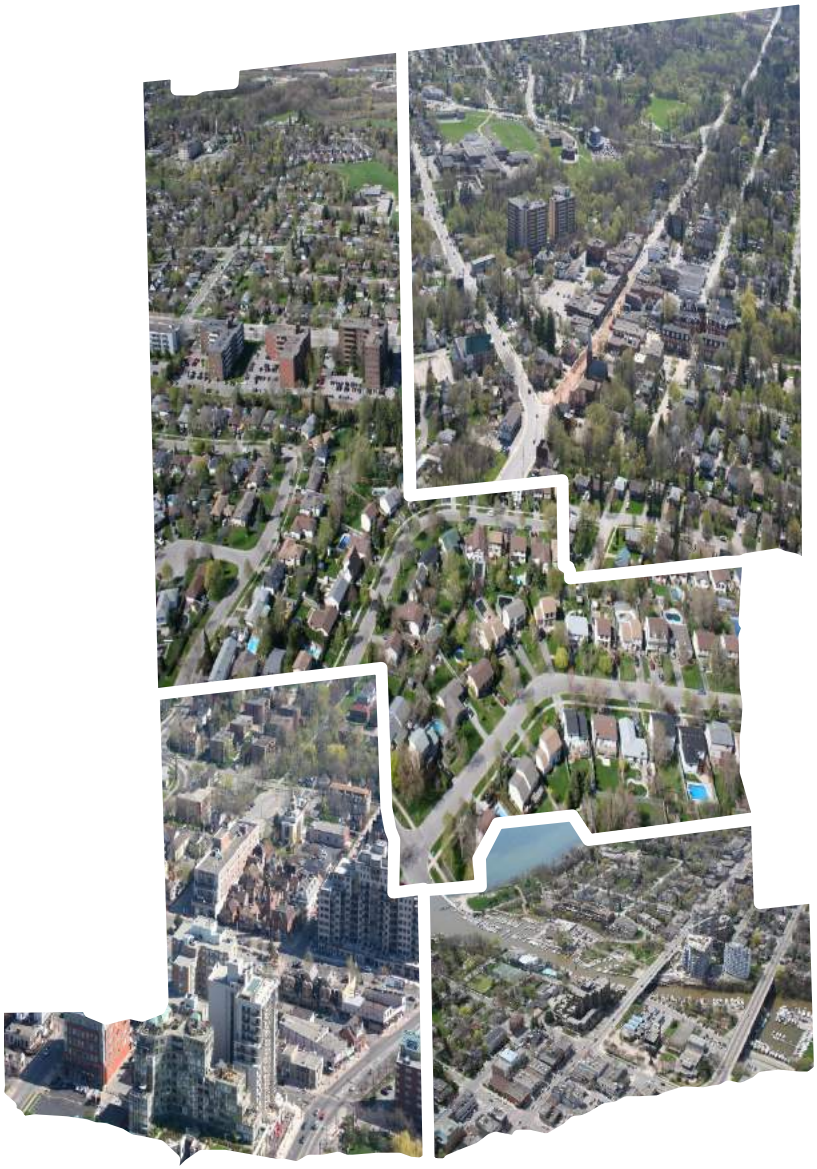

Integrated Growth Management Strategy
Growth Concepts Discussion Paper

February 2021

Regional Official Plan Review

Halton Region

Update on Integrated Growth Management Strategy – Regional Urban Structure (Regional Official Plan Amendment No. 48)

On February 17, 2021 Regional Council directed staff to revise Draft Regional Official Plan Amendment No. 48 (Regional Urban Structure) to include the southern portions of the Milton Education Village and Agerton Secondary Plan areas within the Employment Area conversions (i.e. removals from the Regional Employment Area) proposed through the Draft Amendment, for the purposes of public consultation.

The Growth Concepts Discussion Paper was completed prior to the above Regional Council decision, however the information contained in the Discussion Paper and Landing Page remain relevant for the purposes of public consultation on the choices and approaches to the accommodation of population and employment growth to 2051 in the Region of Halton. Regional Official Plan Amendment No. 48, when adopted by Regional Council, will be an important foundation in the development of a Preferred Growth Concept as part of the Integrated Growth Management Strategy.

Halton REGION

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Executive Summary

The Growth Concepts Discussion Paper is a critical component of the the Integrated Growth Management Strategy (IGMS), which is a key element of Halton's Official Plan Review. The Paper describes the basis for and the evaluation of four Growth Concepts, elements of which will be used to develop the Preferred Growth Concept for the accommodation of population and employment growth to 2051. Figure 1 below illustrates the overall process.

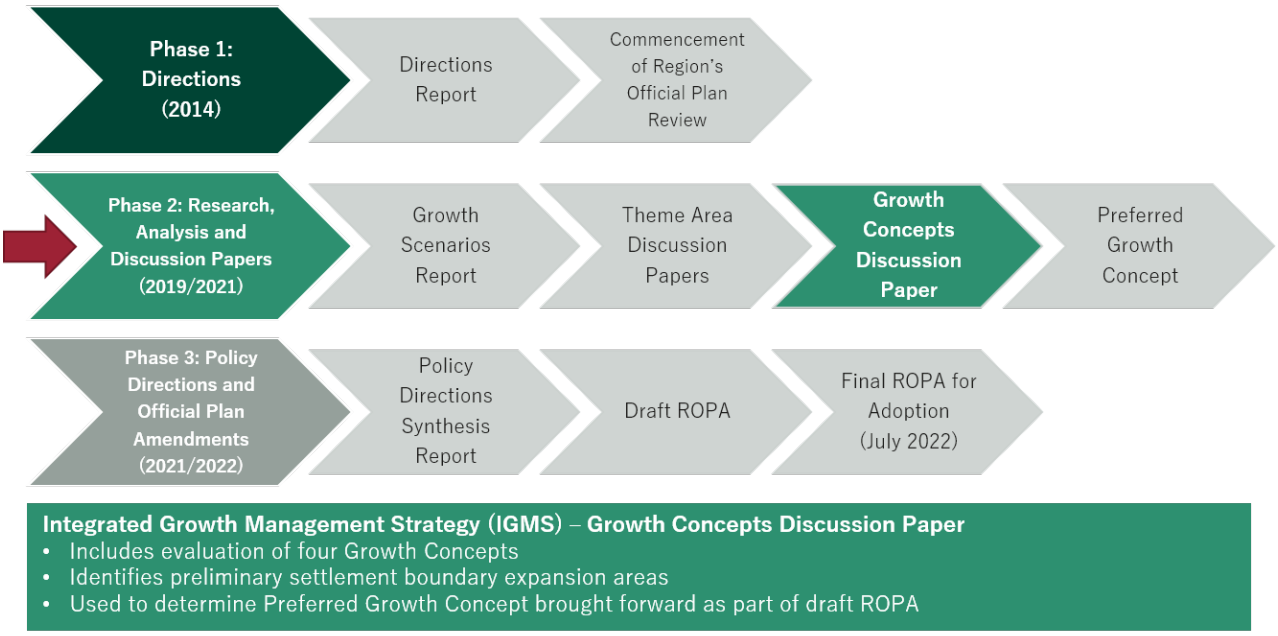


Figure 1: Overview of IGMS Process
Source: Hemson Consulting, 2020

The Integrated Growth Management Strategy is being undertaken within the framework of Provincial policies and the approach to growth management. At the heart of the framework is the Growth Plan (2019) the purpose of which is to ensure that growth is focused in "complete communities" that emphasize elements such as the designated Built-Up Areas (BUA), Urban Growth Centres (UGCs), Major Transit Station Areas (MTSAs), and Designated Greenfield Areas (DGA). Municipalities are required to integrate climate change considerations in planning and managing growth.

Figure 2 below describes the type of uses proposed within existing and future Community Areas and Employment Areas in the Region.

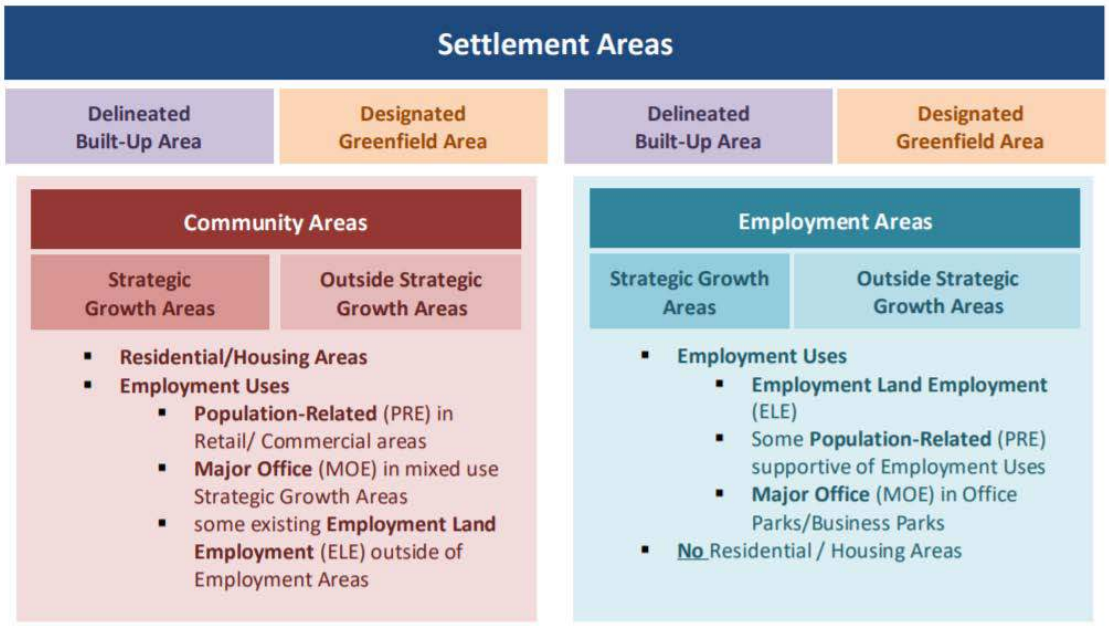


Figure 2: Community Areas versus Employment Areas
Source: Halton IGMS Regional Urban Structure Discussion Paper, July 2020

While Halton Region is largely planned to 2031, through the Sustainable Halton comprehensive planning exercise, implemented through Regional Official Plan Amendment No. 38, there are important decisions to be made through this IGMS process.

The Region must plan for an additional 20 years of population and employment growth. With the 2051 horizon, accommodation must be planned for 1,100,000 people and 500,000 jobs by 2051. These are large increases compared to the 2019 population of 596,000 and employment of 293,000. Climate change impacts will be a major consideration. Intensification within existing centres, nodes and corridors as well as MTSAs will be crucial. Within this context, it will be essential to carefully plan the sequencing of development and infrastructure requirements and investment.

The approach used by the Region to reach the important decisions involved in a Municipal Comprehensive Review (MCR) and related Regional Official Plan Amendment (ROPA) is through the development and evaluation of growth scenarios. The ***IGMS Growth Scenarios: Halton Region to 2041*** report identified eight growth scenarios. Council directed that the four 'Local Plans and Priorities' Scenarios be used as the basis for the development of four detailed Growth Concepts.

The Discussion Paper provides an overview of the assumptions that underpin each concept. Climate change considerations are central to all four concepts. They also consider the issues of affordable housing, heritage and cultural resources, employment trends and the preservation of agricultural land. The COVID-19 pandemic is having a dramatic impact on every aspect of life and has to be considered in relation to uncertainties regarding factors such as remote working, the work home relationship, and the increase in e-commerce.

The key difference between concepts is the amount of densification, as shown in Figure 3.

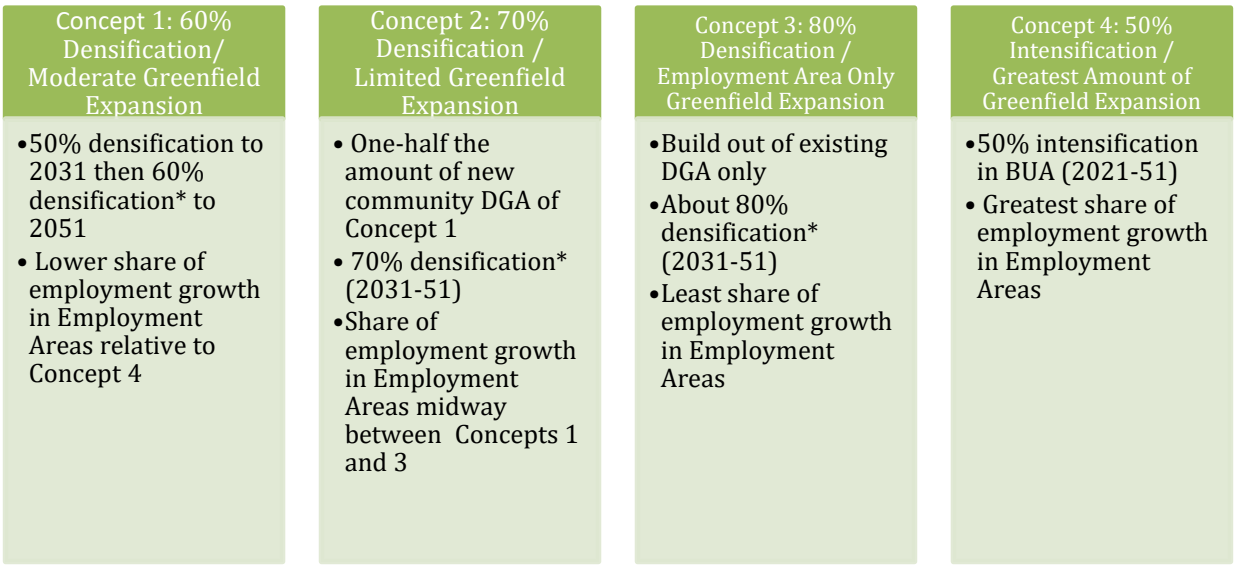


Figure 3: Overview of Growth Concepts

*Share densification approximates the share of apartments in the mix of total housing growth
Densification from 2031 to 2051 in Concepts 1, 2, 3 and 4 include 10%, 17%, 24% and 2.5% of units as DGA densification, apartment development in DGA strategic growth areas such as Trafalgar Road in north Oakville and Milton

All four concepts meet or exceed the Growth Plan minimum intensification rate with at least 50% of all new units assigned to be built within the BUA and the new Community DGA is planned for a density of 65 persons and jobs per hectare. New designated employment areas planned at 26.8 employment land employees per gross hectare (or 32.5 employment land employees per net hectare), which is higher than Milton and Halton Hills today.

There are a number of outstanding applications for Employment Land conversions which, depending upon the outcome, would affect the amount of land available for employment uses and in most cases residential uses. An assessment of the potential

conversions was undertaken and the likely outcome factored into the land supply analysis.

The report provides a full description of each concept, the key characteristics of which are as follows:

- Concept 1: 60% Densification/Moderate Greenfield Expansion
- Concept 2: 70% Densification/Limited Greenfield Expansion
- Concept 3: 80% Densification/Employment Only Greenfield Expansion
- Concept 4: 50% Intensification/Greatest Greenfield Expansion

The first step considered in developing the Growth Concepts is the amount of land that would be required to accommodate the Schedule 3 population and employment forecast. This was followed by the delineation of the Primary Study Area which collectively encompassed sufficient land to meet the requirements of the four Growth Concepts. The areas were defined applying sound planning principles.

For Community Areas considerations including:

- Logical extension and adjacency/proximity to existing settlement areas;
- Appropriate topography for development;
- Logical potential for servicing; and
- Minimization of conflicts with the Natural Heritage and Agricultural System.

For Employment Areas considerations including:

- Logical extension and adjacency/proximity to existing settlement areas;
- Servicing potential;
- Appropriate topography for development;
- Range of potential parcel sizes;
- Visibility;
- Goods movement potential; and
- Minimization of conflicts with the Natural Heritage and Agricultural System.

Potential settlement areas were defined based on the policy requirements of the Growth Plan and the Region's Official Plan. They also considered, technical analysis and professional judgment, which is being tested through the Growth Concepts and related technical studies. The actual location of the future settlement areas will be determined as part of the Preferred Growth Concept.

The land need for each concept are as follows. Densification rate refers to 2031-2051 at least a minimum of 50% of units are located within the BUA, plus units in the current greenfield areas that will be within high-density mixed-use communities

Concept 1: 60% Densification / Moderate Greenfield Expansion

- New Community Area Land = 1,460 ha
- New Employment Area Land = 1,170 ha
- Total New Land Area = 2,630 ha

Concept 2: 70% Densification / Limited Greenfield Expansion

- New Community Area Land = 730 ha
- New Employment Area Land = 1,100 ha
- Total New Land Area = 1,830 ha

Concept 3: 80% Densification / Employment Area Only Greenfield Expansion

- New Community Area Land = 0 ha
- New Employment Area Land = 980 ha
- Total New Land Area = 980 ha

Concept 4: 50% Intensification / Greatest Greenfield Expansion

- New Community Area Land = 2,080 ha
- New Employment Area Land = 1,220 ha
- Total New Land Area = 3,300 ha

Several important matters were considered in relation to the appropriate location of future urban lands.

- North Aldershot Special Policy Area
- Agricultural Area Assessment
- Aggregate Resource Impact Assessment
- Natural Heritage/Water Resource System Sensitivity Analysis

As infrastructure is critical to the development of the Halton IGMS, assessments of water, wastewater and transportation infrastructure and their associated financial impact were undertaken based on the four proposed growth concepts. The key findings relating to these services are:

Water and Wastewater

- Potential future deficiencies occur in common locations across all concepts and only vary in overall magnitude. None of the concepts have unique, specific deficiencies. However, due to the location of growth and absence of new Community DGA lands beyond the 2031 time horizon in Concept 3, this concept shows potentially lower requirements for storage, pumping and linear infrastructure when compared to the other concepts.

Transportation

- The analysis demonstrated that for transportation infrastructure, there are no substantial differences in infrastructure opportunities and constraints to 2051 when the four Growth Concepts are compared relative to one another. From a transportation performance point of view, no Growth Concept stands out more than another from a technical or capital cost perspective.

Fiscal Impact Assessment

- In additional the technical analyses their fiscal impacts in relation to the four Growth Concepts were assessed. Table 1 below illustrates order of magnitude percentage impact to property taxes for the Region and local municipalities under each concept. Average annual tax increases from 2021-2051 provide a measure of the net fiscal impact from growth associated to each growth concept.

Table 1: Average Annual Tax Increases 2021-2051

Municipality	Concept 1	Concept 2	Concept 3	Concept 4
Burlington	3.90%	3.92%	3.97%	3.91%
Oakville	2.96%	3.03%	3.10%	2.93%
Milton	3.56%	3.60%	3.64%	3.51%
Halton Hills	2.38%	2.53%	2.63%	2.19%
Halton Region	2.47%	2.53%	2.56%	2.42%

Note: Tax impacts related to growth related costs do not include inflation.

There is little variation in tax impacts between concepts a result expected, given that expenditures and revenues are driven by the development forecasts in each individual concept, which also show low variability.

The final chapter of the report discusses the Evaluation Framework that has been endorsed by Council. The framework was developed in collaboration with local municipalities.

Ultimately, the goal of the Evaluation Framework is to summarize the results of the background technical work and build consensus among the Consulting Team, Regional staff, local municipalities, and key external agencies on the planning merits of each Growth Concept.

Evaluation Framework

The purpose of the Evaluation Framework is to guide the evaluation of the four Growth Concepts in comparison to each other, based on a set of criteria or measures, derived from Growth Plan and other provincial policies. The framework is organized around four themes, each with a series of measures. The themes are:

- Theme 1: Regional Urban Structure & Local Urban Structure
- Theme 2: Infrastructure & Financing
- Theme 3: Agriculture, Environment & Climate Change
- Theme 4: Growing the Economy and Moving People and Goods

Of note, the effects of climate change have been considered in establishing the measures for all four themes in the Evaluation Framework. Measures specific to climate change adaptation and mitigation of greenhouse gas emissions are included in Theme 3.

The following key considerations were identified through the evaluation of the Growth Concepts and will be deliberated in developing the Preferred Growth Concept.

1. Growth Management Considerations

- What intensification rate should be used and over what planning horizon?
- If new Designated Greenfield Lands are required, where should they be located in Georgetown and Milton?
- To what degree can Halton municipalities shift employment demand in a desired direction?
- Where in the vicinity of Highways 407, 401 and GTA West should new employment land be located?
- Which parts of the adjusted Downtown Burlington UGC, Aldershot MTSA, and Bronte MTSA need to be converted for mixed-use development in order to support residential growth?

2. Infrastructure Considerations

- To reduce the total water and wastewater infrastructure needed to service growth, should Halton focus more on growth through intensification in built-up areas to better utilize existing infrastructure?
- Growth planned in the south portion of the lake based system will generally require less new water and wastewater infrastructure than similar growth planned further north. This is due to increased pumping and conveyance requirements when moving water north to supply upper pressure zones and, conversely, collecting and conveying wastewater from north to south for treatment. To what extent should capital infrastructure needs be considered in designating future Designated Greenfield Lands?
- Should mobility, regardless of mode (transit, auto, active transportation), dictate the location and density of growth to 2051 such that the overall transportation system potential is optimized?
- Even Concept 4, which has the least amount of intensification, focuses a very significant amount of development in higher density forms and areas associated serviced, or planned to be serviced, by higher order transit. To what degree is growth needed to support transit infrastructure?

3. Fiscal Impact Assessment Considerations

- How can the Region and local municipalities manage financial impacts associated with growth in a fiscally sustainable manner?
- What residential unit mix (e.g. ground-related and apartment units) is most appropriate?
- How will the Region and local municipalities fund future infrastructure needs?

4. Agricultural Considerations

- Where, if any, should new Designated Greenfield Lands be located to avoid and/or minimize adverse impacts on the agricultural system?
- How can agricultural lands be maximized to support the agricultural system while accommodating growth?

5. Mineral Aggregate Considerations

- If new Designated Greenfield Lands are required, can mineral aggregate operations and mineral extraction areas be avoided?
- What is the appropriate proximity of new Designated Greenfield Lands, if required, to mineral aggregate operations and mineral extraction areas?

6. Climate Change Considerations

- To what extent can climate change be mitigated through compact built form, developing a sustainable transportation system, protection of agricultural lands and soils, and protection of natural heritage and supporting healthy watersheds?
- How can future communities in Halton be adaptable to climate change through compact built form, developing a sustainable transportation system, protection of agricultural lands and soils, and protection of natural heritage and supporting healthy watersheds?

7. Natural Heritage Systems and Healthy Watershed Considerations

- All Growth Concepts avoid the Natural Heritage System; however, development occurring adjacent to the system can cause negative impacts. To what degree can the adverse impact on the Natural Heritage System caused by adjacent development be mitigated/avoided?
- What features or areas of the Natural Heritage System can be enhanced through linkages?
- Does the orientation and location of the Natural Heritage System create development challenges that may necessitate encroachments and crossings of Natural Heritage features and areas?

8. Multi-Modal Transportation, Transit-Supportive Densities, and Goods Movement Considerations

- Where should growth be located to promote transit-supportive densities?
- Where should growth be located so that it provides the best opportunity for a sustainable and the multi-modal transportation network?
- Where should new Employment Areas be located to best support goods movement and proximity to existing and planned major transportation infrastructure investment?

This report has described the process through which the four Growth Concepts have been developed and evaluated. The appendices provide considerable additional background information. The next step in the IGMS process is to identify a Preferred Growth Concept. To do so, a number of key factors will need to be considered including:

- Growth Management
- Infrastructure
- Fiscal Impact
- Agriculture
- Mineral Aggregate Resources
- Climate Change
- Natural Heritage and Healthy Watershed
- Multi-Modal Transportation, Transit-Supportive Densities, and Goods Movement

1. Introduction

The Integrated Growth Management Strategy (IGMS) is one of the major themes of the Region's Official Plan Review (ROPR) process. The IGMS process includes four discussion papers, including:

- IGMS Growth Scenarios/Report Evaluation Framework, June 2019 (see staff report LSP41-19);
- IGMS Regional Urban Structure Discussion Paper, June 2020 (found as Attachment 1 in staff report LSP56-20);
- IGMS Growth Concepts Discussion Paper, February 2021 (this report); and
- IGMS Preferred Growth Concept Report (pending).

Analysis and findings presented in the *IGMS Growth Scenarios* report and *Regional Urban Structure Discussion Paper* have informed the Growth Concepts and related evaluation described in this report. Figure 1 provides a schematic overview of the IGMS process completed to date.

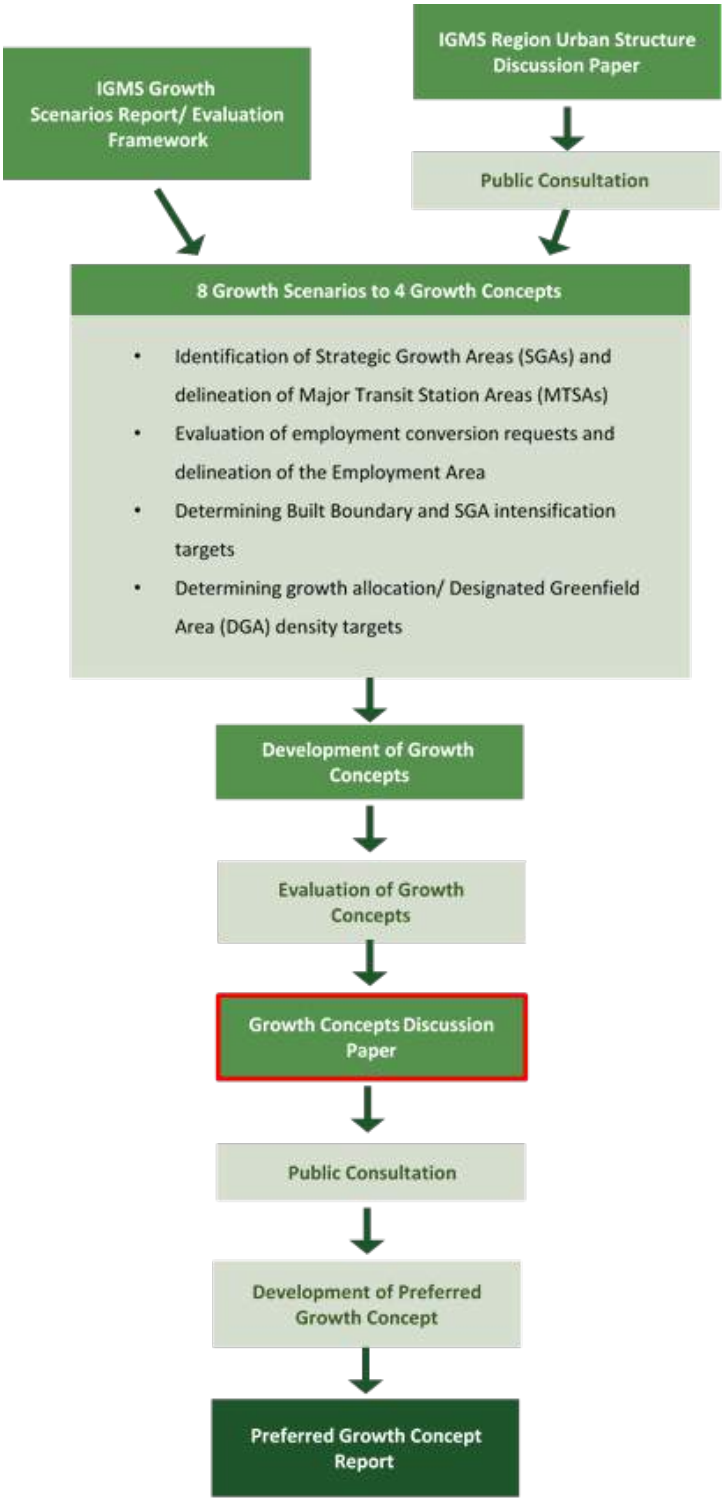


Figure 1: IGMS Discussion Papers in the Context of IGMS Process
Source: Halton Region, 2021

As shown in Figure 2, phase 1 of the ROPR process was initiated in 2014 and completed in 2016. Key outcomes of this phase included a Directions Report and overall workplan for the ROPR. The second phase of the ROPR is now underway and includes this report (IGMS Growth Concepts Discussion Paper), following the release and consultation of this study, the Preferred Growth Concept will be developed. Finally, Phase 3 will be used to develop policies for inclusion in the Regional Official Plan Amendment (ROPA). In accordance with the requirements of provincial policy, a final ROPA will be brought forward for Council approval July 2022.

Not shown in Figure 2 is the concurrent Scoped Urban Structure Regional Official Plan Amendment (ROPA). The Scoped Urban Structure ROPA provides a strong foundation for the IGMS by establishing Regional structure elements based on local plans and priorities and the overall needs of future growth in the Region.

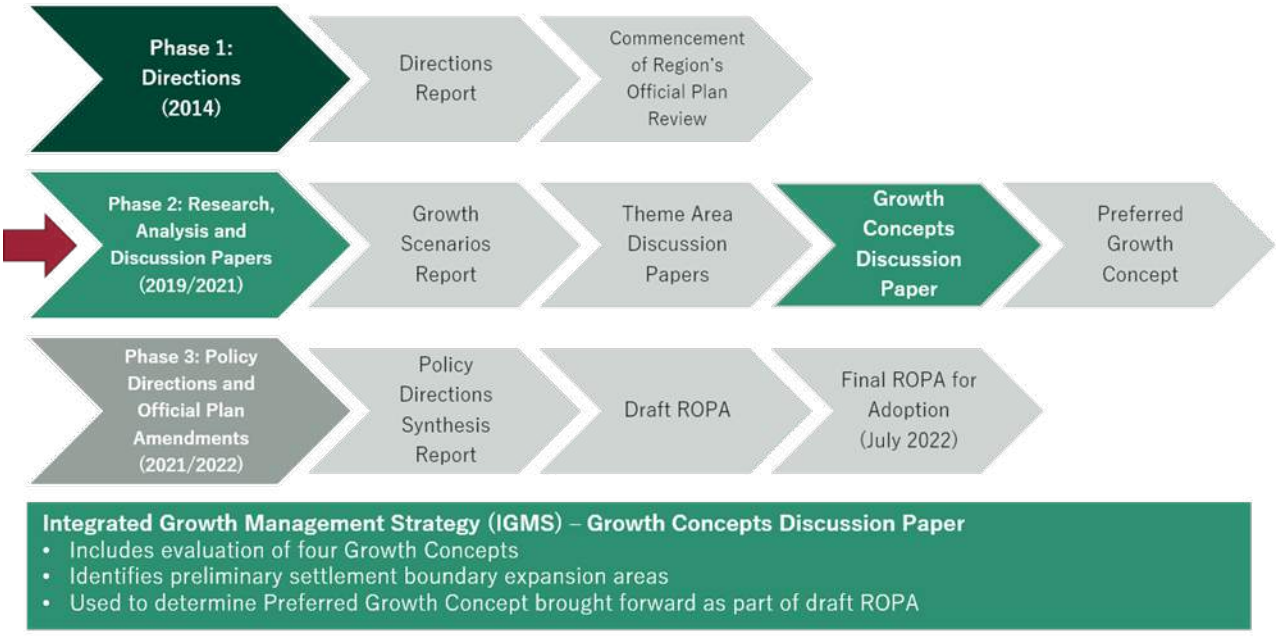


Figure 2: Regional Official Plan Review Process
Source: Hemson Consulting, 2020

This report builds upon the *IGMS Scenarios: Halton Region to 2041* report, dated June 19, 2019 (as found in Attachment 4 of staff report LPS41-19). The *IGMS Scenarios: Halton Region to 2041* report established the framework for the IGMS and served as an information resource for policy makers and stakeholders. It discussed demographics,

housing, and economic trends in Halton and set out eight growth scenarios for consideration.

A. Purpose of Report is to Present Four Growth Concepts and Evaluate Them.

The primary purpose of this report is to describe the four Growth Concepts, the technical analysis that underpins them and present an evaluation completed by technical experts with input from Regional staff, local municipalities, conservation authorities, and Regional advisory committees. Findings from the evaluation will help inform the Preferred Growth Concept which will be brought forward as part of the Regional Official Plan Amendment (ROPA) and guide growth in Halton to 2051. This report is intended to:

- Describe the four Growth Concepts accounting for recent Provincial policy changes and related growth management options;
- Reflect growth management decisions proposed as part of the Scoped Urban Structure Regional Official Plan Amendment (ROPA);
- Test urban structure elements of local municipalities to make appropriate Regional long-term strategic planning decisions;
- Evaluate the four Growth Concepts and identify areas for consideration as part of the Preferred Growth Concept;
- Consult with internal and external stakeholders on the four Growth Concepts and resulting evaluation; and
- Provide a foundational analysis on growth management options to enable public engagement on the tradeoffs related to the location of growth and how to grow.

B. A Number of Technical Reports Support the Growth Concepts

This report is an accumulation of land use technical analysis and policy review. Some of this supportive analysis relates to the development of the Growth Concepts, whereas others support the qualitative evaluation of the concepts. A brief description of these reports and their relationship to the IGMS process are described in Table 1 below.

This report provides a general summary of these memorandums and studies whereas the appendices detail the technical analysis.

Table 1: Summary of IGMS Growth Concept Discussion Paper Technical Analysis

Appendix to IGMS Discussion Paper	Description	Relationship to IGMS Process
Development of Growth Concepts		
Appendix A - Climate Change Lens	Identifies themes and measures in the evaluation framework that address climate change mitigation and adaptation,	Describes how the IGMS Growth Concepts address climate change
Appendix B - Land Needs Assessment Overview and Local Municipal Allocation	Describes the methodology used to determine community and employment land need for future development and details the allocation of growth to the local municipalities	Identifies future community and employment land need for each Growth Concept
Appendix C.1 – Employment Area Conversion Request Inventory	Identifies employment conversion requests as of December 2020	Provides inventory of employment conversions
Appendix C.2 – Employment Area Conversions: Initial Assessments Summary	Technical assessment of employment conversions and identifies which ones are approved	Identifies how employment conversion requests are treated in the Growth Concepts
Growth Concepts Technical Assessment		
Appendix D - Transportation Infrastructure Assessment	Technical assessment of Regional transportation and transit infrastructure needs arising from future development	Identifies infrastructure needs and supports findings related to the qualitative evaluation of the Growth Concepts
Appendix E - Water & Wastewater Infrastructure Assessment	Technical assessment of Regional water and wastewater infrastructure needs arising from future development	Identifies infrastructure needs and supports findings related to the qualitative evaluation of the Growth Concepts
Appendix F - Fiscal Impact Assessment	Technical assessment of Regional and local municipal revenues and expenditures as well as associated tax rate impacts. The analysis is informed by the Transportation and Water & Wastewater Assessment technical reports.	Identifies fiscal impacts and supports findings related to the qualitative evaluation of the Growth Concepts

Appendix to IGMS Discussion Paper	Description	Relationship to IGMS Process
Settlement Area Boundary Expansion Studies		
Appendix G - Agricultural Area Assessment	Technical assessment of the impact of potential settlement boundary expansions on agricultural resources (i.e. farmland, soils, farm operations) in the Region, utilizing Canada Land Inventory (CLI) soils mapping, LEAR (Land Evaluation and Area Review) studies, and a preliminary inventory of farm operations (i.e. potential livestock facilities). This Area Assessment will be followed by an Agricultural Impact Assessment at the stage of the development of a Preferred Growth Concept.	Supports the qualitative evaluation of the Growth Concepts and will help determine the location of future settlement areas
Appendix H - Natural Heritage and Water Resources Screening and Option Assessment	Technical screening assessment of the impacts of potential settlement boundary expansions presented in the Growth Concepts on the Region's Natural Heritage System and Water Resource features and areas. Further impact assessment will be undertaken for the Preferred Growth Concept.	Supports the qualitative evaluation of the Growth Concepts and will help determine the location of future settlement areas
Appendix I - Mineral Aggregate Resources Assessment	Technical assessment of the impact of potential settlement boundary expansions on mineral aggregate resource areas (i.e. shale resources) in the Region, utilizing Ontario Geological Survey mapping, and previous analysis completed by the Region.	Supports the qualitative evaluation of the Growth Concepts and will help determine the location of future settlement areas
Appendix J - North Aldershot Policy Area Urban Expansion Assessment	Planning opinion on the future development of North Aldershot Planning Area	Determines the treatment of North Aldershot for the purposes of the Growth Concepts
Evaluation of Growth Concepts		
Appendix K - Evaluation of Growth Concepts	Detailed narrative of the evaluation of the four Growth Concepts	Communicates findings of technical assessment and identifies key considerations for the development of the Preferred Growth Concept

2. IGMS Process Responds to Provincial Policies and Plans for Growth Management

Ontario's land planning policy framework has undergone significant changes in recent years. Recognizing that the Greater Golden Horseshoe is one of the fastest growing regions in North America, the Province has had to balance decisions relating to economic growth, the protection of natural heritage features, agricultural lands, and resources as well as ensure that appropriate infrastructure is provided to meet the servicing demand associated with new development. Such decisions must also ensure that communities are planned to be resilient to the impact of a changing climate, as well as mitigating future climate change by supporting reductions of greenhouse gas emissions. In particular, land use planning must direct population and employment growth in strategic ways that allow for these land use planning principles to be achieved.

A. IGMS Process is Undertaken within a Robust Provincial Policy Framework

Figure 3 below is a schematic representation of land use plans and policies in the Province. As shown, provincial policies and plans provide strategic land use policy direction. Upper and lower-tier municipalities create official plan policies that are consistent with provincial plans and policies. More specific policy direction is provided through area-specific secondary plans and municipal zoning by-laws as well as through the development application review process. This Halton IGMS Growth Concepts Discussion Paper is situated in the middle of this planning framework and will guide the development of Regional Official Plan policies. Findings from this report will guide land use planning decisions made in subsequent stages of the planning process.

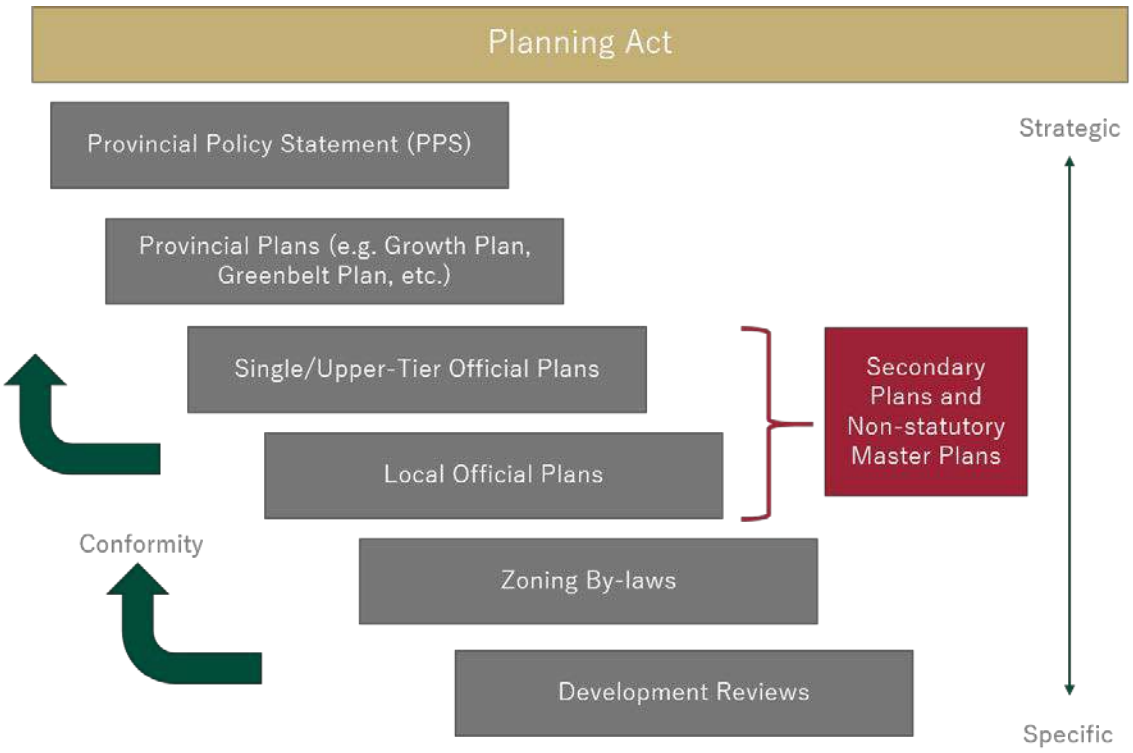


Figure 3: Planning Framework in Ontario.
Source: Hemson Consulting, 2020

B. Planning Framework for Growth Management

The Province of Ontario, through legislation, land use policies and plans, provides direction to the Region of Halton and its local municipalities in preparing their own policies and plans to guide development. In the land use planning process, policies must be consistent with the requirements of the Planning Act, Provincial Policy Statement (PPS) and must conform with, or shall not conflict with the Growth Plan, Greenbelt Plan, and other Provincial land use plans.

The Growth Plan (2019) is a particularly important document for the IGMS process. The Growth Plan has the intent, overall, of organizing the urban structure for the GGH into distinct areas to focus growth. Policies for growth areas area based on the concept of "complete communities" achieved through urban structure elements such as the designated built-up areas, urban growth centres, transit corridors and station areas, and designated greenfield areas (Section 2.2). The Growth Plan requires that municipalities integrate climate change considerations in planning and managing growth.

The Growth Plan also provides the population and employment forecasts that the Region must use as a basis for planning as well as policies that, among other matters, regulate minimum targets for residential intensification and population and employment densities. The Growth Plan policies play a central role in where new development is to be located in Halton and what form it takes.

C. Conformity with Provincial Climate Change Policy is Embedded in the Planning Framework

The IGMS policy framework for growth choices follows on the Province's 2014 update of the PPS (and the recent PPS 2020) to more explicitly include climate change in planning policy as well as the coordinated provincial plan review, which included new policies with respect to climate change in an updated Growth Plan and Greenbelt Plan in 2017. These updates are reflected in the most current Growth Plan (2019). The IGMS Evaluation Framework from the beginning has been developed around these important policy directions.

Broadly speaking, the policy framework addresses climate change mitigation through energy and emissions reductions. These planning policies are related to complete communities (mixed use to reduce travel distances between home and everyday destinations, such as schools, food stores, etc.); jobs provided within communities to reduce commuting distances to work; mix of housing type, tenure, and affordability to allow workforce to remain within the community.

The policy framework addresses climate change adaptation through landscape conservation to provide opportunities for green infrastructure to mitigate flooding due to extreme weather and increase carbon sequestration through compact urban form and strong urban boundaries to limit urbanization of rural lands and the protection of natural heritage and water resource systems.

Opportunities for climate change mitigation and adaptation are identified in all Growth Concepts. At the outset of the IGMS process, the evaluation measures were developed with consideration of "common" and "differentiating" measures. The common measures reflect priorities that must be met by all of the growth choices (see Table 2).[1] The

[1] It is recognized that certain growth concepts may address these common measures more efficiently than others. This is described through the evaluation of the growth concepts in Chapter 9 of this report.

differentiating measures were developed to distinguish real/measurable differences between growth scenarios.

Table 2: Halton Region IGMS Draft Growth Scenarios: Report to Steering Committee (September 5, 2018)

Common Criteria	Description
Infrastructure & Financing	• Growth pays for cost of servicing
Regional Urban System & Local Character	• Intensification prioritized over greenfield growth • Supports phased growth • Reinforces existing identifiable and distinct communities • Attractive places to live and work • Availability of housing choice
Environment & Climate Change	• Maintains Greenbelt Plan boundaries • Maintains Natural Heritage System
Planning Policy	• Growth Plan • Provincial Policy Statement (2014) • Green plans (NEP; ORM; Greenbelt Plan) • Land Needs Assessment • Consistent with Regional Policy
Economy & Moving People and Goods	• Minimizes need for additional Regional road capacity to be built post-2031

Policies directed towards climate change align with good planning principles that have been embedded in Halton's planning framework and already embody these goals and objectives. The challenge has been in implementation, where targets to be achieved in the near future require immediate and decisive action. Implementation has been and remains a challenge, in spite of the policy framework, requiring the design of communities and buildings to set the stage for greatly reduced emissions. At the local level, detailed community design and building design must be achieved, where green standards implemented by local municipalities are becoming common, and Provincial support for the provision of services, like transit, to support the planned urban structure. The one exception may be policies supporting the energy transition away from fossil fuels to renewable energy sources, which should be considered for official plan policy, and would be common to all growth choices.

D. Other Considerations

1. IGMS Regional Urban Structure Discussion Paper

In July 2020, the Region released a *Regional Urban Structure Discussion Paper* as part of the IGMS process. The purpose of this report was to describe the policy requirements of the Growth Plan (2019) and to provide an update on the development of key urban structure elements including:

- Community Areas and related Strategic Growth Areas (SGAs), Urban Growth Centres (UGCs), Major Transit Station Areas (MTSAs), Strategic Nodes and Corridors;
- Employment Areas; and
- Settlement Areas, including settlement area boundary expansion.

The urban structure elements described in the *Regional Urban Structure Discussion Paper* fed into the development of the Growth Concepts described in this report. Feedback received from the public consultation process was also considered.

The *Regional Urban Structure Discussion Paper* generated a wide range of comments related to where and how to grow, and the options for focusing growth in certain areas of the existing community or growing outward onto rural or agricultural land, and the location and size of transportation and employment areas. Some very different perspectives on where and how the Region should grow were expressed.

Some participants shared that they support firm urban boundaries and an increased focus on intensification. Other participants shared that they feel more land is required for urban uses. There were comments stating support for diversifying the housing supply. Certain participants highlighted the importance of the consideration of transportation strategies going forward. Some participants set out ideas that would encourage employment growth and economic activity. This input was considered both through the IGMS and in the development of an initial scoped Regional Official Plan Amendment addressing key components of a proposed Regional Urban Structure.

2. Initial Scoped Regional Urban Structure Official Plan Amendment (OPA)

In order to facilitate the work of the local municipalities to implement key elements of their local urban structures, which are also important to and supported by the Region, Regional Council directed that an initial amendment to the Regional Official Plan be advanced ahead of the overall Integrated Growth Management Strategy. This scoped Regional Official Plan Amendment (ROPA) proposes to implement a Regional Urban Structure in the Regional Official Plan, building on existing policies and mapping, but containing key elements of Growth Plan conformity, particularly focused on strategic growth areas, such as:

- Adjustments to the delineation of the UGCs of Downtown Burlington and Downtown Milton, and minor revisions to the policies pertaining to all UGCs, including Midtown Oakville;

- Delineation and the setting of minimum density targets for MTSAs, and introduction of detailed policy direction for the local municipalities in completing area-specific (i.e. secondary plans) planning for these SGAs. These proposed minimum density targets are capacity targets beyond the 2051 planning horizon as permitted by the Growth Plan, while the IGMS will determine the allocation of growth to all Strategic Growth Areas to the 2051 planning horizon;

- Introduction of Regional Nodes, which are strategic growth areas identified by the local municipalities, but which have significance in the overall Regional Urban Structure from the perspective of the accommodation of growth and/or a transit network function;

- Policies pertaining to Employment Areas and the protection of the viability of employment uses within SGAs, relating to performance criteria for maintaining jobs after an employment conversion (i.e. removal from the Regional Employment Area), and land use compatibility with adjacent sensitive land uses.

Regional Corridors are an important component of the Regional Urban Structure not addressed through the initial scoped ROPA, but which will be addressed through the overall Integrated Growth Management Strategy.

Another important component of the scoped ROPA is the proposed conversion of a number of areas requested by the local municipalities to be removed from the Regional Employment Area to facilitate a broader range of uses, including residential uses. The scoped ROPA advances certain employment conversion requests, while not advancing

others, the merits of which are more appropriately tested through the IGMS, as described in this discussion paper

3. Provincially Significant Employment Zones (PSEZs)

To ensure the protection of lands with high economic output across the Greater Golden Horseshoe, the Province has identified provincially significant employment zones (PSEZs) as enacted by the Growth Plan (2019). This designation is intended to protect employment lands over a long-term planning horizon and support economic development of the region. At this time, the Province is currently consulting with municipalities on requests to change zone maps and the long-term vision for zones and how they can be used as tools for investments, infrastructure planning and economic activity.

Several PSEZs are located throughout the Region of Halton and are shown on Figure 4 below. Recognizing the importance of these areas for preserving future employment, for the purposes of developing the Growth Concepts employment conversions within the PSEZ have been carefully considered. In some instances, employment conversions have been tested in the PSEZ and are described in further detail in Appendix C.1 and C.2.

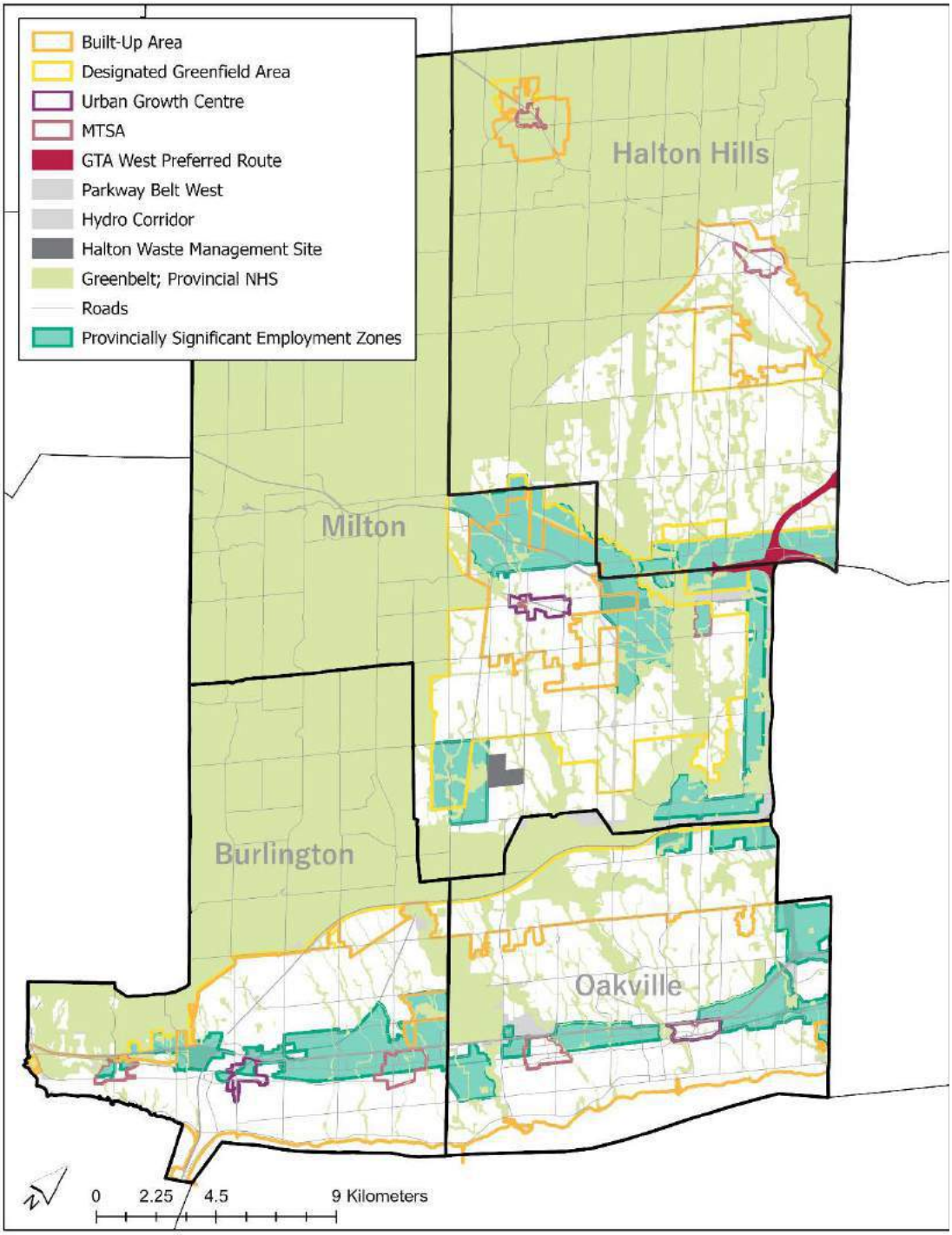


Figure 4: Provincially Significant Employment Lands

3. IGMS Process Builds Upon Sustainable Halton Plan

This report is one of several reports that provides context to the Halton approach to planning. A summary of the history of planning in the Region has been provided in the IGMS Halton Region to 2041 report (as found in Attachment 4 of staff report LPS41-19) and is summarized below.

A. Environment and Fiscal Sustainability at the Heart of Halton's Planning

The creation of Halton Region in 1974 coincided with the establishment of the Niagara Escarpment Planning and Development Act to regulate development and protect the natural features of this unique natural feature, later recognized by UNESCO as a World Biosphere Reserve. From the outset land use planning in the Region had a strong environmental focus notably oriented toward protecting the Niagara Escarpment and related natural heritage elements as well as prime agricultural land.

This is the third large-scale regional growth management exercise undertaken since the Region was established. The Region made some very significant decisions through the *Halton Urban Structure Plan* (HUSP) in the early 1990s and, more recently, *Sustainable Halton*, which addressed the then-new provincial planning policy and targets put in place by the original Growth Plan (2006). As with the HUSP and *Sustainable Halton*, the current IGMS process has as a core value sustainable approach to regional planning which will focus on preserving natural heritage and promoting environmental objectives, including climate change mitigation and adaptation. With the major elements of the Region's urban structure firmly established in these earlier plans, the decisions to be made through the current IGMS work will enhance this previous work. Furthermore, the IGMS process will explore how phasing can ensure growth occurs strategically once key climate change, environmental, infrastructure and financial considerations are made and in place.

B. IGMS Builds on Long History of Strategic Regional Planning

1. Setting the Scene for Long-Term Regional Growth

The Region of Halton has implemented effective growth management planning well before it was mandated to the degree it is now by the Province. The Region's current

urban structure was shaped by significant decision-making in the early 1990s through the *Halton Urban Structure Plan* (HUSP) in 1994 and the implementing 1999 ROPA.

The most significant decision made arising from HUSP was to focus growth within existing towns to protect greenlands. As a result, growth did not continue north through contiguous northward extension of Oakville, which would have effectively urbanized the entire Region. Rather, it was determined that growth would be accommodated through intensification and as extensions of existing communities. The idea of "new towns", unattached to existing communities, was not entertained. Rather, in addition to planned growth in North Oakville, Milton was identified for expansion requiring the extension of lake based water and wastewater servicing to Milton.

Long-term employment growth would be accommodated along Highway 401 between Milton and Halton Hills. Greenway urban separators were identified to manage growth and ensure the continued recognition of local identity for each of the local municipalities and to protect agricultural and natural heritage lands. The decision to extend lake based servicing to Milton was likely the largest single financial decision made in the Region's history. In total, about 5,200 ha of land was designated for new urban development: 2,100 ha in North Oakville and Burlington; 2,500 ha in Milton; and 600 ha along Highway 401 in Halton Hills. Hints at the future centres, nodes and corridors were also embedded in this plan.

2. Establishing Centres and Corridors to Accommodate Growth

The second major review of the Regional Official Plan, *Sustainable Halton*, was completed in 2009 and was intended, in part, to bring official plan policies into conformity with the *Growth Plan* and *Greenbelt Plan* enacted by the Province in 2006.

Under this plan, more future urban growth in the Region would be accommodated within existing areas through a clearly-defined system of centres, nodes and corridors, including the three Urban Growth Centres (UGCs) identified by the *Growth Plan*. Through these policies related to focusing growth in existing communities through compact urban form and complete communities, the amount of land required for urban expansion was minimized. Policies called for the continued expansion of Milton to the south and east, and designated employment land in the Highway 401 corridor in Halton Hills. Another major financial decision was made to service the urban expansion of Georgetown by extending lake based servicing northwards into Halton Hills. Greenland protection identified through the HUSP between Oakville and Milton was incorporated into the Greenbelt Plan.

Most of the new greenfield growth in the next few years through the 2020s will be on lands that were designated in the *Sustainable Halton* plan: about 1,300 ha of community land in Milton and 400 ha of community land in Halton Hills; along with about 1,100 ha of new employment land, 800 ha in Milton and 300 ha in Halton Hills.

A unique and important feature of *Sustainable Halton* was the provision for a long-term employment structure through the identification of Future Strategic Employment Areas (FSEA), adjacent to Highways 407, 401 and a future GTA West corridor. FSEA are intended to protect employment land areas from incompatible uses and identify lands for future employment beyond the planning horizon of the Official Plan (which is currently 2031).

Figure 5 describes the type of uses proposed within Community and Employment areas.

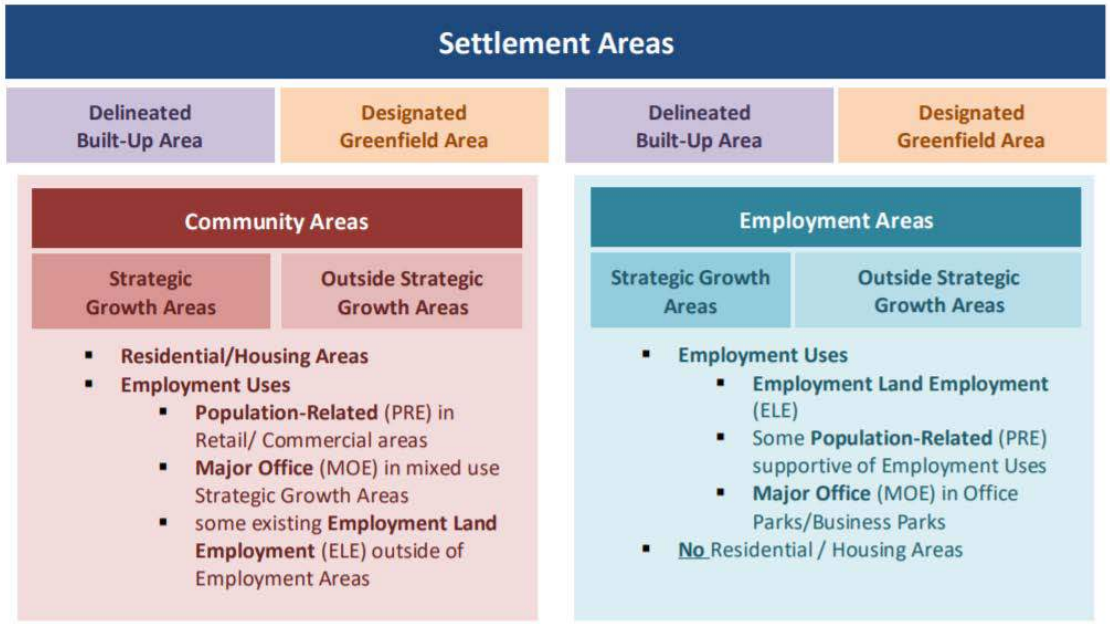


Figure 5: Community Areas versus Employment Areas
Source: Halton IGMS Regional Urban Structure Discussion Paper, July 2020

3. Balancing Growth in Existing Communities vs Greenfields to 2051

Halton Region, through the previous work through HUSP and *Sustainable Halton*, is largely planned to 2031. Policies and targets to 2031 are essentially in place under the current *Halton Region Official Plan*. So, what decisions are to be made through the IGMS?

The current ROPR and IGMS processes build on the strong foundation created by previous plans. The Region must plan for 20 years of population and employment growth and update the Official Plan accordingly. Based on the recent amendment to the Growth Plan requiring planning to a 2051 horizon, the Region must plan for 1,100,000 people and 500,000 jobs by 2051. In doing so, amendments to the Regional Official Plan must also carefully manage the remaining greenfield land supply, invest in infrastructure extensions wisely, and take into account the implications climate change may have on growth management decisions.

Within areas already designed for urban development, planning to accommodate people and jobs will build on the existing centres, nodes and corridors structure plus a new focus on intensification including MTSAs as highlighted in the Growth Plan (2019). The challenge for decision-making is about the sequencing of development and infrastructure requirements and investment because of the capacity for growth in these areas. Thus, the Regional Urban Structure developed as part of the current ROPR and IGMS process is critical to guide future growth in the Region.

C. What Are Growth Scenarios and Why Do We Use Them?

Growth scenarios test the range of growth management options available to the Region when undertaking a Municipal Comprehensive Review (MCR) and related Regional Official Plan Amendment (ROPA). This is not a new approach employed by the Region. The current Sustainable Halton ROP was based upon a review of scenarios used to test different land use decisions and was intended to help envision what the Region could look like in the future.

A similar approach is underway for the current IGMS process. In 2019, the initial *IGMS Halton Region to 2041* report identified a total of eight growth scenarios for Region-wide community (i.e. population and population-related employment) and employment growth. Six of the scenarios were developed in accordance with the policy requirements of the Growth Plan (2017) and were predicated on minimum standards set within this document. As the scenarios were being developed, the Province introduced policy changes through the Growth Plan (2019), as a result two additional scenarios were added to test the reduced minimum intensification target (50 percent of annual residential development within the built boundary from completion of the ROPR until 2041).

In May 2020, Council directed staff to proceed with four of the eight growth scenarios. The four scenarios chosen distributed growth to the local municipalities based on local

municipal plans, priorities and land supply.[2] For the purposes of this report, four Growth Concepts are examined and are based upon the scenarios endorsed by Council. However, the concepts describe within reflect recent changes to Schedule 3 of the Growth Plan (2019) which have resulting in the planning horizon of growth concepts being extended from 2041 to 2051.

It is important to note the distinction between a Growth Scenario at the previous stage of the IGMS process, versus a Growth Concepts developed as part of this report. The Growth Concepts in this report were derived from Growth Scenarios and include a range of different aspects of choice relative to municipal plans and priorities. The concepts are intended to test how growth management choices can be accommodated allowing for a detailed, comprehensive evaluation to be completed.

D. Climate Change Emergency is Central to all Growth Management Choices Made in the IGMS

Climate change is an important consideration in every growth management decision as the future urban structure of a municipality can affect energy use and related emissions by residents and businesses, as well as adaptation and resilience to impacts caused by extreme weather. The Provincial planning framework has required climate change mitigation and adaption to be included in the IGMS process. Halton's planning framework, based in sustainable planning, provides a strong basis for climate change policies as it already includes policies such as compact urban form, complete communities, and transit-supportive development.

In September 2019, Halton Regional Council unanimously approved a notice of motion to join municipalities across Canada in declaring a climate emergency. The motion deepens Halton's commitment to protecting and improving the resilience of the economy, environment and community.

In support of the ROPR and MCR, the Region prepared a *Climate Change Discussion Paper* for review and public consultation. At the regional municipal level, climate change is discussed in terms of mitigation and adaptation.

[2] See description of Scenarios 1B, 2B, 3B and 4B in Attachment 4 of staff report LPS41-19

Figure 6: Adaptation and mitigation through the Regional Official Plan (Climate Change Discussion Paper: Regional Official Plan Review, June 2020)

- **Adaptation**: The process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. Human adaptation can be achieved through a variety of means, such as technology, management, modification of behaviour, or social policy.

- **Mitigation**: Refers to interventions to reduce emissions or enhance the sinks of greenhouse gases. Mitigation efforts involve transforming or modifying human behaviours related to energy use, as well as adopting mitigation measures such as renewable energy technologies, waste minimization processes, and public transit commuting practices. Greenspaces are “carbon sinks” because trees and riparian plants sequester carbon through the process of photosynthesis, store carbon for years within the plants themselves and in soil biomass when plants decompose, and reduce soil erosion.

1. Halton Planning Framework has Largely Anticipated Climate Change Policies

The notion of “integrated” in IGMS process includes climate change adaptation and mitigation considerations embedded in evaluation measures. The IGMS approach to considering climate change stands upon a strong planning history in Halton of considering sustainability in growth management policy. *Sustainable Halton* policies establish important goals and objectives within the Regional Official Plan that set the framework for establishing new climate change policies through the Regional Official Plan Review.

An important legacy of *Sustainable Halton* is the robust greenspace system throughout the Region. Natural heritage systems and agricultural systems planning have advanced considerably, providing increasing permanence to greenlands but also placing higher

demands on the viability and functionality of those lands. While climate change requires the regional planning process to be truly integrated, the key issues for growth choices related to mitigation and adaptation are discussed in Appendix A. In light of the declaration of a climate emergency, Regional council asked that the IGMS evaluation of the four Growth Concepts be reviewed using a climate change lens.

E. Other Important Considerations

In preparing the Growth Concepts, considering has also been given to the Region's role in providing for affordable housing and protecting cultural heritage resources.

1. Affordable Housing

The Growth Concepts prepared as part of this report are constructed to address affordable housing through the means that are suggested in the Growth Plan and the PPS in providing for a range and mix of housing types and density and the minimum supply requirements. This report does not provide formal policy recommendations relating to affordability and the Growth Concepts are not intended to establish affordable housing targets. However, the Region is committed to partnering with local municipalities to provide affordable housing options through the use of inclusionary zoning policies[3] and related analysis. In particular, the Regional Official Plan contains clear goals and objectives to advance affordable housing augmented by the Region's Comprehensive Housing Strategy (CHS), which provides a roadmap on housing matters. Halton Region's affordable housing targets calls for at least 30% of new annual housing units to be affordable or assisted housing and at least 50% of new annual housing to be townhouse or multi-story. The Region continues to be a leader in supporting affordable housing having completed its first housing strategy before being mandated by the Province.

The *IGMS Regional Urban Structure Discussion Paper* proposed the use of inclusionary zoning within certain major transit station areas (MTSAs)[4]. In light of this suggestion, to help understand what the affordable housing potential would be between the Growth Concepts a comparative analysis is provided. Table 3 describes the potential for affordable housing supply between the concepts. As described further in Chapter 6 of this report, Concept 3 has the greatest amount of intensification and growth allocated to Strategic Growth Areas (SGAs) including MTSAs, therefore having the most potential for affordable housing through inclusionary zoning, due to the greatest number of

[3] Inclusionary zoning is a tool that requires private developers to provide a certain amount of affordable housing units within each development. Under the *Planning Act* it is limited to developments within Protected Major Transit Station Areas (MTSAs), or where a Development Permit System has been implemented.

[4] See section 3.4.1 Planning Act Tools in the IGMS Regional Urban Structure Discussion Paper

potential housing units within MTSAs, where the inclusionary zoning tool can be utilized by municipalities. In contrast, Concept 4 has the lowest amount of intensification directed to MTSAs as a greater proportion of future growth is to be accommodated within new Designated Greenfield Areas (DGA).

Table 3: Affordable Housing Potential within MTSAs

	Concept 1	Concept 2	Concept 3	Concept 4
Affordable Housing Potential in MTSAs	Some Potential	Some Potential	Greatest Potential	Lowest Potential

The potential for the use of Inclusionary Zoning and the Region's role in partnering with the local municipalities should be further examined through the development of an Assessment Report. Recommendations relating to affordable housing policies will be set out in the *Regional Official Plan Review: Phase 2 Policy Directions Report*, anticipated in 2021.

2. Cultural Heritage Resources

The Region's current Official Plan policies aims to protect cultural heritage resources in conjunction with the local municipalities and historical organizations.[5] These policies conform to section 4.2.7 of the Growth Plan, which requires that cultural heritage resources be conserved and municipal official plans include strategies for the identification, wise and management of cultural heritage resources.

The Region's local municipalities in most cases complete detailed analysis relating to location and protection of cultural heritage resources. In developing the four Growth Concepts, local municipal plans and priorities were considered, including the location of development and amount of intensification. As a result, a cultural heritage lens was applied to the Growth Concepts through a reliance on local studies and assessments that addressed cultural heritage conservation, when determining intensification potential within the Built-Up Area (BUA).

Cultural heritage policies will be brought forth as part of the local municipal Official Plans as supported through technical analysis. As new urban lands are designated through the current Municipal Comprehensive Review (MCR) process, is expected that the protection of cultural heritage resources will be further supported through analysis at subsequent stages of the planning process, including the local municipal official plans.

[5] See section 165 to 167 of the current Regional Official Plan

3. Employment Trends

This report considers employment trends within Halton as well as the surrounding Region. Policy direction provided in the *Economic Development Strategic Implementation Plan*, including the importance of ensuring a sufficient supply of serviced employment lands over the long-term planning horizon.

The Region has recently retained Strategy Corp to complete a study on the *Changing Nature of the Economy and Employment and Implications for Halton Region*. This work will produce a policy whitepaper which will provide insight to factors influencing the Region's economy included the COVID-19 pandemic, nature of employment and the non-residential real estate market. The study will also comment on the appropriateness of the employment land needs identified as part of this IGMS Growth Concepts Discussion Paper in the context of future economic growth sectors and jobs.

4. Preservation of Agricultural Lands

In accordance with the policies of the Growth Plan (2019), agricultural uses located within the province's agricultural system will be protected for long-term use (Section 4.2.6). This includes avoiding non-compatible land uses where possible or, if avoidance is not possible, minimizing and mitigating the impacts on the agricultural system. Through Official Plan policies, municipalities are encouraged to enhance as well as support the viability of the agricultural system.

The preservation of agricultural lands also helps to achieve objectives related to climate change mitigation and adaptation. For example, emissions reductions can be achieved because woodlots, hedges, and soils sequester carbon and the availability of local food reduces emissions from the food system by reducing the distance from farm to table. From an adaptation perspective, agricultural lands increase local food security and resiliency due to potential disruption in the food system.

The Growth Concepts developed as part of this report recognize the importance of agricultural lands in creating a healthy and resilient community. In determining potential locations for future settlement boundaries as part of the Growth Concept, an agricultural area assessment was completed. This initial assessment will help determine the most appropriate location for future settlement areas by avoiding high priority agricultural lands and mitigating impacts on the agricultural system.

Additional details on this assessment are provided in Appendix G.

4. A Number of Key Factors Influence the Growth Concepts

Planning in Ontario is carefully regulated under various Acts and their associated Regulations with municipalities having broad authority over planning and development within their jurisdiction. However, because of the scale of growth centered around Toronto, the Province has assumed an overarching role in the planning the Greater Golden Horseshoe which is set out in the comprehensive Growth Plan (2019). The Growth Plan and other factors are key to the growth concepts being considered during this MCR process. This section describes five key factors:

- The recently updated Growth Plan (2019) which sets out the overall framework and growth targets;
- The new Provincial methodology that must be used to establish future land needs;
- How future development in Halton is to be phased over the forecast period;
- The potential short, medium and long-term effects of the COVID-19 epidemic on housing demand and work practices; and,
- How specific requirements in the Growth Plan (2019) are to be addressed in the Growth Concepts.

A. Region Must Plan to Accommodate the New Schedule 3 Forecast

As discussed above, the Province sets growth management policies for the Greater Golden Horseshoe. They are given legislated authority through the Places to Grow Act and are detailed in the *A Place to Grow: Growth Management Plan for the Greater Golden Horseshoe* (referred herein as “Growth Plan (2019)”. The Growth Plan has been updated several times since 2005, most recently in August 2020. Central to the plan policies are population and employment forecasts for each Region and Single Tier municipality. These are set out in Schedule 3 of the plan. Importantly, the update extended the planning horizon for the forecasts from 2041 to 2051.

The forecast for Halton is for the population to grow to 1.1million by 2051 with employment reaching 500,000 by the same date. These are substantial increases from the Region’s 2019 population of 596,000 and employment of 283,000. In accordance with the requirements of the plan, the Region must, at a minimum, plan to

accommodate the new level of population and employment specified in Schedule 3. In doing so, the Region, among other things, must adhere to specified intensification targets. Beyond these basic parameters, the Region has considerable flexibility in its approach, including the phasing of development over the identified planning period. The mandatory Municipal Comprehensive Review, of which this study is a part, is the process through which the specific details of the approach will be determined.

B. New Land Needs Assessment Methodology is to be Used

In conjunction with the release of the updated plan in August, 2020 the Province published the final version of a revised Land Needs Assessment(LNA) methodology that Upper Tier and Single Tier municipalities are required to use in determining future land needs.

The new LNA methodology aligns with the policy structure of the Growth Plan (2019) and is organized according to two broad land use categories; land for community needs, predominately housing, and land for employment uses. The methodology for each category is broken into a number of components. The summary below draws in large part from the description of the methodology in the Province's policy document.

Appendix B provides a brief technical paper on the land need assessment assumptions used in the IGMS Growth Concepts.

1. Community Area Land Needs

The assessment of community area land needs assessment must be based on the Schedule 3 population forecast and consider households by dwelling type and housing need to 2051. Employment growth in the community area, must also considered as part of the overall community area land need assessment.

The forecasted need must be divided between housing inside the built-up area and in the designated greenfield area. Along with community area jobs, the forecasted need is to be translated into appropriate densities to ensure the minimum intensification and designated greenfield area density targets of the Growth Plan will be achieved. The result of this assessment is the total land required to 2051 for community area needs including housing, population-related jobs, and major office jobs

2. Employment Area Land Needs

The employment area land needs assessment broadly follows the same components as the assessment of community area land needs. Using the Schedule 3 employment

forecasts, determining the number of jobs by type is the key task to be undertaken. In completing the work, municipalities can use their own data sources as well as others such as the Statistics Canada Census and Ontario's Long-Term Report on the Economy. In addition, the technical and supplemental reports for the Growth Plan (2019) forecasts that provide employment by type projections can be of assistance. As with the community area needs assessment, in order to complete the employment area assessment through the Municipal Comprehensive Review process there will be a dialogue between the Region and local municipalities as well as public consultation. Consideration is also given to economic development related analysis in order to support Halton specific trends and circumstances.

3. Market Based Housing Supply

The LNA methodology introduces important changes to the municipal land needs assessment process. These include requirements that housing supply and demand be explicitly analysed in terms of total housing and housing by type, that market contingency factors be considered in the determination of available land supply, and that "market based demand" be considered as part of accommodating growth.

In keeping with the policy changes introduced to the Growth Plan (2019) and the 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 growth. 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. Significant development of intensification and 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 itself, that sets out the policies favouring intensification, more higher-density mixed-use development, such as MTSAs and UGCs as well as a reduced consumption of greenfield land.

Balancing these competing policy interests is a significant part of decision-making on the four Growth Concepts and the overall IGMS. The four Growth Concepts test different scales of the housing market shift. The estimated 2021 housing mix in the Region is 80% ground-related housing and 20% apartment housing. Over the past decade, new housing in Halton has been about 30% apartments which is about the same housing mix as a market-based demand would provide. To 2051 that market-based forecast would shift the apartment share upward from the current 20% of units to

24% of units. Meeting the minimum Growth Plan intensification target of 50% means a housing market shift such that about 48% of new units in Halton would need to be apartments, which would shift the total 2051 housing mix to 32% of all units in apartments. Concept 4 represents this market shift. Concepts 1, 2 and 3 by degree further embrace intensification and higher-density mixed-use development and would result in a range of 55% to 65% of apartment units in the growth increment and at 2051 the total housing stock of the Region would be a range from 35% to 40% of all units in apartments.

A detailed discussion of the Region's market based housing supply is provided in Appendix B.

C. Phasing of Development

Carefully planned and managed growth has been a hallmark of planning in Halton Region. The *Halton Urban Structure Plan* (HUSP) outlined an orderly phasing of growth for the urban areas of Oakville, Burlington and Milton.

The *Sustainable Halton* plan details the phasing of growth in quantum and geographically. Phasing is central to the regional planning framework. Phasing is prescribed to ensure the logical and orderly development of urban areas and ensures that this growth proceeds in a sustainable and cost-effective manner. Policies also call for this phased growth to contribute to the creation of complete communities while ensuring that new urban expansion does not affect the achievement of intensification targets.

Table 2(a) in the Regional Official Plan allocates the forecasts of growth to 5-year periods out to 2031. This phasing schedule differentiates growth in new Designated Greenfield Areas (DGA) from intensification (growth to be realized within the Built-Up Areas) for the Region as a whole as well as for each area municipality. The phased expansion of the urban areas is delineated on Map 5 of the Regional Official Plan.

The build out of the DGA delineated by the *Sustainable Halton* plan is behind the schedule anticipated when the Plan was prepared. Among the reasons why the build out of these lands and growth is currently behind the pace anticipated, including:

- Densities that are being achieved in the current DGA are higher than originally anticipated, thus requiring less land than originally anticipated;

- There was a slowdown in urban development generally associated with the recession of 2008; and
- Secondary Plans that provide for the development of Designated Greenfield Areas now have to be supported by detailed technical studies (e.g., subwatershed studies), therefore requiring additional time for analysis and consultation.

In fact, it should be noted that there are still elements of growth identified in the HUSP that have not yet been built out.

In preparing the Land Needs Assessment for this current exercise, all concepts assume that DGA previously identified through the HUSP and *Sustainable Halton* plans will be fully developed prior to any new development occurring within any new urban expansion areas. It is anticipated that these lands can reasonably satisfy greenfield demand into the 2031-2041 time period.

A short-term effect of the COVID-19 pandemic has been a realization that many people can work quite effectively from home; commuting distance is, for the time being, less of a frictional concern for young families. Along with this has been a concern about high-rise living, with a decline in the demand for units in tall towers. There is some evidence that these conditions, as fleeting as they may be, are leading to an increase in demand for single family housing further out from the GTA employment centres.[6] Should this demand settle in as the pandemic recedes, there will be more of a sustained demand for greenfield development throughout the GGH.

D. New Growth Forecasts Account for COVID-19 but Uncertainties Remain

During the preparation of the revised Growth Plan (2019) and the Schedule 3 forecasts, the COVID-19 virus emerged and became a global epidemic. It has had an indelible impact on people's lives and the economies they depend upon. For Canada and Ontario it has been the most severe shock to the economy since the Great Depression in the 1930's. While a vaccine became available in 2021, governments have had to continue to impose severe restrictions on people's activities in order to limit its spread. A large number of people have been laid off and many others are working from home.

[6] According to recent analysis completed by Statistics Canada, COVID-19 has accentuated the "new-found" importance of a home as more people spend more time at home, increasing the demand for larger dwellings that can accommodate more activities such as working from home and remote learning.

Numerous businesses have been forced to close and economic activities have been curtailed.

In order to mitigate the financial impact of COVID-19 on employees and businesses the Federal and Provincial governments have provided unprecedented amounts of temporary financial support. Since the spring of 2020, the economy has recovered a significant share of the loss in GDP but there is still a long way to go.[7] The ongoing need for physical distancing means that significant sectors of the economy such as hospitality, entertainment and retail will continue to struggle until a vaccine and/or an effective treatment becomes widely available. The travel industry has been especially hard hit because of controls on international travel and concerns about health risks. As a result, the number of immigrants and international students coming to Canada has declined precipitously.

The forecasts in the technical report from which Schedule 3 is based, were originally premised on the total GGH population being consistent with the Ministry of Finance Population Projections over the forecast period. However, with COVID-19 a new factor, the forecasts were adjusted to assume a reduction in expected GGH population growth for 2021. The forecasts were also revised to anticipate a 15% decline in total GGH employment in Q2 2020, assumed to be the recession low point, and that about three quarters of the lost jobs would be recovered by Census Day 2021. A summary of anticipated growth over the 2021 to 2051 benefitting period is shown in Figure 7 below.

[7] As reported by Statistics Canada, gross domestic product, income and expenditure, third quarter 2020 survey, real GDP grew 8.9% in the third quarter of 2020. However, despite this strong growth real GDP was down 5.3% compared with the fourth quarter of 2019.

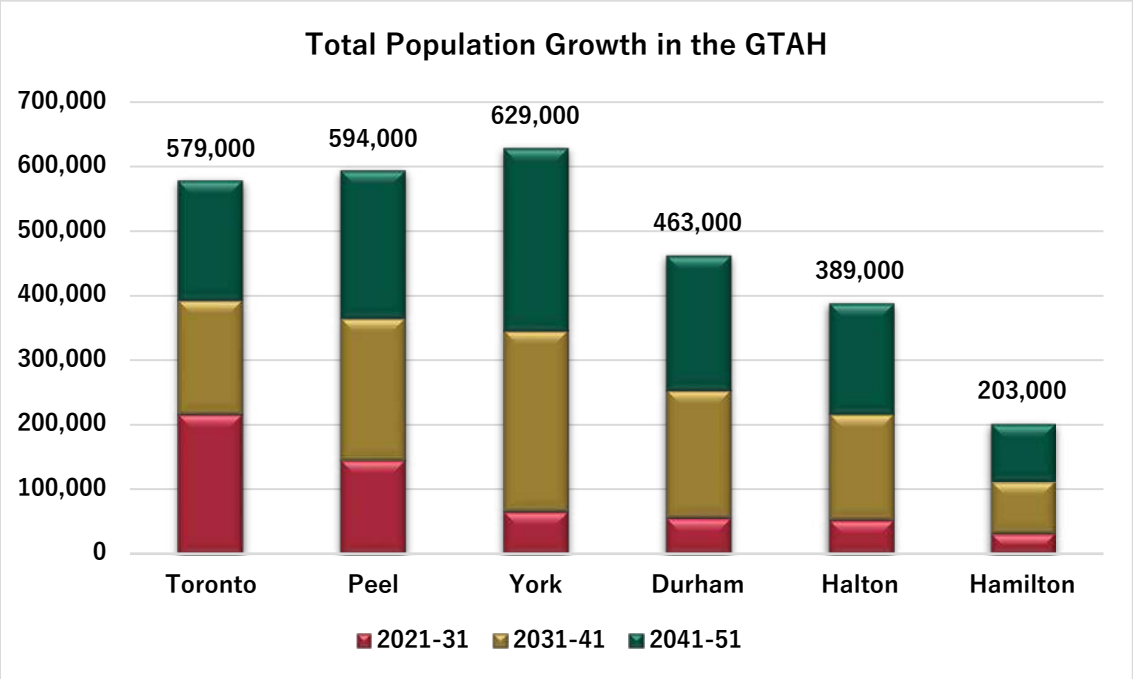


Figure 7: Total Population Growth GGH
Source: Hemson, 2020

At present, there may be a tendency to expect the impact of COVID-19 to be both substantial and long lasting, which could have significant implications for growth across the GGH and potentially for Halton. However, it is very important to bear in mind that the current MCR process and the Growth Plan have a time horizon of 2051, thirty years into the future. This is more than enough time to recover the growth that may be lost because of COVID-19. Nevertheless, given the disruption that has been caused it is likely that things will not go back to the way they were before. There are three particular impacts that may have long-term land use implications:

1. Remote Working

The forced experiment in remote working has proven to be a success for many organizations and their employees. While the number of people currently working remotely will not remain as high as is at present, there is growing evidence to suggest that a proportion of the work force will continue to work remotely. The pattern will be mixed; some people will return to the office as soon as possible, others may stay away on a permanent basis. Overall, the amount of space required for each new worker is likely to decline although by how much is unclear.

2. Looser Linkage between Home and Workplace

With the increasingly viable option of working from home the need to closely consider the commute to and from work has diminished. As a result, the practical home location options increase. If the work place is only visited once or twice a week, a location requiring a longer commute may well be acceptable if housing is more affordable. For Millennials, being able to afford a single family home is increasingly important as they begin to have children. Recent new home sale data gives some indication of this pattern beginning to emerge.

3. Acceleration in the Shift to E-commerce

For some years, e-commerce, exemplified by Amazon, has steadily increased its share of retail purchases. COVID-19 provided significant boost as consumers stayed at home and as retail space was closed. If and when COVID-19 becomes less of an issue, it is expected retail activity will pick up. However, as for some being able to work from home will continue to be appealing, for others, being able to shop with ease over the internet has proven an attractive option. This shift will drive the need for additional distribution centres. However, it will not mean that the amount of retail space will decline, but rather that it will increase at much slower rate than the rate of population growth.

COVID-19 has caused enormous damage in the short period since its effects began to be felt and there is good reason to be concerned that until an effective vaccine is widely available, the negative impacts will continue to increase. However, it is important to remember that the pessimistic outlook that prevailed during the 2008 financial crisis tended to dissipate over time. A similar pattern may follow with COVID-19 although perhaps at a slower rate because of the severity of this crisis.

5. Regional Urban Structure Aligns with Provincial Policy Requirements and Incorporates Local Plans and Priorities

The notion of building "complete communities" underpins many of the policy requirements set out in the Growth Plan (2019). The plan provides specific policy direction related to strategic growth areas (including minimum intensification targets). Prioritizing growth in these areas is intended to support compact communities. The plan also identifies areas that should be avoided for development including natural heritage features and areas, water resource systems, key hydrological features and areas as well as certain land uses within the Agricultural System. The Natural Heritage System of the Protected Countryside in the Greenbelt Plan (2019) extends through Halton. In accordance with the policy requirements of the Greenbelt Plan (2019), development potential is very limited in these areas.

The Region's urban structure elements are outlined in Map 1 of the ROP. Categories of land uses include the Urban Area, Agricultural Areas, Regional Natural Heritage System, Greenbelt Protected Countryside etc. Other important structure elements in the Region include the Greater Toronto Area (GTA) West Corridor, the Parkway Belt West and associated Hydro Corridor. A description of these elements is provided in the recently released *IGMS Regional Urban Discussion Paper,* dated July 2020 (as found in staff report LSP56-20).

A. Halton's Urban Structure

Together, these elements form Halton Region's urban structure reflected in each of the four Growth Concepts and are shown in Figure 8.

- UGCs, MTSAs as well as Nodes and Corridors are referred to as Strategic Growth Areas (SGAs). In accordance with the policy requirements of the Growth Plan, future residential and non-residential growth is strategically targeted to these areas.

- Future Strategic Employment Areas (FSEA) were initially set-out in *Sustainable Halton* and identify future strategic areas for employment growth.

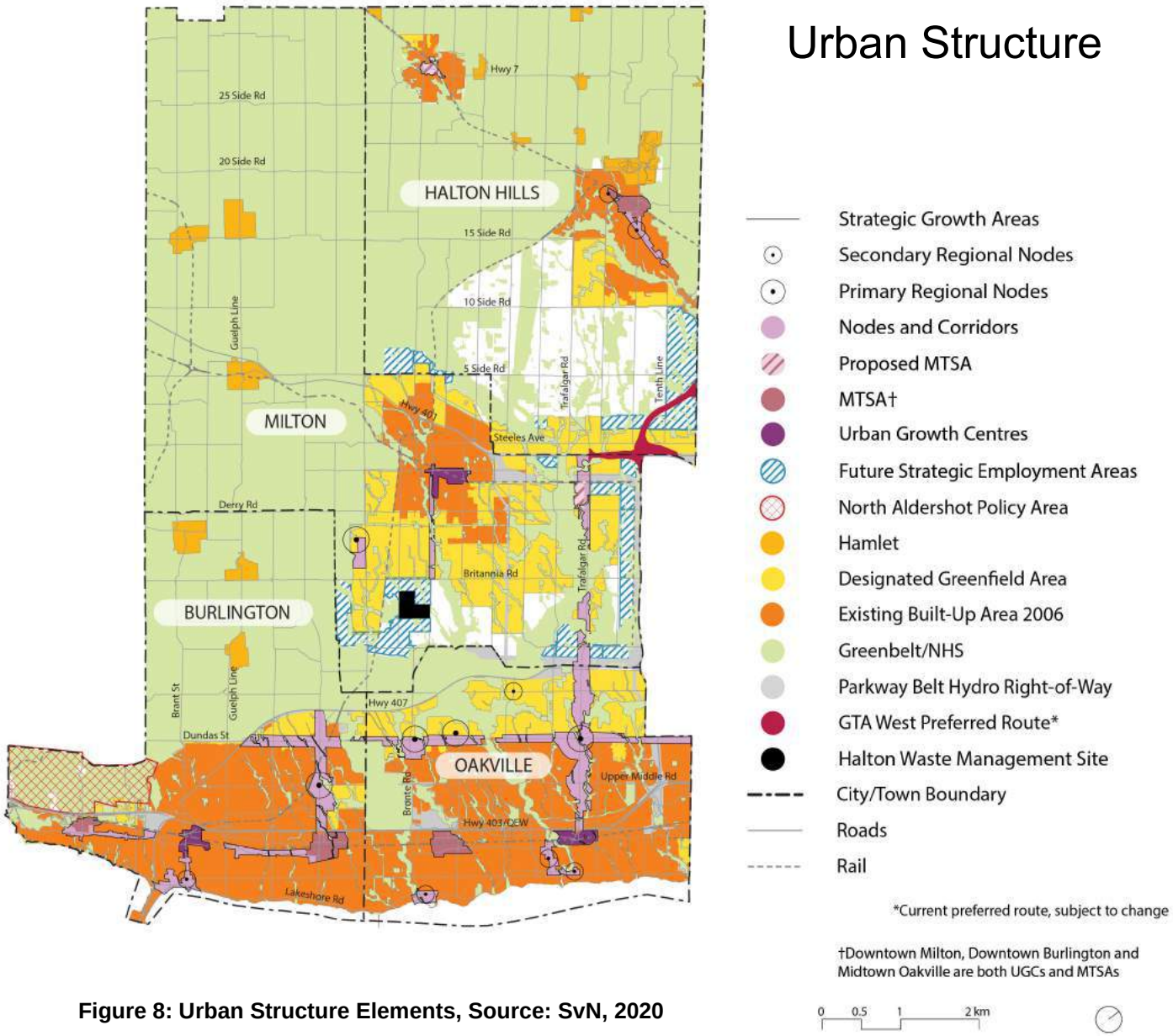


Figure 8: Urban Structure Elements, Source: SvN, 2020

B. Designated Greenfield Area

Designated Greenfield Areas (DGA) are located throughout the Region. Although these areas are not yet fully built out, future DGA lands may need to be designated in order to accommodate growth occurring after 2031. The amount of land potentially needed to accommodate future growth is being tested as part of the four Growth Concepts.

In accordance with the Growth Plan, DGA lands must be planned in a way that supports the achievement of complete communities, supports active transportation and encourages the integration of transit. Future Community DGA lands will be a mix of mainly residential uses with the supporting community, institutional and commercial uses that together are the land and buildings of neighbourhoods.

In the Growth Concepts, the new Community DGA lands in the Region are planned to accommodate a density of 65 persons and jobs per hectare. This density represents development occurring today in new areas in the Region. Bristol and Boyne in Milton will likely be somewhat over 65 when fully completed while Sherwood in Milton and the southwest Georgetown area likely a little less than 65 persons plus jobs per hectare. The 2019 Growth Plan's policy minimum of 50 persons plus jobs per hectare is much lower than built or proposed anywhere in Halton or the GTA in recent decades. Neither land use planning nor the development industry is proposing to return to the general densities of the 1980s and it would be entirely inappropriate to do so in the context of virtually any regional planning policies.

Figure 8 shows the partial buildout of DGA lands (roughly 50% of 65 persons and jobs per hectare). When partially buildout, a mix of undeveloped DGA land and new development would be expected. Residential development is likely to include a mix of single and semi-detached as well as townhouse dwellings (included stacked and back-to-back).

Figure 8 illustrates future DGA lands once full buildout of 65 persons and jobs per hectare is achieved. Existing DGA lands in Milton are already accommodating growth at a density of 65 persons and jobs per hectare and higher. It is important to note that Strategic Growth Areas (SGAs) such as nodes and corridors, MTSAs, etc. may be added to new DGA areas. These designations will help achieve minimum densities of 65 person and jobs per hectare.

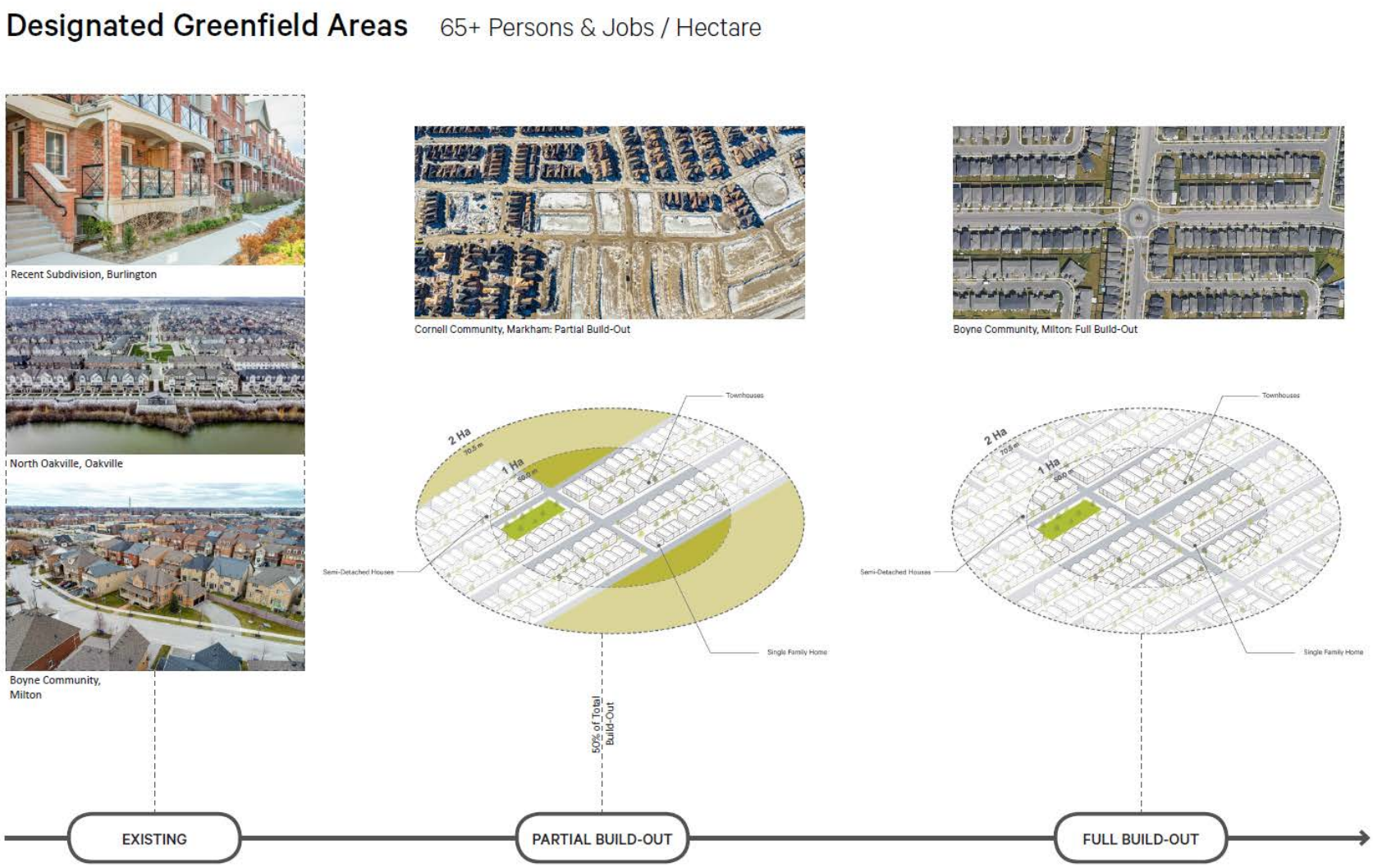


Figure 8: Partial and Full Build-Out Designated Greenfield Areas
Source: SvN, 2020

C. Urban Growth Centres

As required by the Growth Plan, Urban Growth Centres (UGCs) are located in Burlington, Oakville, and Milton. In accordance with the policies of the Growth Plan, these areas will accommodate a significant amount of population and employment growth, be serviced by regional transit networks and attract significant employment uses (section 2.2.3).

The Growth Plan requires that UGCs be planned to achieve a density of 200 persons and jobs combined per hectare by 2031. In all four Growth Concepts described in this report, the UGCs in Burlington, Oakville, and Milton are planned to achieve this density.

In October, 2020, the Downtown Burlington Urban Growth Centre and MTSA Supplemental Discussion Paper presented an adjusted Downtown Burlington UGC boundary. The UGC boundary is adjusted to generally align with the boundary of the MTSA at Burlington GO and a portion of the lands within the exiting UGC boundary closest to the Burlington GO.

Figure 9 illustrates a partial build out of a UGC (assumed to be pre-2031). The area is characterized by a mixed of new higher density development and existing lower density uses as shown in the precedent image of Markham's UGC.

In order to achieve a density of 200 persons and jobs per hectare at build out, the UGC will include high-density employment uses (e.g. offices) and high-density residential. It is reasonable to expect that existing low density sites in the UGC will need to be redeveloped in order to achieve the density target of 200 persons and jobs per hectare. The downtown Kitchener UGC provides an example of a fully built out UGC at 200 persons and jobs per hectare.

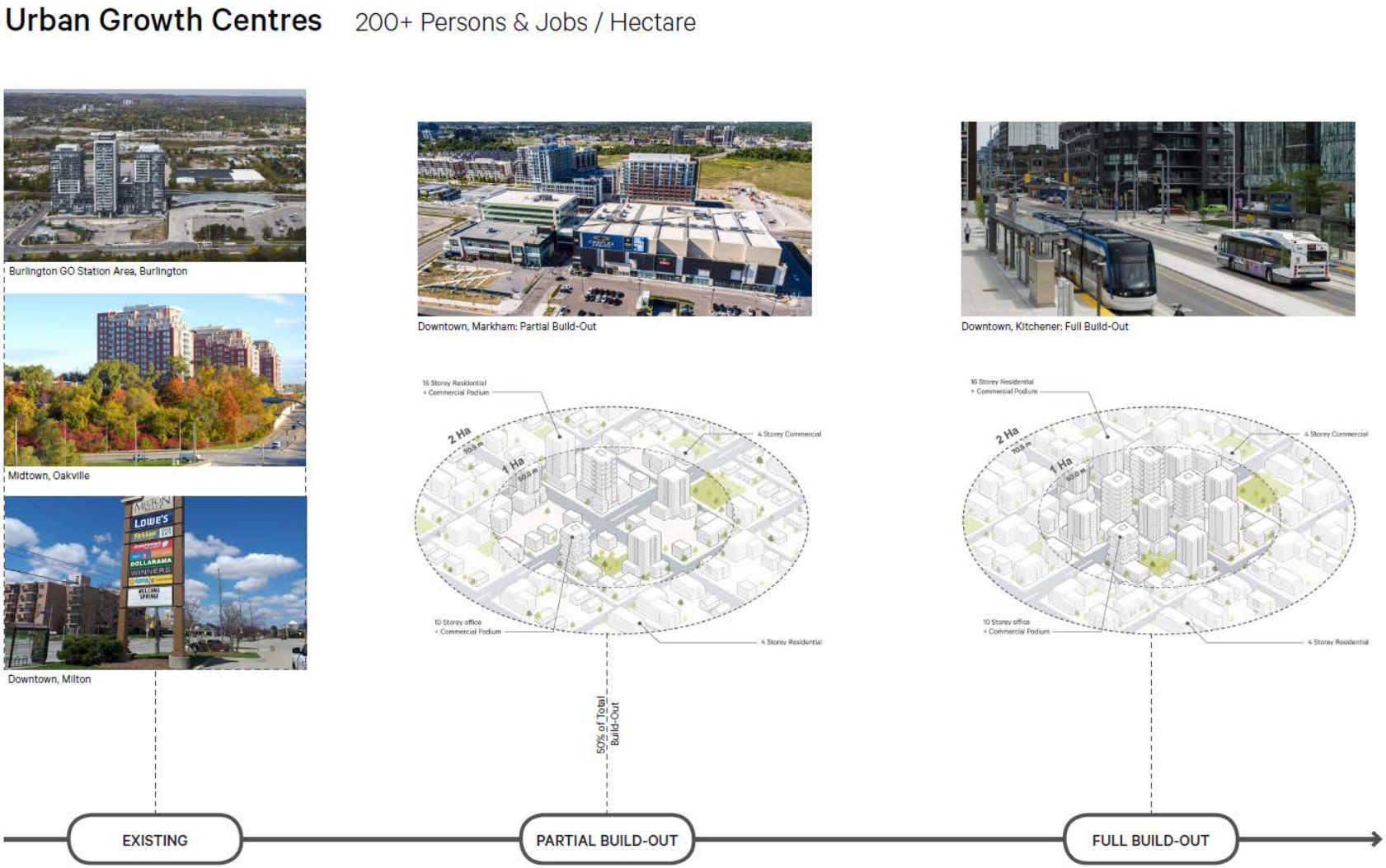


Figure 9: Partial and Full Build-Out Urban Growth Centres, 200 ppj per ha
Source: SvN, 2020

D. Major Transit Station Areas

As described in Table 4, there are nine Major Transit Station Areas (MTSAs) located in the Region, three of which overlap with the Burlington, Oakville and Milton UGCs (the boundary of these MTSAs align with the boundary of the UGCs).

Table 4: MTSAs in Halton Region

Burlington	Oakville	Milton	Halton Hills
Aldershot GO	Bronte GO	Milton GO (UGC)	Georgetown GO
Appleby GO	Oakville GO (UGC)	Trafalgar GO*	Acton GO
Burlington GO (UGC)			

**No GO Station is currently located at the Proposed Trafalgar MTSA*

In accordance with the Growth Plan, planning for growth will be prioritized for MTSAs located on priority transit corridors as shown in Schedule 5 of the Plan (Section 2.2.4), which in the case of Halton is the Lakeshore West GO line from Bronte to the Aldershot GO Station. MTSAs located on Priority Transit Corridors include those found in Burlington and Oakville on the Lakeshore West GO line. Alternative minimum density targets can be set if approved by the Province. The MTSAs located in Milton and Halton Hills are not located on Priority Transit Corridors.

MTSAs in Burlington, Oakville, and Milton must be planned to achieve a minimum target of 150 persons and jobs per hectare. These three MTSAs are governed by the UGC target provided the boundaries are coincident. In contrast, density targets for the MTSAs in Halton Hills are not mandated by the Growth Plan and may be set through the overall IGMS process.

Figure 10 demonstrates the partial buildout of MTSAs. Many of the Region's MTSAs have existing well-established employment uses and low-density commercial uses (e.g. gas stations and retail buildings). As MTSAs develop and accommodate higher density growth, it is expected that although these uses will be redeveloped to accommodate higher density developments, some of the existing uses within the MTSA boundary will remain.

As shown in Figure 10, a fully built MTSA will feature high density residential and office uses, similar to the Port Credit GO Station in Mississauga. However, the nine MTSAs in the Region have enormous development potential and are therefore not expected to be fully built out by 2051. Rather, it is more likely that MTSAs will be partially built, as shown in Figure 10.

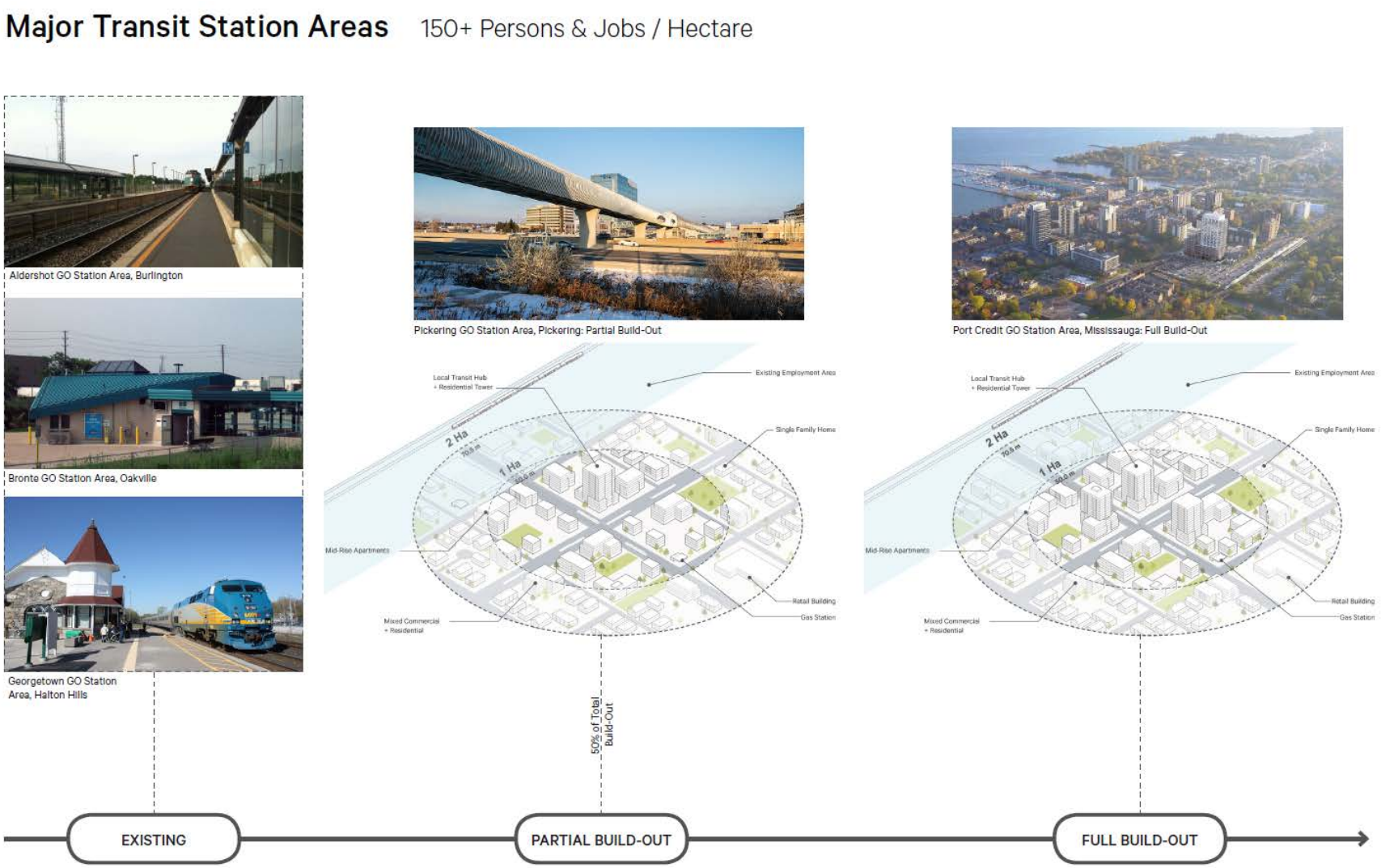


Figure 10: Partial and Full Build-Out MTSAs, 150 ppj per ha
Source: SvN, 2020

E. Nodes and Corridors

Nodes and corridors are a type of Strategic Growth Area (SGA) within the Region's urban structure. These areas have been identified through the local municipal plans and priorities and feature a mix of residential and non-residential uses. Residential buildings include mid-rise residential towers as well as medium density units (e.g. townhouses).

Table 5 identifies the different locations of nodes and corridors within the local municipalities. Allocation of growth to these areas have been informed based in local municipal plans and priorities; however, this growth has been considered in the context of other SGAs – including UGCs and MTSAs – which have intensification targets mandated by the Growth Plan.

Table 5: Nodes and Corridors in Halton Region

Burlington	Oakville	Milton	Halton Hills
Downtown Urban Centre	Midtown Oakville	Education Village	Guelph Street Corridor, Georgetown
Dundas Corridor	Bronte Village	Trafalgar Road Corridor	Downtown Georgetown
Appleby Line Corridor	Downtown Oakville	Ontario Street Corridor	Queen Street Corridor, Acton
Uptown Urban Centre	Kerr Village		
	Uptown Core		
	Palermo Village		
	Trafalgar Road Corridor		
	Dundas Corridor		
	Hospital District		
	Neyagawa Urban Core		

Figure 11 illustrates the partial buildout of nodes and corridors.

Figure 11 shows the full buildout of nodes and corridors. By 2051, the nodes and corridors in the Region will contain medium to high-density developments but will be surrounded by established neighbourhoods and employment areas.

Nodes and Corridors

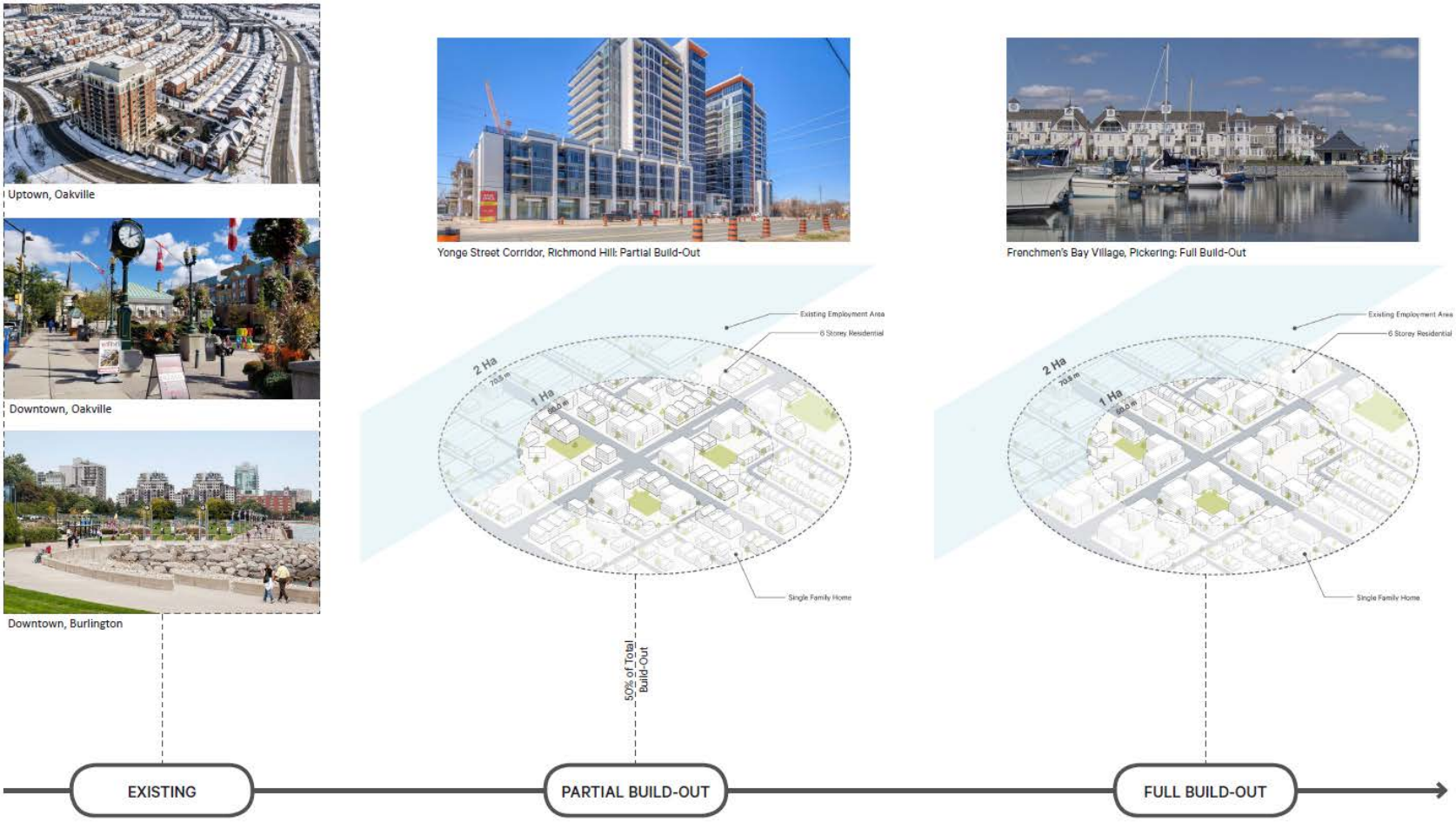


Figure 11: Partial and Full Build-Out Nodes and Corridors
Source: SvN, 2020

F. Other Urban Structure Elements

In addition to the urban structure elements described in the previous sections, there are other elements worth noting that influence the location of growth within the Region.

1. GTA West Corridor

The GTA West Corridor is a proposed provincial transportation corridor which is intended to span across the Regions of Halton, Peel and York. The corridor was originally identified in the Growth Plan (2005) and was effectively put on hold until November 2018 when the newly elected Progressive Conservatives resumed the Environmental Assessment for the corridor.

Recently, the Province confirmed the Preferred Route for the GTA West Corridor arising from Phase 2 of the Environmental Assessment Study. The preferred route extends from Highway 400 in the east to Highway 401/407 interchange in the west. The corridor is proposed to run east-west along the boundary of Halton Hills and Milton and north-south through the eastern portion of Halton Hills.

Regional Council has officially opposed the GTA West Corridor due to its adverse impacts on the local ecosystem and broader environment. However, given the significance of this piece of infrastructure in the context of Halton's transportation network and the surrounding region, all Growth Concepts in this report reflect the preferred location of the GTA West Corridor. In developing the Growth Concepts, proposed settlement area boundary expansion areas have been located adjacent to the highway.

2. Future Strategic Employment Areas (FSEA)

The Region's Official Plan includes policies to protect lands outside of existing settlement areas for future employment growth beyond the planning horizon of the current plan (see section 139.6 and Map 1C of the Region's Consolidated Official Plan). This lands are referred to related to Future Strategic Employment Areas (FSEA) and are strategically located near major transportation facilities and existing Employment Aras.

As the FSEA lands have already been identified as strategic areas for future employment, these lands were used to determine the possible location of future Employment Areas tested under the four Growth Concepts described in this report. It should be noted that the FSEA lands in the Region's current Official Plan were defined

prior to the Preferred Route for the GTA West Corridor being established. As such, some of the FSEA lands overlap with the proposed location of the corridor.

3. CN Milton Logistics Hub Project Site

The proposed CN Milton Logistics Hub is a large intermodal freight facility to be located in southwest Milton along the railway line that lies parallel to Tremaine Road on the east side, generally between Britannia Road and Second Side Road south of Lower Base Line Road. The Region of Halton and the four local municipalities did not support the project and actively participated in the Government of Canada's environmental assessment process. However, the process concluded on January 21st, 2021 with the Federal Cabinet giving the project approval to go ahead. The site is planned to handle about 350,000 freight containers annually with an eventual expansion to 450,000. The purpose of the facility is to transfer containers between railway cars and trucks, both inbound and outbound. There will be about 800 trucks per day passing through the main freight entrance off of Britannia Road just west of Bronte Street.

