain is achieved when treed area removal is proposed.

There are also instances where the ecological functions of some woodlands may be "substantially compromised as a result of prior land use activity and would be difficult to restore and/or manage as a native woodland in an urban setting" (York Region 2010 Official Plan, policy 2.2.48). Policy 2.2.48 of the York Region 2010 Official Plan provides a series of tests that must be met to classify a woodland as a "Cultural and Regenerating Woodland":

> "An environmental impact study should assess these ecological functions with consideration of the following:

1. the woodland is regenerating, typically with a dominant proportion of woody species being invasive and non-native (e.g., Norway Maple, Manitoba Maple, Siberian Elm, Scots Pine, European Buckthorn, White Mulberry, Tree-of-heaven, Apple, White Poplar, etc.)

2. the area was not treed approximately 20 to 25 years ago as determined through air photo interpretation or other suitable technique
3. soils may be degraded, for example, soil may be compacted, the topsoil removed, or there may be substantial erosion from over-use and/or the woodland may be regenerating on fill
4. there is limited ability to maintain or restore self-sustaining ecological functions typical of native woodlands

   Woodlands (including plantations) established and/or managed for the purpose of restoring a native tree community are excluded from cultural and regenerating woodlands (e.g., naturalization or restoration projects)."

Policy 2.2.49 of the York Region 2010 Official Plan allows for removal of the treed area of a "Cultural and Regenerating Woodland" subject to preparing a "woodland compensation plan" that demonstrates a "net gain" in woodland area is achieved.

A similar policy requiring a vegetation planting plan that achieves a "net gain" in treed area cover could be considered in the new N.O.P. for where some tree removal is contemplated in 'other woodlands' where the test of no negative impact has been met, as well as for those woodlands that meet criteria such as those of "Cultural and Regenerating Woodlands" in York Region's O.P. It is important to note that a vegetation planting plan should not be used as part of demonstrating no negative impact when evaluating the impacts of removing treed areas.

Summary of Policy Recommendations for Treed Vegetation Communities

The change in definitions would not result in reduction in the area of treed vegetation communities included within the Region's N.E.S.s if the approach to identifying significant woodlands and 'other woodlands', and the proposed policy direction is implemented. Following the proposed approach, all treed vegetation communities captured as part of the Regions current definition for woodland would be included in the N.H.S. and/or W.R.S. (i.e., wetlands) under one category or another. The proposed policy approach provides both restrictive policies for Significant Woodlands and flexible policies for 'other woodlands', that aims to protect significant features and enhance treed area cover, thereby achieving the goal to maintain and enhance treed area cover in the Region.

Under the above recommended policy direction dealing with treed vegetation communities, the following could be applied:

- Development is prohibited in all significant woodlands in the Region consistent with policies for significant woodlands (i.e., a key natural heritage feature) in the N.H.S. for the Growth Plan and Greenbelt Plan;

- Development is prohibited in all wetlands (including treed wetlands) outside of settlement areas in accordance with the policies of the Growth Plan dealing with key hydrologic features, including the requirement for a 30 m VPZ and in alignment with N.P.C.A. regulations and policies;
- Development is prohibited in all P.S.W.s. (including treed P.S.W.s.) across the entire Region consistent with P.P.S. policy 2.1.4. and in alignment with N.P.C.A. regulations and policies;
- Development is prohibited in 'other woodlands' across the Region, consistent with P.P.S. policy 2.1.5 that prohibits development unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions;
- Protection of 'other wetlands' in settlement areas would be achieved in accordance with N.P.C.A. regulations and policies for wetlands; and
- A requirement for a vegetation planting plan that achieves a net gain in treed area cover and ecological function where a proposal for removal of treed areas that are part of 'other woodlands' has met the test of no negative impact.

The proposed policies would provide protection for Significant Woodlands beyond what is currently provided for in the Region's Official Plan, protect 'other woodlands' as provided under current R.O.P. policies, provide flexibility through policies permitting application of the test of no negative impact to 'other woodlands', and require a vegetation planting plan that achieves a net gain in treed area, where removal is proposed as part of a development application. These policies would be consistent with the intent of maintaining or enhancing the Region's total treed area.

Appendix C: Mapping of the Natural Environment System in Urban Areas

https://www.niagararegion.ca/official-plan/natural-environment-options.aspx

Appendix D: Statistics of Mapped Components of the Natural Environment System in Urban Areas

https://www.niagararegion.ca/official-plan/natural-environment-options.aspx

EXECUTIVE OVERVIEW

Chapter 3 – Section 2. WATERSHED PLANNING

SUMMARY

The *Provincial Policy Statement, 2020 ("*PPS*")* requires that watersheds be the 'ecologically meaningful scale for integrated and long-term planning'. This is not a new concept. However, recent Provincial changes have reinforced the need for watershed planning to 'inform' municipal land-use planning.

Watershed planning is a methodology used to define values, objectives and targets that support the protection, enhancement, or restoration of the natural resources (with an emphasis on water resources) within a watershed through the development of management plans and policies.

Through a 2018 update to the protocol for environmental planning services in the Region, responsibility for 'watershed planning' was transferred to the Region, and the responsibility for 'subwatershed planning' was transferred to the local municipalities.

To facilitate this transfer of responsibilities, a Watershed Planning Discussion Paper ("WPDP") was completed (see Overview below to access the Discussion Paper). The WPDS identified the need for additional watershed planning to be completed to inform various aspects of the new Niagara Official Plan ("NOP"). To meet this need, a consultant has been retained and a project to prepare a Niagara Watershed Plan ("NWP") is underway. NPCA staff are involved in the project.

The NWP is the next step in implementing a watershed planning program and will ensure that the NOP is appropriately informed by watershed planning in accordance with provincial requirements. The ongoing work of the NWP project has been informing the work on the NOP on an iterative basis.

A Goals and Objectives Discussion Paper for the NWP project was shared with the local municipalities, the public, and other stakeholders in November 2020 for input (see Overview below to access the Discussion Paper). Once a draft of the entire NWP is complete it will be shared with Regional Council. A comprehensive engagement program will then follow before the plan is finalized.

Integration Guide for Sub-sections Reported in PDS 17-2021			
☐	Regional Structure	☐	Archaeology
☑	Housing	☐	Employment
☑	Land Needs	☑	Agriculture
☑	SABR	☑	Aggregates
☑	Transportation	☑	Natural Heritage incl.
☑	Infrastructure	☑	Water Systems Options
☑	District/Secondary Plans	☑	Watershed Planning
☐	Urban Design	☑	Climate Change

SUSTAINABLE REGION

OVERVIEW

The updated Provincial Plans in 2017 increased the emphasis on the need for watershed planning to 'inform' land-use planning. This was accompanied by a Provincial shift in the direction for responsibility for watershed planning.

Specifically, Section 4.2.1.1 of the 2017 *Growth Plan* states "*Municipalities, partnering with 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*."

Coinciding with this Provincial direction, in 2018, there was a transfer of responsibility for a number of environmental planning responsibilities from the NPCA to Niagara Region.

At the time of this shift, the Region was progressing with its NOP, and that the process, roles, and responsibilities for watershed planning would be better refined through that process.

To facilitate this transfer of responsibilities, one of the background reports for the natural environment work program ("NEWP") was the Watershed Planning Discussion Paper ("WPDP"). The purpose of the WPDP was to better understand the history, new provincial direction, and the updated process, roles, and responsibilities related to watershed planning in the Region. The WPDP provided direction in three key areas:

- The scope of watershed planning that is required to 'inform' the NOP.
- Policies for watershed planning that should be included in the NOP.
- A framework for watershed planning in Niagara moving forward.

The Watershed Planning Discussion Paper (October 2019) can be accessed here:
Watershed Planning Discussion Paper (October 2019)
https://www.niagararegion.ca/projects/rural-and-natural-systems/pdf/natural-environment-watershed-planning.pdf

Following the completion of the WPDP, a project to complete a Niagara Watershed Plan ("NWP") was initiated. The NWP is being prepared as a watershed planning equivalency document in accordance with provincial direction.

A "watershed" is defined as an area that is drained by a river and its tributaries. The NWP is being completed at a 'tertiary-level'. The 'tertiary' watersheds in Niagara are

Lake Ontario, Lake Erie, and the Niagara River. Following the completion of the NOP project there will be a need for the Region to complete more detailed watershed planning at the 'quaternary-level'. The NWP has delineated 12 quaternary watersheds in the Region. After that, subwatershed planning becomes the responsibility of the local municipalities. Subwatershed plans are typically completed in support of Secondary Plans or similar large-scale developments.

The NWP is informing the NOP. This work is ongoing on an iterative basis, which is the typical way that watershed planning informs the land-use planning. Several highlights include:

- Informing what features and systems should be considered required components of the WRS.
- The integration of the NHS and WRS. It was the work of the NWP that confirmed the need to consider these systems collectively as the integrated natural environment system (NES).
- Providing criteria to support the evaluation of various growth options in the Region.

The NWP project was first introduced as part of the virtual public information centre for the NOP in September 2020. A Goals and Objectives Discussion Paper for the NWP project was shared with local municipalities, the public, and other stakeholders in November 2020 for input. This included the use of a survey which was widely shared.

The Niagara Watershed Plan – Goals and Objectives Discussion Paper (October 2020) can be accessed here:
Niagara Watershed Plan – Goals and Objectives Discussion Paper (October 2020)
https://www.niagararegion.ca/projects/rural-and-natural-systems/pdf/niagara-watershed-plan-discussion-paper.pdf

NPCA staff have been actively participating in the process. Region staff are thankful for their willingness to participate, provide technical support, and direct us to a range of data and other background information that has been required.

The NWP will be a thorough and comprehensive report that will inform the NOP, future watershed planning, and ongoing land-use planning in the Region. Once a draft of the entire NWP is complete it will be shared with Regional Council. A comprehensive engagement program with the public and other stakeholders will then follow before the plan is finalized.

EXECUTIVE OVERVIEW

Chapter 3 – Section 5. CLIMATE CHANGE

SUMMARY

The need to plan and prioritize climate change throughout all sections of the Niagara Official Plan is in line with updated Provincial land use planning documents. Planning for climate change requires consideration of the impacts of a changing climate across all sections of the Official Plan, with the goal of mitigation and adaptation to achieve resiliency.

- Supporting the achievement of complete communities that are compact, walkable, and transit-supportive, implementing sustainable design principles, protecting agricultural lands, water resources and natural areas will help to mitigate and adapt to climate change, in order to create resilient communities.

- Planning for climate change also requires considerable background work to be considered, including climate projections, vulnerability assessments, adaptation plans, energy plans, greenhouse gas emission inventories and targets in order to comprehensively understand and address impacts from a changing climate.

- Some initiatives, such as the development of greenhouse gas emission inventories and associated reduction targets is work beyond land use planning and requires coordination at a corporate organizational level.

- A Climate Modeling and Projections Project is currently underway for Niagara and will be used to understand the changing climate in Niagara, inform the climate change section of the Niagara Official Plan, and all future adaptation planning.

- The Climate Change section of the Niagara Official Plan will include policy supporting the development of a Regional Greening Initiative, as proposed through PDS 6-2021- Climate Change Work Program Update

- The Climate Change section of the Niagara Official Plan will have policy that supports and refers to other priority areas of the Official Plan, including Regional Structure, Infrastructure, District and Secondary Plans, Natural Heritage and Water Resource Systems, Urban Design, and Agriculture.

A Section Update is provided with this sub-section document.

Integration Guide for Sub-sections Reported in PDS 17-2021	
☑ Regional Structure	☐ Archaeology
☑ Housing	☑ Employment
☑ Land Needs	☑ Agriculture
☑ SABR	☑ Aggregates
☑ Transportation	☑ Natural Heritage incl.
☑ Infrastructure	☑ Water Systems Options
☑ District/Secondary Plans	☑ Watershed Planning
☑ Urban Design	☑ Climate Change

OVERVIEW

In 2017, changes were made to the *Planning Act,* through *Bill 139, Building Better Communities and Conserving Watersheds,* which outlines the mitigation of greenhouse gas emissions and adaptation to a changing climate is a matter of Provincial interest. Additionally, Official Plans must contain climate change mitigation and adaptation policies with the intent to reduce greenhouse gas emissions and increase the resiliency of the community.

Through the *Growth Plan*, *Greenbelt Plan*, and *Niagara Escarpment Plan*, climate change policies are integrated throughout the Provincial plans, demonstrating the interconnectedness of policies to address climate change. Planning for growth will require consideration of developing complete communities, which can be transit-supportive, compact, mixed-use, and sustainable. The protection of agricultural lands, water resources, and natural areas will assist in reducing greenhouse gas emissions, acting as carbon sinks. Applying the policies of the Provincial plans is in support of the draft Made-in-Ontario Environment Plan which commits to reducing greenhouse gas emissions by 30 percent below 2005 levels by 2030.

The key objective of the climate change section will be working towards the development of resilient communities, which encompasses policies throughout the Niagara Official Plan. Resilient communities are planned and built with consideration to alternative processes to minimize impacts to a changing climate. Resilient communities conserve and protect natural heritage, water resources and agricultural lands to ensure natural green infrastructure can provide ecological benefits and agricultural land can produce local healthy food into the future.

A Climate Change Discussion Paper was prepared to understand climate change, impacts in Niagara, land use planning as it relates to climate change adaptation and mitigation, and the Provincial requirements to integrate climate change into Official Plans. The paper also provided background on previous initiatives Niagara Region had conducted as it relates to climate change.

Consultation and engagement is an important component for all work programs related to the Niagara Official Plan, including Climate Change. Consultation and engagement has occurred through both in-person and virtual Public Information Centres, meeting with local municipalities, survey responses to the Climate Change Discussion Paper and Growth Management survey, the Planning Advisory Committee, and with the project's Climate Change Working Group, consisting of cross-departments at the Region and the Niagara Peninsula Conservation Authority (NPCA).

The background work and consultation on Climate Change and other work programs, such as the Natural Environment Work Program was key to informing an update to the work program as identified in PDS 6-2021- Climate Change Work Program Update. This update included the addition of two pillars to the policy stage: A Climate Modeling and Projections Project and research commencement of a Regional Greening Initiative.

The Climate Modeling and Projections Project has commenced with the Ontario Climate Consortium, a branch of Toronto and Region Conservation Authority, which will provide critical data for understanding how the climate will change in Niagara over the next 50+ years. The project team has held a workshop with staff and stakeholders to understand the parameters that should be used for the project, such as temperature, high heat days, precipitation, frost free days, etc. This project will inform the policy section for climate change and is an important first step for all adaptation planning the Region decides to undertake.

Planning staff have formulated a research outline for the Regional Greening Initiative, have engaged with the NPCA, and have formed an internal working group to begin this project. Staff will provide an update on research and lessons learned in Q3 of 2021.

Draft policy for the climate change section of the Official Plan is not complete at this time, however the update will provide identification of Provincial policies and their connection to other draft policy and sections of the Joint Report. Climate change policy will be completed in Q4 of 2021, following completion of the Climate Modeling and Projections Project.

The attached update (**Appendix 8.2**) provides information on the integration of climate policies for the Niagara Official Plan, a progress update on the Climate Modeling Project, and preliminary information on the Regional Greening Initiative research.

Appendix 8.2

SECTION UPDATE - Climate Change

At the January 2021 Planning and Economic Development Committee, PDS 6-2021-Climate Change Work Program Update identified changes to the work program previously proposed. The changes included the addition of two pillars to the policy development stage: a Climate Modeling and Projections Project with the Ontario Climate Consortium, a sub-set of Toronto and Region Conservation Authority; and a Staff developed Regional Greening Initiative. This section update is intended to provide information on those two initiatives, as well as identify the interconnectedness of Provincial climate-related policies throughout sections of the Niagara Official Plan.

1.0 Policy Conformity for the Niagara Official Plan

The Niagara Official Plan will have a Climate Change policy section, highlighting the integration of climate policies throughout the Official Plan as well as climate change specific policies. Draft policy for the Climate Change section will be forthcoming following consultant prepared climate modeling and projections work set to conclude in Q4 of 2021.

Provincial climate change policies are highly integrated and will be identified within other sections of the Niagara Official Plan, as detailed in Section 4.0 below, including Infrastructure, Transportation, Employment, Agriculture, District and Secondary Plans, Urban Design, Regional Structure, and Natural Environment. Staff would note that this chart identifies draft policy intent, and may change throughout 2021.

2.0 Climate Modeling and Projections Project

The Climate Modeling and Projections project commenced in February 2021 with the Ontario Climate Consortium (OCC). As part of the approved work plan for the climate modeling, the submitted detailed project methodology includes key data inputs and outputs, analysis components, engagement process to be followed, and climate parameters. This was presented recently to Niagara Region staff and stakeholders, where project deliverables and climate parameters were confirmed. Completion of the climate modeling process is anticipated by the end of October 2021.

3.0 Regional Greening Initiative

A Regional Greening Initiative was approved by Council as an additional pillar to the Climate Change work program as detailed in PDS 6-2021-Climate Change Work Program Update. This initiative extends beyond the timeline of the Official Plan to ensure robust consultation, and detailed research in best practices and implementation measures for achieving project goals.

Staff continue to consult with the Niagara Peninsula Conservation Authority to identify restoration programs and opportunities. In addition, staff have met with Land Care Niagara with respect to Provincial tree planting programs. A potential pilot program may include the use of Region owned properties for this tree planting initiative.

Staff have formed an internal working group to support the Regional Greening Initiative. It is anticipated that staff will bring forward a report to Committee and Council following detailed research into best practices and organization and municipal tree planting programs in Q3 of 2021.

4.0 Climate Change Policy Conformity Chart

Provincial Topic and Policy Direction	Connected Region		Competitive Region		Vibrant Region		Growing Region	Sustainable Region	
	Infrastructure Policy	Transportation Policy	Employment Policy	Agriculture Policy	Urban Design Policy	District and Secondary Plans Policy	Regional Structure Policy	Natural Environment Policy	Climate Change Policy
Goals									
Integrating climate change considerations into planning and managing growth (reducing greenhouse gas emissions, increasing resilience)	✓	✓	✓	✓	✓	✓	✓	✓	✓
Complete Communities (mixed-use neighbourhoods, providing appropriate mix of jobs, local stores, services, housing, transportation options, and public service facilities)									
Promoting development and land use patterns that conserve biodiversity, promoting compact form, mixed-use development			✓		✓	✓	✓		
Supporting achievement of complete communities			✓		✓	✓	✓		
Integrating green infrastructure and low impact development as appropriate	✓		✓		✓		✓		
Transportation									
Reducing dependence on automobiles, supporting existing and planned transit and active transportation		✓	✓		✓				
Encouraging transit-supportive development and intensification			✓		✓		✓		
Infrastructure									
Assessing infrastructure risks and vulnerabilities	✓								
Stormwater Management, Sewage and Water, Water Conservation									
Planning for storm water management to prepare for the impacts of a changing climate	✓		✓		✓		✓	✓	
Planning for sewage and water services to prepare for the impacts of a changing climate	✓								
Supporting strategies for water conservation and other water demand management initiatives	✓				✓				
Natural Hazards									
Directing development outside of lands unsafe for development due to natural hazards								✓	

Provincial Topic and Policy Direction	Connected Region		Competitive Region		Vibrant Region		Growing Region	Sustainable Region	
	Infrastructure Policy	Transportation Policy	Employment Policy	Agriculture Policy	Urban Design Policy	District and Secondary Plans Policy	Regional Structure Policy	Natural Environment Policy	Climate Change Policy
Waste Management									
Ensuring waste management systems are provided that support waste reduction, composting and recycling, reuse and diversion	✓								
Strategies, Inventories, and Targets									
Development of strategies to reduce greenhouse gas emissions and improve resilience	✓		✓		✓				✓
Encouragement to develop greenhouse gas inventories and establish targets for reduction of greenhouse gas emissions									✓
Air Quality									
Air quality improvements and protection, including through reduction in emissions					✓				✓
Emergency Management									
Infrastructure and public service facilities should be strategically located to support the effective and efficient delivery of emergency management services	✓		✓		✓		✓		
Energy									
Promoting energy conservation for existing buildings and planned developments	✓				✓				✓
Natural Environment and Vegetation									
Maximizing vegetation within settlement areas, where feasible					✓				✓
Development of Natural Heritage System and associated policy protections for features								✓	
Development of Water Resource System and associated policy protection for features								✓	
Agriculture									
Protection of the Agricultural System (agricultural land base and agri-food network)				✓					
Supporting farm diversification				✓					
Expanding convenient access to local food options, including through urban agriculture							✓		

EXECUTIVE OVERVIEW

Chapter 4 – Section 1. AGRICULTURAL SYSTEM

SUMMARY

Agriculture in Niagara is a prominent and thriving industry both culturally and economically. The Agricultural System contains an agricultural land base and the agri-food network that enables the agri-food sector to thrive. The Agricultural System objectives and policies support agricultural uses, normal farm practices, and diversification uses to ensure the industry continues to prosper in Niagara.

- The agricultural land base, consisting of specialty crop areas, prime agricultural areas, and rural lands will be a mapped schedule in the Niagara Official Plan.

- The Province has identified and mapped an Agricultural System through the *Growth Plan* and *Greenbelt Plan*. In Niagara, specialty crop areas are mapped through the *Greenbelt Plan* and are refined by the Province at the time of plan review. Prime agricultural areas are mapped through the *Growth Plan*, with additional candidate areas for consideration as prime agricultural areas to be determined by the Region in collaboration with local municipalities.

- The Agricultural System supports all types, sizes, and intensities of agricultural uses, activities and normal farm practices.

- Niagara developed farm diversification policies, encouraging a wide range of diversified uses that contribute to long-term farm viability through Regional Official Plan Amendment 6-2009. Diversification policies continue to be a key component of the Agricultural System reflected in the Niagara Official Plan.

- Non-agricultural uses being proposed on agricultural land, will be required to meet criteria in the Niagara Official Plan, including the new Provincial requirement of an agricultural impact assessment (AIA) prepared by a qualified professional. An AIA identifies and evaluates potential impacts of non-agricultural development on agricultural operations and the Agricultural System and recommends ways to avoid or, if avoidance is not possible, minimize and mitigate adverse impacts.

A Draft Policy set is provided with this sub-section document.

Integration Guide for Sub-sections Reported in PDS 17-2021	
☐ Regional Structure	☐ Archaeology
☐ Housing	☑ Employment
☐ Land Needs	☑ Agriculture
☑ SABR	☐ Aggregates
☐ Transportation	☑ Natural Heritage incl.
☑ Infrastructure	☑ Water Systems Options
☐ District/Secondary Plans	☑ Watershed Planning
☐ Urban Design	☑ Climate Change

OVERVIEW

Niagara Region is home to an active and vibrant farming sector which includes a wide range of farming types including grape and tender fruit, greenhouse/nursery/floriculture operations, oilseeds and grain operations, livestock operations, and more. In Niagara Region, approximately 218,251 acres of farmland creates $1.41 billion GDP impact from agriculture. Agriculture in Niagara has an employment impact of approximately 19,892 jobs.

Mapping of Niagara Region's agricultural land base needs to be updated as part of the Niagara Official Plan exercise. There are differences between the Region's current agricultural land base mapping and the Province's updated mapping as identified by the Ontario Ministry of Agriculture, Food, and Rural Affairs (OMAFRA). Municipalities have been given the opportunity to refine candidate areas proposed for inclusion as prime agricultural areas based on Provincial criteria. Planning staff at the Region have been considering these candidate areas through a collaborative process with local area municipal planning staff. The updated mapping will be included in the agriculture land base schedule of the Niagara Official Plan.

Viable agricultural land, including specialty crop areas, which are comprised of the highest capability soils, are a non-renewable, finite resource that is essential for the existence of a healthy agriculture and food system. Provincial Plans, including *A Place to Grow: Growth Plan for the Greater Golden Horseshoe* ("Growth Plan*"), Greenbelt Plan,* and *Niagara Escarpment Plan* require implementation of an Agricultural System approach, which includes protection of the agricultural land base and the agri-food network. The Provincial land use plans also introduced the requirement for an agricultural impact assessment, through the 2017 *Greenbelt Plan* and *Growth Plan*, which is a study to evaluate the potential impacts of non-agricultural development on agricultural operations and recommend ways to avoid, or if avoidance is not possible, minimize and mitigate adverse impacts.

Background work for the Agricultural System chapter has been underway since 2015, with a number of reports that have been prepared for Council. A key focus of the Niagara Official Plan review has been the refinement of the Province's Agricultural System Mapping with local area municipalities.

During the Province's Coordinated Policy Review, there have been many requests for land to be removed from the Greenbelt Plan area, which is a Provincial decision. No changes have been made to the Greenbelt Plan area mapping at this time. The issue of agricultural viability of some land designated specialty crop areas is being addressed through policy using specialty crop guidelines developed by Planning staff.

Consultation and engagement to date has included in-person and virtual public information centres on the Agricultural System background work, review of draft mapping with local area municipal planning staff, and review of draft policies with the Region's Agricultural Policy and Action Committee (APAC) and other agricultural stakeholders.

The attached draft policy and mapping, **Appendix 9.2** and **Appendix 9.3** respectively, illustrates the direction the Niagara Official Plan is taking as it continues towards completed final draft status.

EXECUTIVE OVERVIEW

Chapter 4 - Section 2. EMPLOYMENT

SUMMARY

Employment planning has been modernized through recent changes to Provincial policy, including from *A Place to Grow: Growth Plan for the Greater Golden Horseshoe* ("Growth Plan") and the *Provincial Policy Statement, 2020 ("*PPS*").*

The Region is required to map Employment Areas and provide policy to ensure that these employment clusters are protected over the long term. The existing Official Plan is deficient in this area.

An Employment Policy Paper is included as **Appendix 10.2**. That Paper contains significant details on employment-related topics set out in this Executive Overview.

Draft employment policies are also included as **Appendix 10.3**. Key policies include the following:

- Protecting designated employment lands to accommodate forecasted employment growth. This protection includes mapping Employment Areas based on existing and planned employment clusters.
- Recommending minimum density targets for Employment Areas that have been discussed and confirmed with local municipal planning staff.
- Creating Employment Area sub-groupings to implement and protect envisioned functions of each draft employment area. The sub-groupings include Core (for the heaviest industrial), Knowledge and Innovation (for lighter industrial), and Dynamic (mix of traditional and lighter employment).
- Establishing Employment Land Redevelopment Criteria and Employment Area Conversion Criteria to assist with the municipal review and evaluation of related applications.
- Creating a process to identify and implement future employment areas.
- Consulting the Province and local municipalities in establishing Provincially Significant Employment Zones as part of this Official Plan process.
- Leveraging Niagara's infrastructure and assets to strengthen existing and attract new economies and skilled labour workforce.

The Region has received several requests to convert employment lands to other uses. The Region will assess and report on these requests in summer 2021.

Prior to that, **the Region asks that any comments on the materials provided here, including those relating to conversion requests, be made by July 2, 2021.** This is asked so that the Region has sufficient time to review and make recommendations prior to reporting further in August 2021.

A Draft Policy set is provided with this sub-section document.

Integration Guide for Sub-sections Reported in PDS 17-2021	
☑ Regional Structure	☐ Archaeology
☐ Housing	☑ Employment
☑ Land Needs	☐ Agriculture
☑ SABR	☐ Aggregates
☑ Transportation	☐ Natural Heritage incl.
☑ Infrastructure	☐ Water Systems Options
☑ District/Secondary Plans	☐ Watershed Planning
☑ Urban Design	☑ Climate Change

OVERVIEW

The Region must be proactive to support existing employment and future job growth.

The Region allocates population and employment forecasts to 2051 as set out in the *Growth Plan*. Planning to accommodate these forecasts requires comprehensive assessment using a land needs assessment methodology issued by the Province. This process is detailed in the Draft Land Needs Assessment Summary (**Appendix 3.2**).

The *Growth Plan* and *PPS* direct the Region to plan for and protect different aspects of employment growth, development, and redevelopment. In determining employment land needs, the Province sets out four categories of employment for municipalities to consider. These categories are major office employment; population-related employment; employment land employment; and rural area employment.

The focus of most employment is within two land use types: employment lands and employment areas.

- Employment lands are parcels designated for employment uses within a local municipal official plan and/or zoning by-law.

- Employment areas are made up of groups or clusters of contiguous employment land parcels.

The Province directs the Region to map Employment Areas in the Official Plan. The Region has consulted with the local municipalities, industry stakeholders and the public many times in preparing draft mapping. Those maps are attached as Appendix A to **Appendix 10.2**.

The Region proposes three sub-groupings of Employment Area to implement and protect envisioned functions of each Employment Area.

The sub-groupings are Knowledge and Innovation Employment Areas (most compatible, lighter employment uses), Dynamic Employment Areas (mix of traditional and lighter employment), and Core Employment Areas (traditional/heavy employment type uses).

The Region is also responsible for identifying a minimum density target (jobs per hectare) for individual Employment Areas. The minimum target was established by analyzing the existing employment density, reviewing vacant lands supply within the boundary and considering the development potential of the vacant land supply. This analysis was carefully done with local municipal staff input.

Draft employment policies set out a process to convert lands within employment areas to non-employment uses. Employment Area Conversion Criteria will assist with municipal review and evaluation of any proposed conversion within an employment areas during, and after, the Region's municipal comprehensive review process.

The Region has received a number of requests for employment conversion through this Official Plan process. Staff are not making any recommendations with respect to these requests at this time.

Following the consideration of this Joint Report, the Region will continue to assess received requests and any new employment conversion requests received up to July 2, 2021. Following this date, the Region will be able to comprehensively evaluate conversion requests for conversion based on the process and criteria outlined in the draft policies. The process of examining requests is a requirement of the Land Needs Assessment Methodology as it relates to community area land need.