The Logistics Hub site covers about 160 ha of which about 110 ha are within the planned southwest employment area. The remainder of the site is in the rural area. The site extends about 1,600 metres to the south of the planned southern limit of the Southwest Employment area. Some of the site, including the primary truck entrance area, is in the rural area to the west, adjacent to Halton's Waste Management Facility. CN has significant additional land holdings in adjacent to the site totaling nearly 500 ha.

There are challenging issues for the Region, Milton, the other municipalities and Conservation Halton related to the project. For the IGMS process, the implications of the Federal decision will be addressed as part of the Preferred Growth Concept.

4. North Aldershot Policy Area and Halton Waste Management Site

Two elements shown on the urban structure map are worth noting for the purposes of this report.

- **North Aldershot Policy Area (Burlington) –** this is a special policy area located within the City of Burlington which is currently primarily non-urban. The area poses unique environmental features including the Niagara Escarpment and waterways and valleys. For the purposes of the Growth Concepts, no growth is proposed in this area. Chapter 7 provides additional analysis on this special policy area.

- **Halton Waste Management (Milton) –** the Region maintains a waste management site in the Town of Milton. For the purposes of the Growth Concepts, no development is proposed in this area.

6. Four Growth Concepts are Considered as part of the IGMS Process

The IGMS process is about how and where growth will be accommodated in the Region. This chapter describes where and how growth is to be accommodated in Halton from a Growth Plan (2019) perspective in relation to the four growth concepts, building upon the findings identified in the *IGMS Halton Region to 2041* report.

A. How are the Growth Concepts Similar?

The Growth Plan policies play a central role in where new development is to be located in Halton Region and what form it takes. All four concepts achieve the essential planning policy objectives of the Growth Plan (2019):

- All concepts meet or exceed Growth Plan minimum intensification rate with at least 50% of all new units assigned to be built within BUA.
- All new Community DGA is planned for a density of 65 persons and jobs per hectare.

With respect to employment, newly designated employment areas planned at 26.8 employment land employees per hectare, which is higher than Milton and Halton Hills today.

B. What Differentiates the Growth Concepts?

The key differentiating variables are the rate of densification[8] for the 2031 to 2051 period, and the amount of new Community Designated Greenfield Area (DGA) that needs to be identified to accommodate those units, by type, which cannot be accounted for by the intensification rate for each concept. Concepts with higher densification rates post-2031 will see increased pressure to shift the housing mix to apartments especially apartments suited to families, in order to accommodate the demographic profile of Halton residents. For this reason, the concepts differentiate between ground-related and apartment units. This means that the question of how to shift housing markets, especially given the new requirement of the LNA methodology to consider market influences, is a key consideration.

[8] Densification rate refers to 2031-2051 at least a minimum of 50% of units are located within the BUA, plus units in the current greenfield areas that will be within high-density mixed-use communities such as the Trafalgar Corridor in north Oakville.

As shown in Figure 12 below, the amount of densification ranges between the concepts with Concept 3 having the highest rate and Concept 4 having the lowest rate. A further differentiating characteristic is the share of new apartment housing that must be allocated to the existing DGA as it builds out as well as assumptions about apartment development in strategic growth areas identified for post-2031.

The resulting range to be assessed is not insignificant. In the four Growth Concepts the existing DGA would accommodate a total population in the range of 305,000 to 385,000 by 2051 up from an estimated DGA population of 125,000 in 2021. In the Concepts new DGA could be required to accommodate a range of population growth from 45,000 to 115,000 for the three of four concepts where there is the designation of new community greenfield lands.

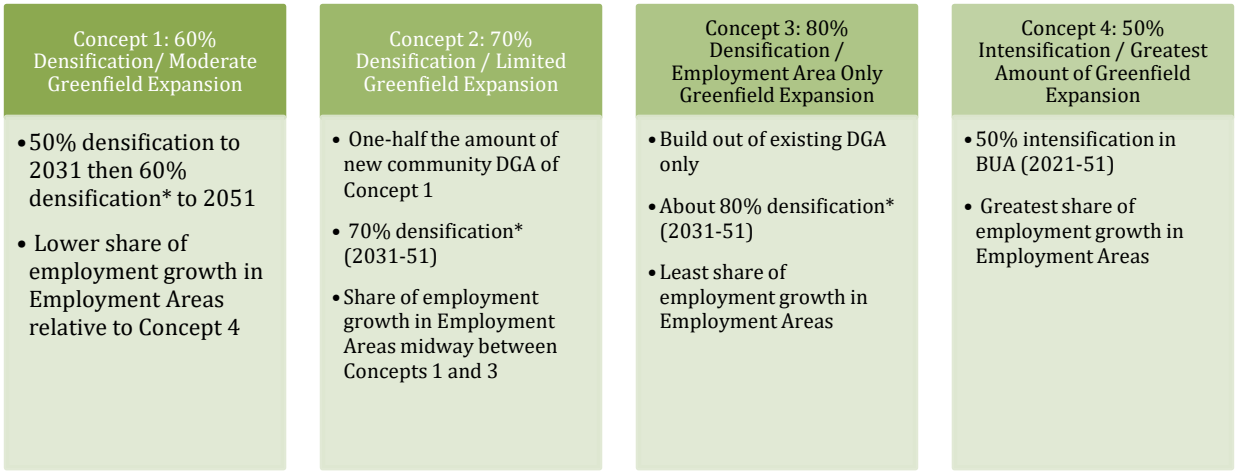


Figure 12: Overview of Growth Concepts

In contrast, all four Growth Concepts have a requirement for additional future employment lands. The amount of additional land needed varies between the concepts, but within a much narrower range than the community land areas. The range of employment land need between the concepts varies due to two considerations: how much office employment occurs in the industrial-type building stock; and the amount of replacement of existing Employment Area that is converted to other uses.

C. Employment Conversions were Tested for the Growth Concepts

Employment land conversion affects the amount of land needed to accommodate future employment growth. Property owners or municipalities may request an employment land conversion as part of the MCR process, a conversion being permission for a use other than those generally permitted for new development in areas identified as Regional Employment Areas. The new permissions sought are mainly for residential uses. A number of the requests relate to the removal of existing large-scale retail or institutional uses from the Regional Employment Area with no request for additional use permissions.

Treatment of employment land conversions has been determined through a review of employment conversion requests by Regional staff and Hemson. Certain employment land conversions are to be brought to Council for a decision in 2021 as part of the Scoped Regional Urban Structure ROPA (Scoped ROPA). The other employment land conversions will remain under consideration through the remainder of the ROPR process with some tested in the Growth Concepts, with a Council decision rendered as part of the general ROPR amendments in 2022.

Table 6 below summarizes both private and local municipal initiated requests and the results of the initial assessments of conversion requests received as part of the ROPR. For each request, the result of the initial assessment ('Supported', 'Not Supported', or, 'Further Analysis') is identified and the evaluation of each Principle set out in the *IGMS Regional Urban Structure Discussion Paper*:

- **A: Land Supply** - The supply of land required for employment purposes to the 2041 planning horizon and the ability to achieve Regional employment targets will not be adversely affected by the proposed conversion
- **B: Demonstrated Need** - There is a demonstrated need for the proposed conversion on the basis that it would enable a strategic opportunity for growth that supports the Regional Urban Structure and/or Local Urban Structure, or, on the basis that there are specific existing conditions or constraints associated with the subject lands that reduce or limit the opportunity for employment uses.
- **C: Viability** - The overall viability of an employment area will not be adversely affected by the proposed conversion.

- **D: General Considerations** - The proposed conversion does not compromise any other relevant Regional or Local objective, policy or requirement, financial or otherwise, and can be supported by existing or planned infrastructure and public service facilities

Each request is further is summarized with a symbol:

- ✓ Principle Met
- × Principle Not Met
- ✳ Further Analysis

Additional details are provided in Appendix C, which includes contextual information about each request as well as how it was assessed against each of the four principles. Appendix C also contains mapping showing the location of the requests and the potential changes to the boundaries of the Regional Employment Areas.

Table 6: Status of Employment Land Conversion Requests

Map Ref Number	Reference Name	Initial Assessment	Principle				IGMS Implementation Process
			A	B	C	D	
Burlington							
B-01	238 Sumach Drive	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA
B-08	2258 Mountainside Drive	**Supported**	✓	✓	✳	✓	To Be Determined
B-09	North Service Road / Industrial Street	**Supported**	✓	✓	✓	✓	Preferred Growth Concept
B-11	800 Burloak Drive	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA
B-16	3270 Harrison Crescent	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA
B-17	900 Guelph Line	**Not Supported**	×	×	×	×	Not Recommended to Advance
B-18	4103 Palladium Way	**Further Analysis**	✓	✓	✳	✳	To Be Determined
B-19	3309 Harrison Court	**Not Supported**	×	×	×	×	Not Recommended to Advance
B-20	4450-4480 Paletta Court	**Not Supported**	×	×	×	×	Not Recommended to Advance
B-21	Bronte Creek Meadows	**Not Supported**	×	×	×	×	Not Recommended to Advance
B-22	1200 King Road (Eastern Portion)	**Not Supported**	×	×	×	×	Not Recommended to Advance

Map Ref Number	Reference Name	Initial Assessment	Principle				IGMS Implementation Process
			A	B	C	D	
Multiple [1]	1150 &1200 King Road (Western Portion)	**Further Analysis**	✳	✳	✳	✳	To Be Determined
Multiple [2]	Aldershot GO MTSA	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA
Multiple [3]	Downtown Burlington UGC / Burlington GO MTSA	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA
Halton Hills							
Multiple [4]	Acton GO MTSA	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA
HH-03	344 Guelph Street	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA
Milton							
M-01a	Milton Education Village (Northern Portion)	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA
M-01b	Milton Education Village (Southern Portion)	**Further Analysis**	✳	✳	✳	✳	Tested in Growth Concepts
M-02	Agerton	**Further Analysis**	✳	✳	✳	✳	Tested in Growth Concepts
M-04	Bronte/Main Lands	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA
M-05	Maple Avenue Major Commercial	**Supported**	✓	✓	✓	✓	Preferred Growth Concept
M-06	Steeles Avenue Major Commercial	**Supported**	✓	✓	✓	✓	Preferred Growth Concept
M-07	405 Martin Street	**Supported**	✓	✓	✓	✓	Preferred Growth Concept
M-08	Bronte Street South Lands	**Not Supported**	×	×	✓	✓	Not Recommended to Advance
M-09	Fifth Line Farm	**Not Supported**	✓	×	×	✳	Not Recommended to Advance
Multiple [5]	Meritor Lands	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA
Oakville							
O-01	677 Burloak Drive	**Further Analysis**	✳	✳	✳	✓	To Be Determined
O-02	337, 353 Burnhamthorpe Road	**Supported**	✓	✓	✓	✓	Preferred Growth Concept

Map Ref Number	Reference Name	Initial Assessment	Principle				IGMS Implementation Process
			A	B	C	D	
O-03	240 Leighland Avenue	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA
O-05	Palermo Village	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA
O-06a	Bronte GO MTSA (Initial Area)	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA
O-06b	Bronte GO MTSA (Remaining Area)	**Further Analysis**	✳	✳	✳	✳	Tested in Growth Concepts
O-07	Hospital District	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA
O-08	Speers Road Corridor	**Policy Review**	–	–	–	–	Considered via Policy Review
O-09	Winston Park Core Commercial	**Supported**	✓	✓	✓	✓	Preferred Growth Concept
O-10	Burloak Core Commercial	**Supported**	✓	✓	✓	✓	Preferred Growth Concept
O-11	497-513 Pinegrove Road	**Supported**	✓	✓	✓	✓	Preferred Growth Concept
O-13	Winston Park West Core Commercial	**Supported**	✓	✓	✓	✓	Preferred Growth Concept
O-14	584 Ford Drive	**Supported**	✓	✓	✓	✓	Preferred Growth Concept
O-16	Winston Churchill / Sheridan Garden Drive	**Supported**	✓	✓	✓	✓	Preferred Growth Concept
O-17	Sixth Line / Burnhamthorpe Road	**Supported**	✓	✓	✓	✓	Preferred Growth Concept
O-18	3164 Ninth Line	**Further Analysis**	✳	✳	✓	✳	To Be Determined
O-19	263 Burnhamthorpe Road West	**Not Supported**	×	×	×	×	Not Recommended to Advance
O-20	Dundas & McCraney Creek	**Not Supported**	×	×	×	×	Not Recommended to Advance
O-22	Burnhamthorpe / Neyagawa NW	**Further Analysis**	✳	✳	✳	✳	Tested in Growth Concepts
O-23	3515-3545 Rebecca Street	**Not Supported**	×	×	×	×	Not Recommended to Advance
Multiple [6]	Burnhamthorpe Road East	**Not Supported**	×	×	×	×	Not Recommended to Advance

Map Ref Number	Reference Name	Initial Assessment	Principle				IGMS Implementation Process
			A	B	C	D	
Multiple [7]	The Parkway	**Supported**	✓	✓	✓	✓	Preferred Growth Concept

[1] Includes Requests B-05 and B-15, the western portions of 1150 and 1200 King Road within the City's MTSA Special Planning Area
[2] Includes Requests B-02, B-03, B-04, B-10, B-12, B-13, and B-14 within the Aldershot GO MTSA Boundary
[3] Includes Requests B-06 and B-07 within the Downtown Burlington UGC / Burlington GO MTSA Boundary
[4] Includes Requests HH-01 and HH-02 within the Acton GO MTSA Boundary
[5] Includes Requests M-03 (Meritor Lands) and M-10 (Honda Site / 170 Steeles Avenue)
[6] Includes Requests O-15 and O-21 which are located in a cluster along Burnhamthorpe Road
[7] Includes Requests O-04 and O-12 which are located in the area northwest of Upper Middle Road and Ninth Line know as The Parkway are located in the area northwest of Upper Middle Road and Ninth Line know as The Parkway Further discussion is required on whether the Gateway designations located south of Steeles Avenue in Halton Hills Premier Gateway should be examined as potential conversion sites given the existing development and/or land use permissions.

In the Growth Concepts and the associated land budgeting, the employment land conversions are treated in accordance with how they are shown in Table 6 under the IGMS Implementation Process, as follows:

- The conversions shown as "Scoped ROPA" are those being supported on the basis of the current analysis and are part of significant urban structure elements warranting an early approval through the Scoped ROPA. The analysis in all of the Growth Concepts removes the lands from the Regional Employment Area and adds residential supply potential to the Growth Concepts residential analysis. Where appropriate, the lands are "replaced" by the addition of new greenfield Employment Area designations. Four of the ten properties are associated with MTSAs: Aldershot GO MTSA, Downtown Burlington UGC (Burlington GO MTSA), Bronte GO MTSA Phase 1 and Acton GO MTSA. Three properties are conversions of undeveloped greenfield areas: Palermo North and Hospital District in Oakville and the northerly portion of the Milton Education Village conversion. The remaining three are redevelopment sites: the Meritor and nearby Bronte/Main lands in Milton and 344 Guelph Street in Halton Hills. All of these land are replaced by the addition of new greenfield Employment Area designations in the Growth Concepts land budget.
- All of those indicated as supported and implemented through the "Preferred Growth Concept" are currently assumed to be approved. In all Growth Concepts, the lands are removed from the Regional Employment Area, and where residential permission

is sought, an assumed residential supply potential is added to the residential analysis. Where appropriate, the lands are "replaced" by the addition of new greenfield Employment Area designations.

- Those shown as "Not Supported" and as "Not Recommended to Advance" are not included as conversions in any of the Growth Concepts analysis and are assumed to remain in existing use or, if vacant, be developed for the current planned use.

- There are five conversions subject to further analysis with a recommendation "to be determined." These properties are relatively modest in size, are not part of key urban structure elements and would not have a significant effect on land budget or growth distribution whether ultimately approved or not. As a result, the Growth Concepts assume no change for any of these properties. A final recommendation on the conversion of these properties will be made as part of the Preferred Growth Concept.

- There are areas that are subject to "Further Analysis" and are being tested in one of more of the Growth Concepts. In each case, at least one concept includes the conversion and at least one does not. In the concept where conversion is assumed to occur, the residential potential is added to the residential analysis and replacement lands may be added to the new Employment Area designations. The five are considered in the Concepts as follows:

    - Bronte GO MTSA is 106 ha and is considered in the Concepts in three parts: Phase 1 is 24 ha and is assumed to be approved as part the Scoped ROPA, of the 82 ha in Phase 2, about half is tested for conversion in Concepts 1, 2 and 3, the other half of Phase 2, proposed to remain in employment use, is not considered for conversion. Nearly all of the lands tested for conversion are replaced with additional greenfield employment land designations.

    - The Burnhamthorpe/Neyagawa area in North Oakville has been identified as a node by the Town of Oakville, a 10.2 portion of the node is tested in Concepts 2 and 3 for development as mixed use. These vacant greenfield lands would need to be replaced with new designations elsewhere.

    - There are two parts to the proposed Agerton area conversion in Milton: a proposed GO Station and associated MTSA at Trafalgar Road would be high density mixed use development. The remainder of the southern part of Agerton would be a less dense mixed use area. The Trafalgar GO MTSA is tested in Concepts 1, 2 and 3 and the southern Agerton conversion is additionally tested in

Concepts 2 and 3. Any converted lands in the MTSA would need to be replaced with new designations. Owing to the employment focus of Milton's plan for south Agerton, just half of the land area is considered as needing to be replaced for land budget purposes.

- The southern portion of the Milton Education Village conversion is tested in Concepts 2 and 3. Unlike the other areas, the primary question around these lands is not necessarily the need but rather uncertainty over a potential abutting use to the south. Notwithstanding Halton's objection to the proposed CN Milton Logistics Hub to the south, the Federal Government recently gave the project approval to go ahead. It would seem unwise to introduce additional residential uses along Britannia Road given the significant concerns associated with existing residential permissions abutting the proposed CN site, however the implications of the Federal decision will be addressed in the development of the Preferred Growth Concept.

- On the matter of the replacement of employment lands in the land budget, any planned greenfield areas converted should be planned to be fully replaced since the use of the lands would be similar between the currently planned use and the replacement use, with the exception of Agerton noted above. Where the conversion is the redevelopment of standard industrial type development the lands should also be replaced in the land budget. Where the converted employment use is not a use that could occur on the replacement parcel, the replacement is not considered. This non-replacement applies to infrastructure uses such as the GO Stations and associated parking areas and hydro facilities as well as some parcels that have more of a rural employment use (St. Mary's Cement in Aldershot) or some odd-shaped parcels used for storage that would not likely develop into a typical new employment area use. Finally, the existing retail areas (e.g. Oakville Place Mall) and major institutional areas (Oakville-Trafalgar Memorial Hospital) that are being removed from the Regional Employment Area need not be replaced since the replacement lands would not permit or attract these uses.

D. Growth Management Decisions for Each Concept

The following maps identify key urban structure elements and the amount of residential and non-residential growth to be accommodated in each Growth Concept.

- Concept 1: 60% Densification/Moderate Greenfield Expansion
- Concept 2: 70% Densification/Limited Greenfield Expansion
- Concept 3: 80% Densification/Employment Only Greenfield Expansion
- Concept 4: 50% Intensification/Greatest Greenfield Expansion

Growth, Intensification and Density

Population and Employment Growth to 2051 for All Growth Concepts Mandated by Province

	2021	2051	2021-2051
Population	618,000	1,100,000	482,000
Employment	278,000	500,000	222,000

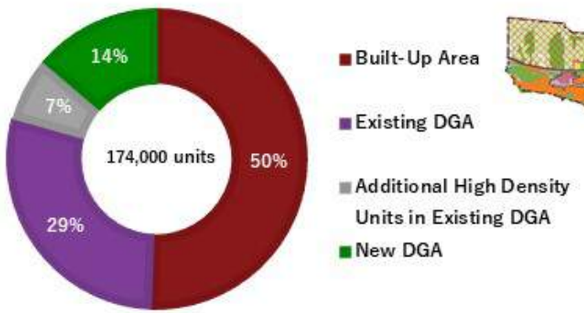
Halton Region's intensification in Concept 1 includes minimum 50% of all new housing inside the Built Up Area plus additional densification from high-density mixed-use areas in the greenfield areas

	2021-31	2031-2051
Inside Built-Up Area:	50%	50%
Densification:	limited	10%
Total	50% +	60%

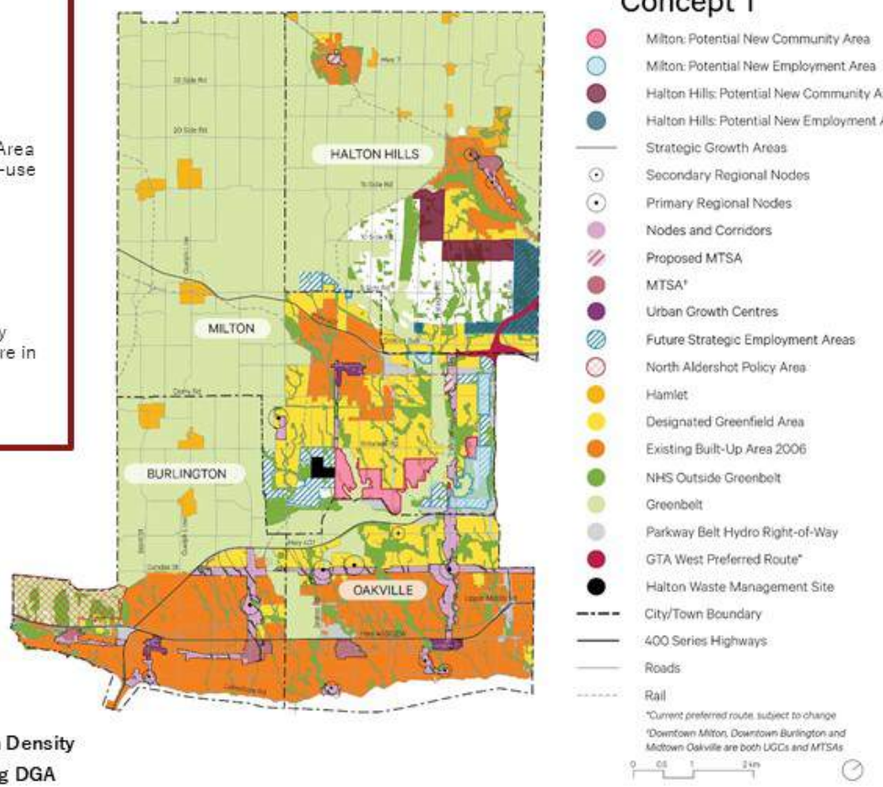
New Community Designated Greenfield Lands density exceeds the minimum 50 persons plus jobs per hectare in the Growth Plan

Concept 1: 65 persons plus jobs per hectare

Location of Halton's Housing Growth 2021-2051



Concept 1: 60% Densification / Moderate Greenfield Expansion



New DGA	Milton	Halton Hills	Total
Community	720 ha	740 ha	1,460 ha
Employment	490 ha	680 ha	1,170 ha

Agriculture and Environment

Entire proposed Natural Heritage System (NHS) (including Greenbelt and Growth Plan NHS) protected

Climate change mitigation and adaptation policies are an important consideration in the development of the Growth Concept

Agricultural System:
Class 1-3 farmed land urbanized: 3,430 ha

Where is Growth Occurring?

Concept 1: 2021-2051

Household Growth by Area	Burlington	Oakville
Built-Up Area	28,700	32,500
Existing DGA	1,800	13,400
Additional High Density Units in Existing DGA	700	4,800
New DGA	-	-
Total	31,200	50,700

Household Growth by Area	Milton	Halton Hills
Built-Up Area	20,400	6,500
Existing DGA	28,000	6,800
Additional High Density Units in Existing DGA	4,700	1,800
New DGA	12,100	12,100
Total	65,200	27,200

Growth, Intensification and Density

Population and Employment Growth to 2051 for All Growth Concepts Mandated by Province

	2021	2051	2021-2051
Population	618,000	1,100,000	482,000
Employment	278,000	500,000	222,000

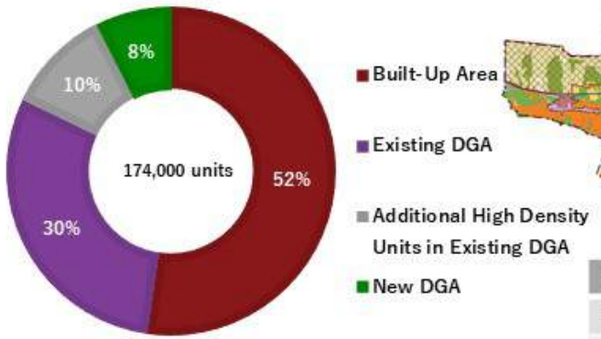
Halton Region's intensification in Concept 2 includes minimum 50% of all new housing inside the Built Up Area plus additional densification from high-density mixed-use areas in the greenfield areas

	2021-31	2031-2051
Inside Built-Up Area:	50%	50%
Densification:	limited	20%
Total	50% +	70%

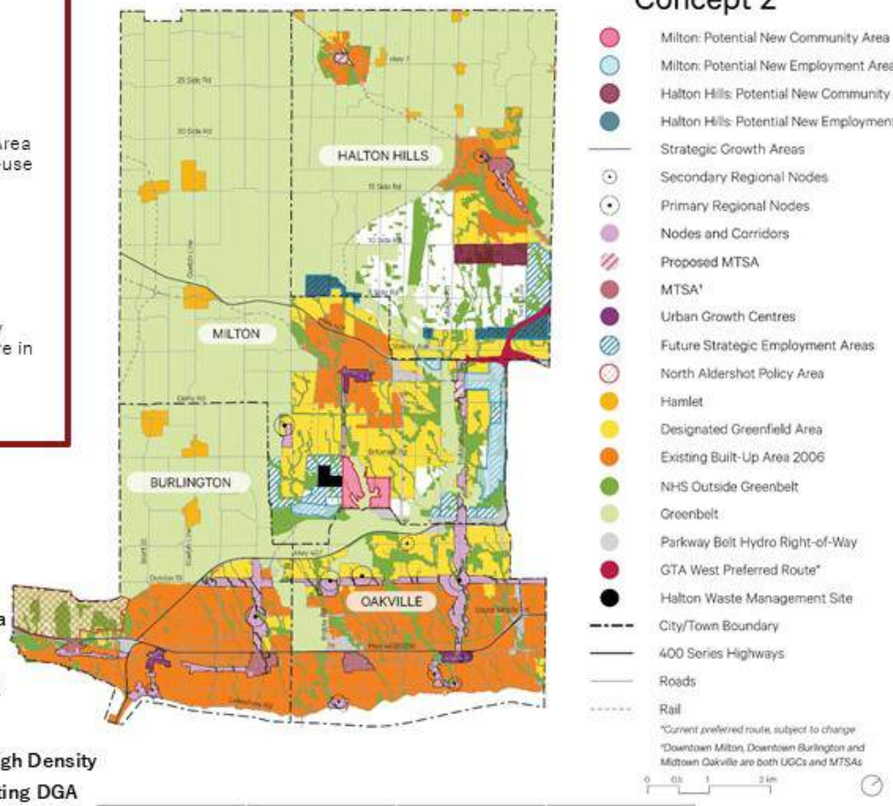
New Community Designated Greenfield Lands density exceeds the minimum 50 persons plus jobs per hectare in the Growth Plan

Concept 2: 65 persons plus jobs per hectare

Location of Halton's Housing Growth 2021-2051



Concept 2: 70% Densification / Limited Greenfield Expansion



New DGA	Milton	Halton Hills	Total
Community	400 ha	330 ha	730 ha
Employment	600 ha	500 ha	1,100 ha

Agriculture and Environment

Entire proposed Natural Heritage System (NHS) (including Greenbelt and Growth Plan NHS) protected

Climate change mitigation and adaptation policies are an important consideration in the development of the Growth Concept

Agricultural System:
Class 1-3 farmed land urbanized: 2,320 ha

Where is Growth Occurring?

Concept 2: 2021-2051

Household Growth by Area	Burlington	Oakville
Built-Up Area	29,800	33,700
Existing DGA	1,700	13,400
Additional High Density Units in Existing DGA	1,000	6,900
New DGA	-	-
Total	32,500	54,000

Household Growth by Area	Milton	Halton Hills
Built-Up Area	21,000	6,500
Existing DGA	30,200	6,800
Additional High Density Units in Existing DGA	7,400	2,700
New DGA	6,500	6,500
Total	65,100	22,500

Growth, Intensification and Density

Population and Employment Growth to 2051 for all Growth Concepts Mandated by Province

	2021	2051	2021-2051
Population	618,000	1,100,000	482,000
Employment	278,000	500,000	222,000

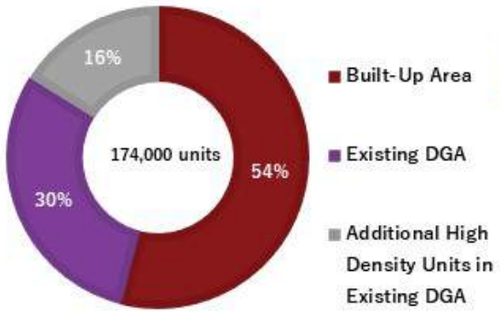
Halton Region's intensification in Concept 3 includes minimum 50% of all new housing inside the Built Up Area plus additional densification from high-density mixed-use areas in the greenfield areas

	2021-31	2031-2051
Inside Built-Up Area:	50%	50%
Densification:	limited	30%
Total	50% +	80%

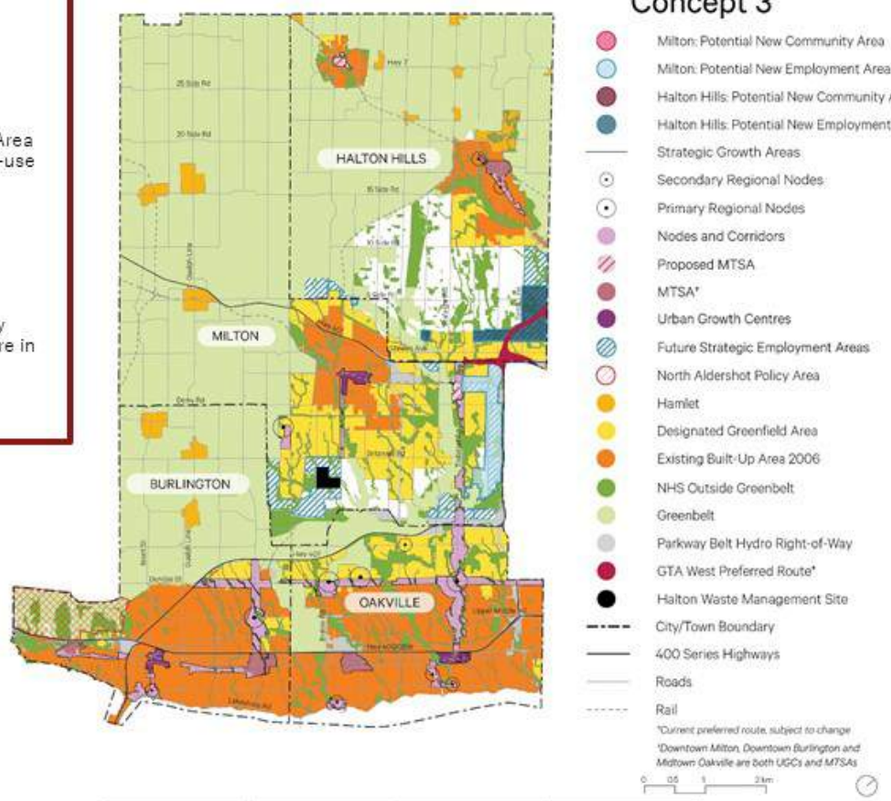
New Community Designated Greenfield Lands density exceeds the minimum 50 persons plus jobs per hectare in the Growth Plan

Concept 3: 65 persons plus jobs per hectare

Location of Halton's Housing Growth 2021-2051



Concept 3: 80% Densification / Employment Area Only Greenfield Expansion



New DGA	Milton	Halton Hills	Total
Community	0 ha	0 ha	0 ha
Employment	530 ha	450 ha	980 ha

Agriculture and Environment

Entire proposed Natural Heritage System (NHS) (including Greenbelt and Growth Plan NHS) protected

Climate change mitigation and adaptation policies are an important consideration in the development of the Growth Concept

Agricultural System:
Class 1-3 farmed land urbanized: 1,270 ha

Where is Growth Occurring?

Concept 3: 2021-2051

Household Growth by Area	Burlington	Oakville
Built-Up Area	30,800	34,700
Existing DGA	1,200	13,500
Additional High Density Units in Existing DGA	700	12,400
New DGA	-	-
Total	32,700	60,600

Household Growth by Area	Milton	Halton Hills
Built-Up Area	21,700	6,700
Existing DGA	30,800	6,800
Additional High Density Units in Existing DGA	12,900	2,000
New DGA	-	-
Total	65,400	15,500

Growth, Intensification and Density

Population and Employment Growth to 2051 for All Growth Concepts Mandated by Province

	2021	2051	2021-2051
Population	618,000	1,100,000	482,000
Employment	278,000	500,000	222,000

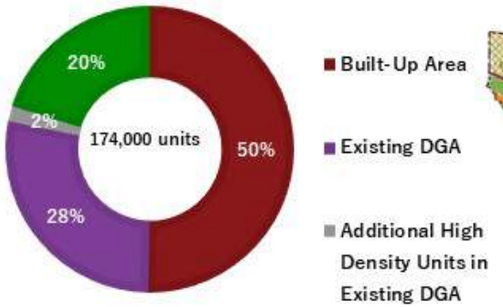
Halton Region's intensification in Concept 4 includes minimum 50% of all new housing inside the Built Up Area plus additional densification from high-density mixed-use areas in the greenfield areas

	2021-31	2031-2051
Inside Built-Up Area:	50%	50%
Densification:	limited	0%
Total	50% +	50%

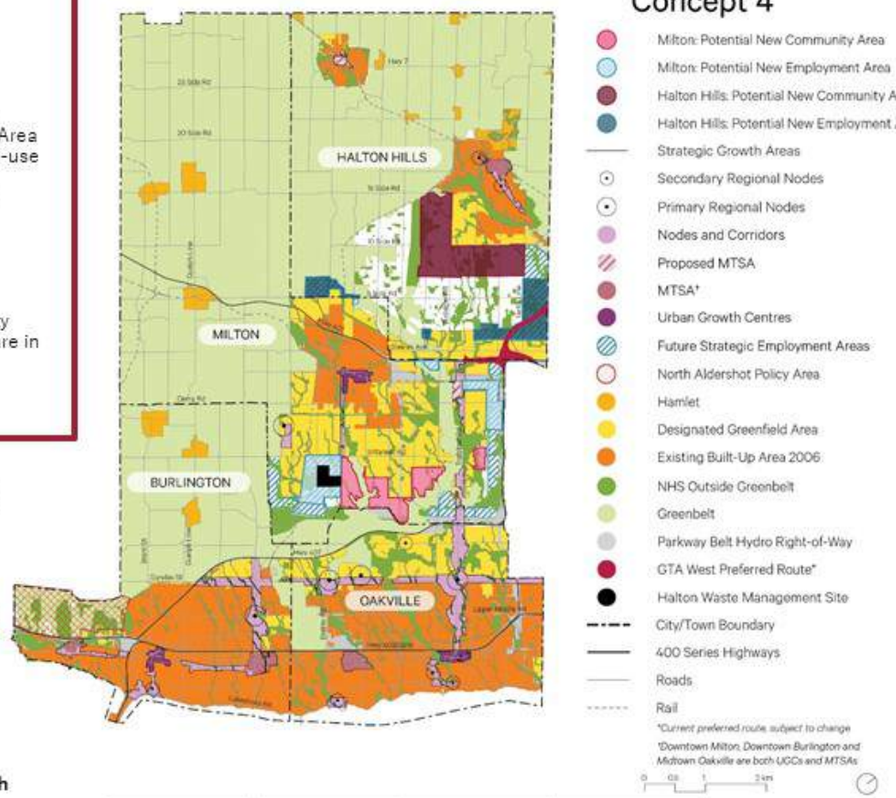
New Community Designated Greenfield Lands density exceeds the minimum 50 persons plus jobs per hectare in the Growth Plan

Concept 4: 65 persons plus jobs per hectare

Location of Halton's Housing Growth 2021-2051



Concept 4: 50% Intensification / Greatest Greenfield Expansion



New DGA	Milton	Halton Hills	Total
Community	720 ha	1,360 ha	2,080 ha
Employment	550 ha	670 ha	1,220 ha

Agriculture and Environment

Entire proposed Natural Heritage System (NHS) (including Greenbelt and Growth Plan NHS) protected

Climate change mitigation and adaptation policies are an important consideration in the development of the Growth Concept

Agricultural System:
Class 1-3 farmed land urbanized: 3,900 ha

Where is Growth Occurring?

Concept 4: 2021-2051

Household Growth by Area	Burlington	Oakville
Built-Up Area	28,700	32,500
Existing DGA	1,100	13,000
Additional High Density Units in Existing DGA	200	1,200
New DGA	-	-
Total	30,000	46,700

Household Growth by Area	Milton	Halton Hills
Built-Up Area	20,400	6,300
Existing DGA	27,900	6,600
Additional High Density Units in Existing DGA	1,200	400
New DGA	13,600	20,900
Total	63,100	34,200

E. Future Population and Employment Growth Will Be Directed Towards Strategic Growth Areas

The Growth Concepts are intended to test different growth management decisions including the location and amount of growth over the planning horizon to 2051. Figure 16 and Figure 17 provide a comparison of where future population and employment growth is proposed to be located in the Region, respectively. These maps are intended to be conceptual and provide a general indication of where future growth is to be located.

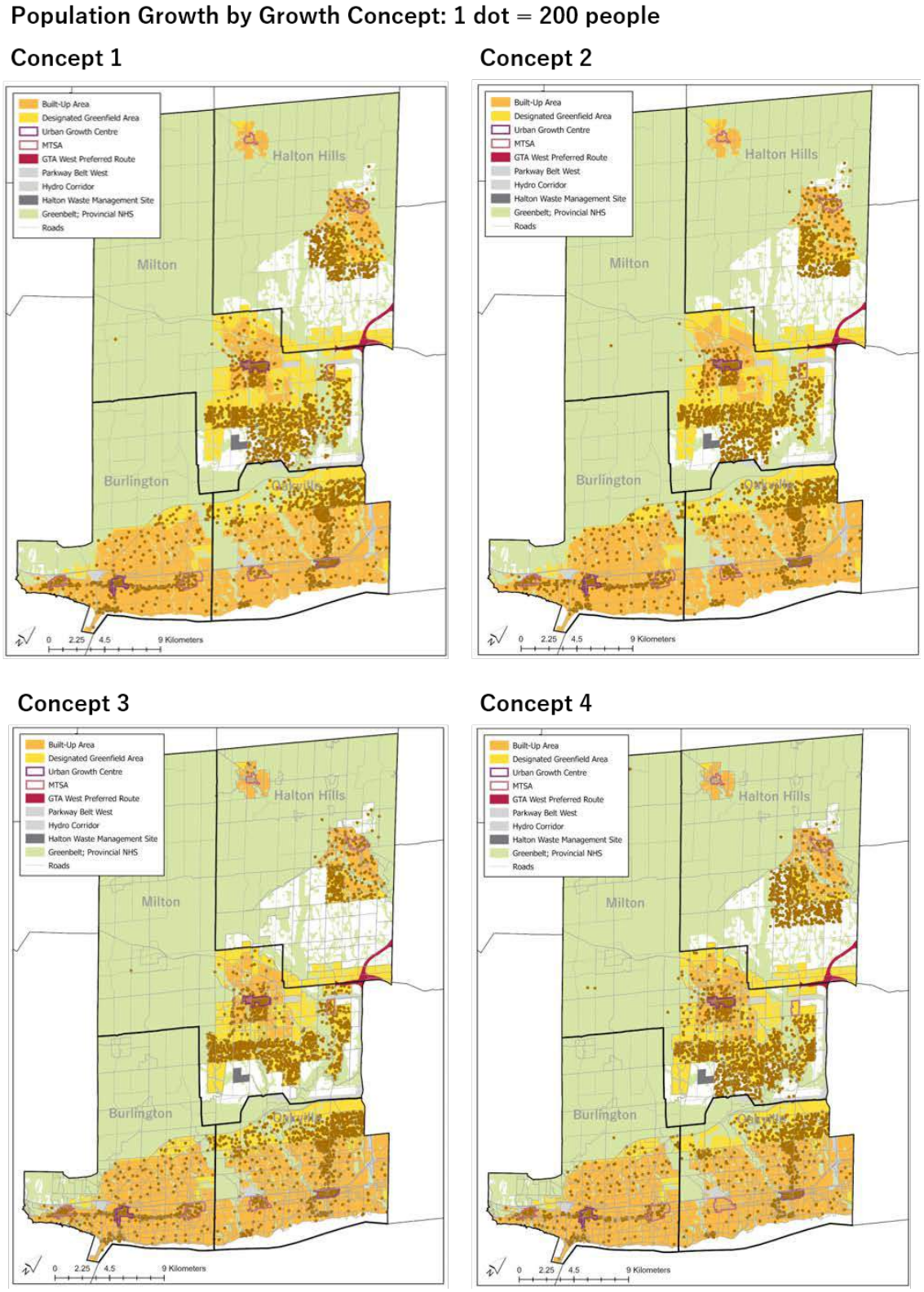


Figure 13: Population Dot Density Maps by Concept

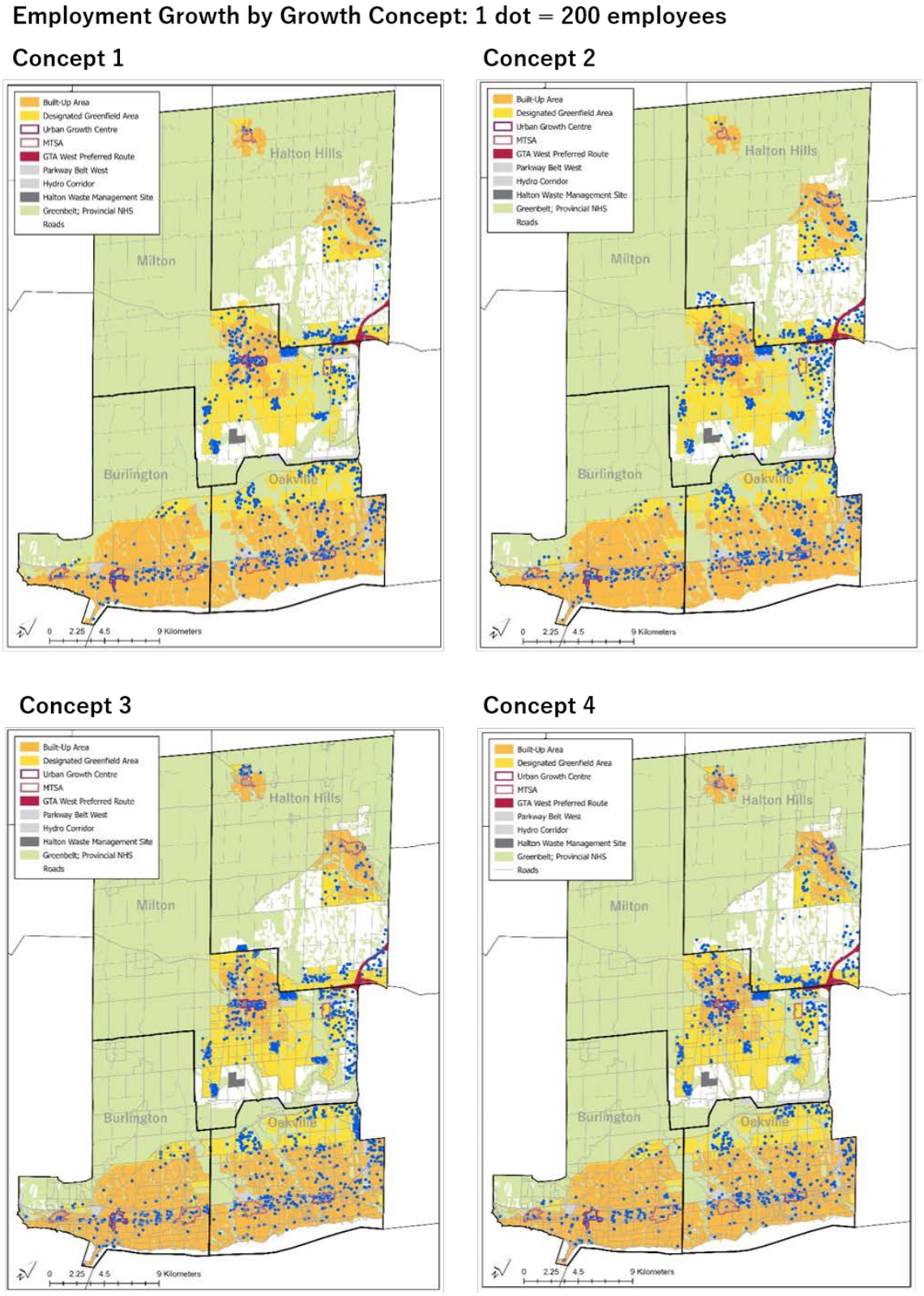


Figure 14: Employment Dot Density Maps by Concept

7. Settlement Area Boundary Expansion Analysis

This section of the report describes the basis for the work being undertaken to define and evaluate the Growth Concepts that have been described in the previous section and the potential settlement boundary expansion that they could involve. Five aspects of the process are described:

- What is causing the need for additional land for development?
- How are the locations for potential settlement boundary expansion areas to be determined?
- What is the planning basis for the Primary Study Area (PSA)?
- How were the potential areas for each Growth Concept developed?
- What technical studies are being undertaken to help evaluate the potential settlement boundary expansion areas?

A. The Need for Additional Land is Driven by Forecast Assumptions

As discussed in Chapter 2 of this report, in August 2020 the Province finalized the latest update to the Growth Plan. Of particular importance, the timeframe for the Plan was extended to 2051 and Schedule 3, which sets out the population and employment forecasts that municipalities are required to plan for, was revised to reflect the longer time-horizon.

As shown in Figure 18, the amount of forecast growth for the Region under the new timeframe is substantial, around 480,000 persons and 220,000 employees between 2021 and 2051. While the Region has additional capacity within the existing urban boundary, even with aggressive intensification efforts, the analysis suggests there will be need for additional urban land. The amount of land and where it should be located is being determined through this MCR process which is a requirement under the Growth Plan.

Figure 15: Region-wide Population and Employment Growth 2021-2051
Source: Hemson, 2020

There are many factors upon which the amount of land required depends. First and foremost is the number of people and jobs that need to be accommodated. Beyond that are questions concerning the size and number of households, the mix of housing forms and the density at which they can be built. On the employment side, the mix of jobs, the amount of space per worker, the ratio of floor space to land area and the building form all contribute to the projected land need. The combined population and employment driven land demand analysis is then set against the supply that remains within existing urban areas with the results determining the need for future land need.

B. Primary Study Area Has Been Defined Using Sound Planning Principles

The analysis of new land needs described above does not provide the answer as to where within Halton the lands should be located. This is to be determined based on sound planning principles and the Region's well-established approach to planning.

The first step in this exercise is the identification of potential settlement expansion areas. The step is inclusive, meaning that it is not restricted to identifying only just enough land to accommodate future growth. Rather, a broad approach is used in order to provide a sufficient range of options to accommodate the requirements of the four Growth Concepts being considered while still narrowing down the Region's whitebelt

lands for urban expansion as the entirety of these lands were not all needed to accommodate growth to 2051. The potential settlement area expansions need to address two broad uses: Community Area needs and Employment Area needs. Many of the policy directions discussed below are already established in the Region's current Official Plan.

1. Community Area Land Needs

Identification of the potential settlement area expansions took account of a number of basic considerations, including:

- Logical extension and adjacency/proximity to existing settlement areas;
- Appropriate topography for development;
- Logical potential for servicing; and
- Minimization of conflicts with the Natural Heritage and Agricultural System.

It is important to note that this exercise did not involve extensive analysis as the potential areas are being examined through a number of technical studies.

2. Employment Area Land Needs

A similarly broad approach was taken to the identification of potential new employment area expansions. The primary study areas identified include the Future Strategic Employment Areas (FSEA) already identified in the Region's current Official Plan as well as other whitebelt lands to account for lands accommodated by the preferred alignment for the GTA West Corridor. These areas were identified based on a number of factors, including:

- Logical extension and adjacency/proximity to existing settlement areas;
- Servicing potential;
- Appropriate topography for development;
- Range of potential parcel sizes;
- Visibility;
- Goods movement potential; and
- Minimization of conflicts with the Natural Heritage and Agricultural System.

As with potential settlement area for Community Area uses, an inclusive approach was adopted in order to enable all four Growth Concepts to be examined and in recognition that the technical studies would provide more granular assessments and refinement of the potential settlement areas.

Having identified the broad range of potential settlement areas to meet both new Community Area land needs and Employment Area land needs, the next step was to establish the overall Primary Study Area (PSA). This involved drawing a logical boundary based on physical divisions such as roads and natural features. Figure 16 shows the location of the PSA that has been established.

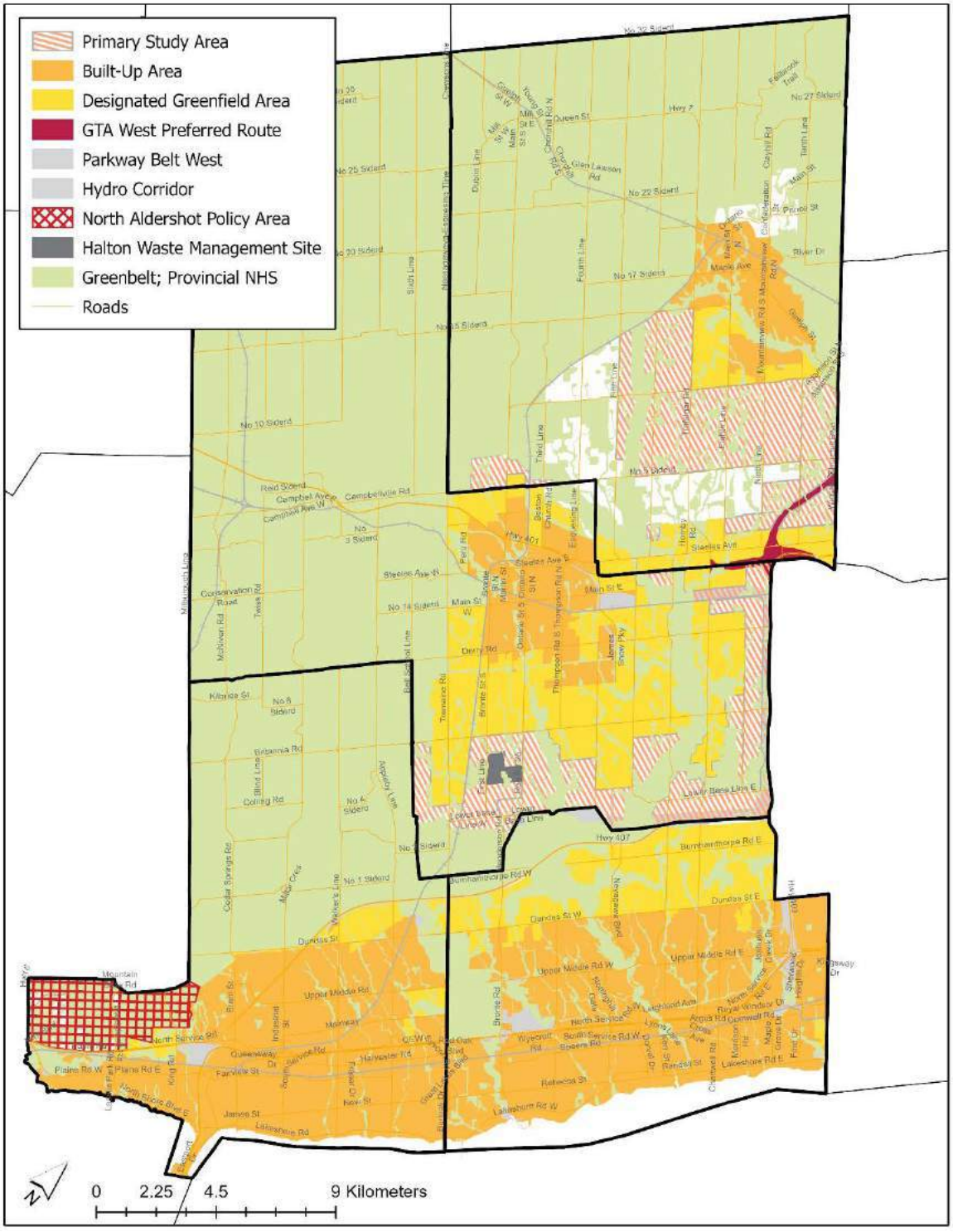


Figure 16: Primary Study Area
Source: Hemson, 2020

C. Growth Plan and Regional Official Plan Policies Set Out How the Location of Settlements Areas is to be Determined

Policy 2.2.8.3 of the Growth Plan requires that for proposed settlement areas their feasibility and location are to be based on the comprehensive application the policies in the Plan. A number of the policies require completion of specific types of technical background work including master plans, assessments, various studies or other research, and preparation of associated documents. Section 77(7) of Region's current Official Plan reinforces these requirements allowing settlement area expansions to occur through a municipal comprehensive review process if support by detailed planning justification and technical analysis.

The Growth Plan provides some flexibility when undertaking technical studies, For example, multiple study requirements can be satisfied through a single study, provided the study requirements of each component is appropriately addressed. Growth Plan conformity can also be achieved by drawing on or updating existing studies provided that these studies achieve or exceed the Growth Plan policy objectives.

D. Potential Settlement Areas for Each Concept Have Been Defined

Once the PSA was established, potential settlement areas were selected based on policy requirements, technical analysis and professional judgement, which is being tested through the Growth Concepts and related technical studies. The actual location of the future settlement areas will be determined as part of the Preferred Growth Concept.

The following maps identify the preliminary locations of future settlement areas and the quantum of land needed. The amount of new Community Area and Employment Area land is also described.

- **Figure 17, Concept 1: 60% Densification[9] / Moderate Greenfield Expansion**
  - New Community Area Land = 1,460 ha
  - New Employment Area Land = 1,170 ha
  - Total New Land Area = 2,630 ha
- **Figure 18, Concept 2: 70% Densification[10] / Limited Greenfield Expansion**
  - New Community Area Land = 730 ha
  - New Employment Area Land = 1,100 ha
  - Total New Land Area = 1,830 ha
- **Figure 19, Concept 3: 80% Densification[11] / Employment Area Only Greenfield Expansion**
  - New Community Area Land = 0 ha
  - New Employment Area Land = 980 ha
  - Total New Land Area = 980 ha
- **Figure 20, Concept 4: 50% Intensification / Greatest Greenfield Expansion**
  - New Community Area Land = 2,080 ha
  - New Employment Area Land = 1,220 ha
  - Total New Land Area = 3,300 ha

[9] Densification rate refers to 2031-2051 at least a minimum of 50% of units are located within the BUA, plus units in the current greenfield areas that will be within high-density mixed-use communities such as the Trafalgar Corridor in north Oakville.

[10] Ibid

[11] ibid

Figure 17: Concept 1, Potential Settlement Area Boundary Expansion Lands

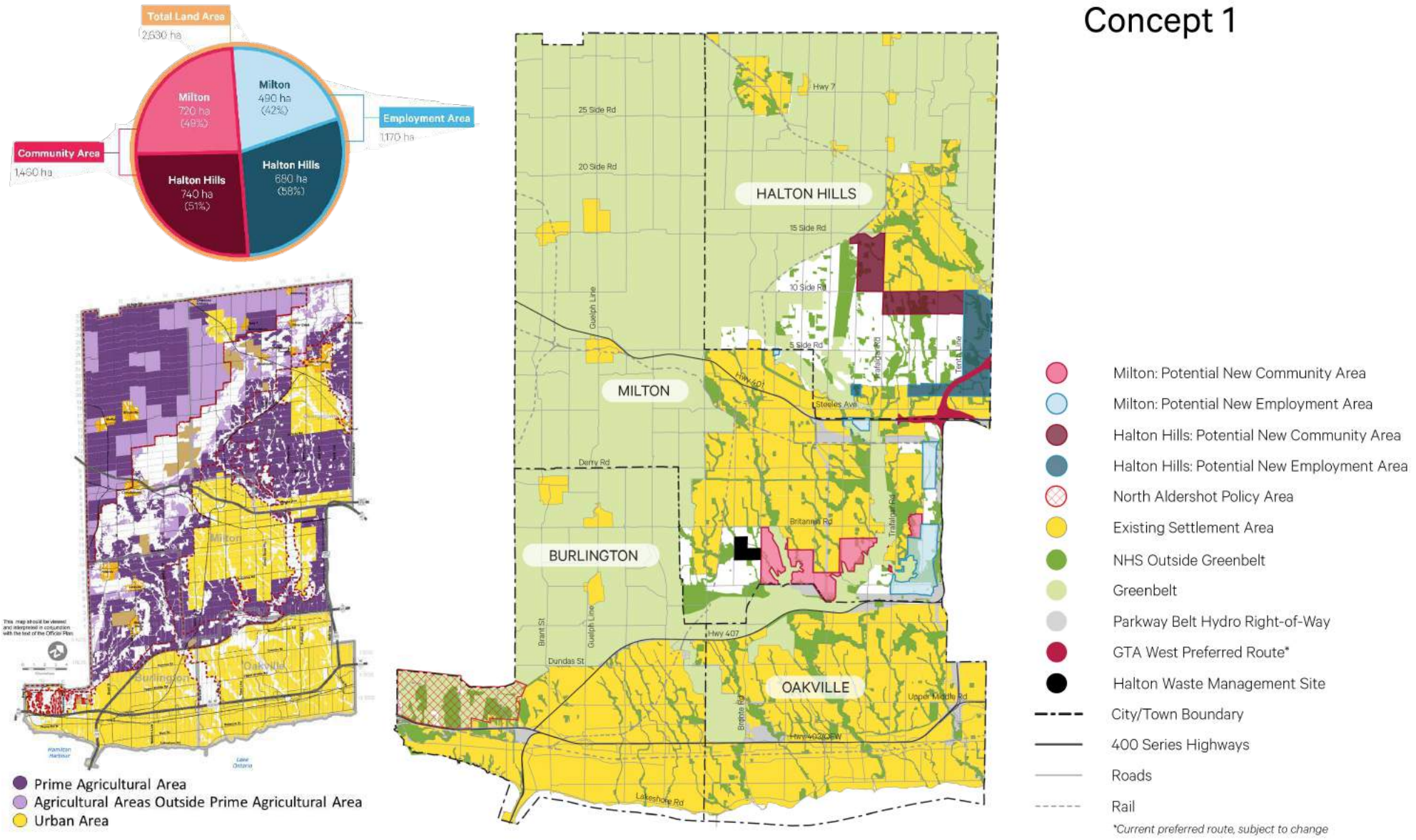


Figure 18: Concept 2, Potential Settlement Area Boundary Expansion Lands

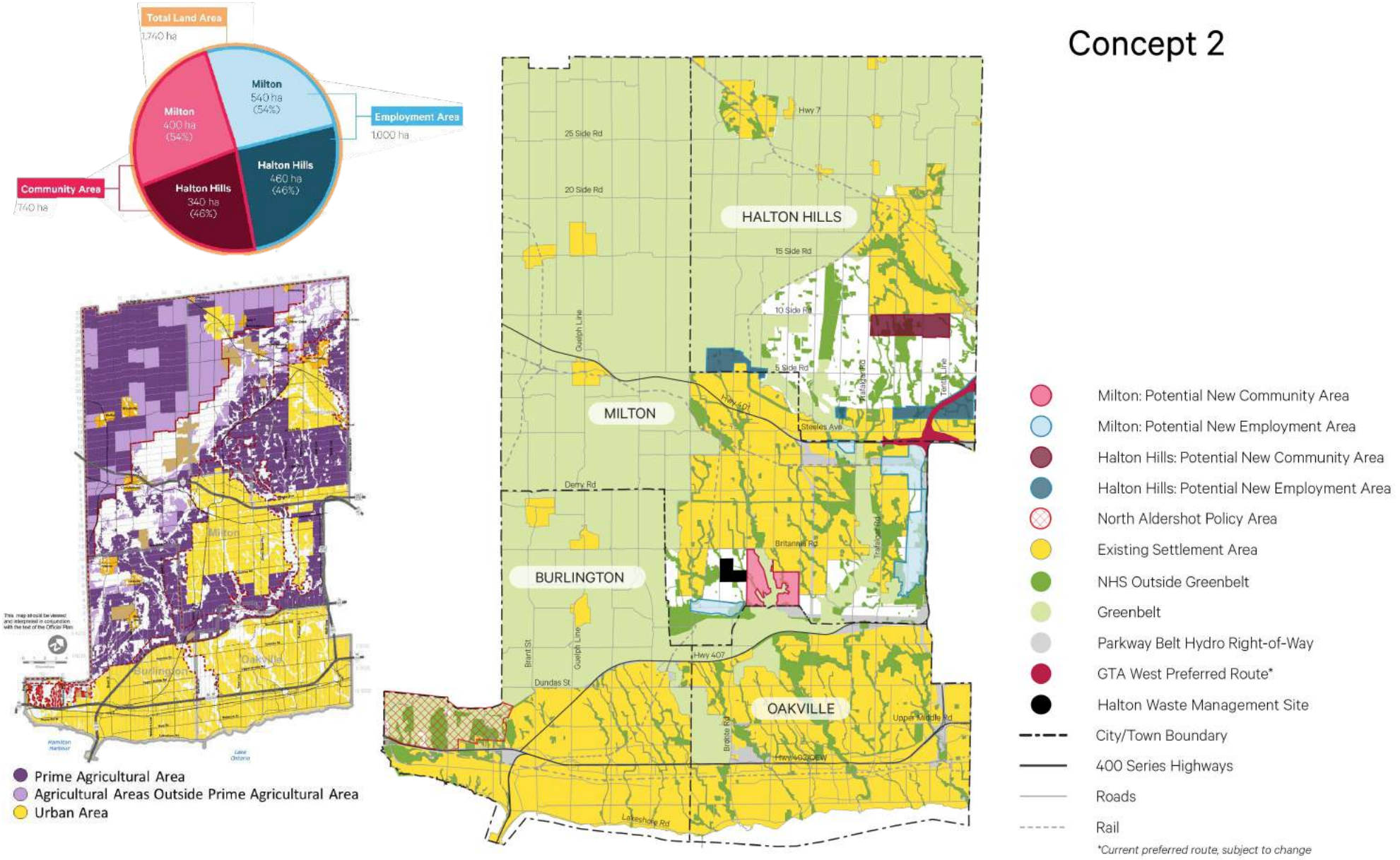


Figure 19: Concept 3, Potential Settlement Area Boundary Expansion Lands

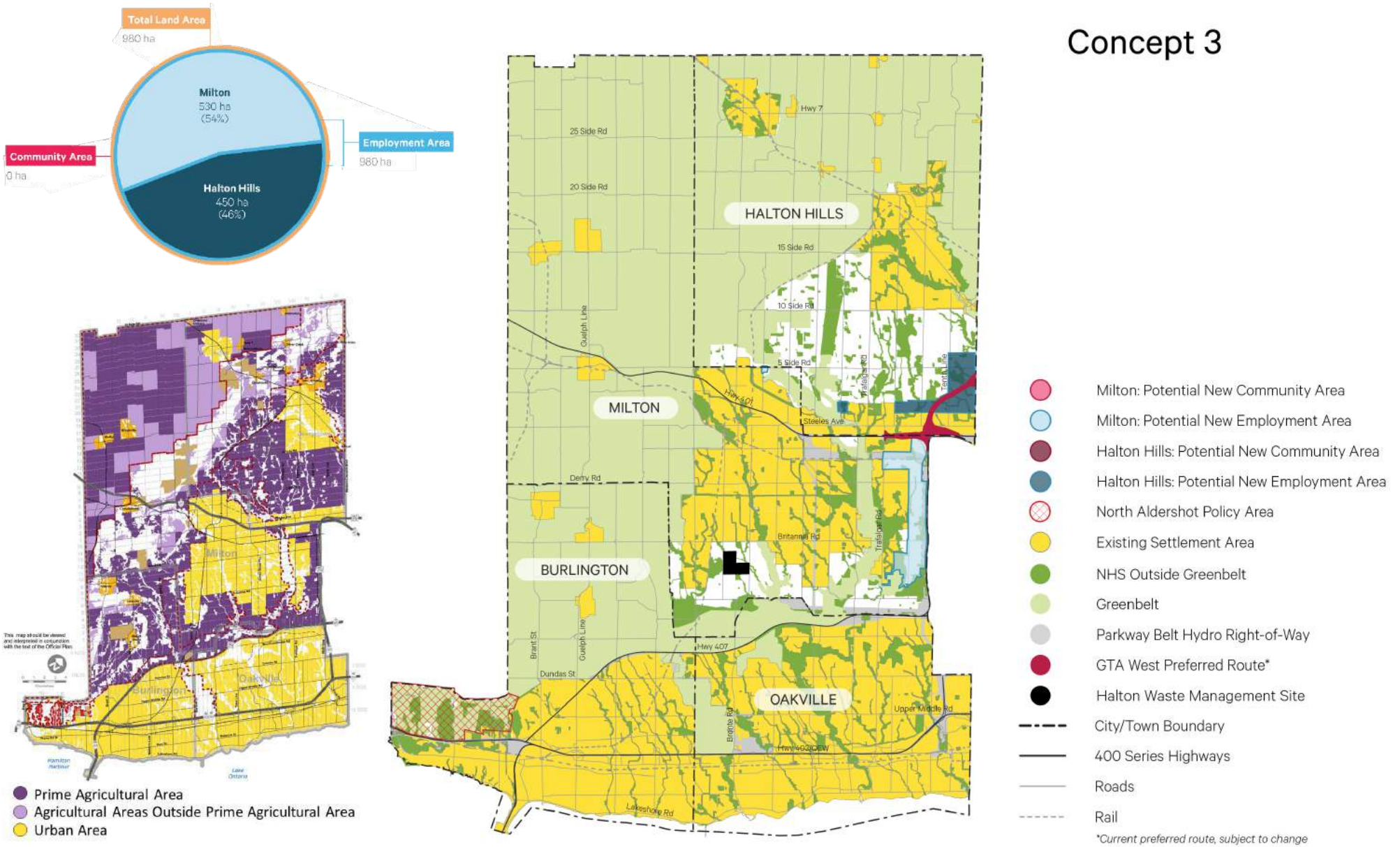
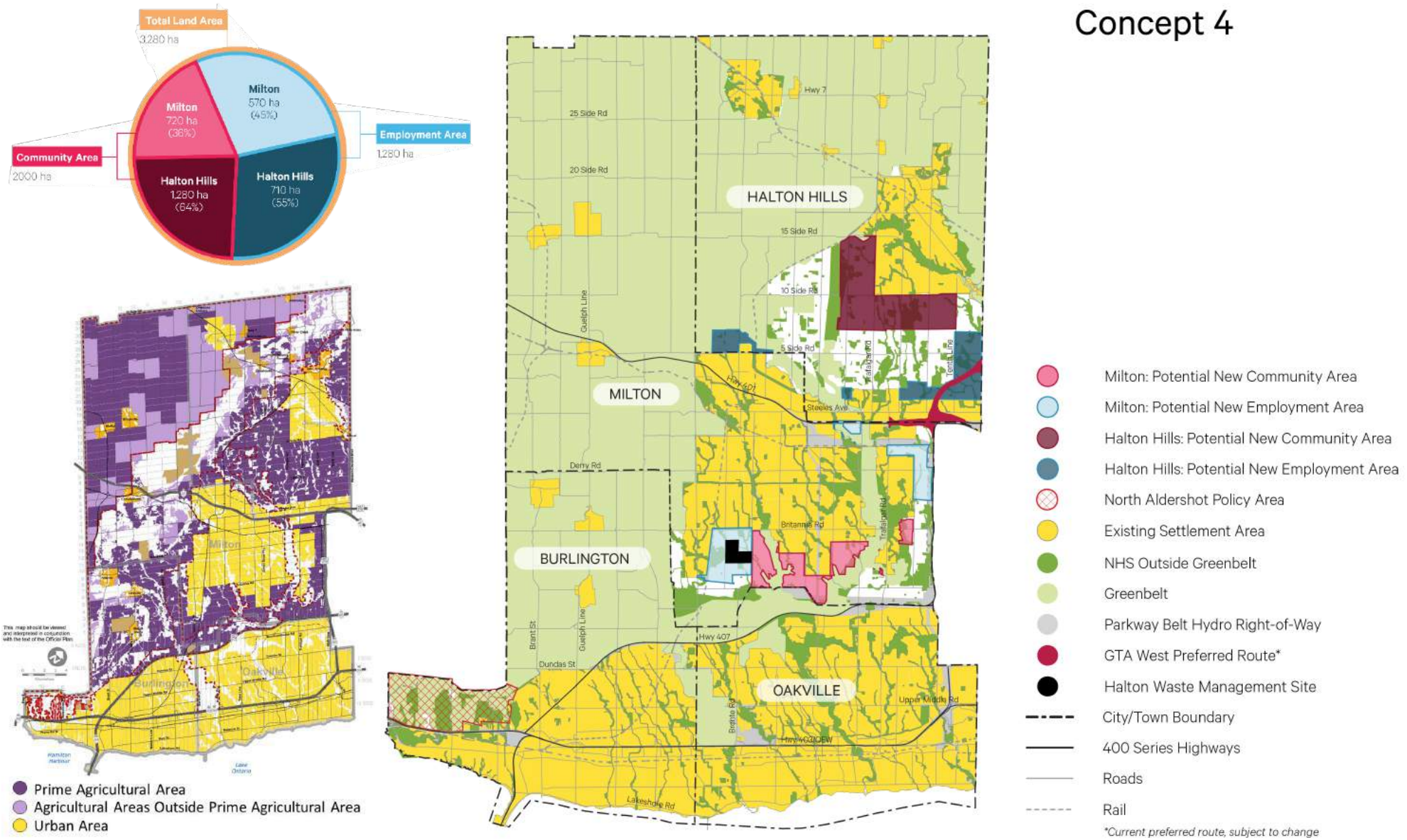


Figure 20: Concept 4, Potential Settlement Area Boundary Expansion Lands



E. Potential Future Settlement Areas Have Been Assessed Through Technical Studies

As described in Chapter 1, the IGMS Study process includes several technical studies that will determine the best location of the future urban lands. A brief summary of these studies is provided below.

Different locations of future urban lands are tested in each Growth Concept. The Preferred Growth Concept will identify the preferred location for these lands.

1. North Aldershot Policy Area Urban Expansion Assessment

North Aldershot is identified as a Special Policy Area, with land use policies predating the last two reviews of the Regional Official Plan and all current Provincial plans, and not reflective of current policies and mapping regarding natural heritage. Additional information on the North Aldershot Planning Area can be found in the North Aldershot Discussion Paper.

An assessment has been prepared to consider the merits of the North Aldershot Policy Area as a potential settlement boundary expansion area. The conclusion of the assessment is that the North Aldershot Policy Area as a whole does not merit consideration for settlement area boundary expansion, when compared to the areas identified as potential areas for settlement boundary expansion in the four Growth Concepts. Additional details are provided in Appendix J of this report.

2. Agricultural Area Assessment

The Agricultural Area Assessment reviews the Provincial policy framework requiring the avoidance of prime agricultural areas, and compliance with Minimum Distance Separation (MDS) formulae, when accommodating settlement boundary expansions, contained in the Growth Plan (2019), and the Provincial Policy Statement (2020). The two-phased methodology, involving a formal Agricultural Impact Assessment at the stage in which the Preferred Growth Concept is developed, is outlined. The report also summarizes pertinent Canada Land Inventory soils information, and the findings of Land Evaluation and Area Review (LEAR) studies completed for Halton Region. Finally, the report contains mapping and tabular information to support a comparative analysis of the four Growth Concepts with respect to their relative impact on agricultural resources (i.e. farmland, soils, farm operations). The technical memorandum is attached as Appendix G.

3. Aggregate Resource Impact Assessment

As discussed in Appendix I, the Mineral Aggregate Resources Assessment reviews the Provincial policy framework requiring the protection of mineral aggregate resource areas contained in the Growth Plan (2019), and the Provincial Policy Statement (2020). It also summarizes pertinent information from Ontario Geological Survey reports, and the analysis conducted as part of the Sustainable Halton exercise, and reflected in the Regional Official Plan. Finally, the report contains mapping and tabular information to support a comparative analysis of the four Growth Concepts with respect to their relative impact on mineral aggregate resource areas (i.e. shale resources).

4. Natural Heritage System and Water Resources Assessment

The Natural Heritage System and Water Resources Assessment reviews the Provincial policy framework requiring the protection of natural heritage and water resource systems, contained in the Growth Plan (2019), Provincial Policy Statement (2020), Greenbelt Plan, Niagara Escarpment Plan and Regional Official Plan.

While all Growth Concepts protect and do not encroach on the proposed Natural Heritage System, the analysis examines not only avoidance, but reducing impacts of adjacent new development, strengthening key features/areas, and impacts that the Natural Heritage System may have on the development of new growth areas. Further work is needed including the identification of a Water Resource System (with significant overlap with the Natural Heritage System) and guidance for future studies. Finally, the report contains mapping and tabular information to support a comparative analysis of the four Growth Concepts with respect to their relative impact on the Natural Heritage System. Additional details are provided in Appendix H.

8. Required Community Services, Infrastructure, and Financial Impact Analysis

Infrastructure is critical to the development of the Halton IGMS. For this reason, assessments of water, wastewater and transportation infrastructure and their associated financial impact were undertaken based on the four proposed growth concepts described in Chapter 6 of this report.

The assessments of Regional water, wastewater and transportation as well as infrastructure provided by local municipalities are among the components being coordinated as part of the integrated approach to the Region's growth management strategy. Through this process, a servicing strategy for the Preferred Growth Concept, including policy, servicing and financial capital inputs, will be developed. The inputs will be used in the preparation of the next infrastructure master plans, the Region's and local municipalities' development charges background studies, asset management plans and long range financial planning.

This chapter provides an overview of the results of the infrastructure and financial impact assessments and the key findings that were used in the evaluation of the growth concepts and in support of a Preferred Growth Concept for Halton Region.

A. Water and Wastewater

Halton Region is responsible for planning, building, operating and maintaining municipal water and wastewater infrastructure for the Region. Currently, the Region is serviced by lake water in the south and by groundwater in the north. The lake based component of the system includes three water purification plants (WPPs) which supply drinking water to Oakville, Burlington and part of Milton. As set out in the 2011 *Sustainable Halton Water and Wastewater Master Plan*, lake based water service will be extended from Milton to a portion of Georgetown to accommodate planned growth for the area generally south of Silver Creek. The groundwater system is comprised of nine well fields and serves Acton, Georgetown and a portion of Milton.

Wastewater in Halton is collected by sanitary sewers within defined catchment areas that drain to wastewater treatment plants (WWTPs) either directly by gravity sewers or via wastewater pumping stations and associated forcemains. There are currently six WWTPs in Halton. The Milton WWTP was decommissioned in spring of 2020 with flows being re-directed to the Mid-Halton WWTP. Similarly, as part of the future lake based servicing strategy in Georgetown (as outlined in the 2011 *Sustainable Halton Water and*

Wastewater Master Plan), a portion of flow from the Georgetown WWTP will be re-directed to Mid Halton WWTP to accommodate planned growth in the south Georgetown area.

1. Background Studies that Contribute to this Assessment

In 2011, Halton Region completed the *Sustainable Halton Water and Wastewater Master Plan* to support Regional implementation of the Official Plan Amendment (ROPA 38/39) based on the Region's Best Planning Estimates (June, 2011). The Master Plan provided a Region-wide water and wastewater servicing strategy to accommodate growth to 2031. The development capital infrastructure requirements identified in the Master Plan served as one of several key inputs into the 2017 Development Charges Update. This, in turn, led to passage of Halton Region's Development Charges By-law the purpose of which is to recover growth related costs associated with the capital infrastructure required to service new development.

The water and wastewater assessments undertaken in regard to the four Growth Concepts builds upon the studies noted above which defined the Regional Water and Wastewater Capital Program to 2031.

2. Methodology

Water and wastewater infrastructure, including treatment plants, storage facilities, pumping stations, and pipe networks, were analyzed for each of the four Growth Concepts. For this analysis, the planned 2031 capacities of infrastructure were compared to the projected 2041 and 2051 growth requirements to identify the impact each concept could have on the existing and planned water and wastewater infrastructure. This information was used in the concept evaluation process and provided a high-level understanding of opportunities and constraints in the water and wastewater systems. Ultimately, the water and wastewater servicing strategies will be refined based on a final Preferred Growth Concept and will be subject to detailed planning through the Region's next infrastructure master plan update

a) *Design Criteria and Level of Service*

The water and wastewater design criteria are based on the criteria utilized in the 2017 Development Charges Update. Similarly, level of service assumptions related to the various water and wastewater infrastructure were based on the 2017 Development Charges Update and can be summarized as follows:

- **Water and Wastewater Treatment Plants** were flagged as constrained when the projected future requirement to 2041 and 2051 reached 90% of their 2031 rated

capacity. The capacity threshold of 90% is commonly used as the trigger for plant expansions or other measures to reduce/manage flows at the plants.

- **Water Storage Facilities, Water Pumping Stations, and Wastewater Pumping Stations** were flagged as constrained when the projected future requirement to 2041 and 2051 exceeded their 2031 rated capacity.

- **Water Pipes** were flagged as constrained when hydraulic head losses greater than 5m/km were predicted in the 2031 pipe network under maximum day conditions in 2041 and 2051 (based on the results of hydraulic modelling and analysis).

- **Wastewater Pipes** were flagged as constrained when the projected 2041 and 2051 flow in a pipe (q) versus the full pipe capacity of the 2031 pipe network(Q), referred to as q/Q, was 0.85 or higher (based on the results of hydraulic modelling and analysis).

Detailed information about the water and wastewater analysis, hydraulic modeling, design criteria and level of service is provided in Appendix E of this report.

3. Technical Analysis and System Impact

The analysis of the 2041 and 2051 water and wastewater infrastructure needs for the four Growth Concepts was based on the assessment of the regional water and wastewater network's performance and the ability of the different infrastructure components to accommodate the proposed increase in demands and flows due to growth. The findings of the analysis and the potential impacts to the water and wastewater systems for each of the growth concepts are summarized below. More detailed information is provided in Appendix E of this report.

a) *Water Treatment*

The analysis shows that there are no major differences among the four Growth Concepts. The following observations are noted:

- The lake based water system has sufficient capacity to support growth to 2041. However, the projected demands of the lake based water system reach the 90% of the combined rated capacity of the plants, triggering an additional capacity expansion in the system to service growth to 2051. Expansion to Burloak WTP will be required in order to support overall growth in the lake based water system.

- Acton and Georgetown groundwater systems have sufficient capacity to service the projected demands to 2051.

- Milton groundwater system does not have sufficient capacity to supply the projected water demands in the service area to 2041 and beyond. A capacity upgrade or other water servicing solutions will be required by 2031 to support significant growth projected in the Milton groundwater service area (e.g. Old Milton West, Old Milton East, parts of Milton UGC).

b) *Water Storage*

For the majority of water pressure zones in the Region, the existing and planned water storage capacity is adequate for all Growth Concepts to 2051. However, deficiencies were identified in all four Growth Concepts for both the 2041 and 2051 horizons for three water pressure zones.

Since a significant portion of the growth is allocated in the service areas where these pressure zones are located, such as North Oakville, Milton, Halton Hills 401 corridor and Georgetown, the deficiencies are not unexpected. In addition, the deficiencies identified occur in common infrastructure across all concepts and only vary in magnitude.

c) *Water Pumping Stations (PS)*

Water pumping requirements were largely consistent across the four Growth Concepts for both 2041 and 2051 horizons. Some deficiencies are generally located in the same pressure zones identified in the water storage assessment. They are similar in terms of the infrastructure they affect and vary only in magnitude.

The analysis shows that there may be challenges moving water from west to east across the system in order to service growth areas in north Oakville, Milton and Georgetown. Further analysis of the Preferred Growth Concept is required to refine the pumping requirements and strategies to solve this issue. Overall, Concept 3 (i.e., greatest intensification in south Halton areas) would result in the smallest pumping deficiencies due to reduced transfer north through Kitchen, Neyagawa and Zone 6 pumping stations.

d) *Water Network*

A high-level analysis of the water network was performed. The system was assessed using hydraulic modeling to identify pipes where typical operating ranges would be exceeded (indicating capacity deficiencies). The range of pipe lengths showing deficiencies is generally consistent across the four Growth Concepts.

However, for the 2051 horizon, Concept 3 has noticeably lower totals than the other concepts. In addition, due to the absence of new Community Designated Greenfield Areas in this concept, it would require less new water linear infrastructure to extend servicing to new lands when compared to the other concepts.

e) *Wastewater Treatment*

The analysis shows that there are no major differences among the four Growth Concepts. The following observations were noted:

- The Acton WWTP and Georgetown WWTP have sufficient capacity to service growth to 2051.
- The planned Mid-Halton WWTP expansion will provide sufficient capacity to service growth to 2041. However, further capacity expansion will be required to service growth to 2051.
- The Oakville SE WWTP has sufficient capacity to service growth to 2051, however flows are projected to reach the 90% of the rated capacity of the plant by this time.
- The Oakville SW WWTP does not have sufficient capacity to accommodate the projected flows to 2051. Significant growth in the service area is projected to cause flows at this plant to reach the 90% of the rated capacity by 2041.
- The Skyway WWTP is projected to have flows reaching 90% of the rated capacity by 2041 under all concepts, this would trigger the need for a capacity expansion or other measures to reduce/manage the flows at the plant. In addition, 2051 flows are projected to marginally surpass the rated capacity of the plant for Concepts 2 and 3.

f) *Wastewater Pumping Stations (WWPS)*

Wastewater pumping requirements were identified for two existing pumping stations. In addition, proposed new pumping stations are identified in the current Regional capital program (to 2031).

Overall, wastewater pumping requirements were consistent across the four concepts. However, Concept 3 shows the smallest deficiencies for most of the pumping stations identified.

g) *Wastewater Network*

A high-level analysis of the wastewater network was performed. The system was assessed using hydraulic modeling to identify pipes where typical operating ranges

would be exceeded (indicating capacity deficiencies). The range of sewer length capacity deficiencies is generally consistent across the four growth concepts.

For 2051, Concept 3 has noticeably higher totals than the other concepts because of higher levels of intensification. In addition, due to the absence of new Community Designated Greenfield Areas in this concept it would require less new wastewater linear infrastructure to extend servicing to new lands compared to the other concepts.

4. Water and Wastewater Servicing Cost Assessment

For each of the four Growth Concepts, a high-level analysis was performed to determine the cost range of the potential water and wastewater capital improvements required to service growth to 2051. The analysis included a compilation of Class 4 cost estimates for vertical and linear water and wastewater infrastructure consistent with previous master planning cost estimating approach. The expected accuracy range for this analysis presents a typical variation of -30% and +50% consistent with Class 4 cost estimates as per the Association for the Advancement of Cost Engineering (AACE) Cost Estimate Classification System.

Table 7: Summary of High-Level Cost Analysis for Water and Wastewater Infrastructure

Growth Concept	2031 to 2051 (2020 dollars)
Concept 1: 60% Densification / Moderate Greenfield Designation	$1,081M – $2,315M
Concept 2: 70%Densification / Limited Greenfield Designation	$1,003M – $2,147M
Concept 3: 80% Densification / Employment Area Only Greenfield Designation	$886M – $1,898M
Concept 4: 50% Intensification / Greatest Greenfield Expansion	$1,140M – $2,444M

(M) = millions

The analysis shows a logical cost range for the potential water and wastewater capital improvements given the characteristics of the four Growth Concepts. Concept 2 and 3 with limited or no new Community Designated Greenfield Areas (DGA) beyond the 2031-time horizon would require less capital investment mainly because of the limited need to extend servicing to new areas. In contrast, Concepts 1 and 4 would require greater capital investment due to higher amount growth allocated to new Designated Greenfield Areas (DGA).

5. Water and Wastewater Findings

In general, potential future deficiencies identified for the water and wastewater systems occur in common locations across all concepts and only vary in overall magnitude. None of the concepts have unique, specific deficiencies. However, due to the location of growth and absence of new Community Designated Greenfield Areas beyond the 2031 time horizon in Concept 3, this concept shows potentially lower requirements for storage, pumping and linear infrastructure when compared to the other concepts.

The following observations are also noted to support the development of a single Preferred Growth Concept:

- The location and scale of growth in Milton, Halton Hills 401 Corridor and South Georgetown has a direct impact on the capacity and size requirements of future water and wastewater infrastructure.

- Intensification will maximize use of existing infrastructure and provide opportunities for integration with other services and state of good repair programs.

Growth planned in the south portion of the lake based system will generally require less new infrastructure than similar growth planned further north. This is due to increased pumping and conveyance requirements when moving water north to supply upper pressure zones and, conversely, collecting and conveying wastewater from north to south for treatment.

B. Transportation

Halton Region is responsible for a network of major arterial roads. As of the end of 2019, the Regional road system consisted of approximately 1,131 lane-kilometres of roadway which link the Region's rural and urban centres and provide connectivity to the provincial highway system.

Local municipalities are responsible for all other roads which include minor arterials, multi- purpose arterials, collectors, and local roads within the road network. These roads are the primary access to local communities and provide connection to the Region's Major Arterial roads and the Provincial network.

1. Background Studies

A number of studies that provide the context for the evaluation of the four potential Growth concepts.

- **Transportation Master Plan (TMP) (2031) – The Road to Change.** This plan was completed in 2013 to support the balanced approach to growth laid out in Regional Official Plan Amendment 38 (ROPA 38).
- **Active Transportation Master Plan.** This 2015 plan was to develop the required strategy, infrastructure, and initiatives to promote non-motorized travel throughout the Region.
- **Mobility Management Strategy (MMS).** In preparation for Metrolinx's Regional Express Rail (RER), Halton Region and its local municipal partners developed the strategy to guide the evolution of a region-wide inter/intra-regional transportation network to 2041.
- **Defining Major Transit Requirements in Halton Region (DMTR)**. Competed in 2019, this study supports the vision for a multi-modal transportation network. It identified transit infrastructure investment opportunities for the 2031 and 2041 planning horizons to address potential transit demand and enhance transportation mobility and connectivity between existing and proposed MTSAs.

The work undertaken as part of the assessment of the four Growth Concepts builds on the above noted studies and strategies.

2. Methodology

Transportation infrastructure including regional roadways and major local collectors, transit and provincial facilities were analyzed for each of the four Growth Concepts. For this analysis, the planned 2031 capacities of roadway infrastructure were compared to the projected 2041 and 2051 growth requirements to identify the impact each concept could have on the planned transportation system. Similarly, the 2041 recommended transit priority network from the DMTR was tested against the same 2041 and 2051 growth requirements to identify the impact each concept could have on the future transit system.

This information fed into the Growth Concept evaluation process and provided a high-level assessment of opportunities and constraints. This analysis is a refinement of the high level, preliminary transportation infrastructure analysis presented in LPS41-19. Ultimately, the transportation strategy will be refined based on a final preferred growth concept and will be subject to further refinement through future Multi-Modal Transportation Master Plan.

3. Level of Service and Design Criteria

For comparison purposes, the level of service thresholds identified in the Halton's 2013 TMP and the 2017 Development Charges Transportation Technical Report (September 2016) were used. In the context of travel demand forecasting, these studies defined level of service thresholds.

A maximum roadway cross-section of six lanes is the design criteria being used by the Region for roadway improvement considerations.

4. Modelling Process

The Region's Transportation Capital program to 2031 served as the basis to determine post 2031 requirements and in conjunction with the 2041 and 2051 population and employment forecasts provided by Hemson.

The Halton Travel Demand Forecasting Model (the model) was utilized in the analysis of Growth Concepts. The model was updated to reflect:

- The most recent regional roadway improvements to 2041;
- Adjacent municipality forecasts and network improvements; and
- Confirmation of the transit priority corridors as recommended by the DMTR.

5. Technical Analysis and System Impact

The analysis of the 2041 and 2051 transportation services needs for the four Growth Concepts was based on two assessments:

- **Roads Assessment** – The assessment considered the regional transportation network performance at the screenline level and its ability to accommodate travel demand through that screenline. For each Growth Concept, deficient screenlines were reviewed in detail at the link level, to assess road capacity improvements. Capacity improvements were limited to Regional/local roads.
- **Transit** – The high priority corridors were analyzed by comparing the passenger demand in the peak hour along the corridor with the capacity of the service. The base service used for 2051 was as recommended by the DMTR for the 2041 planning horizon.

An assessment was undertaken at each deficient screenline to define the best multi-modal approach to addressing the travel demand forecasted to 2051

Screenline deficiencies were identified in 2041 and 2051 for the link to a provincial facility (e.g. QEW / Highway 403 / Highway 401). In addition, in mid-Halton (defined as the section between Highway 401 and Highway 407), Highway 401 exhibits significant deficiency in capacity for both planning horizons. These potential provincial facility deficiencies were not analysed further as this assessment focussed on solutions within the control of the Region/Local municipalities.

For the screenlines deficiencies identified in 2041 and 2051, there are a variety of ways in which capacity improvements can be made:

- Operational changes (traffic signal timing adjustments);
- A shift in travel behaviour (more HOV, transit travel); or
- Through a physical improvement to the transportation infrastructure (road widening).

In south Halton Region, defined as the section between Highway 407 and Lake Ontario, transportation system deficiencies were observed on roadways in the east/west direction along screenlines generally including the QEW, Upper Middle Road, Burnhamthorpe Road and Dundas Street. In addition, service deficiencies were identified along the Dundas St transit corridor to meet 2051 demand.

The roadway deficiencies demonstrate a need for the equivalent of two additional lanes of traffic per direction for both 2041 and 2051 planning horizons generally across the full length of the Region and an additional 3 lanes of traffic in the southeast at the boundary with Peel Region (Highway 403 / QEW/ Ford Dr / Upper Middle Road). This results in approximately 42 lane-kilometres (per direction) of minimum improvement in south Halton Region.

The analysis also determined that enhanced transit service options (shorter headways and/or larger vehicles) for the Dundas St transit priority corridor will also be required to provide more east/west capacity.

In mid-Halton Region, defined as the section between Highway 401 and Highway 407, screenlines in the north/south and east/west direction in urban Milton demonstrated deficiencies greater than the threshold v/c of 0.9 for both 2041 and 2051 planning horizons.

There are limited opportunities within this area for any new links to add road capacity.

The roadway deficiencies demonstrate a need for the equivalent of two additional lanes of traffic per direction in the north/south direction and the equivalent of two additional lanes of traffic per direction in the east/west direction for both 2041 and 2051 planning

horizons in the core of the Town of Milton. An additional two lanes of traffic in the east/west direction is also required at the boundary with Peel Region. This results in a need for approximately 22 lane-kilometres of minimum (per direction) improvement in mid- Halton Region and enhanced transit service options (shorter headways and/or larger vehicles) for the Steeles Ave, Derry Rd, and Britannia Rd transit priority corridors.

In south Halton Hills, between Highway 401 and Georgetown, screenlines in the east/west demonstrated deficiencies greater than the threshold v/c of 0.9 for both 2041 and 2051 planning horizons. These transportation deficiencies are generally attributed to Highway 401. However, for Concept 3 only, an additional lane of capacity is required in the east/west direction between 10 Side Road and Highway 401. This results in a need for approximately 3 lane-kilometres (per direction) of minimum improvement in south Halton Hills.

The above capital and transit improvements are still subject to a thorough review as part of the upcoming Multi-Modal Transportation Master Plan but are sufficient for the purposes of conducting the current comparative assessment of the four Growth Concepts.

The system performance in terms of average network volume to capacity ratio, total vehicle-kilometres travelled, and average network speed are relatively similar among all the Growth Concepts for 2041 and 2051.

More detailed information about the transportation technical analysis and system impact is provided in Appendix D of this report.

6. Transportation Servicing Cost Assessment

A preliminary high-level cost analysis was performed for each of the four Growth Concepts to determine a range of potential road and transit improvements required to service growth to 2051. The preliminary high-level cost analysis included a compilation of cost estimates consistent with previous master planning cost estimating approach. The expected accuracy range for this analysis presents a typical variation of -30% and +50% representing a Class 4 cost estimates as per the Association for the Advancement of Cost Engineering (AACE) Cost Estimate Classification System.

Costs do not include any property requirements as it is not practical to define this need as the current level of analysis.

a) *Road Costs*

Table 8 presents a summary of the preliminary high-level cost analysis for road improvements suggested by 2051.

Table 8: Summary of Increase in Road Capital Costs by Growth Concept

Growth Concept	2031 to 2051 (2020 dollars)
Concept 1: 60% Densification / Moderate Greenfield Designation	$525M to $1,130M
Concept 2: 70%Densification / Limited Greenfield Designation	$525M to $1,130M
Concept 3: 80% Densification / Employment Area Only Greenfield Designation	$604M to $1,290M
Concept 4: 50% Intensification / Greatest Greenfield Expansion	$607M to $1,30M

(M) = millions

The variation in roadway costs among the Growth Concepts were within 15%, concluding that no one Growth Concept stands out from a cost perspective given the order of magnitude of the analysis.

b) *Transit Costs*

To address 2051 planning horizon transit demand and to address vehicular demand that could not be serviced by the road system, two transit service scenarios were evaluated. The first scenario considered the combination of increased headway and/or the bus type (standards vs articulated) to generate the capacity to meet the forecasted demand. The second scenario considered fixing the headway to a minimum of 5 minutes and addressing the demand through larger (articulated) buses.

Based on the above servicing scenarios, preliminary high-level costs were derived for the transit component of the regional transportation system, as presented in Table 9.

It is important to note the preliminary high-level costs presented in Table 10 are from 2031 to 2051 and in addition to the 2031 cost estimate recommendations from the DMTR. The Transit Priority Networks includes $261 million in new transit infrastructure by 2031, which includes transit station infrastructure, transit priority infrastructure including TSP, fibre optic communications, and queue jump lanes. In addition to infrastructure costs, transit fleet requirements in the range of $117 million have also been allocated by 2031 and approximately $39 million, per year, to cover Operations and Maintenance (O&M) costs to 2031.

Table 9: Summary of Increase in Transit Costs by Growth Concepts

Growth Concept	Capital 2031 to 2051 (2020 dollars)	O & M 2031 to 2051 (2020 dollars)
Concept 1: 60% Densification / Moderate Greenfield Designation	$98M to $209M	$115M to $247M
Concept 2: 70%Densification / Limited Greenfield Designation	$98M to $209M	$115M to $247M
Concept 3: 80% Densification / Employment Area Only Greenfield Designation	$98M to $209M	$115M to $247M
Concept 4: 50% Intensification / Greatest Greenfield Expansion	$98M to $209M	$115M to $247M

(M) = millions

The preliminary high-level capital costs and preliminary high-level O&M costs were within 5% and 8% respectively, for the two transit servicing scenarios discussed above.

7. Transportation Findings

The planned 2031 capacities of infrastructure were compared to the projected 2051 growth requirements to identify high-level system constraints and opportunities. The analysis demonstrated that for transportation infrastructure, there are no substantial differences in infrastructure opportunities and constraints to 2051 when the four Growth Concepts are compared relative to one another.

From a transportation performance point of view no Growth Concept stands out more than another from a technical or capital cost perspective.

Through its transportation planning, Halton Region recognizes that mobility evolves with urbanization. In the process, the Region is ensuring that transportation corridors are protected now and that, as its transportation system evolves, climate friendly transportation solutions, such as public transit and active transportation (walking and cycling), will be possible into 2051 and beyond.

C. Financial Impact Analysis

Understanding the fiscal impacts of growth is of the utmost importance to the Region. Although required by provincial policy, financial sustainability has been a key pillar in Halton's growth management work for some time. Ontario's planning policy regime requires that planning for development occurs in a way that promotes the financial well-

being of local governments. For example, in accordance with the requirements of the Provincial Policy Statement (PPS) infrastructure and public service facilities, including amenities located within defined settlement areas, must be financially viable.

The Growth Plan for the Greater Golden Horseshoe (GGH) also supports the policies of the PPS and requires that infrastructure and public service facilities be financially viable over their full life cycle. Therefore, this analysis places emphasis on maximizing the utilization of existing infrastructure and examining the financial viability of infrastructure with regard to the impact on property tax rates. This approach is consistent with the requirements of relevant planning legislation and represents prudent fiscal planning. It is noted that the Region and all four of the local municipalities' existing fiscal policies and practices are sound and promote fiscal sustainability, this analysis is based on those policies and practices.

Additional and detailed information related to the Fiscal Impact Assessment is found in Appendix F.

1. Fiscal Model Structure

Figure 21 provides a schematic overview of the financial model structure used in the analysis. The base parameters of the model, or primary inputs, includes financial documents such as capital and operating budgets as well as long-range financial planning policies. Other key inputs to the model include growth forecast projections (e.g. population, household and employment growth) from each of the Growth Concepts as well as capital and operating cost drivers. Independent models have been developed for the Region and each of the four local municipalities; however, the analysis includes an evaluation, and discussion, of the cumulative impacts of the Growth Concepts.

The model also accounts for municipal revenues generated from assessment (property taxes) and non-tax revenues. The model assumes that costs and revenues increase in proportion to increased needs associated to growth to maintain current levels of service. The net impact of the expenditures less revenues results in the tax rate impact, which is used to assess the fiscal effect in any given concept.

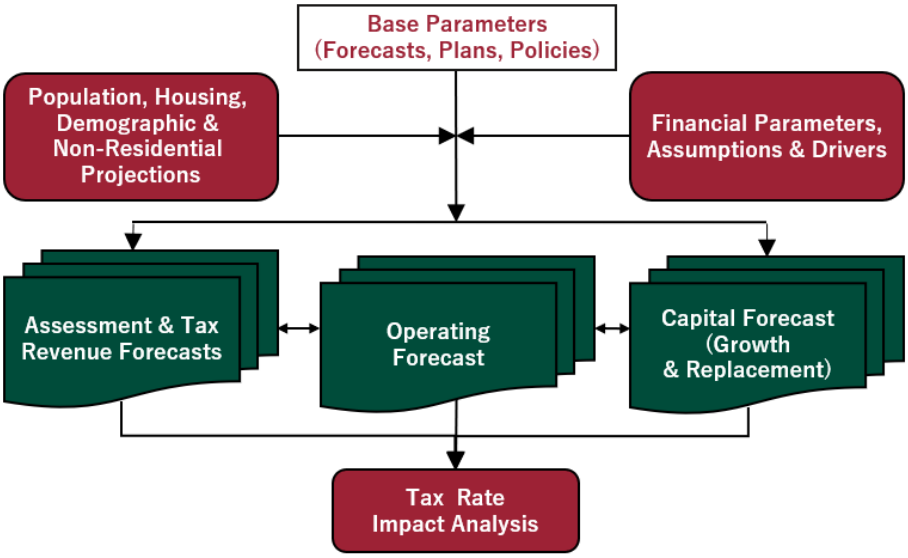


Figure 21: Fiscal Impact Model Methodology

2. Key Fiscal Impact Analysis Assumptions

The financial analysis is informed based on information provided by the Region and local municipalities including the 2018 Capital and Operating budgets as well as relevant financial plans and policies (e.g. long-range financial planning documents). In addition, the most recent approved Development Charge Background Studies inform the base models and financial analysis. For the purposes of this analysis, the recent legislative changes to the *Development Charges Act* (*Act* have not been factored into the analysis, however it is expected that these changes DCA) and *Planning* would be relatively minor at the Regional level and have a similar impact for each Growth Concept, therefore this analysis is valid for comparison purposes. It is recognized that the impact of the changes at the local municipal level is unclear.

It is important to note, that the findings of the analysis are largely focused on the period from 2031 – 2051 as each Growth Concept is identical over the 2021 – 2031 period, however average annual tax impacts are assessed over the full 30-year period. Since the development forecast in each growth concept varies from 2031 – 2051, this allows for the comparative analysis to be developed.

a) *Growth Related Net Operating Cost Assumptions*

Net operating costs in the analysis have been forecast based on the assumption that additional population and employment will continue to pressure the Region and its local

municipalities to maintain levels of service. Therefore, net costs are expected to grow to 2051.

b) *Growth Related Capital Cost Assumptions*

Halton Region and its local municipalities have different servicing responsibilities. The Region provides services that benefit large geographic areas such as the regional road network. The Region is also responsible for social and community services (e.g. social housing, public health, childcare, affordable housing, senior services, waterfront parks, etc), paramedics, police, waste diversion and others. In contrast, local municipalities are responsible for services that provide a local benefit to the residents and employees (e.g. local roads, libraries, fire services, parks and recreation, public works, general administration of the municipality etc.). The services provided by local municipalities are planned and delivered to reflect the needs, and desired service levels, of the individual municipalities.

Capital costs in the analysis have been forecasts based on the assumption that additional population and employment will continue to put pressure on the Region and its local municipalities to provide new infrastructure to maintain levels of service. Therefore, costs are expected to grow to 2051. To allow for some variation across concepts capital cost drivers are based on population or household growth. The methodology used to forecast increased capital costs associated to growth is outlined in Table 10.

Table 10: Growth Related Capital Assumptions

Service Area	Region	Local Municipalities
General Services (incl. Transit)	Growth related capital costs will continue to grow in line with population growth. Additional dollars per capita of infrastructure are assumed based on the historical level of service in the DC Study. Additional transit service costs are also expected to increase, however no assumptions have been made on changes to governance structure.	
Roads	Growth related capital costs are based on the findings of the transportation analysis outlined in Appendix B and C of the *IGMS Growth Concepts Discussion Paper*.	Growth related capital costs will continue to grow in line with household growth. Cost parameters are determined based on average growth related costs per household (differentiated by low, medium and high density development). Average costs have been informed based on the DC roads capital program for each municipality.

Note: Additional transit capital costs have been determined on a regional basis. The fiscal impact analysis assumes that local municipalities will continue to provide transit services in addition to regional requirements.

To fund increased capital costs associated with growth, the Region and local municipalities must rely on a range of revenue sources to fund this infrastructure, with the largest sources being development charges and tax funding. In particular, the analysis assumes that the Region and local municipalities will continue to maximize development charge recoveries and other available funding tools for development-related infrastructure over the long-term planning period to 2051.

c) *Asset Management*

Additional tax funded contributions for asset repair and replacement have also been accounted for in the analysis, with a focus on future capital repair and replacement provisions related to eventual works needed to maintain new infrastructure over the long-term and not just first round funding. This is in line with good asset management practices. These additional costs provide for expenditures (or savings) for replacement of capital. These costs would typically be accounted as transfers to capital reserves in municipal budgets. Given the assumptions above, there are additional capital cost pressures that are not specifically considered within the growth concept analysis, but nonetheless should be considered for future fiscal planning:

- As the Region and local municipalities continue to grow, it is also important to recognize that capital deficiencies related to existing infrastructure will continue to create fiscal challenges. As growth continues, the Region and local municipalities will need to carefully assess the risks of undertaking additional growth related infrastructure projects while at the same time providing funds to address existing capital works needed to maintain older infrastructure.

- Local infrastructure will continue to be a significant cost component for the local area municipalities, across all concepts. This cost impact is associated to increased costs to operate and maintain contributed assets as well as the costs associated to long-term replacement. These costs will be significant for local area municipalities, especially for concepts where local roads are acquired where more low and medium density development occurs. This will add additional pressures to existing capital backlogs.

3. Tax Revenue Assumptions

Although there is an inherent cost of growth based on rules set out in the DCA for comparing each concept, Region and local municipal up-front costs for growth related infrastructure is assumed to be fully funded from development charges. However, operating costs and future replacement of these assets will need to be funded largely from tax revenues. In this analysis, tax revenues are a direct function of assessment

growth. As the Region and local municipalities continue to grow, it is expected that the assessment base will also grow to 2051.

Weighted taxable assessment will increase in the Region in relation to the growth forecasts identified in each Growth Concept for both the residential and non-residential sector. To account for each tax class, only taxable weighted assessment is included in the forecast.[12] The residential forecast is based on average assessed values by housing type in each local municipality. The individual household forecast by density therefore drives the forecasted growth in assessment and provides for some variation across each concept. These values were developed based on a sample of units built over the last 10-years and informed by long-range financial plan documents. Table 11 below sets out the assessment per unit assumptions. It is important to note that the assessment remains the same throughout the forecast period and thus assumes a similar style of building types across the four Growth Concepts (i.e. the size and number of rooms within apartment building).

Table 11: Average Weighted Assessment per Unit

Residential	Burlington	Oakville	Halton Hills	Milton
Singles/Semis (Low Density)	$700,000	$1,140,000	$690,000	$560,000
Multiples (Medium Density)	$420,000	$530,000	$420,000	$380,000
Apartments (High Density)	$360,000	$430,000	$280,000	$300,000

The non-residential forecast is based on an average assessed values per square metre of building space. It is assumed that all population-related employment included in the forecast is in the commercial occupied tax class. Building space added in the employment land category is assumed to be in the industrial occupied tax class. The categories of Major Office, Employment Land, and Population Related are consistent with the employment categories used in the IGMS forecasts for each concept. Table 12 outlines the average assessment parameters for each non-residential category.

Table 12: Average Weighted Assessment per Square Metre

Non-Residential	Burlington	Oakville	Halton Hills	Milton
Major Office	$4,000	$4,000	$2,500	$2,500
Employment Land	$3,000	$3,000	$1,500	$1,500
Population-Related	$4,000	$4,000	$2,500	$2,500

[12] Discussions on taxable assessment all refer to weighted assessment in this analysis.

There are additional assessment pressures that the Region and local area municipalities continue to experience. Recently, there have been a number of re-assessments which have put pressure on tax revenues. Although this factor has not been assumed in the analysis, it is expected that other re-assessments may occur over the next few years, putting upward pressure on tax rates across any given concept.

4. Fiscal Observations of the Four Growth Concepts

Table 13 illustrates the percentage impact to property taxes for the Region and local municipalities under each concept. Average annual tax increases from 2021-2051 provide a measure of the net fiscal impact from growth associated to each growth concept. The financial analysis included in this report is for comparative purposes across concepts expressed as an order of magnitude which will be further refined as part of the Preferred Growth Concept. Once the Preferred Growth Concept is established, master plans and related analysis will need to be undertaken to validate fiscal impact assumptions and further refine costs. As such, no specific dollar amounts are referenced.

Table 13: Average Annual Tax Increases 2021-2051

Municipality	Concept 1	Concept 2	Concept 3	Concept 4
Burlington	3.90%	3.92%	3.97%	3.91%
Oakville	2.96%	3.03%	3.10%	2.93%
Milton	3.56%	3.60%	3.64%	3.51%
Halton Hills	2.38%	2.53%	2.63%	2.19%
Halton Region	2.47%	2.53%	2.56%	2.42%

Note: Tax impacts related to growth related costs do not include inflation.

Based on Table 13 above, some observations can be made based on a purely comparative approach across concepts. For any given municipality, there is little variation in tax impacts between concepts given that all estimated tax rate impacts are within a difference of 1%. This result is expected, given that expenditures and revenues are driven by the development forecasts in each individual concept, which also show low variability. Only Halton Hills shows some variability as the population forecast for Halton Hills is more variable relative to the Regional total population by 2051. With this said, the main differentiating factor across concepts are variations in assessment growth driven by differing levels of low/medium/high density development across concepts.

It is important to emphasize, that despite growth in assessment (and tax revenue), as the main differentiating factor across concepts, many of the tax impacts across all concepts well exceed 3% per year. Recognizing that the Region and local area

municipalities will continue to maintain good fiscal practices, these amounts well exceed average inflation and current budget practices. This puts significant financial pressures on local area municipalities across all concepts.

Also, it can not be concluded that concepts with higher levels of low density development create better fiscal outcomes due to the low variability across fiscal impacts across each concept. The forecast spans a 30-year period and is reliant on the assumption that development targets would be achieved. In practical terms, the targets proposed may vary, particularly when looked at with reference to Regional development patterns over the last few years. This is especially true for non-residential development, which has not occurred as expected. Therefore, although the assessment base will continue to grow, there are risks that tax revenues from new assessment may be significantly lower if development does not occur as planned.

5. Fiscal Policy and Planning Considerations

Although the findings of the Fiscal Impact Analysis show that Concepts 1 and 4 are only slightly preferred, all concepts show similar fiscal outcomes since all are within a 1% difference. It is expected that for any Growth Concept some key fiscal planning and policy considerations need to be considered. In particular, the Region and local municipalities will need to:

- Continue to monitor costs and revenues associated to growth over time;
- Are expected to continue to increase taxes based on a responsible approach to fiscal management;
- Will need to continue to closely monitor shifts in tax revenues associated to assessment growth;
- Will need to provide additional infrastructure to meet the demands of growth;
- Continue to consider the strategic use debt, as appropriate, for major capital investments; and
- Contribute to tax funded capital reserves for the long-term repair and replacement of assets.

Note that additional detailed policy and planning considerations are included in Appendix F.

9. Evaluation of Growth Concepts

In May 2020, Regional Council endorsed an Evaluation Framework to assess four Growth Concepts as part of the IGMS process.[13] The framework was developed in collaboration with local municipalities in Halton. Recognizing that Regional planning decisions draw upon a range of studies across many technical disciplines, and are not strict empirical exercises, a key feature of the Evaluation Framework is its emphasis on qualitative assessment: Growth Concepts are not scored and evaluation measures are not weighted.

Ultimately, the goal of the Evaluation Framework is to summarize the results of the background technical work and build consensus among the Consulting Team, Regional staff, local municipalities, and key external agencies on the planning merits of each Growth Concept. The results of the evaluation will assist in developing a Preferred Growth Concept for Council's consideration. The Evaluation Framework is intended to evaluate the four Growth Concepts using themes and criteria, it is not intended to identify which concept is "preferred" to accommodate growth to 2051. The Preferred Growth Concept will be generated using elements from more than one Growth Concept, as well as comments identified through the consultation process.

A. Four Themes are Used in the Evaluation of the Growth Concepts

The Growth Concepts vary based on the level of intensification in the Region, the density of development in Designated Greenfield Areas and, by extension, the amount of new Designated Greenfield Area to be developed.

Regional staff, with input from the Consulting Team have organized the Evaluation Framework around four themes. Each theme contains a series of measures for evaluating the Growth Concepts. The themes are:

- Theme 1: Regional Urban Structure & Local Urban Structure
- Theme 2: Infrastructure & Financing
- Theme 3: Agriculture, Environment & Climate Change

[13] See Report No. LPS41-19.

- Theme 4: Growing the Economy and Moving People and Goods

A brief description of each theme and its associated measures is provided in the following sections. Details on the evaluation results are set out in Appendix K.

B. Climate Change also Specifically Included in Evaluation Measures for Growth Choices

The effects and responses to climate change have been considered in establishing the measures for all four themes in the Evaluation Framework. Measures specific to climate change adaptation and mitigation of greenhouse gas emissions are included in Theme 3.

To adapt to a changing climate, the Region will need to continue to support natural heritage system planning, in particular flood management, to minimize negative impacts and increase resilience. For mitigation of greenhouse gases, the policy focus will be to reduce energy demand from transportation and buildings and protect greenspaces.

The climate change measures included in Theme 3 are tied to Provincial policies that address impacts on the agricultural land base and system, protection of natural heritage features and areas, and climate change adaptation and resiliency. For example:

- **Protecting the Natural Heritage System and Prime Agricultural Areas:** In considering a settlement area boundary expansion the Region must demonstrate that the Natural Heritage System, key features, and prime agricultural areas are avoided where possible and any adverse impacts on the agri-food network are avoided, or otherwise minimized and mitigated (PPS 1.1.3.8, GP 2.2.8.3).

- **Improving Resiliency to Climate Change Impacts:** To support the achievement of complete communities, municipalities are directed to mitigate and adapt to climate change impacts, improve resilience and reduce greenhouse gas emissions (PPS 1.1.1, GP 2.2.1.4).

As highlighted in Section 3.D of this report, climate change mitigation and adaptation responses have been integrated more broadly within the evaluation measures. Those evaluation measures contributing to climate change outcomes that aim to mitigate and adapt to the effects of climate change are identified in Appendix K using this icon:

Appendix A includes the IGMS Climate Change Lens and further describes how particular evaluation measures contribute to climate change mitigation and adaptation.

Land use plans in the Region will continue to lay the groundwork for reducing dependence on the automobile through planning for “complete communities” and a more compact urban form, promoting the shift from fossil fuel to renewable energy resources, and protecting greenspaces in parks, natural heritage features and areas, and agricultural systems. More detailed climate change objectives will be established through local municipal official plans, secondary and neighbourhood plans, infrastructure and master servicing plans (particularly transit plans), as well as conditions of approval for individual development applications.

In implementing its climate change policies, the Region will need to continue to:

- work with local municipalities to achieve intensification targets through higher density housing, infill, and redevelopment, and green development standards, recognizing that the current Regional urban structure is the result of relatively recent planning and development; and
- support local municipal transit plans to increase the modal share of reliable and frequent alternatives to the automobile.

C. Theme 1: Regional Urban Structure & Local Urban Structure

The measures identified under Theme 1 are based on Regional policy directions and address urban structure, the employment land supply, and healthy and complete communities (see Figure 22).

Policy Directions
Regional policies that address the urban structure, employment land supply, and healthy and complete communities are evaluated in Theme 1. This theme also addresses the Region’s obligation to provide a market-based supply of housing in accommodating the Schedule 3 population forecasts to 2051.

Healthy Communities
A key goal of the Regional Official Plan is to build healthy communities that foster the well-being of residents, provide a full range and mix of housing, employment, recreation

and community services, provide reliable and frequent access to multi-modal transportation, and embrace the principles of sustainability.