As noted above, employment is categorized as employment area and employment lands. The paragraphs above generally described matters relating to employment areas. The Region also has an interest in employment land, although the Region's role is less directive.

Specifically, the Region helps manage employment land use changes (redevelopment), which occurs on lands outside of Employment Areas that are designated employment in a local Official Plan.

Draft policies include criteria to assist with municipal review and evaluation of proposed employment land redevelopment (i.e. outside of an Employment Area) that introduces non-employment uses to the site. For the purposes of redevelopment, the *Growth Plan* requires that space for a similar number of jobs remain accommodated on site.

The Region has also set out a process to identify and implement future employment areas. The concept of a future employment area is to protect lands outside of the urban area that possess desirable traits for large-scale future employment uses. A future employment area is intended to protect lands from re-designating to land uses that are less compatible with employment uses.

Ongoing employment work is investigating the identification of Provincially Significant Employment Zones (PSEZs). This requires additional consultation with local municipalities and the Province. Effort is being made to have draft PSEZs identified in for the next round of consultation and draft policy and mapping release in summer and fall 2021.

In addition, a process is outlined in the Employment Policy Paper (**Appendix 10.2**) on steps to request a PSEZ designation in the future, if needed. PSEZs can work alongside the Regional economic development strategy to help drive job growth.

The Niagara Economic Gateway identification in the Growth Plan continues to recognize strategic benefits of proximity to the Niagara-United States border. The Niagara Official Plan can assist in leveraging the Niagara Economic Gateway for strategic employment investment through prioritizing the identification of future employment areas and PSEZs within the Gateway.

The Region's policies seek to strengthen Niagara's existing employment base by attracting and retaining jobs and skilled labour while fostering new economic sectors. Diversification of Niagara's economic sectors that had previously relied heavily on manufacturing and agricultural, will help create a resilient economy that is better equipped to handle localized, national and global disruptions.

The COVID-19 pandemic is an example of such a disruption. At the time of writing, the impacts of the pandemic on employment planning are uncertain. Many businesses have made work-from-home arrangements, but such solution impacts only a portion of the workforce, and its mid- and longer-term implications are unknown.

Regionally, employment planning seeks to protect land for that purpose for the long term. The Region has taken a conservative, wait-and-see approach to the pandemic. Since the pandemic implications are unknown, Staff are of the view that larger changes to employment planning should not be implemented at this time, in the event that pandemic changes are only short-term, and employment trends do not materially change as we exit the pandemic.

Thus, for the purpose of the ROP, the Region does not propose major employment policy changes. The Region's priority remains the protection of, and planning for, employment areas over the long-term.

If, over the coming years, employment trends do change, the Region will undertake an Official Plan Amendment to revise its employment policies accordingly.

Included within this Appendix are the following:

- A comprehensive Employment Policy Paper that details the above matters, including additional background work and mapping (**Appendix 10.2**) ;
- Draft employment policies (**Appendix 10.3**); and
- Draft Employment Areas Schedule (**Appendix 10.4**)

EXECUTIVE OVERVIEW

Chapter 4 – Section 3. MINERAL AGGREGATE RESOURCES

SUMMARY

Aggregates include gravel, sand, clay, earth, bedrock, and other material as prescribed under the *Aggregate Resources Act (ARA).* The terminology used in planning documents is 'mineral aggregate resources'. These resources play a vital role in supporting both the Regional and Provincial economy and need to be managed for long-term protection and use.

A 'pit' is a facility where loose material, such as sand and gravel, is extracted. Solid bedrock, such as limestone and granite, is extracted from a 'quarry'. Pits and quarries both fall under the classification of a mineral aggregate operation which additionally includes facilities for the transport, processing, and recycling of aggregate resources.

- There will be policies in the Niagara Official Plan related to both mineral aggregate resources and mineral aggregate operations.

- Aggregate planning at the Regional level is unique in comparisons to other types of land-use planning. There is an additional Provincial process that also occurs being the licensing of mineral aggregate operations by the Province through the *Aggregate Resources Act* (ARA). Whereas the *Planning Act* and Regional Official Plan process is concerned with land use approvals – licenses under the ARA control and regulate the operation of mineral aggregate operations.

- It is common for applications under the Aggregates act and Planning Act to be processed simultaneously. Before an ARA license can be granted the lands must be appropriately zoned for the use.

- The Niagara Official Plan needs to ensure that policies are within the Region's area of responsibility and that the policies do not conflict with ARA requirements. The new policies that are being developed would apply to new applications. New policies are not being developed to regulate existing operations in the Region.

A Draft Policy set is provided with this sub-section document.

Integration Guide for Sub-sections Reported in PDS 17-2021			
☐	Regional Structure	☑	Archaeology
☐	Housing	☐	Employment
☐	Land Needs	☑	Agriculture
☐	SABR	☑	Aggregates
☑	Transportation	☑	Natural Heritage incl.
☑	Infrastructure	☑	Water Systems Options
☐	District/Secondary Plans	☑	Watershed Planning
☐	Urban Design	☐	Climate Change

OVERVIEW

In 2014, an aggregate resources policy project was initiated as part of the former Regional Official Plan Amendment 8 (ROPA 8). A background study was completed in 2016 to inform the project was the "State of Aggregate Resources in Niagara Region: Background Report". Following completion of this background work, the Region began the process of preparing the new Niagara Official Plan. The aggregate resources project transitioned into preparing policies for the Niagara Official Plan, and ROPA 8 was abandoned. Following this, a Technical Addendum was completed in 2018 to summarize legislative changes to the *Growth Plan*, *Greenbelt Plan*, and *Niagara Escarpment Plan*; changes to *the Aggregate Resources Act*; and other new provincial legislation. Since that time, there continues to be ongoing changes at the Provincial level regarding aggregate resources planning. These changes have been reflected in the preparation of the draft policies.

The policy framework for managing mineral aggregate resources and mineral aggregate operations is complex, it includes planning policies at the Provincial, Regional, and Local levels as well as the ARA. The *Planning Act* identifies the conservation and management of aggregate resources as a matter of Provincial interest. With the introduction of the new *Growth Plan* and *Greenbelt Plan* in 2017, Provincial policies for mineral aggregate resources have become some of the most prescriptive. There are additional and more detailed polices that the Region is required to implement through the Official Plan, and in many cases this means less flexibility for designing policies at the Regional or Local level.

As noted, much of the direction for aggregate resource planning comes from the Province. Provincial direction starts with the *Provincial Policy Statement* (PPS) – with more specific policies being provided in the *Growth Plan, Greenbelt Plan*, and *Niagara Escarpment Plan*. Key provincial direction through the *PPS* includes:

- Aggregates shall be made available as close to markets as possible;
- There is not a requirement to demonstrate 'need' when considering a mineral aggregate operation;
- Extraction must minimize social, economic, and environmental impacts;
- Need to protect existing operations from incompatible land uses;
- Need to protect know deposits of mineral aggregates for long-term use; and

- Importance of rehabilitation planning, including progressive and comprehensive rehabilitation

In addition, Provincial Plans include several Niagara-specific policies to be included in the Official Plan, including detailed policies regarding the Fonthill Kame area, and specific strict rehabilitation requirements in the specialty crop area above the escarpment.

Managing mineral aggregate truck traffic through haul routes has been identified as a highly important issue by Regional Council. Haul route agreements may be used to ensure haul routes are defined, utilized and secure for improvements and additional maintenance. Ensuring the appropriate use of Regional roads for aggregate truck traffic is critical to mitigate impacts and protect sensitive road users.

Mapping of mineral aggregates resources is completed by the Province (Ontario Geological Survey (OGS) – Earth Resources and Geoscience Mapping Section). A process is currently underway by the OGS to update the sand and gravel and bedrock mapping in Niagara:

- Updated sand and gravel mapping is now available and will be reflected in the schedules of the Niagara Official Plan.

- Updated bedrock mapping from the Province is not yet available. The mapping included with this report is based on the best available information.

- Mapping of aggregate resources is neither limiting nor permissive for mineral aggregate operations. Mapping helps us to understand where the resources are to inform land use planning decisions.

Land-use planning for aggregates is unique. This is because of the scope, scale, and size of mineral aggregate operations. In addition, these are not common applications, and require the support of a range of experts to process and review. In support of any application there will be a full range of detailed technical studies that would need to be reviewed including environmental, water resources, blasting and vibration, transportation etc. The application process and types of studies to be submitted will be reflected in the policies of the Niagara Official Plan.

Aggregate applications are complex, involving multiple review agencies, required to consider a range of technical issues. A Joint Agency Review Team (JART) process is a best practice that will assist with streamlining the application process for mineral

aggregate operations between the Region, Local Municipalities, and the NPCA. The expectations for the JART process are included in the draft policies.

To date consultation has included the use of a Technical Advisory Group (TAG), industry consultation, and presentation of key material at the Official Plan Public Information Centers (PICs) in both 2019 and 2020. A preliminary draft of the policies were circulated to key stakeholders including Provincial Ministries, Local Municipalities, NPCA, and industry representatives. The next step in the consultation process will be to circulate the attached draft of the policies more broadly for input including to the public.

The attached draft policies (**Appendix 11.2**) illustrates the direction for mineral aggregate resource policies in the Niagara Official Plan. Additional consultation and input will assist in refining the policies as the Niagara Official Plan continues towards completed final draft status.

EXECUTIVE OVERVIEW

Chapter 5 – Section 1. TRANSPORTATION

SUMMARY

Regional Transportation policies align with the more detailed recommendations of the approved Niagara Region Transportation Master Plan, to ensure coordination between infrastructure and land use planning.

A properly supported transportation system connects our communities and places of employment, and can play a role in lowering emissions and addressing climate change.

In 2019, transportation policies were updated for the in-effect Official Plan (an exercise known as ROPA 13). The new Niagara Official Plan predominately carries forward those policies and mapping.

- Transportation policies will coordinate with Urban Design to contribute to an attractive and connected public realm, as well as Regional Structure to ensure appropriate infrastructure is in place to serve Strategic Growth Areas.

- New investments in the Region's transportation system will prioritize public transit and active transportation, including inter-municipal and demand-responsive transit, multi-use paths, trails, and dedicated cycling routes.

- A complete streets approach will be taken for all Regional and local municipal road improvements. Complete streets refer to design principles that consider the needs and safety of all road users, including people who walk, cycle, take transit, or drive.

- The Public Works department is overseeing the development of a Complete Streets Design Manual (CSDM). A component of the CSDM is the application of complete street typologies to the Region's transportation system, which will identify the characteristics and appropriate road width ranges needed to accommodate potential streetscape elements for all Regional Roads.

- The Region will use the results of the CSDM analysis to update the required right-of-way widths considered during the review of development applications and future road improvements projects. The timing for this work is anticipated for Fall 2021.

- Following the approval of the Niagara Official Plan, the Region is directed to undertake a "Goods Movement Study" that considers the precise needs of Niagara's goods movement facilities and corridors.

A Draft Policy set is provided with this sub-section document.

Integration Guide for Sub-sections Reported in PDS 17-2021	
☑ Regional Structure	☑ Archaeology
☐ Housing	☑ Employment
☑ Land Needs	☑ Agriculture
☐ SABR	☐ Aggregates
☑ Transportation	☐ Natural Heritage incl.
☑ Infrastructure	☐ Water Systems Options
☑ District/Secondary Plans	☐ Watershed Planning
☑ Urban Design	☑ Climate Change

EXECUTIVE OVERVIEW

Chapter 5 – Section 2. INFRASTRUCTURE

SUMMARY

Well planned and managed infrastructure is fundamental to maintaining existing levels of service and preparing for the population and employment growth targeted for Niagara Region by the *Growth Plan*.

The infrastructure policies guide and set priorities for infrastructure planning and investments ensuring economic competitiveness, quality of life, and the delivery of public services related to drinking water, wastewater, stormwater, solid waste, energy, and utilities.

Planning for new or expanded infrastructure will occur in an integrated manner, including evaluations of long-range land use, environmental and financial planning, and will be supported by infrastructure master plans, asset management plans, watershed planning, community energy plans, environmental assessments, climate vulnerability analyses and other relevant studies.

- Infrastructure investments will be leveraged to direct growth and development to achieve the minimum intensification and density targets of the Plan.
- Before developing new infrastructure, the use of existing infrastructure shall be optimized, and growth will be planned to ensure efficient use of existing services.
- Infrastructure risks and vulnerabilities caused by the impacts of climate change will be assessed, and actions and investments to address these challenges identified.
- Water supply and sewage collection shall be provided to meet existing and future development needs within the urban settlement area.
- Outside urban areas, development will continue to be serviced by sustainable individual on-site water and sewer systems. Municipal services will not be provided outside of urban areas, except where necessary to correct an existing health problem.
- Waste management systems are provided at an appropriate size and type to accommodate present and future requirements and to promote reduction, reuse, diversion, and recycling objectives.

A Draft Policy set is provided with this sub-section document.

Integration Guide for Sub-sections Reported in PDS 17-2021	
☑ Regional Structure	☐ Archaeology
☑ Housing	☑ Employment
☑ Land Needs	☑ Agriculture
☑ SABR	☑ Aggregates
☑ Transportation	☑ Natural Heritage incl.
☑ Infrastructure	☑ Water Systems Options
☑ District/Secondary Plans	☑ Watershed Planning
☑ Urban Design	☑ Climate Change

OVERVIEW

The *Growth Plan* sets out an integrated, comprehensive and coordinated approach to plan for the provision of infrastructure capacity for forecasted growth.

In order to provide sound infrastructure investments aligned to these servicing responsibilities, infrastructure policies identify the need to prepare or update several studies, including: Water/Wastewater Master Servicing Plan, Stormwater Management Guidelines, a Long-Term Waste Management Strategic Plan, a Regional Energy Strategy, and several climate change studies.

Climate change is a significant new area of focus within the infrastructure policies. The *Provincial Policy Statement, 2020* ("PPS") was recently updated to require attention and action on climate change. To be consistent with the *PPS* and conform to the *Growth Plan*, the infrastructure policies include directions for adaptation, resilience and sustainability; notably, the assessment of infrastructure risks and vulnerabilities, greenhouse gas emission reductions, solid waste reduction programs, and energy efficiency and conservation.

The Region reviewed its existing policy on municipal water and sewer services connections outside urban area boundaries. This review found significant inconsistencies within Provincial, Regional and local policies in allowing permission for such connections.

In addition to policy limitations, the Region has numerous practical concerns with permitting servicing connections outside urban areas. A significant concern from the Region's Finance group is the insufficiency of funds in the 10-year capital infrastructure forecast directed to the urban area. Accordingly, capital forecasting is focused on urban areas, or those required to correct existing health problems or a Provincial Clean Up Order, and where necessary for operating purposes, such as looping of existing mains. Similarly, service connection planning is limited to those required to correct an existing health problem or a Provincial Clean Up Order.

Notwithstanding the above, the Region continues to consider servicing outside urban areas through its forthcoming Water/Wastewater Master Servicing Plan update. This will examine the impacts of connections outside the urban area boundary to the planned water and wastewater infrastructure, including costs of doing so. Policies restricting servicing outside urban areas will remain pending the outcome of the Water/Wastewater Master Servicing Plan update – which will provide data on the consequences of permitting such connections – after which, a decision can be made on whether or not to change the connection restrictions.

The infrastructure policies also address financial sustainability, which includes consideration of the co-relationship between full life cycle infrastructure costs and long-term funding plans. This work could be incorporated into asset management plans and environmental assessments.

The infrastructure policies have been informed by the *Provincial Policy Statement 2020*, the *Growth Plan*, and other Provincial Plans and Statements, and various Regional master plans, policy documents and studies, including, but not limited to, A Review of Servicing Policies - Connections to Existing Watermains and Sanitary Sewers Outside the Urban Area Boundary, March 2020; Sewage Pumping Station and Forcemains Policy; and the Water/Wastewater Master Servicing Plan.

Draft Infrastructure Policy is included as **Appendix 13.2**.

EXECUTIVE OVERVIEW

Chapter 6 – Section 1. DISTRICT PLANS AND SECONDARY PLANS

SUMMARY

District Plans and Secondary Plans provide a framework for proactive, coordinated and comprehensive growth management planning within defined areas. These Plans are the Region's best planning tool to support the achievement of vibrant, complete and resilient communities that improve quality of life.

- District Plans are prepared by the Region in collaboration with the local municipalities in which they are situated. Their purpose is to strategically direct a significant portion of population and employment growth to specific areas of the Region and help guide the creation of complete communities.

- District Plans will continue to be prepared through an established process for areas that have cross-jurisdictional interests and require regional-level planning. The draft policies of the NOP include direction for preparation and ongoing implementation of these Plans.

- The Region has two existing District Plans: Brock and Glendale. These District Plans will be carried forward into the Niagara Official Plan to ensure future decisions within these areas are consistent with their vision and direction.

- Secondary Plans have a different function than District Plans and are implemented at the local level. Unlike District Plans, they may, or may not, be used to help direct anticipated population and employment growth.

- One purpose of Secondary Plans is to implement the Regional Structure. Secondary Plans will be required for Strategic Growth Areas, newly designated greenfield areas and to implement District Plan direction. In some cases, Secondary Plans will be used for existing greenfield areas and built-up areas, as appropriate.

- Secondary Plans provide a specific land use policy framework that relies on supporting technical information for an identified area of the municipality.

- Proactive secondary planning is essential to managing change that is thoughtfully integrated with the existing community. This process also provides numerous opportunities for public engagement.

- The Region will continue to work collaboratively with the local municipalities on Secondary Plan plans to ensure the creation of strong, healthy, balanced and complete communities.

A Draft Policy set is provided with this sub-section document.

Integration Guide for Sub-sections Reported in PDS 17-2021	
☑ Regional Structure	☑ Archaeology
☑ Housing	☑ Employment
☑ Land Needs	☐ Agriculture
☑ SABR	☑ Aggregates
☑ Transportation	☑ Natural Heritage incl.
☑ Infrastructure	☐ Water Systems Options
☑ District/Secondary Plans	☑ Watershed Planning
☑ Urban Design	☑ Climate Change

OVERVIEW

A Place to Grow: Growth Plan for the Greater Golden Horseshoe ("Growth Plan"), requires all municipalities to plan for forecasted growth. Policy 5.2.5.5 requires upper-tier official plan policies to identify minimum density targets and lower-tier municipalities to undertake planning, such as Secondary Plans, to establish permitted uses and identify densities, heights, and other elements of design.

The Region is committed to improving the quality of life and prosperity for its citizens and recognizes District Plans and Secondary Plans as important tools to achieve this goal.

District Plans are prepared by the Region to strategically direct a significant portion of population and employment growth to specific areas of the Region. District Plans provide proactive planning strategies that focus on growth, the development of complete communities and which support economic prosperity.

The District Plan policies provide criteria to consider new locations and a process for undertaking and implementing these Plans. Through this process, a vision and framework is created for areas with cross-jurisdictional interests that may require regional-scale coordination. The result is a shared vision, proactive land use concept, urban design guidance, and other recommended studies to support the implementation of the Plan.

Consultation is a key component of the District Plan process. This includes extensive collaboration with the local municipalities in which they are situated and consultation with a variety of stakeholders, including the public.

The Region currently has two District Plans: the Brock District Plan and the Glendale District Plan. These District Plans will be carried forward into the Niagara Official Plan to ensure consistent decision-making with the vision and direction set out by these Plans.

The creation or update of a Secondary Plan is the next step to implement a District Plan at the local level through more detailed policy guidance.

While Secondary Plans are a tool for implementing District Plans, they may also be undertaken by the local municipality outside of a District Plan process.

Secondary Plans are implemented through amendment to the local Official Plan. They consist of policies and maps that provide more specific direction for a defined area of the municipality than what is provided in the general policies of the municipality's Official Plan.

Local municipalities will use Secondary Plans as a tool to locally manage growth distribution, intensification and direct land use arrangement to ensure appropriate development and redevelopment occur in specific areas of the community.

The Secondary Plan process provides an opportunity for the municipality to engage residents, business owners and other stakeholders in the creation of a shared vision for how the area will evolve in the future. The process relies on this input, and that of a full understanding of the context of the study area, to demonstrate how change can be managed.

Secondary planning involves many aspects of land use planning and relies on direction from technical studies to evaluate matters such as:

- appropriate policies for different land uses, built-form and a variety of housing options to meet community needs now and in the future,
- the availability and capacity of infrastructure and transportation connections,
- recommendations for protection and conservation of natural heritage features and systems,
- consideration of the long term financial impacts of the community,
- identification of locations for parkland and community facilities, and
- providing urban design direction that will enhance both the public and private realm.

As an example, a technical study would provide input to determine infrastructure capacity and upgrades to ensure availability aligns with land use direction.

Secondary planning is often complimented by urban design direction. Urban design guidance can support intensification by outlining scale, materials and standards used for built form, streetscapes and the public realm. Proactively planning for change that is informed by urban design can ensure intensification is thoughtfully integrated within the neighbourhood context and new development enhances the function and character of the community.

Within the Niagara Official Plan, Secondary Plans will be required to proactively plan for population and employment growth in the Strategic Growth Areas identified through the Regional Structure. Secondary Plans will also be required for designated greenfield areas and new urban areas established through urban settlement area boundary expansions.

In addition to the above, local municipalities are encouraged to prepare Secondary Plans for built-up areas that require a proactive policy approach to address redevelopment pressure or direct intensification opportunities. This tool may also be used to coordinate development for multiple properties and interests.

The Region supports proactive Secondary Plan efforts and will continue to work collaboratively with the local municipalities on these plans to ensure the creation of a strong, healthy, balanced and complete communities.

Although they vary in scale, both District Plans and Secondary Plans require a collaborative effort between the Region, the local municipalities and stakeholders. Each process reviews the planning context of the study area, creates a strategic vision, and evaluates land use against technical studies to inform how much and where growth can occur. Throughout this process, engagement with agencies, stakeholders and the public is continuously occurring.

By using proactive planning tools like District Plans and Secondary Plans, communities have a comprehensive land use direction that manages existing resources and future development in that specific area. These plans provide clarity on what the public should expect and provide more certainty for investment.

Included in this Appendix are draft District and Secondary Plans policies as **Appendix 14.2**.

EXECUTIVE OVERVIEW

Chapter 6 – Section 2 – URBAN DESIGN

SUMMARY

Urban design is the practice of making places that are attractive, memorable, and functional. It involves the arrangement, appearance and relationship between buildings, outdoor spaces, transportation systems, services, and amenities.

Urban Design helps to create communities and streets that are vibrant. This strengthens Niagara's image and directly affects quality-of-life and the richness of our experiences.

- The Region's commitment to excellence in Urban Design will show leadership in guiding the design of the built environment and public realm towards more attractive, safe, diverse, and functional communities.
- Updates to the existing Regional Urban Design Guidelines (2005) will provide clarity and guidance to local municipalities and developers.
- Strong Urban Design policies ensure that new development will be of a high design quality, while ensuring careful consideration of the existing character of a community. Urban design promotes a context-sensitive approach that respects and celebrates Niagara's diverse communities and unique geography.
- Urban Design assists with climate change resilience through the provision of sustainable design best practices.
- Urban Design improves vibrancy and diversity of places, and helps to accommodate people of all ages and abilities. Strong Urban Design supports the creation of inviting places with well-designed buildings and streetscapes that attract people and investment to Niagara.
- Urban Design fosters a Complete Streets approach to the design of communities. A public realm that supports active transportation contributes to health and well-being.

A Draft Policy set is provided with this sub-section document.

Integration Guide for Sub-sections Reported in PDS 17-2021	
☑ Regional Structure	☑ Archaeology
☑ Housing	☑ Employment
☑ Land Needs	☐ Agriculture
☑ SABR	☐ Aggregates
☑ Transportation	☑ Natural Heritage incl.
☑ Infrastructure	☐ Water Systems Options
☑ District/Secondary Plans	☑ Watershed Planning
☑ Urban Design	☑ Climate Change

OVERVIEW

Niagara is growing and changing; it is important that we have Urban Design policies that proactively address growth before places are built. Effective Urban Design can demonstrate how to accommodate growth that is compact, attractive, inviting, and safe.

Provincial plans, including the *Growth Plan*, set out policies for where and how Niagara will grow. The *Growth Plan* has policies that direct and support – through site design and Urban Design standards – the achievement of complete communities, high quality compact built form, and vibrant public realms.

To conform to the *Growth Plan*, Urban Design policies are included in the Official Plan to establish the context and direction for development and transportation systems. Urban design policies shape vibrant, attractive communities that address climate change through the design of compact built forms, mixed land uses and enhanced streetscapes.

The draft Urban Design policies include key objectives, which are summarized below.

Commit to excellence in urban design.

This commitment ensures that built environments enjoy lasting value through the creation of attractive and functional places. Urban design promotes a context-sensitive approach that respects Niagara's diverse communities and unique geography. Celebrating community identities contributes to authentic experiences.

Good Urban Design also contributes to the health and well-being of people in Niagara through design approaches that embrace accessible, vibrant and safe communities and streets. Additionally, sustainable design practices relating to the built environment can enhance the resiliency of Niagara's communities.

Enhance the public realm and promote active transportation.

The evolution of Regional roads and streetscapes will promote a balanced approach to road design, which is known as Complete Streets. This approach ensures that the needs of motorists, transit users, cyclists and pedestrians are considered in the design conversation. Examples of enhancements to Regional roads and streetscapes can include sustainable design features, street trees, street furniture, enhanced lighting, wayfinding and public art.

Enhanced public realms also promote transit-supportive community design through attractive and comfortable streetscapes, a mix of land uses, and high-quality buildings and landscapes.

Within Niagara's downtowns and community cores, public realm improvements foster vibrancy and celebrate community identity through design approaches that create enlivened streetscapes and placemaking elements.

Identify and establish tools for urban design implementation.

The Region's update to its Model Urban Design Guidelines will align with the Region's Complete Streets program. Both programs demonstrate leadership in design of the built environment. These tools will guide the design of higher quality developments, alongside other tools that reflect best practices to gain better design outcomes.

Foster an understanding of urban design and its role in creating meaningful places.

People choose attractive communities and meaningful places that create unique, authentic, and memorable experiences. The Region's Urban Design approaches will respect the character of a place and adopt a contextual approach to design. Urban Design features include a variety of placemaking elements that enhance accessibility, inclusivity, and vibrancy.

The Region offers a series of Urban Design programs that foster an understanding of Urban Design. For example, the Niagara Biennial Design Awards is a bi-annual design competition. It celebrates excellence in design of the built environment in design categories such as urban design, architecture, landscape architecture and outdoor art. Additionally, the Public Realm Investment Program (PRIP) is a matching grant initiative that collaborates with local municipalities to contribute to the enhancement of public realm projects along Regional roads.

Provide clear direction to area municipalities on urban design.

Niagara's local municipal partners will develop Urban Design tools and programs that implement the Region's Official Plan to best reflect the character of their respective communities. Local communities can commit to excellence in Urban Design through available tools, some of which are exclusive to the local municipality. These tools may include local official plan policies, secondary plan policies, zoning standards, urban design guidelines, manuals, and site plan control.

Local municipalities can also seek Urban Design assistance from the Region. This assistance can support the development of vibrant communities plus safe and inviting streets. This includes addressing resiliency through sustainable design principles.

Public consultation on Urban Design matters has been extensive. Details are included in **Appendix 1**.

Included as **Appendix 15.2** are Urban Design draft policies.

EXECUTIVE OVERVIEW

Chapter 6 – Section 3. ARCHAEOLOGICAL MANAGEMENT PLAN

SUMMARY

An Archaeological Management Plan ("AMP") is a planning tool for conserving and protecting fragile archaeological resources.

The AMP is to be used by the Region, local municipalities, development proponents and the public in screening and identifying areas with archaeological resource potential in advance of municipal development approvals.

An AMP is a proactive planning approach to archaeological resource management that is consistent with Provincial policy. The Province reports that site disturbance from land development remains one of the greatest threats to our shared, non-renewable archaeological resources. Proactive and coordinated municipal planning approaches to protecting the physical remains of our past histories and cultures is paramount

- The Region has retained Archaeological Services Inc. ("ASI"), an industry-leader in archaeological management plans, to develop the first Region-wide AMP for Niagara. ASI has developed more than thirteen AMPs for local and Regional municipalities in the Greater Golden Horseshoe area, including Niagara-on-the-Lake and the Town of Fort Erie.

- An AMP helps municipal planners screen planning applications for archaeological potential using a predictive modelling based map which shows areas of archaeological potential. This is a first step in the archaeological review process to be completed prior to any *Planning Act* application submission. The AMP helps planners make consistent decisions about when to request an archaeological assessment by a licensed archaeologist in support of a development application under the *Planning Act*.

- An AMP provides a "How to Guide" for municipal planners, outlining how and when to engage Indigenous communities as part of the archaeological review process, requirements under the Provincial Standards and Guidelines for Consulting Archaeologists, and the stages of archaeological assessment necessary to support approval of a development application.

- Consultation on the AMP with local municipalities, stakeholders, the public and Indigenous partners is a critical component in the AMP's development. Consultation is invaluable in identifying, conserving and managing the Region's cultural heritage resources. Niagara Region will continue to engage on the AMP using a variety of consultation activities and formats.

- The AMP will be complete in Q3 and endorsed by Council in September, 2021.

- In addition to the AMP as a planning tool, the AMP will include policy directions for inclusion in the Official Plan.

Integration Guide for Sub-sections Reported in PDS 17-2021	
☐ Regional Structure	☑ Archaeology
☑ Housing	☑ Employment
☐ Land Needs	☑ Agriculture
☐ SABR	☑ Aggregates
☑ Transportation	☑ Natural Heritage incl.
☑ Infrastructure	☐ Water Systems Options
☑ District/Secondary Plans	☑ Watershed Planning
☐ Urban Design	☑ Climate Change

➢ The above integration table will be completed at the policy development stage.