Local Identity

It is the objective of the Region to accommodate growth while retaining the local identity of communities, promoting economic prosperity, and maintaining a sustainable natural environment (ROP 72). In keeping with this objective, Theme 1 evaluates each Growth Concept based on how best it reflects the physical character of local urban communities.

Summary of Findings

Key findings of the Evaluation Framework for Theme 1 include:

- Concepts 1, 2 and 3 embrace intensification and higher-density mixed-use development and would result in a range of 55% to 65% of apartment units in the growth increment and at 2051 the total housing stock of the Region would be a range from 35% to 40% of all units in apartments.
- Concepts 1 and 4 better achieve a balanced unit mix (e.g. ground-related and apartments). Given the higher rates of intensification in Concepts 2 and 3, there is less diversity in land uses and housing mix, thus these concepts did not achieve this measure as well as Concept 1 and 4.
- Concepts 1 and 4 better protect existing employment uses as the lower rate of intensification and greater amount of land required to accommodate development results in less need to convert employment land to accommodate residential development.
- Concept 3 offers the least protection for existing designated employment areas, as it tests the greatest amount of employment land conversions and has the least amount of new employment Designated Greenfield Area.
- The climate change planning objective of compact built form is embodied under the evaluation measures in Theme 1 (see Appendix A). Concepts that propose the greatest amount of densification within Strategic Growth Areas, thereby requiring a lower amount of new Community and Employment Area land to be designated, best support the objective of compact built form.

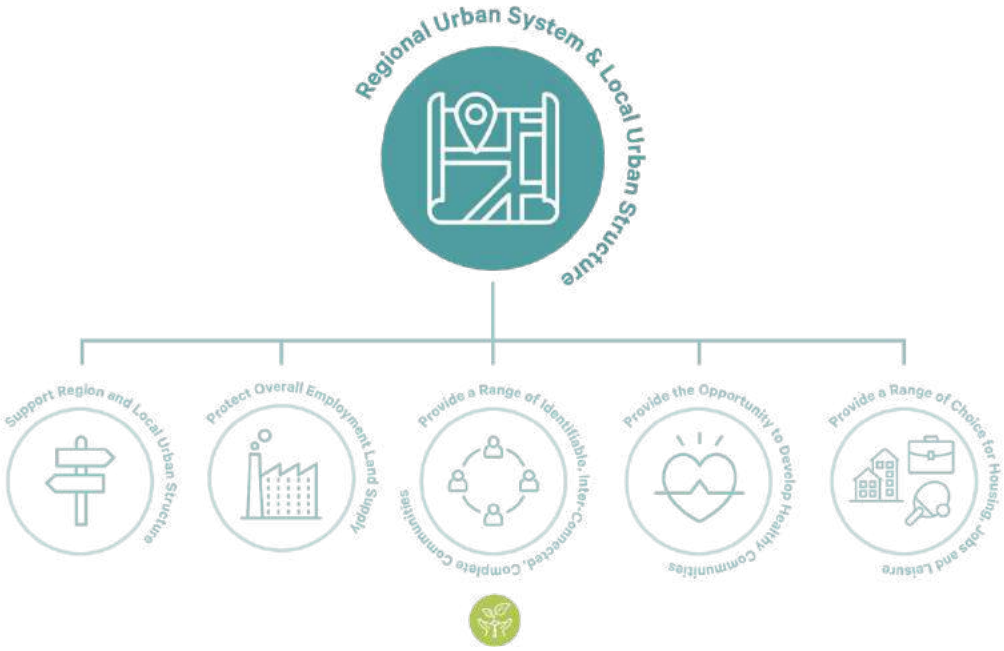


Figure 22: Evaluation Framework, Theme 1

D. Theme 2: Infrastructure & Financing

The measures identified under Theme 2 are based on Provincial policy directions and address financial impact and the efficient use of infrastructure (see Figure 23). The ability of the Region to deliver "hard" infrastructure—water, wastewater, and transportation infrastructure—is the primary focus of the evaluation. Local municipal infrastructure impacts are addressed through the fiscal impact assessment.

Policy Directions

The measures identified under this theme are based on Provincial policy directions and address financial impact and the efficient use of infrastructure.

Efficient Use of Existing or Planned Infrastructure

Provincial policies direct that communities be sustained by necessary existing or planned infrastructure to meet current and projected needs (PPS 1.1.1). To avoid the need for unjustified and/or uneconomical expansion of infrastructure, land use patterns within settlement areas are to be based on densities and a mix of land uses that efficiently use existing or planned infrastructure (PPS 1.1.3.2). To manage forecasted growth, the Region must provide direction for an urban form that optimizes infrastructure, particularly along transit and transportation corridors (GP 2.2.1.3).

Promote Intensification
To support the achievement of intensification targets, the Region must identify appropriate locations and promoting opportunities for intensification and redevelopment. This exercise must take into account the availability of suitable existing or planned infrastructure required to accommodate projected need (PPS 1.1.3.3, GP 2.2.2.3).

Financial Viability
In considering a settlement boundary expansion the Region must demonstrate that existing and planned infrastructure is suitable for the long term and that infrastructure and public service facilities needed is financially viable over the life cycle of these assets (PPS 1.1.3.8, GP 2.2.8.3).

Summary of Findings
Key findings of the Evaluation Framework for Theme 2 include:

Transportation

- No one Growth Concept is preferred from a Transportation perspective.
- All Growth Concepts will use the existing capacity of the road network prior to the identification of any capacity expansion. This is because the Region's model is a strategic model that looks at transportation demand at a boarder regional level rather than a specific intersection/point.
- Concept 3 and 4 exhibit potential for marginally higher transportation capital costs depending on the transportation solution (e.g. roads and transit), but the difference is not significant enough to distinguish these concepts from the others.
- All four Growth Concepts provide similar opportunities for phasing and scheduling of transit infrastructure.

Water and Wastewater

- The location and configuration of growth and development in Milton, the Halton Hills 401 Corridor, and South Georgetown has a direct impact on the capacity and size requirements of future Regional water and wastewater infrastructure.
- Intensification has the potential to better utilize existing infrastructure and will provide opportunities for integration with state of good repair programs.

- Concept 3 exhibits potential for lower water/wastewater capital costs, although the cost differential between Growth Concepts is relatively minor (less than 15% difference with respect to the average cost between the four concepts).

- All four Growth Concepts provide opportunity for phasing and scheduling of water and wastewater infrastructure.

Fiscal Impact Assessment

- There is some variation between Growth Concepts at the Regional level. Concepts 1 and 4 would result in a slightly more favourable Regional financial impact due to higher value assessment growth. However, the tax revenue potential of high-density development may improve over time. Higher rates of intensification in Concepts 2 and 3 would likely result in changes to sizes and configuration of apartment units as a greater share of families would need to accommodate these units. Such shifts in housing configuration may increase the assessment for Concepts 2 and 3.

At the local municipal level, the fiscal impacts of Growth Concepts are similar. Growth Concepts with a higher share of low-density housing units show better fiscal outcomes.

- Evaluation measures in Theme 2 relate to the climate change planning objective of a sustainable transportation system (see Appendix A). Concepts that direct the greatest amount of growth to Strategic Growth Areas (e.g., MTSAs, UGCs, Built up Area, etc.) will best support transit and multi-modal infrastructure.

Figure 23: Evaluation Framework Theme 2 Measures

E. Theme 3: Agriculture, Environment and Climate Change

The measures identified under Theme 3 are based on Provincial policy directions and address the impact on the agricultural land base and system, natural heritage protection, and climate change adaptation and resiliency (see Figure 24).

Policy Directions

The measures identified under this theme are based on Provincial policy directions and address impact on the agricultural land base and system, protection of natural heritage features and areas, and climate change adaptation and resiliency.

Protecting the Natural Heritage System and Prime Agricultural Areas

In considering a settlement area boundary expansion the Region must demonstrate that the Natural Heritage System, key features, and prime agricultural areas are avoided where possible and any adverse impacts on the agri-food network are avoided, or otherwise minimized and mitigated (PPS 1.1.3.8, GP 2.2.8.3).

Improving Resiliency to Climate Change Impacts

To support the achievement of complete communities, the Region is directed to mitigate and adapt to climate change impacts, improve resilience, and reduce greenhouse gas emissions (PPS 1.1.1, GP 2.2.1.4).

Summary of Findings

Key findings of the Evaluation Framework for Theme 3 include:

- Almost all potential settlement area boundary expansion lands identified in the Growth Concepts are located on Prime Agricultural areas as defined by the Growth Plan.
- Concept 3 retains the greatest amount of prime agricultural area that is contiguous to settlement areas and best maximizes the amount of agricultural lands to support the agricultural system.
- Concepts 3 best protect prime agricultural lands with the most productive and fertile soils.
- Concept 3 would best provide opportunities for reducing carbon emissions and addressing air quality through the provision of transit infrastructure and opportunities for access to multi-modal transportation.
- None of the Growth Concepts propose any removal or encroachment into the Natural Heritage System and therefore satisfy the Theme 3 Evaluation Measures. The Natural Heritage System and Water Resources Assessment included in Appendix H provides a more detailed evaluation of how well each Growth Concept achieves desired metrics for protecting and maintaining a connected Regional Natural Heritage System. Overall, Concept 3 best achieves the desired metrics followed by Concept 2, Concept 1 and Concept 4.
- Generally, Concept 3 best limits the proximity of incompatible uses to mineral aggregate operations and mineral extraction areas as it results in the least amount of new Designated Greenfield Area. Concept 3 also retains the greatest area for mineral extraction which can be rehabilitated to high value agricultural uses.
- Evaluation measures in Theme 3 relate to the climate change planning objectives of a sustainable transportation system, protection of agricultural lands and soils and protection of natural environment and supporting healthy watersheds (see Appendix

A). Concepts that protect agricultural lands from new urban development and foster the interconnectedness of the agricultural system would best achieve objectives related to climate change mitigation and adaptation. Concepts that would avoid potential impacts on the Natural Heritage System, and provide opportunities to enhance the Natural Heritage System would best achieve this objective.

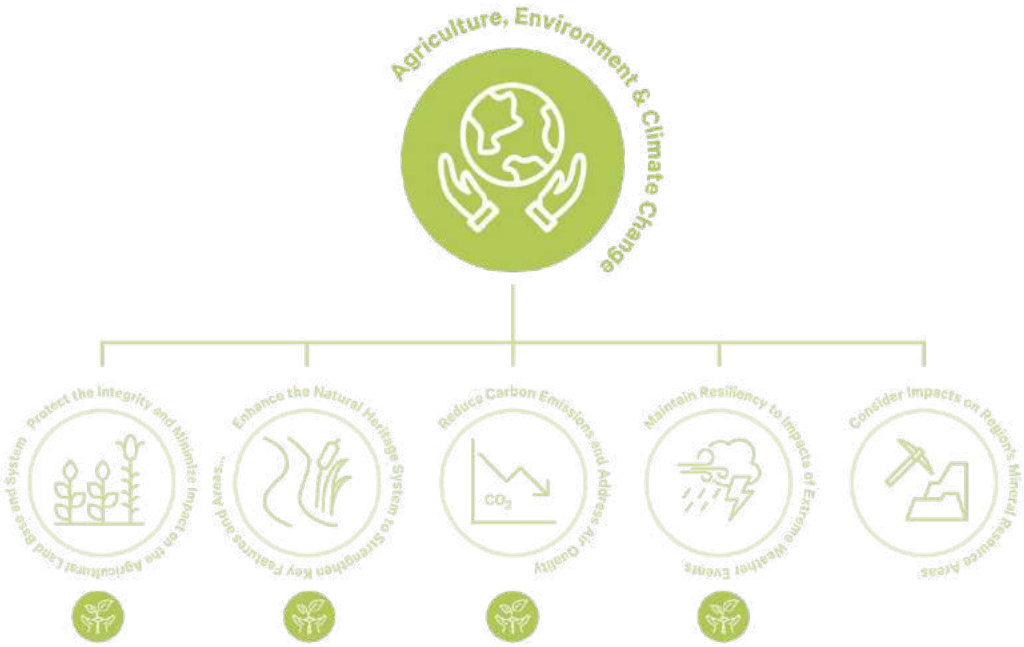


Figure 24: Evaluation Framework, Theme 3 Measures

F. Theme 4: Growing the Economy and Moving People and Goods

The measures identified under Theme 4 are based on Provincial policy directions and address multi-modal transportation and transit-supportive densities, goods movement and employment areas (see Figure 25).

Policy Directions

The measures identified under this theme are based on Provincial policy directions and address multi-modal transportation and transit-supportive densities, goods movement and employment areas.

Planning for Multi-modal Transportation
As identified in the PPS and the *Growth Plan*, areas with existing and planned frequent transit and Major Transit Station Areas are to be planned and designed to be transit-supportive with multi-modal access to stations and connections (GP 2.2.4.8, 2.2.4.10).

Planning for Employment
In terms of economic development, the Growth Plan directs municipalities to make more efficient use of employment areas and vacant and underutilized employment lands (GP 2.2.5.8).

Planning for Efficient Movement of Goods
For goods movement, facilities and corridors should be linked to employment areas to facilitate efficient goods movement (GP 3.2.4.1).

Summary of Findings
Key findings of the Evaluation Framework for Theme 4 include:

- All Growth Concepts direct a significant amount of residential and mixed-use growth to existing and proposed nodes and corridors.
- All Growth Concepts were developed with connectivity between future development and the Region's transportation network (i.e. roads, rail and highways) in mind.
- All of the Growth Concepts provide similar opportunities to enhance the connectivity of goods movement and the location of Employment Areas adjacent to major goods movement facilities and corridors (e.g. GTA West Corridor, Highway 407, Highway 401 and Highway 403). Preliminary future Employment Areas for each Growth Concept are located within the Region's existing Future Strategic Employment Areas (FSEA). These areas were identified for future employment growth because they have appropriate access to current and future goods movement corridors.
- Evaluation measures in Theme 4 relate to the objective of a sustainable transportation system (see Appendix A). Concepts that direct growth to Strategic Growth Areas (e.g., MTSAs, UGCs, Built up Area, etc.) will best support transit and multi-modal infrastructure.

Figure 25: Evaluation Framework, Theme 4 Measures

G. Summary of Evaluation Findings

The findings of Evaluation Framework are intended to inform the development of a Preferred Growth Concept for Council's consideration. It is not intended that the Growth Concepts be mutually exclusive: the Preferred Growth Concept could comprise elements of one or more concept.

The evaluation found that minimizing the expansion of settlement areas best achieves many of the measures identified in the Evaluation Framework. However, there are other considerations, and key growth choices, that must be accounted for. In developing a Preferred Growth Concept, it will be important for Regional Council to understand what is achievable in the context of housing market demand in Halton, housing affordability, and the dynamics of the Regional economy. The Growth Plan requires that the Region plan for a shift in current housing pattern so that:

- less land is required for housing over the 2051 time horizon; and
- higher density housing types—mainly apartment buildings—can accommodate a more diverse mix of household sizes.

At the same time the needs of local communities in Halton, particularly the housing "market demand", must be considered in assessing Community Area land needs. Taken together, the Growth Plan policies require the Region to plan to shift the pattern of housing from the low density suburban form that has been typical of Halton's development in the past while also considering local market demand.

For example, although the Evaluation Framework shows that Concept 3 would best achieve many of the measures under the various themes, the rate of intensification planned for under Concept 3 is 80% of all housing units being built within the Built-Up Area or existing DGA on an annual basis to 2051. An immediate and significant shift in the pattern of housing in Halton—one where family households would increasingly live in apartment buildings—is required in order to achieve the housing mix under this Growth Concept. Council will need to carefully consider whether the scale of this shift is feasible given current market preferences and the Region's objectives to retain the identity of local communities.

H. Key Considerations for the Development of a Preferred Growth Concept

The Growth Concepts are intended to facilitate testing and evaluation of an appropriate range of choices with respect to the quantum and location of growth and development. Based on the results of the Evaluation Framework and the technical background work undertaken as part of the IGMS process, the following questions should be addressed in determining a Preferred Growth Concept.

1. Growth Management Considerations

- What intensification rate should be used and over what planning horizon?
- If new Designated Greenfield Lands are required, where should they be located in Georgetown and Milton?
- To what degree can Halton municipalities shift employment demand in a desired direction?
- Where in the vicinity of Highways 407, 401 and GTA West should new employment land be located?

- Which parts of the adjusted Downtown Burlington UGC, Aldershot MTSA, and Bronte MTSA need to be converted for mixed-use development in order to support residential growth?

2. Infrastructure Considerations

- To reduce the total water and wastewater infrastructure needed to service growth, should Halton focus more on growth through intensification in built-up areas to better utilize existing infrastructure?

- Growth planned in the south portion of the lake based system will generally require less new water and wastewater infrastructure than similar growth planned further north. This is due to increased pumping and conveyance requirements when moving water north to supply upper pressure zones and, conversely, collecting and conveying wastewater from north to south for treatment. To what extent should capital infrastructure needs be considered in designating future Designated Greenfield Lands?

- Should mobility, regardless of mode (transit, auto, active transportation), dictate the location and density of growth to 2051 such that the overall transportation system potential is optimized?

- Even Concept 4, which has the least amount of intensification, focuses a very significant amount of development in higher density forms and areas associated serviced, or planned to be serviced, by higher order transit. To what degree is growth needed to support transit infrastructure?

3. Fiscal Impact Assessment Considerations

- How can the Region and local municipalities manage financial impacts associated with growth in a fiscally sustainable manner?

- What residential unit mix (e.g. ground-related and apartment units) is most appropriate?

- How will the Region and local municipalities fund future infrastructure needs?

4. Agricultural Considerations

- Where, if any, should new Designated Greenfield Lands be located to avoid and/or minimize adverse impacts on the agricultural system?

- How can agricultural lands be maximized to support the agricultural system while accommodating growth?

5. Mineral Aggregate Considerations

- If new Designated Greenfield Lands are required, can mineral aggregate operations and mineral extraction areas be avoided?
- What is the appropriate proximity of new Designated Greenfield Lands, if required, to mineral aggregate operations and mineral extraction areas?

6. Climate Change Considerations

- To what extent can climate change be mitigated through compact built form, developing a sustainable transportation system, protection of agricultural lands and soils, and protection of natural heritage and supporting healthy watersheds?
- How can future communities in Halton be adaptable to climate change through compact built form, developing a sustainable transportation system, protection of agricultural lands and soils, and protection of natural heritage and supporting healthy watersheds?

7. Natural Heritage Systems and Healthy Watershed Considerations

- All Growth Concepts avoid the Natural Heritage System; however, development occurring adjacent to the system can cause negative impacts. To what degree can the adverse impact on the Natural Heritage System caused by adjacent development be mitigated/avoided?
- What features or areas of the Natural Heritage System can be enhanced through linkages?
- Does the orientation and location of the Natural Heritage System create development challenges that may necessitate encroachments and crossings of Natural Heritage features and areas?

8. Multi-Modal Transportation, Transit-Supportive Densities, and Goods Movement Considerations

- Where should growth be located to promote transit-supportive densities?
- Where should growth be located so that it provides the best opportunity for a sustainable and the multi-modal transportation network?

- Where should new Employment Areas be located to best support goods movement and proximity to existing and planned major transportation infrastructure investment?

10. Next Steps

Input received based from public consultation of this report and related findings will inform the development of the Preferred Growth Concept.

Acronyms

IGMS	Integrated Growth Management Strategy
BUA	Built-Up Area
DGA	Designated Greenfield Area
FSEA	Future Strategic Employment Area
HUSP	Halton Urban Structure Plan
MCR	Municipal Comprehensive Review
MTSA	Major Transit Station Area
ROPA	Regional Official Plan Amendment
ROPR	Regional Official Plan Review
SGA	Strategic Growth Areas
UGC	Urban Growth Centre

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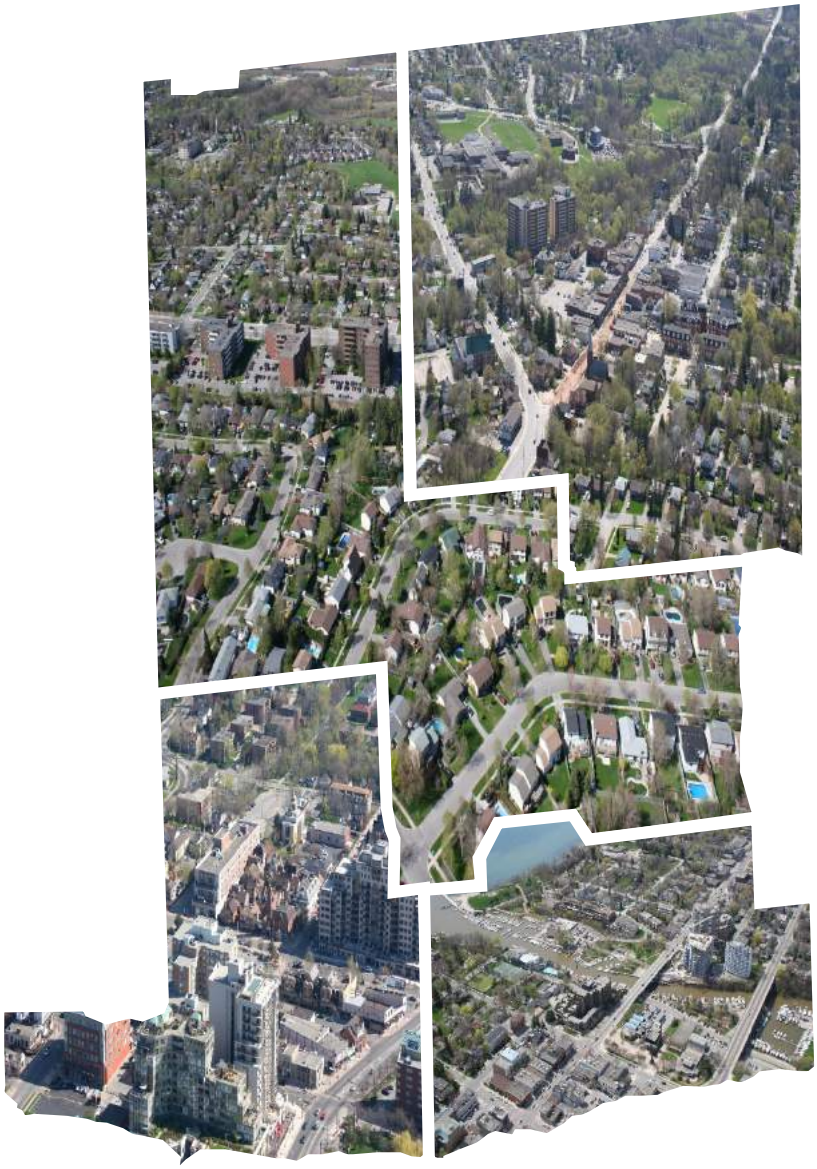

Appendix A

Climate Change Lens

February 2021

Regional Official Plan Review

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CONTENTS

1. CLIMATE CHANGE LENS

In September 2019, Halton Regional Council unanimously approved a notice of motion to join municipalities across Canada in declaring a climate emergency to deepen the Region's commitment to protecting and improving resiliency of the economy, environment and community from climate change. Specifically, Regional Council directed staff to outline opportunities for a regional approach to manage growth and development to address climate considerations through an update to the Region's Official Plan. Through the Regional Official Plan Review process, Regional Council asked that the Halton Integrated Growth Management Strategy (IGMS) evaluation of the four Growth Concepts be reviewed using a climate change lens. The following table has been prepared by Regional staff in consultation with Hemson and LTD to focus on climate change objectives and outcomes in the evaluation of the four Growth Concepts.

The table is presented as an appendix along with the other detailed technical studies, and provides the level of detail required to apply a climate lens to the evaluation themes and measures discussed in the IGMS Growth Concepts Discussion Paper (herein referred to as "the report"). In the report, an icon is used to visually identify which evaluation measures will contribute to achieving desired climate change outcomes.

As discussed in the Chapter 1 of the report, the Provincial planning framework required the IGMS process to take climate change mitigation and adaption into consideration, and Halton's planning framework, based in sustainable planning, provides a strong basis for climate change policies as it already includes policies such as compact urban form, complete communities, and transit-supportive development. Through this "climate change lens" review, it is confirmed that climate change has been taken into account in the evaluation measures. For the Preferred Growth Concept, climate actions will be considered in consultation with the Region's local area municipalities.

In this chart, four major climate change planning objectives related to planning and growth management are identified—Compact Built Form, Sustainable Transportation System, Protection of Agricultural Land and Soils, Protection of Natural Heritage and Healthy Watersheds. Through these objectives, the table shows how the Growth Concepts can reduce Greenhouse Gas (GHG) emissions from buildings and transportation, build resiliency, and the table highlights the importance of protecting and enhancing the agricultural system and natural heritage system in response to climate change. The relationship of each of these climate change planning objectives to climate change mitigation and adaptation is also described.

For each of the four major climate change planning objectives, planning policies related to each objective are listed. The Halton IGMS process conforms to the Provincial policy framework that requires climate change mitigation and adaption planning. These policies are set out in the Provincial Policy Statement and the Growth Plan (2019). While currently under review, climate planning policies are also set out in the Halton Region Official Plan. Updated climate change policies are proposed to be brought forth as part of the Regional Official Plan Amendment (ROPA).

The Halton IGMS themes for evaluating the Growth Concepts are identified as they relate to each of the four major climate change planning objectives. For each theme, the related evaluation measures are identified. For each evaluation measure, the climate change outcome is described, clearly relating the ways in which each evaluation measure has taken climate change into account.

The role of the IGMS is to develop a strategy to accommodate forecast population and employment growth in the Region to 2051. The Growth Concepts represent options for accommodating that growth through intensification of the built-up area, densification of plans for existing designated greenfield areas, and if necessary and justified, expansion of the urban area, and accommodating that growth in ways that seek to address climate change mitigation and adaptation objectives. Through the update to the ROP, the Region has the opportunity to set goals related to climate action to encourage or imagine more systemic change in terms of reducing GHG emissions and improving resiliency to extreme weather. Through the update to the ROP, the Region has the opportunity to set goals related to climate action to encourage or imagine (i.e. re-envision the kind of community it wants to be) more systemic change in terms of reducing GHG emissions and improving resiliency to extreme weather.

Climate Change Planning Objective	Supporting Land Use Policy	IGMS Growth Concepts Evaluation Theme	IGMS Growth Concepts Evaluation Measure	Growth Concept Climate Change Outcome
Compact built form is a climate change *mitigation* objective because compact form and a mix of uses and densities allow for the efficient use of land, infrastructure and public service facilities. Most of Halton's emissions are from transportation and buildings. With compact built form, higher densities in strategic growth areas are planned to be transit-supportive, walkable, and well-serviced to reduce the need to drive private automobiles and decrease GHG emissions. Compact mixed-use development with a high level of employment and residential densities supports walkability, reduces auto-dependence, and supports transit, as well as makes more efficient use of existing transportation infrastructure. Emissions from transportation are reduced over the long term with a shift in travel behaviours. Higher density housing forms can significantly reduce the Region's GHG emissions from buildings due to the fact that higher density, multi-unit housing	**PPS, 2020** 1.1.1 1.1.3.2 1.1.3.5 1.1.3.6 1.2.4 1.4.3 1.5.1 1.6.11.1 1.6.7.4 1.7.1 1.8.1 **Growth Plan (2019)** 1.2.1 2.2.1 2.2.1.2 2.2.1.4 2.2.2.3 2.2.5.13 2.2.6.2 2.2.7.1 2.2.7.2 4.2.9.1	Theme 1: Regional Urban System and Local Urban Structure	1.1.1 Best meets or exceeds transit supportive densities in UGCs, MTSAs, and potential transit priority corridors	• The objective of **compact built form** is embodied under the evaluation measures in Theme 1, 3 and 4. • Concepts that propose the greatest amount of densification within Strategic Growth Areas, thereby requiring a lower amount of new Community and Employment Area land to be designated, best support the objective of compact built form. • New communities, whether within existing urban areas or on new greenfield lands can be built to support climate mitigation and adaptation objectives. However, intensification within the existing urban area is more efficient, making better use of existing lands and infrastructure, and avoids agricultural and natural heritage lands.

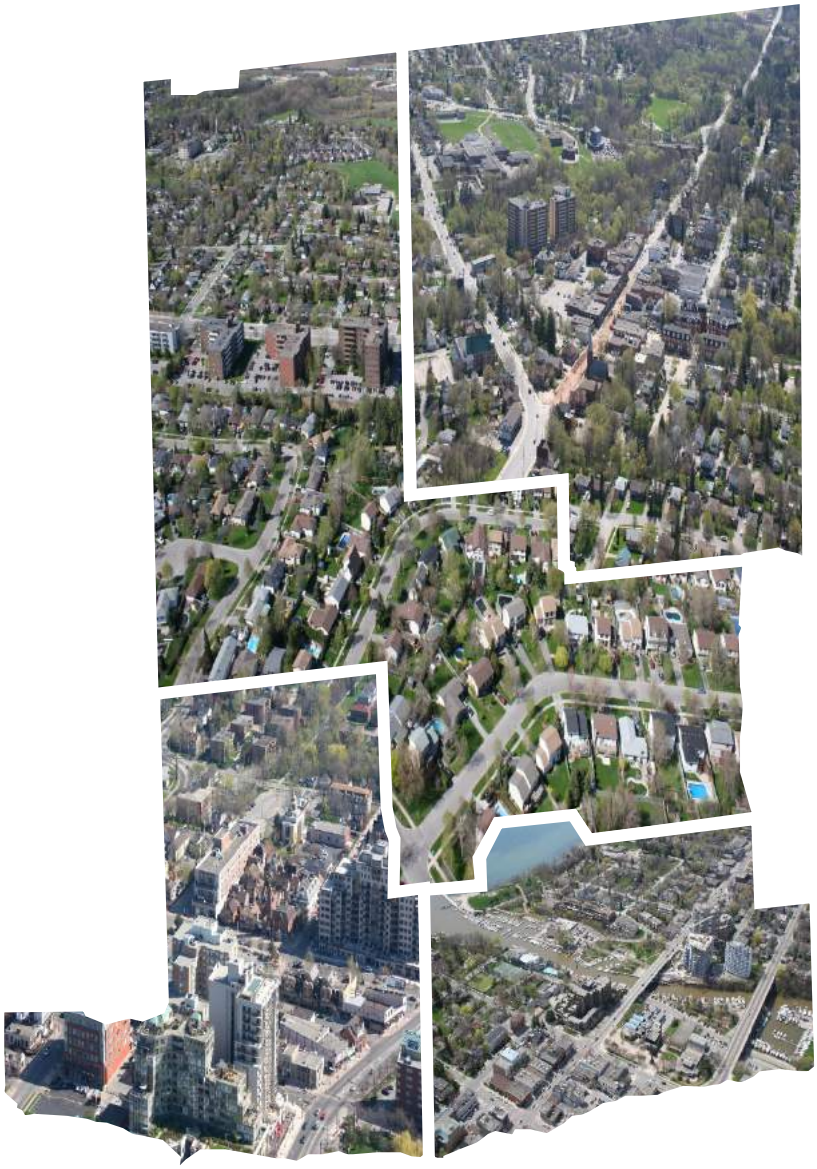
Climate Change Planning Objective	Supporting Land Use Policy	IGMS Growth Concepts Evaluation Theme	IGMS Growth Concepts Evaluation Measure	Growth Concept Climate Change Outcome
tends to be more energy efficient than single-detached housing. Compact built form also increases opportunities for distributed and district energy. Halton IGMS Growth choices include nodes such as MTSAs and intensification corridors, where higher density forms of development would be planned. To further reduce emissions from buildings, incentives for local green development standards and sustainable development guidelines may be established for all new development, particularly in major growth areas where development and redevelopment may occur. **Compact built form** is a climate change *adaptation* objective, because growth is directed away from agricultural and natural heritage system lands, reducing fragmentation and increasing resilience to the impacts of extreme weather.	4.2.10.1 4.2.10.2 **Halton Regional Official Plan** 72 (2) 77 (5) 85 (8)		1.1.2 Locates employment development close to existing or potential priority corridors and provides opportunities for multi-modal access	
			1.1.3 Locates new residential development close to existing or potential priority corridors and provides opportunities for multi-modal access	
			1.3.1 Supports locating urban development contiguous with existing built up areas	
		Theme 3: Agriculture, Environment and Climate Change	3.3.1 Best creates opportunities for residential uses, employment uses, and community services to be located in close proximity to one another and supported by existing or planned transit service	

Climate Change Planning Objective	Supporting Land Use Policy	IGMS Growth Concepts Evaluation Theme	IGMS Growth Concepts Evaluation Measure	Growth Concept Climate Change Outcome
		Theme 4: Growing the Economy and Moving People and Goods	4.2.1 Locates new residential development closest to nodes and corridor	
			4.1.1 Directs new mixed use and residential development to nodes and corridors	
A **sustainable transportation system is** a climate change *mitigation* objective that aims to reduce GHG emissions from vehicles. Aligning growth and transportation planning supports active transportation and transit use, reducing auto-dependence and thus reducing emissions. Supporting compact, mixed use, and pedestrian-oriented design in proximity to transit stations and corridors promotes lifestyles that conserve energy use and decrease transportation emissions. A sustainable transportation system anticipates widespread transition to electric vehicle over the long term while recognizing the co-benefits with public health goals and liveability goals of community design that reduces reliance on automobiles.	**PPS, 2020** 1.1.3.2 1.4.3 1.5.1 1.6.7.4 1.8.1 **Growth Plan (2019)** 2.2.1.2 2.2.1.4 2.2.5.13 2.2.7.1 4.2.10.1 **Halton Regional Official Plan** 72 (2) 77 (5) 85 (8) 143 (5)	Theme 2: Infrastructure and Financing	2.5.1 Best supports a sustainable, long term infrastructure planning strategy	• Evaluation measures in Theme 2. 3 and 4 relate to the objective of a **sustainable transportation system**. • Concepts that direct growth to Strategic Growth Areas (e.g., MTSAs, UGCs, Built up Area, etc.) will best support transit and multi-modal infrastructure. • Future Employment Areas in the Region will be strategically planned to have direct access to existing or planned transit facilities.
		Theme 3: Agriculture, Environment and Climate Change	3.3.2 Generates the fewest lane kilometers provides transit-supportive densities and generates opportunities for multi-modal access	
		Theme 4: Growing the Economy and Moving People and Goods	4.4.1 Employment areas have direct access to rail and highways and are near existing or planned transit facilities	

Climate Change Planning Objective	Supporting Land Use Policy	IGMS Growth Concepts Evaluation Theme	IGMS Growth Concepts Evaluation Measure	Growth Concept Climate Change Outcome
Protection of agricultural land and soils is a climate change *mitigation* objective because woodlots, hedges, and soils sequester carbon, thus reducing emissions. Also, the availability of local food reduces emissions from the food system by reducing the distance from farm to table. **Protection of agricultural land and soils** is a climate change *adaptation* objective that aims to support the Agricultural System to increase local food security and resiliency in response to potential disruption in the food system. The long-term protection of agricultural land and the diversification of agricultural operations will provide better access to revenue streams that allow farmers to invest in more viable practices and promote agricultural and food resilience in response to climate change threats.	**PPS, 2020** 1.1.3.8 2.3.1 2.3.2 2.3.5.1 **Growth Plan (2019)** 2.2.1.3 d) 2.2.8.3 4.2.6.2 4.2.6.4 4.2.6.6 4.2.6.7 4.2.10.1 **Halton Regional Official Plan** 25 26 29 91 99(2) 99(3) 99(4) 99(5) 9910) 99(11) 99(12) 101(1.6)	Theme 3: Agriculture, Environment and Climate Change	3.1.1 Retains the largest amount of contiguous agricultural land possible 3.1.2 Protects and avoids Prime Agricultural Land to maintain the most productive and fertile soils for agriculture 3.1.3 Maximizes the amount of agricultural lands to support the Agricultural System 3.1.5 Recognizes the interconnectedness of agricultural and food assets and has the least impact on the Agricultural System	• Theme 3 addresses the climate change objective of **protection of agricultural lands and soils**. • Concepts that protect agricultural lands from new urban development and foster the interconnectedness of the agricultural system would best achieve objectives related to climate change mitigation and adaptation.

Climate Change Planning Objective	Supporting Land Use Policy	IGMS Growth Concepts Evaluation Theme	IGMS Growth Concepts Evaluation Measure	Growth Concept Climate Change Outcome
Protection of natural heritage and supporting healthy watersheds is a climate change *mitigation* objective because trees and plants absorb carbon and other pollutants from the air and sequester carbon in their biomass, including soils. Protection of the natural environment, including trees, forests, and wetlands promotes future carbon sequestration and protects existing carbon sinks by preventing soil erosion. **Protection of natural heritage and supporting healthy watersheds** is a climate change *adaptation* objective as natural heritage systems are "green infrastructure" supporting the management of water quality and quantity over the very long term. The natural environment supports the Region's resilience and capacity to respond to extreme weather events especially where new urban lands are in the upper reaches of a watershed and may include key hydrologic features such as groundwater recharge areas, and where encroachment by development would have the potential	**PPS, 2020** 1.1.3.8 2.1.1 2.1.2 2.1.4 2.1.5 2.1.6 2.1.7 2.1.8 2.2.1 a), b), c), d), e) 2.2.2 **Growth Plan (2019)** 2.2.1.3 d) 2.2.8.3 4.2.1.1 4.2.1.2 4.2.2.6 4.2.2.7 4.2.10.1 **Halton Regional Official Plan** 25 26	Theme 3: Agriculture, Environment and Climate Change	3.2.1 Retains the greatest overall area possible of natural heritage lands 3.4.1 Emphasizes NHS protection within settlement areas and the rural area 3.4.2 Supports a contiguous Natural Heritage System	• Theme 3 addresses the climate change objective of **protection of natural heritage and supporting healthy watersheds**. • As no development is proposed to occur within the Region's Natural Heritage System in any Growth Concept, these features will remain protected over the planning horizon of the Region's Official Plan. • Concepts that would avoid potential impacts on the Natural Heritage System, and provide opportunities to enhance the Natural Heritage System would best achieve this objective. • If future urban land area is required, natural buffers and linkages need to be provided.

Climate Change Planning Objective	Supporting Land Use Policy	IGMS Growth Concepts Evaluation Theme	IGMS Growth Concepts Evaluation Measure	Growth Concept Climate Change Outcome
to put downstream communities at risk. Improving connectivity and reducing fragmentation of natural environmental areas, in part through compact built form, will improve resiliency of developed areas.	29 114 114.1 115.3 115.4 118(2) a), b) 118(13) 144(3) 144(6) 145(10) 146(23)			



Appendix B

Land Needs Assessment and Municipal Allocation

February 2021

Regional Official Plan Review

HEMSON

Halton REGION

HEMSON

Halton
REGION

CONTENTS

EXECUTIVE SUMMARY

The Integrated Growth Management Strategy (IGMS) addresses much of the Region of Halton's Municipal Comprehensive Review (MCR), itself a large part of the Region's Official Plan review. The MCR forms part of a process to bring the Official Plan into conformity with Provincial plan *A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2019* (the *Growth Plan*). At the time the IGMS begun in 2018, the previous version of the *Growth Plan* was in place and among its policies was the need to use the Ministry of Municipal Affairs (MMAH) *Land Needs Assessment Methodology* (LNA) to establish whether the designation of additional urban lands were needed to accommodate growth to what was the planning horizon to 2041. By the time the first set of IGMS reports were prepared in 2019, the new Growth Plan was in place, based on a 2041 planning horizon and the LNA Methodology, which applied the previous Growth Plan's policies.

It is important to note that the analysis set out in this memorandum is not yet the formal LNA in the style suitable for submission to the Province with the final ROPAs at the end of the IGMS process in 2022. Rather, a complete LNA will be prepared as part of the Preferred Growth Concept stage of the process and to support the proposed allocations of growth to 2051 by Local Municipality and any proposed settlement boundary expansion, whether for employment area land only or for both community and employment land. As this document is not intended to be the formal LNA, some elements are presented in less detail, such as the housing types. At the same time, this memorandum provides much more detail, such interim years between 2021 and 2051, not required for the LNA.

The local municipal allocations of growth and some details on sub-municipal allocations are not necessary for the submission to the Ministry of Municipal Affairs and Housing on land needs, but the allocations are a necessary part of the MCR process and the implementing Official Plan amendments. The municipal allocations and other descriptions of the Growth Concepts logically follow from the forecast and analysis of land need required for the LNA. A series of tables at the end of this memorandum following the components required for the LNA provides these results.

Part One of the Memorandum is the LNA work and Part Two provides the municipal allocation and other matters of interest related to the population, housing and employment growth under the four Growth Concepts.

PART 1: LAND NEEDS ASSESSMENT

A. DEFINITION OF KEY TERMS

Several key terms are used throughout this memorandum and are defined below:

- **Employment Areas** – land for the exclusive use of employment activity. In Halton, these lands are in business parks and industrial areas near highways and railways. While there may be some houses built before the area was designated as an Employment Area, if any new residential development is planned or permitted, the land must become part of the Community Area (e.g. new housing is not permitted in an Employment Area).
- **Community Areas** – land for housing and the local employment, infrastructure, and services necessary to sustain residential areas; as well as the mixed-use areas that may be planned for significant amounts of both housing and employment development.
- **Built-Up Area (BUA)** – now properly known as Delineated Built-Up Area, this area is defined by the Minister through the Growth Plan for the purposes of setting minimum intensification targets and reflects the BUA as it was in 2006.
- **Existing Designated Greenfield Area (DGA)** – all other urban designated lands not in the BUA are in the DGA, which all approved urban Community Area or Employment Area lands. In Halton, these are the lands currently planned to accommodate development to 2031 in the Region's Official Plan.
- **Potential Designated Greenfield Area (DGA)** – future Community Area or Employment Area lands that may be designated for development in order to accommodate some of the Region's growth to 2051.

B. REQUIREMENTS OF THE GROWTH PLAN, 2019

In August 2020, the Growth Plan was amended so that, among other matters:

- The time horizon for municipal land use planning in the Greater Golden Horseshoe was extended from 2041 to 2051. Since the planning horizon to 2041 had not been implemented in Halton before this change, the Regional Official Plan will be jumping from a 2031 planning horizon to 2051 through this current process.

- Population and employment forecasts contained in Schedule 3 of the Growth Plan, which the Region must use for planning and managing growth through the MCR, were updated and extended to the 2051 time horizon.

At the same time, the Province prescribed a new LNA Methodology for assessing land needs to 2051.[1] Pursuant to Growth Plan Policy 2.2.1.5, the Region must use this methodology to assess the amount of land required to accommodate the Schedule 3 population and employment growth.[2]

The LNA Methodology introduces important changes to the municipal land needs assessment process. These include requirements that: housing supply and demand be explicitly analyzed in terms of total housing and housing by type; market contingency factors be considered in the determination of available land supply; and that a "market-based supply of housing" be provided to the extent possible in determining lands required to accommodated growth while achieving Growth Plan policy targets.

Accordingly, this memorandum sets out the approach used to determine the land needs for the Region to accommodate the Schedule 3 population and employment forecasts to 2051 under the four Growth Concepts described in the IGMS Growth Concepts Discussion Paper. The approach considers Regional and local market trends, the demand for housing and land for the exclusive use of employment activities, the current land supply, and the policy requirements of the Growth Plan.

The overall IGMS and the LNA within it, relies on Statistics Canada's 2016 Census, subsequent *Annual Demographic Estimates*, CMHC housing market data as well as information from the Region and local municipalities from building permits, the annual employment survey, residential, employment and mixed-use land supply and development expectations for areas of growth and change. The data involved is current up to 2016 (for the Census) and up to the end of 2020 (for some municipal data and CMHC housing). The analysis initially adjusts all of the data and statistics to a common estimated mid-2021 base. The estimated mid-2021 base aligns with next Census that Statistics Canada will be conducting in May of 2021, which marks the beginning of the forecast period stretching for 30 years to 2051.

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[1] *Land Needs Assessment Methodology for the Greater Golden Horseshoe, 2020*, released in accordance with Growth Plan policy 5.2.2.1 c). See https://files.ontario.ca/mmah-land-needs-assessment-methodology-en-2020-08-27-v2.pdf

[2] The population and employment growth identified in Schedule 3 for the Region are minimums. The Region can plan for growth above these targets.

Urban land needs are considered for two types of geography: Employment Areas and Community Areas.

Ultimately, the Growth Plan requires that the Region will, at a minimum, through a municipal comprehensive review, apply the forecasts in Schedule 3 (section 5.2.4). The methodology for assessing land needs to implement Schedule 3, including relevant assumptions, is outlined in the LNA Methodology. The methodology will be used by upper- and single-tier municipalities to assess the quantity of land required to accommodate forecasted growth to the horizon of this Plan (section 2.2.1.5).

The purpose of the LNA is to determine whether the Region has sufficient land to accommodate the Schedule 3 population and employment growth to 2051 within the approved settlement area boundary consisting of the BUA and existing DGA to 2031. Should the analysis reveal a deficiency in land, the Region will need to consider ways to accommodate the growth:

- through reconsideration of planned density and intensification;
- consideration of whether any lands in Employment Areas may be appropriate for conversion to non-employment uses to satisfy Community Area land needs (increasing the Employment Area land need); or
- a settlement area boundary expansion may be warranted.

The Growth Concepts represent alternative approaches to accommodate forecast growth to 2051 in Halton.

C. HALTON REQUIRED TO BALANCE POLICY-BASED SHIFTS TO HIGHER DENSITY WITH CONSIDERATION OF MARKET DEMAND

The need for land in Community Areas is driven by the demand for housing, mainly ground-related housing (singles, semis and rows), as apartments take up relatively little land and can typically be accommodated within the existing urban designated area. The Growth Plan requires that the Region plan for a shift in current housing mix and pattern so that:

- More growth is accommodated within the BUA (where the vast majority of new units are apartments in medium and high density forms),
- Higher levels of intensification are intended to reduce the amount of new DGA land required for housing (typically DGA development is nearly all ground-related housing

with a limited number of apartment building developed, at least during the first decades of development); and

- There is a significant share of higher density housing types, in addition to the ground-related housing so that the overall housing supply can accommodate a full range and diverse mix of household types and household sizes. Planning for a wider variety of housing in Halton is a key element of the Growth Plan vision (section 1.2).

At the same time the needs of the local population to have available a full range of housing types — that is, the expected "market demand" — must be considered in assessing Community Area land needs.

Taken together, these policies require the Region to plan to shift the pattern of housing growth from the predominantly ground-related forms that have been typical of Halton in the past, while also considering local market demand, where most of the household growth continues to be in family households who favour ground-related units. The balancing of these interests are an important consideration as the four Growth Concepts, which test different scales of housing market shifts towards more medium and higher density units, are evaluated as the IGMS proceeds to the Preferred Growth Concept.

i. Growth Plan Requires More Compact Built Form, Higher Density Housing, and Shifts in Transportation Mode Split

The Growth Plan emphasizes that the Schedule 3 forecasts be accommodated in "complete communities". Among other things, complete communities provide a full range of housing to accommodate a range of incomes and household sizes and support greenhouse gas emissions reductions (contributing to climate change) by planning for increased modal share of transit and active transportation and by building more of the community at transit-supportive densities in compact built form (section 2.1). To support complete communities, housing in the Region is to be:

- Diversified overall across the Region (section 2.2.6.2 d).
- Delivered in compact greenfield communities (section 2.1).
- Concentrated so that it supports a more diverse range and mix of housing options (section 2.1). In this regard,
    - Special emphasis is placed on providing higher-density housing options to address the challenge of housing affordability for smaller households; and on

- Higher density housing that can accommodate a range of household sizes in locations that can provide access to transit and other amenities (2.1).
- The Region must also consider tools to require that multi-residential development incorporate a mix of unit sizes to accommodate a diverse range of household sizes and incomes (2.2.6.4). This policy is a clear expression of the Growth Plan's intention to encourage a shift in housing market preference through planning policy and market incentives.

The Growth Plan also emphasizes an "intensification first" approach to development which focusses less on continuously expanding the urban area and more on optimizing the existing urban land supply. To support this approach, the Growth Plan prescribes minimum intensification and density targets for the Region:

- A minimum intensification rate of 50% of all residential development occurring annually within the delineated Built-Up Area; and
- A minimum density of 50 residents and jobs combined per hectare in the DGA.
- Density targets are established for the Region's Urban Growth Centres (UGCs in Downtown Burlington, Downtown Milton, and Midtown Oakville) and Major Transit Station Areas (MTSAs).

The new minimum intensification target at 50% is higher than the 40% specified in the 2006 Growth Plan (and is currently in the Halton Regional Plan). The DGA density target appears as the same 50 persons plus jobs per hectare as in the 2006 Growth Plan. However, in 2017 the method of calculation changed so that Employment Areas are no longer included in the DGA density. Because Employment Areas have lower average densities, the previous 50 density is equivalent to about 60 to 65 persons plus jobs per ha in today's terms. The minimum standard in the new Growth Plan is much lower than the prior minimum density target.

The Growth Plan encourages the Region, through its MCR, to go beyond the minimum intensification and density targets, where appropriate, except where doing so would conflict with other Provincial plans and policies (section 5.2.5.1).

Complete communities are also to be achieved through targeted infrastructure investments. For example, the Growth Plan promotes alternatives to the automobile by requiring that the Region develop policies to increase the modal share of transit and active transportation (section 3.2.2.4). Transit is to be the Region's first priority for transportation planning and investment (section 3.2.3.1) and transit-supportive development, particularly in Priority

Transit Corridors and MTSAs. Other infrastructure, including public service facilities, is to be integrated with transit planning (section 3.2.8). In this way housing, as well as jobs, schools, cultural, and recreational opportunities can access the transportation network through a variety of transportation modes (section 3.2.2.2 d). Moreover travel times, especially commuting distances, are to be kept to a minimum.

ii. Market Demand Consideration in the LNA Is Given Authority from the Provincial Policy Statement

In addition to the Growth Plan, Provincial planning policies, to which the Region of Halton and the local municipalities must conform, are in the Provincial Policy Statement. The new 2020 Provincial Policy Statement notes the following, among other references to the market:

> 1.1.1 Healthy, liveable and safe communities are sustained by:
>
> … accommodating an appropriate affordable and market-based range and mix of residential types (including single-detached, additional residential units, multi-unit housing, affordable housing and housing for older persons) …
>
> 1.1.3.8 A planning authority may identify a *settlement area* or allow the expansion of a *settlement area* boundary only at the time of a *comprehensive review* and only where it has been demonstrated that:
>
> sufficient opportunities to accommodate growth and to satisfy market demand are not available through *intensification*, *redevelopment* and *designated growth areas* to accommodate the projected needs over the identified planning horizon; …
>
> 1.4.3 Planning authorities shall provide for an appropriate range and mix of *housing options* and densities to meet projected market-based and affordable housing needs of current and future residents of the *regional market area* …

Notwithstanding Growth Plan policies that aim to shift the Regional housing market towards more apartment development, the PPS also has these requirements of sufficiency of supply reflecting market demand and the anticipated needs of the households in the communities in Halton. In managing growth, flexibility is given to Regional Council to respond to local needs and market demand in planning for housing. In this way, the Growth Plan requires

that any shift in housing patterns influenced by planning policy not jeopardize the overriding goal to accommodate, at a minimum, the Schedule 3 population forecast.

The LNA Methodology provides additional direction on how to balance policy-induced market shifts with market demand, while acknowledging the necessity to adjust housing projections to meet Growth Plan policy targets. The Methodology states that providing a market-based supply of housing while conforming to the Plan and its minimum intensification and density targets is an objective.

The baseline for establishing a market-based supply is the Reference Growth Scenario set out in Appendix B to the background report prepared for the Province as part of the recent Schedule 3 update.[3] In this way, understanding the Community Area land need associated with this baseline is an important element in assessing the suitability of the four Growth Concepts tested in the IGMS process. Each Growth Concept represents a shift from the baseline forecast. In making decisions about the Preferred Growth Concept, Regional Council should consider the scale of the shift in housing type from the baseline.

The Methodology also requires that housing needs be considered by different dwelling types.[4] This housing-by-type analysis ensures that land is available to accommodate some growth in every housing type and, more generally, it is hoped housing shortages can be avoided in all parts of the market.

Finally, the Methodology requires that in assessing Community Area land needs, market contingency factors may be accounted for, including: rental vacancies; constrained lands; landowner unwillingness to develop; the length of the planning process; and other economic and demographic factors that may not have been anticipated in Schedule 3 forecasts.

D. COMMUNITY AREA LAND NEEDS ANALYSIS FOLLOWS PROVINCIAL METHDOLOGY

The approach for determining Community Area land needs generally follows the six-step approach set out in the Provincial LNA Methodology. The land needs work prepared for the

[3] Hemson Consulting, *Greater Golden Horseshoe: Growth Forecasts to 2051*, August 2020.

[4] Although the Methodology provides four dwelling type categories that could be used, the categories do differ from how housing has been categorized to date in the IGMS work. As well, those types differ from the categories used for the baseline reference growth scenario in the Schedule 3 background report. All of these approaches, however, reflect reasonable ways of segmenting the housing market and all have the critical distinction for land needs assessment purposes between ground-related housing and apartment housing.

IGMS Growth Scenarios in 2019 that now underpin the Growth Concepts is consistent with the new LNA Methodology, but will be augmented for the formal LNA at the Preferred Growth Concept stage. The primary results presented, including the greenfield land need in hectares, are the same as they would be otherwise in a formal LNA. The difference is some elements are presented in less detail, such as the housing types. At the same time, this memorandum provides much more detail, such interim years between 2021 and 2051 and some details on sub-municipal allocations that would not be required for the submission to the Ministry of Municipal Affairs and Housing, but are of great interest for anyone reviewing the Growth Concepts.

Among the differences between this LNA and the formal LNA subject to Provincial approval, in support of the final Regional Official Plan amendment in 2022, is that the Growth Concepts work is based on two groupings of housing unit types, rather than the four that will eventually be used. As well, there are other assumptions (such as vacancy and contingency) that may vary depending on details of the Preferred Growth Concept.

Which employment land conversions are ultimately recommended and approved will also significantly affect the final Employment Area land need as well as the Community Area land need to some extent.

Finally, the LNA does require public and agency input, something that can only be gathered by the review of the Growth Concepts and the later public and agency review of the Preferred Growth Concept and the MCR. This report is a critical piece of the IGMS Growth Concepts Discussion Paper, which presents information on key growth manage choices to facilitate public input. The key inputs and results of the LNA are provided for the four Growth Concepts described in this appendix and are focussed on its key conclusion, the amount of new urban lands that would be required and housing for designation.

The first step is to analyze the population growth outlook based on the Schedule 3 population and employment forecasts.

Component 1: Population Forecasts

The Region of Halton is located in the western part of the Greater Toronto Area and Hamilton (GTAH) as defined by the Growth Plan. Although one of Canada's fastest growing municipalities between 2001 and 2011, the Region's population growth rate has since slowed. The Schedule 3 forecasts assume more rapid population growth in the future as the expansion of Regional services in the northern municipalities of Milton and Halton Hills has the effect of accelerating the development of ground-related housing. At the same time, the Region will also intensify but primarily in the southern local

municipalities. Growth will be fueled by in-migration from elsewhere in the GTAH, principally Toronto and Peel, and by long-term infrastructure investments such as the expansion of regional (GO) transit services.

The Region's annual population growth rate has fluctuated since the early 2000s (see Table 1). At the time of the last Census in 2016 the population was 565,000.[5] In 2021, the Region's population is now expected to reach 621,000 (an annual growth rate of 1.9% from 2016).

Table 1: Historic and Forecast Population and Population Growth in Halton Region

Halton Region Population Forecast to 2051			
Census Year	Total Population*	Population Growth	Annual Growth Rate
1986	280,000		
1991	322,000	42,000	2.8%
1996	349,000	27,000	1.6%
2001	391,000	42,000	2.3%
2006	458,000	67,000	3.2%
2011	517,000	59,000	2.5%
2016	565,000	48,000	1.8%
2021	621,000	56,000	1.9%
2026	687,000	66,000	2.1%
2031	767,000	80,000	2.2%
2036	848,000	81,000	2.0%
2041	931,000	83,000	1.9%
2046	1,017,000	86,000	1.8%
2051	1,100,000	83,000	1.6%
1991-2021		**299,000**	**2.2%**
2021-2051		**479,000**	**1.9%**

The LNA Methodology requires that population projections determining housing needs be based on the Schedule 3 forecast in the Growth Plan. To satisfy this requirement, the Region's land needs assessment is based on the population age structure summarized in Appendix B to the background report prepared for the Province as part of the recent Schedule 3 update.[6] The Reference Forecast at 2051 in this report forms the basis of the Schedule 3 forecasts.

The Schedule 3 forecasts the Region's population to be 1.1 million in 2051. This represents growth of 479,000 persons over the 30-year period 2021 to 2051 at a compound annual

[5] Consistent with Schedule 3, population figures in this report represent "total" population that includes Statistics Canada's estimate of Census net under-coverage of 2.95% for the 2016 Census. The equivalent "Census" population is 548,000.

[6] Hemson Consulting, *Greater Golden Horseshoe: Growth Forecasts to 2051*, August 2020.

growth rate of 1.9%. This growth rate is lower than the historical rate from 1991-2021 of 2.2%, but slightly higher than the 1.9% compound annual rate experienced in the Region in the last 5 years. Population growth in Halton includes natural increase from the current population, but is mainly fueled by in-migration from other parts of the GTAH. Those moving to Halton are mainly families between their late 20s and early 40s, often with children. Growth in these types of households are important to household formation, household size and housing types preferred by residents of Halton.

In accordance with sections 2.2.1 and 5.2.4.1 of the Growth Plan, the Schedule 3 forecasts of population and employment at 2051 are minimums and the Region is permitted to establish higher forecasts through its MCR. The IGMS work to date has been premised on the Schedule 3 forecasts being reasonable for the purposes of long-term planning of the Region and that a higher forecast is not warranted. The forecast for Toronto, Hamilton and the other Regions of the Greater Toronto Area and Hamilton (GTAH), as well as the rest of the Greater Golden Horseshoe (GGH), call for a significant amount of growth over the next 30 years. The likelihood is very low that either a higher overall GGH forecast occurs or that Halton could attract a higher share of the current forecast growth. In the current forecast, Halton has higher growth rate than either the neighbouring City of Hamilton or Region of Peel.

Component 2: Household Forecast and Housing Need

The LNA Methodology then requires that the population forecast by age group be translated into a forecast of households. To do this, the LNA Methodology prescribes the use of household formation rates for each age group to determine the total number of households at 2051, growth in households being equivalent to growth in total occupied dwelling units. This approach has long been standard practice in this type of work.

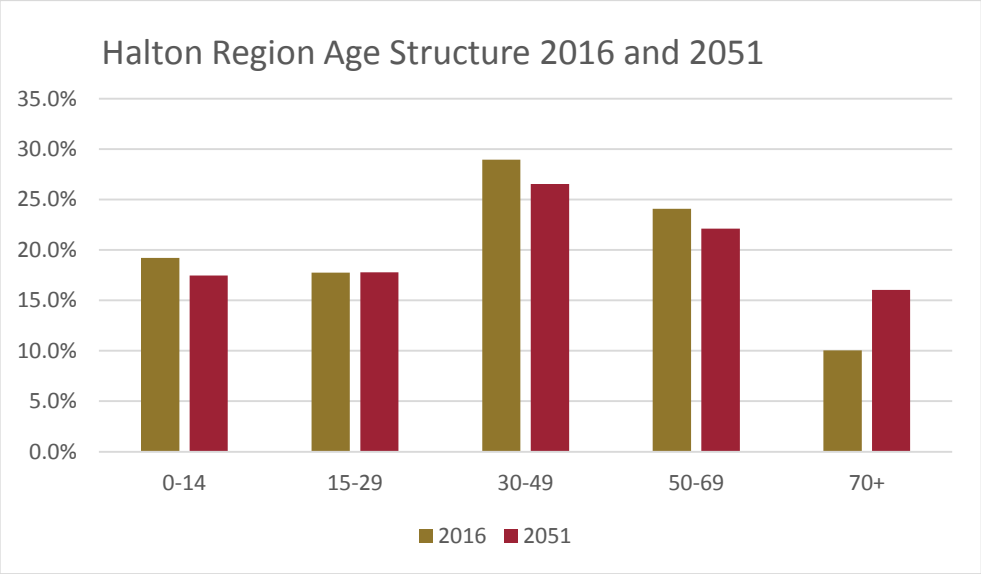
In a separate step, the household forecast is allocated to dwelling or housing units by type. This is done by applying adjusted age-specific occupancy patterns to the household forecast, with the adjustments reflecting actual housing construction by type in the near term and expected demand in the forecast under whichever scenario or conditions are being considered in the forecast. The housing types are defined by the Census, generally grouped into single/semi-detached, rows and apartments, sometimes with the apartments separated out to show duplex units separately or an “all others” category. The categories used in the LNA, the Schedule 3 background report and applied in the IGMS work all group variations on the same forecast data using Statistics Canada’s definitions. Finally, once the occupied dwelling units are forecast, the total housing units can be forecast by making

adjustments to account for changes in rental vacancy rates, market contingency factors, and other considerations.

The amount and type of housing needed in Halton is strongly related to the population age structure; an older population forms more households than a younger population. Figure 1 compares the population age structure in the Region in 2016 and 2051. The dominant age groups identifiable in 2016 are the Baby Boom generation (generally born 1946-1966) and Baby Boom Echo (or Millennial) generation (generally born 1981-1996). By 2051, the population of the Region will generally reflect a somewhat similar mix of age groups as 2016, largely due to the continued in-migration of those between their late 20s and early 40s. By far the largest increase in population age is those 70 years of age or more, who, at 2051, will largely be the current residents of Halton now aged between 40 and 65. Most of these people will have moved to Halton between the mid-1990s and today.

The increase in the elderly population and the increase in those in their 20s, fewer of whom can afford to buy houses in recent times, means that a wider range and mix of housing will be required for the younger and elderly, though the predominant housing types will remain those that meet the needs of larger family households. Providing for this greater range and mix of housing is in keeping with Growth Plan housing policies and of the market-based demand itself, because the households described *are* the housing market.

Figure 1: 2016 & 2051 Age Structure Comparison



The determination of housing need first requires the translation of the population forecast into a forecast of households based on age-specific household formation rates (or headship rates). The Region's 2016 and 2051 households by age and the resulting growth within each age group are provided in Table 2. Households headed by those between 25 and 34 and

those 65 and over grow faster than the overall rate for households. These two age groups have the lowest average household size and the highest occupancy of apartment units because the younger age group is mostly prior to having children and the older age group are "empty-nesters." In addition, these age groups have the most single-person households, either being prior family formation for the younger adults or increasing numbers of those divorced or widowed in the older age groups.

Table 2: Region of Halton Household Forecast by Age of Primary Household Maintainer

Households by Age of Primary Household Maintainer					
Age	2016 and 2051 Headship Rate	Occupied Households			
		2016	2051	2016-2051 Growth	2016-2051 Growth %
15 - 19	0.5%	200	360	160	80.0%
20 - 24	4.5%	1,420	2,730	1,310	92.3%
25 - 29	24.5%	6,420	13,850	7,430	115.7%
30 - 34	41.8%	12,730	25,880	13,150	103.3%
35 - 39	48.1%	18,250	33,050	14,800	81.1%
40 - 44	51.2%	22,340	37,800	15,460	69.2%
45 - 49	54.9%	24,370	40,680	16,310	66.9%
50 - 54	56.5%	24,310	39,070	14,760	60.7%
55 - 59	57.1%	21,020	36,150	15,130	72.0%
60 - 64	55.8%	16,020	31,450	15,430	96.3%
65 - 69	56.2%	14,320	28,930	14,610	102.0%
70 - 74	56.9%	11,180	27,050	15,870	141.9%
75 - 79	57.5%	8,420	24,720	16,300	193.6%
80 - 84	60.2%	6,500	21,460	14,960	230.2%
84 - 89	55.3%	3,930	14,800	10,870	276.6%
90 +	37.3%	1,550	8,590	7,040	454.2%
Total	**43.7%**	**192,980**	**386,570**	**193,590**	**100.3%**

Table 3 shows the household forecast based on the headship rates set out in Table 2. The total number of households in the Region is forecast to be 386,800 in 2051. This represents growth of 174,100 households over the 30-year period from 2021 to 2051 at an annual growth rate of 2.0%. This growth rate is slightly lower than the historical annual growth rate of 2.3% between 1991 and 2021. The LNA work only requires 2021 and 2051. For general interest and in order to clearly show the change in intensification rates assumed in some of the Concepts at 2031 (in Step 4), the interim years are also shown in Table 3.

Table 3: Historical and Forecast Household Growth to 2051

Halton Region Household Forecast to 2051			
Year	Occupied Households	Household Growth	Annual Growth Rate
1986	89,800		
1991	106,400	16,600	3.5%
1996	118,100	11,700	2.1%
2001	133,700	15,600	2.5%
2006	157,100	23,400	3.3%
2011	179,000	21,900	2.6%
2016	193,000	14,000	1.5%
2021	212,700	19,700	2.0%
2026	237,200	24,500	2.2%
2031	267,200	30,000	2.4%
2036	297,000	29,800	2.1%
2041	326,800	29,800	1.9%
2046	357,500	30,700	1.8%
2051	386,800	29,300	1.6%
1991-2021		106,300	2.3%
2021-2051		174,100	2.0%

Source: Statistics Canada and Hemson Consulting Ltd.

The household forecast is then translated into a "market-based" forecast of housing by type based on the propensity of different household and family types to occupy different types of housing. The following unit types were distinguished for this purpose in the background work to Schedule 3 population forecast. Statistics Canada defines a duplex as both units in a two unit building, where at least part of one unit is above or below the other. In Halton, virtually all of these are a pre-existing single or semi-detached house with an accessory unit added, so the following categorization splits the duplex units into a house and accessory apartment. The resulting categorization better aligns with how units are considered in land use planning policy:

- **Singles/Semis** – includes single-detached and semi-detached houses as well as movable dwellings as defined by Statistics Canada for the Census. In this categorization, Singles/Semis also includes existing houses where an accessory unit has been added. The few (if any) purpose-built duplexes in Halton would be in this category.

- **Rows** – are row houses as defined for the Census, which includes back-to-back townhouses, but does not include stacked townhouses.

- **Apartment Buildings** – comprise all apartment buildings, whether greater than or less than 5 storeys (per Census definitions). Any building with three or more units where there is some horizontal separation is an apartment building, which would include a

house of 3 or 4 units or, usually, a purpose-built triplex or quadraplex, or building with 3 or more units over retail.

- **Accessory Units** – are the apartment unit added to an existing single-detached or semi-detached house.

The market forecast housing mix reflects the housing occupancy pattern of the Region's future population, based on recent market preferences. The pattern is one in which most homeowners will seek to occupy "ground-related" housing: either single, semi, or more affordable row house unit types.

Tables 4 and 5 sets out the market housing growth by type forecast. The premise of the market-housing forecast is to adjust the occupancy patterns so that the housing growth approximately reflects the mix of the past 20 years, but with an upward share adjustment to apartments to reflect the higher household growth among young adults and seniors, both groups with a higher preference for apartments. . Looking at the historic data, there has been some upward shift in the rowhouse shares over the past 30 years and a very significant increase in the share of apartments within the Halton market in the recent 10 years. While not shown on its own in the table, the most recent five years of housing completions (mid-2016 to the mid-2021 estimate) has shown an increase in the apartment share to 37% of the 2016 to 2021.

Table 4: Housing Mix of Market-Based Housing Forecast by Structure Type

Halton Region Mix of Housing Unit Growth to 2051, by Unit Type Market Forecast to 2051					
Year	Singles & Semis	Rows	Apartment Buildings	Accessory Apartments	Total
Historic Unit Mix					
1991–2001	59.3%	24.5%	15.8%	0.4%	100.0%
2001–2011	61.7%	27.3%	9.7%	1.3%	100.0%
2011–2021	38.5%	29.1%	30.9%	1.5%	100.0%
Most Recent Twenty Year Unit Mix to Approximate Market Demand Expectations					
2001–2021	51.8%	28.1%	18.8%	1.4%	100.0%
Forecast Market					
2021–2031	50.4%	26.1%	22.3%	1.3%	100.0%
2031–2041	51.1%	25.0%	22.7%	1.2%	100.0%
2041–2051	48.8%	24.7%	24.8%	1.7%	100.0%
2021-2051	**50.1%**	**25.2%**	**23.3%**	**1.4%**	**100.0%**

Table 5: Unit Growth, Market-Based Housing Forecast by Structure Type

Halton Region Housing Unit Growth to 2051, by Unit Type Market Forecast to 2051					
Year	Singles & Semis	Rows	Apartment Buildings	Accessory Apartments	Total
Historic Unit Mix					
1991–2001	16,200	6,700	4,300	100	27,300
2001–2011	28,000	12,400	4,400	600	45,400
2011–2021	13,100	9,900	10,500	500	34,000
Most Recent Twenty Year Unit Mix to Approximate Market Demand Expectations					
2001–2021	41,100	22,300	14,900	1,100	79,400
Forecast Market					
2021–2031	27,600	14,300	12,200	700	54,800
2031–2041	30,000	14,700	13,300	700	58,700
2041–2051	29,300	14,800	14,900	1,000	60,000
2021-2051	**86,900**	**43,800**	**40,400**	**2,400**	**173,500**

Of the 174,100 housing units required between 2021 and 2051, 50% (87,200 units) would be single and semi-detached units, 25% (44,000 units) would be rowhouses and 23% (40,500 units) would be apartments in apartment buildings. Just over 1.5% (2,400 units) would be accessory apartments, a housing type that remains a very small part of housing in Halton.

Table 6 and 7 show the total number of units by type in the market forecast.

Table 6: Market-Based Housing by Type Forecast, Total Housing Units

Halton Historic and Forecast Total Housing Units by Type Market Forecast to 2051					
Year	Singles & Semis	Rows	Apartment Buildings	Accessory Apartments	Total
1991	74,500	10,600	20,800	500	106,400
2001	90,700	17,300	25,100	600	133,700
2011	118,700	29,700	29,500	1,200	179,100
2021	131,800	39,600	40,000	1,700	213,100
2031	159,400	53,900	52,200	2,400	267,900
2041	189,400	68,600	65,500	3,100	326,600
2051	218,700	83,400	80,400	4,100	386,600
1991-2021	**57,300**	**29,000**	**19,200**	**1,200**	**106,700**
2021-2051	**86,900**	**43,800**	**40,400**	**2,400**	**173,500**

Table 7: Market Housing by Type Forecast, Share of Total Housing Units

Halton Historic and Forecast Housing Unit Mix of Total Housing by Type Market Forecast to 2051					
Year	Singles & Semis	Rows	Apartment Buildings	Accessory Apartments	Total
1991	70.0%	10.0%	19.5%	0.5%	100.0%
2001	67.8%	12.9%	18.8%	0.4%	100.0%
2011	66.3%	16.6%	16.5%	0.7%	100.0%
2021	61.8%	18.6%	18.8%	0.8%	100.0%
2031	59.5%	20.1%	19.5%	0.9%	100.0%
2041	58.0%	21.0%	20.1%	0.9%	100.0%
2051	56.6%	21.6%	20.8%	1.1%	100.0%

In developing the Growth Concepts, the total number of households and therefore total number of units stay the same, but the mix of unit types varies. This market-based forecast can be put aside for a moment while the housing and housing types are approached from a policy perspective. The four Growth Concepts consider both market and policy factors, with the assumptions on a spectrum between market-based supply and aspirational planning policies. The housing mix associated with each of the Growth Concepts, once determined, can be compared to the market-based forecast.

Component 3: Housing Needs Allocation to Local Municipalities

The LNA Methodology indicates that in Step 3 the housing forecast can be allocated to the local municipalities. The allocation of future housing and population to local municipalities depends on the future potential supply by policy area, the allocation of regional housing growth by policy area, the amount, if any, of new urban area for housing purposes and the amount of such land allocated to each of the local municipalities (Milton and Halton Hills in Halton Region's case). For Halton, local municipal allocations should follow the final Step 6 of the LNA Methodology. Local municipal allocations are not necessary to complete the LNA, but are necessary to complete any settlement area boundary expansions and other elements of the MCR. The tables showing the allocation are in Part 2 of this report.

Component 4: Housing Supply Potential by Policy Areas

Housing supply potential has been catalogued by policy area for each municipality. This has been an ongoing process mostly completed in the fall of 2018 using a mid-2016 base to match Census years. The information has been updated on an ongoing basis since that time, to account for any approved new secondary plans, general official plan amendments, and many of the proposed employment land conversions (depending on how each is treated in the Growth Concepts). The supply has taken account of estimated housing unit completions from mid-2016 to mid-2021 to bring the supply up the 2021 base year.

The supply has been determined for each of the Growth Plan policy areas, as follows:

i. Rural

- Rural residential is any housing units that are not within one of the five urban areas of Burlington, Oakville, Milton, Georgetown and Acton. This includes housing in hamlets and rural settlements, estate residential subdivisions, farmhouses and lots created by severance.

- Future supply in the rural area is in the small number of lots in legacy rural estate residential subdivisions, available lots within hamlets and existing lots-of-record, where a house can be built.

- Regional Official Plan policy does not permit any expansion to hamlets, any new estate residential subdivisions and only a minimum amount of new lot creation by rural severance, based on strict policy criteria. Supply for new construction is very limited and will not grow. There is some supply potential in the hamlet of Glen Williams in Halton Hills.

- Nearly all net new units built in Halton's rural area are on existing lots of record. It is exceedingly difficult to determine the number of lots of record that could be built on and, of those, how many are likely to be built in the next 30 years. Instead of attempting to determine a realistic supply, expected demand is forecast based generally on the level of rural construction in recent periods.

- This approach means the demand for units and supply potential are assumed equal. If the demand does not materialize or the supply is not available as estimated, both figures adjust accordingly. Unlike other policy areas, there is no expectation that the Region now or at any time in the future would take any action to create new rural housing supply in order to satisfy the estimated number of units that might be built in the rural area.

ii. Delineated Built-Up Area (BUA)

- The Province defined the BUA in 2008 as areas within the Built Boundary, which approximates the limit of existing development in June 2006.

- With the exception a few remnant vacant parcels, the area is fully developed. Almost all of the future supply is through redevelopment. For the LNA, the purpose of identifying future supply is to demonstrate that the allocation of unit growth to

the BUA can reasonably be accommodated. Typically, it is desirable to have a larger identified supply potential than required, since there is always great uncertainty about how and when redevelopment sites may be brought to market within any given time period.

- Most of the supply potential is in Nodes and Corridors and other Strategic Growth Areas (inside the BUA), such as the UGCs, MTSAs, and other mixed-use nodes and corridors identified within the BUA.

- In addition, there are smaller amounts of scattered intensification that occurs in communities across the BUA, such a former gas station, small commercial property or place of worship that is redeveloped with a few rowhouses or, perhaps, a large former rural or lakefront lot re-subdivided to accommodate a few single or semi-detached houses. Sometimes larger sites accommodate a more substantial amount of development. Over time, these add up to a substantial number of units, but there is no reasonable or reliable way to identify the locations where these will occur. Like the rural area, units are allocated to BUA on the assumption that the sites continue to materialize as they have in the past.

iii. Designated Greenfield Area (DGA)

- Nearly all of the DGA is subject to secondary plans and supply is a relatively straightforward matter of determining how much of the land and associated units are remaining from the total units planned after deducting those that have been built.

- A 2% unit or land vacancy assumption is applied to the DGA supply, since not every greenfield parcel will come to market, though nearly all typically do come to market.

- In North Oakville East and in the Boyne, Britannia and Trafalgar Secondary Plan areas of Milton, a small additional discount to the ultimate supply is applied to account for eventual development that may not occur within the 2051 timeframe. These factors take into account that some existing uses in these formerly rural areas may not redevelop within 30 years, such as some existing houses or businesses on rural-sized lots. As well, achieving *all* of the potential residential density in neighbourhood mixed-use areas in the Milton plans or the extensive Neighbourhood Centre Areas in North Oakville may not occur during the initial round of development.

Tables 8, 9, 10 and 11 provide the supply in each Growth Concept for each of the policy areas in the Region. For simplicity in the Growth Concepts analysis, the data are shown

distinguishing only between ground-related housing supply and apartment housing supply. For the future analysis of the Preferred Growth Concept, and for the final version of the LNA, housing will be distinguished into more detailed unit types for both the supply and demand and, therefore, in calculating land need. Condensing the analysis in this fashion does not change any of the results. Housing unit mix is ultimately determined by a local municipality through its planning process. The supply will be compared to demand in Component 6.

Table 8: Housing Supply Potential by Policy Area: Concept 1

Region of Halton Identified Housing Supply Potential Concept 1: Available Supply for 2021 to 2051 Growth			
Identified Supply Potential Policy Area	**Ground Related Units**	**Apartment Building Units**	**Total Units**
Rural Area			
Rural Area "Supply" Is Set to Exactly Equal the Estimated Housing Unit Growth	**900**	**0**	**900**
Built Up Area			
Built Up Area Strategic Growth Areas	4,100	88,900	93,000
Rest of Built-Up Area	3,200	9,300	12,500
Total Built-Up Area	**7,300**	**98,200**	**105,500**
Designated Greenfield Area			
Designated Greenfield Area Strategic Growth Areas	700	10,000	10,700
Rest of Existing Designated Greenfield Area	44,300	49,500	93,800
Total Existing Designated Greenfield Area	**45,000**	**59,500**	**104,500**
Total Identified Supply	**53,200**	**157,700**	**210,900**

Source: Hemson Consulting Ltd.

Table 9: Housing Supply Potential by Policy Area: Concept 2

Region of Halton Identified Housing Supply Potential Concept 2: Available Supply for 2021 to 2051 Growth			
Identified Supply Potential Policy Area	**Ground Related Units**	**Apartment Building Units**	**Total Units**
Rural Area			
Rural Area "Supply" Is Set to Exactly Equal the Estimated Housing Unit Growth	**900**	**0**	**900**
Built Up Area			
Built Up Area Strategic Growth Areas	4,100	88,900	93,000
Rest of Built-Up Area	3,200	9,300	12,500
Total Built-Up Area	**7,300**	**98,200**	**105,500**
Designated Greenfield Area			
Designated Greenfield Area Strategic Growth Areas	700	10,000	10,700
Rest of Existing Designated Greenfield Area	46,200	50,700	96,900
Total Designated Greenfield Area	**46,900**	**60,700**	**107,600**
Total Identified Supply	**55,100**	**158,900**	**214,000**

Table 10: Housing Supply Potential by Policy Area: Concept 3

Region of Halton Identified Housing Supply Potential Concept 3: Available Supply for 2021 to 2051 Growth			
Identified Supply Potential Policy Area	**Ground Related Units**	**Apartment Building Units**	**Total Units**
Rural Area			
Rural Area "Supply" Is Set to Exactly Equal the Estimated Housing Unit Growth	**900**	**0**	**900**
Built Up Area			
Built Up Area Strategic Growth Areas	4,100	88,900	93,000
Rest of Built-Up Area	3,200	9,300	12,500
Total Built-Up Area	**7,300**	**98,200**	**105,500**
Designated Greenfield Area			
Designated Greenfield Area Strategic Growth Areas	700	10,000	10,700
Rest of Existing Designated Greenfield Area	46,300	51,300	97,600
Total Designated Greenfield Area	**47,000**	**61,300**	**108,300**
Total Identified Supply	**55,200**	**159,500**	**214,700**

Source: Hemson Consulting Ltd.

Table 11: Housing Supply Potential by Policy Area: Concept 4

Region of Halton Identified Housing Supply Potential Concept 4: Available Supply for 2021 to 2051 Growth			
Identified Supply Potential Policy Area	**Ground Related Units**	**Apartment Building Units**	**Total Units**
Rural Area			
Rural Area "Supply" Is Set to Exactly Equal the Estimated Housing Unit Growth	**900**	**0**	**900**
Built Up Area			
Built Up Area Strategic Growth Areas	4,100	84,400	88,500
Rest of Built-Up Area	3,200	9,300	12,500
Total Built-Up Area	**7,300**	**93,700**	**101,000**
Designated Greenfield Area			
Designated Greenfield Area Strategic Growth Areas	700	10,000	10,700
Rest of Existing Designated Greenfield Area	44,200	47,000	91,200
Total Designated Greenfield Area	**44,900**	**57,000**	**101,900**
Total Identified Supply	**53,100**	**150,700**	**203,800**

Source: Hemson Consulting Ltd.

Component 5: Community Area Jobs

Considering Community Area jobs is somewhat out of sequence as the fifth component of the LNA, prior to addressing housing demand in the next component. Most of the Community Area jobs are population-related employment, jobs occurring in a community mainly in response to growth in population. On a neighbourhood basis, population-related

employment is those jobs in local retail and service, schools and other local institutions and work-at-home employment[7]. Beyond the neighbourhood, but within the Community Area, population-related employment includes jobs in larger retail concentrations, and jobs in larger institutions such as high schools, post-secondary education, hospitals and other government services. On a neighbourhood basis, there is typically about 1 population-related job for every 10 to 12 residents (or 80 to 100 jobs per 1,000 population). For new Community Urban land designations 1 job for each 11 residents has been assumed. These neighbourhood jobs represent about half of all population-related employment where the ratio across a municipality or a Region is about 1 job for every 5 residents (or about 200 jobs for every 1,000 population).

In addition to the Population-Related employment, some Major Office employment occurs in the Community Area, including those office jobs that may occur in the future in the planned mixed-use areas. There may also be some jobs in the Community Area that would typically be considered as part of Employment Land Employment, but do not happen to lie within the geography of an Employment Area. These might be stand-alone small-scale industrial uses in the older parts of communities, though there is less of these in Halton than other large older urban communities.

For the LNA, Community Area employment is considered for two purposes. Firstly, it is to demonstrate that Community Area employment has been accommodated in the land need. This employment is typically part of the "net to gross" calculations where lands for school sites, places of worship and local retail uses are considered. In larger tracts of new DGA, an additional factor for large institutions and major retail may be added. The 65 persons plus jobs per hectare used in this LNA work accommodates all of the Community Area employment required.

The second purpose of Community Area employment is for calculating the DGA density. The overall DGA density at 2051 will be fully calculated for the final LNA, but for these concepts does lie in the range of 60 to 65 persons plus jobs per hectare over the whole DGA, itself made up of 5 to 6 jobs per hectare overall and 59 to 60 persons per hectare overall

[7] Work-at-home employment is only those who work at home or run a home-based business as their primary job. Work-at-home employment does not include workers who might work at home a few days a week, but otherwise have an office or work station elsewhere. As well, work at home should not include those currently working at home full-time due to COVID-19 restrictions, but who expect an eventual return to an office or place of work. It is, however, quite uncertain how people may answer the questions in the 2021 Census, coming up in mid-May 2021, and what will be revealed by results.

Component 6: Housing Requirement by Policy Area for Each Growth Concept

Growth Plan policy 2.2.2.1 a) requires that the Region achieve a minimum intensification target of 50 per cent of all residential development occurring annually within the delineated Built-Up Area.

i. Housing Growth by Policy Area

Tables 12, 13, 14 and 15 summarizes the occupied household forecast between the Rural, BUA and DGA showing in particular how the allocation is made in respect of 2021-2031 versus 2031-2051 and how the additional DGA apartments are determined and allocated.

The additional DGA apartments are an additional "policy area" used in Halton. These are treated separately from the general DGA because all are accommodated within currently planned areas, so they will not affect any needs for additional DGA lands. Secondly, these units are part of what we are calling densification. Intensification in Halton is mainly apartment units in mixed-use areas and must total a minimum 50% of units, in accordance with the Growth Plan. The additional DGA apartments are also apartment units in mixed-use areas. The desirable attributes of such development are the same on either side of the 2006 built boundary that defines the BUA. Apartments in a mixed-use development on Trafalgar Road south of Dundas Street are in the BUA and "count" as intensification. Similar housing on Trafalgar Road north of Dundas Street is not considered intensification, but it is considered in the IGMS as densification.

The share of growth in densification versus DGA shown in the tables is the primary defiing feature of each of the four Growth Concepts. For simplicity reasons, the tables show only the total units in each of the areas, with the unit types split out in the comparison of the supply and growth in the next section.

Table 12: Concept 1 Forecast by Policy Area to 2051

Halton Region Household Forecast to 2051, Concept 1 by Policy Area						
5 Year Period	Rural Area Growth	Development Already Planned with Existing Urban Area (mostly higher density residential development in mixed use areas such as UGCs, MTSAs and other Strategic Growth Areas)			Development Generating New Urban Land Need If It Exceeds Current DGA Supply	Total
		Inside the Built-up Area (Intensification)	Additional DGA Apartments (in dense mixed-use centres and corridors in the existing DGA)	Total Densification	Designated Greenfield Area (mainly ground related housing)	
	①	②	③	②+③	④	①+②+③+④
Share of Growth by Policy Area						
2016-21	1.0%	34.3%	0.0%	34.3%	64.8%	100.0%
2021-31	0.6%	50.0%	0.0%	50.0%	49.4%	100.0%
2031-41	0.5%	50.0%	10.0%	60.0%	39.5%	100.0%
2041-51	0.5%	50.0%	10.0%	60.0%	39.5%	100.0%
2021-2051	**0.5%**	**50.0%**	**6.9%**	**56.9%**	**42.6%**	**100.0%**
Unit Growth by Policy Area						
2016-21	190	6,760	0	6,760	12,770	19,720
2021-31	300	27,260	0	27,260	26,950	54,510
2031-41	300	29,810	5,960	35,770	23,540	59,610
2041-51	300	29,960	5,990	35,950	23,680	59,930
2021-2051	**900**	**87,030**	**11,950**	**98,980**	**74,170**	**174,050**

Source: Hemson Consulting Ltd.

Table 13: Concept 2 Forecast by Policy Area to 2051

Halton Region Household Forecast to 2051, Concept 2 by Policy Area						
5 Year Period	Rural Area Growth	Development Already Planned with Existing Urban Area (mostly higher density residential development in mixed use areas such as UGCs, MTSAs and other Strategic Growth Areas)			Development Generating New Urban Land Need If It Exceeds Current DGA Supply	Total
		Inside the Built-up Area (Intensification)	Additional DGA Apartments (in dense mixed-use centres and corridors in the existing DGA)	Total Densification	Designated Greenfield Area (mainly ground related housing)	
	①	②	③	②+③	④	①+②+③+④
Share of Growth by Policy Area						
2016-21	1.0%	34.3%	0.0%	34.3%	64.8%	100.0%
2021-31	0.6%	50.0%	0.0%	50.0%	49.4%	100.0%
2031-41	0.5%	51.5%	9.9%	61.4%	38.1%	100.0%
2041-51	0.5%	53.5%	19.2%	72.7%	26.8%	100.0%
2021-2051	**0.5%**	**51.7%**	**10.0%**	**61.7%**	**37.8%**	**100.0%**
Unit Growth by Policy Area						
2016-21	190	6,760	0	6,760	12,770	19,720
2021-31	300	27,260	0	27,260	26,950	54,510
2031-41	300	30,700	5,890	36,590	22,720	59,610
2041-51	300	32,060	11,480	43,540	16,090	59,930
2021-2051	**900**	**90,020**	**17,370**	**107,390**	**65,760**	**174,050**

Source: Hemson Consulting Ltd.

Table 14: Concept 3 Forecast by Policy Area to 2051

Halton Region Household Forecast to 2051, Concept 3 by Policy Area						
5 Year Period	Rural Area Growth	Development Already Planned with Existing Urban Area (mostly higher density residential development in mixed use areas such as UGCs, MTSAs and other Strategic Growth Areas)			Development Generating New Urban Land Need If It Exceeds Current DGA Supply	Total
		Inside the Built-up Area (Intensification)	Additional DGA Apartments (in dense mixed-use centres and corridors in the existing DGA)	Total Densification	Designated Greenfield Area (mainly ground related housing)	
	❶	❷	❸	❷+❸	❹	❶+❷+❸+❹
Share of Growth by Policy Area						
2016-21	1.0%	34.3%	0.0%	34.3%	64.8%	100.0%
2021-31	0.6%	50.0%	0.0%	50.0%	49.4%	100.0%
2031-41	0.5%	53.0%	16.8%	69.8%	29.7%	100.0%
2041-51	0.5%	57.0%	27.7%	84.7%	14.8%	100.0%
2021-2051	**0.5%**	**53.4%**	**15.3%**	**68.7%**	**30.8%**	**100.0%**
Unit Growth by Policy Area						
2016-21	190	6,760	0	6,760	12,770	19,720
2021-31	300	27,260	0	27,260	26,950	54,510
2031-41	300	31,600	10,010	41,610	17,720	59,630
2041-51	300	34,150	16,600	50,750	8,890	59,940
2021-2051	**900**	**93,010**	**26,610**	**119,620**	**53,560**	**174,080**

Source: Hemson Consulting Ltd.

Table 15: Concept 4 Forecast by Policy Area to 2051

Halton Region Household Forecast to 2051, Concept 4 by Policy Area						
5 Year Period	Rural Area Growth	Development Already Planned with Existing Urban Area (mostly higher density residential development in mixed use areas such as UGCs, MTSAs and other Strategic Growth Areas)			Development Generating New Urban Land Need If It Exceeds Current DGA Supply	Total
		Inside the Built-up Area (Intensification)	Additional DGA Apartments (in dense mixed-use centres and corridors in the existing DGA)	Total Densification	Designated Greenfield Area (mainly ground related housing)	
	❶	❷	❸	❷+❸	❹	❶+❷+❸+❹
Share of Growth by Policy Area						
2016-21	1.0%	34.3%	0.0%	34.3%	64.8%	100.0%
2021-31	0.6%	50.0%	0.0%	50.0%	49.4%	100.0%
2031-41	0.5%	50.0%	2.5%	52.5%	47.0%	100.0%
2041-51	0.5%	50.0%	2.5%	52.5%	47.0%	100.0%
2021-2051	**0.5%**	**50.0%**	**1.7%**	**51.7%**	**47.8%**	**100.0%**
Unit Growth by Policy Area						
2016-21	190	6,760	0	6,760	12,770	19,720
2021-31	300	27,260	0	27,260	26,950	54,510
2031-41	300	29,810	1,490	31,300	28,010	59,610
2041-51	300	29,960	1,500	31,460	28,160	59,920
2021-2051	**900**	**87,030**	**2,990**	**90,020**	**83,120**	**174,040**

Source: Hemson Consulting Ltd.

ii. Compare Growth and Supply to Determine Sufficiency in Each Concept

The next step in the LNA Methodology is to compare the supply by unit type to determine if the intensification and the DGA additional apartments fit within the identified supply. The main purpose in Tables 16, 17, 18 and 19 is determine whether there is or is not a shortfall in supply for the DGA. Any shortfall would indicate the need for additional Community Area land designation in that Concept. Concept 3, however, was deliberately constructed to show

a demand for ground-related DGA housing exactly equal to the supply, so that no new Community Area land designations would be required.

The analysis is done with reference to unit type, as required by the LNA. Currently in Halton intensification development occurs at nearly 80% apartment units and 20% ground-related units. Growth Concepts 1 and 4 that all of the identified ground-related intensification supply potential is built out and that general intensification occurs at the 80/20 split by type; the result in these Concepts is 78% apartments and 12% ground-related units in intensification areas over the 30 year period. Growth Concepts 2 and 3 have more growth through intensification requiring a somewhat denser unit type assumption resulting in 91% apartments and 9% ground-related units over the whole period. Nearly the reverse is true within the DGA areas, where development is assumed to be 90% ground-related and 10% apartment units, except for Growth Concept 4 at 95% and 5% because there are fewer apartments overall. The additional DGA apartments are, by definition, 100% apartments. The results of the demand and supply comparison undertaken by unit type is in the following section.

Table 16: Concept 1, Housing Growth by Policy Area and Sufficiency of Supply

Region of Halton Identified Housing Growth and Supply and Suplus or Shortfall of Supply Concept 1: 2021 to 2051			
Supply and Growth by Policy Area	**Ground Related Units**	**Apartment Building Units**	**Total Units**
Rural Area			
Identified Supply by Type	900	0	900
Housing Growth	900	0	900
Total Rural Area	**0**	**0**	**0**
Built Up Area			
Identified Supply by Type	7,300	98,200	105,500
Housing Growth	10,600	76,400	87,000
Surplus or (Shortfall)	**(3,300)**	**21,800**	
Designated Greenfield Area			
Identified Supply by Type	45,000	59,500	104,500
Housing Growth	66,800	19,400	86,200
Surplus or (Shortfall)	**(21,800)**	**40,100**	

Source: Hemson Consulting Ltd.

Table 17: Concept 2, Housing Growth by Policy Area and Sufficiency of Supply

Region of Halton Identified Housing Growth and Supply and Suplus or Shortfall of Supply Concept 2: 2021 to 2051			
Supply and Growth by Policy Area	**Ground Related Units**	**Apartment Building Units**	**Total Units**
Rural Area			
Identified Supply by Type	900	0	900
Housing Growth	900	0	900
Total Rural Area	**0**	**0**	**0**
Built Up Area			
Identified Supply by Type	7,300	98,200	105,500
Housing Growth	7,800	82,200	90,000
Surplus or (Shortfall)	(500)	**16,000**	
Designated Greenfield Area			
Identified Supply by Type	46,900	60,700	107,600
Housing Growth	58,600	24,500	83,100
Surplus or (Shortfall)	(11,700)	**36,200**	

Source: Hemson Consulting Ltd.

Table 18: Concept 3, Housing Growth by Policy Area and Sufficiency of Supply

Region of Halton Identified Housing Growth and Supply and Suplus or Shortfall of Supply Concept 3: 2021 to 2051			
Supply and Growth by Policy Area	**Ground Related Units**	**Apartment Building Units**	**Total Units**
Rural Area			
Identified Supply by Type	900	0	900
Housing Growth	900	0	900
Total Rural Area	**0**	**0**	**0**
Built Up Area			
Identified Supply by Type	7,300	98,200	105,500
Housing Growth	7,900	85,100	93,000
Surplus or (Shortfall)	(600)	**13,100**	
Designated Greenfield Area			
Identified Supply by Type	47,000	61,300	108,300
Housing Growth	47,000	33,100	80,100
Surplus or (Shortfall)	**0**	**28,200**	

Source: Hemson Consulting Ltd.

Table 19: Concept 4, Housing Growth by Policy Area and Sufficiency of Supply

Region of Halton Identified Housing Growth and Supply and Suplus or Shortfall of Supply Concept 4: 2021 to 2051			
Supply and Growth by Policy Area	**Ground Related Units**	**Apartment Building Units**	**Total Units**
Rural Area			
Identified Supply by Type	900	0	900
Housing Growth	900	0	900
Total Rural Area	**0**	**0**	**0**
Built Up Area			
Identified Supply by Type	7,300	93,700	101,000
Housing Growth	10,600	76,400	87,000
Surplus or (Shortfall)	**(3,300)**	**17,300**	
Designated Greenfield Area			
Identified Supply by Type	44,900	57,000	101,900
Housing Growth	77,600	8,500	86,100
Surplus or (Shortfall)	**(32,700)**	**48,500**	

Source: Hemson Consulting Ltd.

iii. Land Need for Concepts Requiring the Designation of Additional Community Land

Having determined the unit shortfall in the DGA, it can now be translated into a land need, which is the primary purpose of the LNA. The ground-related unit shortfall drives the land need, since there is a significant surplus of DGA apartments. In the context of considering market-based housing supply, the surplus in apartments cannot simply replace the shortfall in ground-related units, because a housing unit is not a fungible product between the housing types.

The housing shortfall for ground-related units is first restated in terms of population, applying a person per unit factor, which also accommodates factors for non-household population, and Census net undercoverage to assure population is always being measured the same way. Once the total population associated with the unit shortfall is established, a factor for Community Area employment is added at one job for every 11 residents (or 91 jobs per 1,000 population).

With a total persons plus jobs in the potential expansion areas known, the land need can be calculated on based on a Growth Plan density of 65 persons plus jobs per hectare, as shown in Table 20. This density is somewhat higher than the currently developed areas of North Oakville, but somewhat lower than the densest new areas in Milton (those built since the major Milton expansion areas began building in 2001). To our knowledge, Milton is the

densest large-scale ground-related Greenfield Development Area in North America. As a result, there is not much potential for a higher greenfield density. At the same time, it is quite achievable with a full range of parks and community services, as can be seen in Milton.

Table 20: Community Area Land Needs by Concept

Growth Concept	Community Area (ha)
Concept 1	1,460
Concept 2	730
Concept 3	0
Concept 4	2,080

iv. Comparison to Baseline "Market" Housing Mix

An important component of the LNA Methodology is to understand the balance between expectations for a market-based supply of units with the housing mix that results from applying Growth Plan policies or in the words of the LNA: "provision of a market-based supply of housing to the extent possible." To satisfy this provision, the housing unit mix within each Growth Concept is shown in Table 21 and the graphic following in Figure 3. Each Concept strikes a different balance between housing growth accommodated through intensification or through new greenfield development. The higher the level of intensification and densification in the concept, the greater the proportion of apartment housing and the farther the Concept strays from a market-based supply of housing. The housing mixes in the four Growth Concepts can be compared to the baseline market housing mix shown in Component 1 of the LNA near the beginning of the report. For additional context, the housing mix for the recent development period in Halton is shown.

The table demonstrates that the assumed housing mix under each Growth Concept shifts the "market" mix away from single/semi detached housing types towards more apartment units. While the shift in market is quite significant when only looking at the growth in units, it is also important to look at the overall housing stock and how it has changed over time and would change in the future under the different concepts. In terms of housing the total population, the housing stock matters the most. In a 30-year period, well over half of the current housing stock will have new occupants. Put another way, households newly moving to Halton (or out their parents home within Halton) do not all buy new housing, since many current residents also buy new housing. In essence, the entire housing stock houses the entire population. When viewed in as entire housing stock, the shift in the mix of housing units is much less dramatic.

Table 21: Housing Mix by Policy Area for Each Growth Concept and the Market-Based Baseline Forecast

Region of Halton Mix of 2021 to 2051 Housing Growth by Policy Area for Each Growth Concept and the Market-Based Baseline Forecast			
Growth Concept and Policy Area	**Ground Related Units**	**Apartment Building Units**	**Total Units**
Market-Based Baseline Forecast			
Total Housing Growth	76.4%	23.6%	100%
Concept 1			
Rural	100.0%	0.0%	100.0%
Intensification	12.2%	87.8%	100.0%
Designated Greenfield Area	77.5%	22.5%	100.0%
Mix of Total Housing Growth	**45.0%**	**55.0%**	**100.0%**
Concept 2			
Identified Supply by Type	100.0%	0.0%	100.0%
Intensification	8.7%	91.3%	0.0%
Designated Greenfield Area	70.5%	29.5%	100.0%
Mix of Total Housing Growth	**38.7%**	**61.3%**	**0.0%**
Concept 3			
Identified Supply by Type	100.0%	0.0%	100.0%
Intensification	8.5%	91.5%	0.0%
Designated Greenfield Area	58.7%	41.3%	100.0%
Mix of Total Housing Growth	**32.1%**	**67.9%**	**0.0%**
Concept 4			
Identified Supply by Type	100.0%	0.0%	100.0%
Intensification	12.2%	87.8%	0.0%
Designated Greenfield Area	90.1%	9.9%	100.0%
Mix of Total Housing Growth	**51.2%**	**48.8%**	**0.0%**

Source: Hemson Consulting Ltd.

In making a decision about the Preferred Growth Concept, Council will need to consider how much weight is given to a market-based supply of housing in making the decision on the Preferred Growth Concept. This consideration is important in determining whether a Growth Concept can be achieved and is further outlined in the evaluation of the Growth Concepts (Appendix K).

E. EMPLOYMENT AREA LAND NEED

As required in the LNA Methodology, the determination of Employment Area land need relies on the Schedule 3 employment forecasts contained in the background report prepared for the Schedule 3 forecasts. Similar to the Community Area land needs analysis, the step-by-step approach used generally follows the Provincial LNA Methodology, though employment is less complex.

i. Component 1: Employment Forecasts

Employment Area land needs must be based on Schedule 3 employment forecasts or forecasts that exceed Schedule 3. There are a number of ways to categorize and forecast employment. For land use planning and, especially for the LNA methodology, the four types of land-use-based employment categories work well (e.g. major office, employment land employment, population related, and rural). How the four categories are defined and measured has evolved over the past 30 years moving from a partly geographic and partly economic sector based approach to one that is much more explicitly about the geography of employment within communities, at least for three of the four categories. How each of these categories grow over time is however, highly dependent on the economic sectors accommodated in each type as well as how employment uses land and buildings. While there are four employment categories, only employment land employment drives the Employment Area land need. Other categories are largely embedded into land use planning in the Community and Rural areas. As well, looking at employment based on commuting considers usual place of employment, work at home employment and no-fixed-place-of-work employment. The growth in all four categories needs to be considered for establishing the forecast for each. They are the following:

- **Major Office Employment** refers to refers to all employment housed within freestanding office buildings more than 20,000 sq.ft. (1,858 m^2) or more[8]. The size is established from the threshold where most real estate brokerages collect and manage office market data. Major Office Employment is the one of four categories that can occur within the boundaries of the other three geographically based categories.

  Just over 27% of all employment in the GTAH is Major Office Employment, up from about 20% over the past 30 years and now forecast to increase to 31% of all employment over the next 30 years to 2051. Because so much of the metropolitan office space remains in Downtown Toronto, the share of employment in Major Office Employment in the regions is much smaller. Halton's Major Office Employment has grown from 6% to 11% over the past 30 years and expected to increase to 15% over the next 30 years. Concentrations of office buildings occur in very few locations in the metropolitan region. One of these locations is Halton's QEW corridor in Oakville and Burlington. In the coming decades there will be an opportunity for Milton and Halton Hills to become a westerly extension of the Highway 401 office corridor in Mississauga.

[8] This size threshold is for analyzing employment and forecasting the location of employment. For an unrelated policy purpose in the Growth Plan, the same expression — Major Office — is used to encourage office buildings of 4,000 m^2 or more to develop near transit.

The amount and location of future major office development is of great interest for a number of land use planning reasons, such transit-use, the employment side of mixed-use and its ability to provide urban structure to a community. For land needs assessment, however, office employment is not very important because it is so much denser than any other employment use, even in suburban environments that rely on significantly greater proportion of land for surface parking. Major Office Employment development consumes very little land area.

- **Population-Related Employment** is all employment within the urban Community Area of Halton (except major office in the Community) plus the large community uses. As already described in the discussion of Community Area employment, retail, education, health care, local government and urban work-at-home employment that will primarily serve the Region's resident population is included in this category. Population-related employment is the largest category of employment in Halton at about 44% having risen from about 36% over the past 30 years and expected to be about a stable share, declining marginally to 42% by 2051.

- **Employment land employment** refers to employment accommodated primarily in single storey industrial-type buildings in industrial areas and business parks. Nearly all such buildings and nearly all Employment Land Employment are in designated urban Employment Areas. For analysis purposes, large institutions and retail concentrations within Employment Areas are excluded from Employment Land Employment. These uses are added to Population-Related Employment so as not to skew the employment counts and densities for the categories[9]. From a past where it represented well over half of employment, Employment Land Employment is expected to remain at a relatively stable share of just over 40% of all jobs. .

- **Rural employment** refers to all jobs located in rural areas, including agriculture and primary industries, local commercial and institutional jobs in hamlets or elsewhere in the rural area, rural recreational and entertainment uses. In addition, all work at home employment in the Rural Area is included. Work at home employment is much higher in rural than urban areas as a rate to persons or households. Since little population or

[9] In Halton the uses in Employment Areas that are categorised as Population-Related Employment are: Toronto Outlets in Halton Hills, the power centre on both sides of Highway 401 at Steeles Avenue and the Maplehurst Institution in Milton and the retail areas at the north end of Winston Park, in Burloak Business Park, Oakville Place Mall and the Oakville Trafalgar Hospital in Oakville. There are no such uses of this magnitude in Employment Areas in Burlington.

employment growth is planned for the Rural Area, total Rural Employment is expected to stay stable at about 10,000 for the period to 2051.

Table 22 provides the forecast total employment for Halton, historically and for the period to 2051. The employment growth is also compared to the population growth and an activity rate is calculated. Activity rate is an overall relationship between Census population and employment where a rate today of about 50% represents a balanced community where the number of jobs in the community is about the same as the number of people living in the community who have jobs.

Table 22: Historic and Forecast Employment Growth and Activity Rate

Halton Region Employment Forecast to 2051					
Census Year	Total Employment	Employment Growth	Annual Growth Rate	Total Population	Activity Rate
1986	119,160			280,000	44.1%
1991	141,340	22,180	3.5%	322,000	45.5%
1996	159,550	18,210	2.5%	349,000	47.4%
2001	189,440	29,890	3.5%	391,000	50.2%
2006	217,710	28,270	2.8%	458,000	49.3%
2011	233,930	16,220	1.4%	517,000	46.9%
2016	263,240	29,310	2.4%	565,000	48.3%
2021	281,300	18,060	1.3%	621,000	46.9%
2026	314,963	33,663	2.3%	687,000	47.5%
2031	350,000	35,037	2.1%	767,000	47.3%
2036	384,300	34,300	1.9%	848,000	47.0%
2041	420,000	35,700	1.8%	931,000	46.7%
2046	459,200	39,200	1.8%	1,017,000	46.8%
2051	500,000	40,800	1.7%	1,100,000	47.1%
1991-2021		**139,960**	**2.3%**		
2021-2051		**218,700**	**1.9%**		

Source: Hemson Consulting Ltd.

Table 23: Employment Forecast by Land Use Based Employment Category

Halton Region Employment by Land Use Type Forecast to 2051					
Census Year	Major Office	Population Related	Employment Land	Rural	Total
1986	7,870	45,230	66,060	8,500	127,660
1991	9,330	52,190	79,820	8,800	150,140
1996	10,270	52,490	96,790	9,000	168,550
2001	15,580	68,050	96,530	9,270	189,430
2006	20,520	78,980	108,850	9,370	217,720
2011	23,870	96,400	104,190	9,460	233,920
2016	28,870	114,660	110,160	9,560	263,250
2021	31,170	125,090	115,400	9,640	281,300
2026	36,139	135,767	133,324	9,738	314,968
2031	41,310	146,880	151,980	9,840	350,010
2036	48,033	161,791	164,568	9,914	384,305
2041	55,030	177,310	177,670	9,990	420,000
2046	64,369	193,024	191,743	10,064	459,200
2051	74,090	209,380	206,390	10,140	500,000
1991-2021	**21,840**	**72,900**	**35,580**	**840**	**131,160**
2021-2051	**42,920**	**84,290**	**90,990**	**500**	**218,700**

Source: Hemson Consulting Ltd.

Table 24: Employment Forecast Shares of Total Employment by Type

Halton Region Shares of Employment by Land Use Type, Histoic and Forecast to 2051					
Census Year	Major Office	Population Related	Employment Land	Rural	Total
1986	6.2%	35.4%	51.7%	6.7%	100.0%
1991	6.2%	34.8%	53.2%	5.9%	100.0%
1996	6.1%	31.1%	57.4%	5.3%	100.0%
2001	8.2%	35.9%	51.0%	4.9%	100.0%
2006	9.4%	36.3%	50.0%	4.3%	100.0%
2011	10.2%	41.2%	44.5%	4.0%	100.0%
2016	11.0%	43.6%	41.8%	3.6%	100.0%
2021	11.1%	44.5%	41.0%	3.4%	100.0%
2026	11.5%	43.1%	42.3%	3.1%	100.0%
2031	11.8%	42.0%	43.4%	2.8%	100.0%
2036	12.5%	42.1%	42.8%	2.6%	100.0%
2041	13.1%	42.2%	42.3%	2.4%	100.0%
2046	14.0%	42.0%	41.8%	2.2%	100.0%
2051	14.8%	41.9%	41.3%	2.0%	100.0%
1991-2021	**16.7%**	**55.6%**	**27.1%**	**0.6%**	**100.0%**
2021-2051	**19.6%**	**38.5%**	**41.6%**	**0.2%**	**100.0%**

ii. Component 2: Employment Allocation

Like the Community Area LNA, the local municipal allocation is somewhat out of sequence since the allocation of employment to local municipalities depends on the land need identified for Employment Areas and on the population allocation from the Community Area LNA. In addition, the allocation is not required for the LNA. The allocation of both population and employment is provided at the end of this memorandum.

iii. Existing Employment Area Potential

This step estimates the employment potential on existing land designated as Employment Area. The estimate begins with an inventory of Employment Area lands, both occupied and vacant. From this base, a number of adjustments are made as follows:

- The larger retail concentrations and institutions, described above, are set aside from the supply;
- The vacant supply in areas where the land parcels are not yet subdivided are subject to a standard 80% net to gross ratio to account for local roads and utilities in employment areas. This assures that the land need is on a common comparable basis in net ha.
- Employment land conversions of the following types are deducted from the occupied or vacant supply: those supported by Regional Staff and being brought forward in the scoped ROPA, those supported by Regional Staff that will be incorporated into the Preferred Concept, and those that are being "tested" in one or more of the Growth Concepts.
- In the South Agerton area, the Town of Milton is proposing a unique mixed employment and residential area that it expects will include a significant amount of employment that would be Employment Land Employment. While the entire160 ha of the south Agerton areas is proposed for conversion, 73 ha are associated with the proposed Trafalgar GO MTSA and the remaining 87 ha of developable land would be the mixed employment and residential conversion. To accommodate this vision (as tested in Growth Concepts 2 and 3), this analysis assumes only half of lands are converted so that some Employment Land Employment can be attributed to the lands that would no longer be in an Employment Area. The 87 gross ha are shown as 69.3 net ha in the employment area charts.
- Lands can be deducted to account for expected Major Office Employment development that may occur within an employment area. If there is an expectation of additional major

retail areas or large institutions being built within the Employment Areas, these lands should be removed, as they would not be available to accommodate Employment Land Employment. We are not aware of any such proposals.

- A factor for long-term vacancy is applied as 3% of the total occupied and vacant lands. Long-term vacancy accounts for parcels that do not develop usual due to challenging access or configuration or are regular parcels that are just never brought to market or never sold to an end user.

- Applying the local Employment-Land Employment density in this analysis to the remaining available supply will indicate how much Employment Land Employment can be accommodated at the full build out of the adjusted supply.

The conclusion of these steps is the total occupied and vacant supply of Employment Area lands and the total Employment Land Employment that these lands could accommodate at full development.

Demand for lands can then be considered as the following:

- The starting point is growth in Employment Land Employment from the 2021 base year to 2051.

- For some employment, land conversions considered in the Growth Concepts, employment demand is added to the base 2021 to 2051 demand to account for replacing the equivalent jobs / land pushed out by conversion. This need not be

- considered for vacant lands, since the overall land need does account for this loss of vacant land supply. Lands occupied that are converted only need to be replaced in the employment demand for the types of uses expected in urban Employment Areas. Most industrial uses would be replaceable, except perhaps, something more likely to occur in a rural area or in a more compact from, such as the paving and cement uses at Aldershot. Infrastructure uses, such as GO Train Stations and parking areas do not need replacement. Existing services or retail uses would also not require replacement in any new land designation.

- In order to provide some range to the employment land need from a source other than Employment Area conversions, many industrial-type buildings particularly along the QEW frontage in Oakville and Burlington as well as in Winston Park are fully occupied with office uses though they appear at first glance to be industrial buildings with relatively high ceilings. Often know as “flex space” these buildings and the employment

they house are rarely inventoried as major office. We assume that all of those that exist remain or at least turn over as they normally would. In the higher intensification Growth Concepts, we have shifted up to 10,000 employees (12%) of Employment Land Employment growth from 2031 to 2051 out of that category and into Major Office and then directed to the mixed-use UGCs and MTSAs. The idea is that, if the MTSA locations are successful in attracting significant residential development they may become more attractive for these other employment uses. In respect of Employment Land Employment, this just reduces overall Employment Land Employment demand and reduces the average density of the development that does occur.

The conclusion of the demand analysis is an employment figure that needs to be accommodated on lands in an Employment Area. The demand can be attributed to the vacant supply up to full development of those lands. Any excess Employment Land Employment that cannot be accommodated becomes the basis for employment land need.

iv. Need for Additional Land

Based on the demand and supply comparison, the additional land need can be calculated as follows:

- Excess employment that cannot be accommodated in the existing supply at full development is the starting point.
- Applying an assumed net employment density of 33.5 employees per net ha provides the net land area. This density only includes employment land employment. Within the employment areas there will also be some major office development. Depending on how much of that office development occurs in these areas, the overall density for all development and all employees in the areas will be higher.
- Applying the 80% net to gross ratio will provide the number of developable hectares of Employment Area required.
- The 3% long-term vacancy factor should be applied to the land area.
- An additional 5% of total land can be added to accommodate Major Office Employment that may occur on these lands in the long term or for other uses such as major retail or large institutions that may occur in the expansion over the long term.

The concluding land quanta in each of the four Growth Concepts are those that are used to test different urban boundary expansion locations in the allocation in the Growth Concepts.

The following series of tables take the reader though Land Needs for Employment Areas. Table 25 shows the Employment Area conversions proposed for the Halton MCR. The implementation of Major Transit Station Area (MTSA) planning among other factors has made the number and the scale of conversions potentially quite significant to the overall land needs.