OVERVIEW

The Archaeological Management Plan's key purpose is to ensure a more coordinated and consistent system for accurately screening *Planning Act* applications for significant archaeological resources prior to development occurring.

The AMP is an industry-leading planning tool in archaeological resource conservation and developed with current best science in the field of predictive modelling, providing accurate and timely data for land use planners and decision-makers regarding areas of archaeological resource potential. The use of advance screening with science-based predictive modeling reduces the threat to unearthed archaeological artifacts and sites that connect the community to our past histories and cultures.

The *Provincial Policy Statement* (2020) promotes municipal archaeological management plans for the conservation of archaeological resources.

Policy 2.6.4 sets out that:

> *Planning authorities should consider and promote archaeological management plans and cultural plans in conserving cultural heritage and archaeological resources.*

Language promoting municipal AMPs is included in other Provincial Plans, including *A Place to Grow: Growth Plan for the Greater Golden Horseshoe*, the *Greenbelt Plan* and the *Niagara Escarpment Plan*.

From the outset of Official Plan preparation, cultural heritage resource conservation was a key priority. Specifically, development of an Archaeological Management Plan for

enhanced conservation and protection of Niagara's fragile, non-renewable resources was identified as an opportunity to improve the planning service.

Regional Planning staff have been responsible for archaeological review as part of the transfer of development review function by the Province in the early 1990s. As part of the delegation of responsibility, the Province has continued to maintain oversight of the archaeological review process by prescribing provincially-approved screening criteria in check-box form for municipal planning staff's screening of *Planning Act* applications.

Since the 1990s, archaeological consultants specializing in AMPs have been developing modelling techniques that combine environmental reconstruction with provincially-established archaeological screening criteria, registered archaeological sites, and burial and cemetery data to produce maps of areas of archaeological potential. These maps and visual representation of areas of archaeological potential are an invaluable tool for conserving and protecting archaeological resources.

In April 2019, the Region retained Archaeological Services Inc. (ASI) to complete the first Region-wide AMP for the Official Plan. As an industry-leader, ASI has developed more than thirteen AMPs for local and Regional municipalities in the Greater Golden Horseshoe area, including Niagara-on-the-Lake and the Town of Fort Erie.

As a planning tool, an AMP helps municipal planners screen planning applications for archaeological potential using a predictive modelling generated map which shows areas of archaeological potential. The AMP then helps planners make consistent decisions about when to request an archaeological assessment by a licensed archaeologist in support of a development application under the *Planning Act*. n this way, the AMP is a kind of "How to Guide" for municipal planners, which outlines how and when to engage Indigenous communities as part of the archaeological review process, requirements under the Provincial Standards and Guidelines for Consulting Archaeologists, and the stages of archaeological assessment necessary to support approval of a development application.

Consultation on the AMP with local municipalities, stakeholders, the public and Indigenous partners is a critical component in the development of the AMP and is invaluable in identifying, conserving and managing the Region's cultural heritage resources.

The Region will continue to engage on the AMP using a variety of consultation activities and formats. The AMP project will continue to host virtual open houses, post information on the new Niagara Official Plan Sharing Portal for Indigenous partners, meet with Indigenous communities, engage in stakeholder sessions, as well as meet with local

municipalities and provincial ministry representatives to gain valuable feedback on the AMP project.

Key project deliverables of the AMP include:

- AMP Background Report – Complete
- AMP Consultation Report – Q2 2021
- Draft AMP, including draft mapping Q3 2021
- Final AMP – Q3 2021

Staff will bring forward the final AMP with mapping for Council endorsement in Q3 2021. The AMP will offer future recommended policy directions for inclusion in the draft consolidated Niagara Official Plan anticipated for Q4 2021.

Glossary of Terms

Active Transportation

Any form of self-propelled transportation that relies on the use of human energy such as walking, cycling, inline skating, jogging, or travel with the use of mobility aids, including motorized wheelchairs and other power-assisted devices at a comparable speed. (*Growth Plan*, 2020)

Affordable

1. in the case of ownership housing, the least expensive of:
    a) housing for which the purchase price results in annual accommodation costs which do not exceed 30 per cent of gross annual household income for low and moderate income households; or
    b) housing for which the purchase price is at least 10 per cent below the average purchase price of a resale unit in the regional market area;
2. in the case of rental housing, the least expensive of:
    a) a unit for which the rent does not exceed 30 per cent of gross annual household income for low and moderate income households; or
    b) a unit for which the rent is at or below the average market rent of a unit in the regional market area. (*Growth Plan*, 2020)

Agricultural Impact Assessment

A study that evaluates the potential impacts of non-agricultural development on agricultural operations and the Agriculture System and recommends ways to avoid, or, if avoidance is not possible, minimize and mitigate adverse impacts. (*Greenbelt Plan*, 2017)

Agriculture-Related Uses

Those farm-related commercial and farm-related industrial uses that are directly related to farm operations in the area, support agriculture, benefit from being in close proximity to farm operations, and provide direct products and/or services to farm operations as a primary activity (*PPS*, 2020).

Agricultural System

The system mapped and issued by the Province, comprised of a group of inter-connected elements that collectively create a viable, thriving agricultural sector. It has two components:

a) an agricultural land base comprised of prime agricultural areas, including specialty crop areas, and *rural lands* that together create a continuous, productive land base for agriculture; and

b) an *agri-food network*, which includes infrastructure, services and assets important to the viability of the agri-food sector. (*Greenbelt Plan*, 2017)

Agricultural Uses

Growing of crops or raising of animals; includes associated on-farm buildings and structures; all types, sizes and intensities; normal farm practices are promoted and protected (e.g. cropland, pastureland, barns and other associated buildings and structures).

Agri-food Network

Within the agricultural system, a network that includes elements important to the viability of the agri-food sector such as regional infrastructure and transportation networks; on-farm buildings and infrastructure; agricultural services, farm markets, distributors, and primary processing; and vibrant, agriculture-supportive communities. (*PPS,* 2020)

Agri-Tourism Uses

Those farm-related tourism uses, including limited accommodation such as a bed and breakfast, that promote the enjoyment, education or activities related to the farm operation (*PPS*, 2020).

Airports

All Ontario *airports*, including designated lands for future *airports*, with Noise Exposure Forecast (NEF)/Noise Exposure Projection (NEP) mapping. (*PPS*, 2020)

Archaeological Resources

Includes artifacts, archaeological sites, marine archaeological sites, as defined under the *Ontario Heritage Act*. The identification and evaluation of such resources are based upon archaeological fieldwork undertaken in accordance with the *Ontario Heritage Act*.

Areas of Archaeological Potential

Areas with the likelihood to contain archaeological resources. Criteria to identify archaeological potential are established by the Province. The *Ontario Heritage Act* requires archaeological potential to be confirmed by a licensed archaeologist.

Brownfields

Undeveloped or previously developed properties that may be contaminated. They are usually, but not exclusively, former industrial or commercial properties that may be underutilized, derelict or vacant. (*PPS,* 2020)

Built Form

The function, shape, and configuration of buildings, as well as their relationship to streets and open spaces.

Built-Up Areas

The limits of the developed *urban areas* as defined by the Minister in consultation with affected municipalities for the purpose of measuring the minimum intensification target in this Plan. Built-up areas are delineated in **Schedule B**.

Climate Change

Changes in weather patterns at local and regional levels, including extreme weather events and increased climate variability. (Based on the *PPS,* 2020 and modified for this Plan)

Combined Sewers

A sewer designed to convey both sanitary sewage and storm water through a single pipe to a sewage treatment plant.

Community Infrastructure

Lands, buildings, and structures that support the quality of life for people and communities by providing public services for health, education, recreation, socio-cultural activities, security and safety, and affordable housing.

Compact Built Form

A land-use pattern that encourages the efficient use of land, walkable neighbourhoods, mixed land uses (residential, retail, workplace and institutional) all within one neighbourhood, active transportation, proximity to transit and reduced need for infrastructure. Compact built form can include detached and semi-detached houses on small lots as well as townhouses and walk-up apartments, multistorey commercial developments, and apartments or offices above retail. Walkable neighbourhoods can be characterized by roads laid out in a well-connected network, destinations that are easily accessible by transit and active transportation, sidewalks with minimal interruptions for vehicle access, and a pedestrian-friendly environment along roads to encourage active transportation.

Compatible

A development, building and/or land use that can co-exist or occur without conflict with surrounding land uses and activities in terms of its uses, scale, height, massing and relative location.

Complete Communities

Places such as mixed-use neighbourhoods or other areas within cities, towns, and settlement areas that offer and support opportunities for people of all ages and abilities to conveniently access most of the necessities for daily living, including an appropriate mix of jobs, local stores, and services, a full range of housing, transportation options and public service facilities. Complete communities are age-friendly and may take different shapes and forms appropriate to their contexts. (*Growth Plan*, 2020)

Complete Streets

Streets that are planned to balance the needs of all road users, including pedestrians, cyclists, transit-users, and motorists, and are designed for the safety of people of all ages and abilities (Based on *Growth Plan*, 2020 and modified for this Plan)

Complete Streets Design Manual

Guidelines developed as part of the Niagara Region's Transportation Master Plan which define Regional Road typologies and provide guidance on the implementation of complete streets elements that fall within the public right-of-way.

Community Housing

Housing owned and operated by non-profit housing corporations, housing co-operatives and municipal governments, or district social services administration boards. Community housing providers offer subsidized or low-end-of market rents.

Community Hubs

Public service facilities that offer co-located or integrated services such as education, health care and social services.

Conserved

The identification, protection, management and use of built heritage resources, cultural heritage landscapes and archaeological resources in a manner that ensures their cultural heritage value or interest is retained. This may be achieved by the implementation of recommendations set out in a conservation plan, archaeological assessment, and/or heritage impact assessment that has been approved, accepted or adopted by the relevant planning authority and/or decision maker. Mitigative measures

and/or alternative development approaches can be included in these plans and assessments.

Cultural Heritage Resources

Built heritage resources, cultural heritage landscapes and archaeological resources that have been determined to have cultural heritage value or interest for the important contribution they make to our understanding of the history of a place, an event, or a people. While some cultural heritage resources may already be identified and inventoried by official sources, the significance of others can only be determined after evaluation. (*Greenbelt Plan*, 2017)

Designated Greenfield Areas

Lands within *urban areas* but outside of built-up areas that have been designated in an official plan for development and are required to accommodate forecasted growth to the horizon of this Plan. Designated greenfield areas do not include excess lands, and are identified in **Schedule B.**

Development

The creation of a new lot, a change in land use, or the construction of buildings and structures requiring approval under the *Ontario Planning Act*, but does not include:

a) activities that create or maintain *infrastructure* authorized under an environmental assessment process; or

b) works subject to the *Drainage Act*.

(Based on *PPS,* 2020 and modified for the *Growth Plan*)

Employment Areas

Areas designated in an Official Plan for clusters of business and economic activities including, but not limited to manufacturing, warehousing, offices, and associated retail and ancillary facilities. (*PPS*, 2020)

Employment Land

Lands that are designated in local official plans or zoning by-laws for employment uses. Employment lands may be within and outside of employment areas.

Excess Lands

Vacant, unbuilt but developable lands within settlement areas but outside of built-up areas that have been designated in an Official Plan for development but are in excess

of what is needed to accommodate forecasted growth to the horizon of this Plan. (*Growth Plan*, 2020)

Freight-Supportive

In regard to land use patterns, means transportation systems and facilities that facilitate the movement of goods. This includes policies or programs intended to support efficient freight movement through the planning, design and operation of land use and transportation systems. Approaches may be recommended in guidelines developed by the Province or based on municipal approaches that achieve the same objectives. (*PPS*, 2020)

Frequent Transit

A public transit service that runs at least every 15 minutes in both directions throughout the day and into the evening every day of the week.

Fringe Lands

Fringe land is the area between the agricultural/rural countryside and the built-up city/suburbs. It can further be described as the edge of the urban region where patterns of building development and non-development interweave. The urban fringe is often an area with contrasting land uses and compatibility conflicts. Urban design can play a role in mitigating conflicts and transitioning land uses in these fringe areas.

Green Infrastructure

Natural and human-made elements that provide ecological and hydrologic functions and processes. Green infrastructure can include components such as natural heritage features and systems, parklands, stormwater management systems, street trees, urban forests, natural channels, permeable surfaces, and green roofs. (*PPS*, 2020)

Greyfield Sites

Previously developed properties that are not contaminated. They are usually, but not exclusively, former commercial properties that may be underutilized, derelict, or vacant. (*Growth Plan*, 2020 Consolidation)

Hamlets

Small, *rural settlements* that are long-established and identified in official plans. These communities are serviced by individual private on-site water and/or private wastewater services, contain a limited amount of undeveloped lands that are designated for development and are subject to official plan policies that limit growth.

Higher Order Transit

Transit that generally operates in partially or completely dedicated rights-of-way, outside of mixed traffic, and therefore can achieve levels of speed and reliability greater than mixed-traffic transit. Higher order transit can include heavy rail (such as subways and inter-city rail), light rail, and buses in dedicated rights-of-way. (*Growth Plan*, 2020)

Individual On-Site Sewage Service

A sewage disposal system, other than a holding tank, that is designed and constructed in accordance with applicable Provincial requirements and owned, operated, and managed by the owner of the property upon which the system is located.

Individual on-site water service

An individual, autonomous water supply system that is designed and constructed in accordance with the Ministry of the Environment Guidelines or other guidelines approved by the municipality and owned, operated, and managed by the owner of the property upon which the system is located.

Infrastructure

Physical structures (facilities and corridors) that form the foundation for development. Infrastructure includes: municipal services, septage treatment systems, stormwater management systems, waste management systems, electricity generation facilities, electricity transmission and distribution systems, communications/telecommunications, transit and transportation corridors and facilities, oil and gas pipelines and associated facilities. (*PPS*, 2020)

Intensification

The development of a property, site or area at a higher density than currently exists through:

a) redevelopment, including the reuse of brownfields;
b) the development of vacant and/or underutilized lots within previously developed areas;
c) infill development; and
d) the expansion or conversion of existing buildings. (*PPS*, 2020)

Interface

The physical relationship between two or more uses, such as, a building and street. It is the intent of urban design to reinforce this relationship and increase its impacts positively on the public realm.

Lateral Connection

The point at which a sewer or water line coming out from homes and businesses connects to the municipal sewer or water line.

Legal or Technical Reasons

Severances for purposes such as easements, corrections of deeds, quit claims, and minor boundary adjustments, which do not result in the creation of a new lot (*PPS*, 2020).