Table 25: Employment Land Conversion Requests Affecting the Land Need Assessment

Employment Land Converions Approved Through the Scoped ROPA, Supported in the Conversion Analysis or Being "Tested" in One or More of the Growth Concepts Where a Portion or the Entirety of a Parcel Should Be Replaced within the Region's Employment Land Supply															
Note:	All figures are in net hectares, that is, the area of the private parcel after lands are subdivided and local roads and utilities are removed. On lands that would be subdivided in the future, the land areas differ from the Appendix C2 figures by the net-to-gross ratio of 80%.														
Ref #	Site	Occupancy	Growth Concept 1			Growth Concept 2			Growth Concept 3			Growth Concept 4			
			Site Area (Vacant or Occupied)	Occupied Sites		Site Area (Vacant or Occupied)	Occupied Sites		Site Area (Vacant or Occupied)	Occupied Sites		Site Area (Vacant or Occupied)	Occupied Sites		
				Area Not Replaced	Area Replaced		Area Not Replaced	Area Replaced		Area Not Replaced	Area Replaced		Area Not Replaced	Area Replaced	
	City of Burlington														
B-16	3270 Harrison	Occupied	4.3	(4.3)	0.0	4.3	(4.3)	0.0	4.3	(4.3)	0.0	4.3	(4.3)	0.0	
	Downtown Burlington UGC Conversions	Occupied	15.3	(11.8)	3.5	15.3	(11.8)	3.5	15.3	(11.8)	3.5	15.3	(11.8)	3.5	
	Aldershot MTSA Conversions (for emp)	Occupied	39.2	(29.3)	9.9	39.2	(29.3)	9.9	39.2	(29.3)	9.9	39.2	(29.3)	9.9	
B-11	800 Burloak	Vacant	2.0	0.0	—	2.0	0.0	—	2.0	0.0	—	2.0	0.0	—	
B-09	North Service/Industrial	Occupied	3.7	(3.7)	0.0	3.7	(3.7)	0.0	3.7	(3.7)	0.0	3.7	(3.7)	0.0	
B-01	238 Sumach	Vacant	1.5	0.0	—	1.5	0.0	—	1.5	0.0	—	1.5	0.0	—	
B-08	2258 Mountainside Drive Conversion	Occupied	0.4	0.0	0.4	0.4	0.0	0.4	0.4	0.0	0.4	0.4	0.0	0.4	
	Total Burlington		66.3	(49.1)	13.8	66.3	(49.1)	13.8	66.3	(49.1)	13.8	66.3	(49.1)	13.8	
	Town of Oakville														
O-14	584 Ford Drive	Occupied	1.5	(1.5)	0.0	1.5	(1.5)	0.0	1.5	(1.5)	0.0	1.5	(1.5)	0.0	
O-18	3164 Ninth Line	Occupied	7.5	(7.5)	0.0	7.5	(7.5)	0.0	7.5	(7.5)	0.0	7.5	(7.5)	0.0	
O-16	2680 Sheridan Gardens Drive	Occupied	1.9	(1.9)	0.0	1.9	(1.9)	0.0	1.9	(1.9)	0.0	1.9	(1.9)	0.0	
O-11	497 Pinegrove	Occupied	0.8	(0.8)	0.0	0.8	(0.8)	0.0	0.8	(0.8)	0.0	0.8	(0.8)	0.0	
O-06a	Bronte GO MTSA Initial Area (SW)	Occupied	18.8	0.0	18.8	18.8	0.0	18.8	18.8	0.0	18.8	18.8	0.0	18.8	
O-06b	Bronte GO MTSA Remaining Area	Occupied	65.4	0.0	65.4	65.4	0.0	65.4	65.4	0.0	65.4	0.0	0.0	0.0	
O-02	Neyagawa Urban Centre (Expansion NE) Conversion	Vacant	0.0	0.0	—	0.0	0.0	—	0.0	0.0	—	0.0	0.0	—	
O-22	Neyagawa Urban Centre (Expansion West) Conversion	Vacant	0.0	0.0	—	9.0	0.0	—	9.0	0.0	—	0.0	0.0	—	
O-19	263 Burnhamthorpe (east side of Neyagawa Urban Core)	Vacant	0.0	0.0	—	0.0	0.0	—	0.0	0.0	—	0.0	0.0	—	
O-17	103 Burnhamthorpe/4115 Sixth Line	Vacant	2.4	0.0	—	2.4	0.0	—	2.4	0.0	—	2.4	0.0	—	
O-05	Northwest Palermo Mixed Use Area	Vacant	25.8	0.0	—	25.8	0.0	—	25.8	0.0	—	25.8	0.0	—	
O-07	Hospital District (Hospital Site Not In Supply)	Part Vacant	27.3	(1.9)	—	27.3	(1.9)	—	27.3	(1.9)	—	27.3	(1.9)	—	
O-18	3164 Ninth Line Conversion	Vacant	7.4	0.0	—	0.0	0.0	—	0.0	0.0	—	7.4	0.0	—	
	Total Oakville		158.9	(13.6)	84.2	160.5	(13.6)	84.2	160.5	(13.6)	84.2	93.5	(13.6)	18.8	
	Town of Milton														
M-04	Bronte Main	Occupied	5.7	(2.9)	2.9	5.7	(2.9)	2.9	5.7	(2.9)	2.9	5.7	(2.9)	2.9	
M-03 & 10	Meritor	Occupied	13.6	0.0	13.6	13.6	0.0	13.6	13.6	0.0	13.6	13.6	0.0	13.6	
M-01a	Education Village Central and North	Vacant	41.4	0.0	—	41.4	0.0	—	41.4	0.0	—	41.4	0.0	—	
M-01b	Education Village South Conversion	Vacant	0.0	0.0	—	28.7	0.0	—	28.7	0.0	—	0.0	0.0	—	
M-02	Agerton South Conversion	Vacant	0.0	0.0	—	69.3	0.0	—	69.3	0.0	—	0.0	0.0	—	
M-02	Trafalgar GO MTSA Conversion	Vacant	58.4	0.0	—	58.4	0.0	—	58.4	0.0	—	0.0	0.0	—	
	Total Milton		119.1	(2.9)	16.5	217.1	(2.9)	16.5	217.1	(2.9)	16.5	60.7	(2.9)	16.5	
	Town of Halton Hills														
HH-01 & 02	Acton GO MTSA	Occupied	4.2	(2.8)	4.2	4.2	(2.8)	4.2	4.2	(2.8)	4.2	4.2	(2.8)	4.2	
HH-03	344 Guelph	Occupied	2.3	0.0	2.3	2.3	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	
	Total Halton Hills		6.5	(2.8)	6.5	6.5	(2.8)	6.5	4.2	(2.8)	4.2	4.2	(2.8)	4.2	
	Total Halton Region		350.9	(68.3)	121.0	450.5	(68.3)	121.0	448.2	(68.3)	118.6	224.7	(68.3)	53.2	

Table 26: Updated Employment Land Base with Employment and Densities

IGMS 2018 Employment Land Base, Updated with the Converted Lands (Area Not Replaced), Employment and Density Common to all Growth Concepts, Areas in net ha	Burlington	Oakville	Milton	Halton Hills	Halton
IGMS Employment Land Inventory, 2018					
Occupied	1,332.4	1,153.2	784.7	390.3	3,660.6
Vacant	128.4	717.6	1,090.8	551.6	2,488.4
Total	1,460.8	1,870.8	1,875.5	941.9	6,149.0
Remove Occupied Sites Noted as "Areas Not Replaced"					
Occupied	(49.1)	(13.6)	(2.9)	(2.8)	(68.3)
Vacant	0.0	0.0	0.0	0.0	0.0
Total	(49.1)	(13.6)	(2.9)	(2.8)	(68.3)
Revised 2018 Land Base					
Occupied	1,283.3	1,139.6	781.9	387.5	3,592.3
Vacant	128.4	717.6	1,090.8	551.6	2,488.4
Total	1,411.7	1,857.2	1,872.7	939.1	6,080.7
Employment Land Employment Density, 2018					
Occupied Land, 2018	1,283.3	1,139.6	781.9	387.5	3,592.3
Less Lands in Major Office Use	0.0	0.0	0.0	0.0	0.0
Net Land Occupied by Employment Land Employment	1,283.3	1,139.6	781.9	387.5	3,592.3
2016 Employment Land Employment (Based on Census)	43,750	42,140	16,080	8,190	110,160
2018 Employment Land Employment	44,300	43,160	16,540	8,490	112,490
2019 Employment Land Employment	44,810	45,610	18,810	9,190	118,420
2016 Density (employees per net ha)	34.1	37.0	20.6	21.1	30.7
2018 Density (employees per net ha)	34.5	37.9	21.2	21.9	31.3
2019 Density (employees per net ha)	34.9	40.0	24.1	23.7	33.0

Table 27: Employment Land and Employment Information Updated to a 2021 Base Year

Employment Land Employment and Land Base Updated to a 2021 Base Common to all Growth Concepts, Areas in net ha	Burlington	Oakville	Milton	Halton Hills	Halton
IGMS Employment Land Inventory					
Estimated Land Asorption 2018-2021	11.1	16.2	102.3	32.4	162.0
Updated Land Base for 2021					
Occupied	1,294.4	1,155.8	884.2	419.9	3,754.3
Vacant	117.3	701.4	988.5	519.2	2,326.4
Total	1,411.7	1,857.2	1,872.7	939.1	6,080.7
Employment Land Employment					
2021 Estimated Employment Land Employment	45,170	43,930	17,290	9,010	115,400
Employment Land Employment Densty					
Employment per net ha	34.9	38.0	19.6	21.5	30.7

The following table takes the reader through the process of updating some employment information, concluding with the Employment Area land need. There are two tables for each concept, with Table 28 and 29 containing information for Concept 1, concluding with Tables 34 and 35 for Concept 4.

Table 28: Concept 1: Employment Area Demand, Supply and Concluding Land Need to 2051

Employment Land Employment and Land Base Change Change 2021 to 2051 Growth Concept 1, All Areas in net hectares					
Total Employment Land Employment and Growth					
Employment Land Employment		**Total**	**Growth**	**Growth Rate**	
	1991	74,700			
	2001	96,500	21,800	2.6%	
	2011	104,200	7,700	0.8%	
	2021	115,400	11,200	1.0%	
	2031	152,000	36,600	2.8%	
	2041	177,700	25,700	1.6%	
	2051	206,400	28,700	1.5%	
2021 Land and Employment Base					
		Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Occupied Employment Land		1,294.4	1,155.8	884.2	419.9	3,754.3
Vacant Employment Land		117.3	701.4	988.5	519.2	2,326.4
Total Employment Land		1,411.7	1,857.2	1,872.7	939.1	6,080.7
Employment Land Employment		45,170	43,930	17,290	9,010	115,400
Remaining Employment Land Conversions and Result Revised Land and Employment Base						
Change in use on these properties will occur slowly and incrementally over the forecast period						
		Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Vacant Converted Lands		(3.5)	(63.0)	(99.8)	0.0	(166.3)
Occupied Lands "to be replaced"		(13.8)	(84.2)	(16.5)	(6.5)	(121.0)
Density for current or potential occupancy (employees/ha)		12.0	28.0	20.0	25.0	24.9
Dislocated Employment Potential from Occupied Lands		(165)	(2,359)	(329)	(163)	(3,015)
Occupied Employment Land		1,280.6	1,071.6	867.7	413.4	3,633.3
Vacant Employment Land		113.8	638.4	888.7	519.2	2,160.1
Total Employment Land		1,394.5	1,709.9	1,756.4	932.6	5,793.5
Employment Land Employment		45,005	41,571	16,961	8,848	112,385
Applying Long- Term Vacancy and Establishing Net Effective Supply						
3% Long-Term Vacancy within Existing Base		(69.7)	(85.5)	(87.8)	(46.6)	(289.7)
Results in Net Effective Supply in Existing Land		44.1	552.9	800.9	472.6	1,870.5

Table 29: Concept 1: Employment Area Demand, Supply and Concluding Land Need to 2051

Building Out Remaining Lands and Determining Additional Employment Land Need, 2021 to 2051 Growth Concept 1, All Areas in Net hectares						
Forecasting Build Out of Existing Supply						
Forecast Employment Land Employment Growth	2051 Forecast Employment					206,400
	Less 2021 Estimated Employment					(115,400)
	2021 to 2051 Growth					91,000
Shifting some "flex" office space out of employment lands into the mixed use centres in the denser Growth Concepts, in Concept 1 this is:	2021 to 2051 Growth					91,000
	Less "flex office" going elsewhere					(3,333)
	Jobs in new space on vacant land					87,667
Next step,build out existing lands		**Burlington**	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Land Supply in net ha		44.1	552.9	800.9	472.6	1,870.5
At Current Densities in jobs per ha		*30.1*	*30.1*	*30.1*	*30.1*	*30.1*
Provides jobs on available vacant supply		1,330	16,640	24,110	14,220	56,300
Remaining Employment Land Employment Generates Need for New Urban Employment Lands						
Demand for jobs on new urban employment land	Jobs in new space on vacant land					87,667
	Less jobs accomodated on net effective supply					(56,300)
	Jobs to be accommodated on new urban employment land					31,367
Milton's proposed Agerton south mixed-use area is a plan to accommodate some employment land employment jobs in a mixed area of employment buildings and residential-employment projects. The proposal is shown by converting the lands, since that woudl be required for any residential to occur, and by attributing Employment Land Employment equivalent to half of what would if it were employmnet only. These Agerton jobs are shown here to result in a reduction in urban Employment Area need.						0
Employment to be accommodated on new lands						**31,367**
At a reasonable density? Region-wide average is now about 32 employees per net ha. In both Sustainable Halton and HUSP 32 to 34 were used as a density and it remains reasonable basis for planning				at	33.5	jobs per net ha
Net hectares of new urban Employment Area						936 net ha
Applying a standard net to gross ratio for employment areas of 80%, yields the following gross hectares of developble land required as new Employment Area land designation						**1,170 hectares of developable land**

Table 30: Concept 2: Employment Area Demand, Supply and Concluding Land Need to 2051

Employment Land Employment and Land Base Change Change 2021 to 2051 Growth Concept 2, All Areas in net hectares					
Total Employment Land Employment and Growth					
Employment Land Employment		**Total**	**Growth**	**Growth Rate**	
	1991	74,700			
	2001	96,500	21,800	2.6%	
	2011	104,200	7,700	0.8%	
	2021	115,400	11,200	1.0%	
	2031	152,000	36,600	2.8%	
	2041	177,700	25,700	1.6%	
	2051	206,400	28,700	1.5%	
2021 Land and Employment Base					
		Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Occupied Employment Land		1,294.4	1,155.8	884.2	419.9	3,754.3
Vacant Employment Land		117.3	701.4	988.5	519.2	2,326.4
Total Employment Land		1,411.7	1,857.2	1,872.7	939.1	6,080.7
Employment Land Employment		45,170	43,930	17,290	9,010	115,400
Remaining Employment Land Conversions and Result Revised La		**1,412**	**1,857**	**1,873**	**939**	**6,081**
Change in use on these properties will occur slowly and incrementally over the forecast period						
		Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Vacant Converted Lands		(3.5)	(64.6)	(197.8)	0.0	(265.9)
Occupied Lands "to be replaced"		(13.8)	(84.2)	(16.5)	(6.5)	(121.0)
Density for current or potential occupancy (employees/ha)		12.0	28.0	20.0	25.0	24.9
Dislocated Employment Potential from Occupied Lands		(165)	(2,359)	(329)	(163)	(3,015)
Occupied Employment Land		1,280.6	1,071.6	867.7	413.4	3,633.3
Vacant Employment Land		113.8	636.8	790.7	519.2	2,060.5
Total Employment Land		1,394.5	1,708.3	1,658.4	932.6	5,693.9
Employment Land Employment		45,005	41,571	16,961	8,848	112,385
Applying Long- Term Vacancy and Establishing Net Effective Supply						
3% Long-Term Vacancy within Existing Base		(69.7)	(85.4)	(82.9)	(46.6)	(284.7)
Results in Net Effective Supply in Existing Land		44.1	551.4	707.8	472.6	1,775.9

Table 31: Concept 2: Employment Area Demand, Supply and Concluding Land Need to 2051

Building Out Remaining Lands and Determining Additional Employment Land NeedLand, 2021 to 2051 Growth Concept 2, All Areas in net hectares						
Forecasting Build Out of Existing Supply						
Forecast Employment Land Employment Growth	2051 Forecast Employment					206,400
	Less 2021 Estimated Employment					(115,400)
	2021 to 2051 Growth					91,000
Shifting some "flex" office space out of employment lands into the mixed use centres in the denser Growth Concepts, in Concept 1 this is:	2021 to 2051 Growth					91,000
	Less "flex office" going elsewhere					(6,667)
	Jobs in new space on vacant land					84,333
Next step,build out existing lands		**Burlington**	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Land Supply in net ha		44.1	551.4	707.8	472.6	1,775.9
At Current Densities in jobs per ha		*30.1*	*30.1*	*30.1*	*30.1*	*30.1*
Provides jobs on available vacant supply		1,330	16,650	21,380	14,270	53,630
Remaining Employment Land Employment Generates Need for New Urban Employment Lands						
Demand for jobs on new urban employment land	Jobs in new space on vacant land					84,333
	Less jobs accomodated on net effective supply					(53,630)
	Jobs to be accommodated on new urban employment land					30,703
Milton's proposed Agerton south mixed-use area is a plan to accommodate some employment land employment jobs in a mixed area of employment buildings and residential-employment projects. The proposal is shown by converting the lands, since that woudl be required for any residential to occur, and by attributing Employment Land Employment equivalent to half of what would if it were employmnet only. These Agerton jobs are shown here to result in a reduction in urban Employment Area need.						(1,160)
Employment to be accommodated on new lands						**29,543**
At a reasonable density? Region-wide average is now about 32 employees per net ha. In both Sustainable Halton and HUSP 32 to 34 were used as a density and it remains reasonable basis for planning				at	33.5	jobs per net ha
The result is the following in net hectares						882 net ha
Applying a standard net to gross ratio for employment areas of 80%, yields the following gross hectares of developble land required as new Employment Area land designation						**1,100 hectares of developable land**

Table 32: Concept 3: Employment Area Demand, Supply and Concluding Land Need to 2051

Employment Land Employment and Land Base Change Change 2021 to 2051 Growth Concept 3, All Areas in net hectares					
Total Employment Land Employment and Growth					
Employment Land Employment		**Total**	**Growth**	**Growth Rate**	
	1991	74,700			
	2001	96,500	21,800	2.6%	
	2011	104,200	7,700	0.8%	
	2021	115,400	11,200	1.0%	
	2031	152,000	36,600	2.8%	
	2041	177,700	25,700	1.6%	
	2051	206,400	28,700	1.5%	
2021 Land and Employment Base					
		Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Occupied Employment Land		1,294.4	1,155.8	884.2	419.9	3,754.3
Vacant Employment Land		117.3	701.4	988.5	519.2	2,326.4
Total Employment Land		1,411.7	1,857.2	1,872.7	939.1	6,080.7
Employment Land Employment		45,170	43,930	17,290	9,010	115,400
Remaining Employment Land Conversions and Result Revised Land and Employment Base						
Change in use on these properties will occur slowly and incrementally over the forecast period						
		Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Vacant Converted Lands		(3.5)	(64.6)	(197.8)	0.0	(265.9)
Occupied Lands "to be replaced"		(13.8)	(84.2)	(16.5)	(4.2)	(118.6)
Density for current or potential occupancy (employees/		12.0	28.0	20.0	25.0	24.9
Dislocated Employment Potential from Occupied Lands		(165)	(2,359)	(329)	(105)	(2,958)
Occupied Employment Land		1,280.6	1,071.6	867.7	415.8	3,635.6
Vacant Employment Land		113.8	636.8	790.7	519.2	2,060.5
Total Employment Land		1,394.5	1,708.3	1,658.4	935.0	5,696.2
Employment Land Employment		45,005	41,571	16,961	8,905	112,442
Applying Long- Term Vacancy and Establishing Net Effective Supply						
3% Long-Term Vacancy within Existing Base		(69.7)	(85.4)	(82.9)	(46.7)	(284.8)
Results in Net Effective Supply in Existing Land		44.1	551.4	707.8	472.4	1,775.7

Table 33: Concept 3: Employment Area Demand, Supply and Concluding Land Need to 2051

Building Out Remaining Lands and Determining Additional Employment Land NeedLand, 2021 to 2051 Growth Concept 3, All Areas in net hectares						
Forecasting Build Out of Existing Supply						
Forecast Employment Land Employment Growth	2051 Forecast Employment					206,400
	Less 2021 Estimated Employment					(115,400)
	2021 to 2051 Growth					91,000
Shifting some "flex" office space out of employment lands into the mixed use centres in the denser Growth Concepts,	2021 to 2051 Growth					91,000
	Less "flex office" going elsewhere					(10,000)
	Jobs in new space on vacant land					81,000
Next step,build out existing lands		**Burlington**	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Land Supply in net ha		44.1	551.4	707.8	472.4	1,775.7
At Current Densities in jobs per ha		*30.1*	*30.1*	*30.1*	*30.1*	*30.1*
Provides jobs on available vacant supply		1,330	16,620	21,340	14,240	53,530
Remaining Employment Land Employment Generates Need for New Urban Employment Lands						
Demand for jobs on new urban employm	Jobs in new space on vacant land					81,000
	Less jobs accomodated on net effective supply					(53,530)
	Jobs to be accommodated on new urban employment land					27,470
Milton's proposed Agerton south mixed-use area is a plan to accommodate some employment land employment jobs in a mixed area of employment buildings and residential-employment projects. The proposal is shown by converting the lands, since that woudl be required for any residential to occur, and by attributing Employment Land Employment equivalent to half of what would if it were employmnet only. These Agerton jobs are shown here to result in a reduction in urban Employment Area need.						(1,160)
Employment to be accommodated on new lands						**26,310**
At a reasonable density? Region-wide average is now about 32 employees per net ha. In both Sustainable Halton and HUSP 32 to 34 were used as a density and it remains reasonable basis for planning				at	33.5	jobs per net ha
The result is the following in net hectares						785 net ha
Applying a standard net to gross ratio for employment areas of 80%, yields the following gross hectares of developble land required as new Employment Area land designation						**980 hectares of developable land**

Table 34: Concept 4: Employment Area Demand, Supply and Concluding Land Need to 2051

Employment Land Employment and Land Base Change Change 2021 to 2051 Growth Concept 4, All Areas in net hectares					
Total Employment Land Employment and Growth					
Employment Land Employment		**Total**	**Growth**	**Growth Rate**	
	1991	74,700			
	2001	96,500	21,800	2.6%	
	2011	104,200	7,700	0.8%	
	2021	115,400	11,200	1.0%	
	2031	152,000	36,600	2.8%	
	2041	177,700	25,700	1.6%	
	2051	206,400	28,700	1.5%	
2021 Land and Employment Base					
		Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Occupied Employment Land		1,294.4	1,155.8	884.2	419.9	3,754.3
Vacant Employment Land		117.3	701.4	988.5	519.2	2,326.4
Total Employment Land		1,411.7	1,857.2	1,872.7	939.1	6,080.7
Employment Land Employment		45,170	43,930	17,290	9,010	115,400
Remaining Employment Land Conversions and Result Revised Land and Employment Base						
Change in use on these properties will occur slowly and incrementally over the forecast period						
		Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Vacant Converted Lands		(3.5)	(63.0)	(41.4)	0.0	(107.9)
Occupied Lands "to be replaced"		(13.8)	(18.8)	(16.5)	(4.2)	(53.2)
Density for current or potential occupancy (employees/		12.0	28.0	20.0	25.0	21.2
Dislocated Employment Potential from Occupied Lands		(165)	(526)	(329)	(105)	(1,125)
Occupied Employment Land		1,280.6	1,137.0	867.7	415.8	3,701.1
Vacant Employment Land		113.8	638.4	947.1	519.2	2,218.5
Total Employment Land		1,394.5	1,775.4	1,814.8	935.0	5,919.6
Employment Land Employment		45,005	43,404	16,961	8,905	114,275
Applying Long- Term Vacancy and Establishing Net Effective Supply						
3% Long-Term Vacancy within Existing Base		(69.7)	(88.8)	(90.7)	(46.7)	(296.0)
Results in Net Effective Supply in Existing Land		44.1	549.6	856.4	472.4	1,922.6

Table 35: Concept 4: Employment Area Demand, Supply and Concluding Land Need to 2051

Building Out Remaining Lands and Determining Additional Employment Land NeedLand, 2021 to 2051 Growth Concept 1, All Areas in net hectares						
Forecasting Build Out of Existing Supply						
Forecast Employment Land Employment Growth	2051 Forecast Employment					206,400
	Less 2021 Estimated Employment					(115,400)
	2021 to 2051 Growth					91,000
Shifting some "flex" office space out of employment lands into the mixed use centres in the denser Growth Concepts,	2021 to 2051 Growth					91,000
	Less "flex office" going elsewhere					0
	Jobs in new space on vacant land					91,000
Next step,build out existing lands	**Burlington**	**Oakville**	**Milton**	**Halton Hills**	**Halton**	
Land Supply in net ha	44.1	549.6	856.4	472.4	1,922.6	
At Current Densities in jobs per ha	*30.1*	*30.1*	*30.1*	*30.1*	*30.1*	
Provides jobs on available vacant supply	1,330	16,570	25,820	14,240	58,260	
Remaining Employment Land Employment Generates Need for New Urban Employment Lands						
Demand for jobs on new urban employm	Jobs in new space on vacant land					91,000
	Less jobs accomodated on net effective supply					(58,260)
	Jobs to be accommodated on new urban employment land					32,740
Milton's proposed Agerton south mixed-use area is a plan to accommodate some employment land employment jobs in a mixed area of employment buildings and residential-employment projects. The proposal is shown by converting the lands, since that woudl be required for any residential to occur, and by attributing Employment Land Employment equivalent to half of what would if it were employmnet only. These Agerton jobs are shown here to result in a reduction in urban Employment Area need.						0
Employment to be accommodated on new lands						**32,740**
At a reasonable density? Region-wide average is now about 32 employees per net ha. In both Sustainable Halton and HUSP 32 to 34 were used as a density and it remains reasonable basis for planning			at	33.5		jobs per net ha
The result is the following in net hectares						977 net ha
Applying a standard net to gross ratio for employment areas of 80%, yields the following gross hectares of developble land required as new Employment Area land designation						**1,220 hectares of developable land**

F. SUMMARY OF LAND NEED

Based on the Land Needs Assessment set out above the Region requires additional land to accommodate long-term population and employment growth to 2051 established by Schedule 3 to the Growth Plan.

i. Community Area Land Needs

The Community Area Land Needs Assessment demonstrates that the Region requires the following additional hectares of developable land as DGA in order to meet the needs associated with housing growth to 2051:

- Growth Concept 1 – an additional 1,460 hectares of developable land

- Growth Concept 2 – an additional 730 hectares of developable land
- Growth Concept 3 – an additional 0 hectares of developable land
- Growth Concept 4 – an additional 2,080 hectares of developable land

In making, a decision about the Preferred Growth Concept Council will need to consider whether the preferred option will enable the Region to provide a market-based supply of housing while achieving Growth Plan housing policies. As outlined in the evaluation of the Growth Concepts (Appendix K), there are specific choices embedded in each of the Growth Concepts that drive these results. These considerations are important in developing the Preferred Growth Concept.

ii. Employment Area Land Needs

The Employment Area Land Needs Assessment demonstrates that the Region requires the following additional hectares of developable land in order to meet the long-term needs of Schedule 3 employment growth to 2051:

- Growth Concept 1 – an additional 1,170 hectares of developable land
- Growth Concept 2 – an additional 1,100 hectares of developable land
- Growth Concept 3 – an additional 980 hectares of developable land
- Growth Concept 4 – an additional 1,220 hectares of developable land

G. NEXT STEPS FOR THE LNA

This memorandum provides a general description of the methodology used to establish the future Community and Employment land need under each Growth Concept. A formal LNA will be completed as part of the Preferred Growth Concept.

PART 2: MUNICIPAL ALLOCATION FOR THE FOUR GROWTH CONCEPTS

The following figures and tables summarize the allocation of growth to the local municipalities by Growth Concept.

- **Table 36: Total Population and Household Growth by Municipality and Concept 2021-2031**
    - All Growth Concepts have the same growth from 2021 to 2031. As such, Table 36 shows the growth within the local municipalities and Region for this period.
- **Tables 37-40: Total Household Growth by Structure, 2031-2051, By Growth Concept**
    - Household growth by unit type (ground-related and apartments) is shown for each local municipality for each Growth Concept.
- **Table 41: Total Population Growth by Local Municipal and Growth Concept, 2031-2051**
    - Total population growth (which includes Census net undercoverage) is provided for each local municipality, by Growth Concept.
- **Figure 1: Location of Burlington's Housing Growth, by Growth Concept, 2031-2051**
    - Shows the location of housing growth by area (e.g. Built-Up Area, Existing DGA, Additional High Density Units in Existing DGA, New DGA)
- **Table 42: Location of Burlington's Housing Growth by Structure Type, by Growth Concept, 2031-2051**
    - Shows the location of housing growth in by area (e.g. Built-Up Area, Existing DGA, Additional High Density Units in Existing DGA, New DGA) and the housing structure type (e.g. ground-related and apartments)
- **Figure 2: Location of Oakville's Housing Growth, by Growth Concept, 2031-2051**
    - Shows the location of housing growth by area (e.g. Built-Up Area, Existing DGA, Additional High Density Units in Existing DGA, New DGA)

- **Table 43: Location of Oakville's Housing Growth by Structure Type, by Growth Concept, 2031-2051**
    - Shows the location of housing growth in by area (e.g. Built-Up Area, Existing DGA, Additional High Density Units in Existing DGA, New DGA) and the housing structure type (e.g. ground-related and apartments)
- **Figure 3: Location of Milton's Housing Growth, by Growth Concept, 2031-2051**
    - Shows the location of housing growth in by area (e.g. Built-Up Area, Existing DGA, Additional High Density Units in Existing DGA, New DGA)
- **Table 44: Location of Milton's Housing Growth by Structure Type, by Growth Concept, 2031-2051**
    - Shows the location of housing growth in by area (e.g. Built-Up Area, Existing DGA, Additional High Density Units in Existing DGA, New DGA) and the housing structure type (e.g. ground-related and apartments)
- **Figure 4: Location of Halton Hill's Housing Growth, by Growth Concept, 2031-2051**
    - Shows the location of housing growth in by area (e.g. Built-Up Area, Existing DGA, Additional High Density Units in Existing DGA, New DGA)
- **Table 45: Location of Halton Hill's Housing Growth by Structure Type, by Growth Concept, 2031-2051**
    - Shows the location of housing growth in by area (e.g. Built-Up Area, Existing DGA, Additional High Density Units in Existing DGA, New DGA) and the housing structure type (e.g. ground-related and apartments)
- **Tables 46-55: Employment Growth by Local Municipality and Growth Concept**
    - Summarizes employment allocations by local municipality and Growth Concept for population-related, employment land employment and major office

Table 36: Total Population and Household Growth by Municipality and Concept 2021-2031

Total Population Growth by Municipality, 2021 - 2031		
Municipality	**Population**	**%**
Burlington	21,110	14.3%
Oakville	48,860	33.2%
Milton	59,150	40.2%
Halton Hills	18,130	12.3%
Halton Region	**147,250**	100.0%

Total Household Growth by Municipality, 2021 - 2031		
Municipality	**Population**	**%**
Burlington	9,890	18.1%
Oakville	18,620	34.2%
Milton	20,190	37.0%
Halton Hills	5,810	10.7%
Halton Region	**54,510**	100.0%

Table 37: Burlington, Total Household Growth by Structure Type, 2031-2051, By Growth Concept

Total Household Growth by Structure Type, 2031 - 2051						
City of Burlington						
Concept	Ground Related		Apartment		Total Units	
	Households	Share of Region	Households	Share of Region	Households	Share of Region
Concept 1	1,960	4.0%	19,250	27.1%	21,210	17.7%
Concept 2	1,160	3.1%	21,460	26.2%	22,620	18.9%
Concept 3	1,200	4.6%	21,540	23.1%	22,740	19.0%
Concept 4	2,030	3.4%	18,110	30.1%	20,140	16.8%

Table 38: Oakville, Total Household Growth by Structure, 2031-2051, By Growth Concept

Total Household Growth by Structure Type, 2031 - 2051						
Town of Oakville						
Concept	Ground Related		Apartment		Total Units	
	Households	Share of Region	Households	Share of Region	Households	Share of Region
Concept 1	6,550	13.5%	24,920	35.1%	31,470	26.3%
Concept 2	5,630	15.0%	29,100	35.5%	34,730	29.1%
Concept 3	5,820	22.3%	35,580	38.1%	41,400	34.6%
Concept 4	6,470	10.9%	21,010	34.9%	27,480	23.0%

Table 39: Milton, Total Household Growth by Structure, 2031-2051, By Growth Concept

Total Household Growth by Structure Type, 2031 - 2051						
Town of Milton						
Concept	Ground Related		Apartment		Total Units	
	Households	Share of Region	Households	Share of Region	Households	Share of Region
Concept 1	26,050	53.7%	19,510	27.5%	45,560	38.1%
Concept 2	22,220	59.1%	23,310	28.4%	45,530	38.1%
Concept 3	16,380	62.8%	29,400	31.5%	45,780	38.3%
Concept 4	28,130	47.3%	15,330	25.5%	43,460	36.4%

Table 40: Halton Hills, Total Household Growth by Structure, 2031-2051, By Growth Concept

Total Household Growth by Structure Type, 2031 - 2051						
Town of Halton Hills						
Concept	Ground Related		Apartment		Total Units	
	Households	Share of Region	Households	Share of Region	Households	Share of Region
Concept 1	13,960	28.8%	7,330	10.3%	21,290	17.8%
Concept 2	8,560	22.8%	8,110	9.9%	16,670	13.9%
Concept 3	2,700	10.3%	6,930	7.4%	9,630	8.1%
Concept 4	22,790	38.4%	5,690	9.5%	28,480	23.8%

Table 41: Total Population Growth by Local Municipal and Growth Concept, 2031-2051

Total Population Growth, 2031 - 2051		
City of Burlington		
Concept	Population	Share of Region
Concept 1	51,050	15.3%
Concept 2	56,400	16.9%
Concept 3	61,050	18.3%
Concept 4	45,190	13.5%

Total Population Growth, 2031 - 2051		
Town of Oakville		
Concept	Population	Share of Region
Concept 1	78,230	23.5%
Concept 2	88,620	26.6%
Concept 3	109,500	32.8%
Concept 4	64,760	19.4%

Total Population Growth, 2031 - 2051		
Town of Milton		
Concept	Population	Share of Region
Concept 1	136,750	41.0%
Concept 2	137,080	41.1%
Concept 3	134,900	40.5%
Concept 4	130,930	39.3%

Total Population Growth, 2031 - 2051		
Town of Halton Hills		
Concept	Population	Share of Region
Concept 1	67,460	20.2%
Concept 2	51,340	15.4%
Concept 3	27,900	8.4%
Concept 4	92,690	27.8%

Figure 1: Location of Burlington's Housing Growth, by Growth Concept, 2031-2051

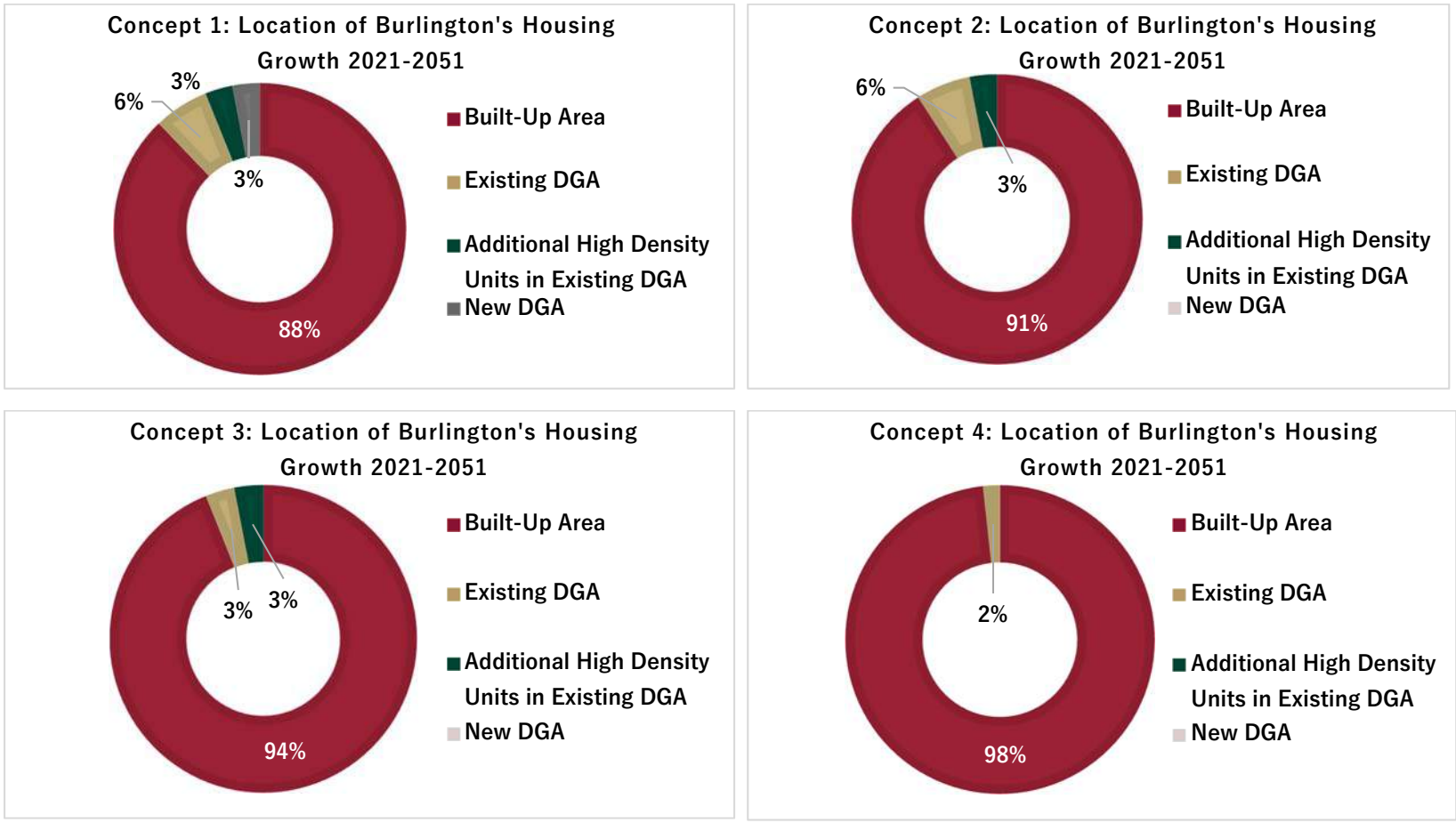


Table 42: Location of Burlington's Housing Growth by Structure Type, by Growth Concept, 2031-2051

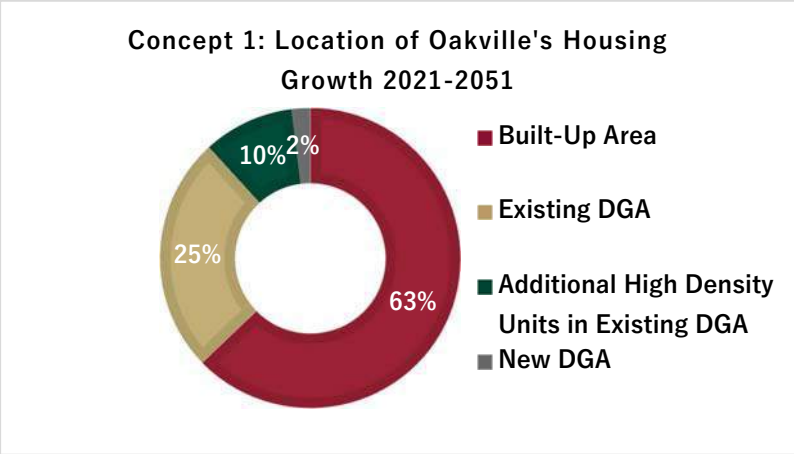
Total Household Growth by by Land Use Area, 2021 - 2051			
City of Burlington			
Built-Up Area			
	Ground Related	Apartment	Total
Concept 1	2,790	25,870	28,660
Concept 2	1,990	27,800	29,790
Concept 3	2,030	28,740	30,770
Concept 4	2,850	25,870	28,720

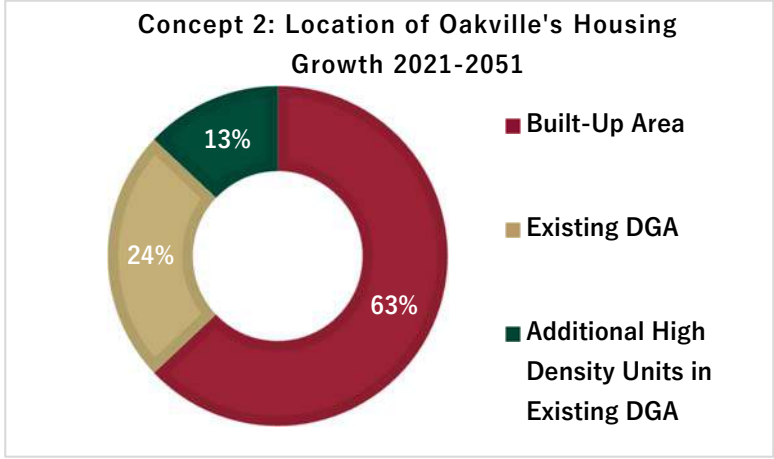
Total Household Growth by by Land Use Area, 2021 - 2051			
City of Burlington			
Existing DGA			
	Ground Related	Apartment	Total
Concept 1	780	1,010	1,790
Concept 2	780	960	1,740
Concept 3	780	370	1,150
Concept 4	780	360	1,140

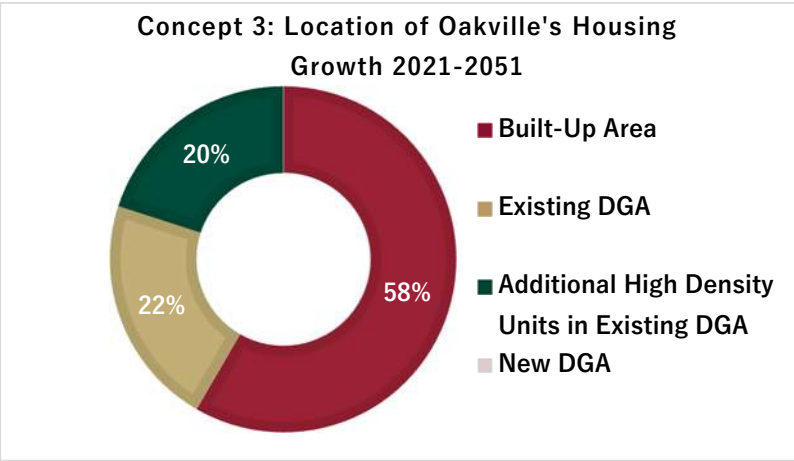
Total Household Growth by by Land Use Area, 2021 - 2051			
City of Burlington			
Additional High Density Units in Existing DGA			
	Ground Related	Apartment	Total
Concept 1	0	650	650
Concept 2	0	980	980
Concept 3	0	710	710
Concept 4	0	160	160

Total Household Growth by by Land Use Area, 2021 - 2051			
City of Burlington			
New DGA			
	Ground Related	Apartment	Total
Concept 1	0	670	670
Concept 2	0	0	0
Concept 3	0	0	0
Concept 4	0	10	10

Figure 2: Location of Oakville's Housing Growth, by Growth Concept, 2031-2051







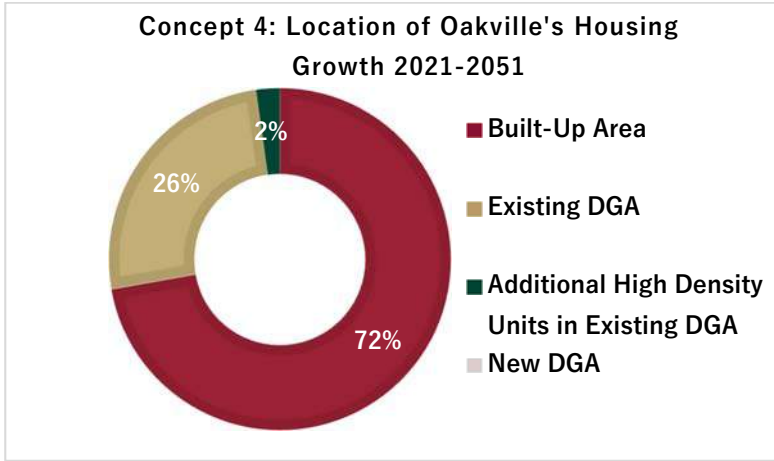


Table 43: Location of Oakville's Housing Growth by Structure Type, by Growth Concept, 2031-2051

Total Household Growth by by Land Use Area, 2021 - 2051			
Town of Oakville			
Built-Up Area			
	Ground Related	Apartment	Total
Concept 1	4,300	28,160	32,460
Concept 2	3,410	30,270	33,680
Concept 3	3,450	31,290	34,740
Concept 4	4,360	28,160	32,520

Total Household Growth by by Land Use Area, 2021 - 2051			
Town of Oakville			
Existing DGA			
	Ground Related	Apartment	Total
Concept 1	11,660	1,140	12,800
Concept 2	11,630	1,130	12,760
Concept 3	11,770	1,150	12,920
Concept 4	11,520	860	12,380

Total Household Growth by by Land Use Area, 2021 - 2051			
Town of Oakville			
Additional High Density Units in Existing DGA			
	Ground Related	Apartment	Total
Concept 1	0	4,840	4,840
Concept 2	0	6,920	6,920
Concept 3	0	12,350	12,350
Concept 4	0	1,210	1,210

Total Household Growth by by Land Use Area, 2021 - 2051			
Town of Oakville			
New DGA			
	Ground Related	Apartment	Total
Concept 1	0	520	520
Concept 2	0	0	0
Concept 3	0	0	0
Concept 4	0	190	190

Figure 3: Location of Milton's Housing Growth, by Growth Concept, 2031-2051

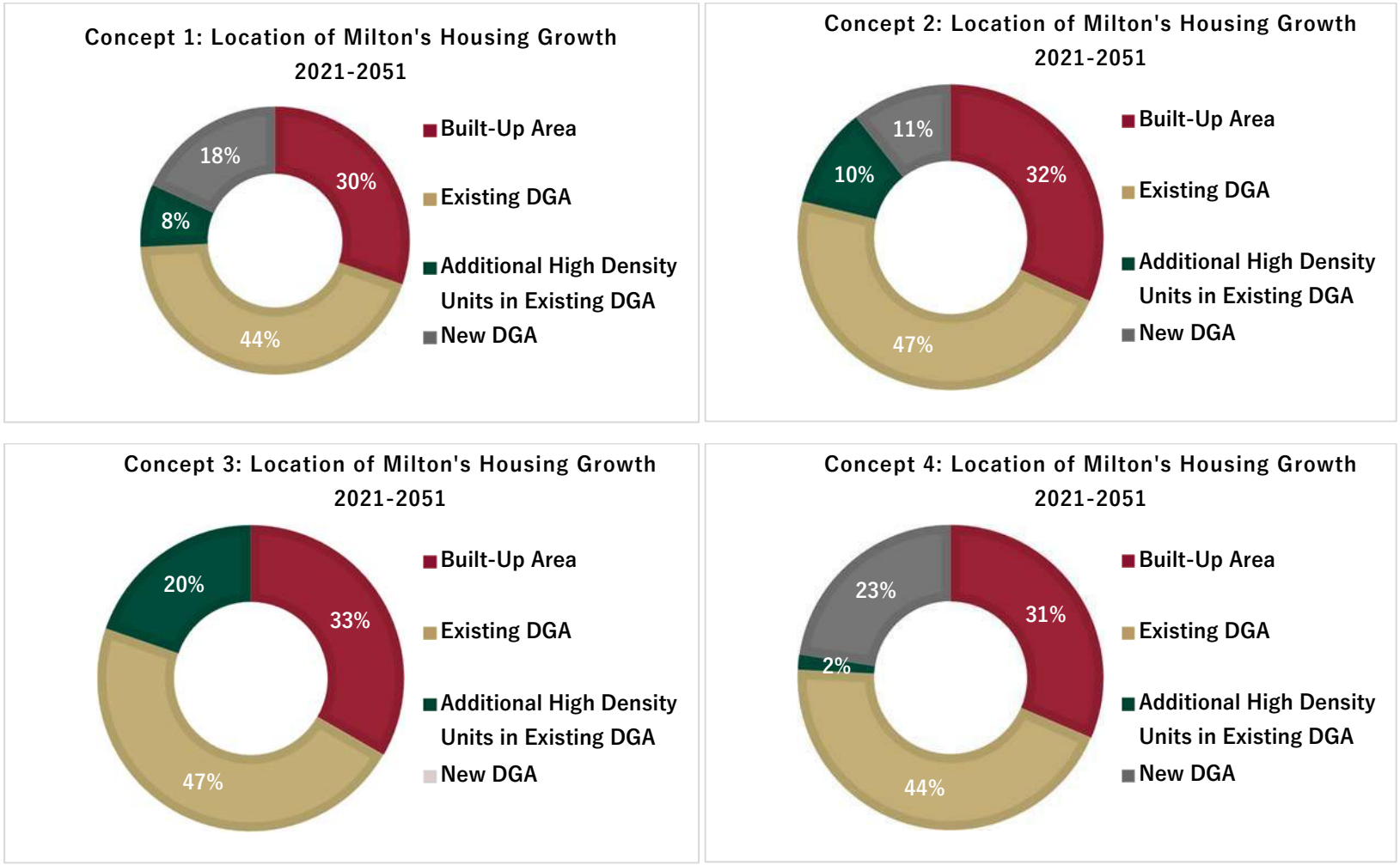


Table 44: Location of Milton's Housing Growth by Structure Type, by Growth Concept, 2031-2051

Total Household Growth by by Land Use Area, 2021 - 2051 Town of Milton Built-Up Area			
	Ground Related	Apartment	Total
Concept 1	2,950	17,400	20,350
Concept 2	2,180	18,770	20,950
Concept 3	2,220	19,440	21,660
Concept 4	3,010	17,400	20,410

Total Household Growth by by Land Use Area, 2021 - 2051 Town of Milton Existing DGA			
	Ground Related	Apartment	Total
Concept 1	26,160	2,490	28,650
Concept 2	28,100	2,750	30,850
Concept 3	28,100	3,340	31,440
Concept 4	26,160	2,330	28,490

Total Household Growth by by Land Use Area, 2021 - 2051 Town of Milton Additional High Density Units in Existing DGA			
	Ground Related	Apartment	Total
Concept 1	0	4,670	4,670
Concept 2	0	7,370	7,370
Concept 3	0	12,870	12,870
Concept 4	0	1,170	1,170

Total Household Growth by by Land Use Area, 2021 - 2051 Town of Milton New DGA			
	Ground Related	Apartment	Total
Concept 1	10,880	870	11,750
Concept 2	5,880	650	6,530
Concept 3	0	0	0
Concept 4	12,890	1,150	14,040

Figure 4: Location of Halton Hill's Housing Growth, by Growth Concept, 2031-2051

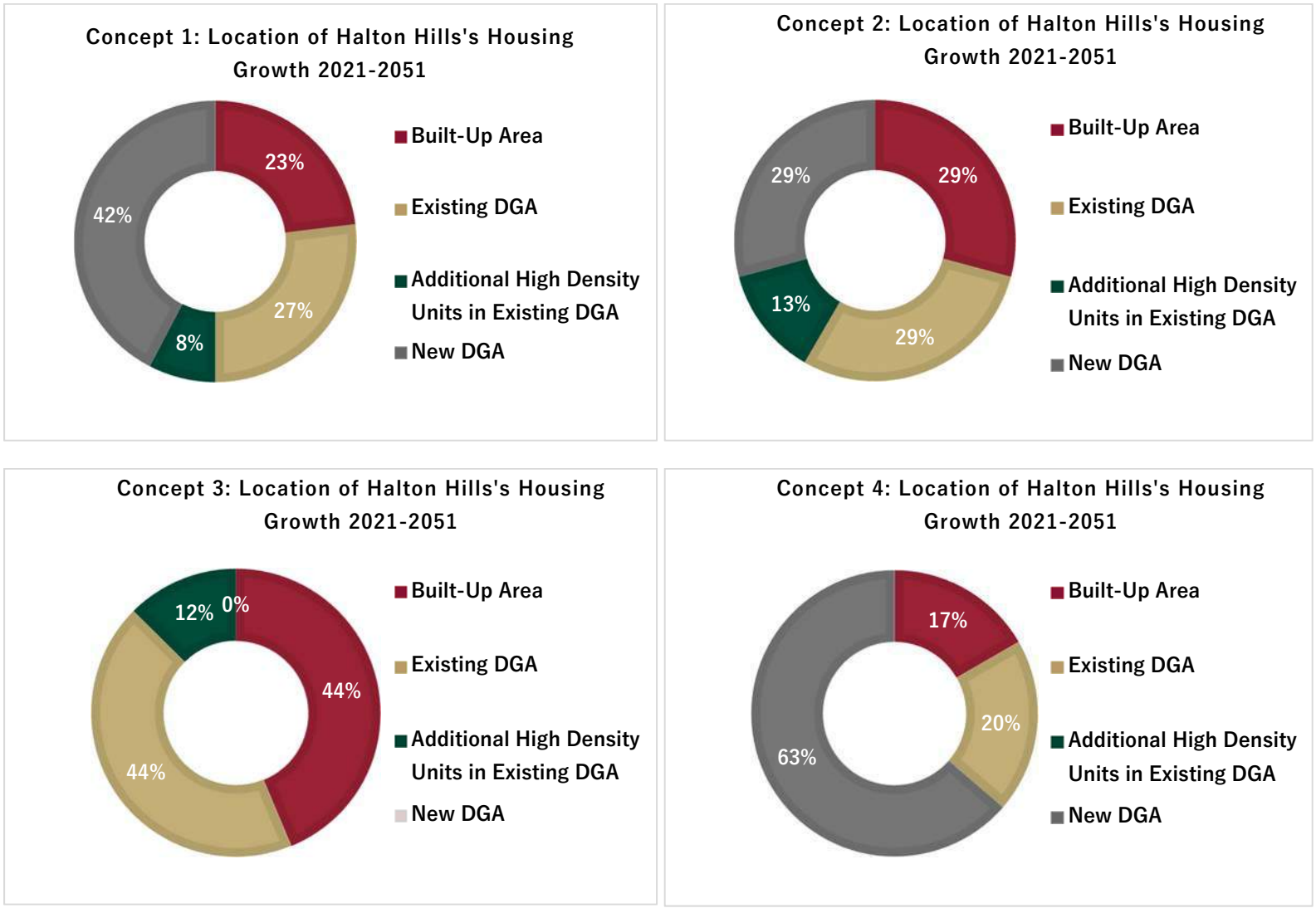


Table 44: Location of Halton Hill's Housing Growth by Structure Type, by Growth Concept, 2031-2051

Total Household Growth by by Land Use Area, 2021 - 2051			
Town of Halton Hills			
Built-Up Area			
	Ground Related	Apartment	Total
Concept 1	1,510	4,960	6,470
Concept 2	1,100	5,400	6,500
Concept 3	1,130	5,610	6,740
Concept 4	1,330	4,960	6,290

Total Household Growth by by Land Use Area, 2021 - 2051			
Town of Halton Hills			
Existing DGA			
	Ground Related	Apartment	Total
Concept 1	6,390	370	6,760
Concept 2	6,390	370	6,760
Concept 3	6,390	370	6,760
Concept 4	6,390	230	6,620

Total Household Growth by by Land Use Area, 2021 - 2051			
Town of Halton Hills			
Additional High Density Development in Current DGA			
	Ground Related	Apartment	Total
Concept 1	0	1,790	1,790
Concept 2	0	2,690	2,690
Concept 3	0	1,950	1,950
Concept 4	0	450	450

Total Household Growth by by Land Use Area, 2021 - 2051			
Town of Halton Hills			
New DGA			
	Ground Related	Apartment	Total
Concept 1	10,880	250	11,130
Concept 2	5,880	650	6,530
Concept 3	0	0	0
Concept 4	19,890	950	20,840

Table 44: Historical Employment

Historic and Current Total Employment by Land-Use Based Category Halton Region and Local Municipalities, 2001 to 2021					
2001	Burlington	Oakville	Milton	Halton Hills	Halton
Major Office	9,900	5,400	100	200	15,600
Population Related	26,400	24,300	9,000	8,300	68,000
Employment Land	37,100	38,500	13,500	7,500	96,600
Rural	2,300	600	3,700	2,600	9,200
Total	75,700	68,800	26,300	18,600	189,400
2006	Burlington	Oakville	Milton	Halton Hills	Halton
Major Office	11,900	8,200	300	200	20,600
Population Related	31,600	27,400	10,300	9,700	79,000
Employment Land	41,700	43,700	15,200	8,200	108,800
Rural	2,300	600	3,800	2,700	9,400
Total	87,500	80,000	29,500	20,700	217,800
2011	Burlington	Oakville	Milton	Halton Hills	Halton
Major Office	12,400	10,700	600	200	23,900
Population Related	37,700	33,300	14,200	11,200	96,400
Employment Land	39,500	41,900	15,200	7,600	104,200
Rural	2,400	600	3,800	2,700	9,500
Total	92,000	86,400	33,800	21,700	234,000
2016	Burlington	Oakville	Milton	Halton Hills	Halton
Major Office	12,500	13,600	2,200	700	29,000
Population Related	39,100	46,600	17,400	11,600	114,700
Employment Land	43,700	42,100	16,100	8,200	110,100
Rural	2,400	600	3,800	2,700	9,500
Total	97,700	103,000	39,500	23,100	263,300
2021 Estimate	Burlington	Oakville	Milton	Halton Hills	Halton
Major Office	12,900	15,100	2,400	700	31,100
Population Related	40,100	52,400	20,700	11,900	125,100
Employment Land	45,200	43,900	17,300	9,000	115,400
Rural	2,400	600	3,900	2,700	9,600
Total	100,600	112,100	44,200	24,400	281,200

Table 45: Forecast Total Employment by Land Use Category

Forecast Total Employment by Land-Use Based Category Halton Region 2021 to 2051				
	2021	2031	2041	2051
Major Office	31,100	41,300	55,000	74,100
Population Related	125,100	146,900	177,300	209,400
Employment Land	115,400	152,000	177,700	206,400
Rural	9,600	9,800	10,000	10,100
Total	281,200	350,000	420,000	500,000

Table 46: Work at Home Employment 2021-2051

Work at Home Employment Halton Region 2021 to 2051					
	Work at Home	Census Population	Rate to Population	Total Employment	Share of Employment
2001	16,700	375,000	4.5%	189,400	8.8%
2006	20,100	439,000	4.6%	217,800	9.2%
2011	20,700	502,000	4.1%	234,000	8.8%
2016	25,700	548,000	4.7%	263,300	9.8%
2021	28,200	603,000	4.7%	281,200	10.0%
2031	34,800	744,000	4.7%	350,000	9.9%
2041	42,300	904,000	4.7%	420,000	10.1%
2051	50,000	1,068,000	4.7%	500,000	10.0%

Table 47: Employment Land Employment by Growth Concept

Employment Land Employment Growth 2021-2051 Concept 1					
2021 to 2031					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
2021 Employment Land Employment	45,200	43,900	17,300	9,000	115,400
2021-2031 Growth	700	7,100	17,800	11,000	36,600
Within Existing Designations	700	7,100	17,800	11,000	36,600
New Designations	0	0	0	0	0
Growth	700	7,100	17,800	11,000	36,600
2031 Employment Land Employment	45,900	51,000	35,100	20,000	152,000
2031 to 2041					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
2031 Employment Land Employment	45,900	51,000	33,000	22,000	152,000
2031-2041 Growth	400	6,700	8,200	9,100	24,400
Within Existing Designations	400	6,700	3,000	1,800	11,800
New Designations	0	0	5,300	7,300	12,500
Growth	400	6,700	8,300	9,100	24,300
2041 Employment Land Employment	46,300	57,700	41,300	31,100	176,300
2041 to 2051					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
2041 Employment Land Employment	46,200	57,700	41,200	31,200	176,300
2041-2051 Growth	200	2,900	11,000	12,600	26,700
Within Existing Designations	200	2,900	3,100	1,700	7,900
New Designations	0	0	7,900	10,900	18,800
Growth	200	2,900	11,000	12,600	26,700
2051 Employment Land Employment	46,400	60,600	52,200	43,800	203,000

Employment Land Employment Growth 2021-2051 Concept 2					
2021 to 2031					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
2021 Employment Land Employment	45,200	43,900	17,300	9,000	115,400
2021-2031 Growth	700	7,200	17,300	11,300	36,600
Within Existing Designations	700	7,200	17,300	11,300	36,600
New Designations	0	0	0	0	0
Growth	700	7,200	17,300	11,300	36,600
2031 Employment Land Employment	45,900	51,100	34,600	20,300	152,000
2031 to 2041					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
2031 Employment Land Employment	45,900	51,100	33,000	22,000	152,000
2031-2041 Growth	400	6,800	7,300	8,500	23,000
Within Existing Designations	400	6,800	2,400	1,700	11,300
New Designations	0	0	4,900	6,800	11,800
Growth	400	6,800	7,300	8,500	23,100
2041 Employment Land Employment	46,300	57,900	40,300	30,500	175,100
2041 to 2051					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
2041 Employment Land Employment	46,300	57,900	40,300	30,500	175,000
2041-2051 Growth	200	2,900	9,800	11,800	24,700
Within Existing Designations	200	2,900	2,400	1,600	7,100
New Designations	0	0	7,400	10,200	17,600
Growth	200	2,900	9,800	11,800	24,700
2051 Employment Land Employment	46,500	60,800	50,100	42,300	199,700

Employment Land Employment Growth 2021-2051 Concept 3					
2021 to 2031					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
2021 Employment Land Employment	45,200	43,900	17,300	9,000	115,400
2021-2031 Growth	700	7,100	17,500	11,300	36,600
Within Existing Designations	700	7,100	17,500	11,300	36,600
New Designations	0	0	0	0	0
Growth	700	7,100	17,500	11,300	36,600
2031 Employment Land Employment	45,900	51,000	34,800	20,300	152,000
2031 to 2041					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
2031 Employment Land Employment	45,900	51,000	33,000	22,000	152,000
2031-2041 Growth	400	6,600	6,800	7,800	21,700
Within Existing Designations	400	6,600	2,400	1,700	11,200
New Designations	0	0	4,400	6,100	10,500
Growth	400	6,600	6,800	7,800	21,700
2041 Employment Land Employment	46,300	57,600	39,800	29,800	173,700
2041 to 2051					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
2041 Employment Land Employment	46,300	57,700	39,800	29,900	173,700
2041-2051 Growth	200	2,800	8,900	10,800	22,700
Within Existing Designations	200	2,800	2,200	1,600	6,900
New Designations	0	0	6,600	9,200	15,800
Growth	200	2,800	8,800	10,800	22,700
2051 Employment Land Employment	46,500	60,500	48,600	40,700	196,400

Employment Land Employment Growth 2021-2051 Concept 4					
2021 to 2031					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
2021 Employment Land Employment	45,200	43,900	17,300	9,000	115,400
2021-2031 Growth	700	6,800	18,500	10,500	36,600
Within Existing Designations	700	6,800	18,500	10,500	36,600
New Designations	0	0	0	0	0
Growth	700	6,800	18,500	10,500	36,600
2031 Employment Land Employment	45,900	50,700	35,800	19,500	152,000
2031 to 2041					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
2031 Employment Land Employment	45,900	50,800	33,200	22,100	152,000
2031-2041 Growth	400	6,700	9,000	9,600	25,700
Within Existing Designations	400	6,700	3,500	2,000	12,600
New Designations	0	0	5,500	7,600	13,100
Growth	400	6,700	9,000	9,600	25,700
2041 Employment Land Employment	46,300	57,500	42,200	31,700	177,700
2041 to 2051					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
2041 Employment Land Employment	46,200	57,500	42,200	31,800	177,700
2041-2051 Growth	200	3,300	11,800	13,400	28,700
Within Existing Designations	200	3,300	3,600	2,000	9,100
New Designations	0	0	8,200	11,400	19,700
Growth	200	3,300	11,800	13,400	28,800
2051 Employment Land Employment	46,400	60,800	54,000	45,200	206,500

Table 48: Major Office Employment by Growth Concept

Major Office Employment Historic and Forecast to 2031, 2041 and 2051 Concept 1: 60% Densification/Moderate Greenfield Expansion (in the forecast, includes any "flex" office demand shifted to Major Office Employment)					
Concept 1: 60% Densification/Moderate Greenfield Expansion					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
2001	9,900	5,400	100	200	15,600
2006	11,900	8,200	300	200	20,500
2011	12,400	10,700	600	200	23,900
2016	12,500	13,600	2,200	700	28,900
2021	12,900	15,100	2,400	700	31,200
2001-2021 Major Office Job Growth	3,000	9,700	2,300	500	15,600
Share of 2021-2021 Growth	19%	62%	15%	3%	100%
Office Employment Growth Share 2021-2031	25%	58%	11%	6%	100%
Office Employment Growth 2021-2031	2,500	5,900	1,100	600	10,100
Office Employment 2031	15,500	21,000	3,500	1,300	41,300
Major Office Employment Growth Share 2031	25%	50%	15%	10%	100%
Office Employment Growth 2031-2041	3,800	7,500	2,300	1,500	15,100
Major Office Employment 2041	19,200	28,500	5,800	2,800	56,400
Major Office Employment Growth Share 2041	25%	42%	19%	14%	100%
Office Employment Growth 2041-2051	5,300	8,800	4,000	2,900	21,000
Major Office Employment 2051	24,500	37,400	9,800	5,800	77,400

Major Office Employment Historic and Forecast to 2031, 2041 and 2051 Concept 2: 70% Densification/Limited Greenfield Expansion					
(in the forecast, includes any "flex" office demand shifted to Major Office Employment)					
Concept 2: 70% Densification/Limited Greenfield Expansion					
	Burlington	Oakville	Milton	Halton Hills	Halton
2001	9,900	5,400	100	200	15,600
2006	11,900	8,200	300	200	20,500
2011	12,400	10,700	600	200	23,900
2016	12,500	13,600	2,200	700	28,900
2021	12,900	15,100	2,400	700	31,200
2001-2021 Major Office Job Growth	3,000	9,700	2,300	500	15,600
Share of 2021-2021 Growth	19%	62%	15%	3%	100%
Office Employment Growth Share 2021-2031	25%	58%	11%	6%	100%
Office Employment Growth 2021-2031	2,500	5,900	1,100	600	10,100
Office Employment 2031	15,500	21,000	3,500	1,300	41,300
Major Office Employment Growth Share 2031	25%	50%	15%	10%	100%
Office Employment Growth 2031-2041	4,100	8,200	2,500	1,600	16,400
Major Office Employment 2041	19,600	29,200	6,000	2,900	57,700
Major Office Employment Growth Share 2041	25%	42%	19%	14%	100%
Office Employment Growth 2041-2051	5,800	9,700	4,400	3,200	23,100
Major Office Employment 2051	25,300	38,900	10,400	6,200	80,800

Major Office Employment Historic and Forecast to 2031, 2041 and 2051 Concept 3: 80% Densification/Employment Only Greenfield Expansion					
(in the forecast, includes any "flex" office demand shifted to Major Office Employment)					
Concept 3: 80% Densification/Employment Only Greenfield Expansion					
	Burlington	Oakville	Milton	Halton Hills	Halton
2001	9,900	5,400	100	200	15,600
2006	11,900	8,200	300	200	20,500
2011	12,400	10,700	600	200	23,900
2016	12,500	13,600	2,200	700	28,900
2021	12,900	15,100	2,400	700	31,200
2001-2021 Major Office Job Growth	3,000	9,700	2,300	500	15,600
Share of 2021-2021 Growth	19%	62%	15%	3%	100%
Office Employment Growth Share 2021-2031	25%	58%	11%	6%	100%
Office Employment Growth 2021-2031	2,500	5,900	1,100	600	10,100
Office Employment 2031	15,500	21,000	3,500	1,300	41,300
Major Office Employment Growth Share 2031	25%	50%	15%	10%	100%
Office Employment Growth 2031-2041	4,400	8,900	2,700	1,800	17,700
Major Office Employment 2041	19,900	29,900	6,200	3,100	59,000
Major Office Employment Growth Share 2041	25%	42%	19%	14%	100%
Office Employment Growth 2041-2051	6,300	10,500	4,800	3,500	25,100
Major Office Employment 2051	26,200	40,400	11,000	6,600	84,100

Major Office Employment Historic and Forecast to 2031, 2041 and 2051 Concept 4: 50% Intensification/Greatest Greenfield Expansion					
(in the forecast, includes any "flex" office demand shifted to Major Office Employment)					
Concept 4: 50% Intensification/Greatest Greenfield Expansion					
	Burlington	Oakville	Milton	Halton Hills	Halton
2001	9,900	5,400	100	200	15,600
2006	11,900	8,200	300	200	20,500
2011	12,400	10,700	600	200	23,900
2016	12,500	13,600	2,200	700	28,900
2021	12,900	15,100	2,400	700	31,200
2001-2021 Major Office Job Growth	3,000	9,700	2,300	500	15,600
Share of 2021-2021 Growth	19%	62%	15%	3%	100%
Office Employment Growth Share 2021-2031	25.0%	58.0%	11.0%	6.0%	100.0%
Office Employment Growth 2021-2031	2,500	5,900	1,100	600	10,100
Office Employment 2031	15,500	21,000	3,500	1,300	41,300
Major Office Employment Growth Share 2031	25.0%	50.0%	15.0%	10.0%	100.0%
Office Employment Growth 2031-2041	3,400	6,900	2,100	1,400	13,700
Major Office Employment 2041	18,900	27,900	5,600	2,700	55,000
Major Office Employment Growth Share 2041	25.0%	42.0%	19.0%	14.0%	100.0%
Office Employment Growth 2041-2051	4,800	8,000	3,600	2,700	19,100
Major Office Employment 2051	23,700	35,900	9,200	5,300	74,100

Table 49: Population Related and Other Rural Employment with Historic Ratios to Population

Population-Related and Rural Employment					
Historic Estimates of Employment with Ratios to Population					
	Burlington	Oakville	Milton	Halton Hills	Halton
Population Related Employment 2001	26,400	24,300	9,000	8,300	68,000
Population Related Employment 2006	31,600	27,400	10,300	9,700	79,000
Population Related Employment 2011	37,700	33,300	14,200	11,200	96,400
Population Related Employment 2016	39,100	46,600	17,400	11,600	114,700
Population Related Employment 2021	40,100	52,400	20,700	11,900	125,100
Rural Employment 2001	2,300	600	3,700	2,600	9,300
Rural Employment 2006	2,300	600	3,800	2,700	9,400
Rural Employment 2011	2,400	600	3,800	2,700	9,500
Rural Employment 2016	2,400	600	3,800	2,700	9,600
Rural Employment 2021	2,400	600	3,900	2,700	9,600
Combined PRE and Rural 2001	28,800	24,900	12,700	10,900	77,300
Combined PRE and Rural 2006	33,900	28,000	14,000	12,300	88,300
Combined PRE and Rural 2011	40,100	33,900	18,000	13,900	105,900
Combined PRE and Rural 2016	41,500	47,200	21,200	14,300	124,200
Combined PRE and Rural 2021	42,500	53,100	24,500	14,600	134,700
2001 Census Population	150,800	144,700	31,500	48,200	375,200
2006 Census Population	164,400	165,600	53,900	55,300	439,300
2011 Census Population	175,800	182,500	84,400	59,000	501,700
2016 Census Population	183,300	193,800	110,100	61,200	548,400
Estimated 2021 Census Population	189,245	215,449	133,927	64,052	602,505
Combined PRE and Rural Ratio to Population	5.24	5.81	2.48	4.42	4.85
Combined PRE and Rural Ratio to Population	4.85	5.91	3.85	4.50	4.98
Combined PRE and Rural Ratio to Population	4.38	5.38	4.69	4.24	4.74
Combined PRE and Rural Ratio to Population	4.42	4.11	5.19	4.28	4.42
Combined PRE and Rural Ratio to Population	4.45	4.06	5.47	4.39	4.47

Table 50: Population Related and Other Rural Employment Growth by Local Municipality and Growth Concept

Population Related and Other Rural Employment Growth 2021-2031					
	Burlington	Oakville	Milton	Halton Hills	Halton
Population Related Employment 2021	40,100	52,400	20,700	11,900	124,200
Combined PRE and Rural Employment 2021	42,500	53,100	24,500	14,600	134,700
2031 Census Population	208,100	266,900	188,000	81,100	744,200
Ratio to Population at 2031	4.62	5.30	5.35	4.50	4.75
Combined PRE and Rural Growth 2016-2031	2,500	6,200	11,600	1,600	22,000
Combined PRE and Rural Employment 2031	45,000	59,300	36,200	16,200	156,700

Table 51: Population Related and Other Rural Employment Growth by Local Municipality, Concept 1

Population-Related and Rural Employment 2031 to 2041 and 2041 to 2051 by Concept					
Concept 1: 60% Densification/Moderate Greenfield Expansion					
	Burlington	Oakville	Milton	Halton Hills	Halton
Combined PRE and Rural Employment 2031	45,000	58,200	37,100	16,400	156,700
2041 Census Population	232,600	304,000	264,300	102,200	903,100
Ratio to Population at 2041	4.68	4.65	5.10	5.00	4.82
Combined PRE and Rural Growth 2031-2041	4,600	7,200	14,800	4,100	30,600
Combined PRE and Rural Employment 2041	49,600	65,400	51,800	20,400	187,300
Combined PRE and Rural Employment 2041	45,000	58,200	37,100	16,400	156,700
2051 Census Population	256,900	337,800	326,200	146,900	1,067,800
Ratio to Population at 2051	4.78	4.75	5.00	5.00	4.86
Combined PRE and Rural Growth 2041-2051	4,100	5,700	13,400	8,900	32,200
Combined PRE and Rural Employment 2051	53,800	71,100	65,200	29,400	219,500

Table 52: Population Related and Other Rural Employment Growth by Local Municipality, Concept 2

Population-Related and Rural Employment 2031 to 2041 and 2041 to 2051 by Concept					
Concept 2: 70% Densification/Limited Greenfield Expansion					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Combined PRE and Rural Employment 2031	45,000	58,200	37,100	16,400	156,700
2041 Census Population	233,500	304,100	265,800	99,800	903,100
Ratio to Population at 2041	4.68	4.65	5.10	5.00	4.82
Combined PRE and Rural Growth 2031-2041	4,800	7,200	15,000	3,600	30,600
Combined PRE and Rural Employment 2041	49,800	65,400	52,100	20,000	187,300
Combined PRE and Rural Employment 2041	45,000	58,200	37,100	16,400	156,700
2051 Census Population	262,200	348,000	325,800	131,800	1,067,800
Ratio to Population at 2051	4.79	4.75	5.00	5.00	4.86
Combined PRE and Rural Growth 2041-2051	4,900	7,900	13,100	6,400	32,200
Combined PRE and Rural Employment 2051	54,700	73,300	65,200	26,400	219,500

Table 53: Population Related and Other Rural Employment Growth by Local Municipality, Concept 3

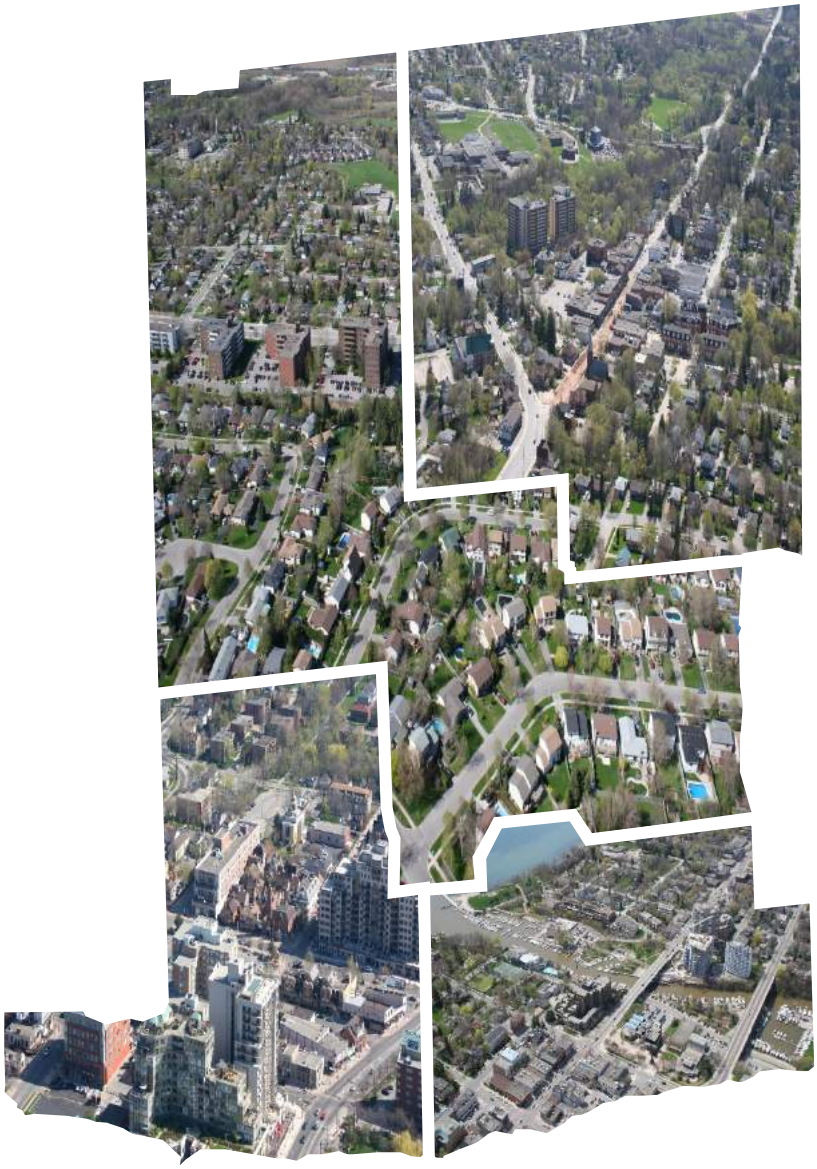
Population-Related and Rural Employment 2031 to 2041 and 2041 to 2051 by Concept					
Concept 3: 80% Densification/Employment Only Greenfield Expansion					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Combined PRE and Rural Employment 2031	45,000	58,200	37,100	16,400	156,700
2041 Census Population	234,500	311,100	260,500	97,000	903,100
Ratio to Population at 2041	4.70	4.65	5.10	5.00	4.82
Combined PRE and Rural Growth 2031-2041	4,900	8,700	14,000	3,000	30,600
Combined PRE and Rural Employment 2041	49,900	66,900	51,100	19,400	187,300
Combined PRE and Rural Employment 2041	45,000	58,200	37,100	16,400	156,700
2051 Census Population	266,700	368,200	323,700	109,100	1,067,700
Ratio to Population at 2051	4.81	4.75	5.00	5.00	4.86
Combined PRE and Rural Growth 2041-2051	5,500	10,600	13,700	2,400	32,200
Combined PRE and Rural Employment 2051	55,400	77,500	64,700	21,800	219,500

Table 54: Population Related and Other Rural Employment Growth by Local Municipality, Concept 4

Population-Related and Rural Employment 2031 to 2041 and 2041 to 2051 by Concept					
Concept 4: 50% Intensification/Greatest Greenfield Expansion					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Combined PRE and Rural Employment 2031	45,000	58,200	37,100	16,400	156,700
2041 Census Population	228,800	297,100	269,300	108,600	903,800
Ratio to Population at 2041	4.68	4.65	5.10	5.00	4.83
Combined PRE and Rural Growth 2031-2041	3,800	5,700	15,700	5,300	30,600
Combined PRE and Rural Employment 2041	48,900	63,900	52,800	21,700	187,300
Combined PRE and Rural Employment 2041	45,000	58,200	37,100	16,400	156,700
2051 Census Population	251,300	324,900	319,800	171,900	1,067,900
Ratio to Population at 2051	4.76	4.75	5.00	5.00	4.86
Combined PRE and Rural Growth 2041-2051	3,900	4,500	11,200	12,700	32,200
Combined PRE and Rural Employment 2051	52,800	68,400	64,000	34,400	219,500

Table 55: Total Employment and Activity Rate in Halton by Concept

Total Employment and Activity Rate for Four Concepts					
Total Employment					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
2001	75,700	68,800	26,300	18,600	189,400
2006	87,500	80,000	29,500	20,700	217,700
2011	92,000	86,400	33,800	21,700	233,900
2016	97,700	103,000	39,500	23,100	263,300
2021	100,600	112,100	44,200	24,400	281,300
2031	106,400	130,200	75,600	37,700	349,900
2041 Concept 1	115,200	151,700	99,000	54,200	420,100
2051 Concept 1	124,700	169,100	127,700	78,400	499,900
2041 Concept 2	111,600	144,400	96,000	51,600	403,600
2051 Concept 2	120,800	163,300	121,800	71,200	477,100
2041 Concept 3	116,100	154,400	97,300	52,100	419,900
2051 Concept 3	128,100	178,500	124,800	68,600	500,000
2041 Concept 4	114,100	149,300	100,800	55,900	420,100
2051 Concept 4	122,900	165,100	127,500	84,400	499,900
Activity Rate					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
2001	50.2%	47.5%	83.5%	38.6%	50.5%
2006	53.2%	48.3%	54.7%	37.4%	49.6%
2011	52.3%	47.3%	40.0%	36.8%	46.6%
2016	53.3%	53.1%	35.9%	37.7%	48.0%
2021	53.2%	52.0%	33.0%	38.1%	46.7%
2031	51.3%	49.7%	39.2%	46.0%	46.6%
2041 Concept 1	49.5%	49.9%	37.5%	53.0%	46.5%
2051 Concept 1	48.5%	50.1%	39.1%	53.4%	55.4%
2041 Concept 2	48.0%	47.5%	36.3%	50.5%	44.7%
2051 Concept 2	47.0%	48.3%	37.3%	48.5%	52.8%
2041 Concept 3	49.9%	50.8%	36.8%	51.0%	46.5%
2051 Concept 3	49.9%	52.8%	38.3%	46.7%	55.4%
2041 Concept 4	49.1%	49.1%	38.1%	54.7%	46.5%
2051 Concept 4	47.8%	48.9%	39.1%	57.5%	55.4%



Appendix C.1

Employment Area Conversion Request Inventory

February 2021

Regional Official Plan Review

Halton REGION

Appendix C1 – Employment Area Conversion Request Inventory & Mapping

This document provides an inventory of the conversion requests received by Halton Region as part of the Regional Official Plan Review process. It is an updated version of Appendix E to the Regional Urban Structure Discussion Paper which identified requests received as of March 30, 2020. This document includes requests received by Halton Region by the August 31, 2020 deadline set out in the Regional Urban Structure Discussion Paper. The Initial Assessment of these requests is summarized in Appendix C2.

Conversion Request Inventory

ID	Address / Reference	Location	Request Description	Request Source	Area (ha)
	City of Burlington				
B-01	238 Sumach Drive	The subject property is located on the south side of the intersection of Sumach Drive and Lemonville Road.	A request to remove lands from the Regional Employment Area Overlay to enable a residential designation.	City of Burlington PB-04-18 Appendix D – Item A	1.5
B-02	1077 Howard Road 1070 Waterdown Road	The subject properties are generally located on the west side of Waterdown Road, north of Plains Road West, south of the railway corridor, and east of Howard Road.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	City of Burlington PB-04-18 Appendix D – Item B	10.2
B-03	1020 Emery Avenue	The subject property is generally located west of the northern terminus of Emery Avenue.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	City of Burlington PB-04-18 Appendix D – Item C	1.4
B-04	1021 Emery Avenue	The subject property is generally located east of the northern terminus of Emery Avenue.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	PB-04-18 Appendix D – Item D	1.7
B-05[1]	Part of 1200 King Road (Western Portion)	The subject property is located on the west side of King Road, south of Highway 403 and north of the railway corridor.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	City of Burlington PB-04-18 Appendix D – Item E	0.5
B-06	2070, 2078, 2082, 2090, 2120 Queensway Drive	The subject properties are located on the south side of Queensway Drive,	A request to remove lands from the Regional Employment Area Overlay	City of Burlington PB-04-18 Appendix D – Item F	8.4

ID	Address / Reference	Location	Request Description	Request Source	Area (ha)
		generally east of Brant Street and north of the railway corridor.	to enable mixed use or other non-employment designations.		
B-07	2150, 2170, 2176, 2182, 2188, 2196, 2204 Queensway Drive	The subject properties are located on the south side of Queensway Drive, generally east of the Burlington GO parking lot, north of the railway corridor.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	City of Burlington PB-04-18 Appendix D – Item G	6.9
B-08	2258 Mountainside Drive	The subject property is located on the southeast corner of Mountainside Drive and Pettit Road.	A request to remove lands from the Regional Employment Area Overlay to enabled a mixed use or other non-employment designation.	City of Burlington PB-04-18 Appendix D – Item H	0.4
B-09	North Service Road / Industrial Street	The subject properties are generally located on the north side of North Service Road on the north and south sides of Industrial Street.	A request to remove lands from the Regional Employment Area Overlay to recognize an existing commercial designation.	City of Burlington PB-04-18 Appendix D – Item I	3.7
B-10	101 Masonry Court	The subject property is located on the north side of Masonry Court, south of the railway corridor and east of Waterdown Road.	A request to remove lands from the Regional Employment Area Overlay to recognize an existing mixed use designation.	City of Burlington PB-04-18 Appendix D – Item J	1.5
B-11	800 Burloak Drive	The subject property is located west of Burloak Drive, south of the railway corridor, east of open space and north of the hydro corridor.	A request to remove lands from the Regional Employment Area Overlay to enable a mixed use or other non-employment designation.	City of Burlington PB-04-18 Appendix D – Item K	2.0
B-12	1032, 1035, 1060 Howard Road	The subject properties are located on the east and west sides of Howard Road, north of Plains Road West.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	City of Burlington PB-04-18 Appendix D – Item L	6.8
B-13	1140, 1160, 1199 Waterdown Road	The subject properties are located on the west side of Waterdown Road south of the railway corridor and on the east side of Waterdown Road north of the railway corridor.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	City of Burlington PB-04-18 Appendix D – Item M	7.7

ID	Address / Reference	Location	Request Description	Request Source	Area (ha)
B-14	121 Masonry Court	The subject property is located at the eastern terminus of Masonry Court, generally south of the railway corridor.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	City of Burlington PB-04-18 Appendix D – Item N	9.2
B-15	Part of 1150 King Road	The subject property is located north and south of the railway corridor, south of Highway 403, east of Waterdown Road, and west of King Road.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	City of Burlington PB-04-18 Appendix D – Item O	2.7
B-16	3270 Harrison Crescent	The subject property is generally located east of Appleby Line, west of the railway corridor, north of the hydro corridor, and south of Highway 407.	A request to remove lands from the Regional Employment Area Overlay to recognize an existing commercial designation.	City of Burlington PB-04-18 Appendix D – Item P	4.3
B-17	901 Guelph Line	The subject property is located south of Harvester Road and east of Guelph Line.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Emshih Developments Inc.	6.4
B-18	4103 Palladium Way	The subject property is located northeast of Walkers Line and Palladium Way south of Highway 407.	A request to remove lands from the Regional Employment Area Overlay to enable a retirement residence.	Better Life Retirement Residence Inc.	1.5
B-19	3309 Harrison Court	The subject property is located northeast of Appleby Line along Harrison Court.	A request to remove lands from the Regional Employment Area Overlay to enable non-employment designations.	Penta Properties Inc.	2.6
B-20	4450-4480 Paletta Court	The subject properties are located on Paletta Court southwest of Appleby Line and the QEW Highway.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Penta Properties Inc.	7.6
B-21[1]	Bronte Creek Meadows	The subject properties are located in the area general bounded by Upper Middle Road, Burloak Drive, Mainway, and Sheldon Creek.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations, inclusive of employment uses.	Penta Properties Inc.	71.5

ID	Address / Reference	Location	Request Description	Request Source	Area (ha)
B-22[1]	1200 King Road (Eastern Portion)	The subject property is located on the west side of King Road, south of Highway 403 and north of the railway corridor.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Penta Properties Inc.	16.8
	Town of Halton Hills				
HH-01	153, 159, 165, 173 Perth Street	The subject properties are located northwest of the intersection of Perth Street and Wallace Street.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Town of Halton Hills PD-2020-0006 Employment Needs Assessment – PC-2	3.8
HH-02	12 Wallace Street	The subject property is located northwest of the intersection of Main Street East and Wallace Street.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Town of Halton Hills PD-2020-0006 Employment Needs Assessment – PC-3	0.3
HH-03	344 Guelph Street	The subject property is located on Guelph Street where it intersects with Armstrong Avenue.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Town of Halton Hills PD-2020-0006 Employment Needs Assessment – PC-6	2.3
	Town of Milton				
M-01	Milton Education Village (Multiple Properties)	The subject properties are within the Milton Education Village area as identified by the Town, generally located north of Britannia Road, east of the Greenbelt Plan area, south of Derry Road, and west of Tremaine Road. The conversion request pertains to areas north and south of the MEV area.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Town of Milton PD-042-18	88.0
M-02	Agerton (Multiple Properties)	The subject properties are within the Agerton Employment Secondary Plan area as identified by the Town, and are generally located south of Highway 401, west of Eighth Line,	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Town of Milton Draft Agerton Secondary Plan	159.6

ID	Address / Reference	Location	Request Description	Request Source	Area (ha)
		south of the railway corridor, east of Sixth Line, and north of Derry Road.			
M-03	Meritor Lands (Multiple Properties)	The subject property is the former Meritor Suspension Systems Company and is generally located southwest of the intersection of Martin Street and Steeles Avenue East.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Town of Milton PD-011-19	11.0
M-04	Bronte/Main Lands (Multiple Properties)	The subject properties are located on the south side of Steeles Avenue West, north of Main Street East, bisected by Bronte Street North.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Town of Milton (Staff Comment via IGMS Consultation Process, 2019-04-17)	5.6
M-05	Maple Avenue Major Commercial	The subject properties are located on the north side of Maple Avenue, generally south of Highway 401 and east of Thompson Road North.	A request to remove lands from the Regional Employment Area Overlay to recognize an existing commercial designation.	Town of Milton (Staff Comment via IGMS Consultation Process, 2020-01-29)	15.7
M-06	Steeles Avenue East Major Commercial	The subject properties are located on the south side of Steeles Avenue East, generally north of Highway 401 and west of James Snow Parkway North.	A request to remove lands from the Regional Employment Area Overlay to recognize an existing commercial designation.	Town of Milton (Staff Comment via IGMS Consultation Process, 2020-01-29)	20.3
M-07	405 Martin Street	The subject property is located at the southeast intersection of Martin Street and Steeles Avenue East.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Town of Milton (Staff Comment via IGMS Consultation Process, 2020-01-29)	0.5
M-08	Bronte Street South Lands	The subject properties are located north of Derry Road, west of Bronte Street South, and west of the railway corridor.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Town of Milton (Staff Comment via IGMS Consultation Process, 2020-01-29)	25.0
M-09	Fifth Line Farm	The subject property is located east of Fifth Line, south of Derry Road, and north of Britannia Road.	A request to remove lands from the Regional Employment Area Overlay to enable a place of worship.	Fifth Line Farming Ltd. (Mattamy)	4.8

ID	Address / Reference	Location	Request Description	Request Source	Area (ha)
M-10	170 Steeles Avenue West	The subject property is located at the southwest corner of Steeles Avenue West and Martin Street.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Town of Milton (Staff Letter via IGMS Consultation Process, 2020-10-27)	2.6
	Town of Oakville				
O-01	677 Burloak Drive	The subject property is located southeast of the intersection of Burloak Drive and Wyecroft Road.	A request to remove the lands from the Regional Employment Area Overlay to enable a commercial designation.	Town of Oakville 2018-04-16 Report – Appendix F, Item 5	5
O-02	337, 353 Burnhamthorpe Road West	The subject properties are located east of Neyagawa Boulevard, north of Burnhamthorpe Road West, and south of Highway 407.	A request to remove lands from the Regional Employment Area Overlay to enable a mixed use designation.	Town of Oakville 2018-04-16 Report – Appendix F, Item 8	12.6
O-03	240 Leighland Avenue	The subject property is the shopping mall known as Oakville Place located west of Trafalgar Road and north of the Queen Elizabeth Way.	A request to remove lands from the Regional Employment Area Overlay to recognize an existing commercial designation. It is noted that while these lands were included in the Midtown Core Employment District of the Town's Official Plan, they were never designated locally for employment uses.	Town of Oakville 2018-04-16 Report – Appendix F, Item 19 - RioCan Oakville Place	11.7
O-04	Upper Middle Road / Ninth Line	The subject property is located north of Upper Middle Road and west of Ninth Line.	A request to remove lands from the Regional Employment Area Overlay to recognize an existing private open space designation.	Town of Oakville 2018-04-16 Report – Appendix F, Item 20 - Infrastructure Ontario	10.1
O-05[1]	Palermo Village	The subject property is located northwest of the intersection of Dundas Street West and Bronte Road.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Town of Oakville (Staff Comment via IGMS Consultation Process, 2019-04-12)	32.3

ID	Address / Reference	Location	Request Description	Request Source	Area (ha)
O-06	Bronte GO MTSA (Multiple Properties)	The subject properties are those within the boundary of the proposed Bronte GO MTSA.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Town of Oakville (Staff Comment via IGMS Consultation Process, 2019-04-12)	149.8
O-07	Hospital District (Multiple Properties)	The subject properties are located within part of the Hospital District as identified by the Town of Oakville, north of Dundas Street West, east of Hospital Gate, north and south of William Halton Parkway West, and bisected by Third Line.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Town of Oakville (Staff Comment via IGMS Consultation Process, 2019-04-12)	56
O-08	Speers Road Corridor (Multiple Properties)	The subject properties are within the Speers Road Corridor area as identified by the Town, generally located south of the railway tracks and north of the residential areas between Bronte Creek and the Kerr Village Growth Area.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Town of Oakville (Staff Comment via IGMS Consultation Process, 2019-04-12)	147.9
O-09	Winston Park Core Commercial (Multiple Properties)	The subject properties are within the Winston Park Core Commercial Area as identified by the Town, generally located south of Dundas Street East, east of Highway 403, west of Winston Churchill Boulevard, and north of Bristol Court.	A request to remove lands from the Regional Employment Area Overlay to recognize existing commercial designations.	Town of Oakville (Staff Comment via IGMS Consultation Process, 2019-04-12)	29.8
O-10	Burloak Core Commercial (Multiple Properties)	The subject properties are within the Burloak Core Commercial Area as identified by the Town, generally located north of Wyecroft Road, east of Burloak Drive, and south of Red Oak Boulevard and South Service Road West.	A request to remove lands from the Regional Employment Area Overlay to recognize existing commercial designations.	Town of Oakville (Staff Comment via IGMS Consultation Process, 2019-04-12)	26.8
O-11	497-513 Pinegrove Road	The subject property is located on the north side of Pinegrove Road and is	A request to remove lands from the Regional Employment Area Overlay	Town of Oakville	0.8

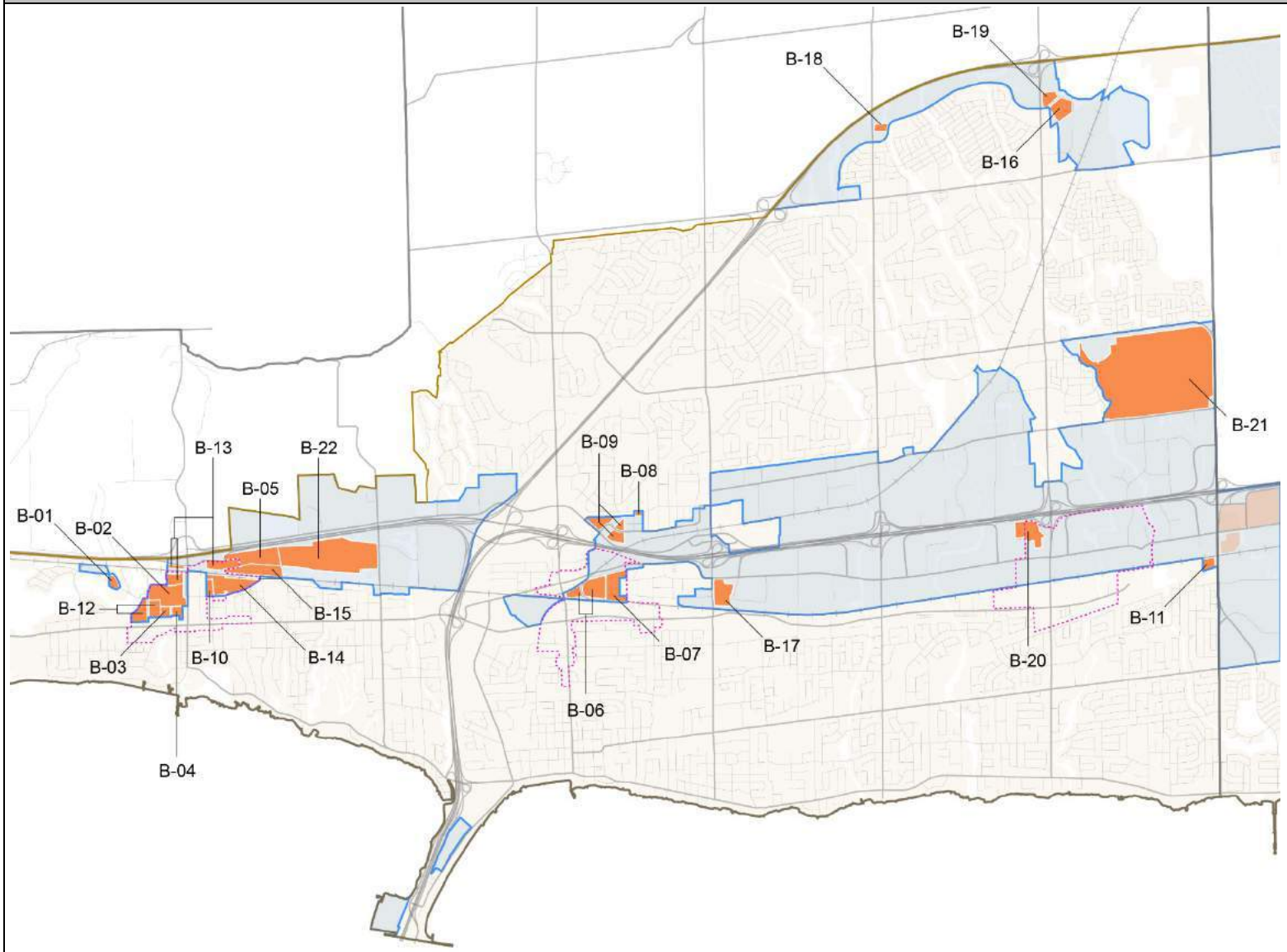
ID	Address / Reference	Location	Request Description	Request Source	Area (ha)
		known generally as the Pinegrove Plaza.	to recognize an existing commercial designation.	(Staff Comment via IGMS Consultation Process, 2019-04-12)	
O-12	Winston Park West Open Space and Natural Area	The subject area is within the part of the Winston Park West area generally located north of Upper Middle Road East and west of Ninth Line.	A request to remove lands from the Regional Employment Area Overlay to recognize an existing private open space designation.	Town of Oakville (Staff Comment via IGMS Consultation Process, 2019-04-12)	14.7
O-13	Winston Park West Core Commercial (Multiple Properties)	The subject properties are located on the southeast and southwest corners of Dundas Street East and Ninth Line within the Winston Park West Core Commercial Area as identified by the Town.	A request to remove lands from the Regional Employment Area Overlay to recognize existing commercial designations.	Town of Oakville (Staff Comment via IGMS Consultation Process, 2019-04-12)	7.5
O-14	584 Ford Drive	The subject property is located at the southwest corner of Cornwall Road and Ford Drive.	A request to remove lands from the Regional Employment Area Overlay to recognize an existing commercial designation.	Town of Oakville (Staff Comment via IGMS Consultation Process, 2019-04-12)	1.5
O-15	Part of Lot 8, Concession 2 N.D.S	The subject property is generally located north of Burnhamthorpe Road East, south of Highway 407, east of Trafalgar Road, and west of Ninth Line.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	T.L.M.T.T. Ontario Ltd. (Private Submission)	6.8
O-16	Winston Churchill / Sheridan Garden Drive	The subject properties are generally located south of Sheridan Garden Drive and west of Winston Churchill Boulevard.	A request to remove lands from the Regional Employment Area Overlay to recognize an existing commercial designation.	Town of Oakville (Staff Comment via IGMS Consultation Process, 2020-01-29)	1.9
O-17	Sixth Line / Burnhamthorpe Road	The subject properties are located north of Burnhamthorpe Road on the west and east sides of Sixth Line.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Town of Oakville (Staff Comment via IGMS Consultation Process, 2020-01-29)	6.1
O-18	3164 Ninth Line	The subject property is located south of Burnhamthorpe Road and west of Ninth Line.	A request to remove lands from the Regional Employment Overlay to enable the lands to be designated for use as a cemetery.	Arbor Memorial Inc.	9.3

ID	Address / Reference	Location	Request Description	Request Source	Area (ha)
O-19	263 Burnhamthorpe Road West	The subject property is located north of Burnhamthorpe Road West between Neyagawa Boulevard and Sixth Line.	A request to remove lands from the Regional Employment Area Overlay to enable non-employment designations.	Cynthia Lynch	19.9
O-20	Dundas / McCraney Creek	The subject property is located north of Dundas Street West, west of McCraney Creek, east of Palermo Park, and south of William Halton Parkway.	A request to remove lands from the Regional Employment Area Overlay to enable a mix of commercial uses.	Fieldgate Commercial Properties	24.2
O-21	1265 Burnhamthorpe Road East	The subject property is located along Burnhamthorpe Road East, south of Highway 407 and William Halton Parkway East.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Marko & Mica Mesic	2.0
O-22	Burnhamthorpe / Neyagawa (Northwest Quadrant)	The subject property is located northwest of Burnhamthorpe Road West and Neyagawa Boulevard	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Fieldgate Commercial Properties	11.3
O-23	3515-3545 Rebecca Street	The subject property islocated at the northeast corner of Burloak Drive and Rebecca Street.	A request to remove lands from the Regional Employment Area Overlay to enable mixed use or other non-employment designations.	Burloak Market Place Partnership	3.1

Notes

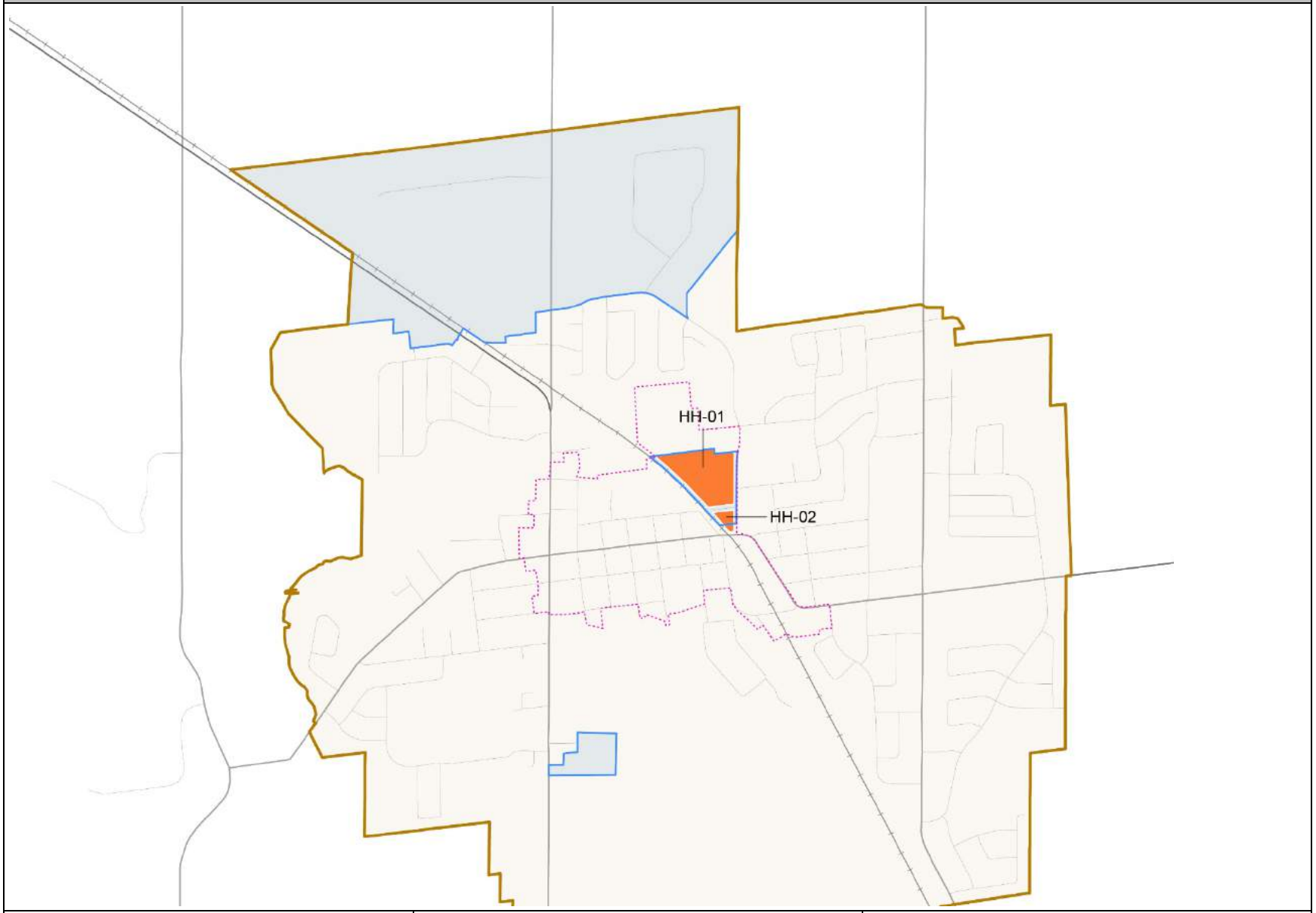
[1] – Lands identified as Requests B-05, B-22, and O-05 are subject to a site-specific appeals of Regional Official Plan Amendment No. 38, see LPAT Case No. PL 111358

Conversion Request Mapping – City of Burlington

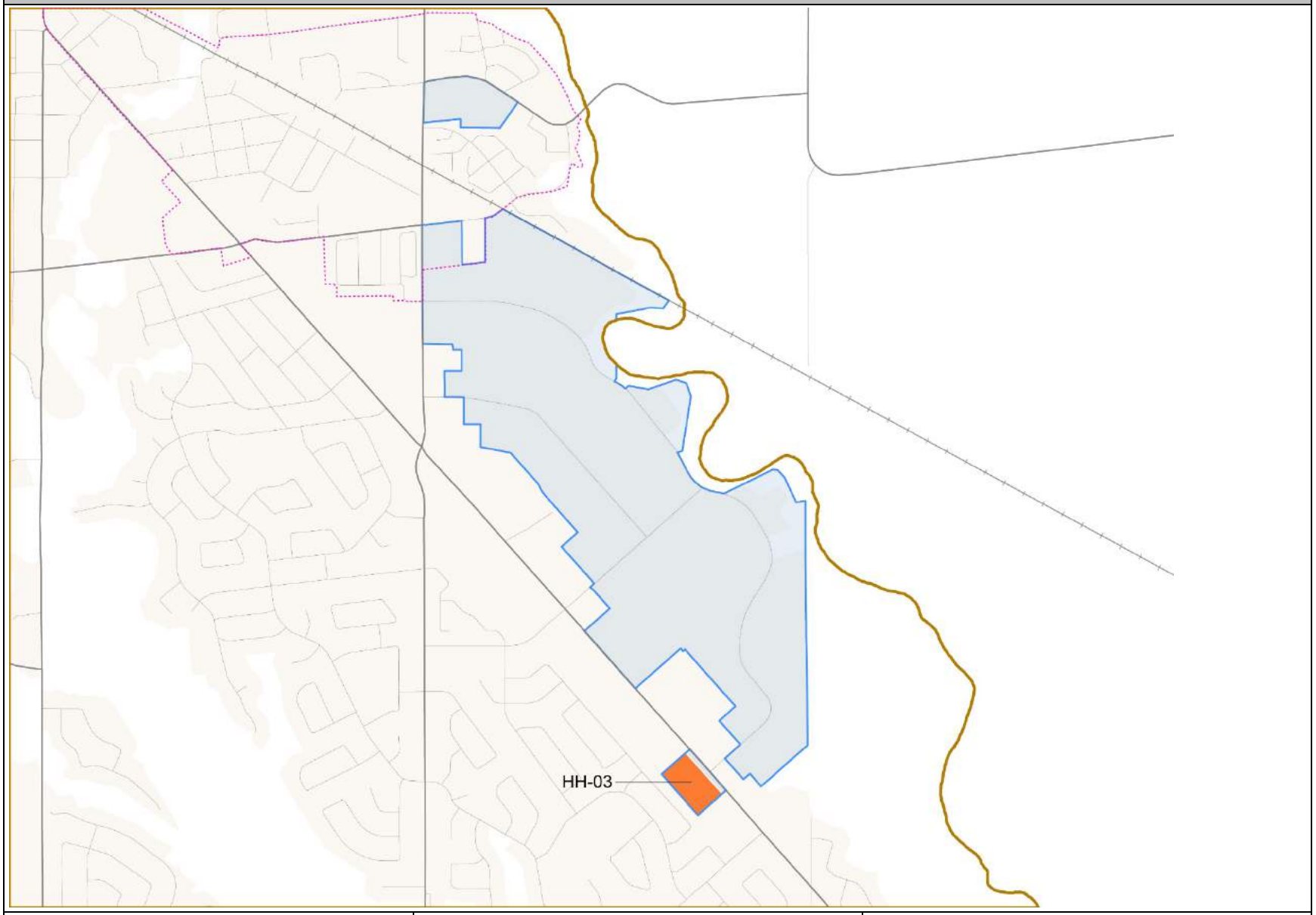


Employment Area Conversion Request	Regional Employment Area Overlay (IGMS)	Proposed UGC and/or MTSA Boundary

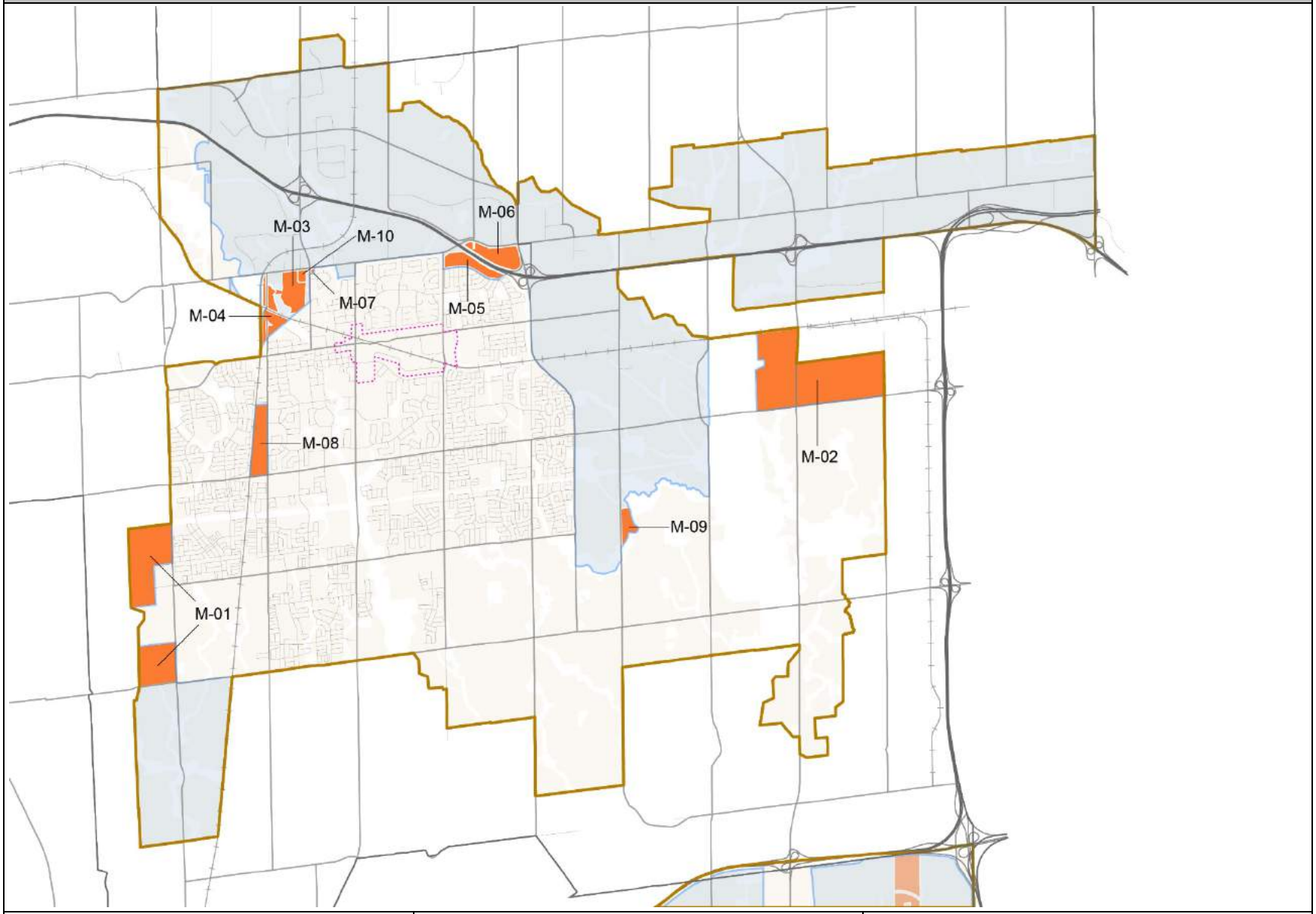
Conversion Request Mapping – Town of Halton Hills (Acton)



Conversion Request Mapping – Town of Halton Hills (Georgetown)

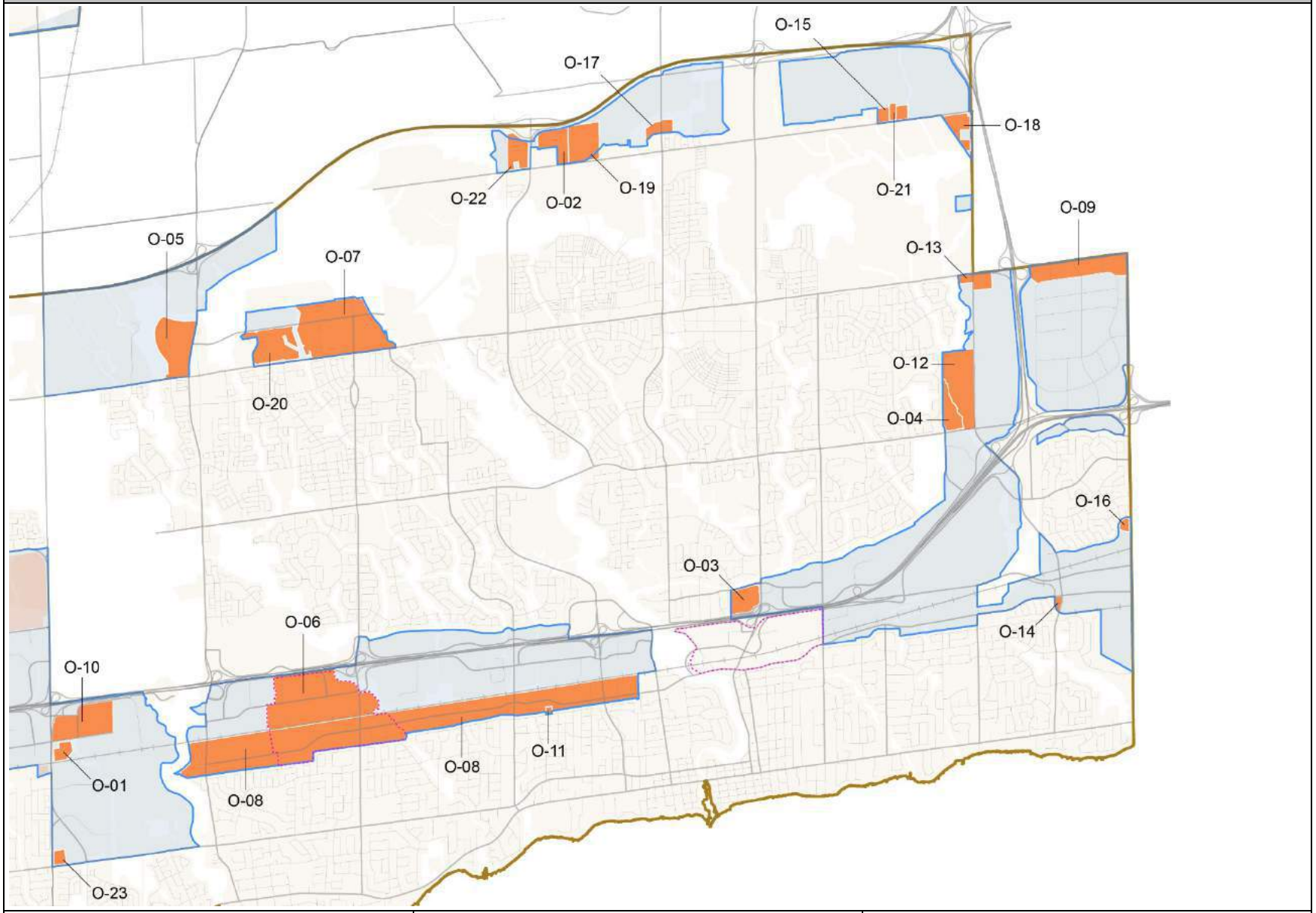


Conversion Request Mapping – Town of Milton

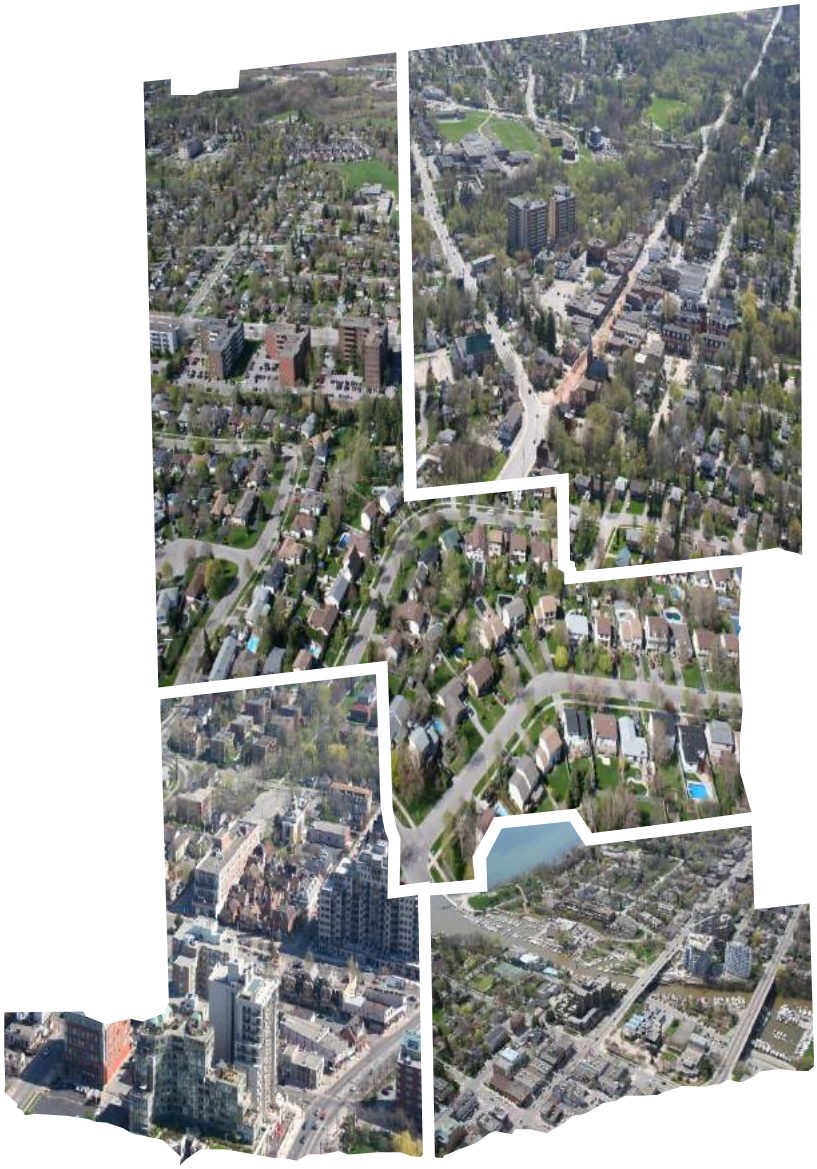


Employment Area Conversion Request	Regional Employment Area Overlay (IGMS)	Proposed UGC and/or MTSA Boundary

Conversion Request Mapping – Town of Oakville



Employment Area Conversion Request	Regional Employment Area Overlay (IGMS)	Proposed UGC and/or MTSA Boundary



Appendix C.2

Employment Area Conversion Initial Assessment Summary

February 2021

Regional Official Plan Review

Halton Region

Appendix C2 – Employment Area Conversions: Initial Assessments Summary

Overview

As described in the Regional Urban Structure Discussion Paper (June 2020), the Regional Official Plan Review (ROPR) and its municipal comprehensive review process provides an opportunity to consider requests to convert lands within the Regional Employment Areas identified in the Regional Official Plan. The requests received as part of the ROPR are documented in Appendix C1. This document, Appendix C2, summarizes the results of the initial assessment of these requests.