Low and Moderate Income Households

In the case of ownership housing, households with incomes in the lowest 60 per cent of the income distribution for the regional market area; or in the case of rental housing, households with incomes in the lowest 60 per cent of the income distribution for renter households for the regional market area. (*Growth Plan*, 2020)

Low Impact Development

An approach to stormwater management that seeks to manage rain and other precipitation as close as possible to where it falls to mitigate the impacts of increased runoff and stormwater pollution. It typically includes a set of site design strategies and distributed, small-scale structural practices to mimic the natural hydrology to the greatest extent possible through infiltration, evapotranspiration, harvesting, filtration, and detention of stormwater. Low impact development can include, for example: bio-swales, vegetated areas at the edge of paved surfaces, permeable pavement, rain gardens, green roofs, and exfiltration systems. Low impact development often employs vegetation and soil in its design, however, that does not always have to be the case and the specific form may vary considering local conditions and community character. (*Growth Plan*, 2020)

Major Facilities

Facilities which may require separation from sensitive land uses, including but not limited to airports, manufacturing uses, transportation infrastructure and corridors, rail facilities, marine facilities, sewage treatment facilities, waste management systems, oil and gas pipelines, industries, energy generation facilities and transmission systems, and resource extraction activities. (*PPS*, 2020)

Major Goods Movement Facilities and Corridors

Transportation facilities and corridors associated with the inter- and intra-provincial movement of goods. Examples include: inter-modal facilities, ports, airports, rail facilities, truck terminals, freight corridors, freight facilities, and haul routes and primary transportation corridors used for the movement of goods. Approaches that are freight-

supportive may be recommended in guidelines developed by the Province or based on municipal approaches that achieve the same objectives. (*PPS*, 2020)

Major Institutional Uses

Major trip generators that provide essential services for every stage of life and benefit from being close to urban services and amenities. Generally, major institutional uses are considered post-secondary institutions (i.e., colleges, universities, and trade schools), health care facilities and research centres (i.e., hospitals); and corporate government headquarters.

Major Office Use

Freestanding office buildings of approximately 4,000 square metres of floor space or greater, or with 200 jobs or more. (*Growth Plan*, 2020 Consolidation)

Major Retail / Major Commercial Uses

Large-scale or large-format stand-alone retail stores or retail centres that have the primary purpose of commercial activities. (based on *Growth Plan*, 2020 Consolidation)

Major Transit Station Areas

The area including and around any existing or planned higher order transit station or stop within a settlement area; or the area including and around a major bus depot in an urban core. Major transit station areas generally are defined as the area within an approximate 500 to 800 metre radius of a transit station, representing about a 10-minute walk. (*PPS*, 2020)

Major Trip Generators

Origins and destinations with high population densities or concentrated activities which generate many trips (e.g., urban growth centres and other downtowns, *major office* and *office parks*, *major retail / major commercial*, *employment areas*, community hubs, large parks and recreational destinations, post-secondary institutions and other *public service facilities*, and other mixed-use areas). (based on *Growth Plan*, 2020 Consolidation)

Marine Facilities

Ferries, harbours, ports, ferry terminals, canals and associated uses, including designated lands for future *marine facilities*. (*PPS*, 2020)

Mineral Aggregate Operation

a) lands under license or permit, other than for wayside pits and quarries, issued in accordance with the *Aggregate Resources Act*;

b) for lands not designated under the *Aggregate Resources Act*, established pits and quarries that are not in contravention of municipal zoning by-laws and including adjacent land under agreement with or owned by the operator, to permit continuation of the operation; and
c) associated facilities used in extraction, transport, beneficiation, processing or recycling of mineral aggregate resources and derived products such as asphalt and concrete, or the production of secondary related products. (*PPS*, 2020)

Minimum Distance Separation Formulae

The formulae and guidelines developed by the *Province*, as amended from time to time, to separate uses so as to reduce incompatibility concerns about odour from livestock facilities. (*PPS*, 2020)

Multimodal Transportation System

A *transportation system* which may include several forms of transportation such as automobiles, walking, trucks, cycling, buses, rapid transit, rail (such as commuter and freight), air and marine. (*PPS*, 2020)

Municipal Comprehensive Review

A new official plan, or an official plan amendment, initiated by an upper-or single-tier municipality under section 26 of the *Ontario Planning Act* that comprehensively applies the policies and schedules of this Plan. (*Growth Plan*, 2020 Consolidation)

Municipal Water and Wastewater Systems/Services

Municipal water systems/services are all or part of a drinking-water system:

a) that is owned by a municipality or by a municipal service board established under section 195 of the *Municipal Act*, 2001;
b) that is owned by a corporation established under section 203 of the *Municipal Act,* 2001;
c) from which a municipality obtains or will obtain water under the terms of a contract between the municipality and the owner of the system; or
d) that is in a prescribed class of municipal drinking-water systems as defined in regulation under the *Safe Drinking Water Act*, 2002.

And, municipal wastewater systems/services are any sewage works owned or operated by a municipality. (*Growth Plan*, 2020 Consolidation and modified for this Plan)

Natural Heritage Features and Areas

Features and areas, including significant wetlands, significant coastal wetlands, other coastal wetlands, 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, which are important for their environmental and social values as a legacy of the natural landscapes of an area.

Natural Heritage System

A system made up of natural heritage features and areas, 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. The system can include key natural heritage features, key hydrologic features, federal and provincial parks and conservation reserves, other natural heritage features and areas, lands that have been restored or have the potential to be restored to a natural state, associated areas that support hydrologic functions, and working landscapes that enable ecological functions to continue. (*Growth Plan*, 2020)

Niagara Economic Gateway

The total geographic area of the local municipalities a part of the Gateway Economic Centre or Gateway Economic Zone.

Normal Farm Practices

A practice, as defined in the *Farming and Food Production Protection Act*, 1998, that is conducted in a manner consistent with proper and acceptable customs and standards as established and followed by similar agricultural operations under similar circumstances; or makes use of innovative technology in a manner consistent with proper advanced farm management practices. Normal farm practices shall be consistent with *the Nutrient Management Act*, 2002 and regulations made under that Act (*PPS*, 2020).

Office Parks

Employment areas or areas where there are significant concentrations of offices with high employment densities. (*Growth Plan*, 2020 Consolidation)

On-Farm Diversified Uses

On a farm; secondary use; limited in area; includes, but is not limited to, home occupations, home industries, agri-tourism uses and value-added uses; compatible with surrounding agricultural operations.

Place-Making

The purposeful planning, and design of buildings, public realm, and transportation systems to achieve attachment to a place.

Planned Corridors

Corridors or future corridors which are required to meet projected needs, and are identified through this Plan, preferred alignment(s) determined through the Environmental Assessment Act process, or identified through planning studies where the Ministry of Transportation, Ministry of Energy, Northern Development and Mines, Metrolinx, or Independent Electricity System Operator (IESO) or any successor to those Ministries or entities, is actively pursuing the identification of a corridor. Approaches for the protection of planned corridors may be recommended in guidelines developed by the *Province*. (*Growth Plan*, 2020 Consolidation)

Prime Agricultural Area

Areas where prime agricultural lands predominate. This includes areas of prime agricultural lands and associated Canada Land Inventory Class 4 through 7 lands, and additional areas where there is a local concentration of farms which exhibit characteristics of ongoing agriculture. Prime agricultural areas may be identified by the Ontario Ministry of Agriculture and Food using guidelines developed by the Province as amended from time to time. A prime agricultural area may also be identified through an alternative agricultural land evaluation system approved by the Province (*PPS*, 2020).

Prime Agricultural Land

Means *specialty crop areas* and/or Canada Land Inventory Class 1, 2, and 3 lands, as amended from time to time, in this order of priority for protection (*PPS*, 2020).

Province

The Province of Ontario or the relevant Minister of the Provincial government.

Provincially Significant Employment Zones (PSEZs)

Areas defined by the Minister in consultation with affected municipalities for the purpose of long-term planning for job creation and economic development. *Provincially significant employment zones* can consist of *employment areas* as well as mixed-use areas that contain a significant number of jobs. (*Growth Plan,* 2020 Consolidation)

Public Realm

The publicly owned places and spaces that are accessible by everyone. These can include municipal streets, lanes, squares, plazas, sidewalks, trails, parks, open spaces, waterfronts, public transit systems, conservation areas, and civic buildings and institutions.

Public Service Facilities

Lands, buildings and structures for the provision of programs and services provided or subsidized by a government or other body, such as social assistance, recreation, police and fire protection, health and educational programs, long-term care services, and cultural services. Public service facilities do not include infrastructure. (*PPS*, 2020)

Public Works Projects

Construction projects, such as roads, highways or dams, bridges and waterworks financed by public funds and constructed by or under contract with the Region or local municipality for the benefit or use of the public.

Rail Facilities

Rail corridors, rail sidings, train stations, inter-modal facilities, rail yards and associated uses, including designated lands for future rail facilities. (*PPS*, 2020).

Redevelopment

The creation of new units, uses or lots on previously developed land in existing communities, including brownfield sites.

Regional Market Area

An area that has a high degree of social and economic interaction. The boundaries of the Niagara Region will serve as the regional market area for the purposes of assessing housing market conditions. (*PPS*, 2020 and modified for this Plan)

Residence Surplus to a Farming Operation

An existing habitable farm residence that is rendered surplus as a result of farm consolidation (the acquisition of additional farm parcels to be operated as one farm operation). (*PPS*, 2020).

Resilience

Definition to be added.

Rural Areas

A system of lands within local municipalities that may include rural settlements, rural lands, prime agricultural areas, natural heritage features and areas, and resource areas. (*PPS*, 2020)

Rural Lands

Lands which are located outside settlement areas and which are outside prime agricultural areas. (*PPS*, 2020)

Rural Settlements

Existing hamlets that are delineated in Schedule B of the Niagara Official Plan. These communities are serviced by individual private on-site water and/or private wastewater systems, contain a limited amount of undeveloped lands that are designated for development and are subject to Official Plan policies that limit growth. All settlement areas that are identified as hamlets in the Greenbelt Plan, or as minor urban centres in the Niagara Escarpment Plan are considered rural settlement areas for the purposes of this Plan, including those that would not otherwise meet this definition. (*Growth Plan*, 2020 Consolidation and modified for this Plan)

Sense of Place

The emotional attachments, meanings and identities people develop or experience in particular locations and environments. It is also used to describe the distinctiveness or unique character of a place.

Sensitive Land Uses

Buildings, amenity areas, or outdoor spaces where routine or normal activities occurring at reasonably expected times would experience one or more adverse effects from contaminant discharges generated by a nearby major facility. Sensitive land uses may be a part of the natural or built environment. Examples may include, but are not limited to: residences, day care centres, and educational and health facilities. (*PPS*, 2020)

Settlement Areas

Urban areas and *rural settlements* within *local municipalities* (such as cities, towns, villages and hamlets) that are:

a) built up areas where development is concentrated and which have a mix of land uses; and
b) lands which have been designated in an Official Plan for development in accordance with the policies of this Plan. Where there are no lands that have been designated for development, the settlement area may be no larger than the area where development is concentrated.

(*Growth Plan*, 2020 Consolidation and modified for this Plan)

Sewage Works

Any works for the collection, transmission, treatment and disposal of sewage or any part of such works but does not include plumbing to which the *Building Code Act*, 1992 applies. For the purposes of this definition: Sewage includes, but is not limited to drainage, storm water, residential wastes, commercial wastes and industrial wastes.

Significant

In regard to cultural heritage and archaeology, resources that have been determined to have cultural heritage value or interest. Processes and criteria for determining cultural heritage value or interest are established by the Province under the authority of the *Ontario Heritage Act*.

Smart City

Definition to be added.

Specialized Housing Needs

Any housing, including dedicated facilities, in whole or in part, that is used by people who have specific needs beyond economic needs, including but not limited to, needs such as mobility requirements or support functions required for daily living. Examples include, but are not limited to, long-term care homes, adaptable and accessible housing, and housing for persons with disabilities such as physical, sensory or mental health disabilities, and housing for older persons. (Based on the *PPS*, 2020 and modified for this Plan)

Specialty Crop Area

Areas designated using guidelines developed by the Province, as amended from time to time. In these areas, specialty crops are predominantly grown such as tender fruits (peaches, cherries, plums), grapes, other fruit crops, vegetable crops, greenhouse crops, and crops from agriculturally developed organic soil, usually resulting from:

a) soils that have suitability to produce specialty crops, or lands that are subject to special climatic conditions, or a combination of both;
b) farmers skilled in the production of specialty crops; and
c) a long-term investment of capital in areas such as crops, drainage, infrastructure and related facilities and services to produce, store, or process specialty crops.
(*PPS*, 2020).

Specialty Crop Guidelines

Guidelines developed by the Region or Province, as amended from time to time (Developed from the *PPS* definition of specialty crop area and modified for this Plan).

Stormwater master plan

A long-range plan that assesses existing and planned stormwater facilities and systems and outlines stormwater infrastructure requirements for new and existing development within a settlement area. Stormwater master plans are informed by watershed planning

and are completed in accordance with the environmental assessment processes under the *Environmental Assessment Act* 1990, as amended.

Strategic Growth Areas

Within settlement areas, nodes, corridors, and other areas that have been identified in Schedule B to be the focus for accommodating intensification and higher-density mixed uses in a more compact built form. Strategic growth areas include urban growth centres, major transit station areas, and other major opportunities that may include infill, redevelopment, brownfield sites, the expansion or conversion of existing buildings, or greyfields. Lands along major roads, arterials, or other areas with existing or planned frequent transit service or higher order transit corridors may also be identified as strategic growth areas. (*Growth Plan*, 2020)

Subwatershed

An area that is drained by a tributary or some defined portion of a stream.

Sustainable

Definition to be added.

Sustainable Design

The design of the urban environment that is resilient to the impacts of climate change, (achieves complete communities, low impact development, active transportation, and complete streets, reduces consumption of non-renewable resources, minimizes waste, supports energy conservation and efficiency, reduces greenhouse gas emissions, and improves air quality), and reduces or eliminates other negative environmental impacts.

Transit-supportive

Relating to development that makes transit viable and improves the quality of the experience of using transit. It often refers to compact, mixed-use development that has a high level of employment and residential densities. Transit-supportive development will be consistent with Ontario's Transit Supportive Guidelines. (*Growth Plan*, 2020)

Transportation System

A system consisting of corridors and rights-of-way for the movement of people and goods, and associated transportation facilities including transit stops and stations, cycle lanes, bus lanes, high occupancy vehicle lanes, rail facilities, park-and-ride lots, service centres, rest stops, vehicle inspection stations, inter-modal terminals, harbours, and associated facilities such as storage and maintenance.

Urban Agriculture

Within *urban areas*, agricultural production of food and non-food products accessory to the principle use of a property. Examples of urban agriculture include community, school, and rooftop gardens, ground-based outdoor community and urban market gardens, urban livestock, and hydroponic farms.

Urban Areas

Lands located within a defined boundary as identified in Schedule B. Urban areas are made up of *built-up areas*, *designated greenfield areas* and *excess lands* and does not include *hamlets*.

Utility

Any system, works, plant, pipeline, or equipment providing a service necessary to the public interest including but not limited to electric power generation and transmission, stormwater management, water supply, sewage treatment and disposal, waste management, communications and telecommunications, and oil and gas pipelines and associated facilities.