The assessments were undertaken in accordance with the evaluation criteria as set out in Section 4.3.2.1 of the Regional Urban Structure Discussion Paper, including the four Principles below which are based on Provincial and Regional planning policies:

- **A. Employment Land Supply**
  The supply of land required for employment purposes to the 2051 planning horizon and the ability to achieve Regional employment targets will not be adversely affected by the proposed conversion.
- **B. Demonstrated Need**
  There is a demonstrated need for the proposed conversion on the basis that it would enable a strategic opportunity for growth that supports the Regional Urban Structure and/or Local Urban Structure, or, on the basis that there are specific existing conditions or constraints associated with the subject lands that reduce or limit the opportunity for employment uses.
- **C. Employment Area Viability**
  The overall viability of an employment area will not be adversely affected by the proposed conversion.
- **D. General Considerations**
  The proposed conversion does not compromise any other relevant Regional or Local objective, policy or requirement, financial or otherwise, and can be supported by existing or planned infrastructure and public service facilities.

Each conversion request was assessed against these four Principles, supported by information in the submissions received and a review of the detailed assessment considerations identified in the Regional Urban Structure Discussion Paper. On this basis, an assessment was made as to whether the request met the Principle, did not meet the Principle, or if further analysis was required to make a determination. The resulting overall assessment of each request was made as follows:

- **Not Supported** (✗) – the assessment identified one or more of the Principles as not met;
- **Supported** (✓) – the assessment identified all of the Principles as met;
- **Further Analysis** (✳) – the assessment did not identify any Principle as not met and identified one or more Principles as requiring Further Analysis.

In addition to identifying the result of the Initial Assessment, the component of the Integrated Growth Management Strategy (IGMS) process that the conversion will be implemented through is also identified. For requests are supported, this includes the Initial Scoped Regional Official Plan Amendment (ROPA) or the Preferred Growth Concept. The requests that require further analysis are either tested as part of the Growth Concepts or subject to further evaluation on their own merit. The requests that are not supported are not recommended to advance as part of the IGMS.

Reading This Document

The Initial Assessments of the conversion requests identified in Appendix C1 are documented below. The requests are organized by municipality. In certain instances, requests are grouped together for the purpose of analysis due to their functional relationship and proximity. Each Initial Assessment consists of two pages. The first provides a contextual map as well as high-level summary information related to the request. Please note the following when reviewing the summary information:

- The context maps can be read in accordance with the following legend:

	Employment Area Overlay		Conversion Request Subject Lands
	Urban Area		Proposed UGC or MTSA Boundary
	Regional Natural Heritage System		

- The area in hectares referenced for each request is the area of the subject lands less the area within the Regional Natural Heritage System (RNHS) designation currently identified in the Regional Official Plan.

- References to local official plan designations are sourced from the City of Burlington's Official Plan as approved by Halton Region in 2020 (subject to appeals); the Town of Halton Hills Official Plan (May 1, 2019 Consolidation); the Town of Milton's Official Plan as modified by OPA 31; and, the Town of Oakville's Livable Oakville Plan (August 28, 2018 Consolidation and subsequent amendments) and the North Oakville West and East Secondary Plans.

Next Steps

A period of public consultation will follow Regional Council's consideration of the Growth Concepts Discussion Paper. This consultation window will provide an opportunity for Regional staff and stakeholders to discuss the Initial Assessments and determine whether any adjustments or changes are required for a final recommendation.

It is noted that in addition to the consideration of conversion requests, a review of the policy framework that applies to the Regional Employment Areas will occur through Phase 3 of the Regional Official Plan Review process. It is also noted that the assessment through the IGMS process considers the appropriateness of continuing to include the subject lands within the Regional Employment Areas. Support for a conversion in this document does not indicate support for a specific development or designation, which would be subject to consideration through a local planning process.

City of Burlington

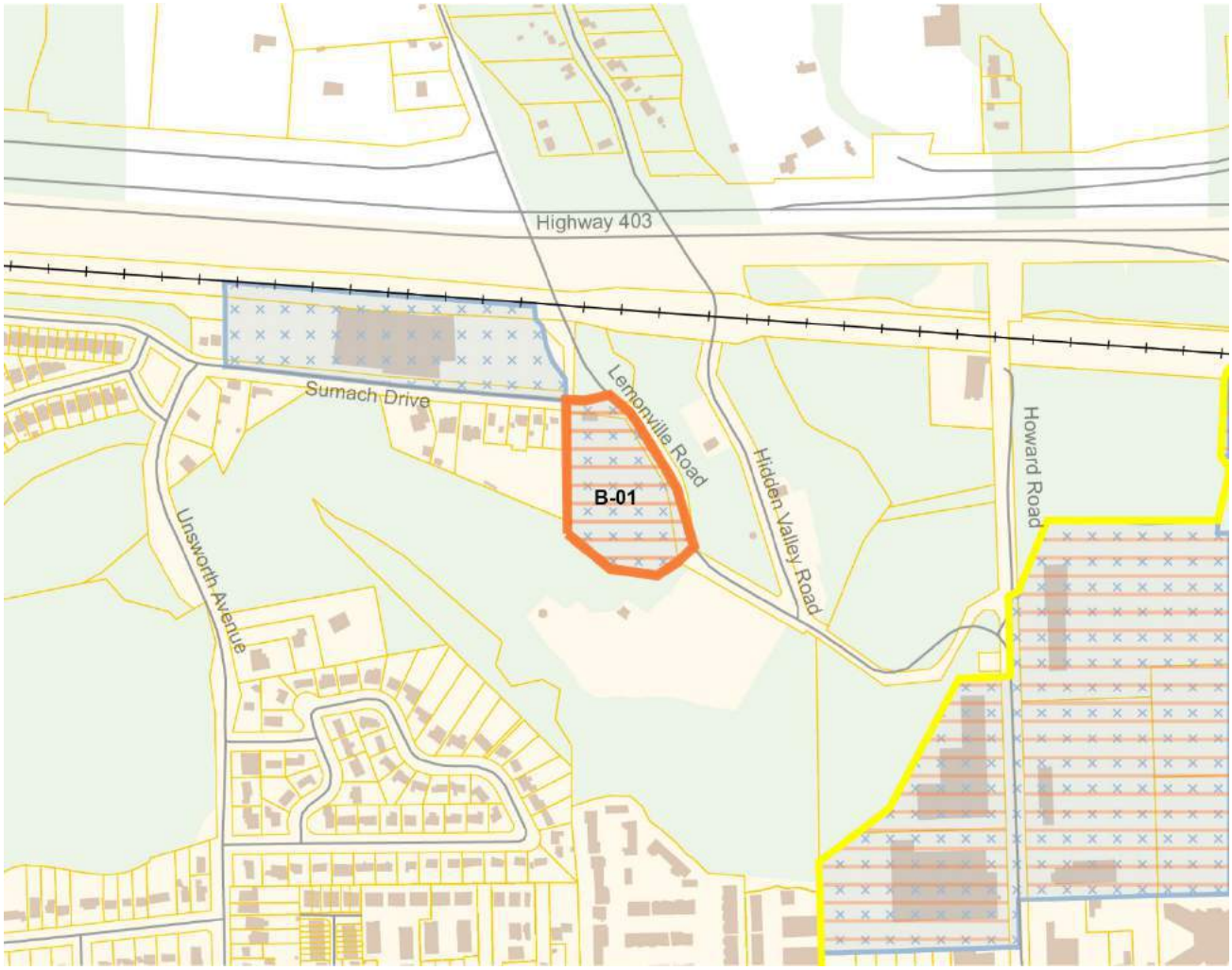
Summary of the Initial Assessment of Employment Conversion Requests within the City of Burlington

No.	Reference Name	Initial Assessment	Principle				IGMS Implementation Process	Page
			A	B	C	D		
B-01	238 Sumach Drive	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA	2-3
B-08	2258 Mountainside Drive	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA	4-5
B-09	North Service Road / Industrial Street	**Supported**	✓	✓	✓	✓	Preferred Growth Concept	6-7
B-11	800 Burloak Drive	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA	8-9
B-16	3270 Harrison Crescent	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA	10-11
B-17	901 Guelph Line	**Not Supported**	×	×	×	×	Not Recommended to Advance	12-13
B-18	4103 Palladium Way	**Further Analysis**	✓	✓	✳	✳	To Be Determined	14-15
B-19	3309 Harrison Court	**Not Supported**	×	×	×	×	Not Recommended to Advance	16-17
B-20	4450-4480 Paletta Court	**Not Supported**	×	×	×	×	Not Recommended to Advance	18-19
B-21	Bronte Creek Meadows	**Not Supported**	×	×	×	×	Not Recommended to Advance	20-21
B-22	1200 King Road (Eastern Portion)	**Not Supported**	×	×	×	×	Not Recommended to Advance	22-23
Multiple [1]	1150 & 1200 King Road (Western Portion)	**Further Analysis**	✳	✳	✳	✳	To Be Determined	24-25
Multiple [2]	Aldershot GO MTSA	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA	26-27
Multiple [3]	Downtown Burlington UGC / Burlington GO MTSA	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA	28-29

Notes

[1] – Includes Requests B-05 and B-15, the western portions of 1150 and 1200 King Road within the City's MTSA Special Planning Area
[2] – Includes Requests B-02, B-03, B-04, B-10, B-12, B-13, and B-14 within the Aldershot GO MTSA Boundary
[3] – Includes Requests B-06 and B-07 within the Downtown Burlington UGC / Burlington GO MTSA Boundary

Request B-01 – 238 Sumach Drive



Summary

The subject lands are located south of Highway 403 and west of Lemonville Road along Sumach Drive and are currently vacant. The removal of the lands from the Regional Employment Area is requested in order to enable a residential redevelopment of the lands.

Proponent

NovaCare Communities Corporation / City of Burlington (see: Item A in Appendix D to PB-04-18)

Location	**Size**	**Local OP Designations**
238 Sumach Drive	1.5 hectares	General Employment
Existing Uses	**PSEZ**	**Adjacent Uses**
Vacant	No	Employment uses (north), open space (south and east), residential uses (west).

Recommendation – Request B-01		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – Request B-01		
A Employment Land Supply	✓	• Given the small size of the subject lands and their limited potential to support employment growth, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on site-specific constraints that are unique to the site, including locational and physical constraints that would limit the ability to accommodate certain kinds of employment over the long-term.
C Employment Area Viability	✓	• The subject lands are located at the periphery of a small Regional Employment Area identified along the north side of Sumach Drive and their removal would result in a more logical boundary for the Regional Employment Area. • Given the existing conditions, whereby residential uses exist on the south side of Sumach Drive and west of the subject lands, as well as the local zoning which only permits a limited range of employment uses that are compatible with residential uses, no significant impacts to the ongoing viability of the remaining Regional Employment Area are expected.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • Given the small-scale of the subject lands, existing or planned infrastructure and public service facilities are expected to support the conversion request. • The request was supported by the City of Burlington as set out in Appendix D to PB-04-18.

Request B-08 – 2258 Mountainside Drive

Summary

The subject lands are located north of Industrial Street, west of Stanley Drive and east of Pettit Road, along Mountainside Drive and are currently occupied by employment uses. The removal of the lands from the Regional Employment Area is requested in order to facilitate a mixed use redevelopment for employment and residential uses.

Proponent

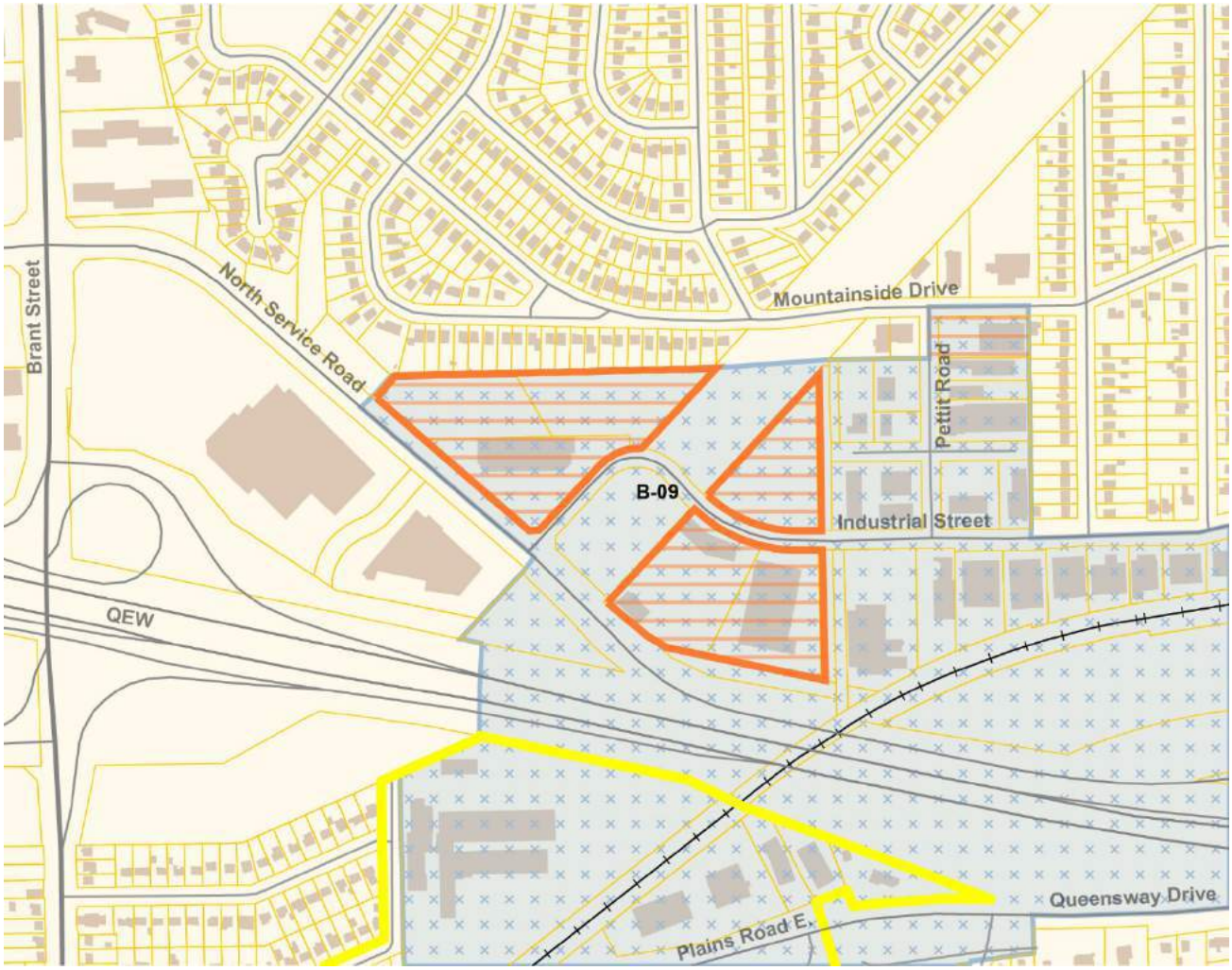
1053052 Ontario Inc. o/a Fresco Investments / City of Burlington (see: Item H in Appendix D to PB-04-18)

Location	**Size**	**Adjacent Uses**
2258 Mountainside Drive	0.4 hectares	Place of worship, residential, and commercial (north), residential (east), employment (south), commercial (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Light Industrial	Yes	General Employment

Recommendation – Request B-08		
Support	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – Request B-08		
A Employment Land Supply	✓	• Given the small size of the subject lands and their potential to continue to accommodate employment following a conversion, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on both site-specific conditions as well as strategic considerations. • The conversion would recognize the functional relationship between the subject lands and the lands to the west and north which contain a mix of uses and are identified as a Secondary Growth Area in the City's Official Plan as approved by Halton Region. • The request also highlights the opportunity for the conversion to continue to accommodate employment uses and to enable development that supports the Regional Urban Structure and/or Local Urban Structure and contribute to strategic growth management objectives such as supporting opportunities for affordable housing.
C Employment Area Viability	✓	• The subject lands are located at the northern periphery of the Regional Employment Area generally identified along Industrial Drive. The removal of the subject lands would result in a logical boundary such that the lands fronting onto Mountainside Drive are excluded from the Regional Employment Area on both the west and east side of Pettit Road. • Given the existing conditions, whereby residential and other non-employment uses are already located immediately adjacent to the subject lands on the east and north sides, no significant impacts to the ongoing viability of the remaining Regional Employment Area are expected beyond those that currently exist. In addition, the local zoning only permits a limited range of employment uses that are to be compatible with residential uses. • While the introduction of new sensitive land uses on the subject lands could increase pressures on the continued viability of the remaining Regional Employment Area to the south over the long-term, this is mitigated by the well-defined boundaries and policy frameworks that apply to the areas in the Regional and Local official plans. In addition, the City's rezoning process provides an opportunity to examine in detail means of ensuring appropriate measures are in place to continue protecting the lands within the Employment Area to the south.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • Given the small-scale of the subject lands, existing or planned infrastructure and public service facilities are expected to support the conversion request. • The request was supported by the City of Burlington as set out in Appendix D to PB-04-18.

Request B-09 – North Service Road / Industrial Drive



Summary

The subject lands are located east of Brant Street and north of the QEW along North Service Road and Industrial Street and are currently occupied by commercial uses as well as open space and a hydro corridor. The removal of the lands from the Regional Employment Areas is requested in order to recognize the existing non-employment uses and local policy framework.

Proponent

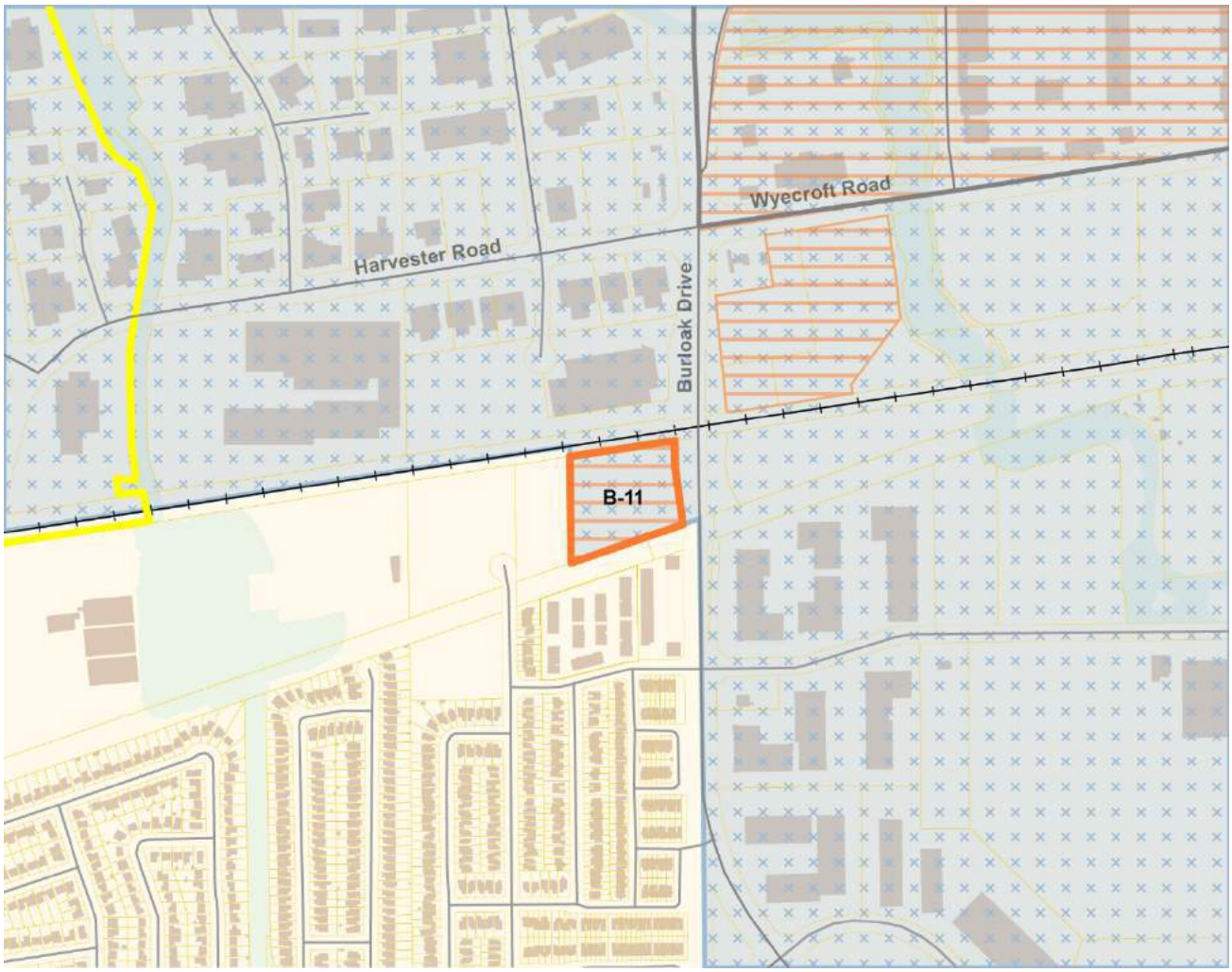
Kau GP Inc. / City of Burlington (see: Item I in Appendix D to PB-04-18)

Location	Size	Adjacent Uses
1515 North Service Road; 2202-2210 Industrial Street	3.7 hectares	Residential (north), employment (east), QEW highway (south), commercial (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Commercial Uses & Open Space	Yes	Employment Commercial

Recommendation – Request B-09		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – Request B-09		
A Employment Land Supply	✓	• The subject lands are currently occupied by existing commercial uses, open space, and a hydro corridor and as a result, do not form a functional part of the Region's supply of employment lands and have a low likelihood of doing so over the long-term. Given this context, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on site-specific conditions that are unique to the site, namely the existing non-employment uses that would limit the ability to accommodate certain kinds of employment uses over the long-term and the recognition of the local planning framework that reflects these uses.
C Employment Area Viability	✓	• The subject lands are located at the western periphery of the Regional Employment Area and their removal would result in a logical boundary for the Regional Employment Area defined by natural areas and that more appropriately recognizes the non-employment uses on the subject lands and further to the west. • The removal of the subject lands from the Regional Employment Area is not anticipated to create any concerns regarding compatibility or the overall viability of the remaining Regional Employment Area to the east given that the conversion will recognize existing commercial and open space uses which are functionally and physically separated.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the conversion will recognize the existing conditions, it is expected that the existing infrastructure and public service facilities will continue to support the subject lands. • The request was supported by the City of Burlington as set out in Appendix D to PB-04-18.

Request B-11 – 800 Burloak Drive



Summary

The subject lands are located west of Burloak Drive and south of the railway corridor and are currently vacant. The removal of the lands from the Regional Employment Areas is requested in order to facilitate commercial uses.

Proponent

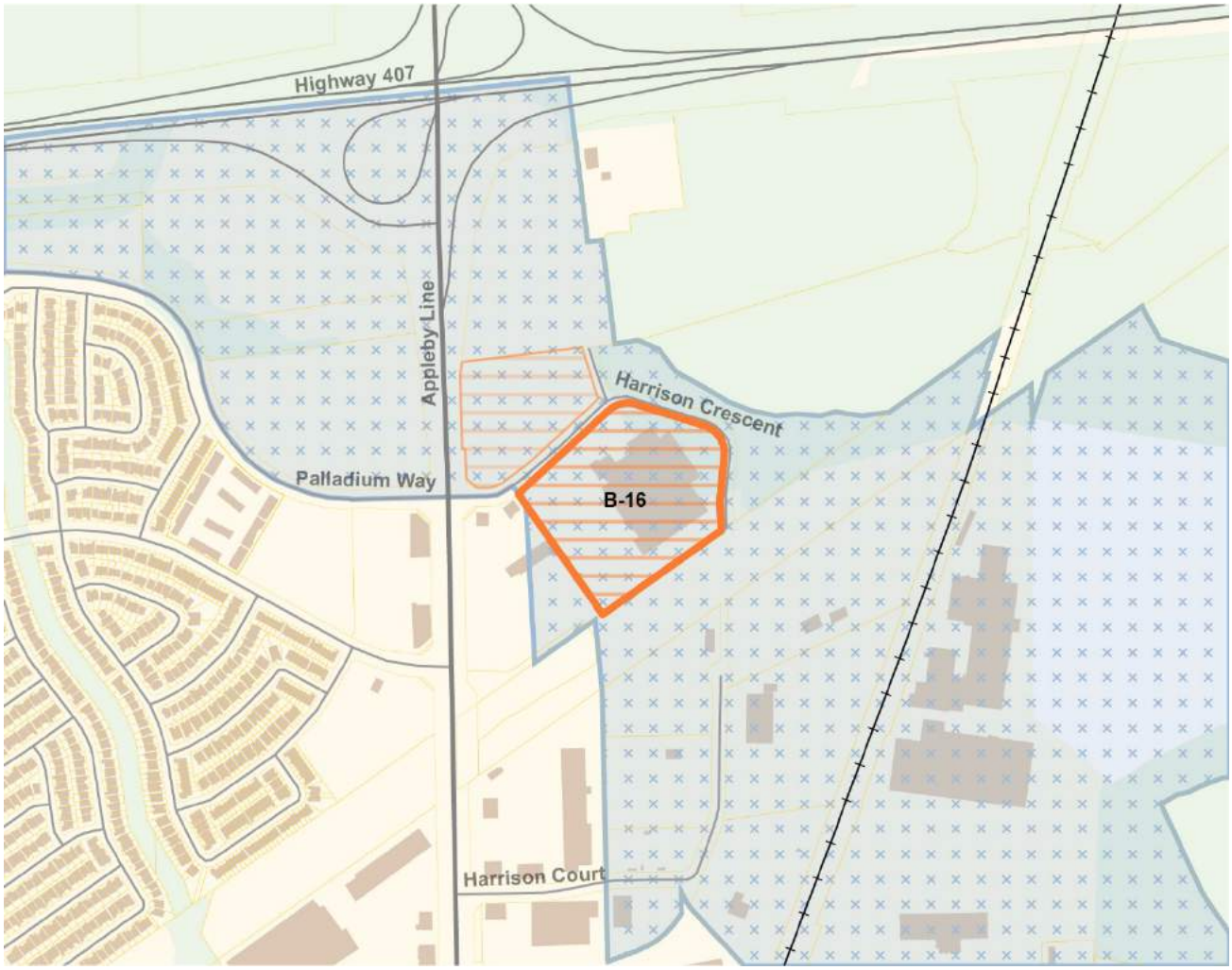
Emshih Developments Inc. & City of Burlington (see: Item K in Appendix D to PB-04-18)

Location	Size	Adjacent Uses
800 Burloak Drive	2 hectares	Rail corridor and employment (north), Burloak Drive and vacant lands (east), hydro corridor, residential, and commercial (south), open space (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Vacant	Yes	General Employment

Recommendation – Request B-11		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – Request B-11		
A Employment Land Supply	✓	• Given the small size of the subject lands and their potential to continue to accommodate employment, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on site-specific conditions that are unique to the site, namely its physical and functional separation from the Regional Employment Area and the existing non-employment uses to the south that would limit the ability to accommodate certain kinds of employment uses over the long-term.
C Employment Area Viability	✓	• The subject lands are located at the periphery of the Regional Employment Area and their removal would result in a logical boundary for the Regional Employment Area defined by Burloak Drive and the railway corridor to the north. • The removal of the subject lands from the Regional Employment Area is not anticipated to create any concerns regarding compatibility or the overall viability of the remaining Regional Employment Area to the north and east as a result of the physical and functional separation of the subject lands from these areas and the City's intention to only permit non-sensitive land uses on the subject lands that would not impact the remaining Regional Employment Area to the north following the conversion.
D General Considerations	✓	• The lands are located at the shared municipal boundary between Burlington and Oakville. However, no cross-jurisdictional issues were identified in the review of the request. • Given the small-scale of the subject lands, existing or planned infrastructure and public service facilities are expected to support the conversion request. • The request was supported by the City of Burlington as set out in Appendix D to PB-04-18.

Request B-16 – 3270 Harrison Crescent



Summary

The subject lands are located east of Appleby Line and south of Highway 407 along Harrison Crescent and are currently occupied by existing commercial uses. The removal of the lands from the Regional Employment Area is requested in order to recognize the existing non-employment uses and local policy framework.

Proponent

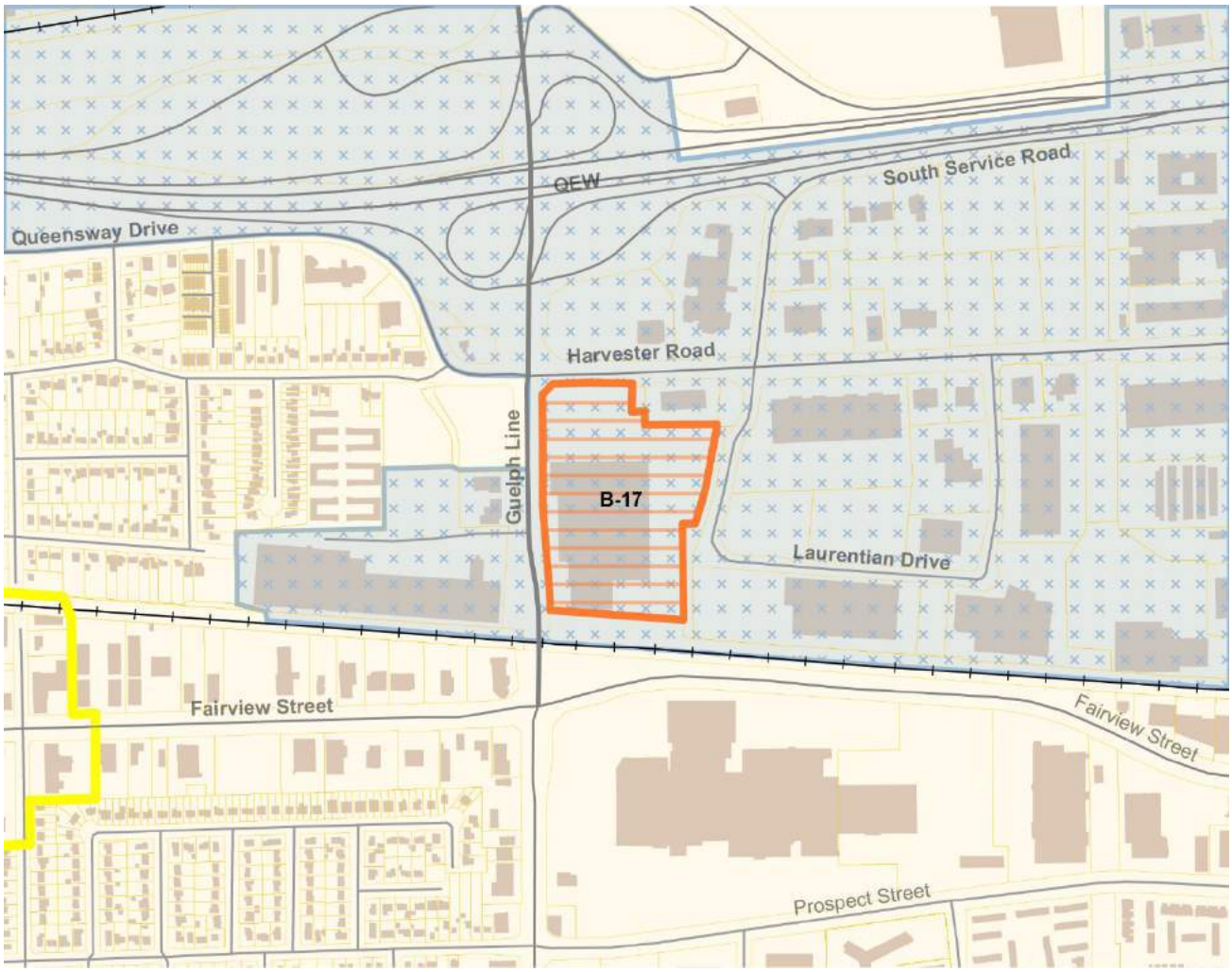
City of Burlington (see: Item P in Appendix D to PB-04-18)

Location	Size	Adjacent Uses
3270 Harrison Crescent	4.3 hectares	Vacant (north), natural heritage (east), hydro corridor and employment (south), commercial (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Commercial	No	Mixed Use Commercial Centre / Natural Heritage System

Recommendation – Request B-16		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – Request B-16		
A Employment Land Supply	✓	• The subject lands are currently occupied by existing commercial uses and as a result, do not form a functional part of the Region's supply of employment lands and have a low likelihood of doing so over the long-term. Given this context, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on site-specific conditions that are unique to the site, namely the existing non-employment uses that would limit the ability to accommodate certain kinds of employment uses over the long-term and the recognition of the local planning framework that reflects these uses.
C Employment Area Viability	✓	• The subject lands are not located at the periphery of the Regional Employment Area as it is currently delineated. However, the removal of the lands would result in a logical boundary for the Regional Employment Area that recognizes the Regional Employment Area to the west, south of Highway 407 and the Regional Employment Area to the east on either side of the rail corridor north of Dundas Street which are functionally separated by the subject lands, a hydro corridor, and natural heritage. • The removal of the subject lands from the Regional Employment Area is not anticipated to create any concerns regarding compatibility or the overall viability of the remaining Regional Employment Areas to the west and east given that the conversion will recognize existing commercial uses which are functionally and physically separated.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the conversion will recognize the existing conditions, it is expected that the existing infrastructure and public service facilities will continue to support the subject lands. • The request was supported by the City of Burlington as set out in Appendix D to PB-04-18.

Request B-17 – 901 Guelph Line



Summary

The subject lands are located at the southeast corner of Guelph Line and Harvester Road and are occupied by an existing warehouse building. The removal of the lands from the Regional Employment Area is requested in order to facilitate a mixed use redevelopment.

Proponent

Emshih Developments Inc.

Location	Size	Adjacent Uses
901 Guelph Line	6.4 hectares	Office and hotel (north), open space, vacant lands, employment (east), rail corridor and commercial uses (south), employment and open space (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Industrial Warehouse	Yes	Business Corridor

Recommendation – Request B-17		
Not Supported	×	**Regional staff recommend retaining the subject lands within the Regional Employment Areas.**

Assessment – Request B-17		
A Employment Land Supply	×	• The subject lands currently function as part of the supply of lands that can accommodate certain types of employment uses in Halton. They are a significant size, are strategically located in relation to goods movement facilities, and are part of a large contiguous Regional Employment Area along the QEW Highway corridor. • Given this context, the conversion would have the potential to adversely impact the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	×	• The subject lands are not identified within the Downtown Burlington Urban Growth Centre / Burlington GO Major Transit Station Area boundary as it is proposed to be delineated through the Regional Official Plan Review process. As a result, a need for the conversion is not established based on a strategic location or the need to support the Regional Urban Structure and/or Local Urban Structure. • While the request has identified potential site-specific constraints that apply to the subject lands, these do not adequately demonstrate the need for the conversion when considered in the context of the other considerations discussed in this assessment.
C Employment Area Viability	×	• The subject lands are not on the periphery of the Regional Employment Area. There are other existing employment uses within the Regional Employment Area to the west, north, and east of the subject lands. If the subject lands were converted, this would have the effect of isolating the portion of the Regional Employment Area west of Guelph Line. • Given the location of the subject lands within a contiguous Regional Employment Area and adjacent to a number of existing employment uses, the conversion would have the potential to introduce sensitive land uses that are incompatible with these existing uses and impact the long-term stability and viability of the area.
D General Considerations	×	• No cross-jurisdictional issues were identified in the review of the request. • The request was considered by the City of Burlington through the 2016 Employment Lands Policy Recommendation and Conversion Assessment Report (see Request #9 in Appendix C to PB-30-16). The request was not recommended for removal from the Regional Employment Areas.

Request B-18 – 4103 Palladium Way

Summary

The subject lands are located northeast of Walkers Line and Palladium Way south of Highway 407 and are currently vacant. The removal of the lands from the Regional Employment Area is requested in order to accommodate a proposed retirement home in addition to the current permissions on the subject lands which include a long-term care facility.

Proponent

Better Life Retirement Residence Inc.

Location	Size	Adjacent Uses
4103 Palladium Way	1.5 hectares	Natural areas and Highway 407 (north), open space and residential (east), institutional uses (south), vacant employment lands (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Vacant	No	Business Corridor

Recommendation – Request B-18		
Further Analysis	✳	**Further analysis is required to determine a recommendation regarding the subject lands.**

Assessment – Request B-18		
A Employment Land Supply	✓	• Given the small size of the subject lands and their potential to continue to accommodate employment following a conversion in the form of a long-term care facility permitted in the City's zoning by-law, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on site-specific conditions that are unique to the site, namely its small scale, its proximity to existing institutional uses directly south, and the proposed development of the lands to accommodate additional institutional uses in the form of a long-term care facility, which is also a sensitive use and permitted by the City's zoning by-law. The conversion would recognize the existing and evolving condition that sees a cluster of institutional uses at the northeast corner of Walkers Line and Palladium Way that are compatible with and provide an appropriate transition between the Regional Employment Area along the Highway 407 corridor and the residential community to the south.
C Employment Area Viability	✳	• The subject lands are not located at the periphery of the Regional Employment Area as it is currently delineated, and the removal of the lands would have the effect of creating an irregular boundary for the Regional Employment Area in this area. However, a logical boundary could be delineated by recognizing the existing and evolving institutional uses on the subject lands as well as the lands to the south known as 4085 Palladium Way and occupied by a courthouse. Removing these lands could occur while maintaining the northerly connection between the remaining Regional Employment Areas south of the Highway 407 corridor on the west and east sides of Walkers Line. • The introduction of sensitive land uses brings with it concerns related to compatibility and the ongoing viability of the adjacent Regional Employment Areas. Land use compatibility and the continued function and viability of the Regional Employment Area were considered in the City's evaluation of a recent rezoning application that resulted in a long-term care facility, in addition to other uses, being permitted on the subject lands. As summarized in City Report PL-20-20, the long-term care facility "would only limit the future use of Class II or Class III industrial sites, however, such uses would be limited by existing factors and not further limited by the proposed development". • Further analysis is required to determine: if residential uses would introduce additional compatibility or viability concerns in comparison to the existing permission for institutional uses; if there are any viability impacts due to the associated removal of 4085 Palladium Way; and, if there are implications for the Regional policy framework for institutional uses and other sensitive land uses within Employment Areas.
D General Considerations	✳	• No cross-jurisdictional issues were identified in the review of the request. • Given the small-scale and location of the subject lands, existing or planned infrastructure and public service facilities are expected to support the conversion request. • The conversion request has not been considered by the City and further information on the City's position can be provided through additional consultation.

Request B-19 – 3309 Harrison Court

Summary

The subject lands are located northeast of Appleby Line along Harrison Court and are currently vacant. The removal of the lands from the Regional Employment Area is requested in order to permit a broader range of non-employment uses in the form of commercial uses.

Proponent

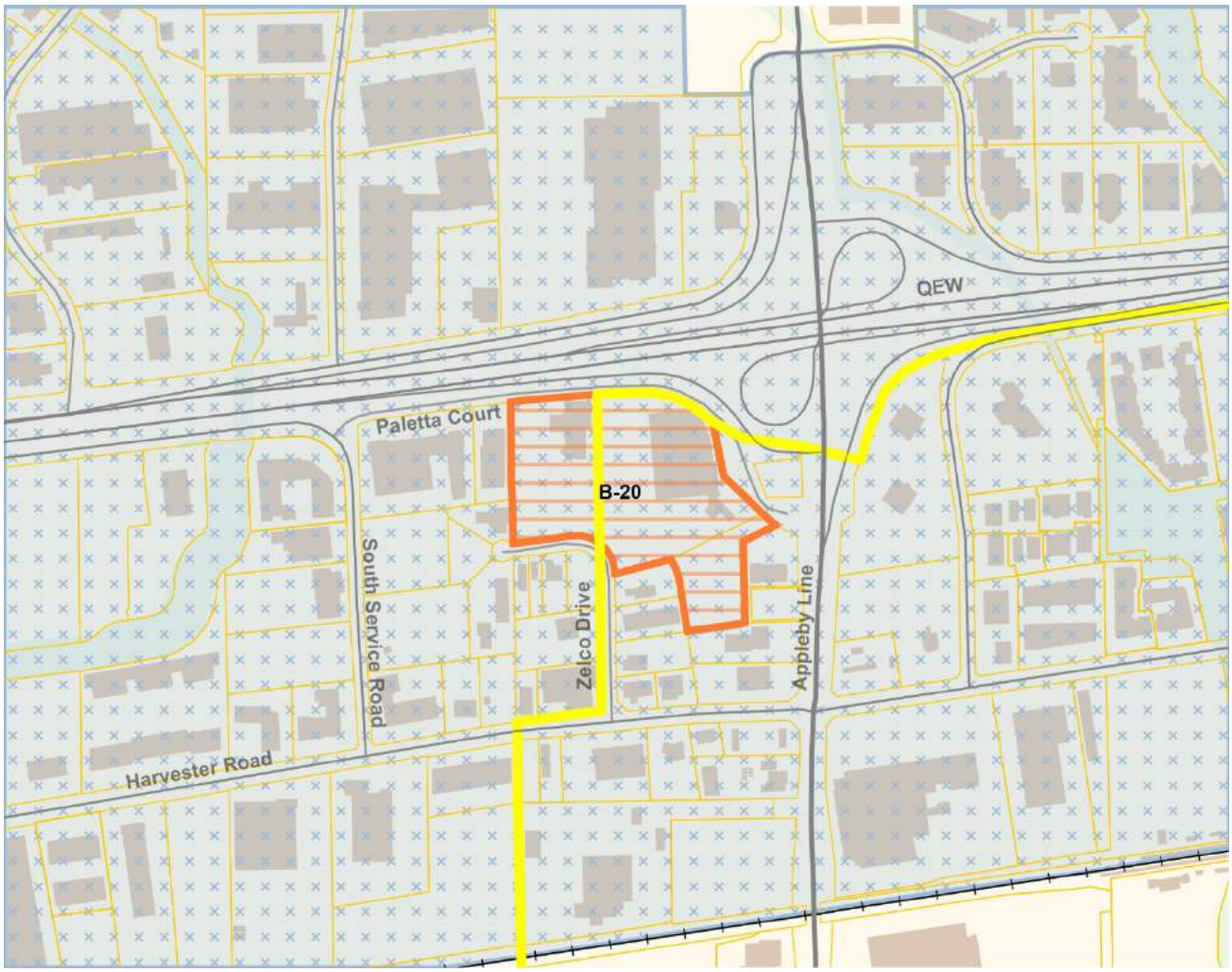
Penta Properties Inc.

Location	Size	Adjacent Uses
3309 Harrison Court	2.6 hectares	Vacant employment lands and Highway 407 (north), natural heritage (east), commercial (south), vacant employment lands (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Vacant	No	Business Corridor

Recommendation – Request B-19		
Not Supported	×	**Regional staff recommend retaining the subject lands within the Regional Employment Areas.**

Assessment – Request B-19		
A Employment Land Supply	×	• The subject lands currently function as part of the supply of lands that can accommodate certain types of employment uses in Halton. They are currently vacant, and while they are only 2.5 hectares, they are strategically located in relation to goods movement facilities (in particular a highway interchange), and are part of a large contiguous Regional Employment Area south of the Highway 407 corridor from Appleby Line to Dundas Street. • Given this context, the conversion would have the potential to adversely impact the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	×	• A need for the conversion has not been identified on the basis of a strategic need to support the Regional Urban Structure and/or Local Urban Structure or on the basis of a site-specific condition or constraint.
C Employment Area Viability	×	• The subject lands are not on the periphery of the Regional Employment Area as it is currently delineated. However, if Request B-16 were to be supported, the subject lands would form the eastern edge of the Regional Employment Area south of the Highway 407 Corridor. If the subject lands were converted, this would have the effect of diminishing the extent of Regional Employment Area as identified on the west and east sides of the Appleby Line interchange by isolating the remaining lands on the east side, potentially undermining the continued viability of these lands. • As the conversion of the subject lands is requested to facilitate commercial uses, the conversion is unlikely to introduce any significant compatibility concerns given the nature of commercial uses and the fact that such uses already exist in close proximity. However, as noted above, the conversion has the potential to undermine the continued viability of adjacent lands within the Regional Employment Areas.
D General Considerations	×	• No cross-jurisdictional issues were identified in the review of the request. • The request was considered by the City of Burlington through the 2016 Employment Lands Policy Recommendation and Conversion Assessment Report (see Request #15 in Appendix C to PB-30-16). The request was not recommended for removal from the Regional Employment Areas.

Request B-20 – 4450-4480 Paletta Court



Summary

The subject lands are located on Paletta Court southwest of Appleby Line and the QEW Highway and are currently occupied by employment uses. The removal of the lands from the Regional Employment Area is requested in order to not preclude consideration of a diversity of uses as part of the future Area-Specific Plan for the Appleby GO MTSA.

Proponent

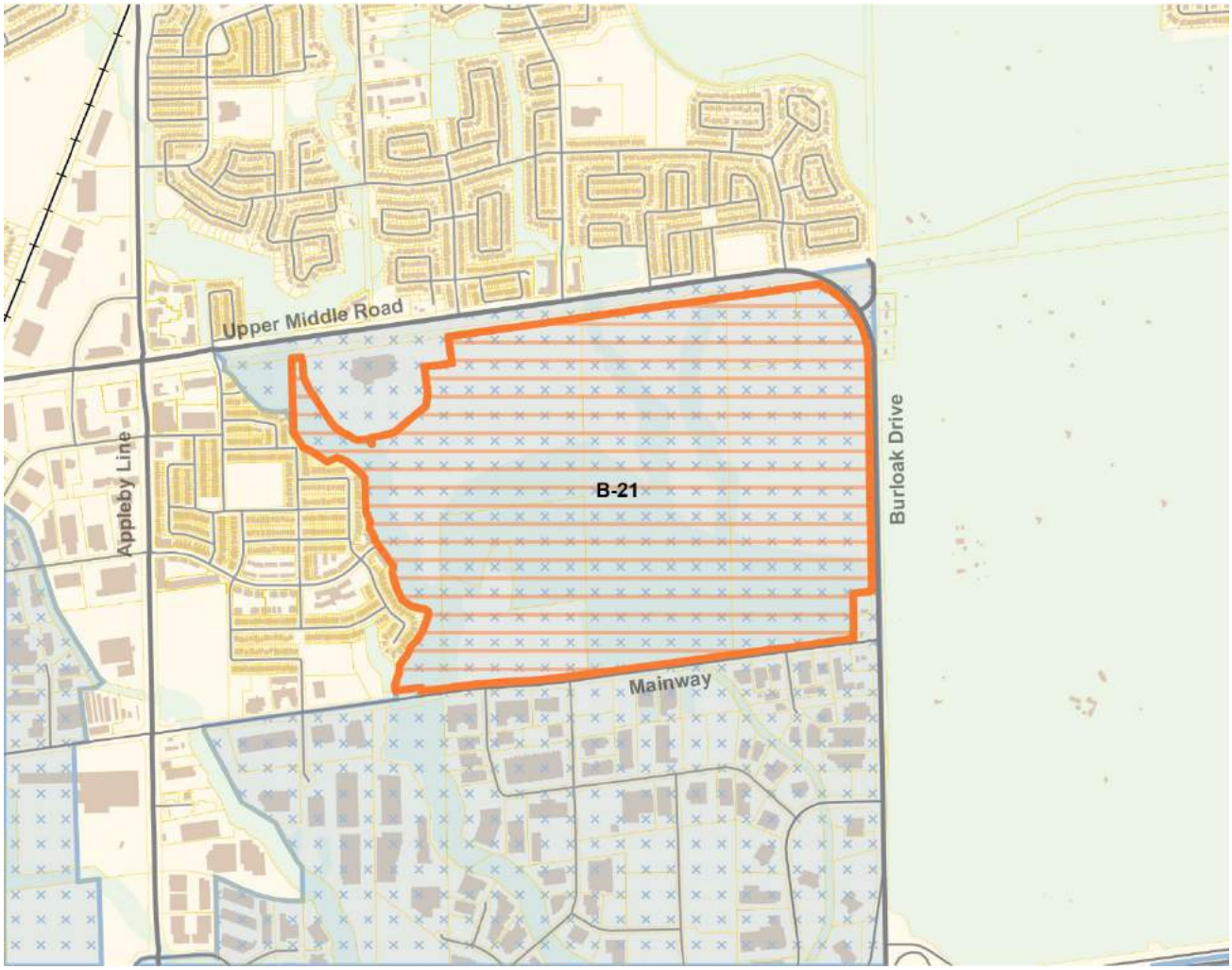
Penta Properties Inc.

Location	Size	Adjacent Uses
4450 & 4480 Paletta Court	7.6 hectares	QEW highway and employment (north), Appleby Line and employment (east), employment (south), employment (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Employment	Yes	Business Corridor

Recommendation – Request B-20		
Not Supported	×	**Regional staff recommend retaining the subject lands within the Regional Employment Areas.**

Assessment – Request B-20		
A Employment Land Supply	×	• The subject lands currently function as part of the supply of lands that can accommodate certain types of employment uses in Halton. They are a significant size, are strategically located in relation to goods movement facilities, and are part of a large contiguous Regional Employment Area along the QEW Highway corridor. • Given this context, the conversion would have the potential to adversely impact the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	×	• Although a portion of the subject lands are located within the Appleby GO Major Transit Station Area as it is proposed to be delineated through the Regional Official Plan Review, the part of this strategic growth area north of the rail corridor is intended to retain its planned function as a Regional Employment Area. As a result, a need for the conversion is not established based on a strategic location or the need to support the Regional Urban Structure and/or Local Urban Structure.
C Employment Area Viability	×	• The subject lands are not on the periphery of the Regional Employment Area. There are other existing employment uses within the Regional Employment Area on all sides of the subject lands. If the subject lands were converted, this would have the effect of creating an illogical boundary for the Regional Employment Area. • Given the location of the subject lands within a contiguous Regional Employment Area and adjacent to a number of existing employment uses, the conversion would have the potential to introduce sensitive land uses that are incompatible with these existing uses and impact the long-term stability and viability of the area.
D General Considerations	×	• No cross-jurisdictional issues were identified in the review of the request. • The properties subject to this request were considered by the City of Burlington through the 2016 Employment Lands Policy Recommendation and Conversion Assessment Report (see Appendix C to PB-30-16). The Report recommended that the lands north of the rail corridor in the vicinity of the Appleby GO MTSA be retained within the Regional Employment Areas.

Request B-21 – Bronte Creek Meadows



Summary

The subject lands are located in the area general bounded by Upper Middle Road, Burloak Drive, Mainway, and Sheldon Creek, and are currently vacant. The removal of the lands from the Regional Employment Area is requested in order to permit residential and commercial uses inclusive of employment uses.

Proponent

Penta Properties Inc.

Location	Size	Adjacent Uses
5164, 5366, 5470, 5900 Upper Middle Road & 5201 Mainway	71.5 hectares	Residential (north), Bronte Creek Provincial Park (east), employment (south), institutional, residential, and natural heritage (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Vacant	Yes	General Employment & City's Natural Heritage System

Recommendation – Request B-21		
Not Supported	×	**Regional staff recommend retaining the subject lands within the Region's Employment Areas.**

Assessment – Request B-21		
A Employment Land Supply	×	• The subject lands currently function as part of the supply of lands that can accommodate certain types of employment uses in Halton. They are a significant size, are currently vacant, are strategically located in relation to goods movement facilities, and are part of a large contiguous Regional Employment Area along the QEW Highway corridor. • Given this context, the conversion would have the potential to adversely impact the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	×	• A need for the conversion has not been identified on the basis of a strategic need to support the Regional Urban Structure and/or Local Urban Structure or on the basis of a site-specific condition or constraint.
C Employment Area Viability	×	• Given the significant size of the subject lands and their location within a contiguous Regional Employment Area and adjacent to a number of existing employment uses and vacant employment lands to the south, the conversion would have the potential to introduce sensitive land uses that are incompatible with these existing uses and impact the long-term stability and viability of the area.
D General Considerations	×	• No cross-jurisdictional issues were identified in the review of the request. • The properties subject to this request were considered by the City of Burlington through the 2016 Employment Lands Policy Recommendation and Conversion Assessment Report (see Request #14 in Appendix C to PB-30-16). The request was not recommended for removal from the Regional Employment Areas. The Report also recommended prioritizing Area-Specific Planning for Bronte Creek Meadows, and this direction is reflected in the City's Official Plan as approved by Halton Region.

Request B-22 – 1200 King Road (Eastern Portion)

Summary

The subject lands are located in the area general bounded by Highway 403, King Road, the GO Transit rail corridor, and the Appleby GO Major Transit Station Area and are currently vacant. The removal of the lands from the Regional Employment Area is requested in order to permit residential and commercial uses.

Proponent

Penta Properties Inc.

Location	Size	Adjacent Uses
1200 King Road	16.8 hectares	Highway 403 and employment (north), King Road and employment (east), rail corridor and residential (south); Aldershot GO Station (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Vacant	No	Business Corridor; General Employment; Urban Corridor – Employment Lands; Employment Commercial Centre; NHS

Recommendation – Request B-22		
Not Supported	×	**Regional staff recommend retaining the subject lands within the Regional Employment Areas.**

Assessment – Request B-22		
A Employment Land Supply	×	• The subject lands currently function as part of the supply of lands that can accommodate certain types of employment uses in Halton. They are a significant size, are currently vacant, are strategically located in relation to goods movement facilities, and are part of a large contiguous Regional Employment Area along the Highway 403 corridor. • Given this context, the conversion would have the potential to adversely impact the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	×	• A need for the conversion has not been identified on the basis of a strategic need to support the Regional Urban Structure and/or Local Urban Structure or on the basis of a site-specific condition or constraint.
C Employment Area Viability	×	• The subject lands are not on the periphery of the Regional Employment Area. There are other existing employment uses within the Regional Employment Area on the north and east sides of the subject lands. If the subject lands were converted, this would have the effect of creating an illogical boundary for the Regional Employment Area, introducing the potential for compatibility issues, and undermine the long-term stability and viability of a significant component of the contiguous Regional Employment Area here.
D General Considerations	×	• No cross-jurisdictional issues were identified in the review of the request. • The western portion of 1200 King Road was considered by the City of Burlington through the 2016 Employment Lands Policy Recommendation and Conversion Assessment Report (see Appendix C to PB-30-16), however, the eastern portion (the subject lands in this request) were not requested for conversion and as a result were not assessed through the City's process. As a result, no recommendation to remove the lands from the Regional Employment Areas has been made by the City.

Requests B-05 & B-15 – 1150 & 1200 King Road (Western Portion)

Summary

The subject lands include portions of 1150 and 1200 King Road east of the boundary of the Aldershot GO MTSA as proposed to be delineated through the ROPR but within the MTSA Special Planning Area identified in the City's Official Plan as approved by Halton Region. The removal of the lands from the Regional Employment Area is requested in order to permit the development of an Area-Specific Plan for this strategic growth area that includes a mix of uses.

Proponent

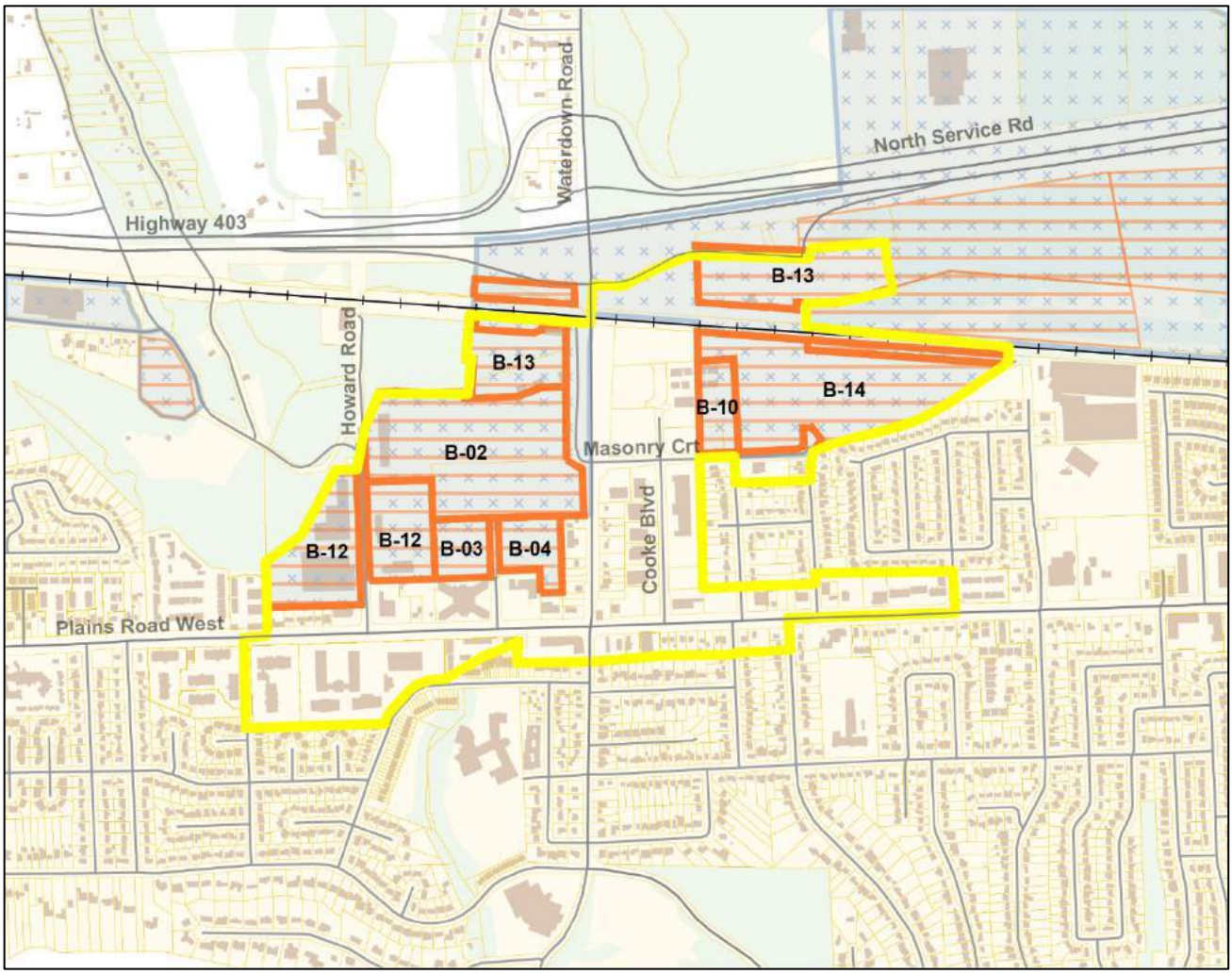
Penta Properties Inc. / City of Burlington (see: Item E & O in Appendix D to PB-04-18)

Location	**Size**	**Adjacent Uses**
1150 & 1200 King Road (Portions as described above)	3.2 hectares	Highway 403 (north); NHS and vacant employment lands (east); rail corridor (south); Aldershot GO station (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Vacant	Partial	Business Corridor; City's Natural Heritage System

Recommendation – Request B-05 & B-15		
Further Analysis	✳	**Further analysis is required to determine a recommendation regarding the subject lands.**

Assessment – Request B-05 & B-15		
A Employment Land Supply	✳	• It is understood that environmental work pertaining to the subject lands was recently completed by the Ministry of Natural Resources and Forestry (MNRF). In a letter dated December 23, 2020, the Province noted that MNRF has reviewed and confirmed a new wetland evaluation for the provincially significant Grindstone-Falcon Creeks Wetland Complex. It notes further that the wetlands within the Complex south of Highway 403 largely occur on the 1200 King Road property. • This recent information will be used to inform decision-making regarding the inclusion of the lands within the boundary of the Aldershot GO Major Transit Station Area as well as the assessment of the conversion request, which will occur at a later stage of the Integrated Growth Management Strategy process.
B Demonstrated Need	✳	
C Employment Area Viability	✳	
D General Considerations	✳	

Request – Aldershot GO MTSA (B-02, B-03, B-04, B-10, B-12, B-13, B-14)



Summary

The subject lands consist of a number of properties on the west and east sides of Waterdown Road (1032, 1035, 1060, 1077 Howard Road; 1060, 1140-1160, 1199 Waterdown Road; 1020, 1021 Emery Avenue, 120, 121 Masonry Court) within the area proposed to be delineated as the Aldershot GO Major Transit Station Area. The removal of the lands from the Regional Employment Area is requested in order to permit the development of an Area-Specific Plan for this strategic growth area that includes a mix of uses.

Proponent

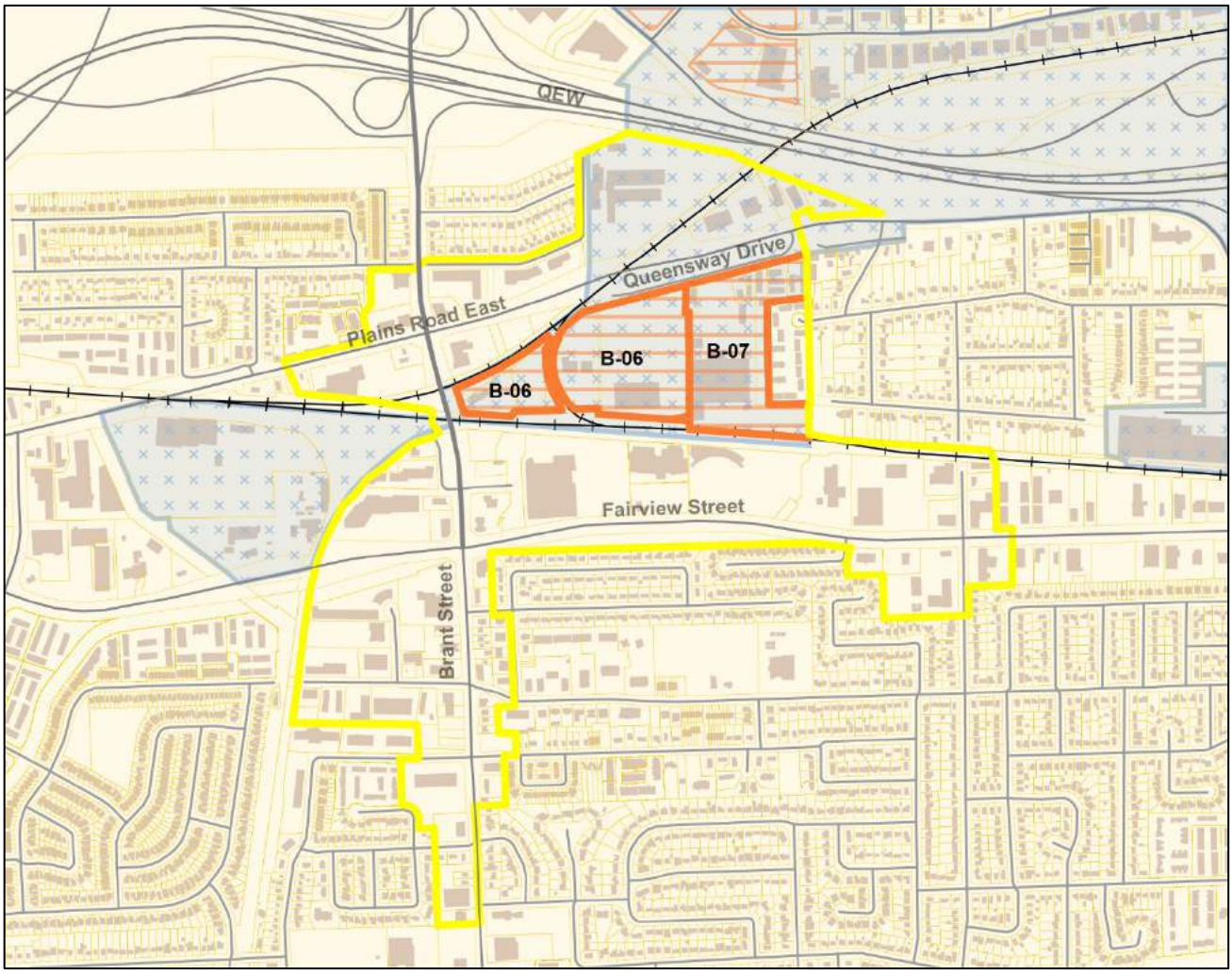
City of Burlington (see: Items B, C, D, J, L, M, N, & O in Appendix D to PB-04-18) / Aldershot Landowners Group (ALOG)

Location	Size	Adjacent Uses
Aldershot GO MTSA	38.5 hectares	Highway 403 (north), natural heritage and residential (east), Plains Road corridor (south), open space (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Industrial / Warehousing / Vacant	Yes	General Employment; Business Corridor; Urban Corridor

Recommendation – Aldershot GO MTSA Requests		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – Aldershot GO MTSA Requests		
A Employment Land Supply	✓	• The subject lands west of Waterdown Road (approximately 23.1 hectares) accommodate a range of existing industrial uses and currently function as part of the supply of lands that can accommodate these kinds of employment uses. The areas east of Waterdown Road (approximately 15.4 hectares), contain parking lots for the Aldershot GO Station, and a small amount of vacant land adjacent to existing and proposed mixed use development. Given their location and context, these lands do not form a functional part of the Region's supply of employment lands and have a low likelihood of doing so over the long-term. • The potential for the lands to continue to accommodate employment in the future, following a conversion, is a key consideration. Analysis by the City of Burlington as well as through the IGMS process has identified such potential, which is to be planned for through an Area-Specific Plan for the area as required and directed by the Regional Official Plan. • On this basis, given the location of the subject lands and their potential to continue to accommodate a significant amount of employment following conversion, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• A need for the conversion is demonstrated based on the strategic need to support the Regional Urban Structure and/or Local Urban Structure. The subject lands are located within the area proposed to be delineated as the Aldershot GO MTSA, forming a key strategic growth area to which a minimum density target is to be applied. • The conversion would enable strategic opportunities for growth that support the Regional and/or Local Urban Structure – in particular, by contributing to strategic growth management objectives such as accommodating significant population and employment growth, achieving density targets within strategic growth areas, and optimizing the use of existing infrastructure and transit.
C Employment Area Viability	✓	• The subject lands, in their entirety, are located at the western periphery of the Regional Employment Area identified along the Highway 403 corridor in this area. A logical boundary for the Regional Employment Area can be delineated along the eastern boundary of the proposed Aldershot GO MTSA. • The only remaining adjacent Regional Employment Area would be located to the east of the Aldershot GO MTSA. Given the physical and functional separation between these lands and the subject lands, no impacts to ongoing viability or concerns related to compatibility are anticipated, but can be planned and addressed as required through the Area Specific Plan for the area as mandated by the Regional Official Plan.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the subject lands will be subject to an Area Specific Planning process and have been assessed as part of the IGMS, existing or planned infrastructure and public service facilities are expected to support the conversion request. • The request was supported by the City of Burlington as set out in Appendix D to PB-04-18.

Request – Downtown Burlington UGC / Burlington GO MTSA (B-06, B-07)



Summary

The subject lands consist of a number of properties within the area proposed to be delineated as the Downtown Burlington UGC / Burlington GO Major Transit Stations Area (2070-2082, 2120, 2150-2205 Queensway Drive). The removal of the lands from the Regional Employment Area is requested in order to permit the development of an Area-Specific Plan for this strategic growth area that includes a mix of uses.

Proponent

City of Burlington (see: Items F & G in Appendix D to PB-04-18)

Location	**Size**	**Adjacent Uses**
Downtown Burlington UGC / Burlington GO MTSA	15.3 hectares	Rail corridor, Queensway Drive, employment (north), residential (east), rail corridor and (south), Brant Street (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Industrial / Open Storage / Parking	Yes	General Employment

Recommendation – Downtown Burlington UGC / Burlington GO MTSA Requests		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – Downtown Burlington UGC / Burlington GO MTSA Requests		
A Employment Land Supply	✓	• The subject lands includes areas currently developed for employment uses (approximately 10.4 hectares) that currently function as part of the supply of lands that can accommodate these kinds of employment uses. In addition, there are lands occupied by a parking lot for the Burlington GO Station (approximately 4.9 hectares) that, given their location and context, do not form a functional part of the Region's supply of employment lands and have a low likelihood of doing so over the long-term. • The potential for the lands to continue to accommodate employment in the future, following a conversion, is a key consideration. Analysis by the City of Burlington as well as through the IGMS process has identified such potential, which is to be planned for through an Area Specific Plan for the area as required and directed by the Regional Official Plan. • On this basis, given the location of the subject lands and their potential to continue to accommodate a significant amount of employment following conversion, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• A need for the conversion is demonstrated based on the strategic need to support the Regional Urban Structure and/or Local Urban Structure. The subject lands are located within the area proposed to be delineated as the Downtown Burlington UGC and Burlington GO MTSA, forming a key strategic growth area to which a minimum density target is to be applied. • The conversion would enable strategic opportunities for growth that support the Regional and/or Local Urban Structure – in particular, by contributing to strategic growth management objectives such as accommodating significant population and employment growth, achieving density targets within strategic growth areas, and optimizing the use of existing infrastructure and transit.
C Employment Area Viability	✓	• The subject lands are not currently located at on the periphery of the Regional Employment Area as it is currently delineated. However, they are functionally separated from these other areas by Brant Street to the west and the rail corridor and Queensway Drive to the north and a logical boundary could be delineated following their removal. • Given the physical and functional separation between the remaining Regional Employment Areas and the subject lands, no impacts to ongoing viability or concerns related to compatibility are anticipated, but can be planned for and addressed as required through the Area Specific Plan for the area as mandated by the Regional Official Plan.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the subject lands will be subject to an Area Specific Planning process and have been assessed as part of the IGMS, existing or planned infrastructure and public service facilities are expected to support the conversion request. • The request was supported by the City of Burlington as set out in Appendix D to PB-04-18.

Town of Halton Hills

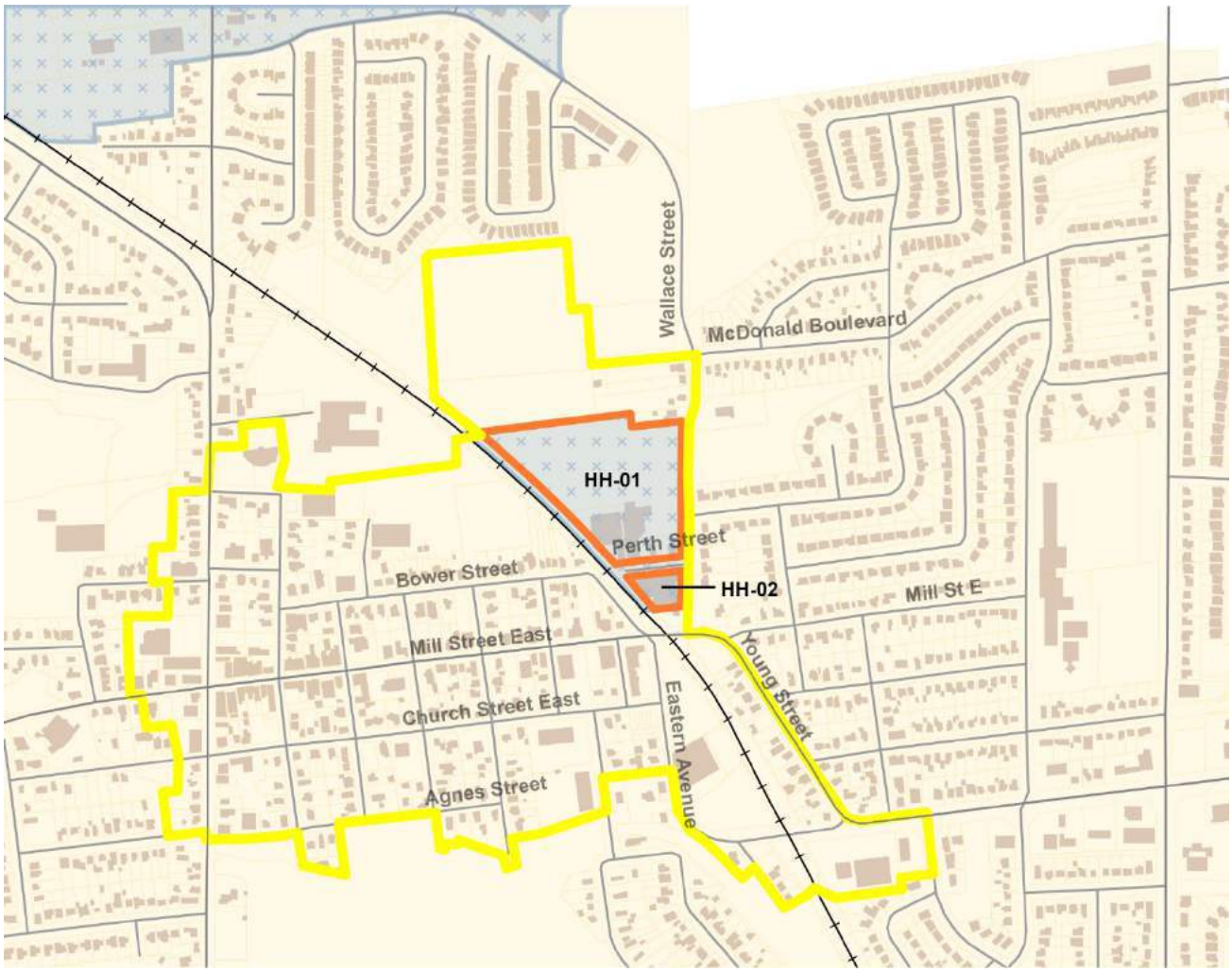
Summary of the Initial Assessment of Conversion Requests within the Town of Halton Hills

No.	Reference Name	Initial Assessment	Principle				IGMS Implementation Process	Page
			A	B	C	D		
Multiple [1]	Acton GO MTSA	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA	31-32
HH-03	344 Guelph Street	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA	33-34

Notes

[1] – Includes Requests HH-01 and HH-02 within the Acton GO MTSA Boundary

Request – Acton GO MTSA (HH-01, HH-02)



Summary

The subject lands are located north of Mill Street East (Highway 7), west of Wallace Street, and are currently occupied by employment uses. The removal of the lands from the Regional Employment Area is requested in order to enable a mix of uses including commercial, employment, and residential uses.

Proponent

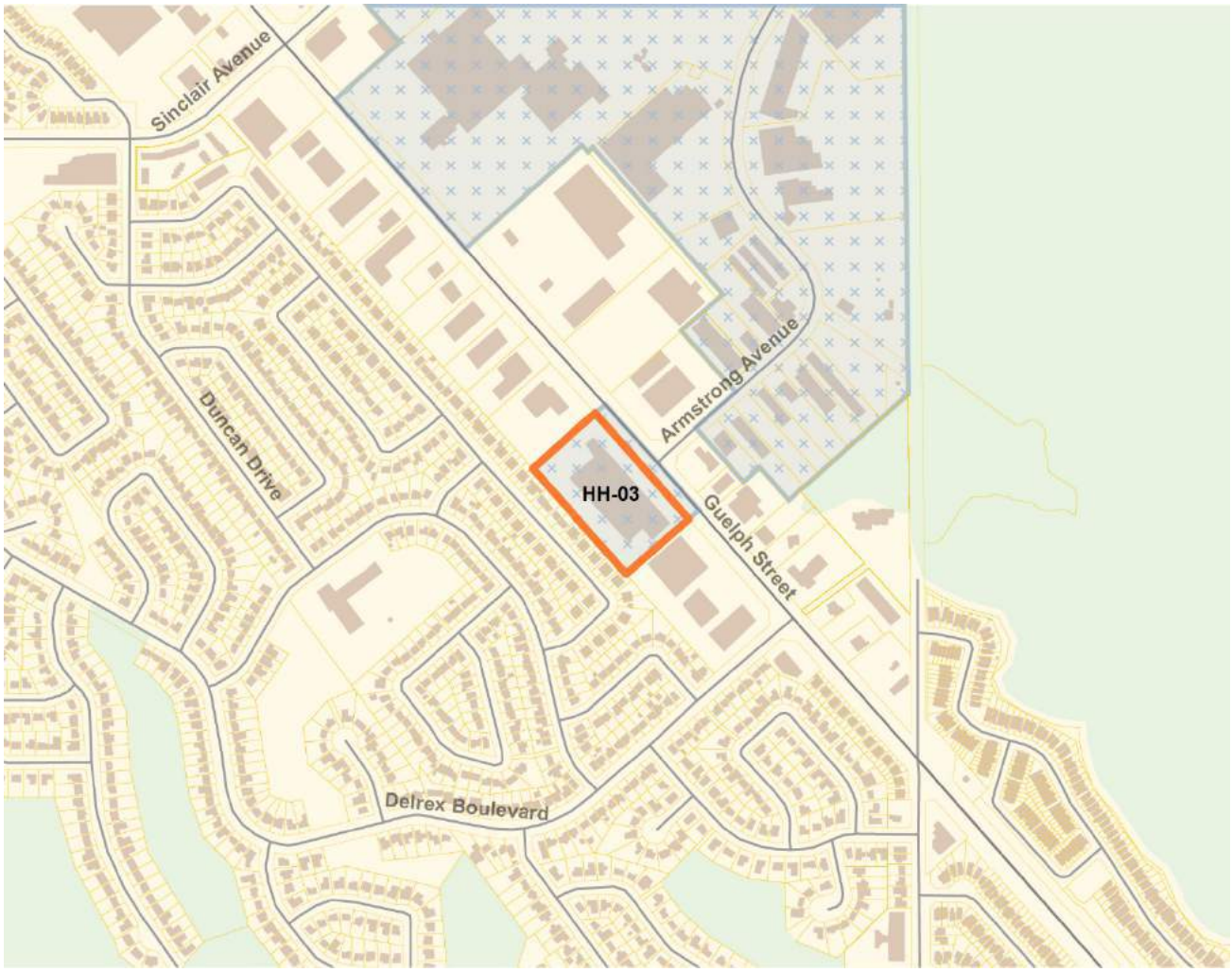
Town of Halton Hills (see Halton Hills Employment Land Needs Assessment Phases 1 & 2 Final Report)

Location	Size	Adjacent Uses
153, 159, 165, and 173 Perth Street, 12 Wallace Street	4.1 hectares	Open space and residential (north), residential (east), Acton GO Station (south), railway, Downtown Acton (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Light Industrial	No	General Employment Area; Private Open Space; Low Density Residential Area

Recommendation – Request HH-01 and HH-02		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – Request HH-01 and HH-02		
A Employment Land Supply	✓	• Given the small size of the subject lands and their potential to continue to accommodate employment following a conversion, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on both site-specific conditions as well as strategic considerations. • The conversion would recognize site-specific conditions that are unique to the site, namely its physical and functional separation from other contiguous Regional Employment Areas and the existing non-employment uses that limit the ability to accommodate certain kinds of employment uses over the long-term. • The request also supports the Regional Urban Structure and/or Local Urban Structure – the subject lands are located within the area proposed to be delineated as the Acton GO Major Transit Station Area, forming a key strategic growth area to which a minimum density target is to be applied.
C Employment Area Viability	✓	• The subject lands represent a small and isolated Regional Employment Area and their removal would result in no remaining employment area in this area. • Given the size of the subject lands and their physical and functional separation from other Regional Employment Areas, no impacts to ongoing viability or concerns related to compatibility are anticipated.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • Given the small-scale of the subject lands, existing or planned infrastructure and public service facilities are expected to support the conversion request. • The request was supported by the Town of Halton Hills as set out in the Town's Employment Land Needs Assessment Phases 1 & 2 Final Report.

Request HH-03 – 344 Guelph Street



Summary

The subject lands are along Guelph Street near the intersection with Armstrong Avenue and are currently vacant. The removal of the lands from the Regional Employment Areas is requested to enable mixed use redevelopment.

Proponent

Town of Halton Hills (see Halton Hills Employment Land Needs Assessment Phases 1 & 2 Final Report)

Location	Size	Adjacent Uses
344 Guelph Street	2.3 hectares	Commercial and employment uses (north), commercial (east), residential (south), commercial (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Industrial	No	General Employment Area

Recommendation – HH-03		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – HH-03		
A Employment Land Supply	✓	• Given the small size of the subject lands and their potential to continue to accommodate employment following a conversion, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on both site-specific conditions as well as strategic considerations. • The conversion would recognize site-specific conditions that are unique to the site, namely its physical and functional separation from the Regional Employment Area east of Guelph Street and the surrounding existing non-employment uses that would limit the ability to accommodate certain kinds of employment uses over the long-term. • The request also supports the Regional Urban Structure and/or Local Urban Structure – the subject lands are located within the corridor along Guelph Street identified by the Town as an area for intensification.
C Employment Area Viability	✓	• The subject lands are located in a small and isolated Regional Employment Area and their removal would result in no remaining employment area in this area. • Given the physical and functional separation between the remaining Regional Employment Areas and the subject lands, no impacts to ongoing viability or concerns related to compatibility are anticipated.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • Given the small-scale and location of the subject lands, existing or planned infrastructure and public service facilities are expected to support the conversion request. • The request was supported by the Town of Halton Hills as set out in the Town's Employment Land Needs Assessment Phases 1 & 2 Final Report.

Town of Milton

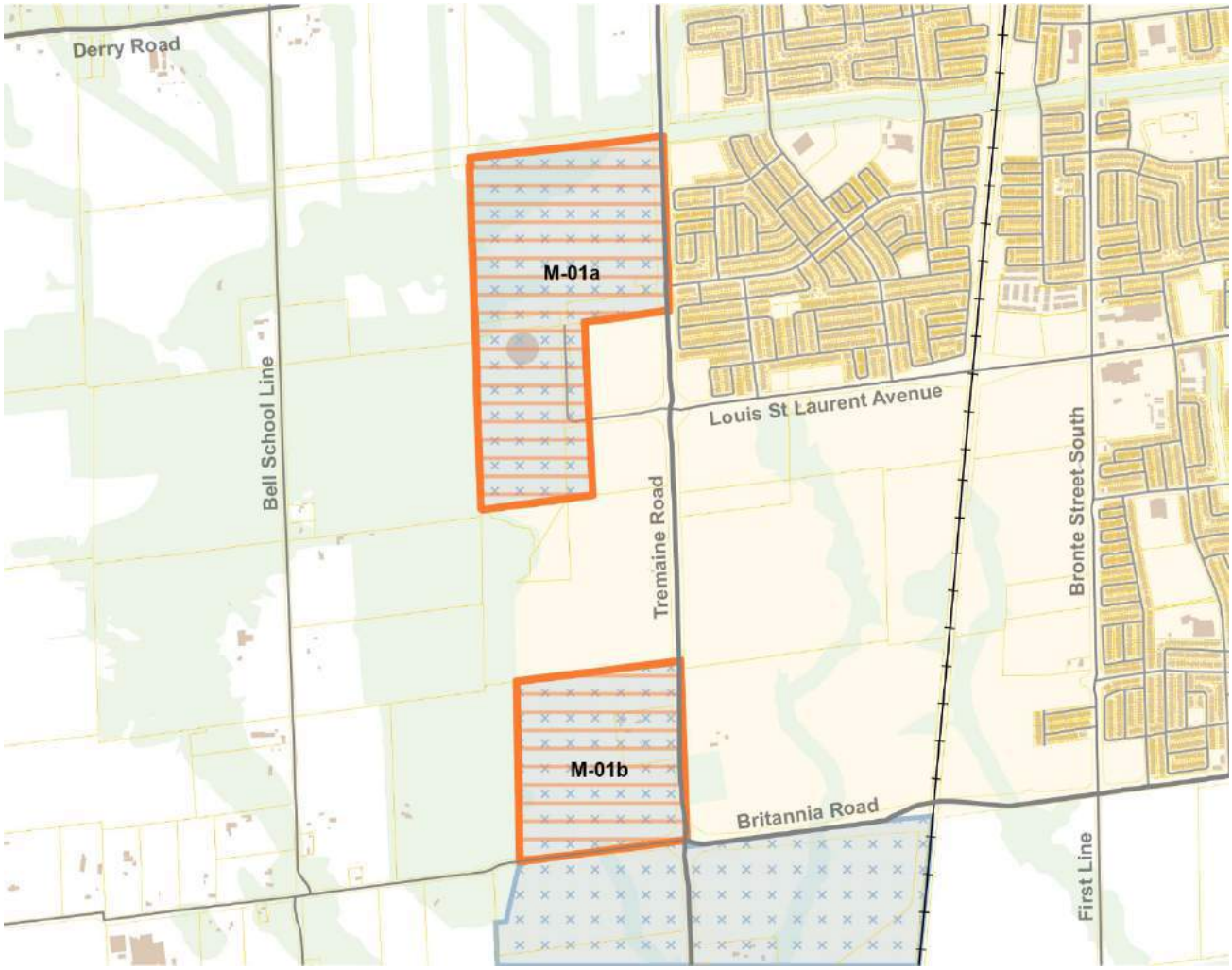
Summary of the Initial Assessment of Employment Conversion Requests within the Town of Milton

No.	Reference Name	Initial Assessment	Principle				IGMS Implementation Process	Page
			A	B	C	D		
M-01a	Milton Education Village (Northern Portion)	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA	35-36
M-01b	Milton Education Village (Southern Portion)	**Further Analysis**	✳	✳	✳	✳	Tested in Growth Concepts	37-38
M-02	Agerton	**Further Analysis**	✳	✳	✳	✳	Tested in Growth Concepts	39-40
M-04	Bronte/Main Lands	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA	41-42
M-05	Maple Avenue Major Commercial	**Supported**	✓	✓	✓	✓	Preferred Growth Concept	43-44
M-06	Steeles Avenue East Major Commercial	**Supported**	✓	✓	✓	✓	Preferred Growth Concept	45-46
M-07	405 Martin Street	**Supported**	✓	✓	✓	✓	Preferred Growth Concept	47-48
M-08	Bronte Street South Lands	**Not Supported**	×	×	✓	✓	Not Recommended to Advance	49-50
M-09	Fifth Line Farm	**Not Supported**	✓	×	×	✳	Not Recommended to Advance	51-52
Multiple [1]	Meritor Lands	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA	53-54

Notes

[1] – Includes Requests M-03 (Meritor Lands) and M-10 (170 Steeles Avenue West).

Request M-01a – Milton Education Village (Northern Portion)



Summary

The subject lands are located southwest of Tremaine Road and Derry Road within the Milton Education Village (MEV) Secondary Plan Area, and are currently vacant with the exception of the Mattamy National Cycling Centre. The removal of the lands from the Regional Employment Area is requested in order to permit the implementation of an Area-Specific Plan for this area that includes a mix of uses, including post-secondary facilities and innovative employment uses.

Proponent

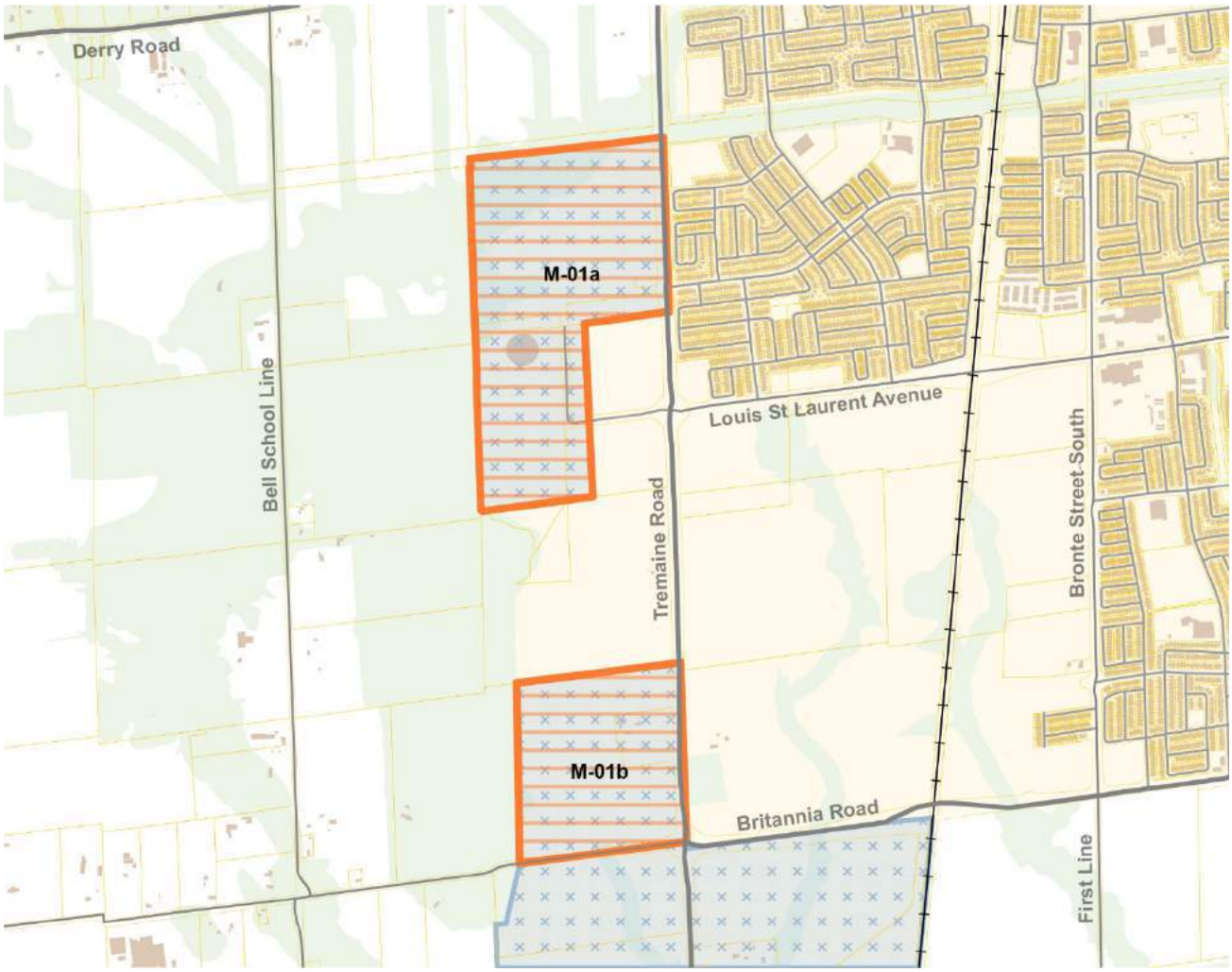
Town of Milton (see: Town Adopted Milton Education Village Secondary Plan)

Location	**Size**	**Adjacent Uses**
6554 & 6740 Tremaine Road, 2015 Pan Am Boulevard	52.1 hectares	Agricultural area (north), residential (east), vacant lands (south), Greenbelt and natural heritage system (west).
Existing Uses	**PSEZ**	**Local OP Designations (Adopted Secondary Plan)**
Vacant & Recreation	No	High Density Residential; Medium Density Residential I; Medium Density Residential II; Innovation Campus; NHS

Recommendation – Request M-01a		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – Request M-01a		
A Employment Land Supply	✓	• The subject lands are largely vacant and currently function as part of the supply of lands that could potentially accommodate certain kinds of employment uses in Halton Region. However, the potential for the lands to continue to accommodate different types of employment in the future, following a conversion, is a key consideration. • Analysis by the Town of Milton as well as through the IGMS process has identified such potential, which is to be planned for through an Area-Specific Plan for the area as required and directed by the Regional Official Plan. In particular, the Milton Education Village (MEV) as adopted by the Town of Milton identifies the potential to accommodate 3,659 jobs on the lands with the potential for additional growth over the long-term. • On this basis, given the location of the subject lands and their potential to continue to accommodate a significant amount of employment following conversion, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• A need for the conversion is demonstrated based on the strategic need to support the Regional Urban Structure and/or Local Urban Structure. The subject lands are located within the Milton Education Village (MEV) area. Further, within the MEV Secondary Plan as adopted by Town of Milton, the subject lands include portions of the areas identified as 'Innovation Campus' and 'Innovation District' which are areas planned to continue to accommodate employment following the conversion. • The conversion would enable strategic opportunities for growth that support the Regional and/or Local Urban Structure – in particular, by contributing to strategic growth management objectives such as accommodating significant population and employment growth, supporting post-secondary education, achieving density targets within strategic growth areas, and optimizing the use of existing infrastructure and transit.
C Employment Area Viability	✓	• The subject lands represent a self-contained Employment Area that is separated from the Regional Employment Areas to the north and south. Based on this context, the conversion would remove the Regional Employment Area in its entirety, removing concerns related to compatibility and ongoing viability given the change in the overall planned context. • Given the vacant condition of the subject lands and their physical and functional separation from other Regional Employment Areas, no impacts to ongoing viability or concerns related to compatibility are anticipated. In addition, any potential impacts could be planned for and addressed as required through the Area-Specific Plan for the area as mandated by the Regional Official Plan.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the subject lands will be subject to an Area-Specific Planning process and have been assessed as part of the IGMS, existing or planned infrastructure and public service facilities are expected to support the conversion request. • The request is supported by the Town of Milton.

Request M-01b – Milton Education Village (Southern Portion)



Summary

The subject lands are located west of Tremaine Road and north of Britannia Road within the Milton Education Village Secondary Plan Area, and are currently vacant. The removal of the lands from the Regional Employment Area is requested in order to permit the implementation of an Area-Specific Plan for this area that includes a mix of uses.

Proponent

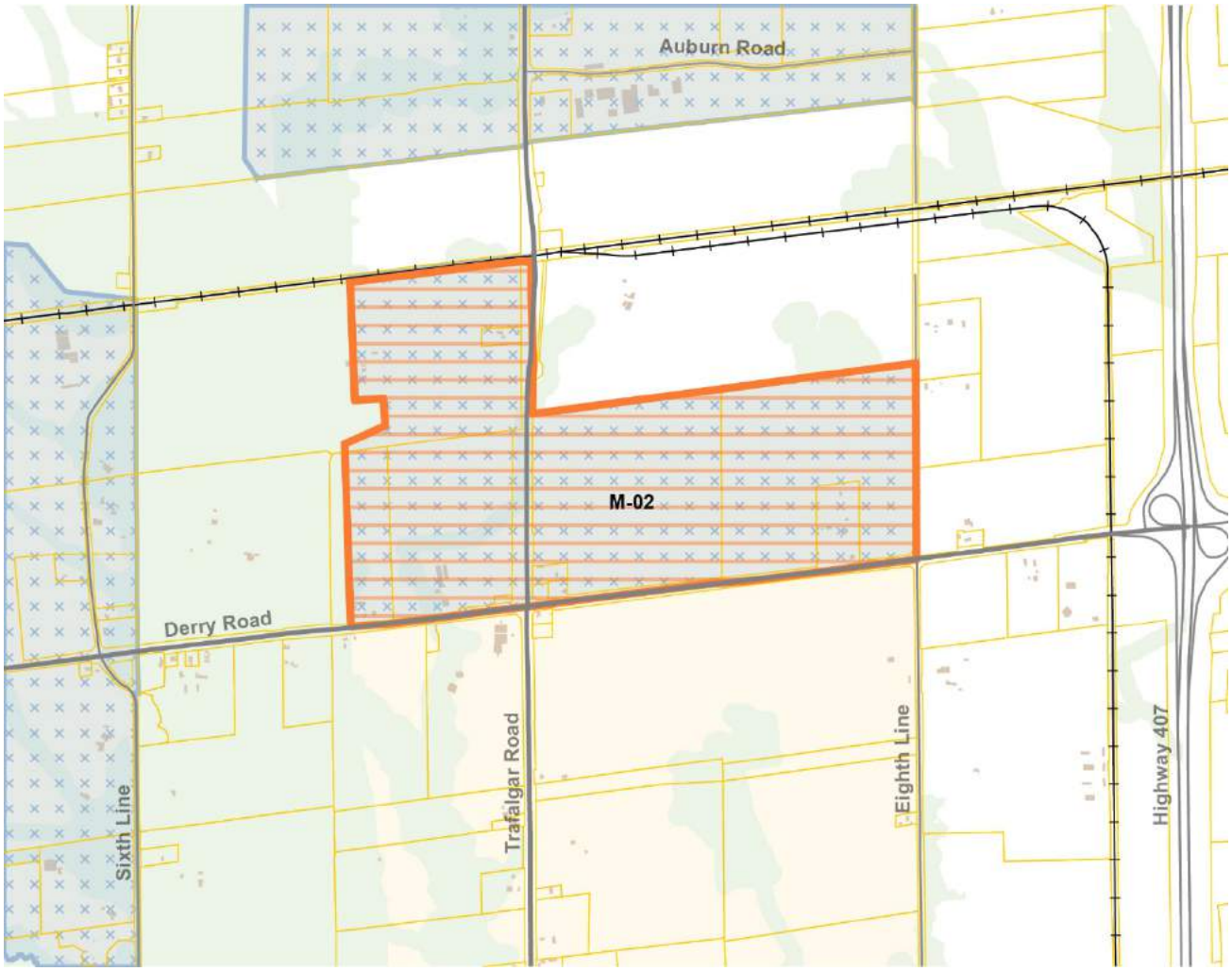
Town of Milton (see: Town Adopted Milton Education Village Secondary Plan)

Location	**Size**	**Adjacent Uses**
6116 Tremaine Road, 5465 Britannia Road	35.9 hectares	Vacant land (north), vacant land (east), vacant employment lands (south), Greenbelt and natural heritage system (west).
Existing Uses	**PSEZ**	**Local OP Designations (Adopted Secondary Plan)**
Vacant	No	High Density Residential; Medium Density Residential II; Medium Density Residential I

Recommendation – Request M-01b		
Further Analysis	✳	**Further analysis is required to determine a recommendation regarding the subject lands.**

Assessment – Request M-01b		
A Employment Land Supply	✳	• The subject lands currently function as part of the supply of lands that can accommodate certain types of employment uses in Halton. The subject lands are of a significant size, are currently vacant, are strategically located in relation to goods movement facilities, and are part of a contiguous Regional Employment Area. • As a result, further analysis is required to determine whether the conversion would have the potential to adversely impact the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✳	• A need for the conversion may be established based on the strategic location of the lands in the context of the Regional Urban Structure and/or Local Urban Structure given the location of the subject lands within the Milton Education Village area. • Further analysis is required to confirm the need for the conversion on the basis of its strategic location and strategic opportunity, including how the conversion contributes to the key strategic growth management objectives, as well as in relation to the considerations related to the overall supply of employment lands as discussed above.
C Employment Area Viability	✳	• The subject lands are connected to and part of a contiguous Regional Employment Area that extends south of Britannia Road on the west and east sides of Tremaine Road. It is recognized that the subject lands are separated by Britannia Road, which – if the subject lands were converted – could form a logical northern boundary for the Regional Employment Area. • Given the vacant condition of the subject lands and their general separation from other Regional Employment Areas, no significant impacts to ongoing viability or concerns related to compatibility are anticipated. In addition, any potential impacts could be planned for and addressed as required through the Area-Specific Plan for the area as mandated by the Regional Official Plan. However, further analysis is required to confirm the above and address how the conversion relates to the lands that are to remain within the Regional Employment Area to the south.
D General Considerations	✳	• No cross-jurisdictional issues were identified in the review of the request. • Given the size of the subject lands, further analysis is required to ensure the conversion can be supported by existing or planned infrastructure and public service facilities. • The request is supported by the Town of Milton.

Request M-02 – Agerton



Summary

The subject lands are located along Derry Road east of Sixth Line and west of Eighth Line within the Agerton Secondary Plan Area, and are currently vacant. The removal of the lands from the Regional Employment Area is requested in order to permit the development of an Area-Specific Plan that includes a mix of uses.

Proponent

Town of Milton (see Town's Draft Agerton Secondary Plan)

Location	Size	Adjacent Uses
7080, 7081, 7244 Trafalgar Road; 12805 & 13761 Derry Road; 7080 Eighth Line.	159.6 hectares	Rail corridor (north), agricultural area outside urban boundary (east), vacant land (south), Greenbelt Natural Heritage System (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Vacant	Yes (Partial)	Sustainable Halton Plan Growth Area – Employment; NHS

Recommendation – M-02		
Further Analysis	✳	**Further analysis is required to determine a recommendation regarding the subject lands.**

Assessment – M-02		
A Employment Land Supply	✳	• The subject lands currently function as part of the supply of lands that can accommodate certain types of employment uses in Halton. The subject lands are of a significant size, are currently vacant, and are strategically located in relation to goods movement facilities. It is also recognized that there may be potential to continue to accommodate employment growth on the subject lands following a conversion through planning for a mix of uses in the context of an Area-Specific Plan. • As a result, further analysis is required to determine whether the conversion would have the potential to adversely impact the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✳	• A need for the conversion may be established based on the strategic location of the lands in the context of the Regional Urban Structure and/or Local Urban Structure. The subject lands are in the vicinity of the Proposed Trafalgar GO Station identified as a part of the Regional Urban Structure as a Proposed Major Transit Station Area and have been identified as part of the Agerton Secondary Plan area by the Town of Milton. • The conversion could enable strategic opportunities for growth that support the Regional and/or Local Urban Structure – in particular, by contributing to strategic growth management objectives such as accommodating significant population and employment growth and achieving density targets within strategic growth areas. • Further analysis is required to confirm the need for the conversion on the basis of its strategic location and strategic opportunity in relation to the considerations related to the overall supply of employment lands as discussed above as well as the status and timing of the proposed GO Transit station.
C Employment Area Viability	✳	• The subject lands represent a self-contained Employment Area that is separated from the Regional Employment Areas to the west beyond Sixth Line and to the north beyond the rail and hydro corridors. Based on this context, their conversion would remove the Regional Employment Area in its entirety, removing, in part, concerns related to compatibility and ongoing viability given the change in the overall planned context. • Given the size of the subject lands and their physical and functional separation from other Regional Employment Areas, no impacts to ongoing viability or concerns related to compatibility are anticipated. In addition, any potential impacts could be planned for and addressed as required through the Area-Specific Plan for the area as mandated by the Regional Official Plan. However, further analysis is required to address how the conversion relates to the lands to the north owned by Canadian Pacific Railway from a compatibility perspective.
D General Considerations	✳	• No cross-jurisdictional issues were identified in the review of the request. • Given the size of the subject lands, further analysis is required to ensure the conversion can be supported by existing or planned infrastructure and public service facilities. • The request is supported by the Town of Milton.

Request M-04 – Bronte/Main Lands

Summary

The subject lands consist of a number of properties on the west and east sides of Bronte Street North south of Steeles Avenue and west of Downtown Milton currently occupied by existing employment uses and natural heritage areas. The removal of the lands from the Regional Employment Area is requested in order to permit mixed-use redevelopment.

Proponent

Town of Milton

Location	Size	Adjacent Uses
97, 270, 380 Bronte Street North	5.6 hectares	Employment and commercial (north), rail corridor and natural heritage (east), commercial and residential (south), NHS (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Employment / NHS	No	Business Park Area; Natural Heritage System

Recommendation – M-04		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – M-04		
A Employment Land Supply	✓	• Given the relatively small size and constrained nature of the parcels that make up the subject lands, as well as their potential to continue to accommodate employment following a conversion, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on both site-specific conditions as well as strategic considerations. In particular, the request identifies an opportunity for the conversion to continue to accommodate employment uses while enabling development within a mixed-use precinct that supports the Regional Urban Structure and/or Local Urban Structure. The lands are identified as both a Special Study Area and Intensification Areas within the Town's Official Plan and could contribute to strategic growth management objectives such as supporting significant population and employment growth and optimizing the use of infrastructure.
C Employment Area Viability	✓	• The subject lands are generally located on the southern periphery of the broader contiguous Regional Employment Area identified in the Town of Milton Official Plan as the 401 Industrial / Business Park area. Within this area, the subject lands are further separated by natural heritage and the railway corridor. A logical boundary could be delineated following their removal. • Given the size of the subject lands and their physical and functional separation from other Regional Employment Areas, no impacts to ongoing viability or concerns related to compatibility are anticipated.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the subject lands will be subject to more detailed planning processes process and have been assessed as part of the IGMS, existing or planned infrastructure and public service facilities are expected to support the conversion request. • The request is supported by the Town of Milton.

Request M-05 – Maple Avenue Major Commercial

Summary

The subject lands are located south of Highway 401, east of Thomson Road North, and north of Maple Avenue, and are currently occupied by commercial uses. The removal of the lands from the Regional Employment Area is requested in order to recognize the existing non-employment uses and local policy framework.

Proponent

Town of Milton

Location	**Size**	**Adjacent Uses**
1003, 1013, 1079, 1100, 1195 Maple Avenue	15.7 hectares	Highway 401 and Steeles Avenue East (north), residential (east), residential (south), residential and employment lands (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Commercial	No	Major Commercial Centre

Recommendation – M-05		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – M-05		
A Employment Land Supply	✓	• The subject lands are currently occupied by existing commercial uses and are functionally separated from the contiguous Regional Employment Area to the north beyond Highway 401 and as a result, do not form a functional part of the Region's supply of employment lands and have a low likelihood of doing so over the long-term. Given this context, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on site-specific conditions that are unique to the site, namely the existing non-employment uses that would limit the ability to accommodate certain kinds of employment uses over the long-term and the recognition of the local planning framework that reflects these uses.
C Employment Area Viability	✓	• The subject lands are located at the periphery of the Regional Employment Area and their removal would result in a logical boundary for the Regional Employment Area defined by Steeles Avenue East and Highway 401 and that more appropriately recognizes the non-employment uses on the subject lands. • The removal of the subject lands from the Regional Employment Area is not anticipated to create any concerns regarding compatibility or the overall viability of the remaining Regional Employment Area to the north given that the conversion will recognize existing commercial uses which are functionally and physically separated.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the conversion will recognize the existing conditions, it is expected that the existing infrastructure and public service facilities will continue to support the subject lands. • The request was made and supported by Town of Milton staff as part of the consultation with Local Municipalities through the Integrated Growth Management Strategy process.

Request M-06 – Steeles Avenue East Major Commercial

Summary

The subject lands are located north of Highway 401, west of James Snow Parkway North and south of Steeles Avenue East, and are currently occupied by a range of existing commercial uses. The removal of the lands from the Regional Employment Area is requested in order to recognize the existing non-employment uses and local policy framework.

Proponent

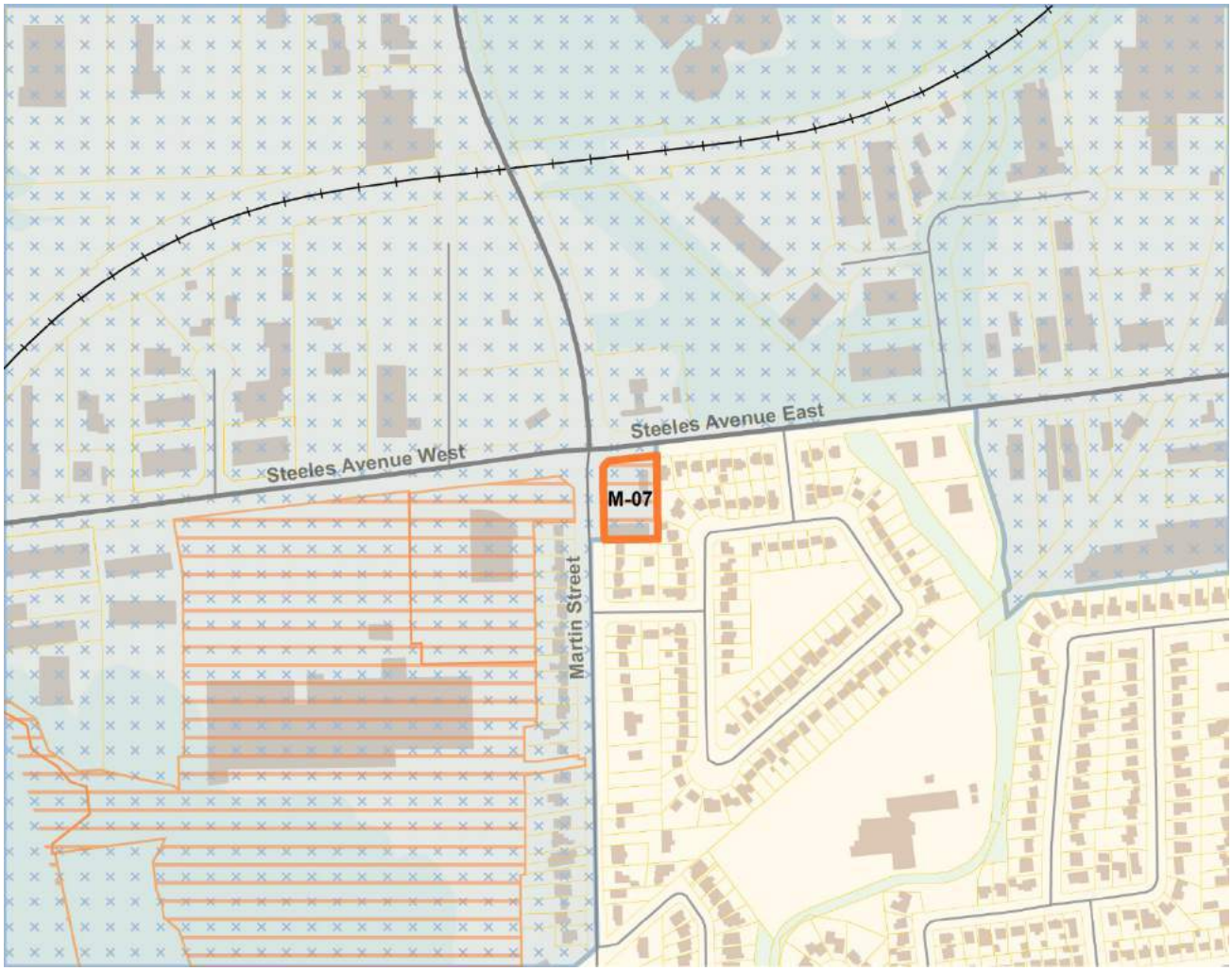
Town of Milton

Location	Size	Adjacent Uses
1180, 1200, 1210, 1280, 1600 Steeles Ave East	20.3 hectares	Employment (north), hydro corridor, employment (east), Highway 401 (south), employment (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Commercial	No	Major Commercial Centre

Recommendation – M-06		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – M-06		
A Employment Land Supply	✓	• The subject lands are currently occupied by existing commercial uses and are separated from the contiguous Regional Employment Area north of Steeles Avenue East and as a result, do not form a functional part of the Region's supply of employment lands and have a low likelihood of doing so over the long-term. Given this context, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on site-specific conditions that are unique to the site, namely the existing non-employment uses that would limit the ability to accommodate certain kinds of employment uses over the long-term and the recognition of the local planning framework that reflects these uses.
C Employment Area Viability	✓	• The subject lands are generally located at the periphery of the Regional Employment Area and their removal would result in a logical boundary for the Regional Employment Area defined by Steeles Avenue East and James Snow Parkway and that more appropriately recognizes the non-employment uses on the subject lands. • The removal of the subject lands from the Regional Employment Area is not anticipated to create any concerns regarding compatibility or the overall viability of the remaining Regional Employment Areas that are adjacent given that the conversion will recognize existing commercial uses which are functionally and physically separated.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the conversion will recognize the existing conditions, it is expected that the existing infrastructure and public service facilities will continue to support the subject lands. • The request was made and supported by Town of Milton staff as part of the consultation with Local Municipalities through the Integrated Growth Management Strategy process.

Request M-07 – 405 Martin Street



Summary

The subject lands are located south of Steeles Avenue and east of Martin Street, and are currently occupied by commercial uses. The removal of the lands from the Regional Employment Area is requested in order to recognize the existing non-employment uses and local policy framework.

Proponent

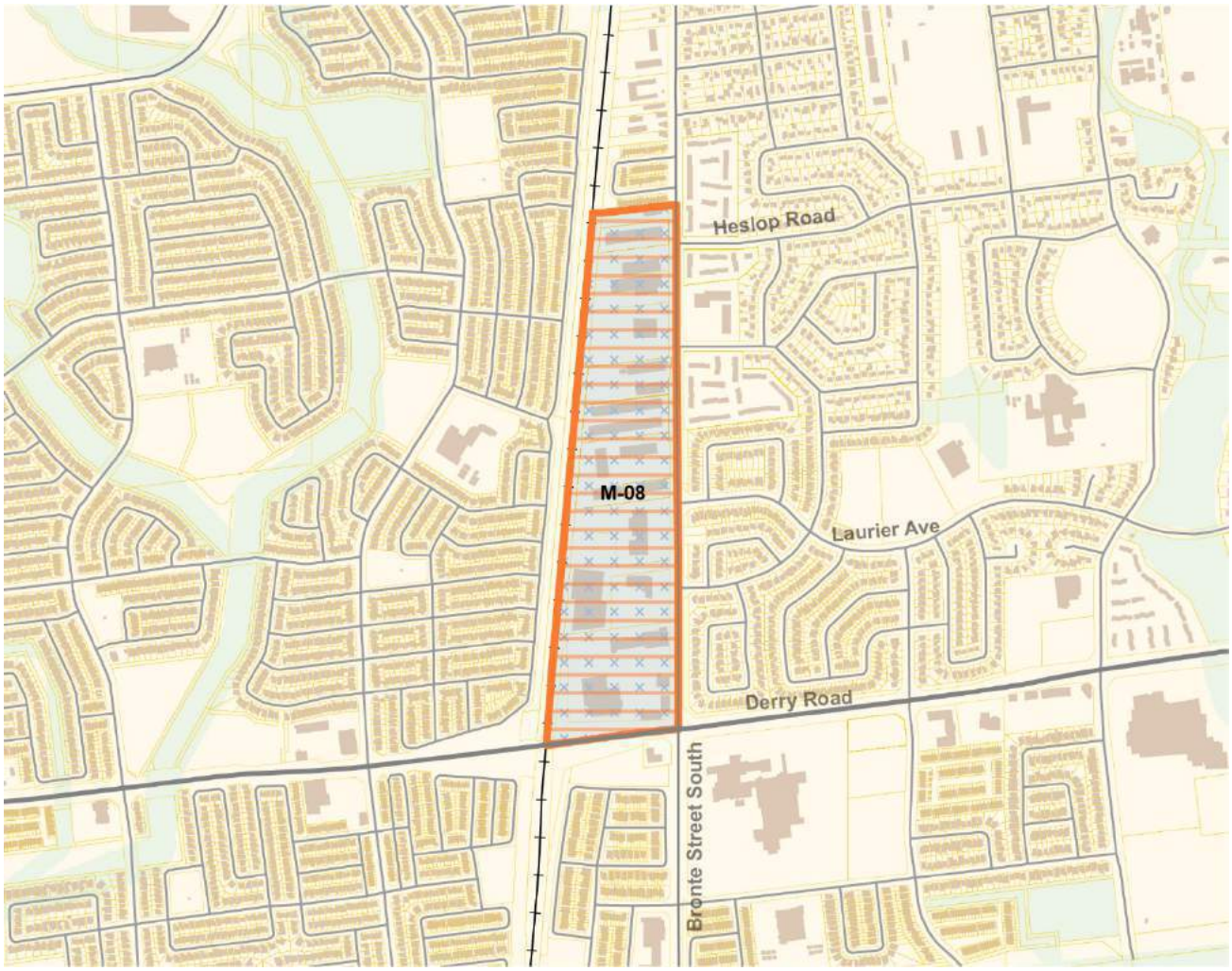
Town of Milton

Location	Size	Adjacent Uses
405 Martin Street	0.5 hectares	Commercial and vacant land (north), residential (east), residential (south), employment (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Commercial	No	Business Commercial Area

Recommendation – M-07		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – M-07		
A Employment Land Supply	✓	• The subject lands are small in size and currently occupied by existing commercial uses. Further, the lands are separated from the contiguous Regional Employment Area north of Steeles Avenue East and west of Martin Street and as a result, do not form a functional part of the Region's supply of employment lands and have a low likelihood of doing so over the long-term. Given this context, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on site-specific conditions that are unique to the site, namely the site's small scale and existing non-employment uses that would limit the ability to accommodate certain kinds of employment uses over the long-term and the recognition of the local planning framework that reflects these uses.
C Employment Area Viability	✓	• The subject lands are located at the periphery of the Regional Employment Area and their removal would result in a logical boundary for the Regional Employment Area defined by Steeles Avenue East and Martin Street and that more appropriately recognizes the non-employment uses on the subject lands. • The removal of the subject lands from the Regional Employment Area is not anticipated to create any concerns regarding compatibility or the overall viability of the remaining Regional Employment Areas that are adjacent given that the conversion will recognize existing commercial uses which are functionally and physically separated.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the conversion will recognize the existing conditions, it is expected that the existing infrastructure and public service facilities will continue to support the subject lands. • The request was made and supported by Town of Milton staff as part of the consultation with Local Municipalities through the Integrated Growth Management Strategy process.

Request M-08 – Bronte Street South Lands



Summary

The subject lands are northwest of Derry Road and Bronte Street South, east of the CN Rail corridor, and are currently occupied by a range of employment and commercial uses. The removal of the lands from the Regional Employment Area is requested in order to recognize the existing non-employment uses.

Proponent

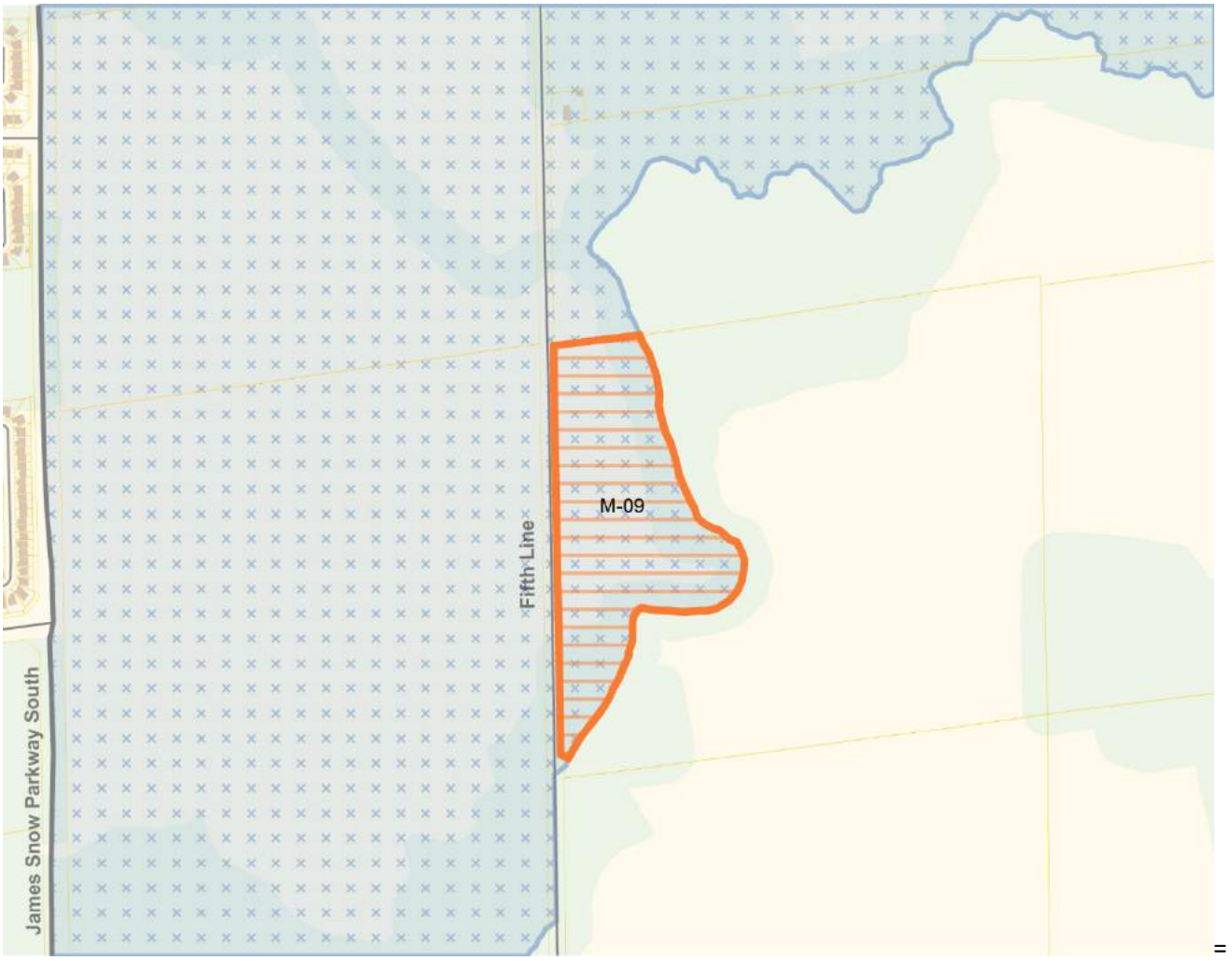
Town of Milton

Location	Size	Adjacent Uses
330-420 Bronte Street South	25 hectares	Residential (north), residential (east), residential, office, and institutional (south), residential (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Employment and Commercial	No	Office Employment Area

Recommendation – M-08		
Not Supported	×	**Regional staff recommend retaining the subject lands within the Regional Employment Areas.**

Assessment – M-08		
A Employment Land Supply	×	• The subject lands currently function as part of the supply of lands that can accommodate certain types of employment uses in Halton. They are a significant size, are designated 'Office Employment Area' in the Town's Official Plan and are largely occupied by a range of office, light industrial and commercial uses that have a relatively high employment density. It is reasonable to expect that the lands will continue to accommodate these uses and provide opportunities for further employment intensification over the long-term. • Given this context, the conversion could undermine the ability of these lands to continue to accommodate employment and could result in adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	×	• A need for the conversion has not been identified on the basis of a strategic need to support the Regional Urban Structure and/or Local Urban Structure or on the basis of a site-specific condition or constraint. • The subject lands appear to be appropriately identified within a Regional Employment Area and a local employment designation – additional changes to the policy framework that applies to the lands could address concerns related to the appropriate range of uses.
C Employment Area Viability	✓	• The subject lands represent a relatively small Regional Employment Area that is not located in proximity to or as part of a broader contiguous Regional Employment Area adjacent to major goods movement facilities or infrastructure – their removal would result in no remaining employment area in this area. • Given the size of the subject lands, the nature of the existing uses, and their physical and functional separation from other Regional Employment Areas, no impacts to ongoing viability or concerns related to compatibility would be anticipated.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the conversion will recognize the existing conditions, it is expected that the existing infrastructure and public service facilities will continue to support the subject lands. • The request was made and supported by Town of Milton staff as part of the consultation with Local Municipalities through the Integrated Growth Management Strategy process.

Request M-09 – Fifth Line Farm



Summary

The subject lands are located east of Fifth Line, south of Derry Road, and north of Britannia Road, and are currently vacant. The removal of the lands from the Regional Employment Area is requested in order to permit a place of worship.

Proponent

Fifth Line Farming Ltd. (Mattamy) / Korsiak Planning

Location	**Size**	**Adjacent Uses**
Portion of 6343 Fifth Line	4.8 hectares	Vacant (north), vacant (east), vacant (south), vacant (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Vacant	Yes	Business Park Area

Recommendation – M-09		
Not Supported	×	**Regional staff recommend retaining the subject lands within the Regional Employment Areas.**

Assessment – M-09		
A Employment Land Supply	✓	• The subject lands currently function as part of the supply of lands that can accommodate certain types of employment uses in Halton. It is noted that the size of the parcel is small at 4.6 ha, which may be further fragmented due to the transportation network identified for the area. It is also noted that the potential place of worship could occupy only 1.4 ha of the subject lands, with the remaining areas available for other uses that may provide employment opportunities. • Given this context, the conversion is unlikely to have the potential to adversely impact the overall supply of employment lands or the ability to achieve employment targets by 2051, absent consideration of potential impacts to the long-term viability of the employment area discussed below.
B Demonstrated Need	×	• A need for the conversion has not been identified on the basis of a strategic need to support the Regional Urban Structure and/or Local Urban Structure. • However, the request identifies certain site-specific constraints, namely the irregular shape and size of the subject lands, which, it is argued, limit their potential for employment uses and demonstrate the need for the conversion. While these conditions may be present, it is not clear that they would preclude the lands from accommodating employment or employment-supportive uses and as a result, the request does not sufficiently demonstrate a need for the conversion.
C Employment Area Viability	×	• While the subject lands are generally on the periphery of the Regional Employment Area known as the Derry Green Business Park in the Town of Milton's Official Plan, the existing eastern boundary defined by the Regional Natural Heritage System remains a well-defined and logical boundary. The removal of the subject lands would create a condition whereby the subject lands are isolated in between the Regional Employment Area to the west and the Regional Natural Heritage System to the east. • More importantly, the conversion would enable the introduction of sensitive land uses on the subject lands. The Regional Employment Area west of Fifth Line is largely vacant at this time but has been identified in the Town's Official Plan as an area where a range of employment uses are to be accommodated. The introduction of sensitive land uses in close proximity may limit the types of employment uses that could be located west of Fifth Line, potentially introducing compatibility concerns and undermining the overall viability of the Regional Employment Area.
D General Considerations	✳	• No cross-jurisdictional issues were identified in the review of the request. • A position on the conversion request has not been provided by the Town. Further information on the Town's position can be provided through subsequent consultation.

Request – Meritor Lands (M-03, M-10)

Summary

The subject lands consist of a number of properties south of Steeles Avenue East, west of Martin Street and east of the rail corridor adjacent to Bronte Street North that are either vacant or currently occupied by existing employment uses and natural heritage. The removal of the lands from the Regional Employment Area is requested in order to permit mixed-use redevelopment.

Proponent		
Town of Milton		
Location	**Size**	**Adjacent Uses**
150, 170 Steeles Avenue	13.6 ha	Employment and commercial (north), residential (east), commercial and residential (south), NHS (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Employment / Commercial	Partial	Business Park Area; Natural Heritage System

Recommendation – Meritor Lands (M-03, M-10)		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – Meritor Lands (M-03, M-10)		
A Employment Land Supply	✓	• The subject lands are located in proximity to existing residential uses that front onto Martin Street that would limit the ability to accommodate certain types of employment uses over the long-term. Given this context, as well as the strategic proximity to Steeles Avenue and Downtown Milton and the potential to continue to accommodate certain kinds of employment, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on both site-specific conditions as well as strategic considerations. In particular, the request identifies an opportunity for the conversion to continue to accommodate employment uses while enabling development within a mixed-use precinct that supports the Regional Urban Structure and/or Local Urban Structure. The lands are identified as both a Special Study Area and Intensification Areas within the Town's Official Plan and could contribute to strategic growth management objectives such as supporting significant population and employment growth and optimizing the use of infrastructure.
C Employment Area Viability	✓	• The subject lands are generally located on the southern periphery of the broader contiguous Regional Employment Area identified in the Town of Milton Official Plan as the 401 Industrial / Business Park area. Should the conversion of the Bronte/Main Lands identified as Request #M-03 also be supported, a logical boundary could be delineated for the remaining Regional Employment Area along Steeles Avenue West, with a small portion of the Regional Employment Area south of Steeles remaining west of the subject lands. • Given the location of the subject lands adjacent to existing residential uses as well as their physical and functional separation from other Regional Employment Areas, no impacts to ongoing viability or concerns related to compatibility are anticipated.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the subject lands will be subject to more detailed planning processes process and have been assessed as part of the IGMS, existing or planned infrastructure and public service facilities are expected to support the conversion request. • The request is supported by the Town of Milton.

Town of Oakville

Summary of the Initial Assessment of Employment Conversion Requests within the Town of Oakville

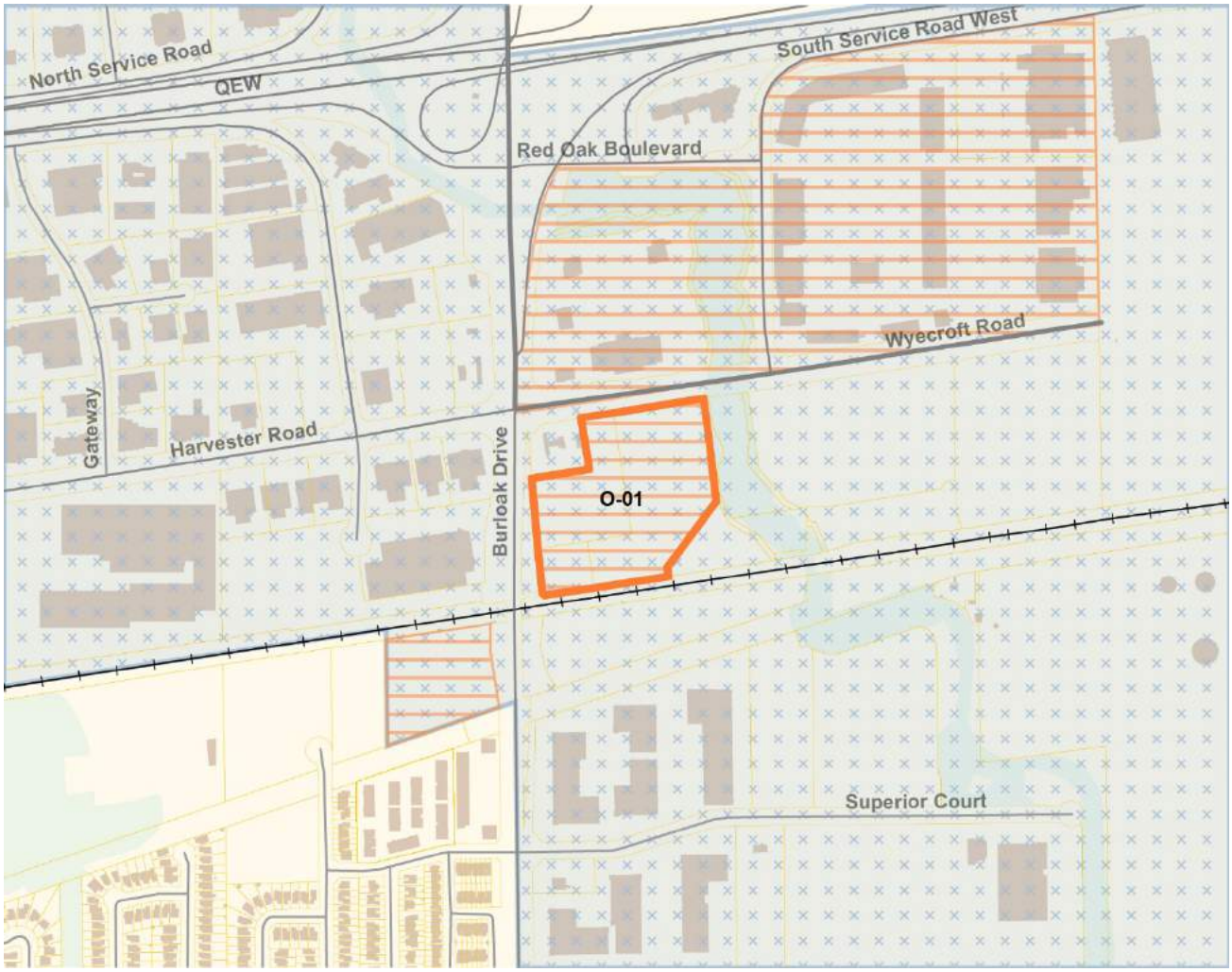
No.	Reference Name	Initial Assessment	Principle				IGMS Implementation Process	Page
			A	B	C	D		
O-01	677 Burloak Drive	**Further Analysis**	✳	✳	✳	✓	To Be Determined	57-58
O-02	337, 353 Burnhamthorpe Road West	**Supported**	✓	✓	✓	✓	Preferred Growth Concept	59-60
O-03	240 Leighland Avenue	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA	61-62
O-05	Palermo Village	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA	63-64
O-06a	Bronte GO MTSA (Initial Area)	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA	65-66
O-06b	Bronte GO MTSA (Remaining Area)	**Further Analysis**	✳	✳	✳	✳	Tested in Growth Concepts	67-68
O-07	Hospital District	**Supported**	✓	✓	✓	✓	Initial Scoped ROPA	69-70
O-08	Speers Road Corridor	**Policy Consideration**	–	–	–	–	Considered via Policy Review	71-72
O-09	Winston Park Core Commercial	**Supported**	✓	✓	✓	✓	Preferred Growth Concept	73-74
O-10	Burloak Core Commercial	**Supported**	✓	✓	✓	✓	Preferred Growth Concept	75-76
O-11	497-513 Pinegrove Road	**Supported**	✓	✓	✓	✓	Preferred Growth Concept	77-78
O-13	Winston Park West Core Commercial	**Supported**	✓	✓	✓	✓	Preferred Growth Concept	79-80
O-14	584 Ford Drive	**Supported**	✓	✓	✓	✓	Preferred Growth Concept	81-82
O-16	Winston Churchill / Sheridan Garden Drive	**Supported**	✓	✓	✓	✓	Preferred Growth Concept	83-84
O-17	Sixth Line / Burnhamthorpe Road	**Supported**	✓	✓	✓	✓	Preferred Growth Concept	85-86
O-18	3164 Ninth Line	**Further Analysis**	✳	✳	✓	✳	To Be Determined	87-88
O-19	263 Burnhamthorpe Road West	**Not Supported**	×	×	×	×	Not Recommended to Advance	89-90
O-20	Dundas & McCraney Creek	**Not Supported**	×	×	×	×	Not Recommended to Advance	91-92
O-22	Burnhamthorpe / Neyagawa (Northwest Quadrant)	**Further Analysis**	✳	✳	✳	✳	Tested in Growth Concepts	93-94
O-23	3515-3545 Rebecca Street	**Not Supported**	×	×	×	×	Not Recommended to Advance	95-96
Multiple [1]	Burnhamthorpe Road East	**Not Supported**	×	×	×	×	Not Recommended to Advance	97-98
Multiple [2]	The Parkway	**Supported**	✓	✓	✓	✓	Preferred Growth Concept	99-100

Notes

[1] – Includes Requests O-15 and O-21 which are located in a cluster along Burnhamthorpe Road East

[2] – Includes Requests O-04 and O-12 which are located in the area northwest of Upper Middle Rd. and Ninth Line known as The Parkway

Request O-01 – 677 Burloak Drive



Summary

The subject lands are located south of Wyecroft Road and west of Burloak Drive and are currently vacant. The removal of the lands from the Regional Employment Area is requested in order to permit commercial uses.

Proponent

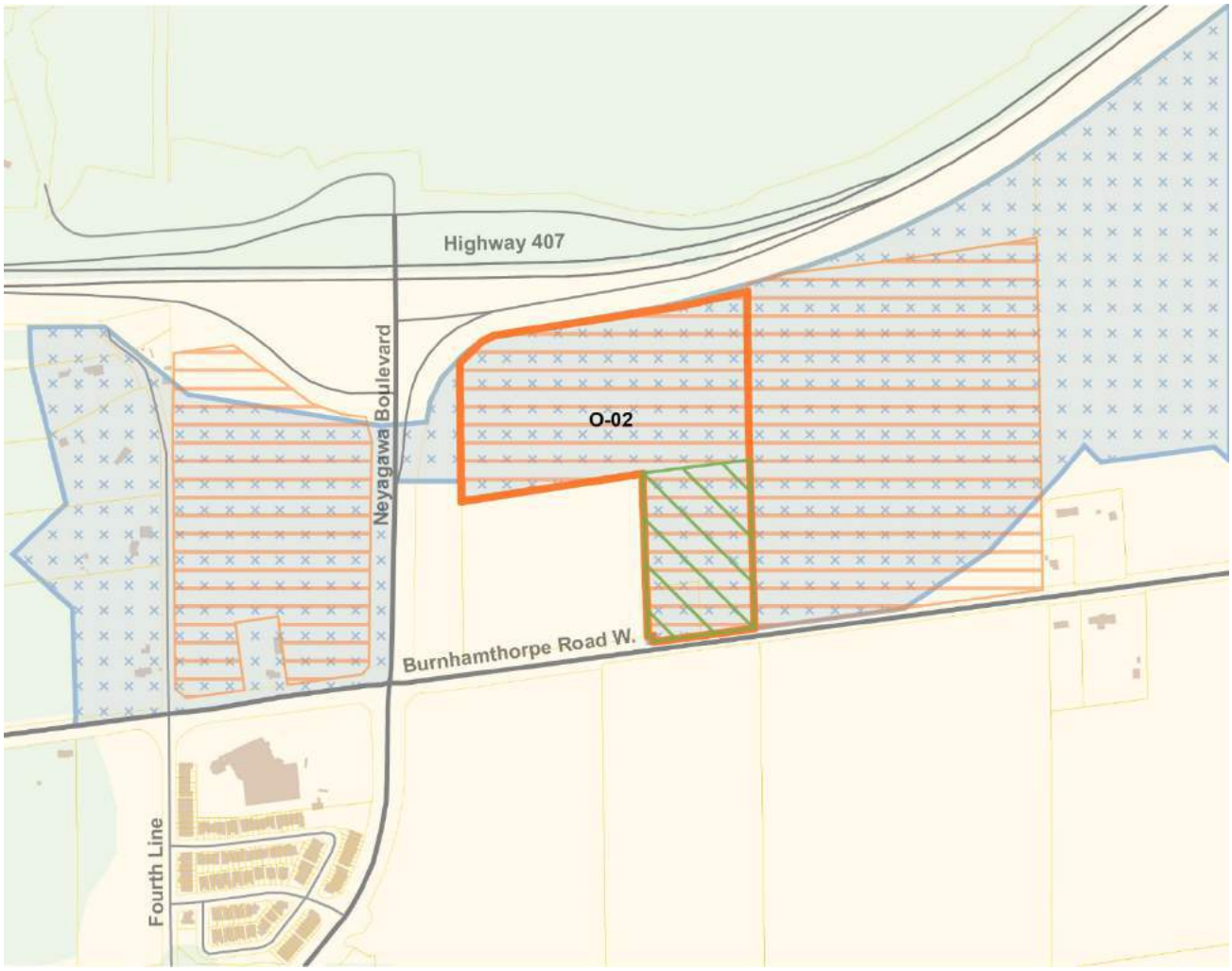
Town of Oakville (see: Item 5 in Appendix F to Report dated 2018-04-16) / RioCan Burloak

Location	Size	Adjacent Uses
677 Burloak Drive	5 hectares	Commercial (north), natural heritage and vacant lands, rail corridor and vacant (south), employment (west).
Existing Uses	**PSEZ**	**Local OP Designations (Livable Oakville)**
Vacant	Yes	Business Employment; Business Commercial

Recommendation – Request O-01		
Further Analysis	✳	**Further analysis is required to determine a recommendation regarding the subject lands.**

Assessment – Request O-01		
A Employment Land Supply	✳	• The subject lands currently function as part of the supply of lands that could accommodate certain types of employment uses in Halton. They are five hectares in size, are strategically located in relation to goods movement facilities, and are part of a large contiguous Regional Employment Area along the QEW Highway corridor. • As a result, further analysis is required to determine whether the conversion would have the potential to adversely impact the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✳	• A need for the conversion has not been identified on the basis of a strategic need to support the Regional Urban Structure and/or Local Urban Structure. However, certain site-specific constraints have been identified, including the future grade separation of Burloak Drive and parcel configuration and access constraints. • Further analysis is required to determine whether these site-specific conditions would preclude the development of the lands for employment or employment supportive uses within the existing Regional Employment Area and whether they adequately demonstrate the need for the conversion when viewed in the context of the other considerations discussed in this assessment.
C Employment Area Viability	✳	• The lands are part of a contiguous Regional Employment Area identified along the QEW Highway corridor. However, it is recognized that within this context, the subject lands may be seen as physically and functionally isolated due to the natural heritage system to the east, the railway corridor to the south and Burloak Drive to the west. Further, the lands to the north contain existing commercial uses and an initial assessment has recommended their removal from the Regional Employment Area (see Request #O-10). As a result, and given the intended commercial designation following a conversion, a logical boundary for the Regional Employment Area could be delineated. • However, the introduction of additional commercial uses on the subject lands could introduce further conversion pressures and potentially impact the continued viability of the remaining Regional Employment Areas to the west and east over the long-term, and further analysis is required to determine the extent of this potential impact and whether it can be addressed in order satisfy the Employment Area Viability Principle.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • Given the scale and location of the subject lands, existing or planned infrastructure and public service facilities are expected to support the conversion request. • The request was supported by the Town of Oakville as set out in Appendix F to the Town's Report dated April 16, 2018.

Request O-O2 – 337 & 353 Burnhamthorpe Road West



Summary

The subject lands are located east of Neyagawa Boulevard and north of Burnhamthorpe Road West and are currently vacant. It is understood that the request as filed by Westkirk Capital Inc. seeks to remove the 3.3-hectare portion of the lands with frontage onto Burnhamthorpe Road (shown with green hatching above in order to consolidate these lands for development with those to the west designated locally as part of the Neyagawa Urban Core.

Proponent

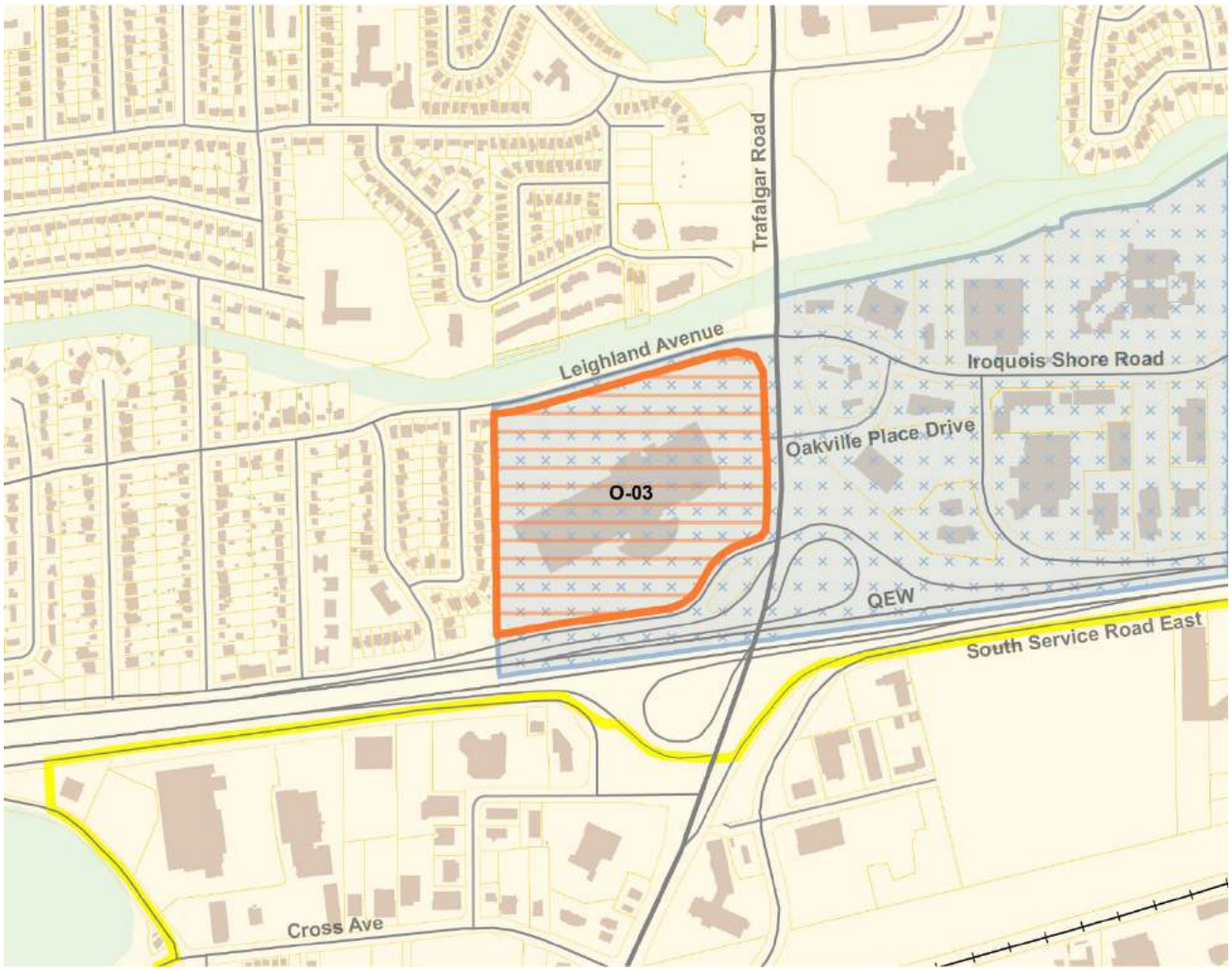
Town of Oakville / Westkirk Capital Inc.

Location	Size	Adjacent Uses
337 & 353 Burnhamthorpe Road West	12.6 hectares	Highway 407 (north), vacant lands (east), vacant lands (south), Neyagawa Boulevard (west)
Existing Uses	**PSEZ**	**Local OP Designations (North Oakville East Plan)**
Vacant	No	Employment District

Recommendation – O-02		
Supported	✓	**Regional staff recommend removing the 3.3-hectare portion of the subject lands with frontage on Burnhamthorpe Road West from the Regional Employment Areas.**

Assessment – O-02		
A Employment Land Supply	✓	• The subject lands in their entirety currently function as part of the supply of lands that could potentially accommodate certain types of employment uses in Halton. They are a significant size, are currently vacant, are strategically located in relation to goods movement facilities, and are part of a large contiguous Regional Employment Area along the Highway 407 corridor. • On this basis, the conversion of the subject lands in their entirety would have an adverse impact on the overall supply of employment lands and the ability to achieve employment targets by 2051. However, given the location, small size, and potential to continue to accommodate employment as part of the Neyagawa Urban Core, the removal of the 3.3-hectare portion of the subject lands (of which approximately 1 hectare is required for a planned stormwater management facility) is not anticipated to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion of the 3.3-hectare portion of the subject lands with frontage onto Burnhamthorpe Road West is demonstrated based on both site-specific conditions as well as strategic considerations. • The conversion would recognize the functional relationship between a portion of the subject lands and the area to the west, which forms part of the Neyagawa Urban Core identified as part of the Town's urban structure. • The request also highlights the planned stormwater management pond on the subject lands, the location of which has the effect of isolating the lands with frontage onto Burnhamthorpe Road West, constraining this area and demonstrating a need for the conversion from this perspective.
C Employment Area Viability	✓	• The 3.3-hectare portion of the subject lands with frontage onto Burnhamthorpe Road West are located at the southern periphery of the Regional Employment Area as it is currently delineated. The removal of the lands would result in a logical boundary for the Regional Employment Area defined by the stormwater management pond to the north and recognizes the Regional Employment Area to the north and east. • The removal of the subject lands from the Regional Employment Area is not anticipated to create any concerns regarding compatibility or the overall viability of the remaining Regional Employment Area.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • Given the small-scale of the subject lands supported for conversion, existing or planned infrastructure and public service facilities are expected to support the conversion request. • A request for the subject lands was considered by the Town of Oakville (see: Request #8 in Appendix F to the Town's Report dated April 16, 2018) but was not supported at the time. However, the request was supported by Town of Oakville staff as part of the consultation with Local Municipalities through the Integrated Growth Management Strategy process.

Request O-03 – 240 Leighland Avenue



Summary

The subject lands are located west of Trafalgar Road and north of the Queen Elizabeth Way and are occupied by an existing shopping mall known as Oakville Place. The removal of the lands from the Regional Employment Area is requested in order to recognize the existing non-employment uses and local policy framework.

Proponent

Town of Oakville (see: Item 19 in Appendix F to Report dated 2018-04-16) / Riocan Oakville Place

Location	Size	Adjacent Uses
240 Leighland Avenue	11.7 hectares	Parks and open space (north), employment (east), QEW (south), residential (west).
Existing Uses	**PSEZ**	**Local OP Designations (Livable Oakville)**
Commercial	No	Core Commercial

Recommendation – O-03		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – O-03		
A Employment Land Supply	✓	• The subject lands are currently occupied by existing commercial uses and as a result, do not form a functional part of the Region's supply of employment lands and have a low likelihood of doing so over the long-term. Given this context, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on site-specific conditions that are unique to the site, namely the existing non-employment uses that would limit the ability to accommodate certain kinds of employment uses over the long-term and the recognition of the local planning framework that reflects these uses.
C Employment Area Viability	✓	• The subject lands are located at the periphery of the Regional Employment Area. The removal of the lands would result in a logical boundary for the Regional Employment Area that recognizes the Regional Employment Area to the east which is functionally separated by Trafalgar Road. • The removal of the subject lands from the Regional Employment Area is not anticipated to create any concerns regarding compatibility or the overall viability of the remaining Regional Employment Areas to the east given that the conversion will recognize existing commercial uses which are functionally and physically separate.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the conversion will recognize the existing conditions, it is expected that the existing infrastructure and public service facilities will continue to support the subject lands. • The request was supported by the Town of Oakville as set out in Appendix F to the Town's Report dated April 16, 2018.

Request O-05 - Palermo Village

Summary

The subject lands are located on the northwest corner of Dundas Street West and Bronte Road. The lands are currently vacant. The Town of Oakville recommends the lands be removed from the Employment Area Overlay to support the Town's objectives for the Palermo Growth Area.

Proponent

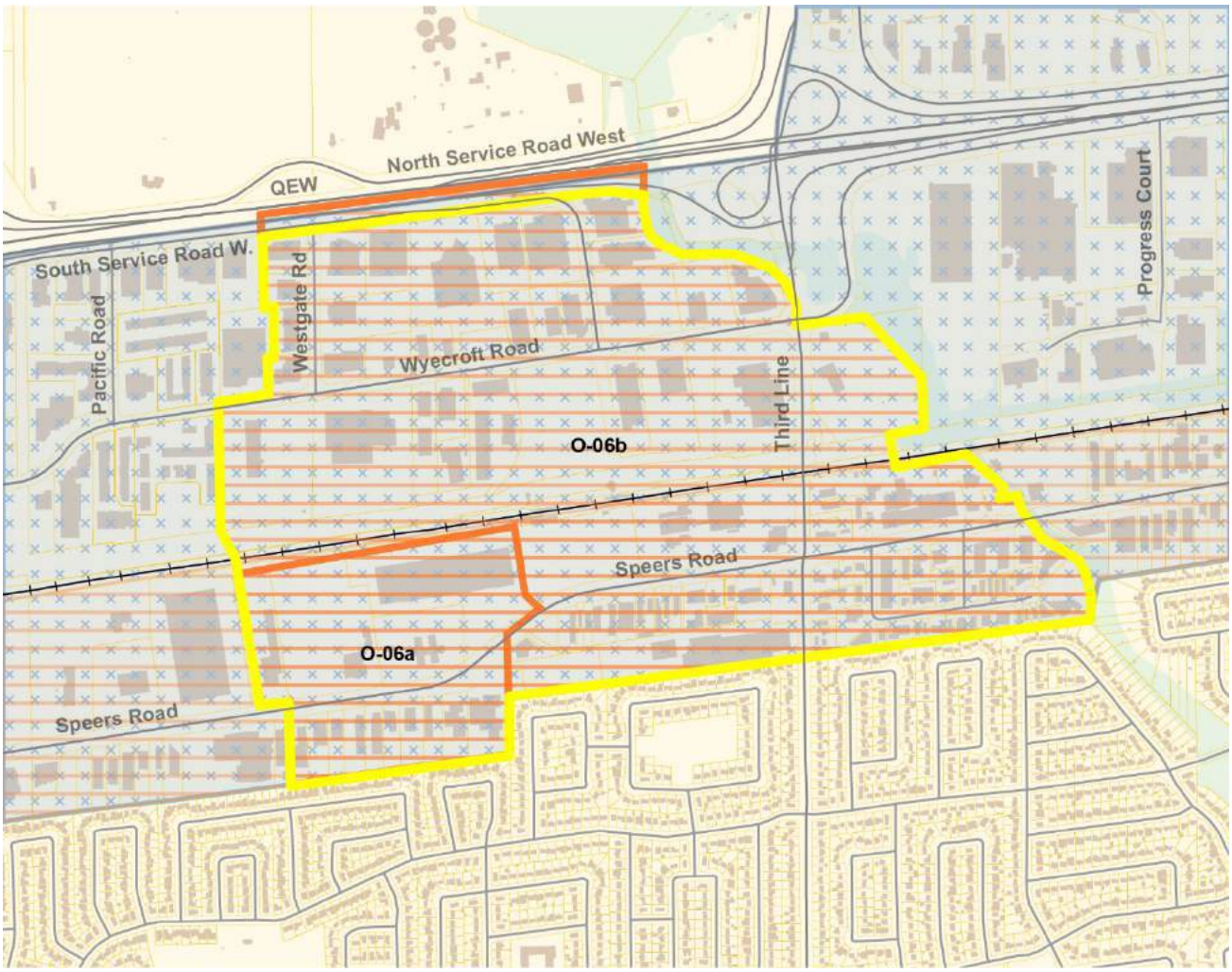
Town of Oakville

Location	**Size**	**Adjacent Uses**
3069 Dundas Street West (Portion)	32.3 hectares	Vacant (north), Bronte Road (east), residential (south), natural heritage (west).
Existing Uses	**PSEZ**	**Local OP Designations (North Oakville West Plan)**
Vacant	No	Employment District

Recommendation – O-05		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – O-05		
A Employment Land Supply	✓	• The subject lands could function as part of the supply of lands that can accommodate certain types of employment uses in Halton. They are significant in size, are currently vacant, and are strategically located in relation to goods movement facilities (in particular a highway interchange). • At the same time, the lands are located adjacent to the Palermo Village Growth Area identified in the Town's Official Plan and are identified as a node for further study within the Town's Urban Structure. A draft official plan amendment prepared by the Town would include the lands within the Palermo Village Growth Area and would continue to provide opportunities for employment uses, particularly within the proposed Civic District which permits commercial, offices, and major office uses. • On this basis, given the size and location of the subject lands and their potential to continue to accommodate employment following conversion, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• A need for the conversion is demonstrated based on the strategic need to support the Regional Urban Structure and/or Local Urban Structure. The subject lands are located northwest of the Palermo Village Growth Area and are identified within the Town's Urban Structure as a Node for Further Study and a Proposed Regional Transit Node and as a result have the potential to form part of a key strategic growth area. • The conversion would enable strategic opportunities for growth that support the Regional and/or Local Urban Structure – in particular, by contributing to strategic growth management objectives such as accommodating significant population and employment growth, and optimizing the use of existing infrastructure and transit.
C Employment Area Viability	✓	• The subject lands are located at on the periphery of the Regional Employment Area located on the north side of Dundas Street between Bronte Road in the east and Tremaine Road to the west. They are further functionally separated from these other areas by the Natural Heritage System identified in the area, and a logical boundary could be delineated following their removal. • Given the physical and functional separation between the remaining Regional Employment Areas and the subject lands, no impacts to ongoing viability or concerns related to compatibility are anticipated.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the subject lands will be subject to an Area-Specific Planning process and have been assessed as part of the IGMS, existing or planned infrastructure and public service facilities are expected to support the conversion request. • The request was made and supported by Town of Oakville staff as part of the consultation with Local Municipalities through the Integrated Growth Management Strategy process.

Request O-06a – Bronte GO MTSA (Initial Area)



Summary

The subject lands consist of a number of properties within the area proposed to be delineated as the Bronte GO Major Transit Station Area. For analysis and implementation purposes, this assessment focuses on the southwestern portion of the proposed Bronte GO MTSA. The removal of the lands from the Regional Employment Area is requested in order to permit the development of an Area-Specific Plan for this strategic growth area that includes a mix of uses.

Proponent

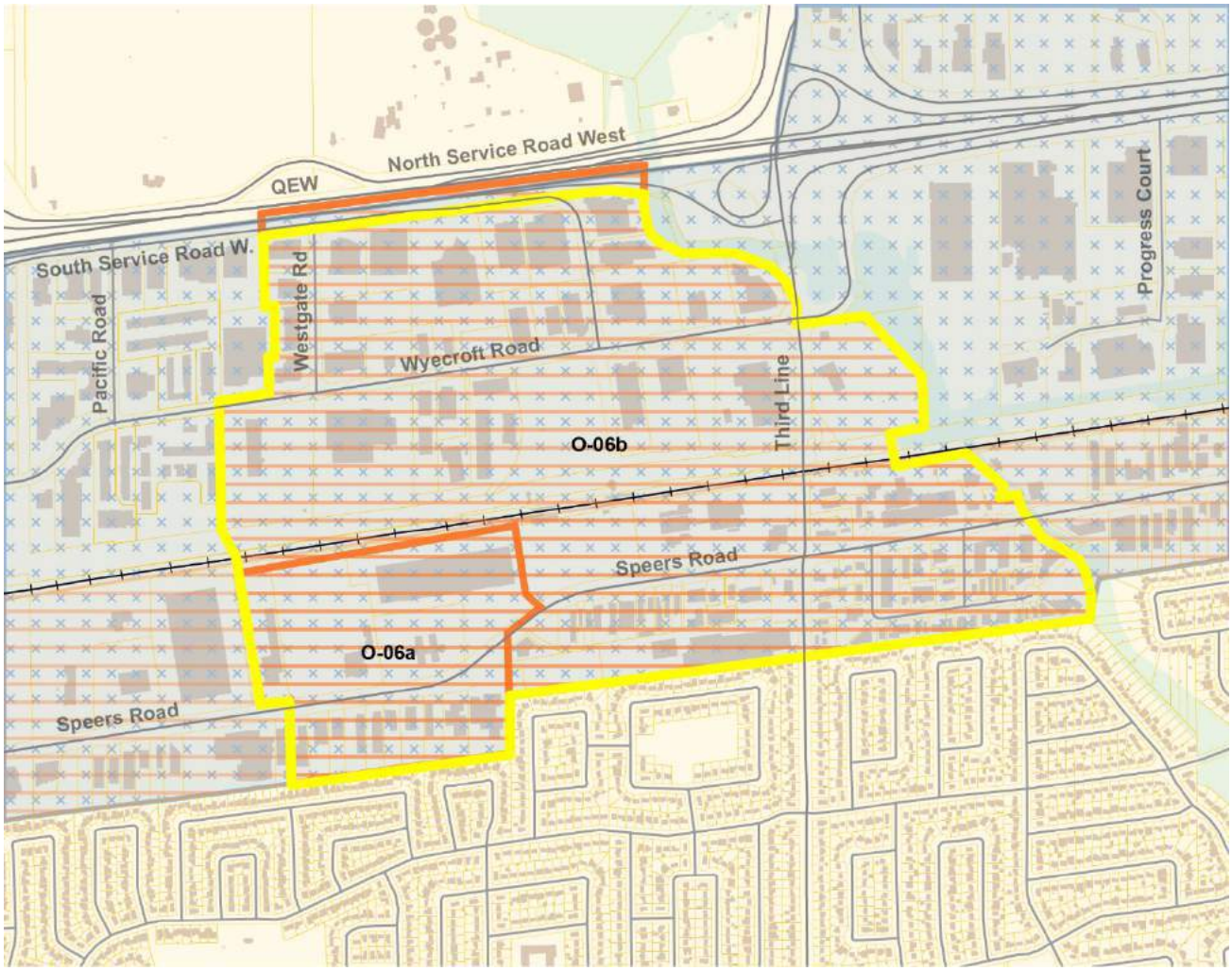
Town of Oakville

Location	**Size**	**Adjacent Uses**
Bronte GO MTSA (see map)	23.5 hectares	Rail corridor and employment (north), employment (east), Speers Road and employment (south), employment (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Employment & Associated Uses	No	Industrial, Business Employment

Recommendation – O-06a		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – O-06a		
A Employment Land Supply	✓	• The subject lands include areas currently developed for employment uses that currently function as part of the supply of lands that can accommodate these kinds of employment uses. The potential for the lands to continue to accommodate employment in the future, following a conversion, is a key consideration. Analysis by the Town of Oakville, as well as through the IGMS process, has identified such potential, which is to be planned for through an Area-Specific Pan for the area as required and directed by the Regional Official Plan. • On this basis, given the size and location of the subject lands and their potential to continue to accommodate a significant amount of employment following conversion, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• A need for the conversion is demonstrated based on the strategic need to support the Regional Urban Structure and/or Local Urban Structure. The subject lands are located within the area proposed to be delineated as the Bronte GO MTSA, forming a key strategic growth area to which a minimum density target is to be applied. • The conversion would enable strategic opportunities for growth that support the Regional and/or Local Urban Structure – in particular, by contributing to strategic growth management objectives such as accommodating significant population and employment growth, achieving density targets within strategic growth areas, and optimizing the use of existing infrastructure and transit.
C Employment Area Viability	✓	• The subject lands are not currently located on the periphery of the Regional Employment Area as it is currently delineated. However, they are located at the southern boundary of the Employment Area and a logical boundary could be delineated following their removal. • Analysis undertaken through the Town of Oakville's Bronte GO MTSA Study has shown that the initial area identified above is outside of minimum separation distances associated with existing Class II and III industrial facilities in the area. As a result, these lands may provide an initial opportunity for mixed use redevelopment, subject to confirmation through further study. • Given the proximity between the subject lands, the remaining Regional Employment Areas, and existing employment uses, impacts to ongoing viability or concerns related to compatibility will be planned for and addressed as required through the Area-Specific Plan for the area as mandated by the Regional Official Plan.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the subject lands will be subject to an Area-Specific Planning process and have been assessed as part of the IGMS, existing or planned infrastructure and public service facilities are expected to support the conversion request. • The request was made and supported by Town of Oakville staff as part of the consultation with Local Municipalities through the Integrated Growth Management Strategy process.

Request O-06b – Bronte GO MTSA (Remaining Area)



Summary

The subject lands consist of a number of properties within the area proposed to be delineated as the Bronte GO Major Transit Station Area. The removal of the lands from the Regional Employment Area is requested in order to permit the development of an Area-Specific Plan for this strategic growth area that includes a mix of uses.

Proponent

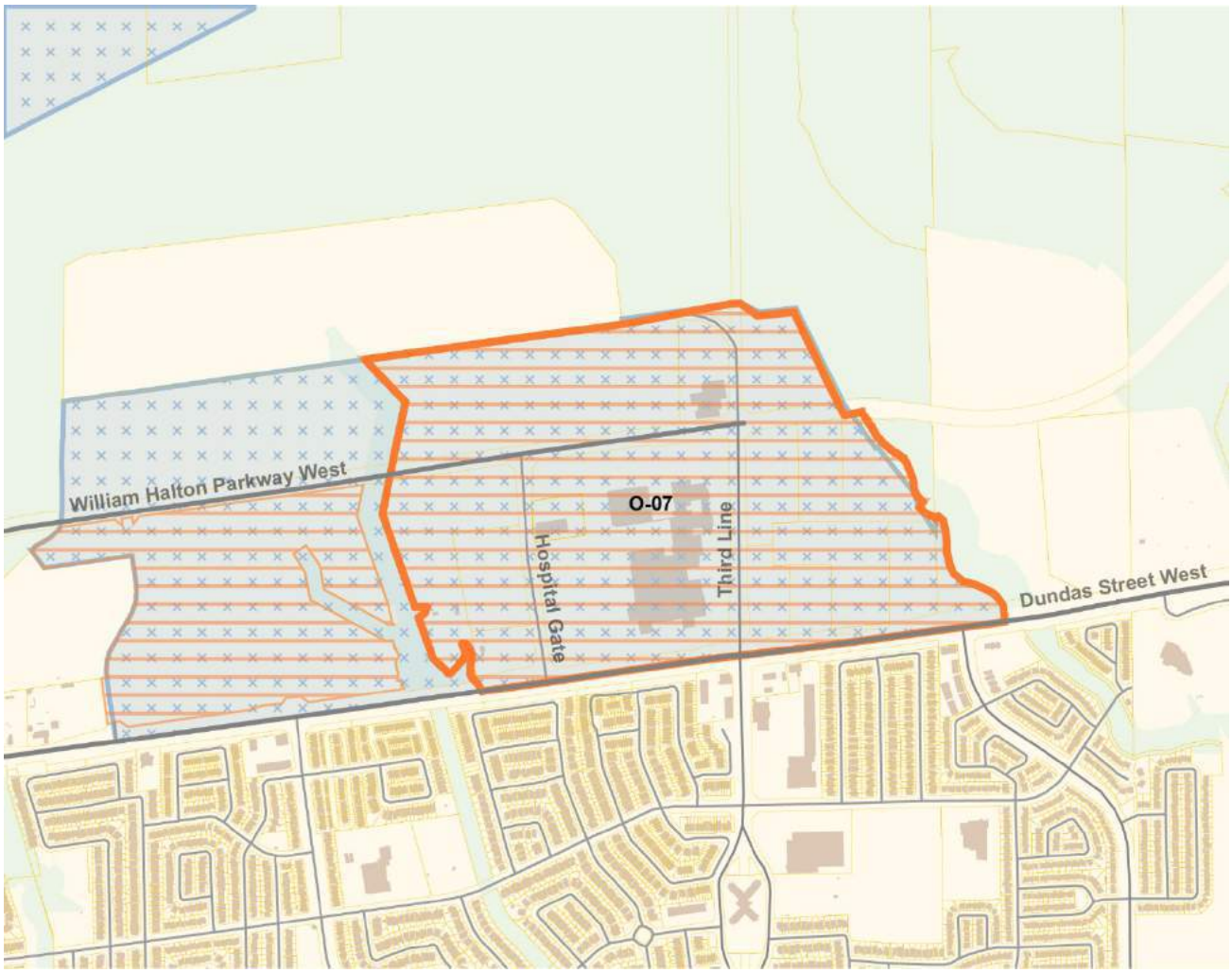
Town of Oakville

Location	Size	Adjacent Uses
Bronte GO MTSA (see map)	126.3 hectares	QEW Highway (north), natural heritage and employment (east), residential (south), employment (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Employment & Associated Uses	No	Industrial, Business Employment, Business Commercial

Recommendation – O-06b		
Further Analysis	✳	**Further analysis is required to determine a recommendation regarding the subject lands.**

Assessment – O-06b		
A Employment Land Supply	✳	• The subject lands currently function as part of the supply of lands that can accommodate certain types of employment uses in Halton. They are of a significant size, are occupied by a number of existing employment uses, are strategically located in relation to goods movement facilities, and are part of a contiguous Regional Employment Area. • As a result, further analysis is required to determine whether the conversion would have the potential to adversely impact the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✳	• A need for the conversion may be established based on the strategic location of the lands in the context of the Regional Urban Structure and/or Local Urban Structure given the location of the subject lands within the area proposed to be delineated as the Bronte GO MTSA. • Further analysis is required to confirm the need for the conversion on the basis of its strategic location and strategic opportunity, including how the conversion contributes to the key strategic growth management objectives, as well as in relation to the considerations related to the overall supply of employment lands as discussed above.
C Employment Area Viability	✳	• The subject lands are located within an existing Regional Employment Area that accommodates a number of significant existing employment uses that could be impacted by the introduction of sensitive land uses and non-employment uses. Further analysis is required to determine the potential impact of the conversion on compatibility considerations as well as the overall viability of the employment uses and surrounding Regional Employment Areas over the long-term.
D General Considerations	✳	• No cross-jurisdictional issues were identified in the review of the request. • Given the size of the subject lands, further analysis is required to ensure the conversion can be supported by existing or planned infrastructure and public service facilities. • The request was made and supported by Town of Oakville staff as part of the consultation with Local Municipalities through the Integrated Growth Management Strategy process.

Request O-07 – Hospital District



Summary

The subject lands are generally located on the north side of Dundas Street West at Third Line. The subject lands are both developed and vacant and include the Oakville Trafalgar Memorial Hospital and other institutional uses. The removal of the lands from the Regional Employment Area is requested in order to enable mixed use development that supports the Hospital District Growth Area.

Proponent

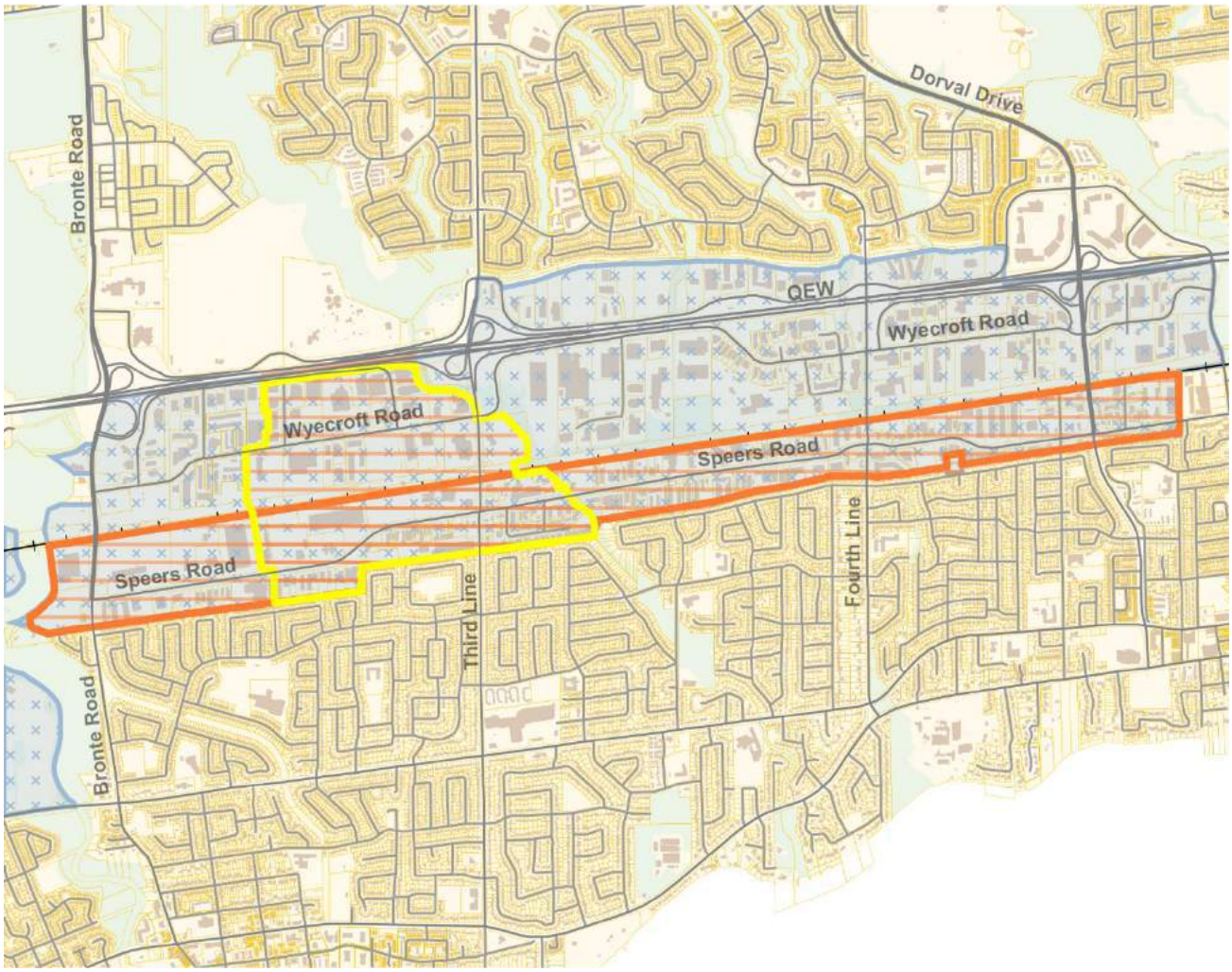
Town of Oakville

Location	Size	Adjacent Uses
Hospital District (see map)	56 hectares	Natural heritage and open space (north), natural heritage (east), commercial and residential (south), vacant employment (west).
Existing Uses	**PSEZ**	**Local OP Designations (North Oakville West Plan)**
Institutional / Vacant	No	Employment District; Health Oriented Mixed Use Node

Recommendation – O-07		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – O-07		
A Employment Land Supply	✓	• The subject lands include areas that are vacant as well as areas occupied by existing institutional uses, including the Oakville Trafalgar Memorial Hospital. Given the nature of these existing uses, there are limited opportunities to accommodate certain types of employment uses on the remaining vacant lands over the long-term. At the same time, the existing institutional uses provide significant employment and there will continue to be opportunity to accommodate different types of employment in the future, following a conversion, in a mixed-use context, supported by an Area-Specific Plan for the area developed by the Town of Oakville as required and directed by the Regional Official Plan. • On this basis, given the location of the subject lands, their existing significant institutional uses, and their potential to continue to accommodate a significant amount of employment following a conversion, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• A need for the conversion is demonstrated based on the strategic need to support the Regional Urban Structure and/or Local Urban Structure. The subject lands represent the Hospital District Growth Area as identified by the Town of Oakville. • The conversion would enable strategic opportunities for growth that support the Regional and/or Local Urban Structure – in particular, by contributing to strategic growth management objectives such as accommodating significant population and employment growth, achieving density targets within strategic growth areas, and optimizing the use of existing public service facilities, infrastructure and transit.
C Employment Area Viability	✓	• The subject lands are located at the eastern periphery of a Regional Employment Area identified along the north side of Dundas Street West. The removal of the lands would result in a logical boundary for the Regional Employment Area that recognizes the Regional Employment Area to the west. • The removal of the subject lands from the Regional Employment Area is not anticipated to create any concerns regarding compatibility or the overall viability of the remaining Regional Employment Areas to the west given that the conversion will recognize existing institutional uses.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the subject lands will be subject to an Area-Specific Planning process and have been assessed as part of the IGMS, existing or planned infrastructure and public service facilities are expected to support the conversion request. • The request was made and supported by Town of Oakville staff as part of the consultation with Local Municipalities through the Integrated Growth Management Strategy process.

Request O-08 – Speers Road Corridor



Summary

The subject lands are located on the north and south side of Speers Road from just west of Bronte Road to just east of Kerr Street and are occupied by a range of employment and employment supportive uses. The removal of the lands from the Regional Employment Area is requested in order to recognize the existing conditions and local policy framework.

Proponent

Town of Oakville

Location	Size	Adjacent Uses
Speers Road Corridor	147.9 hectares	Employment uses (north), commercial (east), residential (south), natural heritage (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Employment & Associated Uses	No	Industrial, Business Commercial, Business Employment

Recommendation – O-08		
Policy Consideration	-	**Regional staff recommend reviewing the overall policy framework to address this request.**

Assessment – O-08		
A Employment Land Supply	-	• The Town's Urban Structure as set out in OPA 15 identifies the Speers Road Corridor as an Employment Mixed Use Corridor which is defined as "an *employment area* in which a broader range of employment uses may be permitted in order to support the function of the *employment area* as a *strategic growth area*". • Town of Oakville Official Plan Amendment No. 27 – "Speers Road Corridor Special Policy Area", approved by Halton Region on July 6, 2020, identifies a broadened range and mix of permitted uses for business and economic activities within the area. • As the Town's recent update to the policy framework for the area was deemed to conform to the Regional Official Plan, a conversion to remove the lands from the Regional Employment Area is not required and the request has not been assessed against the four conversion Principles. • However, there is an opportunity to consider the overall policy framework that applies to Regional Employment Areas (as discussed in Section 4.4 of the Regional Urban Structure Discussion Paper), to ensure that appropriate direction and flexibility for planning for Employment Areas is provided in the Regional Official Plan.
B Demonstrated Need	-	
C Employment Area Viability	-	
D General Considerations	-	

Request O-09 – Winston Park Core Commercial

Summary

The subject lands are located east of Highway 403, west of Winston Churchill Boulevard, north of Bristol Circle, and South of Dundas Street and are currently occupied by commercial uses. The removal of the lands from the Regional Employment Area is requested in order to recognize the existing non-employment uses and local policy framework.

Proponent

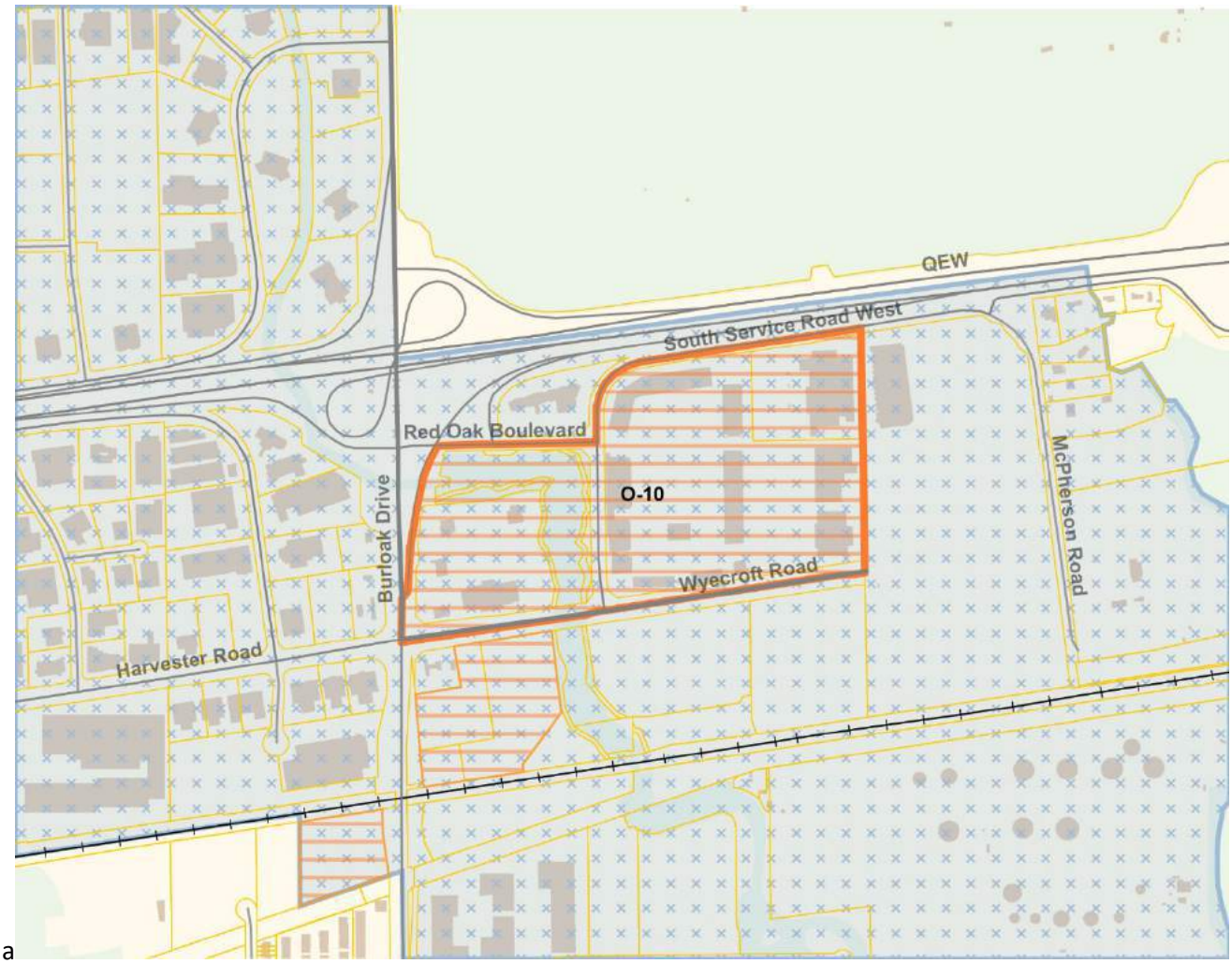
Town of Oakville

Location	**Size**	**Adjacent Uses**
Winston Park Core Commercial Area (see map)	29.8 hectares	Commercial (north), residential (east), employment (south), Highway 403 (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Commercial	No	Core Commercial

Recommendation – O-09		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – O-09		
A Employment Land Supply	✓	• The subject lands are currently occupied by existing commercial uses and as a result, do not form a functional part of the Region's supply of employment lands and have a low likelihood of doing so over the long-term. Given this context, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on site-specific conditions that are unique to the site, namely the existing non-employment uses that would limit the ability to accommodate certain kinds of employment uses over the long-term and the recognition of the local planning framework that reflects these uses.
C Employment Area Viability	✓	• The subject lands are located at the periphery of the Regional Employment Area as it is currently delineated. The removal of the lands would result in a logical boundary for the Regional Employment Area to the south, delineated by Bristol Circle. • The removal of the subject lands from the Regional Employment Area is not anticipated to create any concerns regarding compatibility or the overall viability of the remaining Regional Employment Areas to the south given that the conversion will recognize existing commercial uses that are functionally and physically separate.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the conversion will recognize the existing conditions, it is expected that the existing infrastructure and public service facilities will continue to support the subject lands. • The request was made and supported by Town of Oakville staff as part of the consultation with Local Municipalities through the Integrated Growth Management Strategy process.

Request O-10 – Burloak Core Commercial



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Summary

The subject lands are located northeast of Burloak Drive and Wyecroft Road, south of the QEW within the Burloak Core Commercial Area. There are existing commercial uses on the subject lands. The removal of the lands from the Regional Employment Area is requested in order to recognize the existing non-employment uses and local policy framework.

Proponent

Town of Oakville

Location	**Size**	**Adjacent Uses**
Burloak Core Commercial Area (see map)	26.8 hectares	QEW Highway (north), employment and vacant (east), vacant (south), employment (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Commercial and Natural Heritage	No	Core Commercial

Recommendation – O-10		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – O-10		
A Employment Land Supply	✓	• The subject lands are currently occupied by existing commercial uses and as a result, do not form a functional part of the Region's supply of employment lands and have a low likelihood of doing so over the long-term. Given this context, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on site-specific conditions that are unique to the site, namely the existing non-employment uses that would limit the ability to accommodate certain kinds of employment uses over the long-term and the recognition of the local planning framework that reflects these uses.
C Employment Area Viability	✓	• The subject lands are not located at the periphery of the Regional Employment Area as it is currently delineated. However, the removal of the lands would result in a logical boundary for the Regional Employment Area that removes the area bounded Burloak Drive, Wyecroft Road, and the eastern parcel boundaries of the Core Commercial Area, and recognizes the Regional Employment Areas to the east, south, and west. • The removal of the subject lands from the Regional Employment Area is not anticipated to create any concerns regarding compatibility or the overall viability of the remaining surrounding Regional Employment Areas given that the conversion will recognize existing commercial uses which are functionally and physically separated.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the conversion will recognize the existing conditions, it is expected that the existing infrastructure and public service facilities will continue to support the subject lands. • The request was made and supported by Town of Oakville staff as part of the consultation with Local Municipalities through the Integrated Growth Management Strategy process.

Request O-11 – 497-513 Pinegrove Road

Summary

The subject lands are located on the north side of Pinegrove Road between Burton Road and Ashbury Road and are occupied by existing commercial uses. The removal of the lands from the Regional Employment Area is requested in order to recognize the existing non-employment uses and local policy framework.

Proponent

Town of Oakville

Location	Size	Adjacent Uses
497-513 Pinegrove Road	0.8 hectares	Employment and commercial (north), residential (east), residential (south), residential (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Commercial	No	Neighbourhood Commercial

Recommendation – O-11		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – O-11		
A Employment Land Supply	✓	• The subject lands are currently occupied by existing commercial uses and as a result, do not form a functional part of the Region's supply of employment lands and have a low likelihood of doing so over the long-term. Given this context, and the small-scale of the subject lands, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on site-specific conditions that are unique to the site, namely the existing non-employment uses that would limit the ability to accommodate certain kinds of employment uses over the long-term and the recognition of the local planning framework that reflects these uses.
C Employment Area Viability	✓	• The subject lands are located at the periphery of the Regional Employment Area as it is currently delineated. The removal of the lands would result in a logical boundary for the Regional Employment Area that excludes the subject lands which front onto Pinegrove Road while recognizes the Regional Employment Area identified along the Speers Road corridor. • The removal of the subject lands from the Regional Employment Area is not anticipated to create any concerns regarding compatibility or the overall viability of the remaining Regional Employment Areas given that the conversion will recognize an existing condition.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the conversion will recognize the existing conditions, it is expected that the existing infrastructure and public service facilities will continue to support the subject lands. • The request was made and supported by Town of Oakville staff as part of the consultation with Local Municipalities through the Integrated Growth Management Strategy process.

Request O-13 – Winston Park West Core Commercial

Summary

The subject lands are located west of Highway 403 and south of Dundas Street along the east and west sides of Ninth Line and are occupied by existing commercial and residential uses (east of Ninth Line) and vacant lands (west of Ninth Line). The removal of the lands from the Regional Employment Area is requested in order to recognize the existing non-employment uses and local policy framework.

Proponent

Town of Oakville

Location	Size	Adjacent Uses
Ninth Line and Dundas Street	7.5 hectares	Vacant, commercial, and institutional (north), vacant and Highway 403 (east), vacant (south), natural heritage (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Commercial, residential, and vacant	Partial (East of Ninth Line)	Core Commercial

Recommendation – O-13		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – O-13		
A Employment Land Supply	✓	• The subject lands are currently designated for and/or occupied by existing commercial uses and as a result, do not form a functional part of the Region's supply of employment lands and have a low likelihood of doing so over the long-term. Given this context, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on site-specific conditions that are unique to the site, namely the existing non-employment uses that would limit the ability to accommodate certain kinds of employment uses over the long-term and the recognition of the local planning framework that intends these lands to function as a major commercial area serving the broader Regional community.
C Employment Area Viability	✓	• The subject lands are located at the periphery of the Regional Employment Area as it is currently delineated. The removal of the lands would result in a logical boundary for the Regional Employment Area that continues to recognize the Regional Employment Area to the south and east. • The removal of the subject lands from the Regional Employment Area is not anticipated to create any concerns regarding compatibility or the overall viability of the remaining Regional Employment Areas to the south and east given that the conversion will recognize existing commercial uses and/or the local policy framework that permits such uses.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the conversion will recognize the existing conditions, it is expected that the existing infrastructure and public service facilities will continue to support the subject lands. • The request was made and supported by Town of Oakville staff as part of the consultation with Local Municipalities through the Integrated Growth Management Strategy process..

Request O-14 – 584 Ford Drive

Summary

The subject lands are located southwest of Ford Drive and Cornwall Road and are occupied by existing commercial uses. The removal of the lands from the Regional Employment Area is requested in order to recognize the existing non-employment uses and local policy framework.

Proponent

Town of Oakville

Location	Size	Adjacent Uses
584 Ford Drive	1.5 hectares	Commercial and employment (north), employment, residential, and open space (east), residential and CN Rail (south), commercial and employment (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Commercial	No	Neighbourhood Commercial

Recommendation – O-14		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – O-14		
A Employment Land Supply	✓	• The subject lands are currently occupied by existing commercial uses and as a result, do not form a functional part of the Region's supply of employment lands and have a low likelihood of doing so over the long-term. Given this context, and the small size of the subject lands, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on site-specific conditions that are unique to the site, namely the existing non-employment uses that would limit the ability to accommodate certain kinds of employment uses over the long-term and the recognition of the local planning framework that reflects these uses.
C Employment Area Viability	✓	• The subject lands are located at the periphery of the Regional Employment Area as it is currently delineated. The removal of the lands would result in a logical boundary for the Regional Employment Area that recognizes the Regional Employment Area to the north and east which is functionally separated by Ford Drive and Cornwall Road. • The removal of the subject lands from the Regional Employment Area is not anticipated to create any concerns regarding compatibility or the overall viability of the remaining Regional Employment Areas to the north and east given that the conversion will recognize existing commercial uses which are functionally and physically separate.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the conversion will recognize the existing conditions, it is expected that the existing infrastructure and public service facilities will continue to support the subject lands. • The request was made and supported by Town of Oakville staff as part of the consultation with Local Municipalities through the Integrated Growth Management Strategy process.

Request O-16 – Winston Churchill / Sheridan Garden Drive

Summary

The subject lands are located southwest of the intersection of Winston Churchill Boulevard and Sheridan Garden Drive and are occupied by existing commercial uses. The removal of the lands from the Regional Employment Area is requested in order to recognize the existing non-employment uses and local policy framework.

Proponent

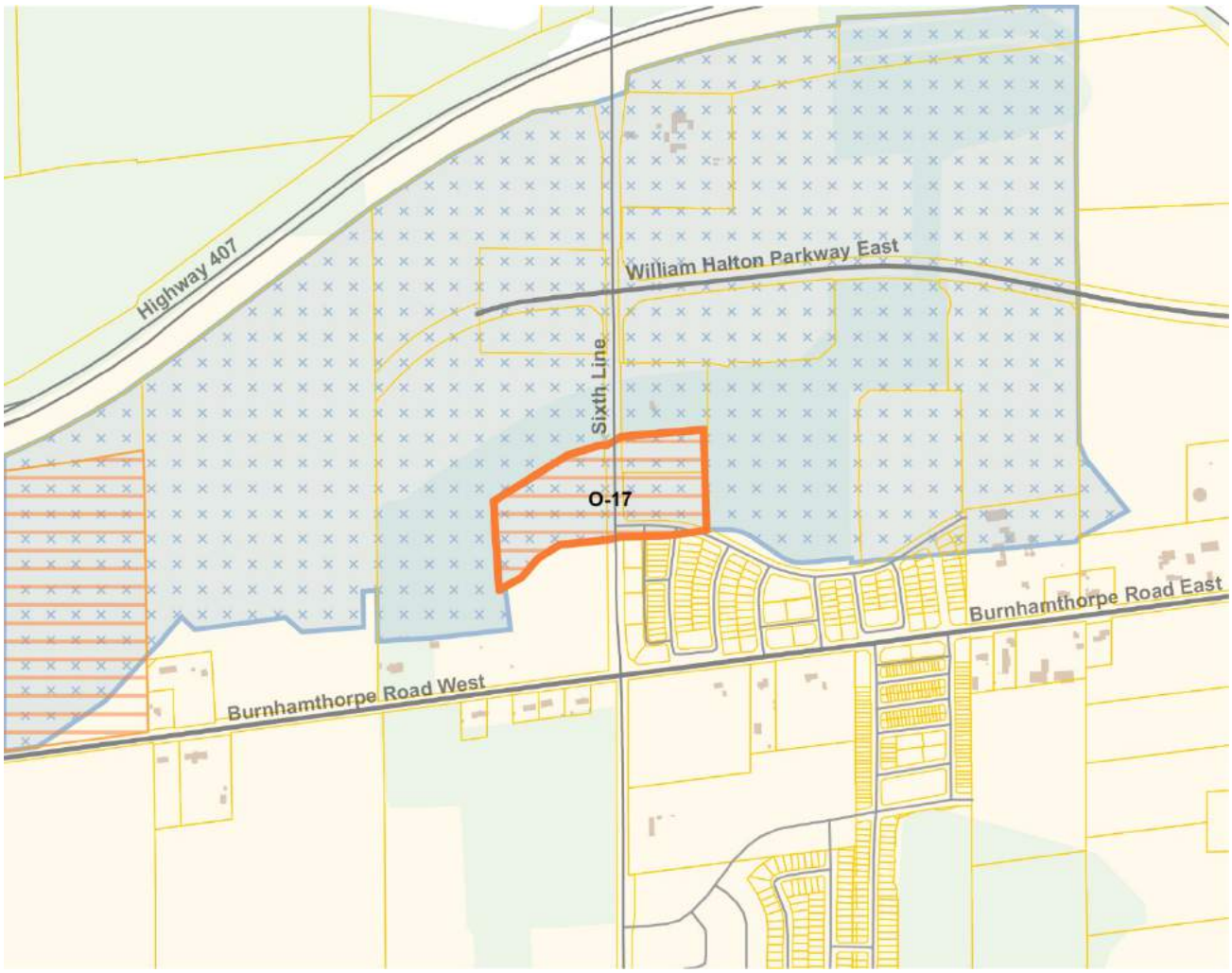
Town of Oakville

Location	Size	Adjacent Uses
2680 Sheridan Garden Drive; 1144, 1146,1152, 1158 Winston Churchill Boulevard	1.9 hectares	Residential (north), residential and open space (east), residential and employment (south), residential (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Commercial	No	Neighbourhood Commercial

Recommendation – O-16		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – O-16		
A Employment Land Supply	✓	• The subject lands are currently occupied by existing commercial uses and as a result, do not form a functional part of the Region's supply of employment lands and have a low likelihood of doing so over the long-term. Given this context, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on site-specific conditions that are unique to the site, namely the existing non-employment uses that would limit the ability to accommodate certain kinds of employment uses over the long-term and the recognition of the local planning framework that reflects these uses.
C Employment Area Viability	✓	• The subject lands are located at the periphery of the Regional Employment Area as it is currently delineated. The removal of the lands would result in a logical boundary for the Regional Employment Area that recognizes the Regional Employment Area to the south. • The removal of the subject lands from the Regional Employment Area is not anticipated to create any concerns regarding compatibility or the overall viability of the remaining Regional Employment Areas to the south given that the conversion will recognize existing commercial uses that are functionally and physically separate.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the conversion will recognize the existing conditions, it is expected that the existing infrastructure and public service facilities will continue to support the subject lands. • The request was made and supported by Town of Oakville staff as part of the consultation with Local Municipalities through the Integrated Growth Management Strategy process.

Request O-17 – Sixth Line / Burnhamthorpe Road



Summary

The subject lands are located on the east and west sides of Sixth Line, north of Burnhamthorpe Road and are currently vacant. The removal of the lands from the Regional Employment Area is requested in order to permit non-employment uses.

Proponent

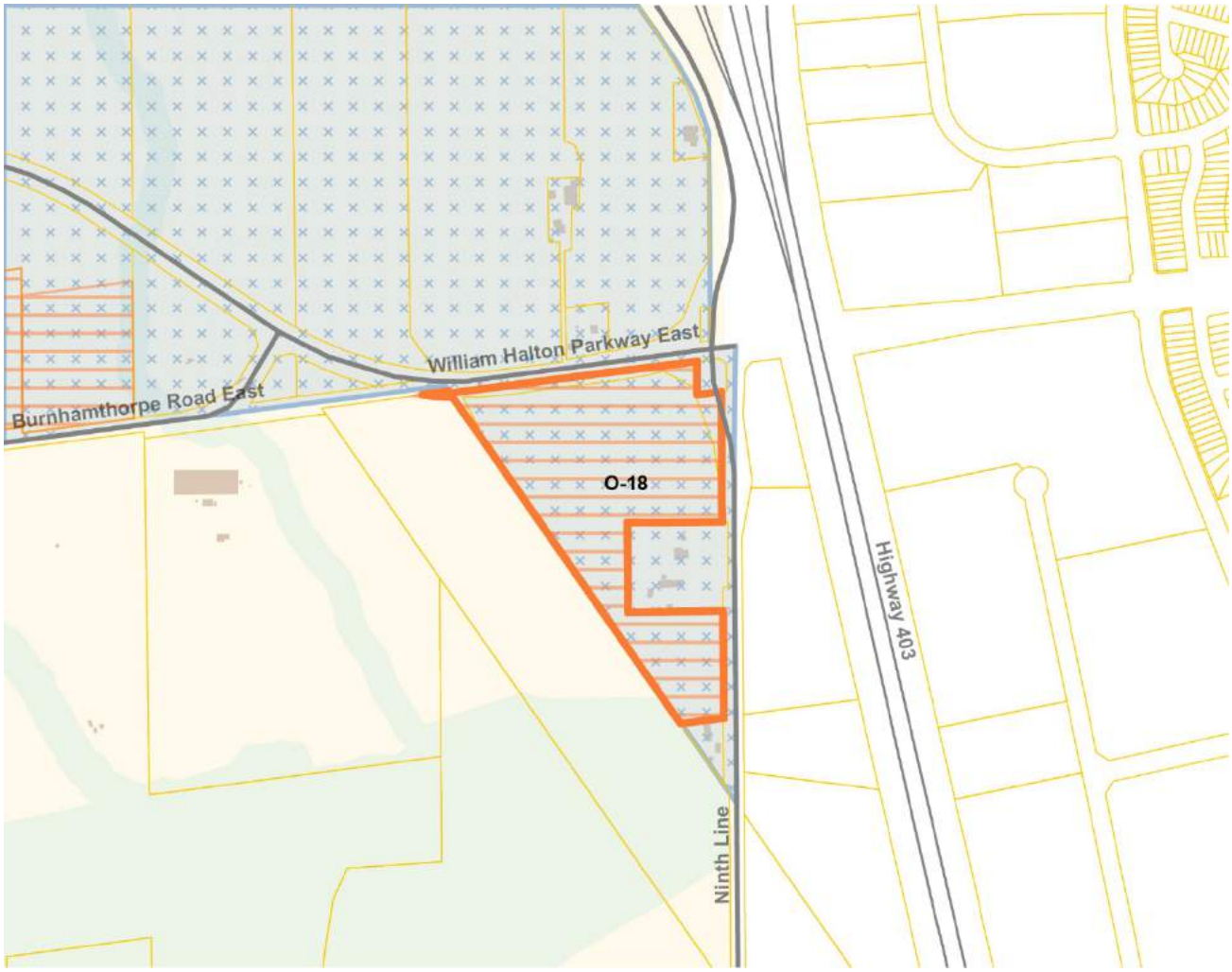
Town of Oakville / Star Oak Developments Ltd. / Sixth Oak Inc.

Location	Size	Adjacent Uses
Portion of 103 Burnhamthorpe Road West and 4115 Sixth Line	6.1 hectares	NHS and vacant employment (north), NHS (east), vacant and residential (south), NHS (west).
Existing Uses	**PSEZ**	**Local OP Designations (North Oakville East Plan)**
Vacant	Yes	Employment District and Natural Heritage System Area

Recommendation – O-17		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – O-17		
A Employment Land Supply	✓	• The subject lands, in part, currently function as part of the supply of lands that could accommodate certain types of employment uses in Halton. They are currently vacant, are strategically located in relation to goods movement facilities, and are part of a large contiguous Regional Employment Area along the Highway 407 corridor. • However, for the lands on the east side of Sixth Line (which represent about 2.8 hectares), approximately 2.2 hectares are developed or planned for public infrastructure or public service facilities. This leaves a very small vacant area that would be unlikely to function for employment purposes given its size and location. The lands on the west side of Sixth Line are relatively small at approximately 3.0 hectares and are isolated from the Employment Area to the north due to the Natural Heritage System. The remaining 0.3 hectares is represented by the right-of-way for Sixth Line. • On this basis, given the existing and proposed uses, parcel configuration and location, and small size, the removal of the of the subject lands is not anticipated to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on site-specific conditions that are unique to the site and that would preclude the use of the lands for certain types of employment uses, namely the existing and proposed uses on the east side of Sixth Line, the size and configuration of parcels within the subject lands, and the Natural Heritage System boundary that separates the lands from the Regional Employment Area to the north.
C Employment Area Viability	✓	• The subject lands are located at the periphery of the Regional Employment Area as it is currently delineated. The removal of the lands would result in a logical boundary for the Regional Employment Area that follows the Regional Natural Heritage System. • The removal of the subject lands from the Regional Employment Area is not anticipated to create any concerns regarding compatibility or the overall viability of the remaining Regional Employment Areas to the north, east, and west, given they will be functionally and physically separated by the Regional Natural Heritage System.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the conversion will recognize the existing conditions, it is expected that the planned infrastructure and public service facilities will continue to support the subject lands. • The request was also made and supported by Town of Oakville staff as part of the consultation with Local Municipalities through the Integrated Growth Management Strategy process.

Request O-18 – 3164 Ninth Line



Summary

The subject lands are located southwest of Ninth Line and Burnhamthorpe Road and are currently vacant. The removal of the lands from the Regional Employment Area is requested in order to the permit the expansion of a cemetery.

Proponent

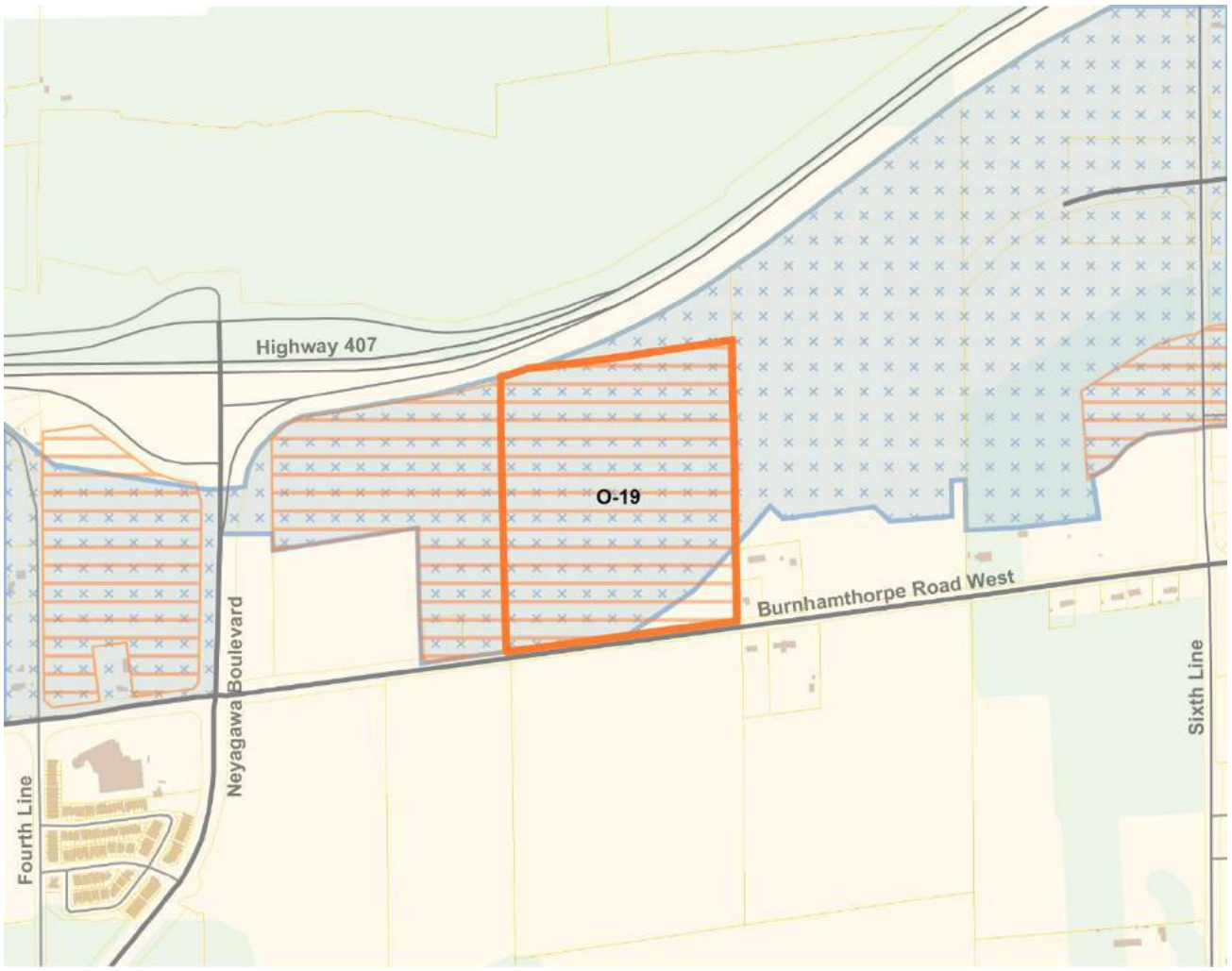
Arbor Memorial Inc.

Location	Size	Adjacent Uses
TRAFALGAR CON 1 PT LOT 6 NDS;RP 20R21354 PARTS 4 5 6 AND;PT PART 3	9.3 hectares	Vacant employment and Highway 403 (north), vacant and Natural Heritage System (east), vacant and utility corridor (south), vacant and utility corridor (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Vacant	No	Employment District

Recommendation – O-18		
Further Analysis	✳	**Further analysis is required to determine a recommendation regarding the subject lands.**

Assessment – O-18		
A Employment Land Supply	✳	• The subject lands currently function as part of the supply of lands that could accommodate certain types of employment uses in Halton. They are a significant size, are vacant, and are strategically located in relation to goods movement facilities. • As a result, further analysis is required to determine whether the conversion would have the potential to adversely impact the overall supply of employment lands or the ability to achieve employment targets by 2051, including determination as to whether employment could continue to be supported on the lands following a conversion.
B Demonstrated Need	✳	• Further analysis is required to determine whether there is a need for the conversion on the basis of site-specific conditions or strategic opportunities.
C Employment Area Viability	✓	• The subject lands are located at the periphery of the Regional Employment Area and are functionally separated from the lands north of William Halton Parkway East and Burnhamthorpe Road East as well as the hydro corridor. The removal of the lands would result in a logical boundary for the Regional Employment Area along the north side of Burnhamthorpe Road East. • The removal of the subject lands from the Regional Employment Area is not anticipated to create any concerns regarding compatibility or the overall viability of the remaining Regional Employment Areas to the north given they will be functionally and physically separated by Burnhamthorpe Road East.
D General Considerations	✳	• No cross-jurisdictional issues were identified in the review of the request. • Given the nature of the conversion and the location of the subject lands, existing or planned infrastructure and public service facilities are expected to support the conversion request. • A position on the conversion request has not been provided by the Town. Further information on the Town's position can be provided through additional consultation.

Request O-19 – 263 Burnhamthorpe Road West



Summary

The subject lands are located north of Burnhamthorpe Road West between Neyagawa Boulevard and Sixth Line and are currently vacant. The removal of the lands from the Regional Employment Area is requested in order to enable non-employment uses.

Proponent

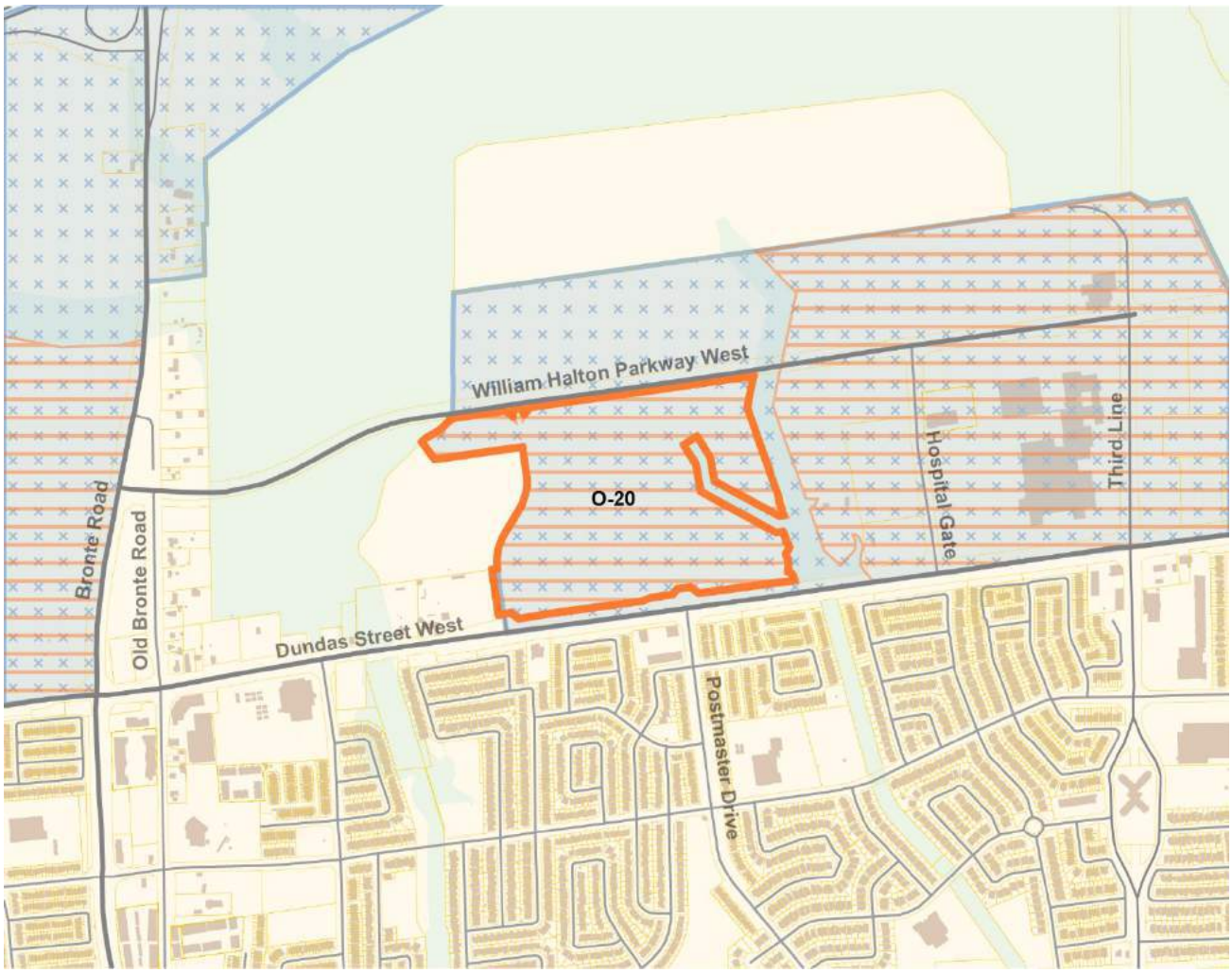
Cynthia Lynch

Location	Size	Adjacent Uses
263 Burnhamthorpe Road West	19.9 hectares	Highway 407 (north), agriculture (east), agriculture/rural residential (south), agriculture (west).
Existing Uses	**PSEZ**	**Local OP Designations (North Oakville East Plan)**
vacant	No	Employment District

Recommendation – O-19		
Not Supported	×	**Regional staff recommend retaining the subject lands within the Regional Employment Areas.**

Assessment – O-19		
A Employment Land Supply	×	• The subject lands currently function as part of the supply of lands that can accommodate certain types of employment uses in Halton. They are a significant size, are currently vacant, are strategically located in relation to goods movement facilities, and are part of a large contiguous Regional Employment Area south of the Highway 407 corridor. • Given this context, the conversion is expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	×	• A need for the conversion has not been identified on the basis of a strategic need to support the Regional Urban Structure and/or Local Urban Structure or on the basis of a site-specific condition or constraint.
C Employment Area Viability	×	• Given the significant size of the subject lands and their location within a contiguous Regional Employment Area and adjacent to other vacant employment lands, the conversion would have the potential to create an irregular and discontinuous boundary for the Employment Area and introduce sensitive land uses that are incompatible, thereby impacting the long-term stability and viability of the area.
D General Considerations	×	• No cross-jurisdictional issues were identified in the review of the request. • The subject lands were previously considered by the Town of Oakville (see Request #7 in Appendix F to the Town's staff report dated April 16, 2018). The request was not recommended for removal from the Regional Employment Areas by the Town.

Request O-20 – Dundas/McCraney Creek



Summary

The subject lands are located north of Dundas Street West, west of McCraney Creek, east of Palermo Park, and south of William Halton Parkway and are currently vacant. The removal of the lands from the Regional Employment Area is requested in order to permit a mix of commercial uses.

Proponent

Fieldgate Commercial Properties

Location	**Size**	**Adjacent Uses**
North of Dundas Street West and west of McCraney Creek	24.2 hectares	Vacant (north), natural heritage (east), residential and commercial (south), parks / open space (west).
Existing Uses	**PSEZ**	**Local OP Designations (North Oakville East Plan)**
Vacant	No	Employment District

Recommendation – O-20		
Not Supported	×	**Regional staff recommend retaining the subject lands within the Regional Employment Areas.**

Assessment – O-20		
A Employment Land Supply	×	• The subject lands currently function as part of the supply of lands that can accommodate certain types of employment uses in Halton. They are a significant size, are currently vacant, and are strategically located in relation to goods movements facilities (in particular, a highway interchange). • Given this context, the conversion is expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	×	• A need for the conversion has not been identified on the basis of a strategic need to support the Regional Urban Structure and/or Local Urban Structure or on the basis of a site-specific condition or constraint. • The subject lands appear to be appropriately identified within a Regional Employment Area and a local employment designation – additional changes to the policy framework that applies to the lands could address concerns related to the appropriate range of uses.
C Employment Area Viability	×	• The subject lands are part of a relatively small Regional Employment Area that is not part of a broader contiguous Regional Employment Area (when considered in the context of the initial assessment to support the conversion of the lands identified in Request #O-07). However, their removal would result in the isolation of the lands identified within the Employment Area north of William Halton Parkway West, undermining the continued viability of the remaining Regional Employment Area identified in this area.
D General Considerations	×	• No cross-jurisdictional issues were identified in the review of the request. • The subject lands were previously considered by the Town of Oakville (see Request #11 in Appendix F to the Town's staff report dated April 16, 2018). The request was not recommended for removal from the Regional Employment Areas by the Town, but it was noted that further consideration should be given to the appropriate uses on the subject lands through the North Oakville Secondary Plans Review.

Request O-22 – Burnhamthorpe / Neyagawa (Northwest Quadrant)

Summary

The subject lands are located northwest of Burnhamthorpe Road West and Neyagawa Boulevard and are currently vacant. The removal of the lands from the Regional Employment Area is requested in order to enabled a local redesignation to permit commercial uses or a broader range of non-employment uses as part of the Neyagawa Urban Core.

Proponent

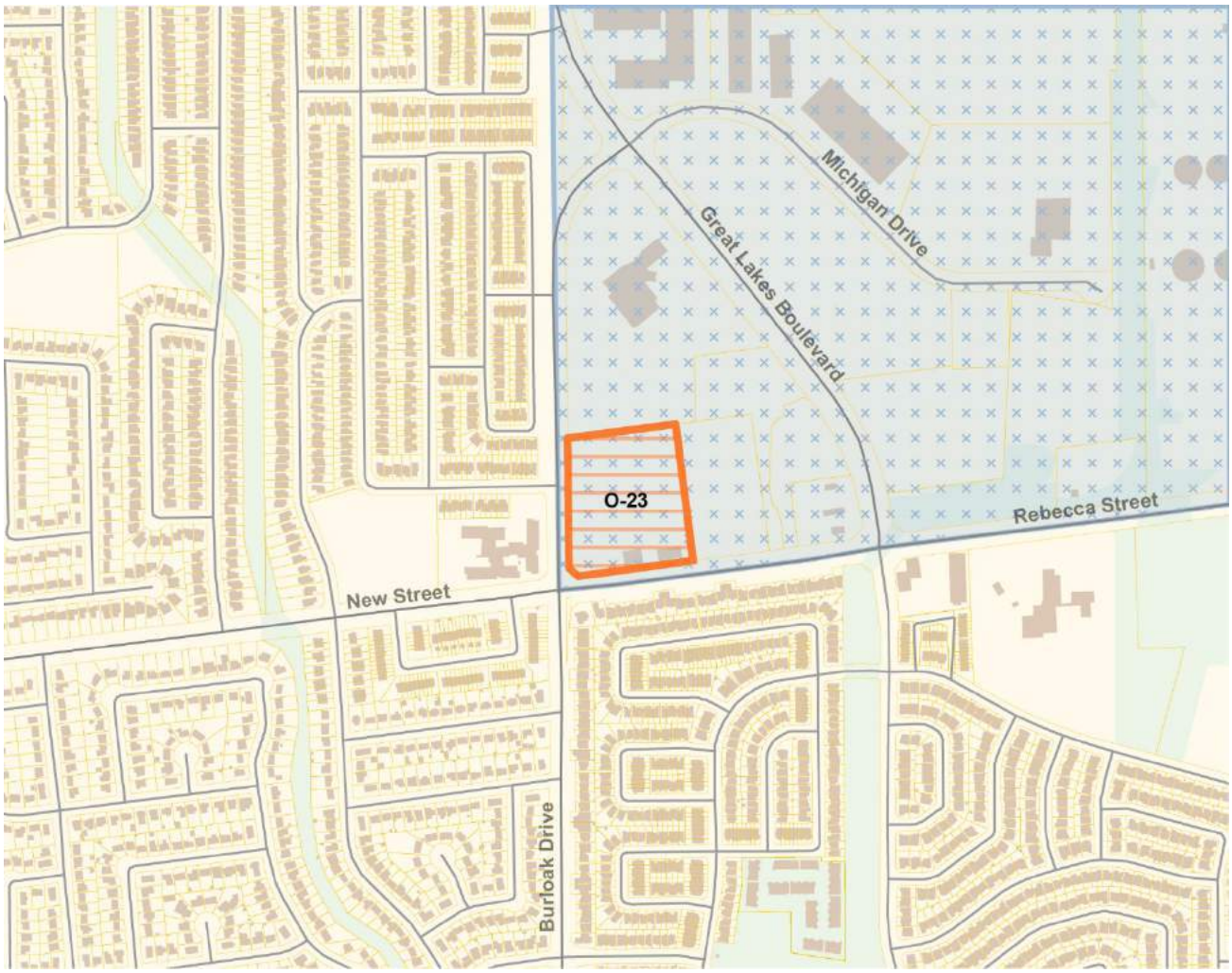
Fieldgate Commercial Properties

Location	Size	Adjacent Uses
Northwest of Neyagawa Blvd. and Burnhamthorpe Road West	11.3 hectares	Highway 407 (north), agriculture (east), institutional (south), agricultural (west).
Existing Uses	**PSEZ**	**Local OP Designations (North Oakville East Plan)**
Vacant	No	Employment District

Recommendation – O-22		
Further Analysis	✳	**Further analysis is required to determine a recommendation regarding the subject lands.**

Assessment – O-22		
A Employment Land Supply	✳	• The subject lands currently function as part of the supply of lands that could accommodate certain types of employment uses in Halton. They are of a significant size, are vacant, are strategically located in relation to goods movement facilities, and are part of a contiguous Regional Employment Area identified south of Highway 407. • As a result, and given their location in relation to the Local Urban Structure, further analysis is required to determine whether the conversion would have the potential to adversely impact the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✳	• A need for the conversion may be established based on the strategic location of the lands in the context of the Regional Urban Structure and/or Local Urban Structure given the location of the subject lands in relation to the Neyagawa Urban Core and the identification of a portion of the lands as a node for further study in the Town's urban structure. • Further analysis is required to confirm the need for the conversion on the basis of its strategic location and strategic opportunity, including how the conversion contributes to the key strategic growth management objectives, as well as in relation to the considerations related to the overall supply of employment lands as discussed above.
C Employment Area Viability	✳	• The subject lands are not located at the periphery of the Regional Employment Area as it is currently delineated. The removal of the lands would not result in a logical boundary for the Regional Employment Area and would change a contiguous employment area into an isolated employment area to the west of the subject lands. • The removal of the lands would create an isolated Regional Employment Area, which could in turn impact the overall viability of the employment area over the long-term. Further analysis is required to determine the impacts to the viability of the Regional Employment Area, considered in relation to the land supply and need principles discussed above.
D General Considerations	✳	• No cross-jurisdictional issues were identified in the review of the request. • Given the nature of the conversion and the location of the subject lands, further analysis is required to ensure the conversion can be supported by existing or planned infrastructure and public service facilities. • Further information on the Town's position can be provided through subsequent consultation.

Request O-23 – 3515-3545 Rebecca Street



Summary

The subject lands are located at the northeast corner of Burloak Drive and Rebecca Street and are currently vacant. The removal of the lands from the Regional Employment Area is requested in order to facilitate the development of non-employment uses, including commercial and residential uses.