Waste Disposal Sites

The application of untreated septage, the storage, treatment, and discharge of tailings from mines and waste disposal sites as defined under Part V of the *Ontario Environmental Protection Act*, 1990 with respect to Source Water Protection.

Waste Management

Waste management includes the activities and actions required to manage waste from its inception to its final disposal. This includes the collection, transport, treatment, and disposal of waste, together with monitoring and regulation of the waste management process.

Wastewater Treatment Plant/Facility

The part of a sewage works that treats or disposes of sewage but does not include the part of the sewage works that collects or transmits sewage.

Wastewater Services

Any works provided by the municipality for the collection, lateral connection, transmission, and treatment of sewage that are connected to a centralized wastewater treatment facility.

Water Budget

An accounting of the inflow to, outflow from, and storage changes of water in a hydrologic unit.

Water Services

Any works provided by the municipality for the distribution, lateral connection, transmission, and treatment of drinking water.

Watershed Planning

Planning that provides a framework for establishing goals, objectives, and direction for the protection of water resources, the management of human activities, land, water, aquatic life, and resources within a watershed and for the assessment of cumulative, cross-jurisdictional, and cross-watershed impacts. Watershed planning typically includes: watershed characterization, a water budget, and conservation plan; nutrient loading assessments; consideration of the impacts of a changing climate and severe weather events; land and water use management objectives and strategies; scenario modelling to evaluate the impacts of forecasted growth and servicing options, and mitigation measures; an environmental monitoring plan; requirements for the use of environmental best management practices, programs, and performance measures; criteria for evaluating the protection of quality and quantity of water; the identification and protection of hydrologic features, areas, and functions and the inter-relationships between or among them; and targets for the protection and restoration of riparian areas.

Appendix 18.1 - EXECUTIVE OVERVIEW

SETTLEMENT AREA BOUNDARY REVIEW (SABR)

At the time of adopting a new Official Plan, the Region can expand or adjust settlement boundaries. Outside of a new Official Plan, there are limited opportunities to do so.

The Region has 3 draft criteria processes included in this section, covering:

- Urban Area Boundary Expansions, for urban areas;
- Rural Settlement Boundary Expansions, for areas designated as rural settlements or hamlets; and
- Technical Mapping Update, to fix mapping errors and similar matters.

Key considerations are as follows:

- The Region has exclusive jurisdiction to make decisions over settlement area boundaries.
- The need for a settlement area boundary expansion is determined through the Land Needs Assessment (LNA), described in **Appendix 3.2**, which sets out the amount of the land required to accommodate growth for each local municipality.
- The draft criteria to evaluate boundary expansions is based on the requirements of the *Provincial Policy Statement, 2020 ("*PPS*")* and *Growth Plan*. The Region's decision on expansions must conform to, or be consistent with, those documents.
- The Region is considering all boundary requests received from private owners and local Council endorsed preferences.
- In order to ensure responsible growth, the Region must review the entire settlement area boundary of a candidate municipality to determine the most appropriate location for expansion.
- **The criteria included is draft. The Region will receive feedback for consideration. No boundary recommendations are made at this time.**

Integration Guide for Sub-sections Reported in PDS 17-2021	
☑ Regional Structure	☑ Archaeology
☑ Housing	☑ Employment
☑ Land Needs	☑ Agriculture
☑ SABR	☑ Aggregates
☑ Transportation	☑ Natural Heritage incl.
☑ Infrastructure	☐ Water Systems Options
☑ District/Secondary Plans	☑ Watershed Planning

Integration Guide for Sub-sections Reported in PDS 17-2021	
☑ Urban Design	☑ Climate Change

The *Growth Plan* directs where and how growth will occur in the Greater Golden Horseshoe. Concentrating development within urban areas and prioritizing intensification will ensure more efficient use of land. The *Growth Plan* requires municipalities review its available land within existing urban boundaries to more efficiently direct investment and development.

The *PPS* requires that municipalities maintain the ability to accommodate residential growth for a minimum of 15 years through residential intensification and redevelopment.

Both the *PPS* and *Growth Plan* have specific policies directing how and when boundary expansions may occur. Primarily, settlement area boundary expansions occur through a Municipal Comprehensive Review ("MCR") process. In Niagara's case, the MCR is the new Niagara Official Plan.

The SABR process must be considered with the Regional Structure and LNA, amongst other Regional work. It cannot be considered independently.

The Regional Structure provides strategic growth areas where more significant growth will be directed, intensification rates for built-up areas where redevelopment and infilling will occur, and Designated Greenfield Areas where new growth on vacant lands can be planned comprehensively.

The land need of a municipality is determined using a LNA Methodology issued by the Province. Applying the Provincial methodology sets out the amount of land needed to accommodate the forecasted growth to 2051.

The LNA sets out whether a local municipality requires additional lands (or has excess lands) to accommodate forecasted growth.

If a municipality does not have enough land available to accommodate its growth, it may be eligible for an urban area boundary expansion.[1]

[1] Regardless of need, expansions in to the Greenbelt Plan specialty crop area are not eligible for boundary expansions.

The above discussion relates to the threshold requirement of “need” for an expansion. If this need is met, a boundary expansion requires significant additional justification.

This additional justification is covered in the Region’s draft expansion criteria and process. The criteria is based on the policies of the *PPS* and *Growth Plan*.

In addition to the “need” test, the criteria includes consideration of the following, among others:

- existing and planned infrastructure and transportation capacity and proximity
- environmental constraints
- the agricultural area (including Minimum Distance Separation formulae and soil class)
- potential impacts to the agri-food network
- how the proposed additional lands will to contribute to a complete community

As of writing, in March 2021, the Region has received approximately 42 urban area boundary expansion requests. These requests will be considered, along with the Region’s review of additional potential locations that may not have been requested.

The Region must review the full extent of urban area boundaries for municipalities that do not have enough land as identified through the LNA. This complete review ensures boundaries are expanded in the most appropriate location.

The urban area boundary expansion criteria and process is attached as **Appendix 18.2**. The draft was circulated to local municipal planners in February 2021 for review and feedback. Accordingly, some adjustments were made, as provided in the attached document.

The Region will continue to receive input on the draft criteria and will refine as needed following this Report.

The following is a guide to the Region’s SABR program over the coming months:

2021	Task
May	• Prepare process administration.
June	• Prepare mapping for municipalities eligible for Urban Area Boundary Review.

2021	Task
	• Organize review team.
July	• Review and organize all requests. • Technical exercise to review applicable requests with review team. • Consultation with local municipal planning staff.
August	• Receive Local Council endorsements. • Any additional consultation with local municipal staff on findings and recommendations.
September	• Finalize process and recommendations to be included in next Niagara Official Plan report.

In addition to the consideration of urban area boundary expansion discussed above, the Region has developed criteria for rural settlement (hamlet) boundary expansions, attached as **Appendix 18.3**.

Provincial policies sets out that rural settlement areas should not be the focus of growth and therefore rural settlement boundary expansions will be limited. As of writing, in March 2021, the Region has received approximately 22 rural settlement boundary expansion requests.

The Region is working with municipalities that will likely have a need for rural settlement area boundary expansions: Wainfleet and West Lincoln. These municipalities have rural settlement areas outside of the *Greenbelt Plan* area.

For Wainfleet, growth is primarily allocated to its rural settlement areas.

For West Lincoln, the majority of its growth will be directed to Smithville as its only urban area. A small portion of growth will be directed to its rural settlement areas.

The *Growth Plan* also includes policies that allow municipalities to consider a boundary expansion “in advance of” an MCR process, subject to specific criteria. Policies related to this process will be included in the NOP in conformity with the Growth Plan. These policies are found in the Regional Structure section in **Appendix 4.3**.

A municipality may also consider boundary adjustments outside of a MCR process where the result is no net increase in land within settlement areas.

Boundary expansions in advance of an MCR, and adjustments, require extensive study and justification. For this reason, they must be undertaken carefully and under precise circumstances.

The Region is currently in its MCR process. It has not received any of the above-noted requests and, should one be received, it would not process it since such request is not "in advance of" an MCR. All boundary requests can be processed as part of the existing MCR, i.e. the Official Plan process itself.

In addition to the settlement boundary expansions, the Region is considering technical mapping updates. This is needed to fix mapping errors to align Regional and local urban area boundary mapping.

The Region developed criteria for considering technical mapping updates. It includes a GIS-based mapping exercise to identify and fix the errors.

The technical exercise is not directly related to the SABR expansion process as it is not intended for growth management purposes. This is an administrative or housekeeping exercise, but as it deals with urban area boundaries, is being reported with SABR-related matters.

Regional staff are presently working with local municipal planning staff to complete this technical exercise. Additional information on the criteria and process are found in **Appendix 18.4**.

The Region will continue to accept requests for settlement area boundary expansion following this Report, up until July 2, 2021. Following this date, the Region will Report on the requests and will not review late requests for that Report.

Policies related to the SABR are included with the Regional Structure policies at **Appendix 4.3**.

DRAFT - NIAGARA REGION

MCR ASSESSMENT CRITERIA - SETTLEMENT AREA BOUNDARY REVIEW FOR URBAN AREAS

GENERAL NOTES

Where a need has been identified, the Region has prepared the Settlement Area Boundary Review Criteria to assess the urban area boundary and assist in determining the appropriateness and suitability of lands for boundary expansion. The Region's assessment tool is informed by the policies of the *Growth Plan* and *PPS*. It follows a qualitative assessment process for considering potential areas for urban area boundary expansions. The Regional review criteria is intended to screen potential areas using a two- step graduated advancement process.

Step 1 - is the initial screening and a precursor for advancement to Step 2.
Step 2 - is completed by an assessment team with the applicable expertise to review and make recommendation on the criteria.

Following Step 2 assessment, the Region will consolidate the qualitative information to assess the suitability and appropriateness of areas being considered for urban area boundary expansion.

Supportive planning documents may be voluntarily submitted as an accompaniment to a private landowner or a local municipal request for Regional staff's background and information. Supplemental submissions will be reviewed for context only by the assessment team during Step 2.

Staff will consider the results of the assessment, including any additional information submitted, and consult with local municipal staff prior to finalizing the outcome of the assessment.

Regional staff will receive local Council endorsed requests, as they represent the vision and preference for their community. Details of local Council endorsement will be provided to Regional Council in staff's recommendation report.

The outcome of this process will be a recommendation to Regional Council on the most appropriate location(s) for urban area boundary expansion(s) based on the conclusions of the assessment.

All recommendations, including private landowners, municipal staff or through Council endorsement, shall demonstrate consistency with the PPS and conformity to Provincial Plans.

	Step 1 - Remove Unqualified Requests			
	Primary Sorting Criteria			Notes
Primary Sorting	Is the parcel or collection of parcels located within a local municipality that has an identified need in Niagara Region's Land Needs Assessment (LNA)?	Yes	No	**If YES to ALL of these questions**, assessment may proceed to Step 2
	Is the parcel or collection or parcels located outside of the Greenbelt Plan area? *(1)*	Yes	No	
	Is the parcel or collection of parcels contiguous with an existing Urban Area Boundary? *(2)*	Yes	No	
	The parcel or collection of parcels are located entirely outside of Specialty Crop Area?	Yes	No	

Topic Area	Step 2 - Site Level Analysis - Requests for Consideration						
	Criteria	Criteria Response					Provincial Policy Relationship
Sanitary Servicing	What is the capacity to accommodate the parcel or collection of parcels at WWTP during the planning period?	Available	Highly Feasible	Feasible	Low Feasibility	Not Feasible	APTG 2020 - 2.2.8.3 a) b) c), 3.2.6.1, 3.2.6.2 PPS 2020 - 1.1.1 g), 1.6.1.a)
	How easily can a sanitary servicing be made available to the lands?	Available	Highly Feasible	Feasible	Low Feasibility	Not Feasible	PPS2020 - 1.6.6.1 a)1 b)1 b)3
	When extending sanitary services, what is the level of impact on natural environment, including key hydrologic features and areas?	Negligible Impact	Minimal Impact	Modest Impact	High Impact	Critical Impact	APTG - 2.2.8.3 d) e) PPS 2020 - 1.1.1 c) h)
	In relation to sanitary servicing, how feasibly can the parcel or collection of parcels support additional urban development in its Watershed through mitigating measures?	Available	Highly Feasible	Feasible	Low Feasibility	Not Feasible	APTG - 3.2.6.2 c) d) 4.2.1.3

Topic Area	Criteria	Criteria Response					Provincial Policy Relationship
Municipal Water Supply	What is the feasibility of existing system capacity to accommodate the parcel or collection of parcels with municipal water supply during planning period?	Available	Highly Feasible	Feasible	Low Feasibility	Not Feasible	APTG 2020 - 2.2.8.3 a) b) c), 3.2.6.1, 3.2.6.2 PPS 2020 - 1.1.1 g), 1.6.1.a)
	How easily can a water supply connection be made?	Available	Highly Feasible	Feasible	Low Feasibility	Not Feasible	APTG 2020 - 2.2.8.3 a) PPS 2020 - 1.6.1.b), 1.6.6.1 b)3
	When connecting water services, what is the anticipated level of impact on natural environment, including key hydrologic features and areas?	Negligible Impact	Minimal Impact	Modest Impact	High Impact	Critical Impact	APTG - 3.2.6.3 a) PPS 2020 - 1.6.6.1.b)4
	In relation to municipal water supply, how feasibly can the parcel or collection of parcels support additional urban development in its Watershed through mitigation or supplemental measures?	Available	Highly Feasible	Feasible	Low Feasibility	Not Feasible	APTG - 3.2.6.3 a), 4.2.1.3
Transit and Transportation	How well can the parcel or collection of parcels access major transportation corridor such as Provincial Highway, Regional Road, rail or marine systems?	Available	Highly Feasible	Feasible	Low Feasibility	Not Feasible	APTG 2020 - 2.2.8.3 a) b) PPS 2020 1.1.1 e)
	How feasibility can a local road network be incorporated for the parcel or collection of parcels, including consideration of environmental matters?	Available	Highly Feasible	Feasible	Low Feasibility	Not Feasible	PPS 2020 - 1.6.7
	What is the level of impact to existing road networks and level of service from the addition of the parcel or collection of parcels?	Negligible Impact	Minimal Impact	Modest Impact	High Impact	Critical Impact	PPS 2020 - 1.6.7.2
	What is the feasibility of extending transit services to the parcel or collection of parcels?	Available	Highly Feasible	Feasible	Low Feasibility	Not Feasible	PPS 2020 - 1.6.7.4
	What is the feasibility of extending active transportation facilities to the parcel or collection of parcels?	Available	Highly Feasible	Feasible	Low Feasibility	Not Feasible	PPS 2020 - 1.6.7.4