Proponent

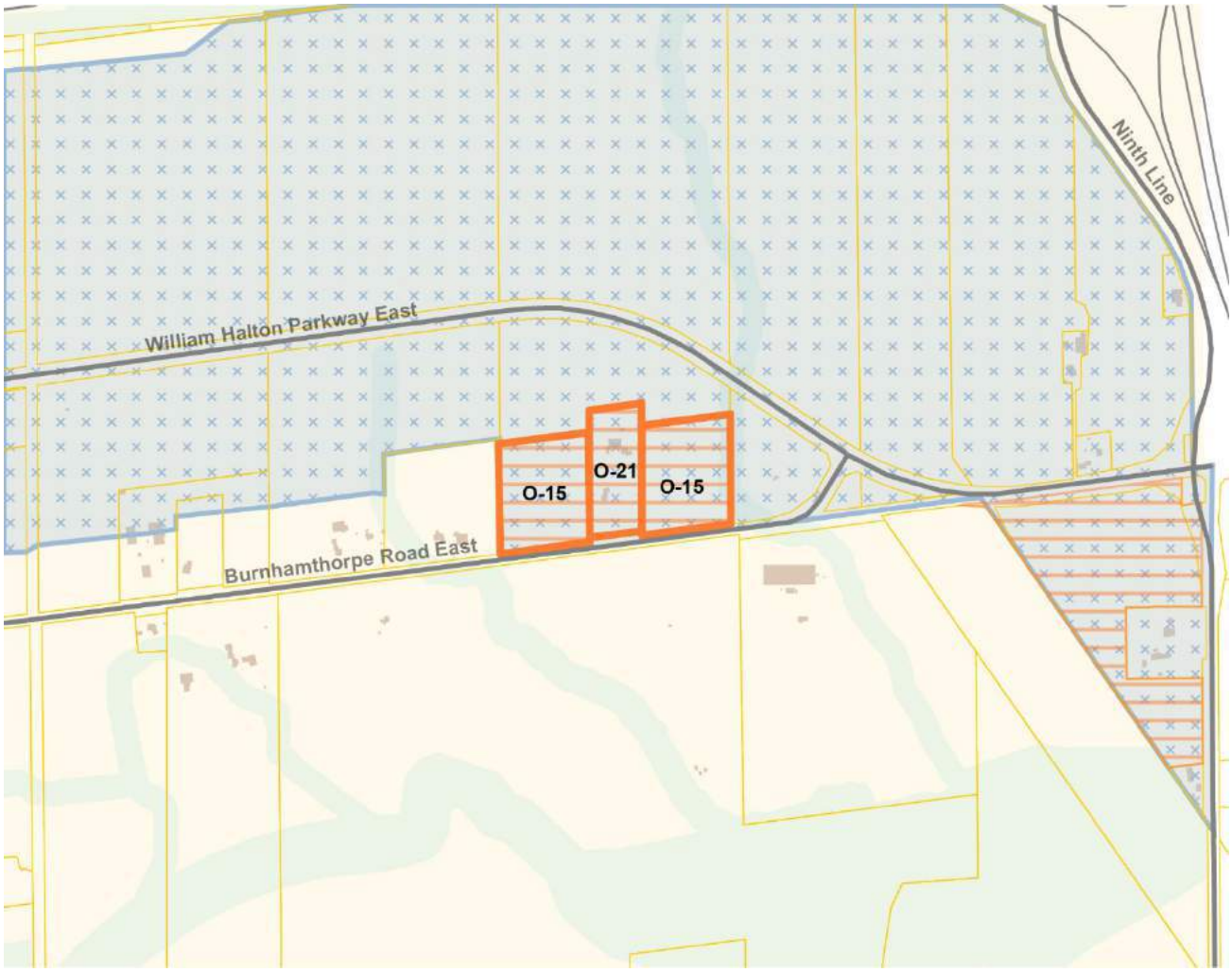
Burloak Market Place Partnership

Location	Size	Adjacent Uses
3515-3545 Rebecca Street	3.1 hectares	Institutional (north), vacant (east), residential (south), institutional and residential (west).
Existing Uses	**PSEZ**	**Local OP Designations**
Vacant	No	Business Commercial, Business Employment

Recommendation – O-23		
Not Supported	×	**Regional staff recommend retaining the subject lands within the Regional Employment Areas.**

Assessment – O-23		
A Employment Land Supply	×	• The subject lands currently function as part of the supply of lands that can accommodate certain types of employment uses in Halton. They are currently vacant and are located as part of a contiguous Regional Employment Area identified along Great Lakes Boulevard. • Given this context, the conversion is expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	×	• A need for the conversion has not been identified on the basis of a strategic need to support the Regional Urban Structure and/or Local Urban Structure. • However, the request identifies certain site-specific constraints, namely isolation from major goods movement facilities and the proximity of existing sensitive uses, as conditions that demonstrate the need for the conversion. While these conditions may be present, it is not clear that they would preclude the lands from accommodating employment or employment-supportive uses and as a result, the request does not sufficiently demonstrate a need for the conversion.
C Employment Area Viability	×	• From a Regional perspective, the lands are part of a contiguous employment area – the removal of the lands would create an irregular and discontinuous boundary for the Regional Employment Area on the north side of Rebecca Street, which could, in turn, impact the overall viability of the employment area over the long-term.
D General Considerations	×	• No cross-jurisdictional issues were identified in the review of the request. • As the conversion will recognize the existing conditions, it is expected that the existing infrastructure and public service facilities will continue to support the subject lands. • The request was reviewed by Town of Oakville staff as part of the consultation with Local Municipalities through the Integrated Growth Management Strategy process and was not supported. Confirmation of Town Council's position could be provided through the consultation process; however, as noted above the initial assessment has identified the request as not supported based on the other Principles.

Request – Burnhamthorpe Road East (O-15, O-21)



Summary

The subject lands are located along Burnhamthorpe Road East, south of Highway 407 and William Halton Parkway East, and are currently vacant (lands identified as O-15) and occupied by a residential dwelling and multiple agricultural-related access buildings (lands identified as O-21). The removal of the lands from the Regional Employment Area is requested in order to enable a local redesignation to 'Transitional Area' to permit a broader range of uses.

Proponent

T.L.M.T.T Ontario (O-15) / Marko & Mica Mesic (O-21)

Location	**Size**	**Adjacent Uses**
Part of Lot 8, Concession 2 N.D.S	8.8 hectares	Vacant (north), vacant (east), vacant (south), vacant (west).
Existing Uses	**PSEZ**	**Local OP Designations (North Oakville East Plan)**
Vacant	Yes	Employment District and Natural Heritage System Area

Recommendation – Burnhamthorpe Road East (O-15, O-21)		
Not Supported	×	**Regional staff recommend retaining the subject lands within the Regional Employment Areas.**

Assessment – Burnhamthorpe Road East (O-15, O-21)		
A Employment Land Supply	×	• The subject lands currently function as part of the supply of lands that can accommodate certain types of employment uses in Halton. The subject lands are strategically located in relation to goods movement facilities and are part of a large contiguous Regional Employment Area along the Highway 407 corridor and Highway 403 corridor. • Given the size of the subject lands, the conversion would have the potential to adversely impact the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	×	• A need for the conversion has not been identified on the basis of a strategic need to support the Regional Urban Structure and/or Local Urban Structure or on the basis of a site-specific condition or constraint.
C Employment Area Viability	×	• From a Regional perspective, the lands are part of a contiguous employment area – the removal of the lands would create an irregular and discontinuous boundary for the Regional Employment Area on the north side of Burnhamthorpe Road, which could in turn impact the overall viability of the Employment Area over the long-term.
D General Considerations	×	• No cross-jurisdictional issues were identified in the review of the request. • As the conversion will recognize the existing conditions, it is expected that the existing infrastructure and public service facilities will continue to support the subject lands. • The request was reviewed by Town of Oakville staff as part of the consultation with Local Municipalities through the Integrated Growth Management Strategy process and was not supported. Confirmation of Town Council's position could be provided through the consultation process; however, as noted above the initial assessment has identified the request as not supported based on the other Principles.

Request – The Parkway (O-04, O-12)

Summary

The subject lands are located northwest of Upper Middle Road and Ninth Line in an area known as The Parkway and are currently occupied by open space, recreational uses, and natural heritage areas. The removal of the lands from the Regional Employment Area is requested in order to recognize the existing non-employment uses and local policy framework and in the case of Infrastructure Ontario's request (O-04), to permit residential uses.

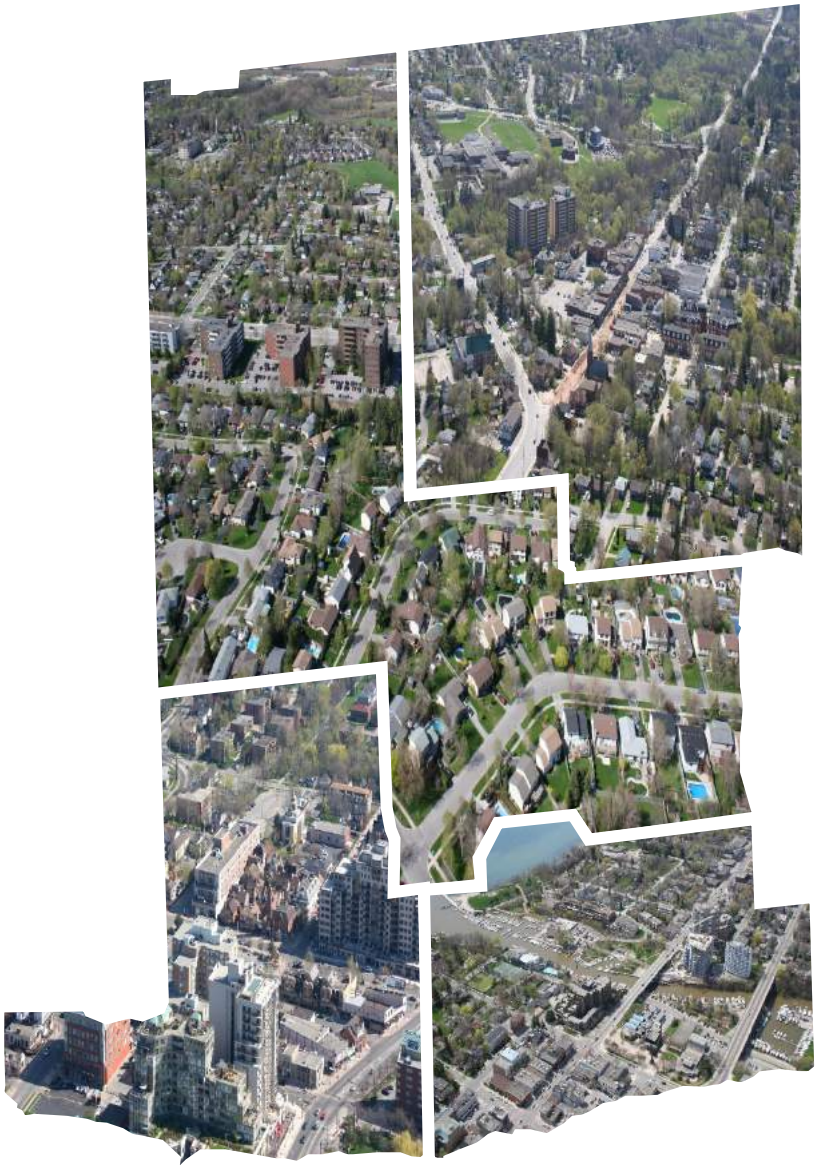
Proponent

Infrastructure Ontario ("IO") / Town of Oakville (see

Location	Size	Adjacent Uses
The Parkway (see map)	24.8 hectares	NHS and vacant employment (north), residential and employment (east), employment (south), residential (west)
Existing Uses	**PSEZ**	**Local OP Designations**
Open Space, NHS, and Recreation	No	Private Open Space, Natural Area

Recommendation – The Parkway (O-04, O-12)		
Supported	✓	**Regional staff recommend removing the subject lands from the Regional Employment Areas.**

Assessment – The Parkway (O-04, O-12)		
A Employment Land Supply	✓	• The subject lands are currently bisected by significant natural areas and features, and on either side of this natural area, occupied by open space and recreational uses. As a result, the lands do not form a functional part of the Region's supply of employment lands and have a low likelihood of doing so over the long-term. • Given this context, the conversion is not expected to have an adverse impact on the overall supply of employment lands or the ability to achieve employment targets by 2051.
B Demonstrated Need	✓	• The need for the conversion is demonstrated based on site-specific conditions that are unique to the site, namely the existing natural heritage system and recreational uses that would limit the ability to accommodate certain kinds of employment uses over the long-term and the recognition of the local planning framework that reflects these uses.
C Employment Area Viability	✓	• The subject lands are located at the periphery of the Regional Employment Area. The removal of the lands would result in a logical boundary for the Regional Employment Area along the Ninth Line and Upper Middle Road West. • The removal of the subject lands from the Regional Employment Area is not anticipated to create any concerns regarding compatibility or the overall viability of the remaining Regional Employment Areas to the south and east given their functional and physical separation and the nature of the existing uses.
D General Considerations	✓	• No cross-jurisdictional issues were identified in the review of the request. • As the conversion will recognize the existing conditions, it is expected that the existing infrastructure and public service facilities will continue to support the subject lands. • The portion of the request identified as O-04 was considered by the Town – see Item 20 in Appendix F to the Town's Report dated April 16, 2018. The Town supported the removal of the lands from the Regional Employment Area, but did not support residential uses on the lands given their location as part of the Town's natural heritage system. The portion of the request identified as O-12 was made and supported by Town of Oakville staff as part of the consultation with Local Municipalities through the Integrated Growth Management Strategy process.



Appendix D

Transportation Asessment

February 2021

Regional Official Plan Review

EllSo Consulting

Halton REGION

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Exhibits

Appendices

1. 2041 Recommendation of the Defining Major Transit Requirements in Halton Region (DMTR)
2. Regional Screenlines
3. Regional and MTO screenline deficiency by Growth Concept
4. Regional Screenline deficiency by Growth Concept

1. Introduction

As part of Halton Region's Integrated Growth Management Strategy, the Region, GM BluePlan, EllSo Consulting and Paradigm Transportation Solutions are identifying and reviewing the Water, Wastewater, and Transportation requirements to support existing and future needs to 2041 and 2051.

To identify requirements, Hemson has developed several planning scenarios that focus growth in different areas and achieve different Regional and Local goals. This includes a total of eight (8) scenarios that were further refined into four (4) concepts which were provided for evaluation and analysis.

This memo summarizes the assessment of the he four Growth Concepts, which were reviewed to identify the impact each concept could have on the existing and planned transportation infrastructure. This analysis is a refinement of the high level, preliminary transportation infrastructure analysis of the eight growth scenarios, as presented in staff report LPS41-19, dated June 19, 2019.

Ultimately, a preliminary transportation servicing plan will be developed for the preferred Growth Concept. This memorandum is intended to review the following:

- Summary of planning numbers for the four Growth Concepts provided.
- Transportation servicing opportunities and constraints for the existing and planned infrastructure to 2031.
- Identify high-level servicing needs to meet 2041 and 2051 growth for each of the four concepts.

1.1 Transportation Infrastructure

Halton Region is responsible for planning, constructing, operating, maintaining, and improving a network of major arterial roads which accommodate all modes of travel and allows for the transport of goods and people in a safe and efficient manner. As of the end of 2019, the Regional road system consisted of approximately 1,131 lane-kilometres of roadway (i.e. total length of all lanes of Regional roads) which connects the Region's rural and urban centres and provides connectivity to the provincial highway system.

The Local municipalities are responsible for all other roads which include minor arterials, multi- purpose arterials, collectors, and local roads within the road network. These roads are the primary access to local communities and provide connection to Major Arterial roads and Provincial facilities.

Based on the transportation master plan (TMP) completed in 2011, the Region developed an extensive transportation capital program to accommodate growth to 2031, which included widening most regional roadways in the urban boundary to a 6-lane mid-block cross section by 2031.

1.2 Background Studies

The Region's Transportation Master Plan (TMP) (2031) – The Road to Change was completed in 2011 to support the balanced approach to growth laid out in Regional Official Plan Amendment 38 (ROPA 38). The TMP identified the need to transition to a more balanced transportation network to accommodate increased travel demands on the network to support all modes of transportation. The vision for the TMP was to accommodate various travel choice and support a sustainable and multi-modal transportation network in the future.

The preferred transportation strategy for Halton Region to 2031, included recommendations and initiatives to support the shift toward a multi-modal approach to transportation that included providing additional capacity in the Regional roadway network (i.e. road widenings), active transportation, transportation demand management, and transit. Through the TMP, the Region developed an extensive transportation capital program to accommodate growth to 2031, which included widening most Regional roadways in the urban boundary to a 6-lane mid-block cross section by 2031.

In 2015, the Region completed its first **Active Transportation Master Plan** to develop the required strategy, infrastructure and initiatives to promote non-motorized travel throughout the Region.

Building on the vision and recommendations of the TMP, and in preparation for Metrolinx's Regional Express Rail (RER), Halton Region and its Local municipal partners developed the **Mobility Management Strategy (MMS)** for Halton to guide the evolution of a region-wide inter/intra-regional transportation network over the next 25 years to 2041 This study, completed in 2017, built on the strengths of the existing transportation networks in Halton (Provincial, Regional, and Local) to support the strategic integration of Major Transit Station Areas (MTSAs and focus on enhancing connectivity amongst the Local municipal and intra/inter-regional transit networks. To support these connections, the MMS established a Region-wide grid network of 156 km of Transit Priority Corridors (TPCs) and approximately 36 km of Mobility Links. This network is referred to as the Transit Priority Mobility Network to 2041. These corridors build upon the Higher Order Transit Corridors identified in the Regional Official Plan and TMP documents, with some additions and extensions.

The **Defining Major Transit Requirements in Halton Region (DMTR)**, completed in 2019, is a continuation and fulfilment of the next steps established through the MMS in support of the vision for a multi-modal transportation network. This study evaluated the existing and proposed MTSAs, higher order transit stations and surrounding areas that are planned for intensification to identify infrastructure gaps, potential barriers to development and potential opportunities; and defined the type, form, and function of the TPCs as identified in the MMS. It identified transit infrastructure investment opportunities for the 2031 and 2041 planning horizons to address potential transit demand and enhance transportation mobility and connectivity between existing and proposed MTSAs.

The work undertaken as part of the assessment of the Four Growth Concepts builds on the above noted studies and strategies.

1.3 Basis for Transportation Assessment & Methodology

Transportation infrastructure including regional roadways and major local collectors, transit and provincial facilities were analyzed for each of the four Growth Concepts. For this analysis, the planned 2031 capacities of roadway infrastructure were compared to the projected 2041 and 2051 growth requirements to identify the impact each concept could have on the planned transportation system. Similarly, the 2041 recommended transit priority network from the DMTR was tested against the same 2041 and 2051 growth requirements to identify the impact each concept could have on the future transit system.

This information fed into the Growth Concept evaluation process and provided a high-level assessment of opportunities and constraints. This analysis is a refinement of the high level, preliminary transportation infrastructure analysis of the eight growth scenarios, as presented in LPS41-19.

Ultimately, the transportation strategy will be refined based on a final preferred growth concept and will be subject to further enhancement through future multi modal transportation master plans.

1.3.1 Methodology

2041 and 2051 Population Employment Forecasts – Halton Region

Four Growth Concepts have been prepared and refined based on background analyses, direction from the IGMS Steering Committee and consultation with Regional and local municipal staff, regarding planned development and land supply potential.

Each growth concept includes the new Schedule 3 forecast numbers based on a 2051 planning horizon, a minimum of 50% intensification within the Built-Up Area, a minimum of 65 persons and jobs per hectare. The variation between the four Growth Concepts largely relates to the amount of intensification and/or densification of greenfield land.

More detail on the population and employment forecasts used for the transportation analysis is presented in Section 3 of the IGMS Growth Concepts report.

2041 and 2051 Population Employment Forecasts – Outside Halton Region

Transportation planning encompasses travel within Halton Region and to/from other municipalities. This requires having population/employment numbers of traffic zones outside Halton to properly model travel demand, which were not available for 2051.

For the purpose of this assessment the 2041 Defining Major Transit Report (DMTR) values have been assumed for the population and employment forecasts of the surrounding municipalities for the 2041 and 2051 planning horizon assessments. As such, for the assessment of the four Growth Concepts, a consistent approach among all four concepts was used such that the comparative evaluation of the concepts is not affected by the lack of this data. This assumption will be updated for the preferred growth Concept should this information become available.

2041 and 2051 Transportation Network Outside Halton

Currently, the major municipalities surrounding Halton have not completed their Transportation Master Plan to 2041 or 2051, so a definitive update to transportation infrastructure beyond Halton's boundary for these planning horizons is unavailable. Due to this the lack of information, the 2041 Defining Major Transit Report (DMTR) network improvements until 2041 were assumed outside Halton for both the 2041 and 2051 planning horizons. Thus the 2051 network assumes the same road properties as the 2041 network. As such, for the assessment of the four Growth Concepts, a consistent approach among all four concepts was used such that the comparative evaluation of the concepts is not affected by the lack of this data. This assumption will be updated for the preferred growth Concept should this information become available.

Transit

The Defining Major Transit Requirements in Halton Region (DMTR) study provided the basis for the transit service assumptions for the 2041 planning horizon. This DMTR study included the completion of

an analysis of the corridors identified in the Mobility Management Strategy (MMS) and made recommendations on Regional investments to unlock transit-oriented growth, and identify how mobility and connectivity in the transportation network can be enhanced between growth areas within the Region, with adjacent municipalities, and across the GTHA.

The Preliminary 2041 Recommended Transit Priority Corridor Network – Infrastructure, as defined by the DMTR, formed the basis for the transit services assumed in 2041 in the assessment of the Four Growth Concepts. The 2041 transit service assumed in this analysis is presented in Appendix 1 of this technical memo. The same network was assumed for 2051.

2. Design Criteria & Level of Service

For the purposes of comparing the four Growth Concepts, the level of service thresholds identified in the Halton Region Transportation Master Plan – The Road to Change (2013) and the Halton Region 2017 Development Charges Transportation Technical Report (September 2016) were used. In the context of travel demand forecasting, these studies defined level of service thresholds through a volume to capacity ratio (v/c), with a threshold of 0.9 being the maximum acceptable value. A v/c equal to or greater than 0.9 triggered the need for additional capacity improvements assessment.

A maximum roadway cross-section of six lanes is the design criteria being used by the Region for roadway improvement considerations.

2.1 Modelling Process

The analysis of the Growth Concepts was undertaken using the Region's transportation Capital Program to 2031 as the base in which to determine post 2031 requirements.

The Halton Travel Demand Forecasting Model (the model) was utilized in the analysis of Growth Concepts. The model is a standard 4-stage travel demand model that has been calibrated and validated at the screenline level using the 2011Transportation Tomorrow Survey (TTS) data. As part of this study, the model was updated to reflect the most recent regional roadway improvements to 2031, consideration of adjacent municipality forecasts and network improvements and confirmation of the transit priority corridors as recommended by the DMTR.

Network Update

The Halton EMME Model transit network represents a conceptual network that includes rapid transit improvements identified in the Halton Region Transportation Master Plan, Metrolinx's Plans such as Big Move and Next Wave and Regional Express Rail. The model transit network was updated to include the Recommended Preliminary 2041 Transit Priority Corridors Network identified in the DMTR. A comparison of Halton EMME Model and DMTR model attributes and the physical links was done using GIS program to determine modifications to the Halton model network. Network links and transit routes were added or modified as a result of the comparison.

Demand Matrices

The population and employment values were updated with the forecasts provided by Hemson for the Four Growth Concepts for 2041 and 2051. These values were compared with the population and employment in DMTR Model to ensure consistency between the two models. The results were acceptable in consideration of the respective model make up and objectives.

Multi-Modal Assessment

The Region has a multi-modal approach to address travel demand. The DMTR 2041 model trip table exports were used to develop a transit mode split matrix by traffic zone to replace the policy mode split used in Stage 1 of the IGMS (8 Growth Scenario Evaluation). New transit and auto Origin-Destination matrices were generated as a result of the transit mode split determined in the DMTR model. The same

transit mode split matrix was used across the four scenarios. The same table was used for the 2051 assessment.

Trip Assignment

The trip assignment defined in the Region's travel demand model was used for this assessment without modification.

3. Growth Concepts

Four Growth Concepts were defined by Hemson and submitted to the technical teams for review and determination of potential impacts to the existing and future transportation infrastructure. Exhibit 1 provides a brief description of the four Growth Concepts and assumptions applied in the development of the planning projections.

Exhibit 1 - Overview of Growth Concepts

Concept 1: 60% Densification/ Moderate Greenfield Expansion	Concept 2: 70% Densification / Limited Greenfield Expansion	Concept 3: 80% Densification / Employment Area Only Greenfield Expansion	Concept 4: 50% Intensification / Greatest Amount of Greenfield Expansion
•50% densification to 2031 then 60% densification* to 2051 • Lower share of employment growth in Employment Areas relative to Concept 4	• One-half the amount of new community DGA of Concept 1 • 70% densification* (2031-51) •Share of employment growth in Employment Areas midway between Concepts 1 and 3	•Build out of existing DGA only •About 80% densification* (2031-51) •Least share of employment growth in Employment Areas	•50% intensification in BUA (2021-51) • Greatest share of employment growth in Employment Areas

*Share densification approximates the share of apartments in the mix of total housing growth
Densification from 2031 to 2051 in Concepts 1, 2, 3 and 4 include 10%, 17%, 24% and 2.5% of units as DGA densification, apartment development in DGA strategic growth areas such as Trafalgar Road in north Oakville and Milton

Source: Hemson

A summary of the population and employment for each of the four Growth Concepts is summarized in the following exhibits.

Exhibit 2 - Population Growth

	Population Growth (2016-2041)				Population Growth (2016-2051)			
Scenario: Municipality	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
Acton	100	100	500	100	100	100	800	100
Burlington	49,000	50,000	51,000	47,000	74,000	80,000	84,000	70,000
Georgetown	15,000	15,000	15,000	13,000	20,000	24,000	23,000	23,000
Halton Hills	25,000	21,000	21,000	33,000	68,000	49,000	24,000	92,000
Milton	155,000	155,000	147,000	159,000	221,000	216,000	214,000	225,000
Oakville	115,000	116,000	124,000	108,000	148,000	162,000	184,000	134,000
Total	**358,000**	**358,000**	**359,000**	**360,000**	**531,000**	**531,000**	**529,000**	**545,000**

Note: Planning estimates rounded to the closest 1,000.
Planning estimates for Acton rounded to the closest 100.

Exhibit 3 - Employment Growth

Municipality	Employment Growth (2016-2041)				Employment Growth (2016-2051)			
Scenario: Municipality	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**
Acton	500	300	800	500	1,200	400	1,400	1,300
Burlington	21,000	21,000	21,000	21,000	30,000	32,000	33,000	29,000
Georgetown	4,000	4,000	3,000	4,000	10,000	10,000	5,000	12,000
Halton Hills	13,000	13,000	14,000	14,000	26,000	28,000	25,000	27,000
Milton	66,000	66,000	65,000	66,000	95,000	98,000	97,000	94,000
Oakville	54,000	55,000	56,000	53,000	70,000	74,000	79,000	66,000
Total	**159,000**	**160,000**	**160,000**	**157,000**	**233,000**	**241,000**	**240,000**	**230,000**

Note: Planning estimates rounded to the closest 1,000.
Planning estimates for Acton rounded to the closest 100.

4. Technical Analysis

The analysis of the 2041 and 2051 transportation infrastructure needs for the four Growth Concepts was based on two assessments – Roads and Transit.

4.1 Roads Assessment

Road needs were assessed through the regional transportation network performance, at the screenline level, and the ability of the regional transportation network to accommodate travel demand through that screenline consistent with assessments in the Halton Region Transportation Master Plan – The Road to Change (2013) and the Halton Region 2017 Development Charges Transportation Technical Report (September 2016).

In the context of travel demand forecasting, these studies defined level of service thresholds through a volume to capacity ratio (v/c), with a threshold of 0.9 being the maximum acceptable value. A v/c equal to or greater than 0.9 triggered the need for additional capacity improvements assessment.

A screenline is an imaginary boundary that defines a broad corridor consisting of one or more roadway links). Appendix 2 depicts the Region's screenlines per the current travel demand forecasting tool.

Screenlines where the anticipated volume of vehicles traversing that screenline divided by the capacity of the roadways on that screenline is equal to or greater than 0.9, additional roadway capacity (i.e. lane requirements) was identified as required, on either MTO and/or Regional/local facilities. The Growth Concepts were analyzed as follows:

- Screenline deficiencies were identified for screenlines with a v/c equal to or greater than 0.9;
- Screenline deficiencies were divided into MTO and Regional/Local deficiencies;
- MTO deficiencies were not carried further in the analysis; and
- Regional/local solutions for each deficient screenline were assessed and recommended solutions provided, where possible and feasible.

For each of the Growth Concepts, the deficient screenlines were reviewed in further detail, at the link level, to assess road capacity improvements. Capacity improvements were limited to Regional/local roads.

4.2 Transit

The high priority corridors were analyzed by comparing the passenger demand in the peak hour along the corridor and comparing this demand to the capacity of the service. The base service used for 2051 was as recommended by the DMTR for the 2041 planning horizon.

4.3 Overall Observations

Appendix 3 presents a summary of screenline deficiency by Growth Concept by planning horizon, in graphical form, for all roadway jurisdictions (Region/Local/MTO). These deficiencies have not been assessed or rationalized. The screenlines identified exhibit a v/c ratio equal to or greater than 0.9. Appendix 4 presents the deficient screenlines identifying only the screenlines where a Regional/Local

solution can be implemented after having rationalized the absolute volume of travel demand deficiency for the screenline. The rationalization of the screenline refers to an assessment of the screenline performance. For example, in some instances, when the v/c ratio is equal to or greater than 0.9 (indicating a potential deficiency), further assessment may find that the volumes (absolute value) are sufficiently low such that they are considered insignificant or it fall within the forecasting tolerances of a 20 to 30 year forecast.

There are many screenline deficiencies identified in 2041 and 2051 where the deficient link is a provincial facility (QEW / Highway 403 / Highway 401). In south Halton Region, the QEW, Highway 403 and the Skyway bridge exhibit significant deficiencies in capacity in both planning horizons. In mid-Halton, Highway 401 exhibits significant deficiency in capacity for both planning horizons. As indicated above, these potential provincial facility deficiencies were not analysed further as part of this exercise.

Prior to presenting the findings of the transportation system assessment for each of the four Growth Concepts, it is important to note this current analysis is a refinement of the previous higher-level analysis completed to compare the eight Growth Scenarios. For example:

- The assessment for the eight Growth Scenarios was based on an equal transit mode split of 10% for all Scenarios
- Screenline deficiencies, and resulting solutions, were not constrained to account for, for example, the Region's practice of not widening arterial roads beyond six lanes.

Therefore, a direct comparison of the result of Stage 1 Concepts transportation assessment to the corresponding Growth Concept in the current assessment (Stage 2) may not necessarily yield the same solutions and costing

Growth Concept Assessment – Stage 2 – Four Growth Concepts

A summary of screenlines (SL) requiring capacity improvements for each of the 2041 and 2051 planning horizons, as undertaken for the four Growth Concepts, is presented in Exhibit 4.

In 2041, Growth Concept 2 exhibits two additional screenline deficiencies compared to the other three Concepts. Otherwise, the observed deficient screenlines in this period are common to all four Concepts.

In 2051, Growth Concept 3 exhibits one additional screenline deficiency in 2051 in south Halton Hills. Growth Concept 4 exhibits one additional screenline deficiency in 2051 in the Regional Road 25 / James Snow Parkway area due to higher employment designation in this area. Otherwise, the observed deficient screenlines in this period are common to all four Concepts.

None of the observed screenline deficiencies distinguish one Concept as better or worse among the four Growth Concepts by 2051. With some minor differences, all four Growth Concepts exhibit similar transportation impacts.

Exhibit 4 - Summary - Screenline Deficiency by Growth Concept and Planning Horizon (Regional and Local Solutions Only)

Screenline	2041	2051
SL 75 - Oakville - East of Bronte Road	All Four Growth Concepts exhibit a deficiency at this SL	All Four Growth Concepts exhibit a deficiency at this SL
SL 72 - Oakville - East of Trafalgar Rd.	All Four Growth Concepts exhibit a deficiency at this SL	All Four Growth Concepts exhibit a deficiency at this SL
SL 74 - Halton Hills - West of Winston Churchill	-	Only Growth Concept 3
SL 17 - Milton - East of Thompson Rd.	All Four Growth Concepts exhibit a deficiency at this SL	All Four Growth Concepts exhibit a deficiency at this SL
SL - 14 - Milton - West of Highway 407	All Four Growth Concepts exhibit a deficiency at this SL	All Four Growth Concepts exhibit a deficiency at this SL
SL 35 - Oakville - East Oakville north of QEW	All Four Growth Concepts exhibit a deficiency at this SL	All Four Growth Concepts exhibit a deficiency at this SL
SL 41 - Oakville - Central Oakville north of Dundas St.	-	All Four Growth Concepts exhibit a deficiency at this SL
SL 57 - Milton - Central Milton south of Main St.	Only Growth Concept 2	All Four Growth Concepts exhibit a deficiency at this SL
SL 54 - Halton Hills - West Halton Hills north of Steeles Ave.	-	Only Growth Concept 4
SL 4 - Burlington - West of Walkers Line (North)	All Four Growth Concepts exhibit this deficient SL	All Four Growth Concepts exhibit this deficient SL
SL 55 - Milton - East Milton south of Hwy 401	Only Growth Concept 2	-

4.4 Transportation System Performance

Exhibit 5 presents the system performance for each of the planning horizons by Growth Concept. As presented in the Exhibit, the system performance is relatively similar among all the Growth Concepts.

In the context of these statistics, it is important to note that the overall network performance reflects the PM Peak, and the model reflects 2031 road network and the 2041 transit network as recommended by DMTR for both the 2041 and 2051 planning horizon assessments.

Exhibit 5 - Summary – System Performance by Growth Concept and Planning Horizon

Performance Indicator	**2041**	**2051**
Average Network v / c		
Growth Concept 1	0.58	0.59
Growth Concept 2	0.58	0.59
Growth Concept 3	0.58	0.59
Growth Concept 4	0.58	0.59
Total Vehicle Kilometres (Million kilometres)		
Growth Concept 1	19.49	19.93
Growth Concept 2	19.49	19.93
Growth Concept 3	19.49	19.93
Growth Concept 4	19.50	19.94
Network Average Speed (km/h)		
Growth Concept 1	45	44
Growth Concept 2	45	44
Growth Concept 3	45	44
Growth Concept 4	45	44

5. System Opportunities and Constraints

Many screenlines across the region were identified as needing capacity improvements. This section focusses on only the screenlines where a regional/local solution is feasible and practical.

Capacity improvements can be made from an operational perspective (traffic signal timing adjustments), a shift in travel behaviour (more HOV, transit travel) or through a physical improvement to the transportation infrastructure (road widening). In reference to roadway widening, it has been the Region's practice not to widen roadways more than six lane cross-section at the mid-block location. At intersections there would be more lanes to accommodate left and right turns.

Some operational options to improve capacity include signal timing improvements, localize intersection improvements, such as adding left or right turn lanes, turn restrictions and contra-flow lanes. These operational improvements are proposed in this assessment on a qualitative basis and were generally assumed to be practical and feasible solutions where the absolute volume of traffic not being served was less than 30% of the capacity of the screenline or link being assessed.

For this assessment, and to have a conservative approach to costing, the more traditional method of capacity improvements (roadway widening) was selected, when possible, when evaluating screenline deficiencies. A more through assessment of alternatives options to screenline deficiencies will be undertaken as part of future transportation master plans.

Screenline Assessment

As shown in Exhibit 6, in south Halton Region, Screenlines 4, 75, 72, 41 and 35 demonstrated deficiencies greater than the equivalent of one lane of traffic per direction for both 2041 and 2051 planning horizons.

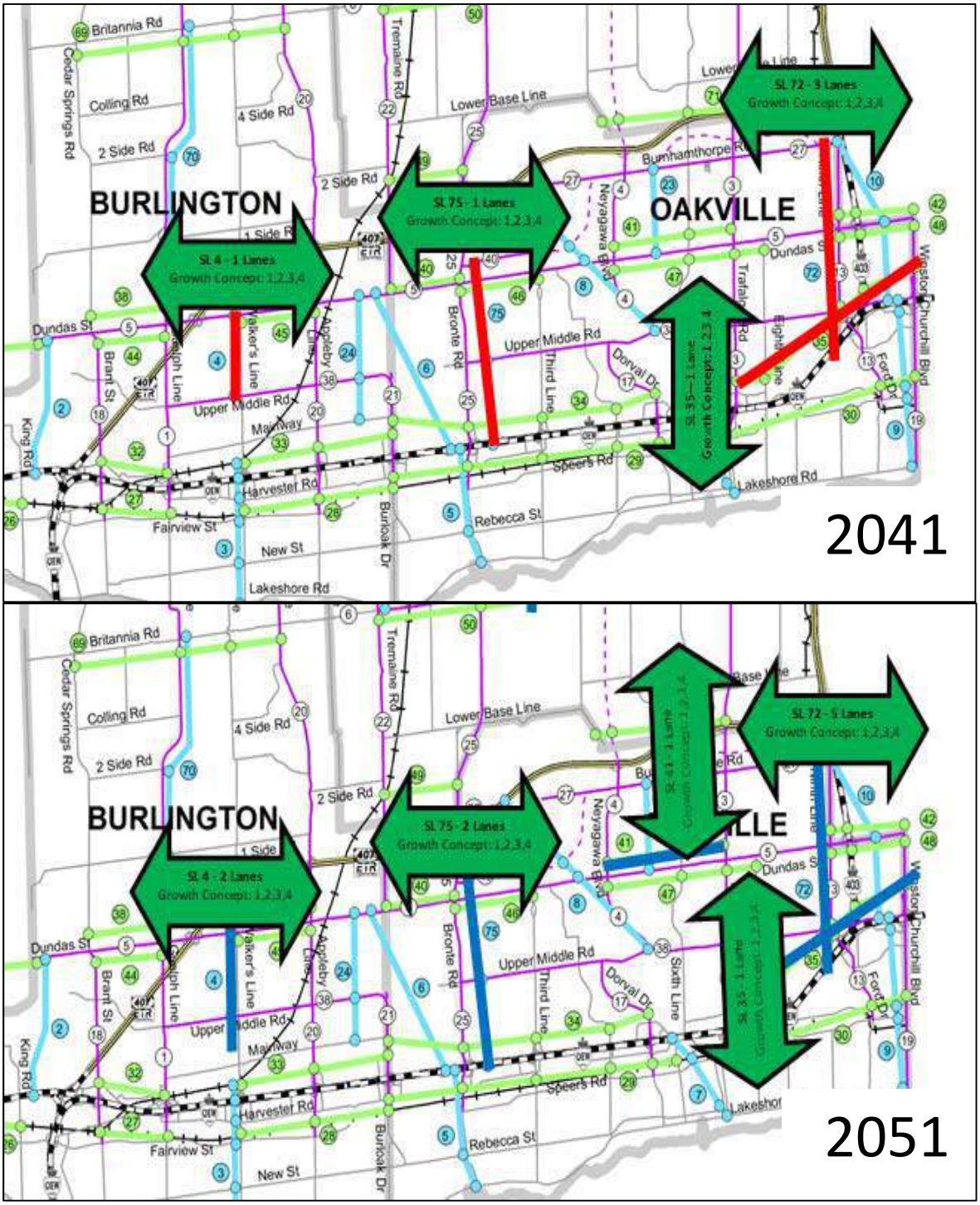
These screenlines include the QEW, Upper Middle Road and Dundas Street as common links. As already indicated, the QEW is under MTO jurisdiction and as such, no solutions are offered as part of this exercise.

To address observed deficiencies in the transportation system that are within the ability of the Region or its local municipalities to resolve, the options to improve the east/west travel performance is through some operational improvements, as discussed above, an increase in transit use (primarily along the Dundas St. transit priority corridor), and the addition of a lane of traffic per direction is required in this part of Halton Region, generally from Guelph Line to Ninth Line.

In addition to the above roadway improvements the road and transit service capacity along Dundas St is reached in 2041. To address travel demand forecasted to 2051, consideration of a higher order service will be required at least from Bronte Rd to the Halton-Peel boundary. This could include a bi-articulated bus running on 5-minute headway or an articulated LRT vehicle on 15-minute headway, as examples. The final and best solution for this corridor would be addressed as part of future transportation master plans.

Ford Drive would need to be widened to six lanes between Kingsway Dr. and Royal Windsor Rd. to address the identified one-lane deficiency at Screenline 35.

Exhibit 6 – South Halton Screenline Deficiencies



As shown in Exhibit 7, in mid-Halton Region, Screenlines 14 and 17 demonstrated deficiencies greater than the equivalent of one lane of traffic per direction for both 2041 and 2051 planning horizons. However, all the roadways that make up these screenlines are already at six lanes in cross-section and cannot be further widened. There are no opportunities within this area for any new links to add capacity.

Screenline 57 requires capacity improvements by 2051 for all of the Growth Concepts. Within the ability of the Region or Milton, the options to improve the north/south travel performance is through some operational improvements, as discussed above, an increase in transit use, and the addition of a lane on James Snow Parkway and the redesignation of this corridor to an access control corridor ("parkway"), generally between Highway 401 and Britannia Rd. Growth Concept 4 would require the "parkway" be extended north of Highway 401 to Regional Road 25.

Screenlines 17 and 14 must rely on a transit solution as there are no opportunities to add lanes on the existing regional roadways (Steeles Ave, Derry Rd and Britannia Rd) and adding a lane on Main St or Louis St Laurent will not address the full east/west demand observed by 2051.

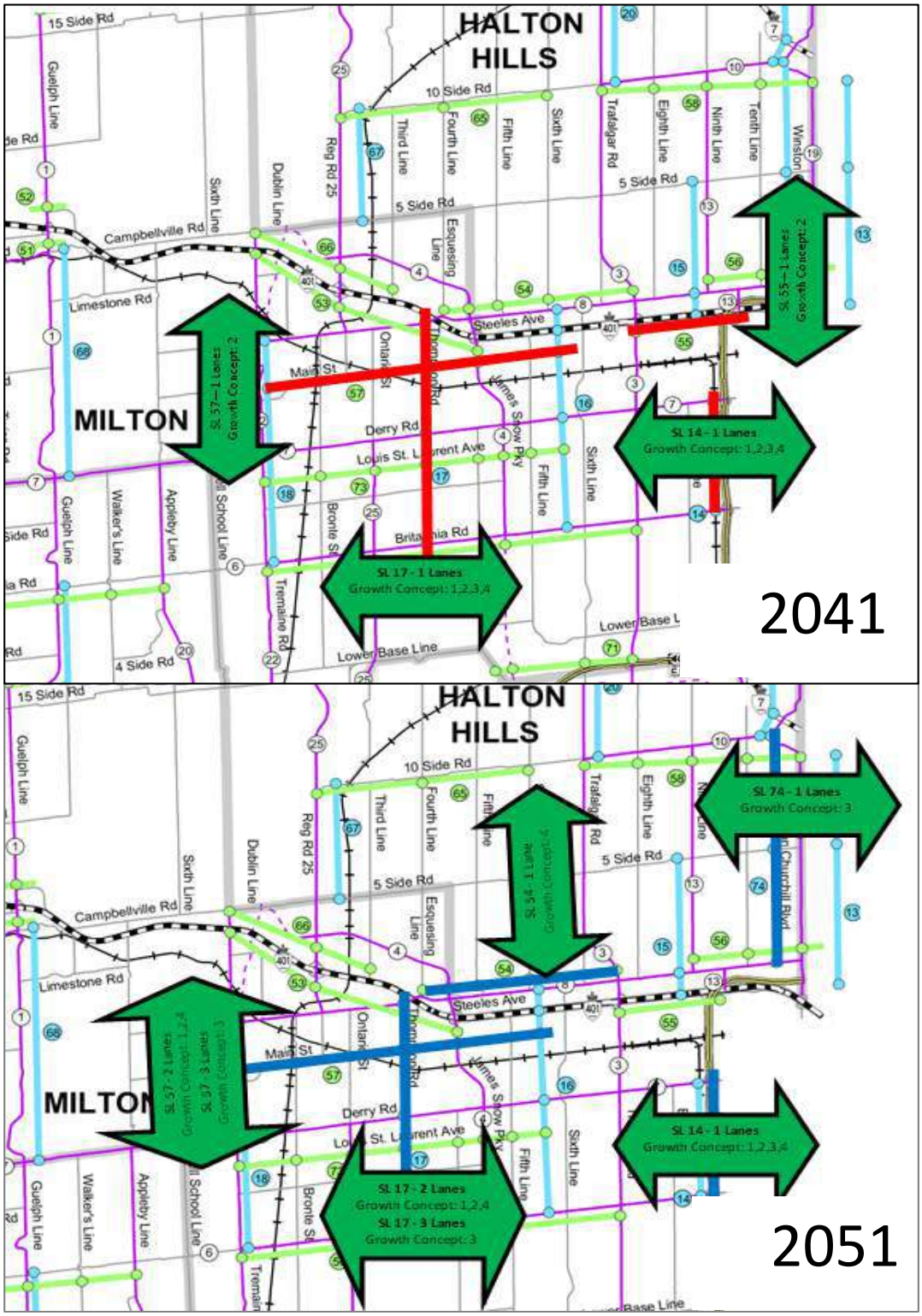
By 2041, and only to address Growth Concept 2, Ninth Line would need to be widened to 6 lanes or have a significant shift to transit usage to avoid this infrastructure requirement (Screenline 55). For this assessment, it was assumed the roadway would be widened.

In south Halton Hills, the transportation deficiencies are generally attributed to Highway 401.

By 2051, and only to address Growth Concept 3, 5 Side Road would need to be widened to 4 lanes (Screenline 74).

Notwithstanding the above Regional/Local improvements, it must be noted that there will be significant congestion along the provincial facilities, affecting the regional transportation system.

Exhibit 7 – Mid-Halton & South Halton Hills Screenline Deficiencies



Summary of Screenline Capacity Improvements

The required transportation system improvements by Screenline for each Growth Concept are summarized in Exhibit 8.

Exhibit 8 – Transportation System Improvements (2031 – 2051)

Potential Solution*	Growth Concept			
	1	2	3	4
Road				
Additional 2 lanes (South Halton) - Guelph Line to Ninth Line	✓	✓	✓	✓
Ford Dr – Kingsway Dr to Royal Windsor Dr	✓	✓	✓	✓
James Snow Parkway - Highway 401 to Britannia	✓	✓	✓	✓
James Snow Parkway - Highway 401 to RR 25				✓
Neyagawa - Highway 407 to Dundas	✓	✓	✓	✓
5 Side Road - Peel Boundary to Ninth Line			✓	
Ninth Line - Steeles to Derry		✓		
Transit				
Steeles Ave Transit Improvements**	✓	✓	✓	✓
Derry Rd Transit Improvements**	✓	✓	✓	✓
Britannia Rd Transit improvements**	✓	✓	✓	✓
Dundas St Transit Improvements	✓	✓	✓	✓

**Subject to undertaking of transportation master plan and Class Environmental Assessment process*

***Combination of either/or both of, reduced headway and use of articulated buses.*

Exhibit 9 presents the approximate lane-kilometres per direction that would be required per scenario based on the travel demand on various screenlines. The second row presents the Potentially Achievable lane-kilometres that could be implemented considering the design criteria. In other words, there is more demand for road travel by 2051 than roads available to be widened, hence the need to also turn to other modes of transportation (transit, active transportation).

Exhibit 9 – Lane-kilometres Required vs Achievable per Growth Scenario (2031 – 2051)

Lane – Kilometres	Growth Concept			
	1	2	3	4
Demand	64	67	67	68
Potentially Achievable	31	34	34	35

*lane-kilometres noted are per direction of travel

The above capital and transit improvements are still subject to a thorough review as part of the upcoming Multi-Modal Transportation Master Plan but are sufficient for the purposes of conducting the current comparative assessment of the four Growth Concepts.

6. Transportation Servicing Cost Assessment

Capital cost estimates were prepared for the recommendations noted above.

6.1 Roads

A preliminary high-level cost analysis was performed for each of the four Growth Concepts to determine a range of potential road and transit improvements required to service growth to 2051. The preliminary high-level cost analysis included a compilation of cost estimates consistent with previous master planning cost estimating approach. The expected accuracy range for this analysis presents a typical variation of -30% and +50% representing a Class 4 cost estimates as per the Association for the Advancement of Cost Engineering (AACE) Cost Estimate Classification System.

Costs do not include any property requirements as it is not practical to define this need as this level of analysis.

Exhibit 10 presents a summary of the preliminary high-level cost analysis for road improvements suggested by 2051.

The roadway costs among the Growth Concepts were within 15%, concluding that no one scenario stands out from a cost perspective given the ROM of the cost analysis.

Exhibit 10 – Summary of Increase in Road Capital Costs by Growth Concepts

Growth Concept	2031 to 2051
1	$525 million to $1.13 Billion
2	$525 million to $1.13 Billion
3	$604 million to $1.29 Billion
4	$607 million to $1.3 Billion

6.2 Transit Costs

Based on the above servicing scenarios, preliminary high-level costs were derived for the transit component of the regional transportation system, as presented in Exhibit 11.

It is important to note the preliminary high-level costs presented below are from 2031 to 2051 and in addition to the 2031 cost estimate recommendations from the DMTR. The Transit Priority Networks includes $261M in new transit infrastructure by 2031, which includes transit station infrastructure, transit priority infrastructure including TSP, fibre optic communications, and queue jump lanes. In addition to infrastructure costs, transit fleet requirements in the range of $117M have also been allocated by 2031 and approximately $39M, per year, to cover Operations and Maintenance (O&M) costs to 2031.

To address 2051 planning horizon transit demand and to address vehicular demand that could not be serviced by the road system, two transit service scenarios were evaluated. The first scenario considered the combination of increased headway (ranging from 3 minutes to 10 minutes) and/or the bus type (standards vs articulated) to generate the capacity to meet the forecasted demand. The second scenario considered fixing the headway to a minimum of 5 minutes and addressing the demand through larges (articulated) buses.

Based on the above servicing scenarios, costs were derived for the transit component of the regional transportation system, as presented in Exhibit 11.

Exhibit 11 – Summary of Increase in Transit Costs by Growth Concepts

Growth Concept	2031 to 2051 Capital	2031 – 2051 O & M
1	$97.6 million to $209 million	$115 million to $247 million
2	$97.6 million to $209 million	$115 million to $247 million
3	$97.6 million to $209 million	$115 million to $247 million
4	$97.6 million to $209 million	$115 million to $247 million

The capital costs and O&M costs were within 5% and 8% respectively, for the two transit servicing scenarios discussed above.

7. Summary of Key Findings and Conclusions

In looking at the four Growth Concepts in both 2041 and 2051, the observed screenline deficiencies are very similar with very minor changes within a focused area.

All the Growth Concepts include the same screenlines for which a solution cannot be reasonably defined or have significant social or environmental implications. Where solutions are more practical or feasible, the solution for each deficient screenline is the same among the four concepts.

Where a Growth Concept had a unique screenline deficiency, that deficiency was not considered to be significant enough in the aggregate to identify the Growth Concept as better or worse from a transportation perspective.

The ROM level costing of transportation infrastructure and transit services forecasted to serve 2051 conditions was 15% among the Growth Concepts. Concept 3 and 4 had the potential for a marginally higher transportation capital cost, depending on the transportation solution, but not significant enough to distinguish these two growth concepts from the others.

No Growth Concept stands out more than another, in the aggregate, from a technical or financial perspective from a transportation performance point of view.

As presented in this section, the planned 2031 capacities of infrastructure were compared to the projected 2051 growth requirements to identify high-level system constraints and opportunities. The analysis demonstrated that for transportation infrastructure, there are no substantial differences in infrastructure opportunities and constraints to 2051 when the four Growth Concepts are compared relative to one another.

The estimates of future capacity requirements to 2051 are approximate and intended to provide a high-level assessment of potential future capacity constraints and opportunities. This assessment was appropriate only for the relative comparison of the four Growth Concepts. The analysis is subject to further refinement through this study (preferred Growth Concept) and the future transportation master plans.

Through its transportation planning efforts to-date, Halton Region recognizes that mobility evolves with urbanization. The Region is ensuring in its planning processes that transportation corridors are protected now and, as its transportation system evolves, climate friendly transportation solutions are possible into 2051 and beyond.

Appendices

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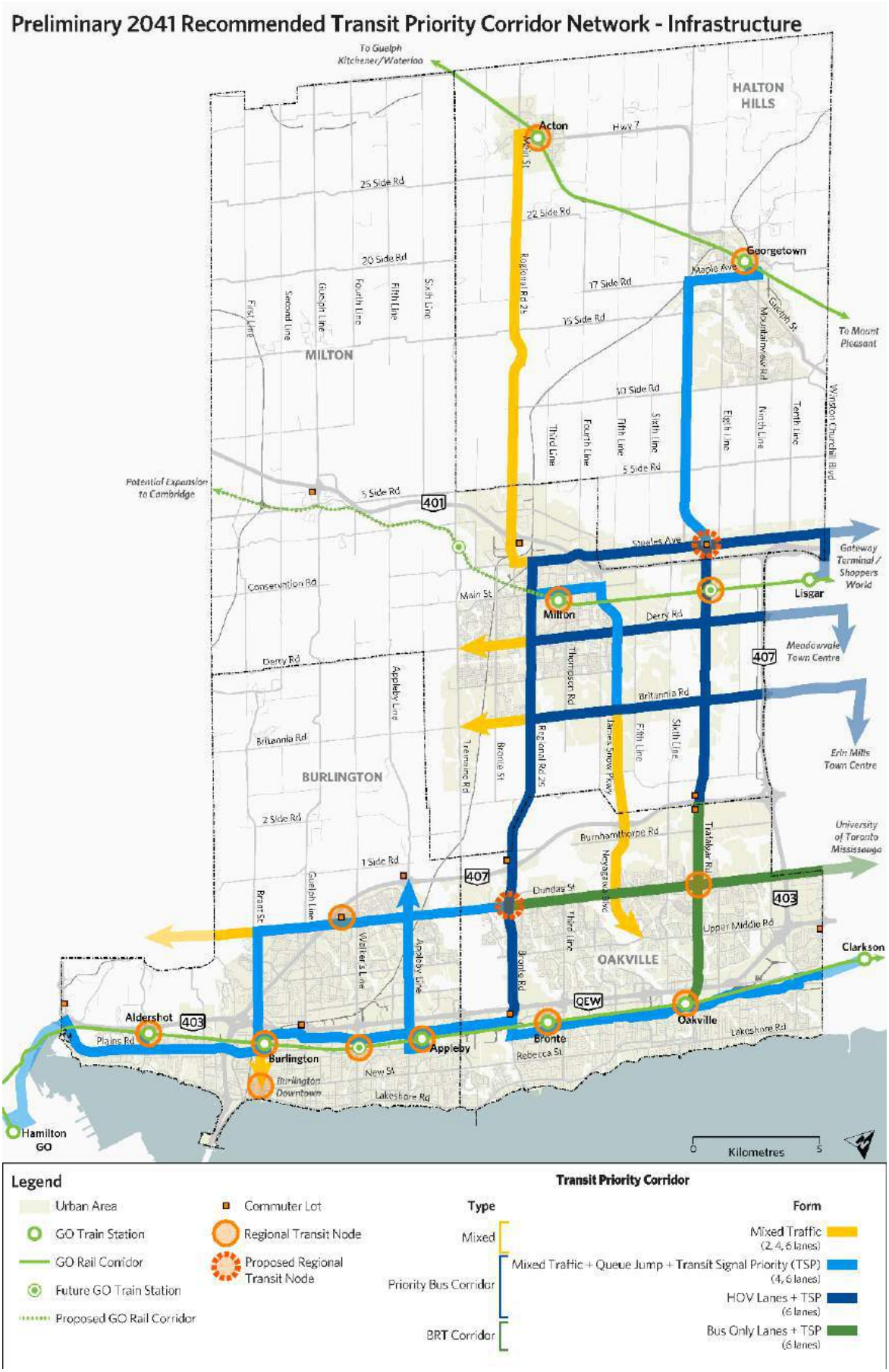
Appendix 1

2041 Recommendation of the Defining Major Transit Requirements in Halton Region (DMTR)


Preliminary 2041 Recommended Transit Priority Corridor Network - Infrastructure
To Guelph
Kitchener/Waterloo
HALTON HILLS
Acton
Hwy 7
Main St
25 Side Rd
22 Side Rd
20 Side Rd
17 Side Rd
15 Side Rd
10 Side Rd
5 Side Rd
Regional Rd 25
Georgetown
Maple Ave
Guelph St
To Mount Pleasant
Mountainview Rd
Winston Churchill Blvd
MILTON
First Line
Second Line
Guelph Line
Fourth Line
Fifth Line
Sixth Line
Third Line
Eighth Line
Ninth Line
Tenth Line
Potential Expansion to Cambridge
401
Steeles Ave
Gateway Terminal / Shoppers World
Lisgar
Conservation Rd
Main St
Milton
Derry Rd
407
Meadowvale Town Centre
Britannia Rd
Thomaser Rd
Appleby Line
Bronte St
Regional Rd 25
James Snow Pkwy
Fifth Line
Sixth Line
Erin Mills Town Centre
BURLINGTON
Tremaine Rd
2 Side Rd
Burnhamthorpe Rd
University of Toronto Mississauga
Trafalgar Rd
1 Side Rd
Dundas St
403
Upper Middle Rd
Brant St
Guelph Line
Walker's Line
Neyagawa Blvd
Third Line
OAKVILLE
Clarkson
QEW
Aldershot
Plains Rd
Burlington
Appleby
Bronte
Rebecca St
Oakville
Lakeshore Rd
New St
Burlington Downtown
Hamilton GO
0
5
Kilometres
Legend
Urban Area
GO Train Station
GO Rail Corridor
Future GO Train Station
Proposed GO Rail Corridor
Commuter Lot
Regional Transit Node
Proposed Regional Transit Node
Transit Priority Corridor
Type
Form
Mixed
Priority Bus Corridor
BRT Corridor
Mixed Traffic
(2, 4, 6 lanes)
Mixed Traffic + Queue Jump + Transit Signal Priority (TSP)
(4, 6 lanes)
HOV Lanes + TSP
(6 lanes)
Bus Only Lanes + TSP
(6 lanes)

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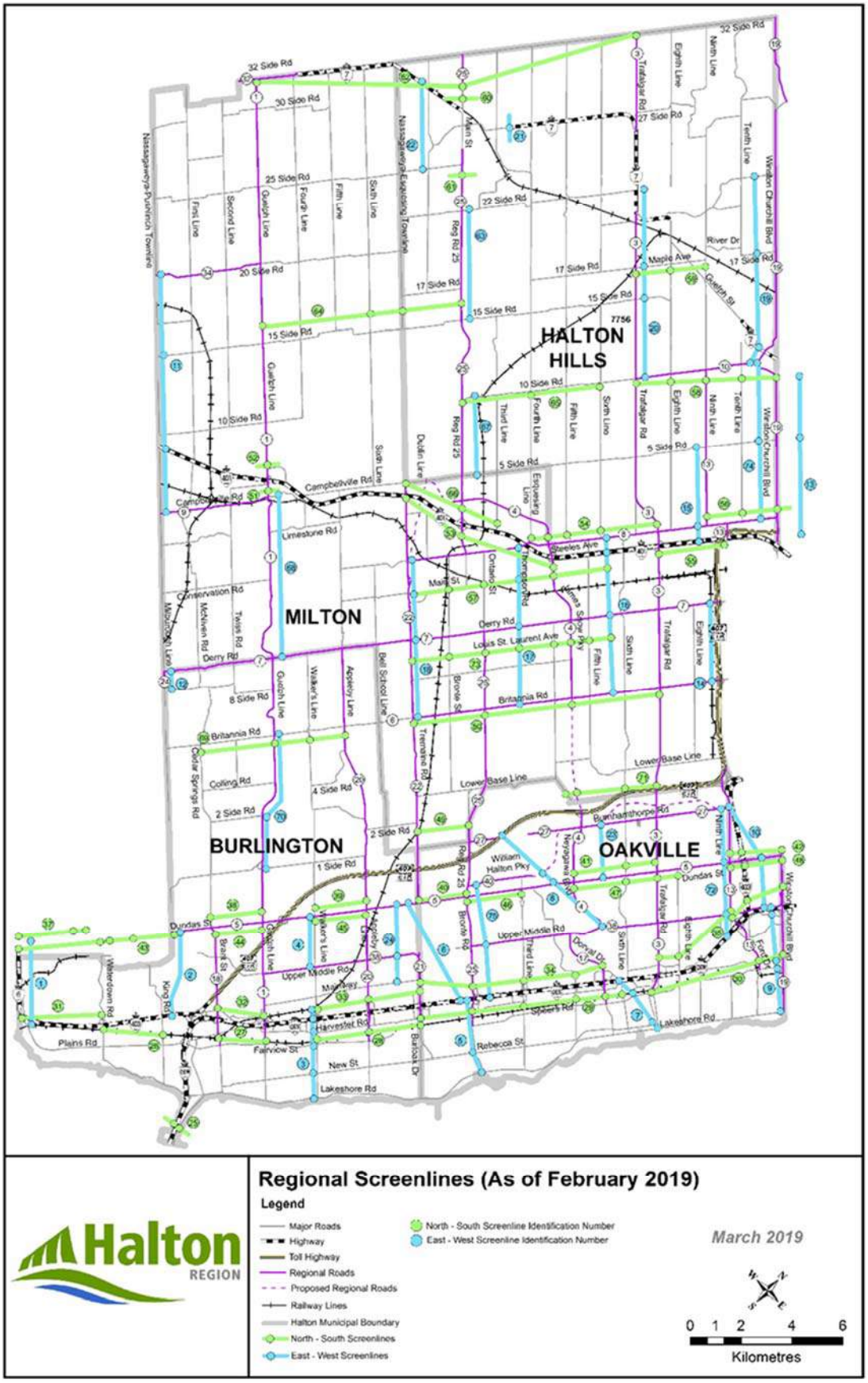
Appendix 2

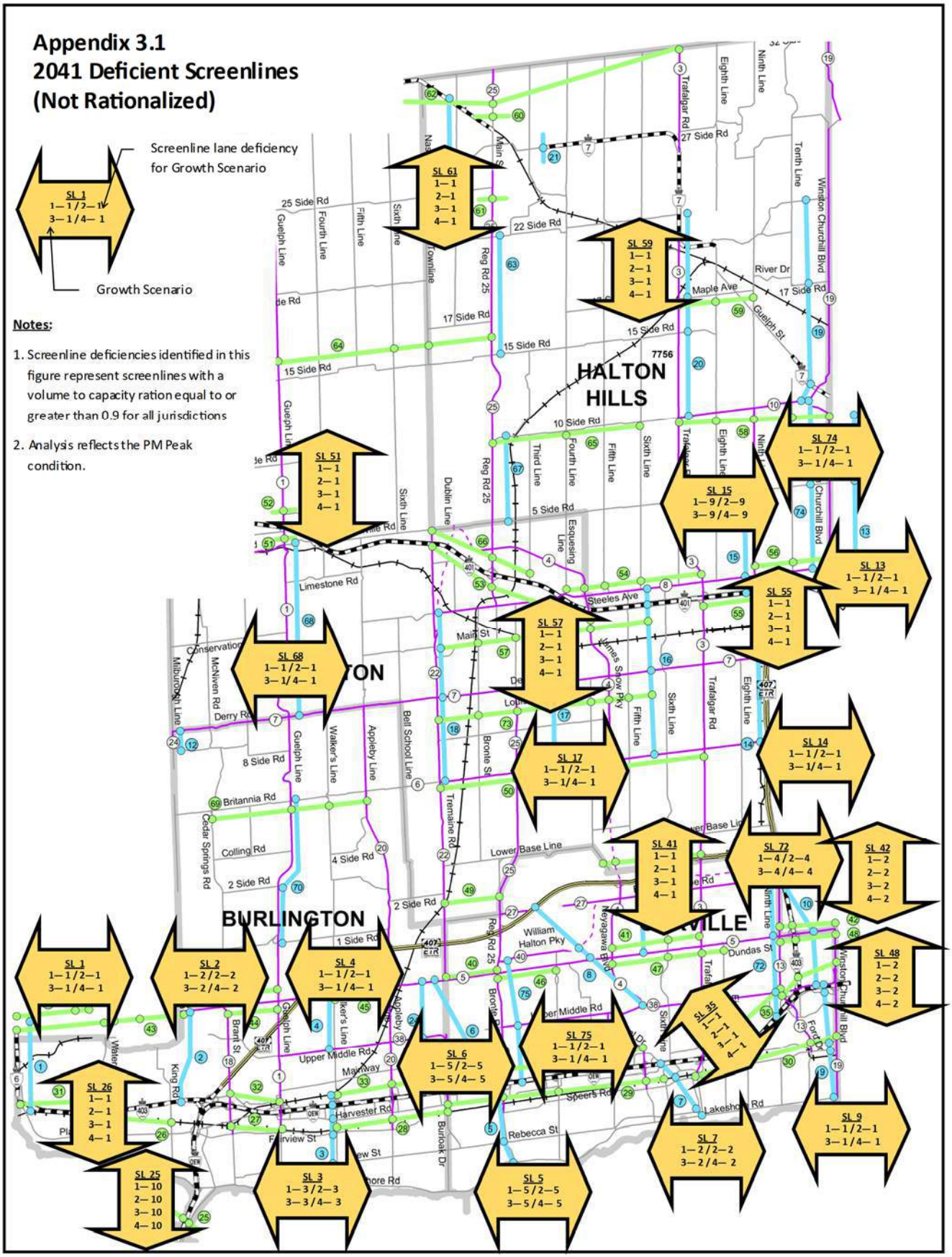
Regional Screenlines


HALTON HILLS
MILTON
BURLINGTON
OAKVILLE
Regional Screenlines (As of February 2019)
Legend
Major Roads
Highway
Toll Highway
Regional Roads
Proposed Regional Roads
Railway Lines
Halton Municipal Boundary
North - South Screenlines
East - West Screenlines
North - South Screenline Identification Number
East - West Screenline Identification Number
March 2019
Halton REGION
0 1 2 4 6
Kilometres

EllSo Consulting

Appendix 3

Regional and MTO screenline deficiency by Growth Concept


Appendix 3.1
2041 Deficient Screenlines
(Not Rationalized)
Screenline lane deficiency for Growth Scenario
Growth Scenario
SL 1
1—1/2—1
3—1/4—1
Notes:
1. Screenline deficiencies identified in this figure represent screenlines with a volume to capacity ration equal to or greater than 0.9 for all jurisdictions
2. Analysis reflects the PM Peak condition.
HALTON HILLS
BURLINGTON
SL 61
1—1
2—1
3—1
4—1
SL 59
1—1
2—1
3—1
4—1
SL 51
1—1
2—1
3—1
4—1
SL 74
1—1/2—1
3—1/4—1
SL 15
1—9/2—9
3—9/4—9
SL 13
1—1/2—1
3—1/4—1
SL 55
1—1
2—1
3—1
4—1
SL 57
1—1
2—1
3—1
4—1
SL 68
1—1/2—1
3—1/4—1
SL 17
1—1/2—1
3—1/4—1
SL 14
1—1/2—1
3—1/4—1
SL 41
1—1
2—1
3—1
4—1
SL 72
1—4/2—4
3—4/4—4
SL 42
1—2
2—2
3—2
4—2
SL 48
1—2
2—2
3—2
4—2
SL 1
1—1/2—1
3—1/4—1
SL 2
1—2/2—2
3—2/4—2
SL 4
1—1/2—1
3—1/4—1
SL 26
1—1
2—1
3—1
4—1
SL 6
1—5/2—5
3—5/4—5
SL 75
1—1/2—1
3—1/4—1
SL 35
1—1
2—1
3—1
4—1
SL 25
1—10
2—10
3—10
4—10
SL 3
1—3/2—3
3—3/4—3
SL 5
1—5/2—5
3—5/4—5
SL 7
1—2/2—2
3—2/4—2
SL 9
1—1/2—1
3—1/4—1
Trafalgar Rd
27 Side Rd
22 Side Rd
25 Side Rd
17 Side Rd
15 Side Rd
10 Side Rd
5 Side Rd
Reg Rd 25
Guelph Line
Fourth Line
Fifth Line
Sixth Line
Third Line
Dublin Line
Esquesing Line
Limestone Rd
Steeles Ave
Main St
Derry Rd
8 Side Rd
Britannia Rd
Colling Rd
4 Side Rd
2 Side Rd
1 Side Rd
Lower Base Line
Upper Middle Rd
Harvester Rd
Fairview St
Rebecca St
Speers Rd
Dundas St
Maple Ave
River Dr
Guelph St
Eighth Line
Ninth Line
Tenth Line
Winston Churchill Blvd
Trafalgar Rd
Milburough Line
McNiven Rd
Conservation
Walker's Line
Appleby Line
Bell School Line
Bronte St
Tremaine Rd
Cedar Springs Rd
William Halton Pky
Neyagawa Blvd
Ford Dr
Lakeshore Rd
Burloak Dr
King Rd
Brant St
Mainway
Waterdown
Plains Rd
Harvester Rd
Fairview St
Rebecca St
Speers Rd
Lakeshore Rd
Upper Middle Rd
Lower Base Line
Dundas St
Trafalgar Rd
Sixth Line
Fifth Line
Eighth Line
Ninth Line
Tenth Line
Winston Churchill Blvd
Guelph Line
Walker's Line
Appleby Line
Bronte St
Reg Rd 25
Dublin Line
Esquesing Line
Third Line
Fourth Line
Fifth Line
Sixth Line
Eighth Line
Ninth Line
Trafalgar Rd
Milburough Line
McNiven Rd
Derry Rd
Guelph Line
Walker's Line
Appleby Line
Bell School Line
Bronte St
Tremaine Rd
Cedar Springs Rd
Colling Rd
Britannia Rd
8 Side Rd
4 Side Rd
2 Side Rd
1 Side Rd
Lower Base Line
Upper Middle Rd
Harvester Rd
Fairview St
Rebecca St
Speers Rd
Dundas St
Maple Ave
River Dr
Guelph St
Limestone Rd
Steeles Ave
Main St
Esquesing Line
Dublin Line
Reg Rd 25
Sixth Line
Fifth Line
Fourth Line
Third Line
Guelph Line
Trafalgar Rd
27 Side Rd
22 Side Rd
25 Side Rd
17 Side Rd
15 Side Rd
10 Side Rd
5 Side Rd
Eighth Line
Ninth Line
Tenth Line
Winston Churchill Blvd
Maple Ave
River Dr
Guelph St
Steeles Ave
Limestone Rd
Main St
Esquesing Line
Dublin Line
Reg Rd 25
Sixth Line
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Fourth Line
Third Line
Guelph Line
Trafalgar Rd
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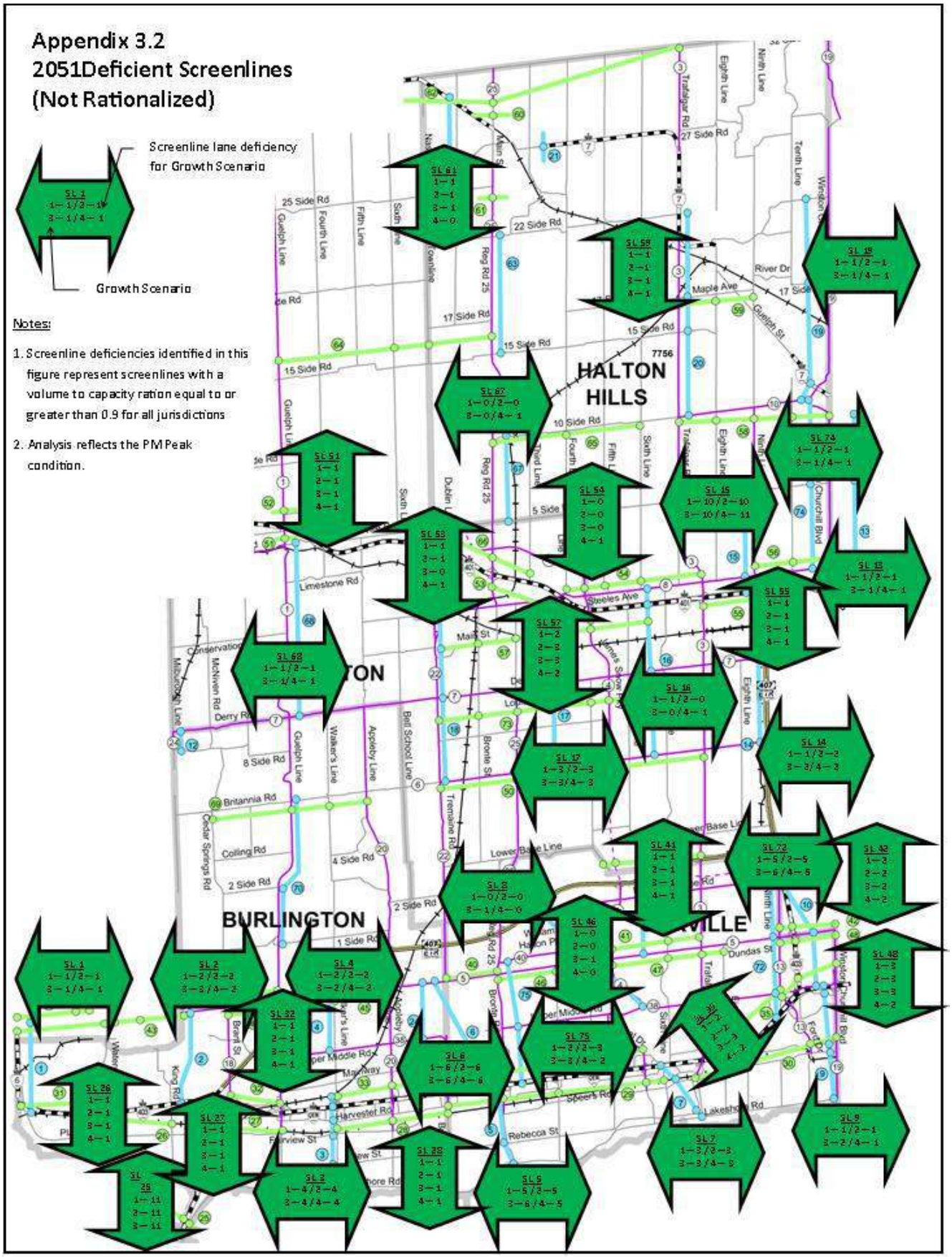
Bronte St
Tremaine Rd
Cedar Springs Rd
Colling Rd
Britannia Rd
8 Side Rd
4 Side Rd
2 Side Rd
1 Side Rd
Lower Base Line
Upper Middle Rd
Harvester Rd
Fairview St
Rebecca St
Speers Rd
Dundas St
William Halton Pky
Neyagawa Blvd
Ford Dr
Lakeshore Rd
Burloak Dr
King Rd
Brant St
Mainway
Waterdown
Plains Rd


Appendix 3.2
2051Deficient Screenlines
(Not Rationalized)
Screenline lane deficiency for Growth Scenario
Growth Scenario
Notes:
1. Screenline deficiencies identified in this figure represent screenlines with a volume to capacity ration equal to or greater than 0.9 for all jurisdictions
2. Analysis reflects the PM Peak condition.
HALTON HILLS
BURLINGTON
25 Side Rd
22 Side Rd
17 Side Rd
15 Side Rd
10 Side Rd
5 Side
8 Side Rd
4 Side Rd
2 Side Rd
1 Side Rd
Limestone Rd
Steeles Ave
Britannia Rd
Colling Rd
Derry Rd
Dundas St
Guelph Line
Fifth Line
Sixth Line
Eighth Line
Tenth Line
Trafalgar Rd
Maple Ave
River Dr
Guelph St
Churchill Blvd
Bell School Line
Appleby Line
Walker's Line
Tremaine Rd
Bronte St
Ninth Line
Lakeshore Rd
Rebecca St
Harvester Rd
Fairview St
Mainway
Upper Middle Rd
Lower Base Line
Reg Rd 25
Dublin Line
Third Line
Fourth Line
Cedar Springs Rd
Brant St
King Rd
Waterdown Rd
Mid-Dundas Line
McNiven Rd
Conservation
Main St
Queen St
Nassagaweya-Puslinch Townline
Sixth Line
Seventh Line
Eighth Line
Ninth Line
Tenth Line
Trafalgar Rd
Winston Churchill Blvd
Lakeshore Rd
Fairview St
Harvester Rd
Rebecca St
Upper Middle Rd
Mainway
Lower Base Line
Dundas St
Guelph Line
Fifth Line
Sixth Line
Eighth Line
Tenth Line
Trafalgar Rd
Maple Ave
River Dr
Guelph St
Churchill Blvd
Bell School Line
Appleby Line
Walker's Line
Tremaine Rd
Bronte St
Ninth Line
Lakeshore Rd
Rebecca St
Harvester Rd
Fairview St
Mainway
Upper Middle Rd
Lower Base Line
Dundas St
Reg Rd 25
Dublin Line
Third Line
Fourth Line
Cedar Springs Rd
Brant St
King Rd
Waterdown Rd
Mid-Dundas Line
McNiven Rd
Conservation
Main St
Queen St
Nassagaweya-Puslinch Townline
Sixth Line
Seventh Line
Eighth Line
Ninth Line
Tenth Line
Trafalgar Rd
Winston Churchill Blvd
Lakeshore Rd
Fairview St
Harvester Rd
Rebecca St
Upper Middle Rd
Mainway
Lower Base Line
Dundas St

EllSo Consulting

Appendix 4

Regional Screenline deficiency by Growth Concept

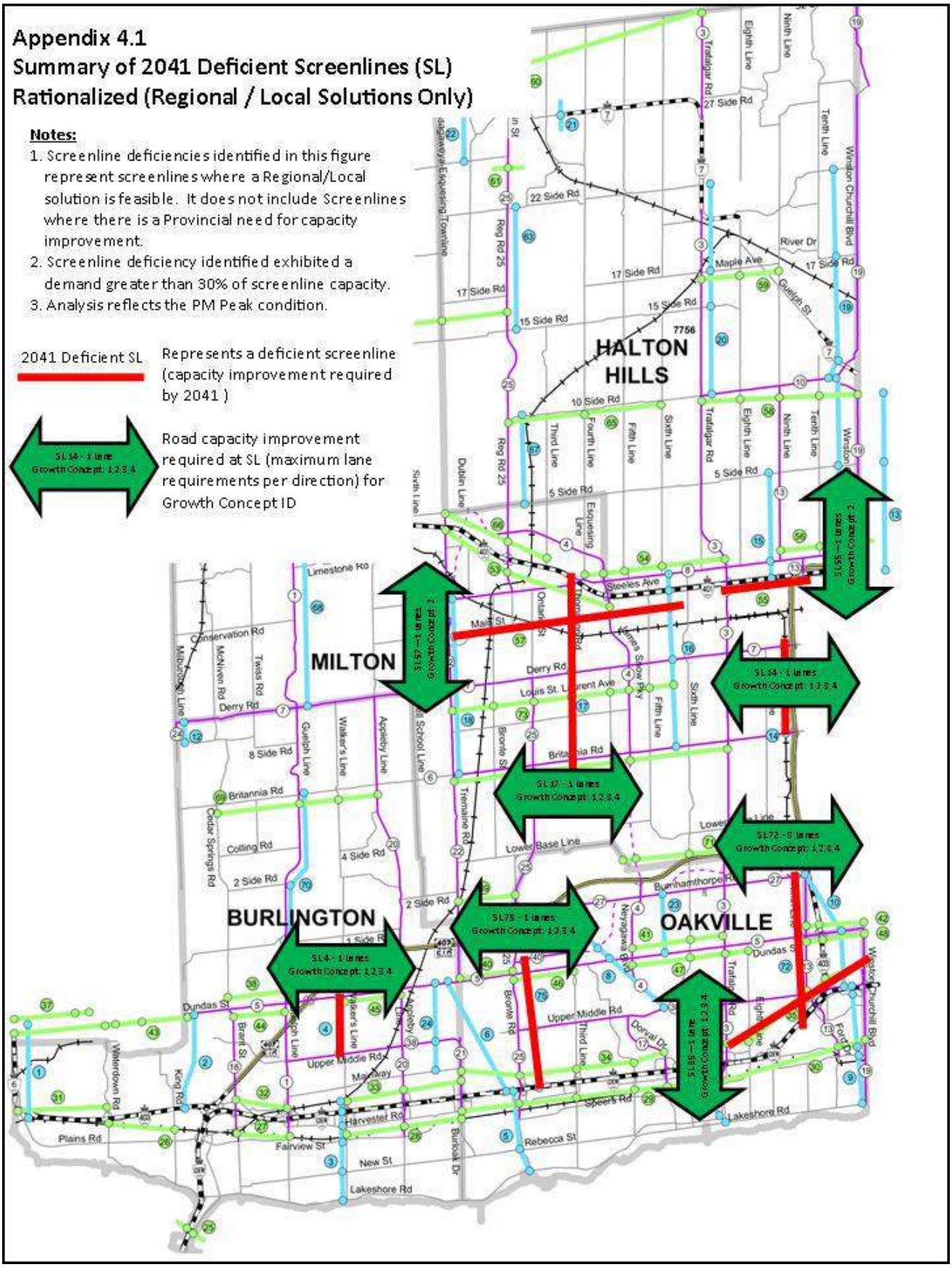
Appendix 4.1
Summary of 2041 Deficient Screenlines (SL)
Rationalized (Regional / Local Solutions Only)

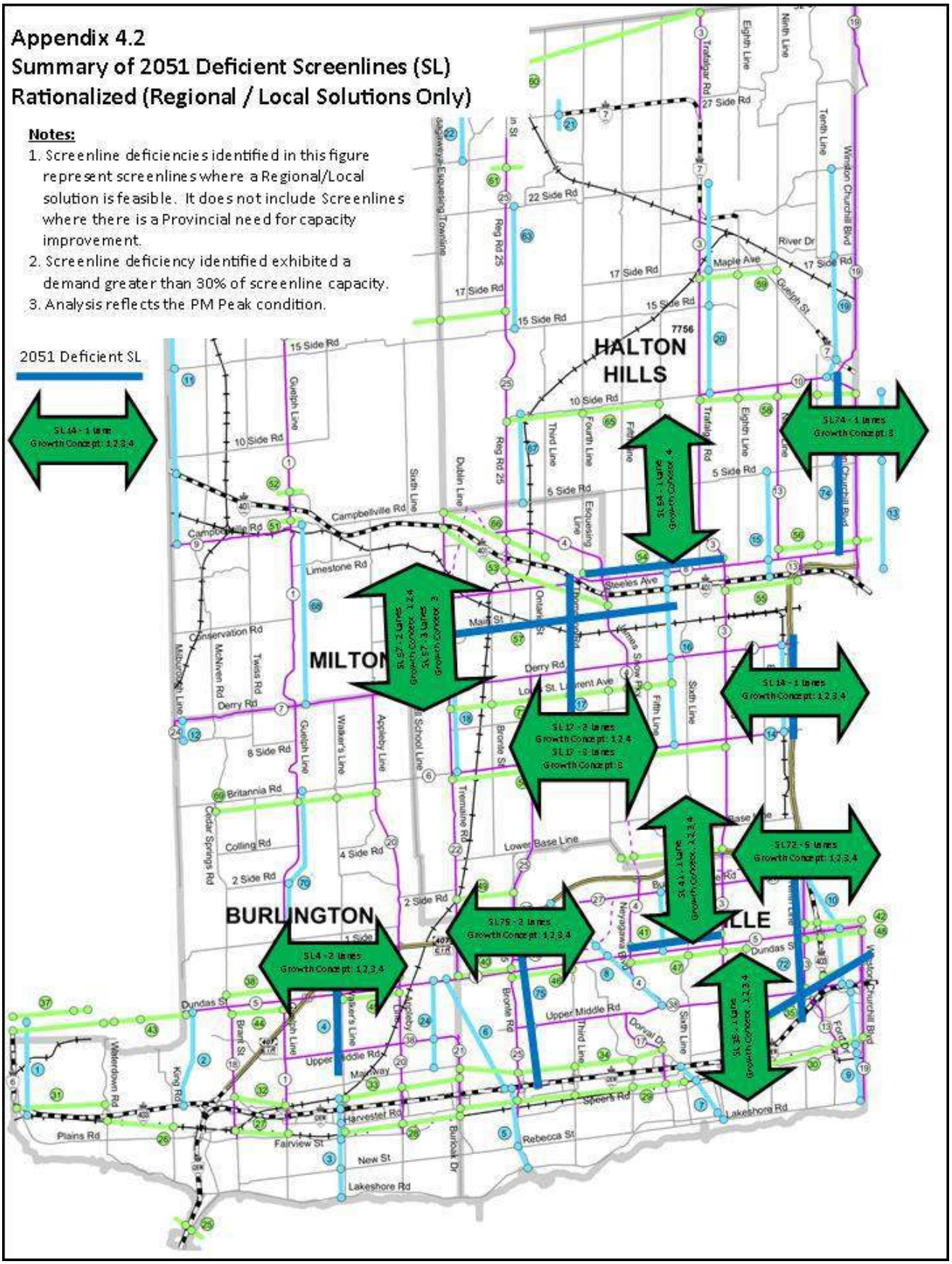
Notes:

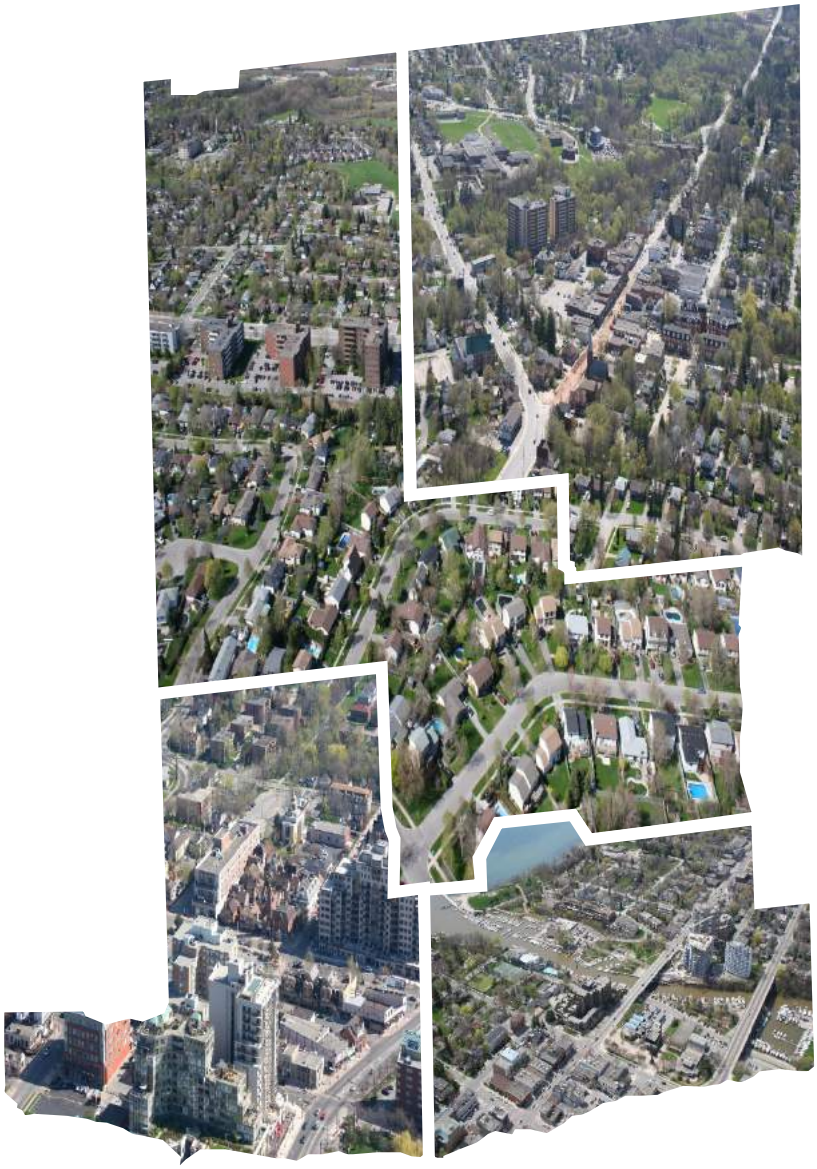
1. Screenline deficiencies identified in this figure represent screenlines where a Regional/Local solution is feasible. It does not include Screenlines where there is a Provincial need for capacity improvement.
2. Screenline deficiency identified exhibited a demand greater than 30% of screenline capacity.
3. Analysis reflects the PM Peak condition.

2041 Deficient SL — Represents a deficient screenline (capacity improvement required by 2041)

SL14 - 1 lane Growth Concept: 1,2,3,4 — Road capacity improvement required at SL (maximum lane requirements per direction) for Growth Concept ID




Appendix 4.2
Summary of 2051 Deficient Screenlines (SL)
Rationalized (Regional / Local Solutions Only)
Notes:
1. Screenline deficiencies identified in this figure represent screenlines where a Regional/Local solution is feasible. It does not include Screenlines where there is a Provincial need for capacity improvement.
2. Screenline deficiency identified exhibited a demand greater than 30% of screenline capacity.
3. Analysis reflects the PM Peak condition.
2051 Deficient SL
HALTON HILLS
MILTON
BURLINGTON
SL14 - 1 lanes Growth Concept: 1,2,3,4
SL74 - 1 lanes Growth Concept: 3
SL12 - 2 lanes Growth Concept: 1,2,4
SL17 - 3 lanes Growth Concept: 3
SL72 - 5 lanes Growth Concept: 1,2,3,4
SL75 - 2 lanes Growth Concept: 1,2,3,4
SL4 - 2 lanes Growth Concept: 1,2,3,4
15 Side Rd
10 Side Rd
5 Side Rd
22 Side Rd
17 Side Rd
27 Side Rd
Guelph Line
Trafalgar Rd
Eighth Line
Ninth Line
Tenth Line
Winston Churchill Blvd
Reg Rd 25
Third Line
Fourth Line
Fifth Line
Sixth Line
Dublin Line
Esquesing Line
Campbellville Rd
Limestone Rd
Steeles Ave
Main St
Derry Rd
Britannia Rd
Colling Rd
4 Side Rd
2 Side Rd
1 Side Rd
Lower Base Line
Upper Middle Rd
Dundas St
Lakeshore Rd
Speers Rd
Harvester Rd
Fairview St
New St
Rebecca St
Plains Rd
Waterdown Rd
King Rd
Brant St
Walker's Line
Appleby Line
Bronte Rd
Tremaine Rd
Cedar Springs Rd
Conservation Rd
McNiven Rd
Twiss Rd
Mainway
Burloak Dr
Maple Ave
River Dr
Guelph St
Trafalgar Rd
Derval Dr
Ford Dr
Neyagawa Blvd
Dundas St
Upper Middle Rd
Third Line
Sixth Line
Lakeshore Rd



Appendix E

Water and Wastewater Assessment

February 2021

Regional Official Plan Review

BluePlan ENGINEERING

Halton REGION

Prepared By:

Halton Region Integrated Growth Management Strategy

Technical Memo – Water and Wastewater Assessment

GMBP File: 717052

GUELPH | OWEN SOUND | LISTOWEL | KITCHENER | LONDON | HAMILTON | GTA

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TABLE OF CONTENTS

APPENDICES

TECHNICAL MEMO – WATER AND WASTEWATER ASSESSMENT

HALTON REGION INTEGRATED GROWTH MANAGEMENT STRATEGY

GMBP FILE: 717052

1. INTRODUCTION

As part of Halton Region's Integrated Growth Management Strategy the Region, GM BluePlan, Ellso Consulting and Paradigm are identifying and reviewing the Water, Wastewater, and Transportation requirements to support existing and future needs to 2041 and 2051.

To identify requirements, Hemson has developed several planning scenarios that focus growth in different areas and achieve different Regional and Local goals. This includes a total of eight (8) scenarios that were further refined into four (4) concepts which were provided for evaluation and analysis. The four (4) concepts were reviewed to identify the impact each concept could have on the existing and planned water and wastewater infrastructure.

Ultimately, a preliminary water and wastewater servicing plan will be developed for the preferred growth option. This memorandum is intended to review the following:

- Summary of planning numbers for the four concepts provided.
- Water and wastewater servicing opportunities and constraints for the existing and planned infrastructure to 2031.
- Identify high-level servicing needs to meet 2041 and 2051 growth for each of the four concepts.

This information will feed into the growth concepts evaluation process. Ultimately, the water and wastewater servicing strategies will be further refined based on a final preferred growth concept.

2. DESIGN CRITERIA & LEVEL OF SERVICE

This section establishes the Master Plan level per capita demand/flow assumptions as well as the intended level of service for the systems.

2.1 Water

Water design criteria and level of service are based on 2017 Development Charges Update as follows:

Table 1. Water Design Criteria

Per Capita Criteria	Residential	265	L/cap/d
	Employment (Blended)[1]	225	L/emp/d
Peaking Factor	Max Day (Lake based)	1.9	
	Max Day (Groundwater)	1.6	
	Peak Hour	3.0	
Level of Service	Target Pressure Range	40-100	psi
	Hydraulic Losses	<5.0	m/km
Storage	MECP Calculated A+B+C where: A = 25% x Max Day Demand B = Fire Storage as per MECP Table C = 25% x (A+B)		
Pumping	Pumping firm capacity to provide max day demand for downstream pressure zones Firm capacity based on capacity with largest pump out of service		
Treatment	Treatment plant upgrade triggers at 90% of rated treatment capacity		

[1]The planning scenarios do not break down Employment into separate categories of Industrial, Commercial, Institutional. As such, a blended ICI per capita criteria was used.

2.2 Wastewater

Similar to water, the design criteria and level of service is based on the 2017 Development Charges Update as follows:

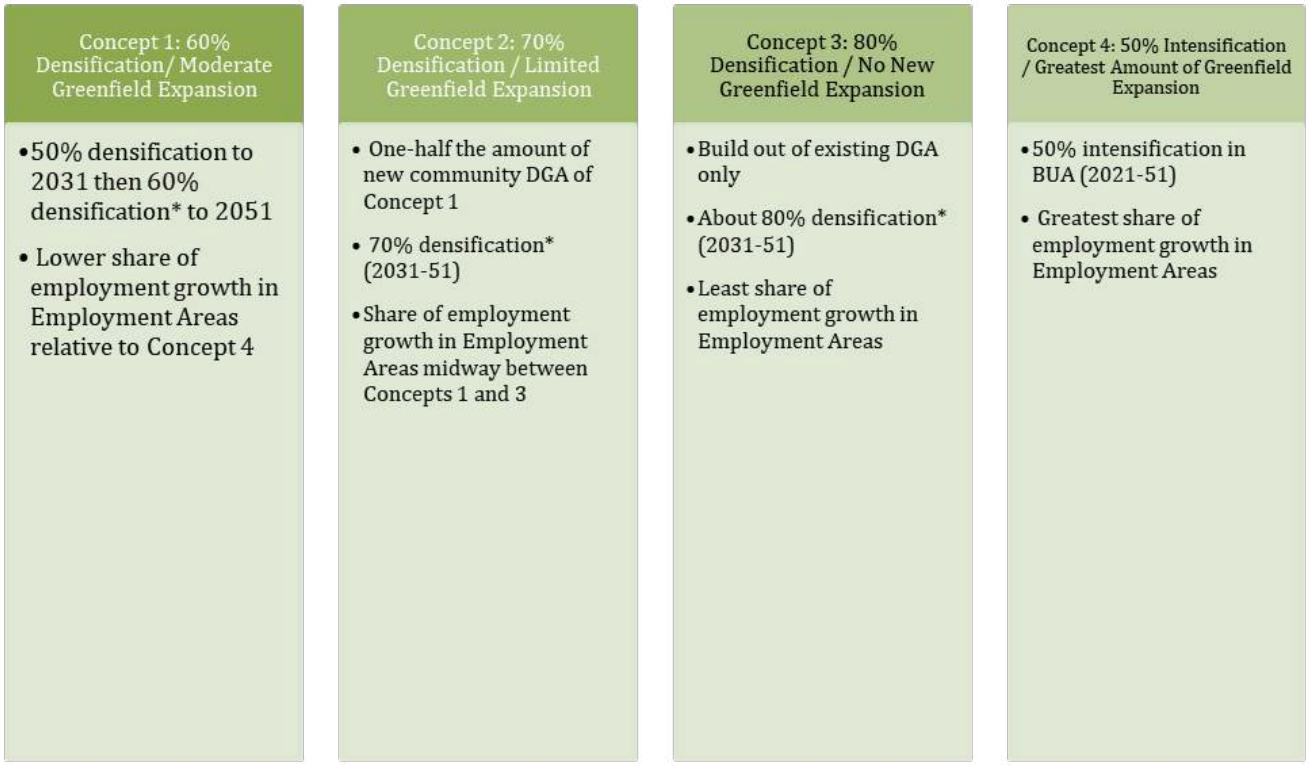
Table 2. Wastewater Design Criteria

Per Capita Criteria	Residential	360	L/cap/d
	Employment (Blended)[1]	310	L/emp/d
Peaking Factor	Harmon	2-4	
Extraneous Flow	Peak Extraneous Flow	0.286	litres per second/ha
Level of Service	q/Q	<0.85	
Pumping	• Pumping firm capacity to provide peak wet weather flow for drainage area • Firm capacity based on capacity with largest pump out of service		
Treatment	Treatment plant upgrade triggers at 90% of rated treatment capacity		

1The planning scenarios do not break down Employment into separate categories of Industrial, Commercial, Institutional. As such, a blended ICI per capita criteria was used.

3. GROWTH SCENARIOS

Four (4) growth concepts were reviewed to determine potential impacts to the existing and future water and wastewater infrastructure. The following provides a brief description of the four growth concepts and assumptions applied in the development of the planning projections:



*Share densification approximates the share of apartments in the mix of total housing growth
Densification from 2031 to 2051 in Concepts 1, 2, 3 and 4 include 10%, 17%, 24% and 2.5% of units as DGA densification, apartment development in DGA strategic growth areas such as Trafalgar Road in north Oakville and Milton

Figure 1 – Overview of Growth Concepts

A summary of the population and employment for each of the four planning concepts is summarized in the following tables. Additionally, heat maps showing geographical allocation of the population and employment growth for each concept are presented in Appendix A.

Table 3. Population Growth[1]

Municipality	Population Growth (2016-2041)				Population Growth (2016-2051)			
	1	2	3	4	1	2	3	4
Acton	100	100	500	100	100	100	800	100
Burlington	49,000	50,000	51,000	47,000	74,000	80,000	84,000	70,000
Georgetown	15,000	15,000	15,000	13,000	20,000	24,000	23,000	23,000
Halton Hills	25,000	21,000	21,000	33,000	68,000	49,000	24,000	92,000
Milton	155,000	155,000	147,000	159,000	221,000	216,000	214,000	225,000
Oakville	115,000	116,000	124,000	108,000	148,000	162,000	184,000	134,000
Total	**358,000**	**358,000**	**359,000**	**360,000**	**531,000**	**531,000**	**529,000**	**545,000**

Note: Planning estimates rounded to the closest 1,000. Planning estimates for Acton rounded to the closest 100.

Table 4. Employment Growth[2]

Municipality	Employment Growth (2016-2041)				Employment Growth (2016-2051)			
	1	2	3	4	1	2	3	4
Acton	500	300	800	500	1,200	400	1,400	1,300
Burlington	21,000	21,000	21,000	21,000	30,000	32,000	33,000	29,000
Georgetown	4,000	4,000	3,000	4,000	10,000	10,000	5,000	12,000
Halton Hills	13,000	13,000	14,000	14,000	26,000	28,000	25,000	27,000
Milton	66,000	66,000	65,000	66,000	95,000	98,000	97,000	94,000
Oakville	54,000	55,000	56,000	53,000	70,000	74,000	79,000	66,000
Total	**159,000**	**160,000**	**160,000**	**157,000**	**233,000**	**241,000**	**240,000**	**230,000**

Note: Planning estimates rounded to the closest 1,000.

Planning estimates for Acton rounded to the closest 100.

Table 5. Water Service Areas - Population

[1] Growth allocations for Acton will be finalized as part of the Preferred Growth Concept
[2] Ibid

Service Area	Population 2041				Population 2051			
	1	2	3	4	1	2	3	4
Groundwater	87,000	89,000	89,000	85,000	104,000	110,000	109,000	105,000
Groundwater Transfer	25,000	25,000	25,000	25,000	26,000	28,000	27,000	28,000
Lake Based Water	769,000	769,000	770,000	767,000	916,000	907,000	915,000	917,000
New Lake Based Water	24,000	21,000	21,000	29,000	31,000	32,000	23,000	39,000
Rural	19,000	19,000	19,000	19,000	20,000	20,000	20,000	20,000
Total	**924,000**	**924,000**	**925,000**	**925,000**	**1,097,000**	**1,097,000**	**1,095,000**	**1,109,000**

Note: Planning estimates rounded to the closest 1,000.

Table 6. Water Service Areas - Employment

Service Area	Employment 2041				Employment 2051			
	1	2	3	4	1	2	3	4
Groundwater	38,000	38,000	38,000	38,000	48,000	48,000	46,000	49,000
Groundwater Transfer	3,000	3,000	2,000	3,000	5,000	4,000	3,000	6,000
Lake Based Water	372,000	373,000	372,000	370,000	428,000	437,000	437,000	423,000
New Lake Based Water	4,000	4,000	4,000	4,000	9,000	10,000	9,000	10,000
Rural	5,000	5,000	7,000	5,000	6,000	6,000	8,000	6,000
Total	**423,000**	**423,000**	**423,000**	**420,000**	**496,000**	**505,000**	**503,000**	**493,000**

Note: Planning estimates rounded to the closest 1,000.

Table 7. Wastewater Service Areas - Population

Service Area	Population 2041				Population 2051			
	1	2	3	4	1	2	3	4
Acton	10,000	10,000	11,000	10,000	10,000	10,000	11,000	10,000
Milton	39,000	38,000	40,000	38,000	51,000	51,000	55,000	51,000
MidHalton	433,000	431,000	427,000	439,000	545,000	529,000	518,000	561,000
Skyway	237,000	238,000	239,000	235,000	262,000	268,000	272,000	258,000
Oakville SE	51,000	51,000	52,000	51,000	55,000	56,000	57,000	55,000
Oakville SW	76,000	77,000	78,000	74,000	89,000	93,000	95,000	85,000
Georgetown	36,000	36,000	35,000	35,000	41,000	43,000	42,000	42,000
Georgetown South	21,000	21,000	21,000	21,000	22,000	23,000	23,000	23,000
Glen Williams	2,200	2,300	2,300	2,200	2,500	2,600	2,600	2,600
Norval	400	400	400	400	400	500	500	500
Rural	19,000	19,000	19,000	19,000	20,000	20,000	20,000	20,000
Total	**924,000**	**924,000**	**925,000**	**925,000**	**1,097,000**	**1,097,000**	**1,095,000**	**1,109,000**

Table 8. Wastewater Service Areas - Employment

Service Area	Employment 2041				Employment 2051			
	1	2	3	4	1	2	3	4
Acton	3,000	3,000	3,000	3,000	4,000	3,000	4,000	4,000
Milton	37,000	37,000	41,000	37,000	42,000	42,000	48,000	42,000
MidHalton	136,000	137,000	135,000	135,000	179,000	185,000	181,000	177,000
Skyway	121,000	121,000	122,000	121,000	130,000	132,000	133,000	129,000
Oakville SE	50,000	50,000	49,000	50,000	55,000	56,000	55,000	54,000
Oakville SW	49,000	49,000	49,000	50,000	54,000	55,000	56,000	54,000
Georgetown	17,000	17,000	17,000	17,000	22,000	22,000	18,000	23,000
Georgetown South	3,000	3,000	2,000	3,000	4,000	4,000	2,000	5,000
Glen Williams	100	100	100	100	100	100	100	100
Norval	200	200	200	200	200	200	200	200
Rural	5,000	5,000	5,000	5,000	6,000	6,000	6,000	6,000
Total	**423,000**	**423,000**	**423,000**	**420,000**	**496,000**	**505,000**	**503,000**	**493,000**

Notes: Planning estimates rounded to the closest 1,000. Planning estimates for Glen Williams and Norval rounded to the closest 100. Georgetown refers to existing community generally north of Silver Creek which will continue to be serviced by the Georgetown WWTP. South Georgetown refers to communities generally south of Silver Creek and in Stewarttown, as well as the Vision Georgetown area which will be conveyed to Mid-Halton WWTP.

4. TECHNICAL ANALYSIS

This section reviews the calculation of demands, flows, infrastructure impacts and preliminary infrastructure needs for each growth concept for comparison purposes.

4.1 Demand and Flow Projections – Starting Point Methodology

To project future requirements for the Region's water and wastewater treatment capacity, starting point analyses were completed. Starting point analyses are used as a baseline for projecting future water treatment demand and wastewater treatment flow for the purposes of determining the need for phasing and scope of expansion activities to add treatment capacity in the systems. This was done on a plant by plant basis or by service area for each of the four (4) concepts using the current demand/flow plant recorded data and projected growth demand/flow calculated according to the design criteria previously described in Section 2.

4.1.1 Water Treatment Plant Demand Projections Analysis

The water treatment plant demand projections analysis shows that there are no major differences among the four growth concepts. The results of the analysis are described below and summarized in Table 9.

- The lake based water system has sufficient capacity to support growth to 2041. However, the projected demands of the lake based water system reach the 90% of the combined rated capacity of the plants, triggering an additional capacity expansion in the system to service growth to 2051. Expansion to Burloak WTP will be required in order to support overall growth in the lake based water system.
- Acton and Georgetown groundwater systems have sufficient capacity to service the projected demands to 2051.
- Milton groundwater system does not have sufficient capacity to supply the projected water demands in the service area to 2041 and beyond. A capacity upgrade or other water servicing solutions will be required by 2031 to support significant growth projected in the Milton groundwater service area (e.g. Old Milton West, Old Milton East, parts of Milton UGC).

Table 9. Summary of Water Treatment Plant Demand Projections Analysis

System	2041				2051			
	1	2	3	4	1	2	3	4
Lake based water	✓	✓	✓	✓	✗	✗	✗	✗
Acton GW	✓	✓	✓	✓	✓	✓	✓	✓
Milton GW	✗	✗	✗	✗	✗	✗	✗	✗
Georgetown GW	✓	✓	✓	✓	✓	✓	✓	✓

✓ < 90% Rated Capacity 90% Rated Capacity< ! <Rated Capacity ✗ >Rated Capacity

4.1.2 Wastewater Treatment Plant Flow Projections Analysis

The wastewater treatment plant flow projections analysis shows that there are no major differences among the four growth concepts. The results of the analysis are described below and summarized in Table 10.

- Acton WWTP and Georgetown WWTP have sufficient capacity to service growth to 2051.
- Mid-Halton WWTP expansion to 225 megalitres per day will provide sufficient capacity to service growth to 2041. However, further capacity expansion will be required to service growth to 2051.
- Oakville SE WWTP has sufficient capacity to service growth to 2051, however flows are projected to reach the 90% of the rated capacity of the plant by this time.
- Oakville SW WWTP does not have sufficient capacity to accommodate the projected flows to 2051. While recorded flows at this plant have remained consistent for the past 4 years, significant growth in the service area (additional 50,000 people + jobs by 2051) causes projected flows at this plant to reach the 90% of the rated capacity by 2041.
- Skyway WWTP shows projected flows to 2041 reach 90% of the rated capacity of the plant in all concepts, triggering a capacity expansion or other measures to reduce/manage the flows at the plant. In addition, 2051 flows are projected to marginally surpass the rated capacity of the plant for concepts 2 and 3.

Table 10. Summary of Wastewater Treatment Plant Flow Projections Analysis

WWTP	2041				2051			
	1	2	3	4	1	2	3	4
Acton	✓	✓	✓	✓	✓	✓	✓	✓
Georgetown	✓	✓	✓	✓	✓	✓	✓	✓
Milton	-	-	-	-	-	-	-	-
Mid-Halton	!	!	!	!	✗	✗	✗	✗
Oakville SE	✓	✓	✓	✓	!	!	!	!
Oakville SW	✗	✗	✗	✗	✗	✗	✗	✗
Skyway	!	!	!	!	!	✗	✗	!

✓ < 90% Rated Capacity 90% Rated Capacity< ! <Rated Capacity ✗ >Rated Capacity

Graphs depicting the results of the water and wastewater treatment plants demand/flow projections analysis can be found in **Appendix A** and **Appendix B**, respectively.

4.2 Modelling Analysis and System Impacts

Hydraulic modelling analysis was required to assess potential impacts on the water and wastewater system for each of the four growth concepts. The analysis was completed using the Region's hydraulic water and wastewater models as follows:

InfoWater

Scenarios Existing Boundaries 2016, 2021

Scenarios Future Boundaries 2021, 2026, 2031

InfoSewer

Scenarios 2016, 2021, 2026, 2031

4.2.1 Hydraulic Models Loading and Analysis

The water and wastewater hydraulic model loading and analysis were completed for high-level comparison between concepts. The model allocation of water demands and wastewater flows was based on planning projections for future 2041 and 2051 scenarios. For each of the four growth concepts, the models were loaded according to the following process:

1. Population and Employment projections for all four concepts by milestone years (2016, 2021, 2031, 2041, 2051) were received in the Region's Traffic Zones and Small Geographical Units (SGUs) layers.
2. Growth water demands and wastewater flows were calculated for each SGU within the existing and future service areas.
3. Growth water demands and wastewater flows were distributed evenly amongst all nodes within a particular SGU in the hydraulic models using the future planned 2031 network as a baseline.
4. For new greenfield growth areas, new infrastructure was added to the model in order to facilitate loading.
5. Preliminary sizing and alignments of the water and wastewater infrastructure was assumed and will be further refined upon selection of the preferred growth alternative.

The hydraulic modelling exercise was completed to assess the potential impact of the four growth concepts on the following water and wastewater regional infrastructure:

Water	Wastewater
Storage (reservoirs, elevated tanks)	Sanitary Pumping Stations
Pumping Stations	Linear infrastructure (sewers)
Linear infrastructure (watermains)	

The results of the modelling analysis and impacts to the water and wastewater system are summarized in the next sections.

4.2.2 Water Storage

For both the 2041 and 2051 planning periods, water storage deficiencies were identified across all four concepts for the following pressure zones:

- Zone G6L – south Georgetown (2041 Deficiency = 1 to 3 mega litres; 2051 Deficiency = 3 to 13 mega litres)
- Zone 250 – south Milton, east Milton, 401 Corridor, and north Oakville (2041 Deficiency = 11 to 12 mega litres; 2051 Deficiency = 25 to 26 mega litres)
- Zone O2 – central Oakville (2041 Deficiency = <1 mega litre; 2051 Deficiency = 2 to 4 mega litres)

Table 11. Water Storage Requirements Summary

Pressure Zone	2041				2051			
	1	2	3	4	1	2	3	4
250	✗	✗	✗	✗	✗	✗	✗	✗
267	✓	✓	✓	✓	✓	✓	✓	✓
Acton	✓	✓	✓	✓	✓	✓	✓	✓
B1/O1	✓	✓	✓	✓	✓	✓	✓	✓
B1A	✓	✓	✓	✓	✓	✓	✓	✓
B2	✓	✓	✓	✓	✓	✓	✓	✓
B3	✓	✓	✓	✓	✓	✓	✓	✓
B3A/B4A	✓	✓	✓	✓	✓	✓	✓	✓
B4	✓	✓	✓	✓	✓	✓	✓	✓
G6L	✗	✗	✗	✗	✗	✗	✗	✗
G6G	✓	✓	✓	✓	✓	✓	✓	✓
M5G	✓	✓	✓	✓	✓	✓	✓	✓
O2	!	!	!	!	✗	✗	✗	✗
O3	✓	✓	✓	✓	✓	✓	✓	✓

The deficiencies identified occur in common infrastructure across all concepts and only vary in magnitude. For instance, there is significant variability in Zone G6L storage deficit in the 2051 scenarios. Concept 3 had a noticeably smaller deficiency (3ML) compared to the other concepts (10, 7 and 13 ML deficits for Concepts 1, 2 and 4 respectively).

In addition, the pressure zones affected were expected. A significant portion of the growth is allocated in the service areas where these pressure zones are located such as North Oakville, Milton, Halton Hills 401 corridor and Georgetown.

4.2.3 Water Pumping Stations

Similar to the storage requirements, the water pumping requirements identified as part of this analysis were largely consistent across the four scenarios for both 2041 and 2051. These deficiencies vary in magnitude and are generally located in the same pressure zones identified in previous sections:

- Zone G6L – south Georgetown (2041 Deficiency = ~8 megalitres per day; 2051 Deficiency = ~8 to 43 megalitres per day)
- Zone 250 – south Milton, east Milton, north Oakville (2041 Deficiency = ~25 megalitres per day; 2051 Deficiency = 61 to 98 megalitres per day)
- Zone O3 – north Oakville (2041 marginal capacity at Kitchen; 2051 Deficiency = 32 to 62 megalitres per day)
- Zone O2 – central Oakville (2041 Deficiency = ~32 megalitres per day; 2051 Deficiency = ~38 to 41 megalitres per day)

Table 12. Water Pumping Requirements Summary

Pressure Zone	2041				2051			
	1	2	3	4	1	2	3	4
8th Line (223)	✓	✓	✓	✓	✓	✓	✓	✓
8th Line (O3)	✓	✓	✓	✓	✓	✓	✓	✓
Appleby Line (B3)	✓	✓	✓	✓	✓	✓	✓	✓
Bailie (B4)	✓	✓	✓	✓	✓	✓	✓	✓
Beaufort (B5)	✓	✓	✓	✓	✓	✓	✓	✓
Burloak (Z2)	✓	✓	✓	✓	✓	✓	✓	✓
Davis (O2)	✘	✘	✘	✘	✘	✘	✘	✘
Kingsway (B1A)	✓	✓	✓	✓	✓	✓	✓	✓
Kitchen (M5L)	✓	✓	✓	✓	✓	✓	✓	✓
Kitchen (O3)	!	!	!	!	✘	✘	✘	✘
Neyagawa (250)	✘	✘	✘	✘	✘	✘	✘	✘
Washburn (B2)	✓	✓	✓	✓	✓	✓	✓	✓
Washburn (B3)	✓	✓	✓	✓	✓	✓	✓	✓
Zone 6 (G6L/303)	✘	✘	✘	✘	✘	✘	✘	✘

Kitchen O3 was flagged as deficient in the 2051 scenario. The modelling exercise is showing that there is some difficulty to move water across the system from Zone O3 to Neyagawa PS to service Zone 250 and zones above. Further analysis of the preferred scenario is required to refine the pumping requirements and strategies to solve this issue. Overall, Concept 3 would have the smallest pumping deficiencies due to reduced transfer north through Kitchen, Neyagawa and Zone 6 PS.