Topic Area	Criteria	Criteria Response					Provincial Policy Relationship
Environmental Protection and Natural Resources	In terms of Provincial Natural Heritage System, how much the parcel or collection of parcels are affected/impacted?	No NHS	Less than half shown as NHS	Approx. half shown as NHS	More than half shown as NHS	All shown as NHS	APTG - 2.2.8.3 d) e), 4.2.1.3 c)
	In considering the parcel or collection of parcels in the context of NHS constraints, and as part of the broader NHS, what level of feasibility would be represented on the parcel or collection of parcels in gaining access to fragmented development parcels (without existing R.O.W. frontage)?	Available. No NHS identified All lands accessible	Highly Feasible. Multiple options from adjacent lands	Feasible. Reliance on single adjacent property for access	Low Feasibility. Multiple properties in opposing direction required	Not Feasible. All shown as NHS	APTG - 1.2.1 PPS 2020 - 1.1.1 a), c), d)
	With respect to Watershed Planning and the overall health of the respective Watershed, what is the impact should the parcel or collection of parcels be added to the urban area and developed for urban use?	Negligible Impact	Minimal Impact	Modest Impact	High Impact	Critical Impact	APTG - 3.2.7.1 , 3.2.7.2
	In consideration of potential mitigating measures for watersheds or sub watersheds, what is the level of feasibility related to introducing such measures as enhanced storm water management and increased infiltration opportunity to improve water quality?	Available	Highly Feasible	Feasible	Low Feasibility	Not Feasible	APTG - 2.2.8.3d), 3.2.7.1 , 3.2.7.2 PPS 2020 - 1.6.6.7, 2.2.1 i)
	With available information concerning species at risk, what level of impact would be experienced if the parcel or collection of parcels were to be added to the urban area and developed for urban purpose?	Negligible Impact	Minimal Impact	Modest Impact	High Impact	Critical Impact	PPS 2020 - 2.1.6, 2.1.7
	What is the impact of including the parcel or collection of parcels on topography and the ability to minimize significant earthworks that could interfere with hydrogeological function?	Negligible Impact	Minimal Impact	Modest Impact	High Impact	Critical Impact	APTG - 3.2.7.2 c), 4.2.9.3 PPS 2020 - 3.2.3

Topic Area	Criteria	Criteria Response					Provincial Policy Relationship
Agriculture Agri-Food Network	As defined by the PPS, using the range provided, how best are the parcel or collection of parcels described?	Completely Rural	Mix of Mostly Agricultural Area and Rural	Agricultural Area Completely (Class 4-7)	Agricultural Area Completely (Class 1-7)	Agricultural Lands Completely (Class 1-3)	APTG 2.2.8.2 f) PPS 2020 1.1.3.8, 1.1.5, 2.3.5.1
	What is the level of impact on active livestock operations and MDS setbacks by including the parcel or collection of parcels in the Urban Area?	Outside any Setback	Setbacks Impact less than half	Setbacks Impact half	Setbacks Impact more than half	All within Setbacks	APTG 2.2.8.3 g)
	What is the impact to the broader Agri-Food Network if the parcel or collection of parcels were Urban Area?	Negligible Impact	Minimal Impact	Modest Impact	High Impact	Critical Impact	APTG 2.2.8.3 h)
Aggregate Resources	In terms of distance/separation of sensitive land use, and in the context of Ministry D6 Guidelines, what level of impact on existing or planned Aggregate (Stone and Sand & Gravel) operations can be expected if the parcel or collection of parcels were added to the existing Urban Area Boundary? (Within 300m being Critical and beyond 1000m being Negligible)	Negligible Impact	Minimal Impact	Modest Impact	High Impact	Critical Impact	APTG 4.2.8 PPS 2020 - 2.5.1, 2.5.2.4, 2.5.2.5
Growth Management	Does including the parcel or collection of parcels meaningfully contribute to a complete community? *(2,3)*	Highest Contribution	Higher Contribution	Modest Contribution	Lower Contribution	Little to No Contribution	APTG - 2.2.8.3, 4.2.1.3 c) PPS 2020 - 1.1.3.8
	Does inclusion of the parcel or collection of parcels represent a favourable way to achieve the outcome of the Region-identified land needs?	Most Favourable	Higher Favourability	Favourable	Lower Favourability	Least Favourable	APTG - 2.2.8.3, 4.2.1.3 c) PPS 2020 - 1.1.3.8
	What are the planning impacts on neighbouring or nearby lands by including the parcel or collection of parcels in the urban area? *(2)*	Negligible Impact	Minimal Impact	Modest Impact	High Impact	Critical Impact	APTG - 2.2.8.3, 4.2.1.3 c) PPS 2020 - 1.1.3.8

1. Any individual parcel or collection of parcels that are contained fully within the Greenbelt will not proceed any further in consideration and must be separated out. Individual parcels that are split with designation of being within and outside of the Greenbelt may proceed for further assessment.

2. Regional staff, within its purview, may consider additional lands not formally requested for expansion consideration, privately or municipally, that would have the effect of creating or improving a contiguous grouping of parcels adjacent to the existing Urban Area Boundary.

3. Smaller parcels that are characterized as rounding out of serviced urban area edge can be considered for inclusion that would collectively contribute to meeting complete community objectives.

Appendix 18.3

SABR - RURAL SETTLEMENT BOUNDARY REVIEW PROCESS

SUMMARY

Rural settlements, also known as Hamlets, play an important role through the provision of housing, social, cultural and economic land uses serving the needs of rural residents within its settlement boundary and the surrounding Agricultural and Rural Areas.

The Region has exclusive approval authority over settlement area boundaries; both urban and rural. The Region may consider rural settlement boundary expansions through the Niagara Official Plan (municipal comprehensive review) process.

The *Growth Plan* directs the majority of growth be accommodated within urban areas. A small percentage of growth will be allocated outside the urban areas, directed primarily to rural settlements.

The *Growth Plan* policy for settlement areas sets out that settlement boundary expansions cannot occur within the *Greenbelt Plan* area. This restricts expansions in northern Niagara communities.

Provincial policy for rural settlement expansions differs from urban area boundary expansions; thus, the criteria and process outlined below are specific to rural settlements.

The following are the draft criteria that will be considered by Regional staff in assessing rural settlement expansion requests:

- Contribution to the rural character: rural settlements are generally lower density communities designed to support the surrounding agricultural and serve the historical development that has occurred in the community. Expansions for new development shall maintain and enhance the distinctive character, enhance the quality of life through appropriate design of commercial and public space areas, and promote greater economic vitality.

- Purpose of rural settlements to support the agricultural community: the rural settlement should have sufficient capacity to accommodate supporting farm-related uses and commercial uses to support the nearby agricultural and rural communities.

- Hydrogeological considerations: whether the expansion is rounding out an undersized lot or where the expansion is proposed for new lot creation, the size of the expansion should result in the ability for viable lots that will ensure adequate water supply and suitable for private waste disposal systems, subject to applicable requirements.

- Impacts to the Natural Environment System: the proposed expansion does not result in negative impact on the natural environment system.

- Impacts to the surrounding agricultural area: expansions should be located so as to minimize and mitigate to the extent feasible the impacts on nearby agricultural operations. This review will include expansion size, adjacent soil class, access, residual access and nearest constraint. This criteria will consider impacts to agricultural infrastructure and livestock facilities. Minimum Distance Separation (MDS) constraints will be considered through this criteria.

- Site-specific context: location considerations may be provided through supporting information or information provided through consultation with the local municipality.

In West Lincoln, the majority of forecasted growth will be directed to the urban area of Smithville. A small percentage of growth will be allocated to the rural settlements/agricultural area.

In Wainfleet, the majority of the growth will be allocated to its rural settlements with the Wainfleet Rural Settlement receiving the higher percentage of growth and a smaller percentage going towards others that can suitably to accommodate private servicing. An even smaller percentage may be allocated to the agricultural area.

The Region's Land Needs Assessment will determine the amount of growth to be directed to rural settlements.

Below is the draft process for consideration of Rural Settlement boundary expansions:

Step 1. Consider the details of expansion.

1. Determine the type of request:

   a) Technical adjustment (ex. property already developed and adjacent to current boundary)

   b) Minor rounding out (ex. adding the remainder of a property with minor development potential)

   c) Expansion request (ex. expanding the rural settlement for the explicit purpose of development)

2. Additional information is not required to be submitted to be considered through this process. If provided, review any additional information provided to support the request.

   NOTE: Rural settlements within the *Greenbelt Plan* area cannot be considered for expansion.

Step 2. Prepare and review mapping with local municipality.

1. The Region will prepare mapping that demonstrates the ability to accommodate growth within the existing boundary to generate a potential inventory of available vacant land supply in each rural settlement. The mapping will include constraints that must be considered in determining developable lands within that vacant land supply, as well as the constraints surrounding the rural settlement boundary.

   In particular, the following mapping layers will be added to the vacant land mapping:

   - Any surrounding agricultural infrastructure, including livestock facilities (based on aerial photography)
   - Soil conditions and classification
   - Natural environment system constraints
   - Any other contextual constraints identified through the review.

   NOTE: The review of recent hydrogeological studies, and discussions with private septic services staff, will assist in determining the average lot size to be applied to the rural settlements to generate a potential inventory of lots that can be accommodated within the existing settlement boundary.

2. Once the vacant land supply and inventory projection is determined, the Region can establish if an expansion is needed to accommodate growth in rural settlements. If an expansion is required, the Region will consider the requests submitted, as well as the full extent of the rural settlement boundary, to determine the most appropriate location for expansion.

3. The Region will meet with local municipal staff to discuss the mapping, constraints and potential inventory for each rural settlement.

Step 3. Evaluate boundaries and expansion requests against the criteria.

The Region will further review the candidate areas against the evaluation criteria to determine the most appropriate location for expansion. This evaluation will be undertaken in consultation with the local municipal planning staff.

This step will result in generating preferred locations for potential expansion based on the distribution of the forecasted allocation determined through the Region's Land Needs Assessment.

At this time, local planning staff would report to their local Council with recommendations that reflect local interests related to which rural settlement areas should receive expansion and where the expansions are most appropriate for each, in relation the existing boundary. Local Council endorsement of preferred locations are targeting to be received by the Region in August 2021.

The results of the evaluation will be finalized by Regional planning staff, having considered the criteria and local Council preferred locations. Regional Planning staff will make recommendations to its Council as part of the Settlement Area Boundary Review component of the new Niagara Official Plan. The recommendation is planned with the release of a consolidated draft Niagara Official Plan in fall 2021.

<u>Minor Rounding-Out</u>

The process and steps outlined above describes the expansion process as part of a Municipal Comprehensive Review ("MCR"). In Niagara, the MCR is the Niagara Official Plan.

The *Growth Plan* now includes a policy which allows municipalities to consider a minor rounding out of a rural settlement boundary outside of the MCR, subject to specific criteria:

2.2.9.7. Notwithstanding policy 2.2.8.2, minor adjustments may be made to the boundaries of rural settlements outside of a municipal comprehensive review, subject to the following:

a) the affected settlement area is not in the Greenbelt Area;
b) the change would constitute minor rounding out of existing development, in keeping with the rural character of the area;

c) confirmation that water and wastewater servicing can be provided in an appropriate manner that is suitable for the long-term with no negative impacts on water; and

d) Sections 2 (Wise Use and Management of Resources) and 3 (Protecting Public Health and Safety) of the PPS are applied.

In order to submit this request, the Region would require the interested party to make application for a Regional Official Plan Amendment to adjust the rural settlement boundary. The application would need to be supported by a number of studies including, but not limited to, a planning justification report, an agricultural impact assessment, an environmental impact statement and a hydrogeological study. Any other required studies would be determined through pre-consultation and dependent on the location, context and proposal.

Policies related to rural settlements and the minor rounding out are included in the Regional Structure section, **Appendix 4.3**.

Appendix 18.4

SABR - BOUNDARY TECHNICAL MAPPING UPDATES

SUMMARY

The Region has developed criteria to consider technical adjustments or changes to boundary mapping to better align Regional and Local urban area boundaries. The purpose of this process is to correct technical mapping errors where there are discrepancies between Regional and Local urban area boundaries.

The changes will be applied through a GIS-based mapping exercise. The resulting boundary layer will be applied in relevant schedules for the Niagara Official Plan when the final draft is presented.

After the Niagara Official Plan is adopted, the technical changes made through this review will be supplied to the applicable local municipalities for use during their conformity exercise.

This exercise is ongoing and involves input from local planning staff. Additional consultation with local planning staff will occur, as needed, until the exercise is complete.

As a technical exercise to ensure alignment of boundaries, this process is separate to that of the Settlement Area Boundary Review (SABR) criteria. The exercise is being reported in this section as it deals with the urban area boundaries for which the Region has sole jurisdiction over.

This technical adjustment process will not act in place of the SABR process (**Appendix 18.2**), which outlines urban settlement expansion as it relates to growth management.

This technical process may result in boundaries shifting for the addition or subtraction of certain lands, as outlined in the criteria. However, it is intended to be minor in nature and not result in a significant adjustment. Additionally, this technical change criteria is only being applied to the urban areas in Niagara.

Once the process is complete, the Region will report on the outcome through the final draft of the Niagara Official Plan.

PRINCIPLES

The following principles have been applied to the technical mapping update exercise:

- No new settlement areas are created.
- The overall area of an urban area may be increased or decreased to satisfy the technical criteria as described in this document. An attempt is made to not remove lands with reasonable development potential.

- Boundaries along the Great Lake shorelines and the Niagara River have not been adjusted since these boundaries follow the shoreline, and may naturally adjust from time to time.

CRITERIA

1. Where urban area boundaries marginally exceed or fall short of a parcel boundary, a technical change will be applied by aligning the urban area boundary to the parcel line.

2. Urban area boundaries will be extended in a case where an existing boundary splits a fully serviced developed parcel with limited additional development opportunity. The portion of the parcel outside of the urban area boundary will be incorporated into the urban area, if the size of the area is comparable or lesser in size to the parcel area within the boundary.

3. Where the urban area boundary splits a parcel, and that parcel has a significant amount of land outside of the urban area boundary, the urban area boundary will be drawn to align with the rear parcel line of smaller adjacent lots within the urban area.

4. Where adjacent parcel boundaries are not present to assist in defining the urban area boundary, the limit of existing development or associated planning approval (e.g. local municipal zoning, registered subdivision approval), will be retained as the definitive urban area boundary. If there are no existing developments or associated planning approvals within the area of boundary misalignment, and the Region's existing boundary extends greater than the local boundary, the Region's existing urban area boundary will be retained.

5. Urban area boundaries may be adjusted to reduce the boundary, if the boundary follows the back of predominantly existing developed parcels and the lands that will be removed are likely not to be developed due to environmental constraints or are of a size and orientation/configuration that would not provide any new development opportunity.

6. Where local Official Plan boundaries have been adjusted to add or remove individual parcels along the periphery of the urban area to account for the presence or absence of servicing infrastructure, the local urban area boundary will be used as the definitive boundary, subject to modifications to allow precise alignment with parcel boundaries.

The technical mapping update process and criteria provides regional and municipal staff with a guide to align urban area boundaries and resolve any existing mapping errors. This technical analysis should reduce future instances where misalignment may be brought into question.