4.2.4 Water Network

A high level analysis of the water network was also performed. The system was assessed based on the headlosses that the watermains experienced in the model for the different scenarios under maximum day conditions.

As part of this analysis, only the watermains triggered subsequent to 2031 were considered. This is based on the assumption that any existing or future deficiencies in the system prior to 2031 would be resolved through the Region's current capital program. Likewise, deficiencies prior to 2031 would be common across all scenarios and would not act as a differentiator between scenarios, which is the main purpose of the analysis.

Table 13. Water Network Analysis Summary

Headlosses	Diameter (mm)	Scenarios (2031-2041)				Scenarios (2041-2051)			
		1	2	3	4	1	2	3	4
		Length (km)							
2-5 m/km	400-600	2,852	3,066	3,426	2,419	7,839	8,452	6,691	9,908
	600-900	784	914	921	484	5,313	5,566	1,502	4,808
	900-1200	663	663	663	870	3,463	3,468	3,502	3,461
	>1200	12	12	12	12	4,997	3,758	2,137	5,973
>5m/km	400-600	221	221	221	221	1,013	1,109	1,107	1,017
	600-900	1,018	1,018	1,018	1,450	1,250	763	763	818
	900-1200	0	0	0	0	86	79	27	86
	>1200	0	0	0	0	0	0	0	0
Total (km)		**5,550**	**5,894**	**6,261**	**5,455**	**23,961**	**23,194**	**15,729**	**26,071**

As shown in Table 13 above, the range of pipes length showing headlosses between 2-5 m/km and greater than 5m/km is generally consistent across the four concept scenarios, with Concept 4 showing slightly lower numbers for the 2041 growth year than the other scenarios. However, for the 2051 scenario, Concept 3 has noticeably lower totals than the other concepts.

In addition, it should be noted that due to the absence of new greenfield designated areas for residential purposes in Concept 3, this concept would require less water linear infrastructure to extend servicing to new lands when compared to the other concepts.

4.2.5 Wastewater Pumping Stations (WWPS)

Wastewater pumping station requirements were identified for existing pumping station as well as proposed WWPS in the current Regional capital program. The analysis of the existing WWPS shows that North and Ninth Line WWPS were identified as deficient by 2041 in all scenarios.

- North WWPS (2041 Deficiency = 980-1050 litres per second ; 2051 Deficiency 1410-1860 litres per second) – consistent with servicing additional flows from Milton and Georgetown transfer service areas; and,
- Ninth Line WWPS (2041 Deficiency = 50 litres per second ; 2051 Deficiency 80-90 litres per second) – SPS is currently being upgraded to 731 litres per second to service 2031 peak flow.

Table 14. Wastewater Pumping Stations Analysis

Existing WWPS	Existing Firm Capacity	2041				2051			
		1	2	3	4	1	2	3	4
North	3,656 + 1,200 (Planned)	✘	✘	✘	✘	✘	✘	✘	✘
Ninth Line	526	✘	✘	✘	✘	✘	✘	✘	✘

Recent flow monitoring downstream of the Ninth Line station indicates that peak flows may be less than estimated. There is potential that the proposed upgrades will be sufficient to service growth in the catchment beyond 2031. Future peak flows to the station could be confirmed utilizing the Region's calibrated InfoWorks model that is currently in development.

The analysis of the proposed/planned WWPS in the 2031 Capital Program shows that the following WWPS would require adjustments to the planned capacities:

- Trafalgar (1380-1920 litres per second required capacity) – consistent with projected new growth in the service area from Georgetown, Milton south east and Halton Hills 401 growth corridor
- Lower Base Line (1840-2530 litres per second required capacity) – consistent with projected new growth in the service area from Georgetown, Milton south east and Halton Hills 401 growth corridor
- Tremaine South (230-280 litres per second required capacity) – consistent with projected growth in southwest Milton and Milton Education Village.

Table 15 below summarizes the currently planned and required capacities for the identified planned WWPS across the four growth concepts.

Table 15. Proposed Wastewater Pumping Stations Analysis

Future WWPS	2031 Capacity (litres per second)	2041				2051			
		1	2	3	4	1	2	3	4
Trafalgar/ Drumquin	1,200	✓	✓	✓	✓	✗	✗	✗	✗
Lower Base Line	1,805	✓	✓	✓	✓	✗	✗	✓	✗
Tremaine South	225	✓	✓	✓	✓	✗	✗	✗	✗

Overall, wastewater pumping requirements were largely consistent across the four concepts. However, Concept 3 shows the smallest pumping requirements for most of the pumping stations identified.

4.2.6 Wastewater Network

A high level analysis of the wastewater network was also performed. The system was assessed based on projected flow in pipe (q) versus the total theoretical capacity of the pipe (Q), referred to as (q/Q) that the sanitary sewers are experiencing in the model for the different scenarios under peak wet weather conditions.

As part of this analysis, only the sewers triggered subsequent to 2031 were considered. This is based on the assumption that any existing or future deficiencies in the system prior to 2031 would be resolved through the Region's current capital program. Likewise, deficiencies prior to 2031 would be common across all scenarios and would not act as a differentiator between scenarios which is the main purpose of the analysis.

Table 16. Wastewater Network Analysis Summary

Diameter (mm)	2031-2041				2041-2051			
	1	2	3	4	1	2	3	4
	>0.85 q/Q (km)				>0.85 q/Q (km)			
<150	-	-	-	-	0.1	0.1	0.1	0.1
150-250	2.4	2.5	3.0	2.3	2.0	3.2	3.1	2.2
300-400	3.8	3.8	3.9	3.8	2.4	2.7	3.1	2.4
450-675	-	-	-	-	3.2	2.3	3.2	3.0
750-900	0.9	0.9	0.9	0.8	0.6	0.8	1.4	0.5
1050-1200	-	-	-	-	0.1	0.1	0.1	0.1
>1200	-	-	-	-	0.3	-	-	0.3
Total (km)	**7.1**	**7.2**	**7.7**	**6.9**	**8.6**	**9.2**	**10.8**	**8.5**

As shown in Table 16 above, the range of sewer length showing q/Q values greater than 0.85 is generally consistent across the four concept scenarios, with Concept 4 showing slightly lower numbers for the 2041 growth year than the other scenarios. However, for the 2051 Scenario, Concept 3 has noticeably higher totals than the other concepts which is attributed to higher levels of intensification.

In addition, it should be noted that due to the absence of new greenfield designated areas for residential purposes in Concept 3, this concept would require less wastewater linear infrastructure to extend servicing to new lands when compared to the other concepts.

5. 2031 SYSTEM OPPORTUNITIES AND CONSTRAINTS

A high level review of the opportunities for growth and constrained capacity based on the existing infrastructure and 2031 planned infrastructure (as identified through the 2017 Development Charges Update) was completed and included the following:

- Estimated available capacity within existing and planned infrastructure.

- Planned infrastructure as outlined in the 2011 Sustainable Halton Water & Wastewater Master Plan and 2017 Development Charges Update.
- Preliminary review of potential impacts of growth from 2031 to 2041/2051 with focus on future growth and expansion areas outlined by Hemson; and,
- Review of opportunities and constraints intended to inform the planning process and to compare planning options from a high-level servicing perspective.

5.1 Opportunities and Constraints

- Planned 2031 infrastructure focuses on providing servicing within new Greenfield Areas in north Oakville, Milton and Halton Hills (Georgetown).
- The location and scale of growth in Milton, Halton Hills 401 Corridor and South Georgetown has a direct impact on the capacity and size requirements of future water and wastewater infrastructure.
- Concepts with low or no new Designated Greenfield Areas (DGAs) beyond the 2031 time horizon require lower capital and operations / maintenance investment because of the limited need to extend servicing to new areas.
- Intensification will maximize use of existing infrastructure and provide opportunities for integration with state of good repair programs.
- Growth planned in the south portion of the lake based system will generally require less new infrastructure than similar growth planned further north. This is due to increased pumping and conveyance requirements when moving water north to supply upper pressure zones and, conversely, collecting and conveying wastewater from north to south for treatment.
- It is recognized that growth in Burlington offers opportunities to maximize use of available capacity in the west water system, but at the same time creates deficiencies at the wastewater plant that will need to be addressed.

5.1.1 Water

Table 17 below is separated by treatment plant service area and summarizes the review of the treatment, trunk conveyance, storage and trunk pumping opportunities and constraints within the water system out to 2041/2051.

5.1.2 Wastewater

Table 18 below is separated by treatment plant service area and summarizes the review of the treatment, trunk conveyance and trunk pumping opportunities and constraints within the wastewater system out to 2041/2051.

Table 17. Water Opportunities and Constraints

Area	Treatment	Conveyance	Storage	Pumping
Acton (Groundwater – A9G)	• Adequate supply from existing wells to service growth to 2051 • No significant growth within Acton from 2031 to 2051	• DC conveyance upgrade project identified • Planned expansion area is limited; adequate conveyance capacity throughout Acton	• Adequate existing storage to meet 2051 needs	• Adequate existing well pumping to supply 2051 needs within Acton's single Pressure Zone A9G
Georgetown (Groundwater – G6G, G7G)	• Adequate supply from existing wells to service 2051; lake based peel-off area reduces demand from G6G and further supports intensification growth within downtown Georgetown	• Overall, adequate trunk conveyance capacity for groundwater based service area	• Todd Rd Tower storage to support intensification within G6G • Adequate existing G6G storage to meet 2051 needs	• Adequate existing well pumping to supply 2051 groundwater needs within G6G and G7G
Milton (Groundwater – M5G)	• M5G demands approaching capacity by 2031 • Milton groundwater system does not have sufficient capacity to supply the projected water demands in the service area to 2051	• Minor conveyance upgrades to support intensification within downtown Milton M5G	• Adequate existing storage to meet 2051 needs	• Adequate existing pumping to meet 2051 needs
Georgetown (Lake Based – G6L)	• The lake based water system has sufficient capacity to support growth to 2041. However, the projected demands of the lake based water system reach the 90% of the combined rated capacity of the plants triggering an additional capacity expansion in the system to service growth to 2051 • Expansion to Burloak WTP required in order to support overall lake based growth and new Georgetown G6L lake based service area	• Adequate Lake based trunk conveyance to G6L from Trafalgar trunk – twin 900 mm mains • Servicing of North Oakville, Milton and Georgetown relies heavily on 16 Mile Creek Crossings (Dundas, Upper Middle, Rebecca) • Distribution watermains to be sized to support projected growth in areas south and west of Georgetown	• New 22nd Sideroad Reservoir identified in DC to service G6L to 2031; expansion required for growth beyond 2031	• G6L pumping station to be constructed at Zone 250m reservoir; capacity increase may be required to supply 2051 G6L needs. • Growth varies significantly between Concepts 1 and 4 leading to significant variance of the capacity increases required for 2051.
Milton (Lake Based – Zone TWL 267m, 250m)	• Expansion to Burloak WTP required in order to support overall lake based growth	• There are two spines to convey water to M5L (Kitchen route (direct to M5L) and Neyagawa route (via TWL 250)). • However, after the pressure zone boundary re-alignment, there will only be one path for water to reach TWL 250. • Servicing of North Oakville, Milton and Georgetown relies heavily on 16 Mile Creek Crossings (Dundas, Upper Middle, Rebecca)	• M5L in ground storage adequate to supply growth to 2051 • New Zone 250m reservoir will support significant growth; expansion will be required for growth beyond 2031	• Zone 250m: largest area and largest growth area fed by single station (Neyagawa), which would require expansion to meet growth to 2041 & 2051; redundancy may be required for long term • Zone 267m (M5L): supplied by Kitchen plus Neyagawa (via Zone 5 BPS)
Burlington & Oakville (Lake Based – B1, B2, B3, B4, B5, O1, O2, O2A, O2B, O3, TWL 211m, TWL 223.5m, TWL 250m)	• Expansion to Burloak WTP required in order to support overall lake based growth	• Increased trunk conveyance with recent/underway projects (Burloak, Kitchen) • Servicing of North Oakville, Milton and Georgetown relies heavily on 16 Mile Creek Crossings (Dundas, Upper Middle, Rebecca) • Challenges in transferring available capacity on the west side across to the east.	• Northwest Burlington study underway to review system operation and opportunities for improvement • In general, adequate storage to support growth in Burlington and Oakville to 2031; further review of storage needs will be required depending on Preferred Growth Scenario. Oakville Zone 2 demonstrates a marginal	• Zone 3/4/5 pressure boundary re-alignment will require modification of Pumping stations (currently underway) • In general, adequate pumping to support growth in Burlington and Oakville to 2031; further review of 2031-2051 intensification needs will be required depending on Preferred Growth Scenario

			storage deficiency that is consistent across all concepts.	• Davis PS capacity constraints to support Oakville UGC • Kitchen O3 PS capacity constraint in 2051 scenarios due to increases in Neyagawa

Table 18. Wastewater Opportunities and Constraints

Area	Treatment	Conveyance	Pumping
Acton WWTP	• Upgrade from 4.5 megalitres per day to 5.6 megalitres per day at Acton WWTP adequate for 2051 growth • No significant growth within Acton from 2031 to 2051	• Black Creek Trunk sewer upgrade identified; capacity constraints within 2031 growth (addressed in the current capital program to 2031). • Maple Leaf Lands servicing constrained due to conveyance needs, however no major growth identified	• Agnes WWPS upgrade/relocation required due to capacity constraints within 2031 growth (addressed in the current capital program to 2031).
Georgetown (Georgetown WWTP) (Mid-Halton WWTP – peel-off area)	• South Georgetown wastewater peel off strategy (flow diverted to Mid-Halton) frees up capacity at Georgetown WWTP to support intensification growth	• Georgetown WW strategy to consider new growth areas south and west of Georgetown • Opportunity to utilize 8th Line Trunk /Trafalgar Trunk sewer to service projected growth to 2051 • Second Trunk may be triggered (9th Line or 10th Line) • New sewers will be required to extend servicing to new areas and support growth to 2051 (e.g. west of Trafalgar Road and north of No. 10 Side Road) required to service Georgetown South growth	• Main St WWPS / Silver Creek Trunk sewer flow split and optimization may be required • Most WWPSs have adequate capacity to support proposed 2051 growth
Milton (Mid-Halton WWTP)	• Milton WWTP decommissioned, flow pumped to Mid-Halton • All new growth within Milton planned to flow to Mid-Halton; which requires upgrades to service 2041 and 2051 growth in the drainage area	• DC projects (i.e., current capital program to 2031) will, generally, provide adequate capacity to service growth to 2041 • Increase in Eighth Line/Trafalgar Trunk sewer capacity required north of Steeles Avenue to support 2051 growth in Georgetown (Concepts 1 and 2) • Increase in Trafalgar Trunk capacity required south of Steeles Avenue to support 2051 growth in Georgetown (Concepts 1, 2 and 4) • Increase in Fifth Line / Lower Base Line trunk sewer capacity required to support 2051 growth (All Concepts) • Increase in capacity for trunk sewers upstream of Tremaine South WWPS to support 2051 growth (All Concepts) • Various new sewers will be required to extend servicing to new areas and support growth to 2051 (e.g. east of Trafalgar Road and north of No. 5 Side Road, west of Fourth Line and north of Lower Base Line, east of Fifth Line and north of Lower Base Line West, east of Trafalgar Road and south of Britannia Road East).	• Proposed Britannia/Trafalgar WWPS – capacity increase required for 2051 growth • Proposed Lower Baseline WWPS – capacity increase required for 2041 and 2051 – significant constructability constraints have been identified for the proposed Forcemain, including the crossing of Sixteen Mile Creek • Tremaine WWPS will have adequate capacity to support 2041 growth but will require additional capacity to support 2051 growth
Oakville (Mid-Halton WWTP)	• Georgetown and Milton transfers as well as 2031-2051 growth result in Mid-Halton WWTP upgrade trigger of >225 megalitres per day	• Proposed North Oakville trunk sewers planned for buildout of service area • Existing Trunk conveyance to Mid-Halton adequate to 2051	• North WWPS – constraints due to added flow from Milton WWTP and Georgetown WWTP (addressed through the current capital program to 2031) . The WWPS will require additional capacity beyond planned 2031 capacity to support growth to 2051.
Oakville (SE WWTP)	• Oakville SE WWTP – adequate capacity for growth to 2051	• Adequate trunk conveyance capacity to 2051	• 9th Line WWPS - capacity constraints prior to 2031. There is an ongoing upgrade project at 9th Line WWPS to resolve this issue. The WWPS will require additional capacity beyond planned 2031 capacity to support growth to 2051.

Oakville (SW WWTP)	• Oakville SW WWTP – constraints identified, and capacity upgrade triggered by 2041	• Adequate trunk conveyance capacity to 2051	• Mainly local WWPS – modelling and further detailed review required
Burlington (Skyway WWTP)	• Skyway WWTP – adequate capacity for growth to 2041. Capacity upgrade or flow diversion solution required for growth beyond 2041	• Subtrunk upgrades may be triggered by increased intensification along Fairview corridor and Plains Rd corridor	• Smaller local WWPS along Lakeshore – modelling and further detailed review required

6. SUMMARY OF KEY FINDINGS AND CONCLUSIONS

As part of Halton Region's Integrated Growth Management Strategy, a review of four growth concepts was completed to identify the impact each concept could have on the existing and planned water and wastewater infrastructure. The results of the analysis and impacts to the water and wastewater system can be summarized as follows:

Water Treatment

The water treatment plant demand projections analysis shows that there are no major differences among the four growth concepts. The following observations were noted for all concepts:

- The lake based water system (as of 2031) will have sufficient capacity to support growth to 2041. However, additional capacity will be required to support growth to 2051 in all concepts.
- Acton and Georgetown groundwater systems have sufficient capacity to service the projected demands to 2051.
- Milton groundwater system does not have sufficient capacity to supply the projected water demands in the service area to 2041 and beyond.

Water Storage

- The deficiencies identified occur in common infrastructure across all concepts and only vary in magnitude. For the most part Concept 3 had the smallest deficiencies.
- Water storage requirements were identified for Zone G6L, Zone 250 and Zone O2 consistent with projected growth located in areas such as North Oakville, Milton, Halton Hills 401 corridor and Georgetown.

Water Pumping

- Water pumping requirements were largely consistent across the four concepts and were identified for Zone G6L, Zone 250, Zone O3 and Zone O2.
- Concept 3 shows the smallest pumping deficiencies due to reduced transfer north through Kitchen, Neyagawa and Zone 6 PS.

Water Network

- The range of pipes length showing headlosses between 2-5 m/km and greater than 5m/km is generally consistent across the four concept scenarios. However, Concept 3 has noticeably lower pipe length totals than the other concepts in 2051 .

Wastewater Treatment

The wastewater treatment plant flow projections analysis shows that there are no major differences among the four growth concepts. The following observations were noted for all concepts:

- The lake base wastewater system (as of 2031) will have sufficient capacity to support growth to 2041 except for the Oakville SW Wastewater Treatment Plant (WWTP).
- Projected flows to 2051 identify the need for a capacity expansion (or other measures to reduce/manage flows) at the Mid-Halton, Skyway and Oakville SW wastewater treatment plants.

Wastewater Pumping

- Wastewater pumping requirements were largely consistent across the four concepts and were identified for North WWPS and Ninth Line WWPS.
- Analysis of the proposed/planned WWPS shows that Trafalgar/Drumquin, Lower Base Line and Tremaine South WWPS would require adjustments to the planned station capacities.
- Concept 3 shows the smallest pumping requirements for most of the pumping stations identified.

Wastewater Network

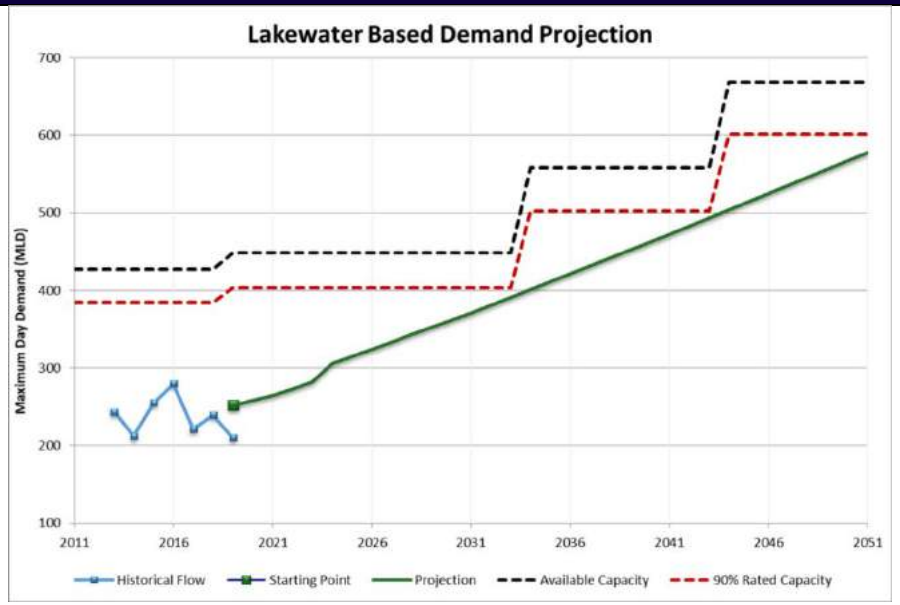
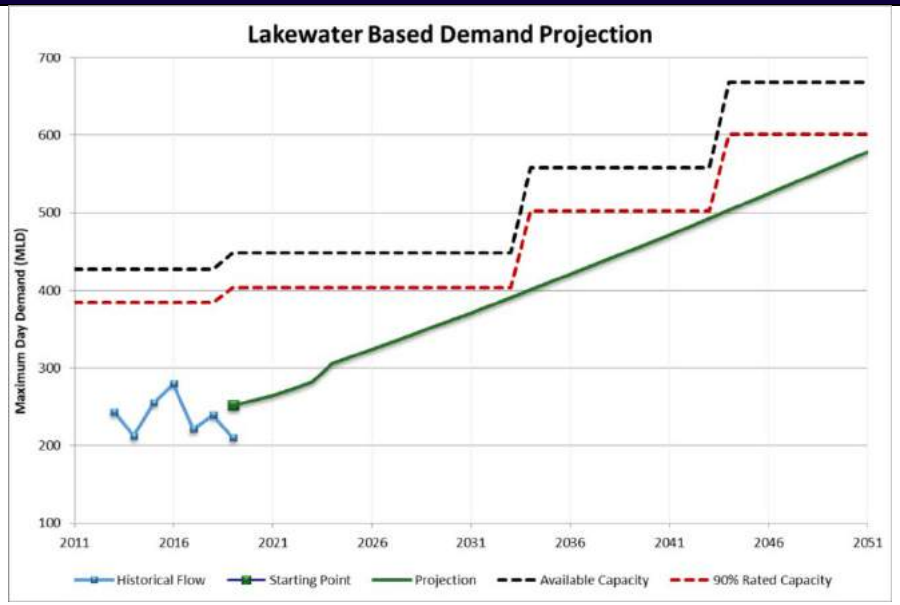
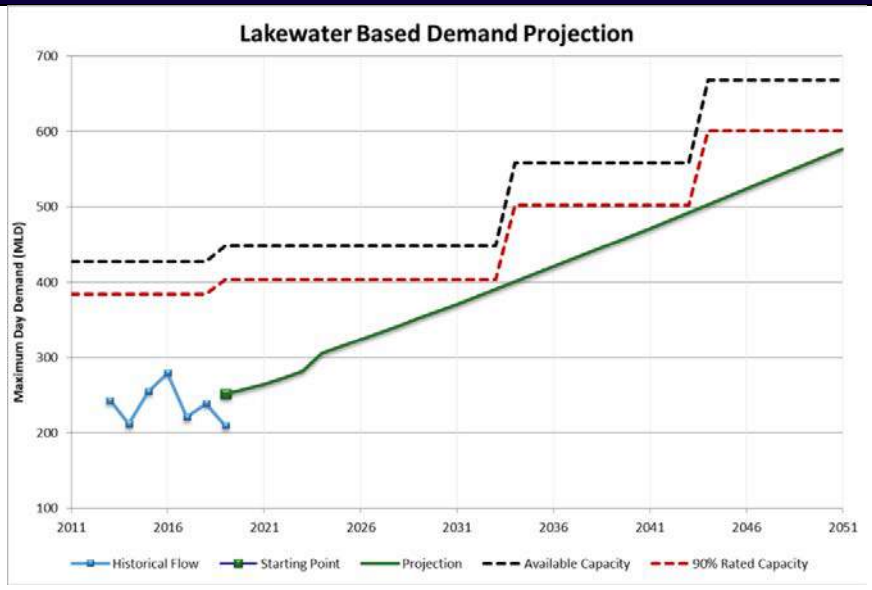
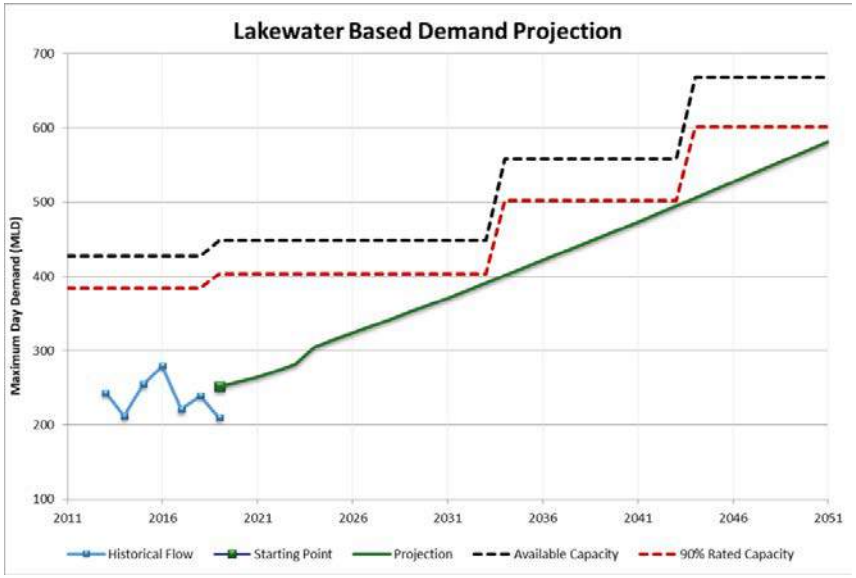
- The range of sewer length showing q/Q values greater than 0.85 is generally consistent across the four concepts. However, Concept 3 has noticeably higher totals than the other concepts.

In general, deficiencies identified for the water and wastewater systems occur in common locations across all concepts and only vary in overall magnitude. i.e. no concept has unique, specific deficiencies that aren't seen in other concepts.

However, it is recognized that due to the location of growth and the absence of new residential designated greenfield areas beyond the 2031 time horizon in Concept 3, this concept shows less requirements for storage, pumping and linear infrastructure when compared to the other concepts.

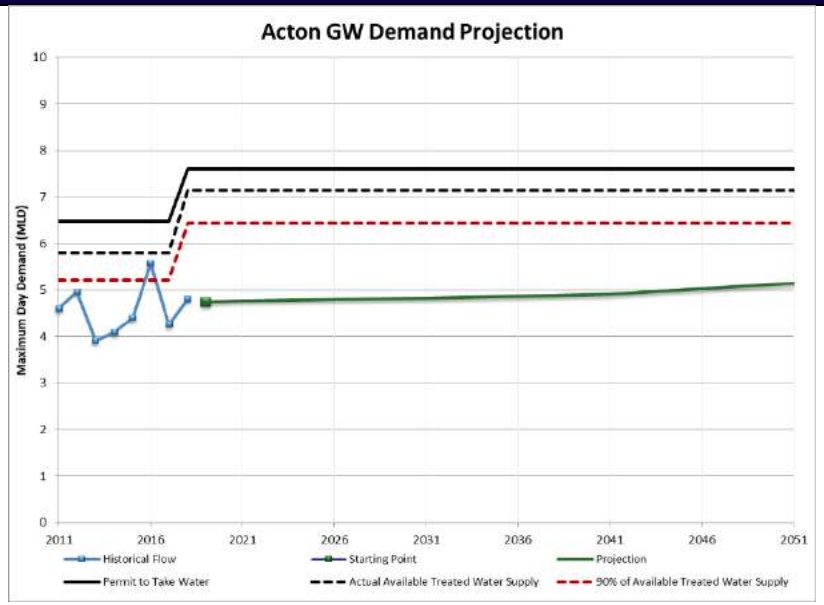
APPENDIX A:
WATER DEMAND PROJECTIONS

Lake based water

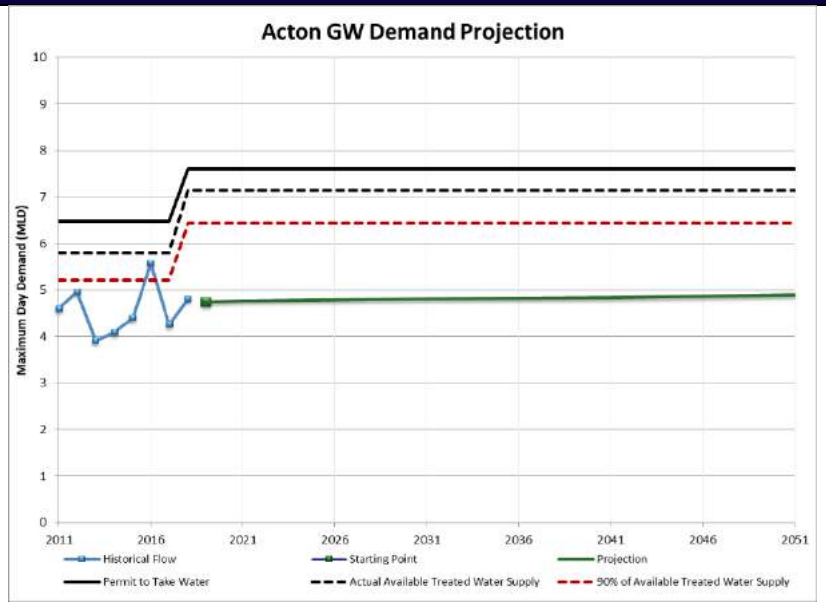
Scenario 1	Scenario 2
	
Scenario 3	**Scenario 4**
	

Acton Groundwater

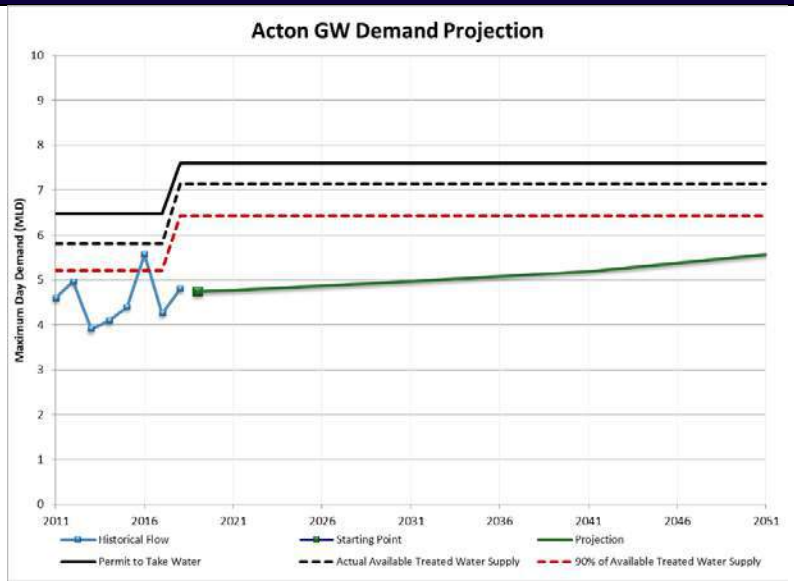
Scenario 1



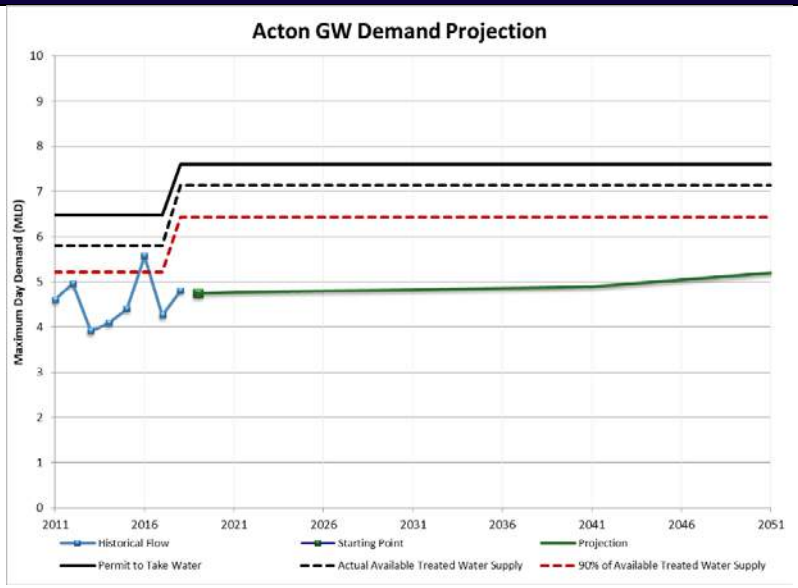
Scenario 2



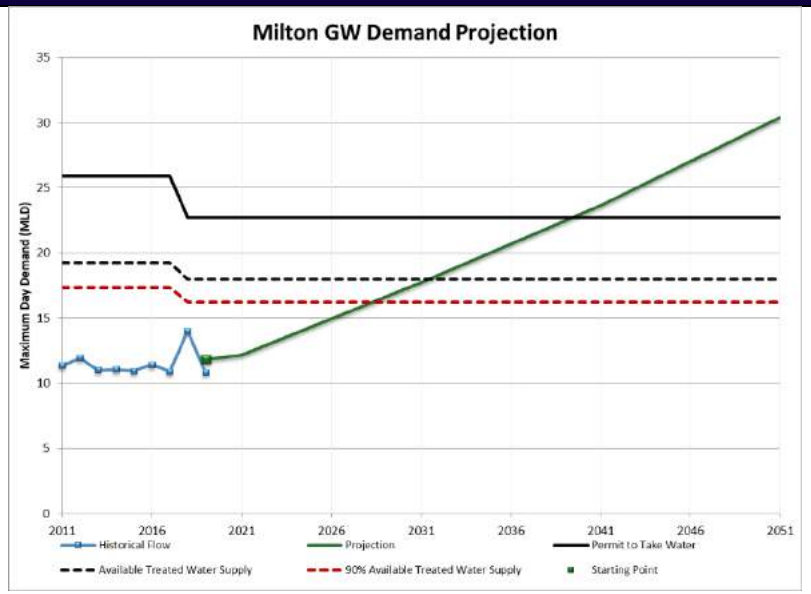
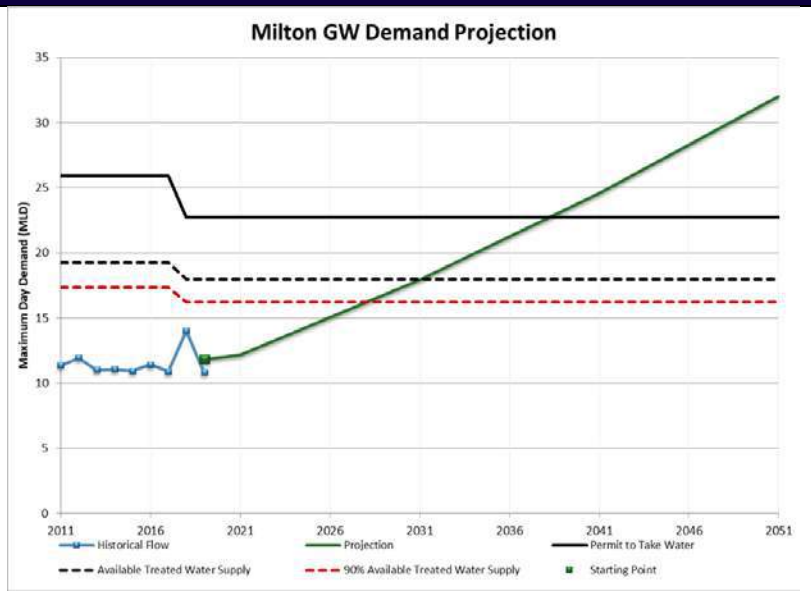
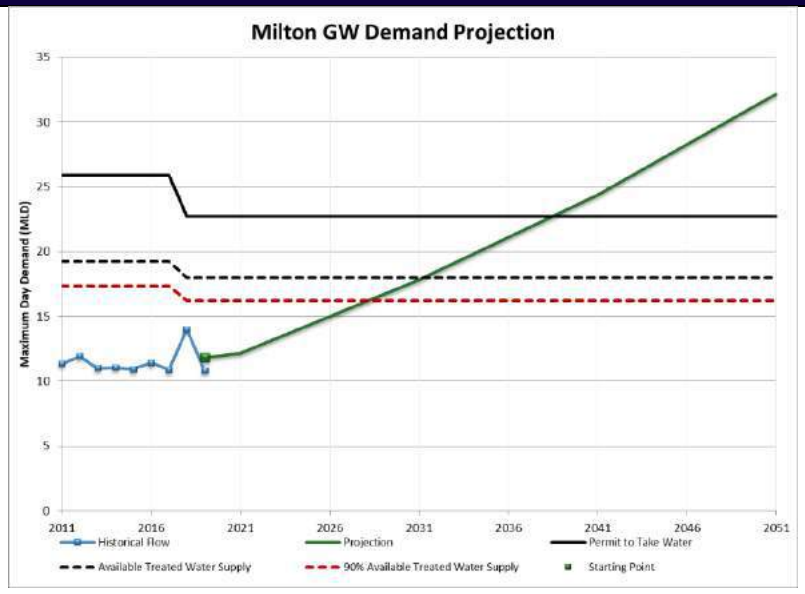
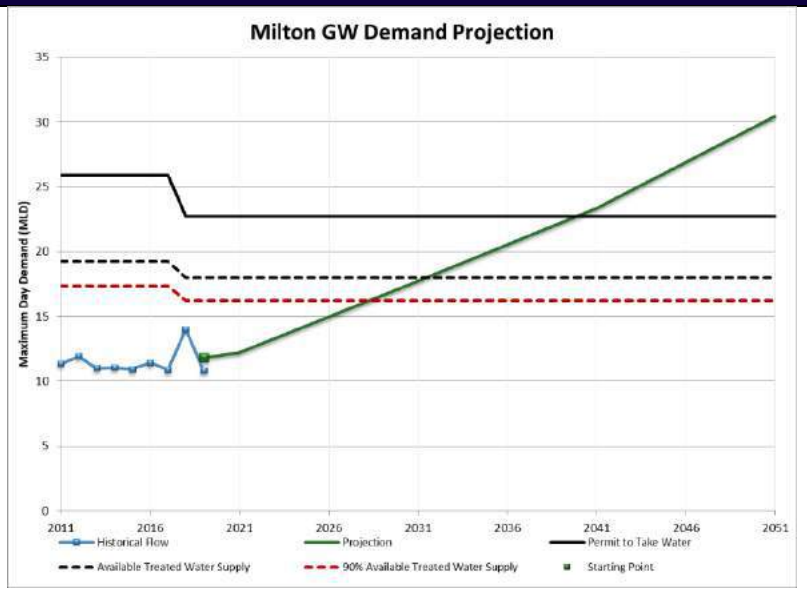
Scenario 3



Scenario 4

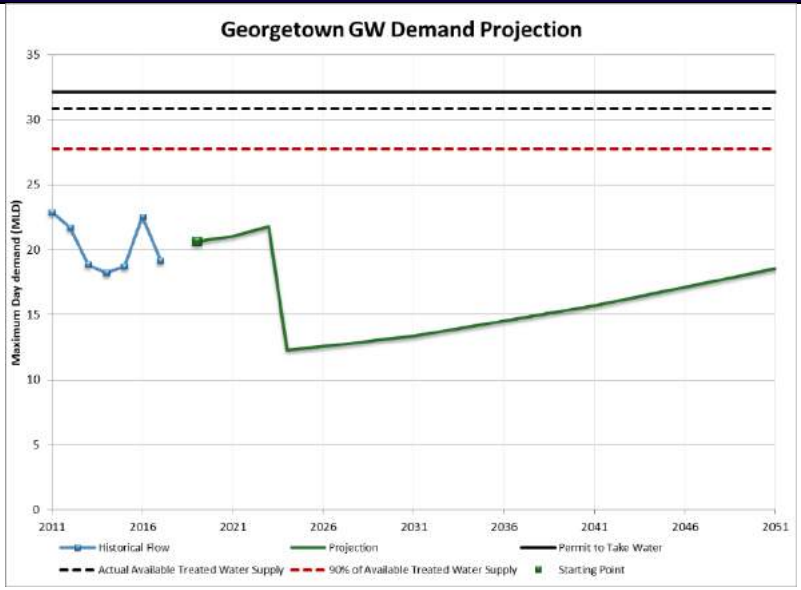


Milton Groundwater

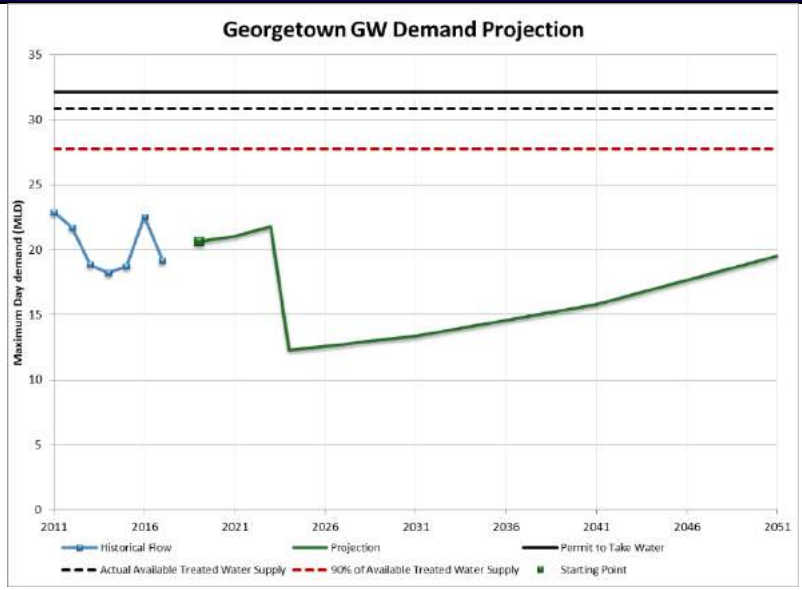
Scenario 1	Scenario 2
	
Scenario 3	**Scenario 4**
	

Georgetown Groundwater

Scenario 1



Scenario 2



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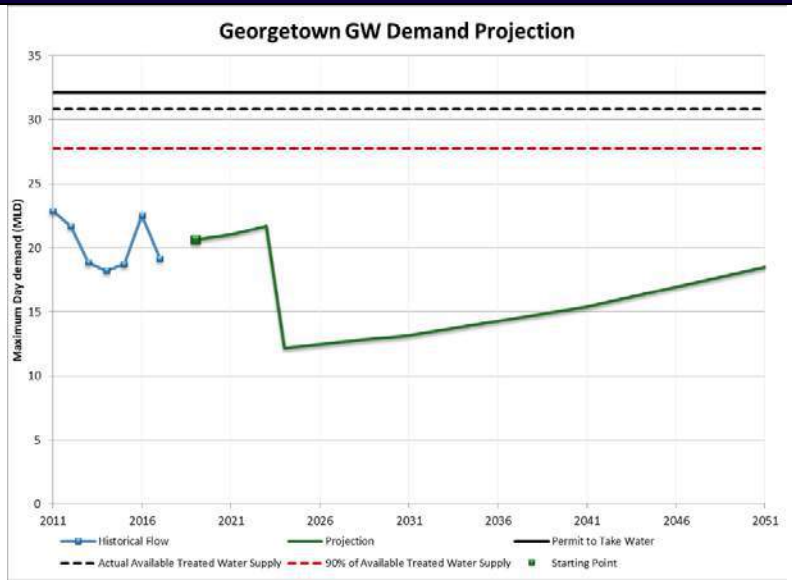

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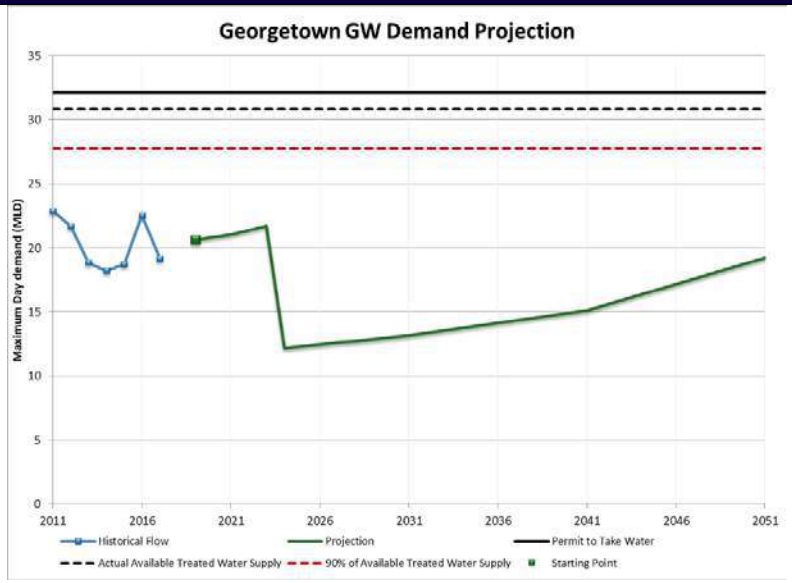
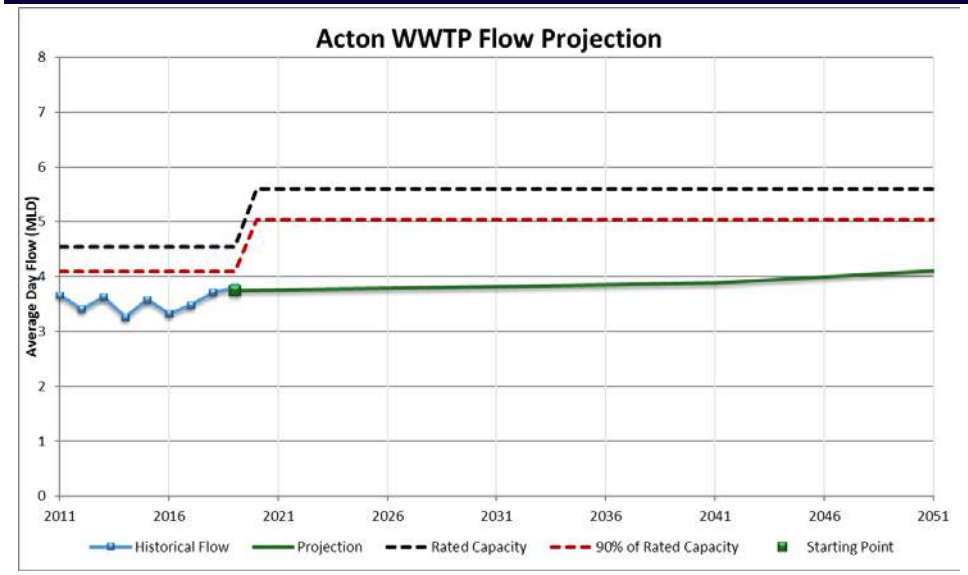


APPENDIX B:
WASTEWATER FLOW PROJECTIONS

Acton WWTP

Scenario 1



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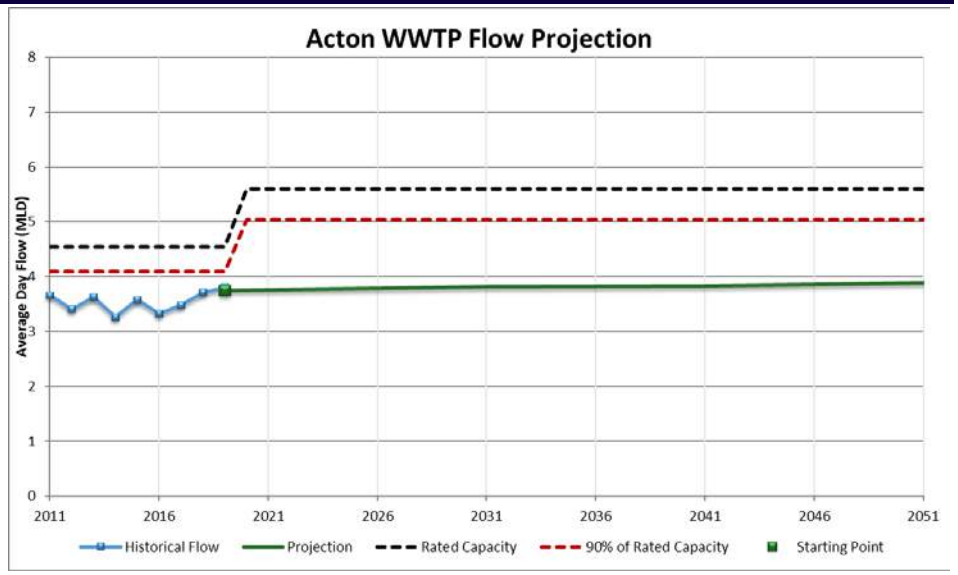

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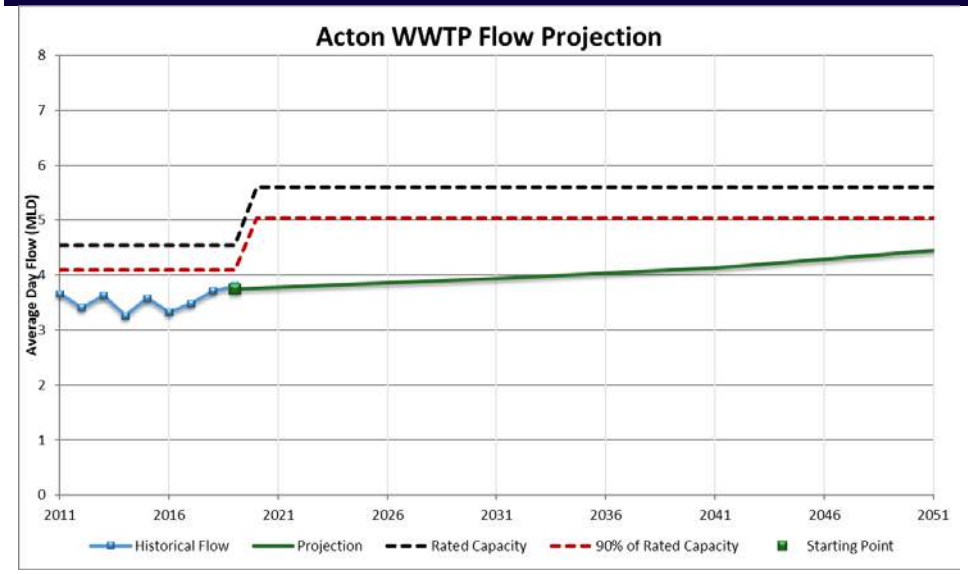

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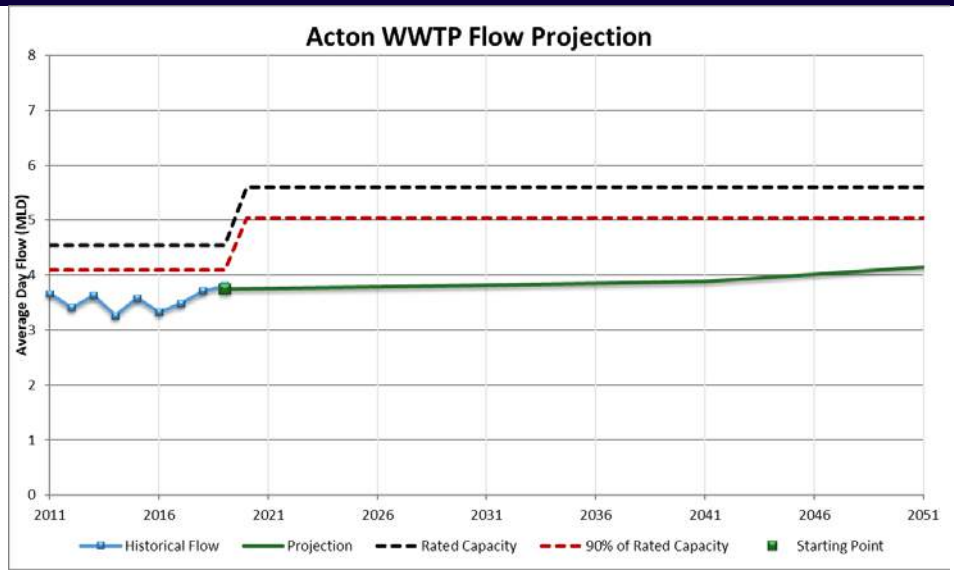
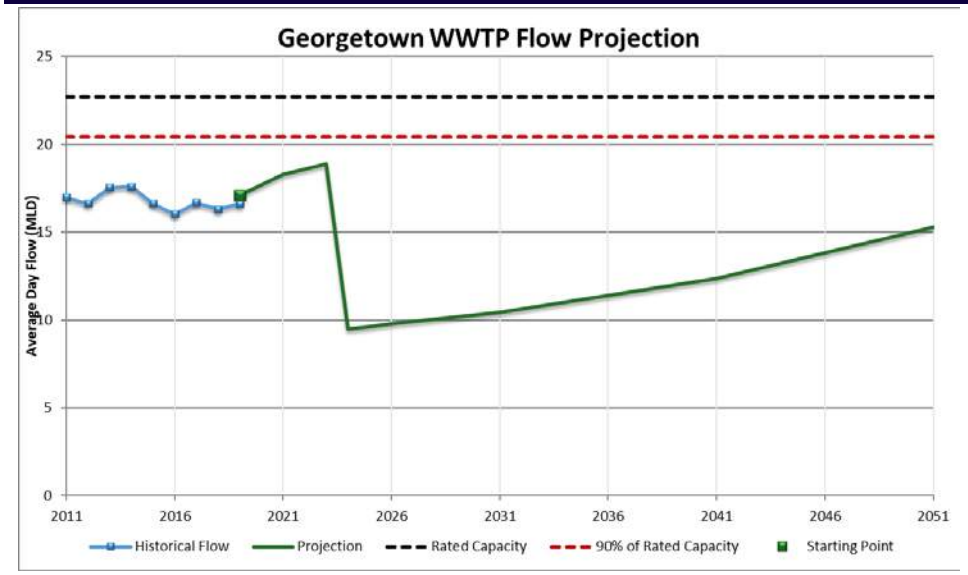


Georgetown WWTP

Scenario 1



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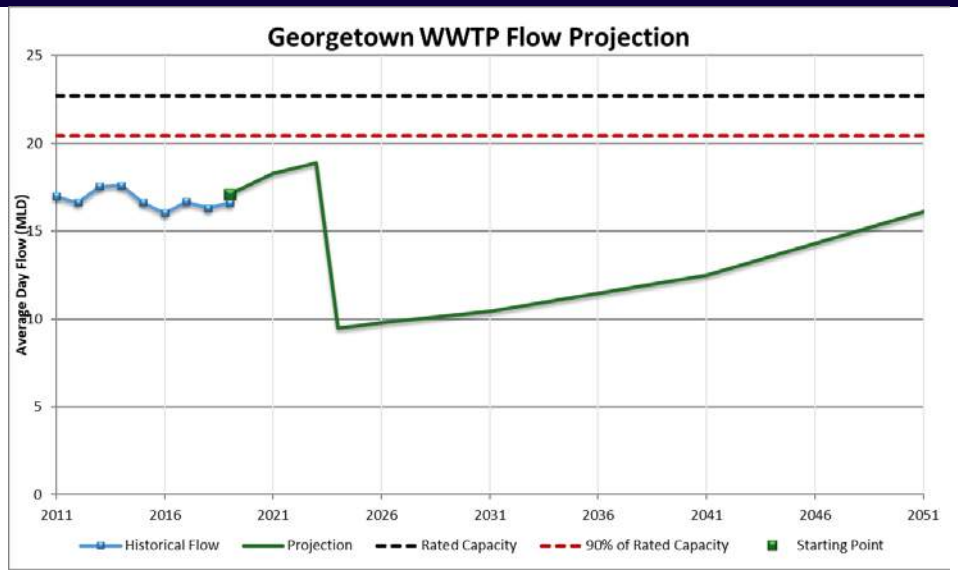

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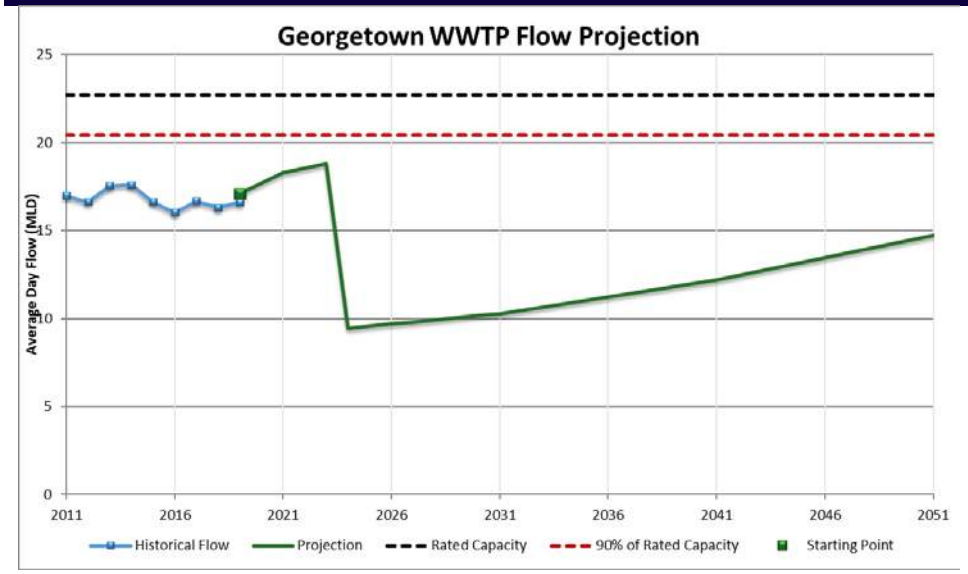

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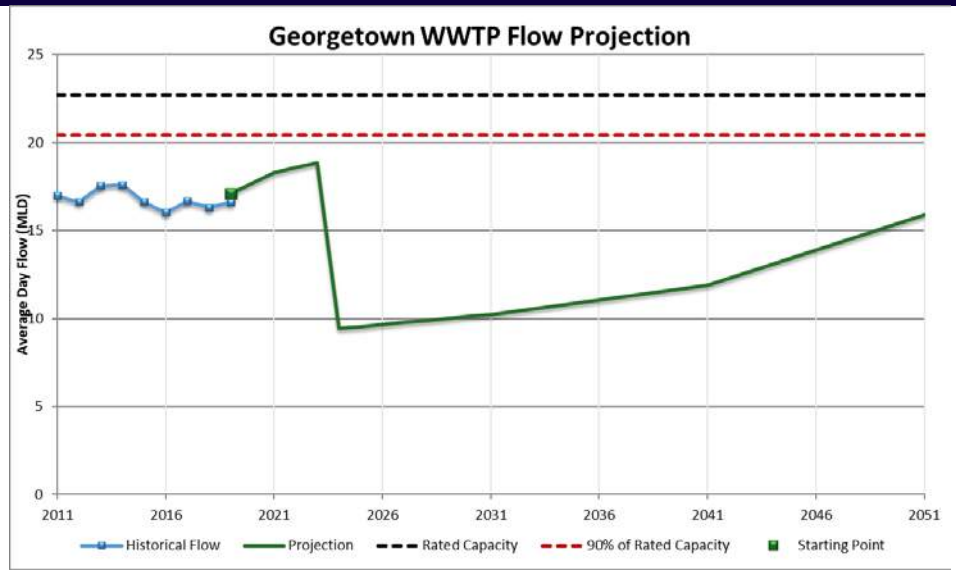
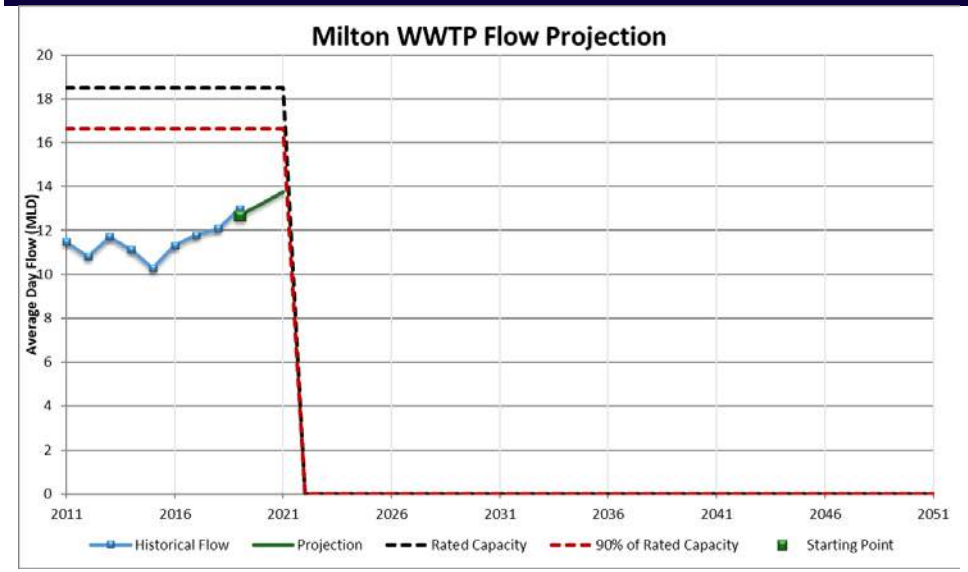


Milton WWTP

Scenario 1



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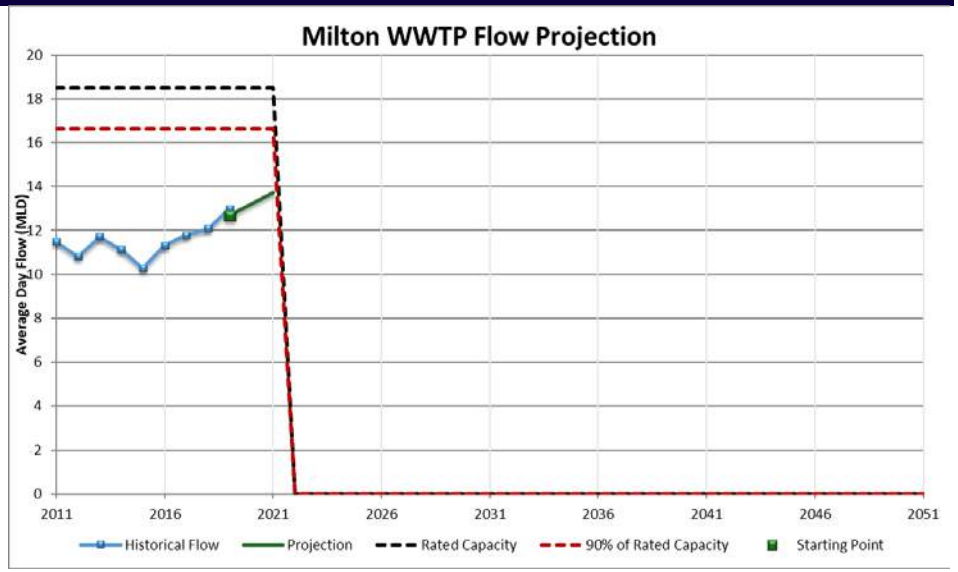

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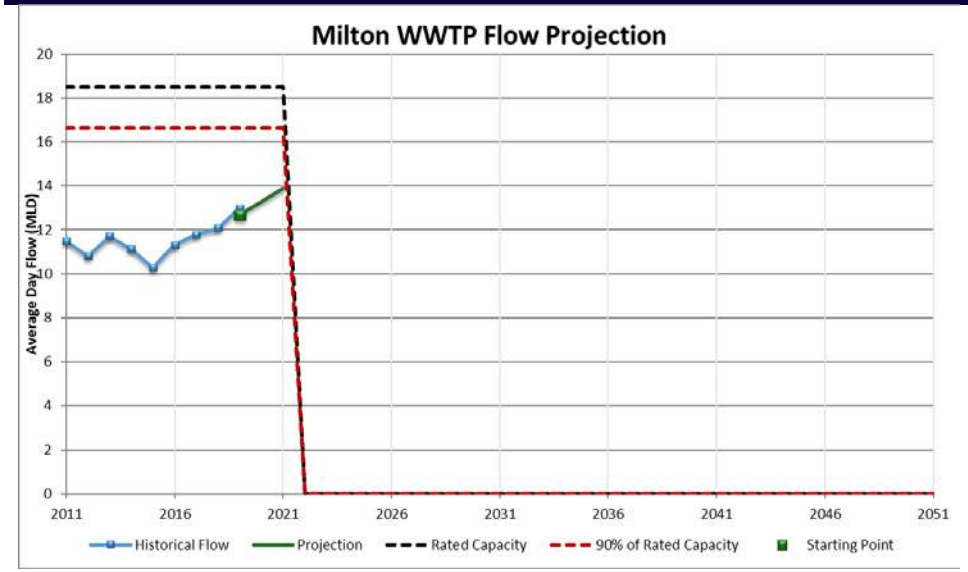

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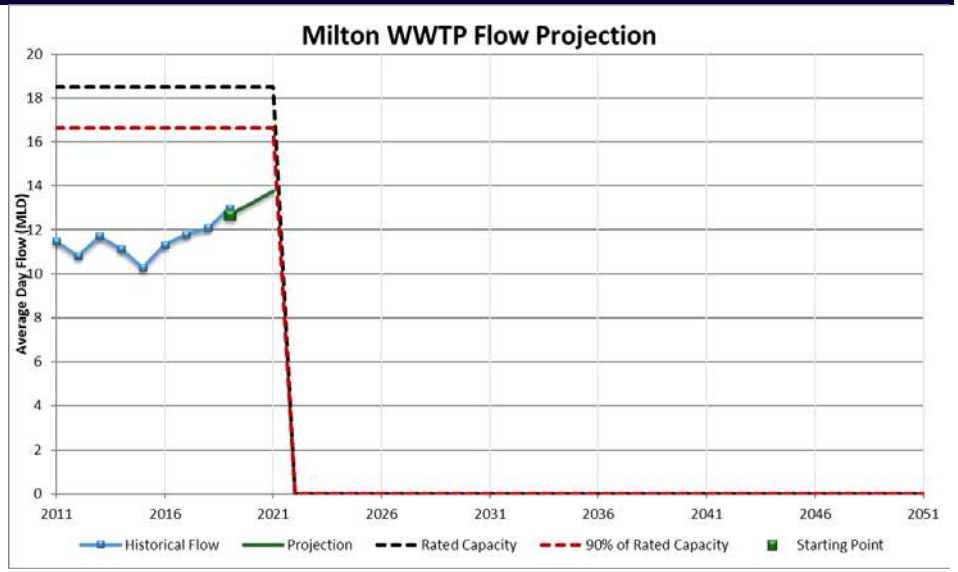
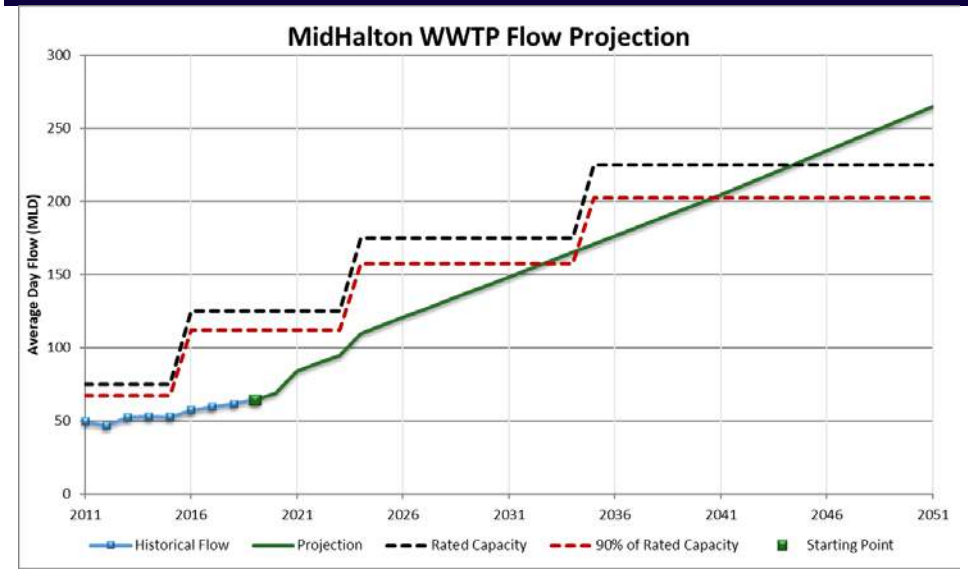


Mid-Halton WWTP

Scenario 1



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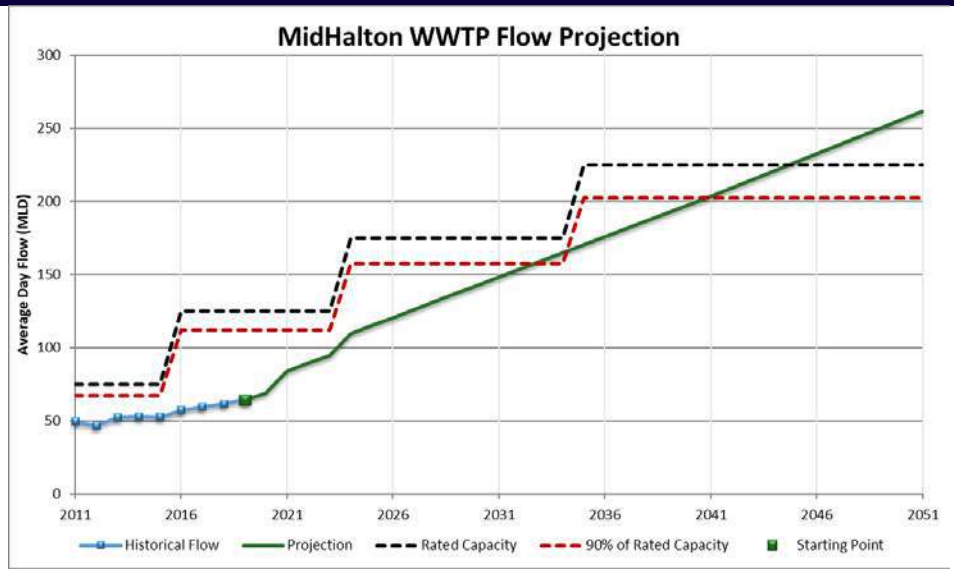

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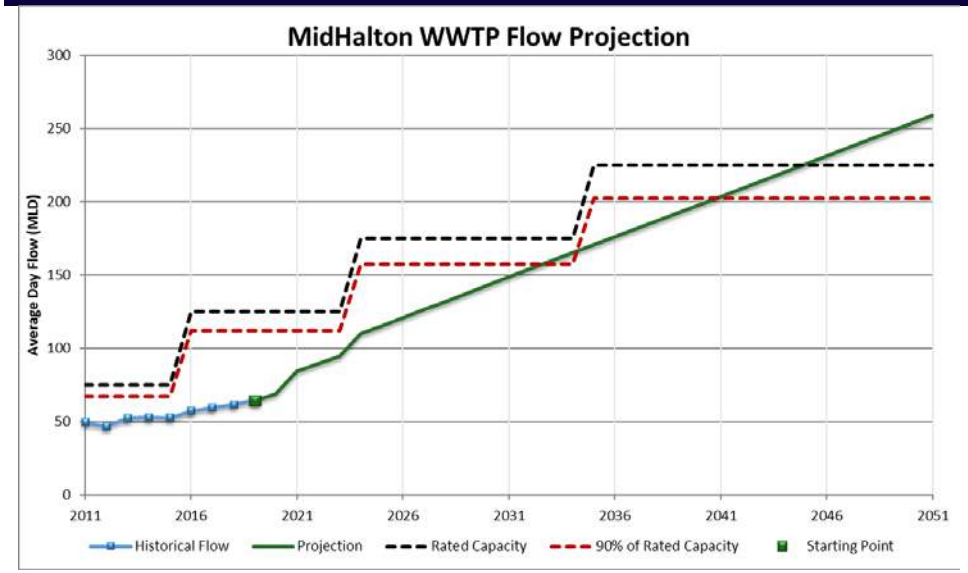

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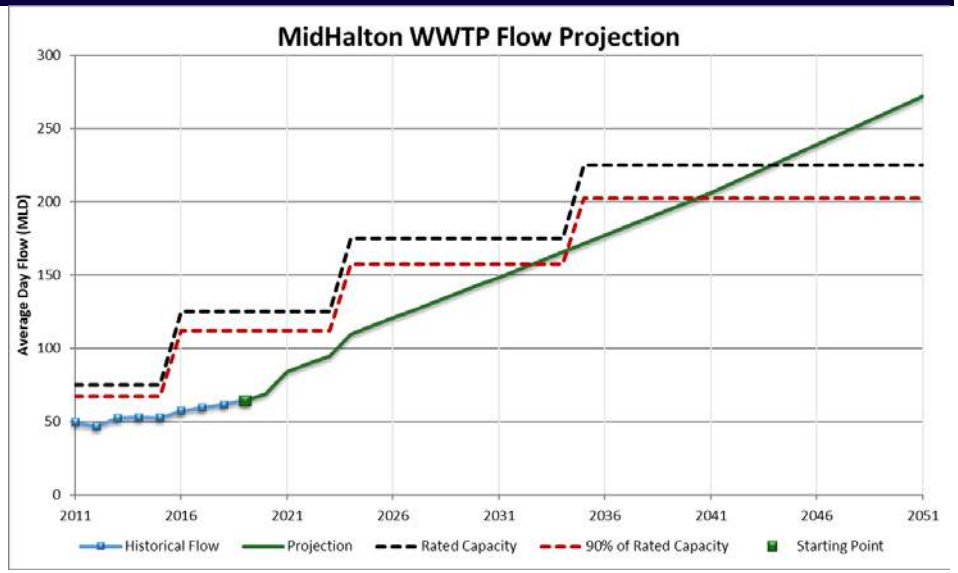
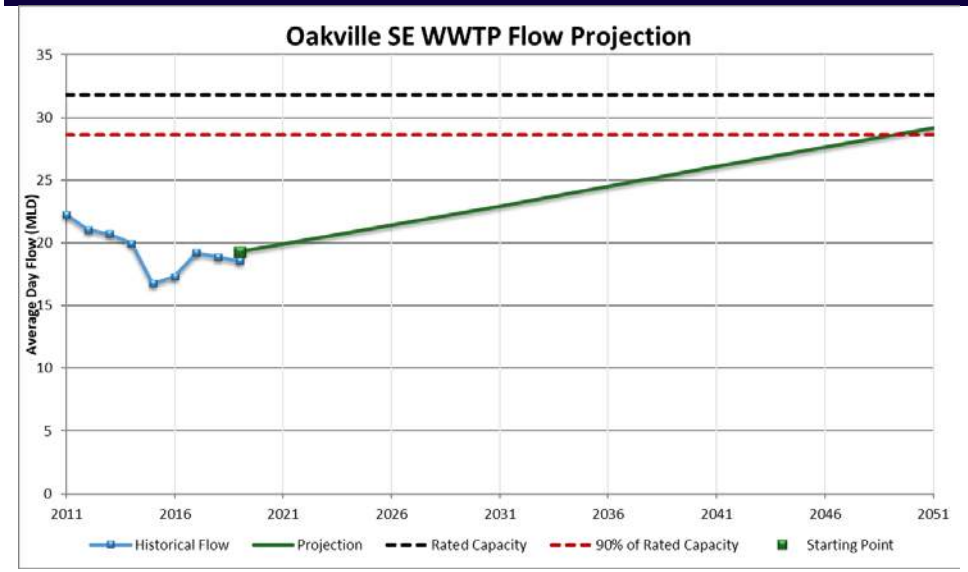


Oakville SE WWTP

Scenario 1



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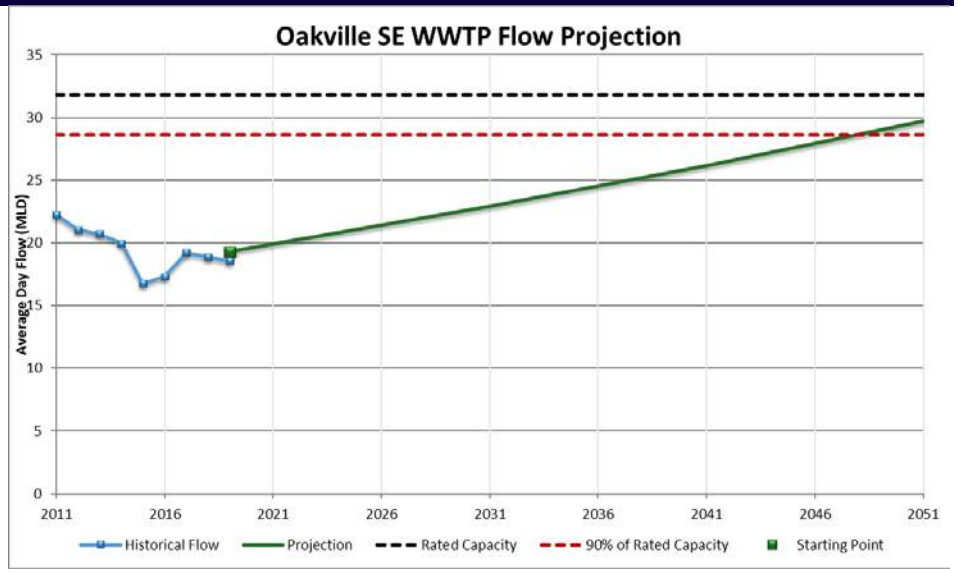

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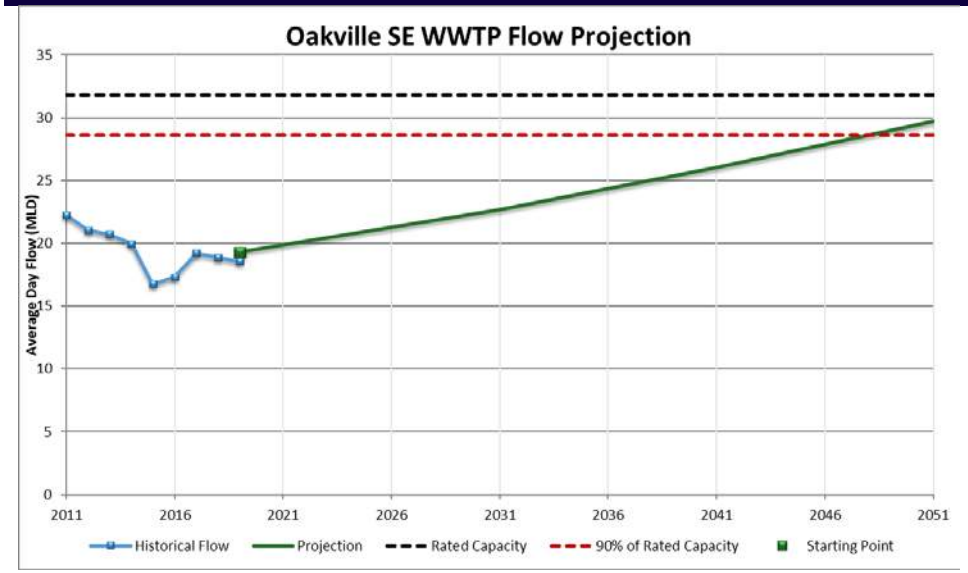

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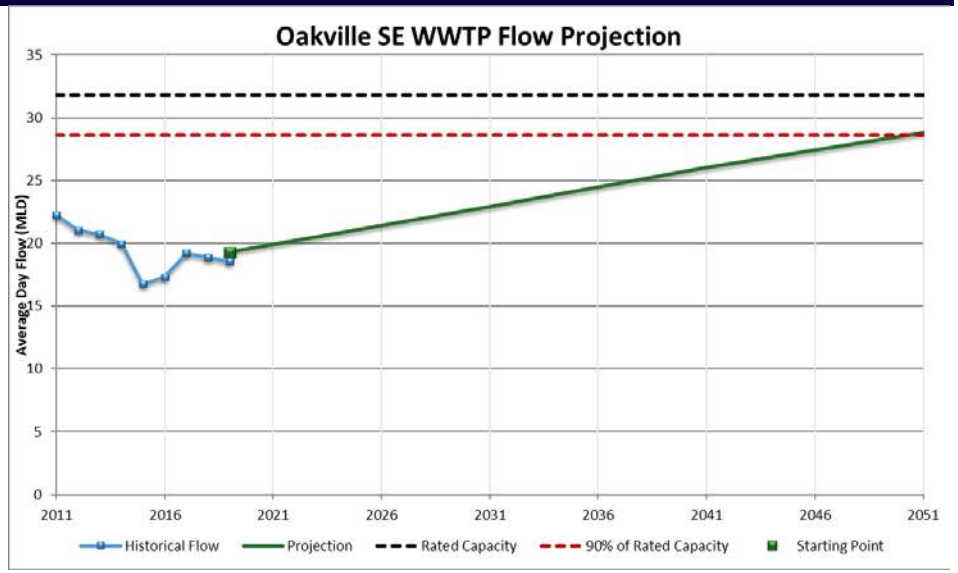

Oakville SW WWTP

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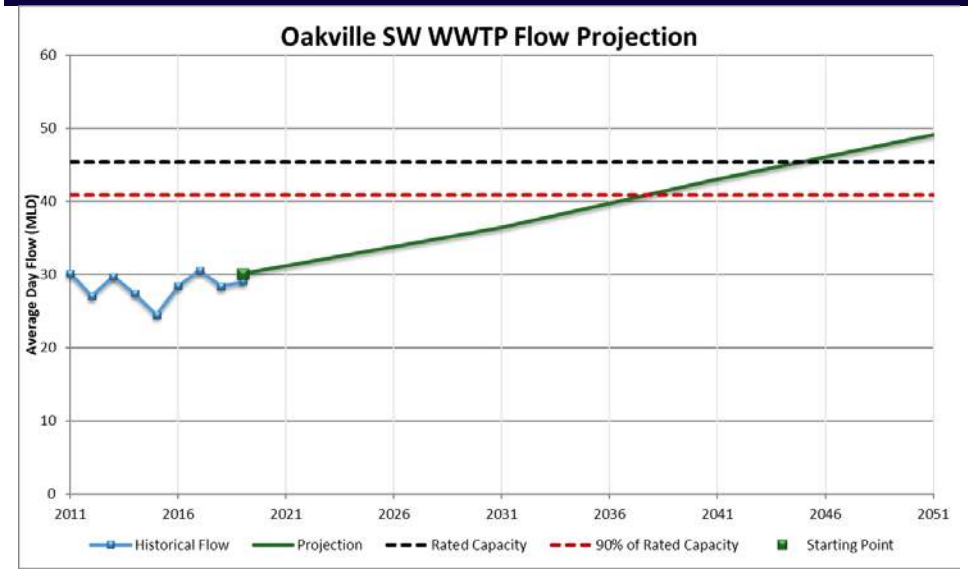

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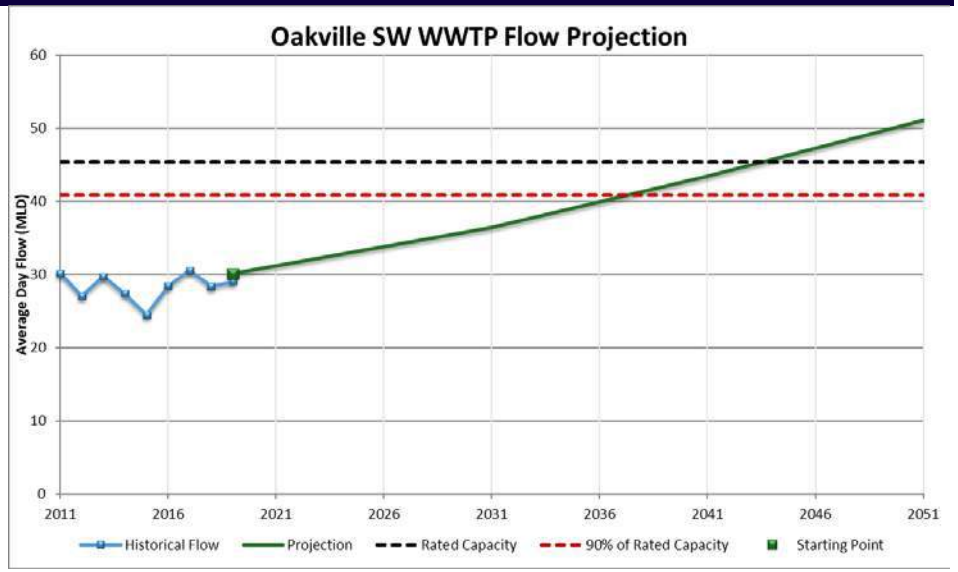

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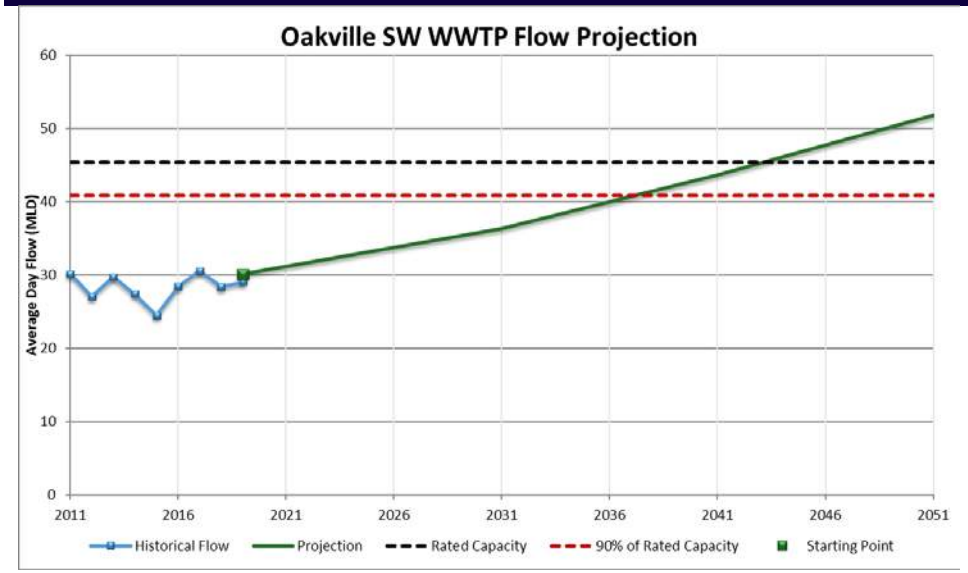

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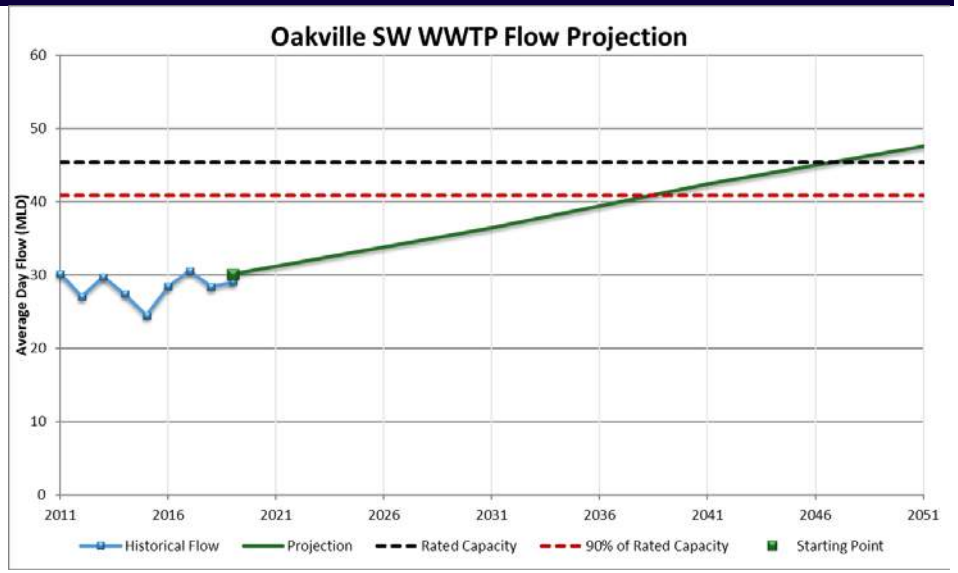
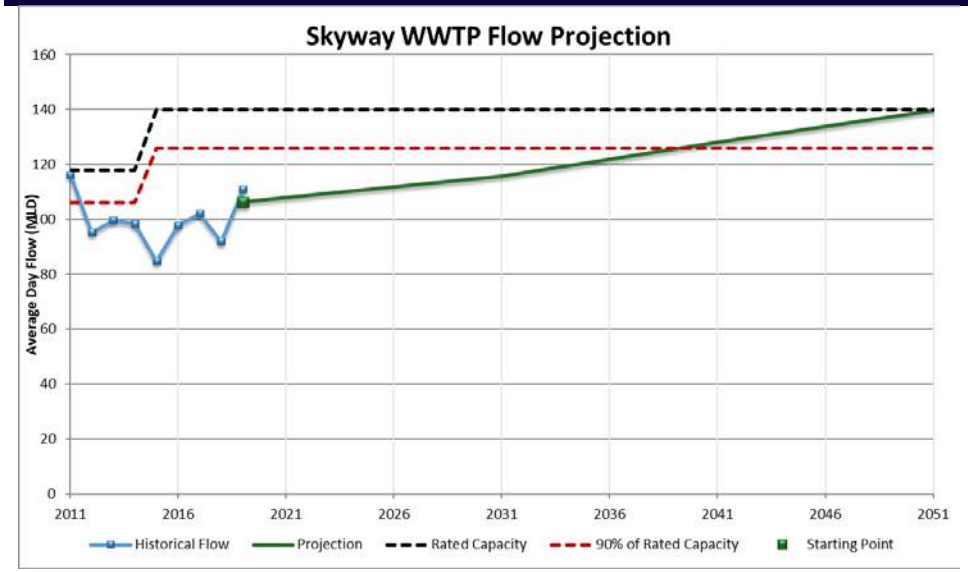


Skyway WWTP

Scenario 1



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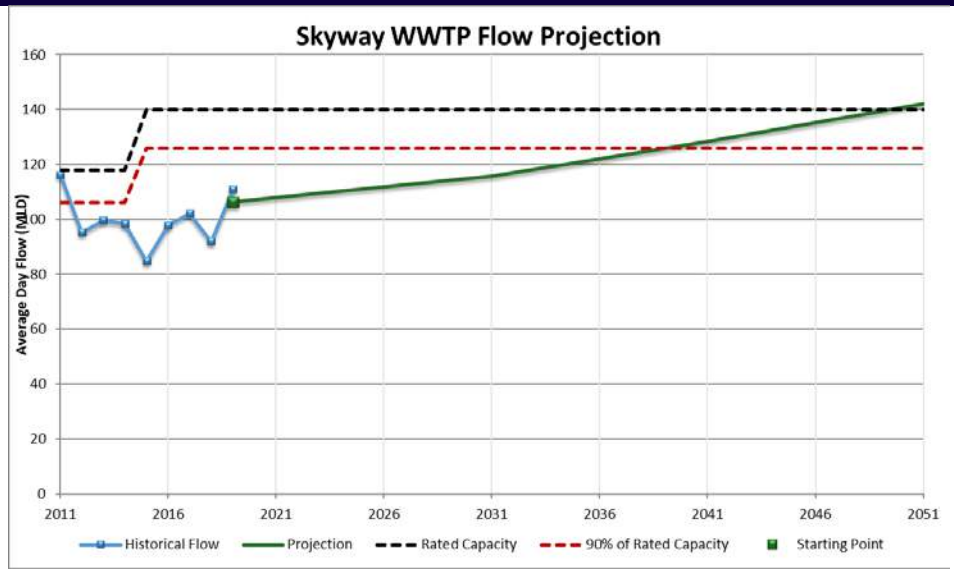

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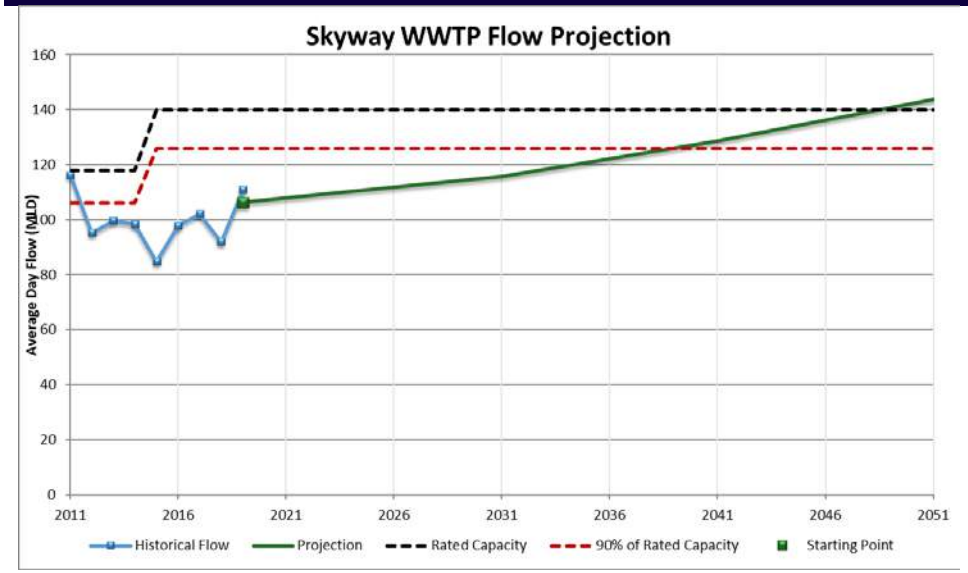

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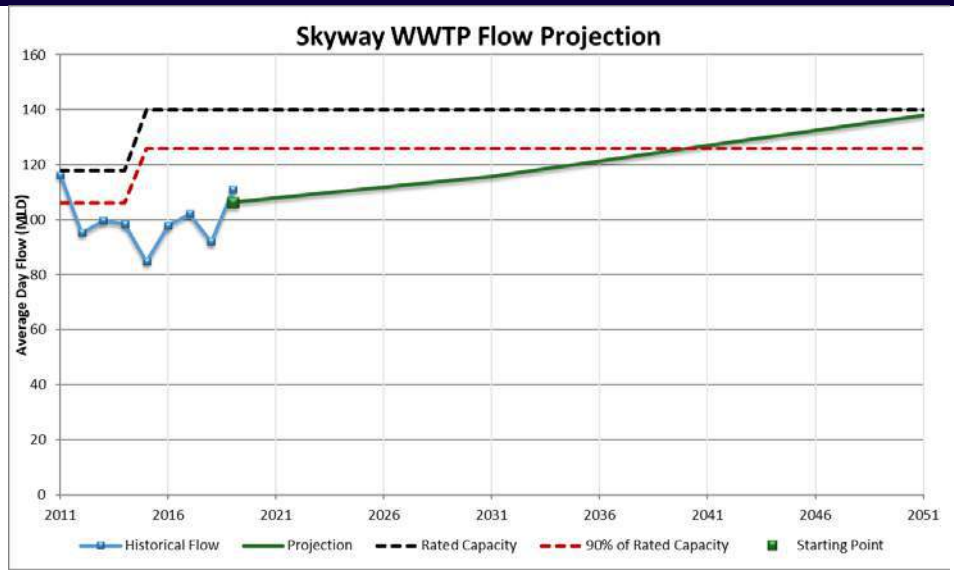
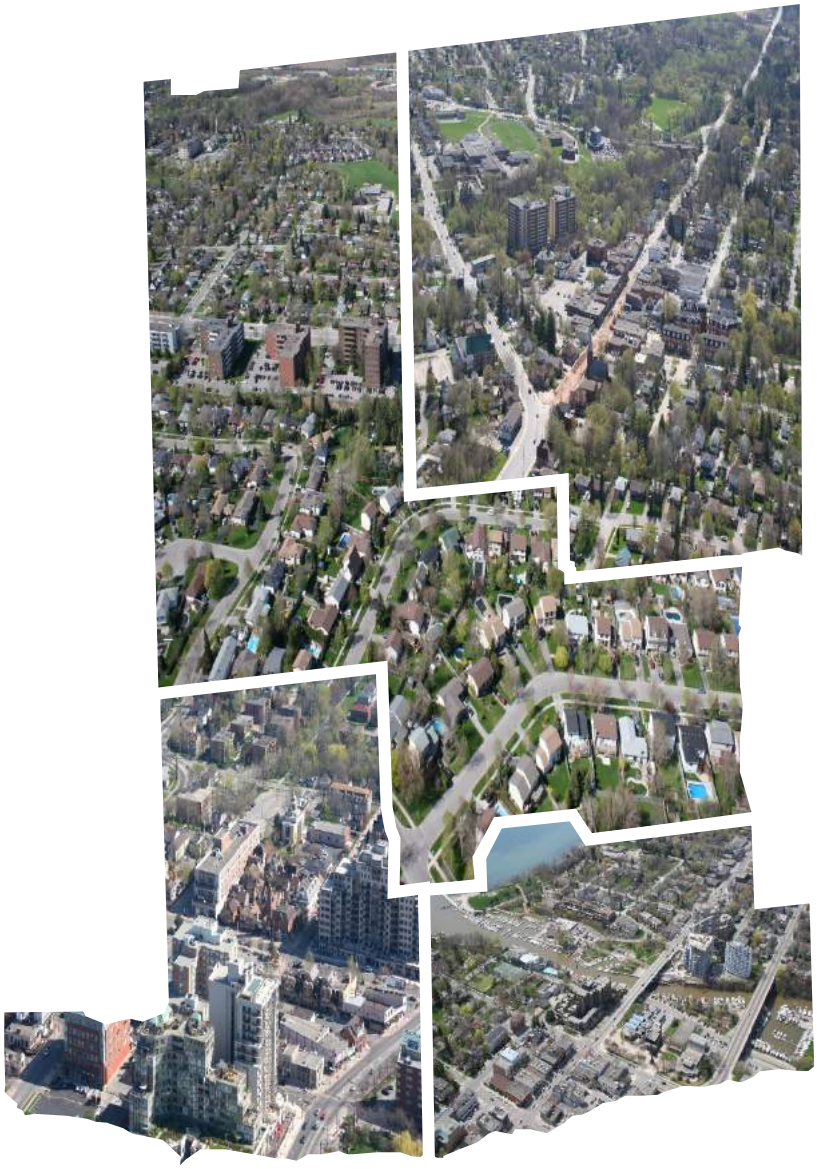




Appendix F

Fiscal Impact Assessment

February 2021

Regional Official Plan Review

HEMSON

Halton REGION

Contents

1. PURPOSE OF THE FISCAL IMPACT ANALYSIS

The planning policy regime in Ontario requires that planning for development occurs in a way that promotes the financial well-being of local governments. For example, in accordance with the requirements of the Provincial Policy Statement (PPS) infrastructure and public service facilities, including amenities located within defined settlement areas, must be financially viable.

The Growth Plan for the Greater Golden Horseshoe (GGH) also supports the policies of the PPS and requires that infrastructure and public service facilities be financially viable over their full life cycle. Therefore, this analysis places emphasis on maximizing the utilization of existing infrastructure and examining the financial viability of infrastructure with regard to the impact on property tax rates. This approach is consistent with the requirements of relevant planning legislation and represents prudent fiscal planning. It is noted that the Region and all four of the local municipalities' existing fiscal policies and practices are sound and promote fiscal sustainability, this analysis is based on those policies and practices.

As part of the *IGMS Growth Concepts Discussion Paper*, a fiscal impact analysis of the four Growth Concepts has been undertaken. The impact analysis is used to evaluate the concepts for the purposes of determining the Preferred Growth Concept (see Chapter 9 of the *IGMS Growth Concepts Discussion Paper)*. Specifically, the Fiscal Impact Assessment relates to the following evaluation measure:

> "2.3.3 Least negative (most positive) net financial impact on the Region and its Local Municipalities"

Therefore, the analysis reflects an order of magnitude assessment of the real tax impacts over the 30-year period from 2021 -2051 for each concept. In addition, the analysis of each concept has been developed independently for each of the four area municipalities and the tax funded services for the Region.

On a final note, detailed transit, roads, water and wastewater costs have been developed through the analysis in Chapter 8 of the *IGMS Growth Concepts Discussion Paper*. Therefore, the fiscal impact analysis looks solely at the tax funded services for the Region and the local area municipalities.

2. Overview of Key Assumptions

This section outlines the key underlying assumptions in developing the Fiscal Impact Analysis. The overview outlines assumptions related to both operating and capital expenditures related to growth as well as revenue from taxation, driven by assessment growth.

A. Fiscal Model Structure

Figure 1 provides a schematic overview of the financial model structure used in the analysis. The base parameters of the model, or primary inputs, includes financial documents such as capital and operating budgets as well as long-range financial planning policies. Other key inputs to the model include growth forecast projections (e.g. population, household and employment growth) from each of the Growth Concepts as well as capital and operating cost drivers. Independent models have been developed for the Region and each of the four local area municipalities; however, the analysis includes an evaluation, and discussion, of the cumulative impacts of the Growth Concepts.

The model also accounts for municipal revenues generated from assessment (property taxes) and non-tax revenues. The model assumes that costs and revenues increase in proportion to increased needs associated to growth to maintain current levels of service. The net impact of the expenditures less revenues results in the tax rate impact, which is used to assess the fiscal effect in any given concept.

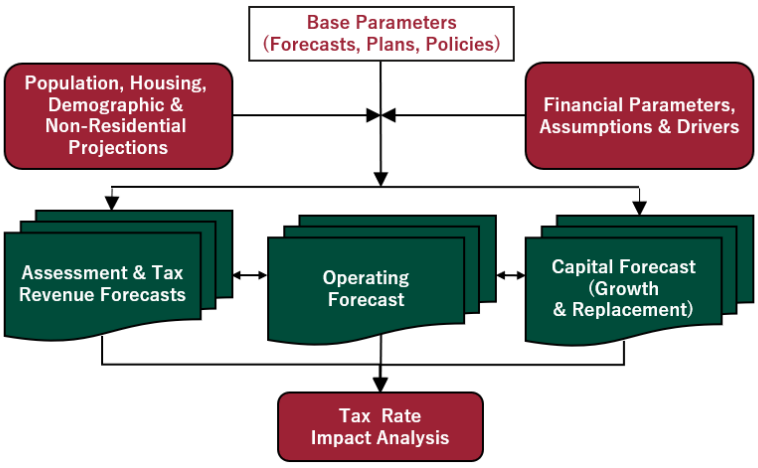


Figure 1: Fiscal Impact Model Methodology

B. KEY FISCAL IMPACT ANALYSIS ASSUMPTIONS

The financial analysis is informed based on information provided by the Region and local area municipalities including the 2018 Capital and Operating budgets as well as relevant financial plans and policies (e.g. long-range financial planning documents). In addition, the most recent approved Development Charge Background Studies inform the base models and financial analysis. For the purposes of this analysis, the recent legislative changes to the *Development Charges Act* (*Act* have not been factored into the analysis, however it is expected that these changes DCA) and *Planning* would be relatively minor at the Regional level and have a similar impact for each Growth Concept, therefore this analysis is valid for comparison purposes. It is recognized that the impact of the changes at the local municipal level is unclear.

It is important to note, that the findings of the analysis are largely focused on the period from 2031 – 2051 as each Growth Concept is identical in over the 2021 – 2031 period, however average annual tax impacts are assessed over the full 30-year period. Since the development forecast in each growth concept varies from 2031 – 2051, this allows for the comparative analysis to be developed. The following sections outline key detailed assumptions for operating, capital and asset management related growth costs.

i. Overarching Assumptions

A number of key overarching assumptions are used that are common across all four area municipalities and the Region. The following assumptions are key to developing this analysis:

- The analysis assumes that the Region and local municipalities will continue with the "status quo" approach to utilizing property tax revenues; in other words, the current financial policies and practices are maintained into the future. For user fee revenue sources, it is assumed that the Region and all local municipalities will continue to base these charges on current cost recovery ratios with the exception of building permit and planning fees, assumed to be at full cost recovery.

- Importantly, the financial analysis assumes that current service levels are maintained and does not account for service enhancements or changes to how services are delivered by the Region and local municipalities. The current services for which the local municipalities and the Region are responsible for has been maintained. In particular, transit services are currently the responsibility of the local municipalities, this assumption has been maintained for the purposes of the analysis. As mentioned in Chapter 8 of the *IGMS Growth Concepts Discussion Paper,* the transit analysis has

found that transit service costs are similar across concepts on a region-wide basis with no specific determination on any future transit governance structures.

- The planning period of the financial analysis aligns with the forecast population, housing and employment growth (2021-2051) presented as part of the four Growth Concepts. The analysis is based on the average annual cumulative impact over the planning period from 2021-2051.

- The financial forecast does not consider increases in capital and/or operating costs resulting from inflation. Excluding the net effects of inflation on future expenditures allows for a comparative impact of the four Growth Concepts over the longer-term planning period to 2051. Therefore, all values are expressed in constant 2020 dollars.

- It is important to note, under the recent changes to the *Development Charges Act* the 10% discount associated to general services is no longer applicable and municipalities can now recover this amount through development charges. For the purposes of the analysis, no adjustments were made to account for this change as it was determined it would have a marginal effect on the overall result of the analysis. In addition, no assumptions have been made on determination of CBC revenues, as the Region and area municipalities will be undergoing reviews over the next year to determine whether a CBC Strategy is feasible.

ii. Growth Related Net Operating Cost Assumptions

Net operating costs in the analysis have been forecasts based on the assumption that additional population and employment will continue to pressure the Region and its local municipalities to maintain levels of service. Therefore, net costs are expected to grow to 2051. The analysis accounts for net costs associated to growth. The methodology used to forecast increased net operating costs is as follows:

- For some services, such as those associated to general government administration or library services, costs are forecast based on a dollar per capita approach. Operating costs for these types of services are assumed to grow with increased demand from residents, therefore a parameter of operating costs per capita was determined based on the 2018 budget or data from long range financial plans. This approach is used for local area municipalities and the Region.

- For engineered services, particularly roads, operating costs are assumed to increase on a dollar per dollar of infrastructure basis. It is assumed that operating costs related to roads will grow based on the timing of infrastructure as opposed to pure population

growth. These parameters were determined based on each municipality's existing asset base and population.

- Non-tax revenues, which largely includes revenues from user fees or upper levels of government for Regional services, are expected to continue to grow in line with the development forecasts in each of the Growth Concepts. These non-tax revenues are applied against increased costs to calculate net operating costs from growth.

iii. Growth Related Capital Cost Assumptions

Halton Region and its local municipalities have different servicing responsibilities. The Region provides services that benefit large geographic areas such as the regional road network. The Region is also responsible for social and community services (e.g. social housing, public health, childcare, affordable housing, senior services, waterfront parks, etc), paramedics, police, waste diversion and others. In contrast, local municipalities are responsible for services that provide a local benefit to the residents and employees (e.g. local roads, libraries, fire services, parks and recreation, public works, general administration of the municipality etc.). The services provided by local municipalities are planned and delivered to reflect the needs, and desired services levels, of the individual municipalities.

Capital costs in the analysis have been forecasts based on the assumption that additional population and employment will continue to put pressure on the Region and its local municipalities to provide new infrastructure to maintain levels of service. Therefore, costs are expected to grow to 2051. To allow for some variation across concepts capital cost drivers are based on population or household growth. The methodology used to forecast increased capital costs associated to growth is outlined in Table 1.

Table 1: Growth Related Capital Assumptions

SERVICE AREA	REGION	LOCAL AREA MUNICIPALITIES
General Services (incl. Transit)	Growth related capital costs will continue to grow in line with population growth. Additional dollars per capita of infrastructure are assumed based on the historical level of service in the DC Study. Additional transit service costs are also expected to increase, however no assumptions have been made on changes to governance structure.	

SERVICE AREA	REGION	LOCAL AREA MUNICIPALITIES
Roads	Growth related capital costs are based on the findings of the transportation analysis outlined in Appendix B and C of the *IGMS Growth Concepts Discussion Paper*.	Growth related capital costs will continue to grow in line with household growth. Cost parameters are determined based on average growth related costs per household (differentiated by low, medium and high density development). Average costs have been informed based on the DC roads capital program for each municipality.

Note: Additional transit capital costs have been determined on a regional basis. The fiscal impact analysis assumes that local area municipalities will continue to provide transit services in addition to regional requirements.

To fund increased capital costs associated with growth, the Region and local area municipalities must rely on a range of revenue sources to fund this infrastructure, with the largest sources being development charges and tax funding. In particular, the analysis assumes that the Region and local municipalities will continue to maximize development charge recoveries and other available funding tools for development-related infrastructure over the long-term planning period to 2051.

iv. Asset Management

Additional tax funded contributions for asset repair and replacement have also been accounted for in the analysis. This is in line with good asset management practices. These additional costs provide for expenditures (or savings) for replacement of capital. These costs would typically be accounted as transfers to capital reserves in municipal budgets. Asset management contributions are made up of two components:

- Recognizing that the assessment base in all areas of the Region are assumed to grow over time, additional funds for replacement of existing infrastructure is assumed. This recognizes that additional funds can be made available to address existing funding deficiencies to address the infrastructure backlog. These amounts are assumed to increase in proportion to population growth. Existing capital reserve balances and ongoing gas tax funding are used against these expenditures.

- Additional provisions for future replacement of growth-related infrastructure based on depreciation is also assumed. It is recognized that as new assets are acquired, best practice is to, at minimum, contribute to capital reserves at a level equivalent to annual depreciation.[1]

[1] These contributions do not include costs associated to local infrastructure such as roads built by developers.

C. TAX REVENUE ASSUMPTIONS

Although there is an inherent cost of growth based on rules set out in the DCA for comparing each concept, Region and local municipal up-front costs for growth related infrastructure is assumed to be fully funded from development charges. However, operating costs and future replacement of these assets will need to be funded largely from tax revenues. In this analysis, tax revenues are a direct function of assessment growth. As the Region and local area municipalities continue to grow, it is expected that the assessment base will also grow to 2051.

Weighted taxable assessment will increase in the Region in relation to the growth forecasts identified in each Growth Concept for both the residential and non-residential sector. To account for each tax class, only taxable weighted assessment is included in the forecast.[2] The residential forecast is based on average assessed values by housing type in each local municipality. The individual household forecast by density therefore drives the forecasted growth in assessment and provides for some variation across each concept. These values were developed based on a sample of units built over the last 10-years and informed by long-range financial plan documents. Table 2 below sets out the assessment per unit assumptions. It is important to note that the assessment remains the same throughout the forecast period and thus assumes a similar style of building types across the four Growth Concepts (i.e. the size and number of rooms within apartment building).

Table 2: Average Weighted Assessment per Unit

RESIDENTIAL	BURLINGTON	OAKVILLE	HALTON HILLS	MILTON
Singles/Semis (Low Density)	$700,000	$1,140,000	$690,000	$560,000
Multiples (Medium Density)	$420,000	$530,000	$420,000	$380,000
Apartments (High Density)	$360,000	$430,000	$280,000	$300,000

The non-residential forecast is based on an average assessed values per square metre of building space. It is assumed that all population-related employment included in the forecast is in the commercial occupied tax class. Building space added in the employment land category is assumed to be in the industrial occupied tax class. The categories of Major Office, Employment Land, and Population Related are consistent with the employment

[2] Discussions on taxable assessment all refer to weighted assessment in this analysis.

categories used in the IGMS forecasts for each concept. Table 3 outlines the average assessment parameters for each non-residential category.

Table 3: Average Weighted Assessment per Square Metre

NON-RESIDENTIAL	BURLINGTON	OAKVILLE	HALTON HILLS	MILTON
Major Office	$4,000	$4,000	$2,500	$2,500
Employment Land	$3,000	$3,000	$1,500	$1,500
Population-Related	$4,000	$4,000	$2,500	$2,500

3. Fiscal Observations of the Four Growth Concepts

The financial modelling exercise provides a comparative analysis of the financial impacts of development under each Growth Concept through an examination of cumulative net tax impacts at the Region and local municipal level. The cumulative impact provides an important perspective for comparison purposes as it illustrates which concept achieves the lowest net impact for both the Region and local area municipalities.

Importantly, the financial conclusions presented in this report are just one category of evaluation criteria that are used to develop the Preferred Growth Concept. As such, the fiscal impact analysis should be considered within the broader context of the four IGMS evaluation themes.

A. SUMMARY OF OBSERVATIONS

Table 3 illustrates the percentage impact to property taxes for the Region and local area municipalities under each concept. Average annual tax increases from 2021-2051 provide a measure of the net fiscal impact from growth associated to each growth concept. The financial analysis included in this report is for comparative purposes across concepts expressed as an order of magnitude which will be further refined as part of the Preferred Growth Concept. Once the Preferred Growth Concept is established, master plans and related analysis will need to be undertaken to validate fiscal impact assumptions and further refine costs. As such, no specific dollar amounts are referenced.

Table 3: Average Annual Tax Increases 2021-2051

MUNICIPALITY	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
Burlington	3.90%	3.92%	3.97%	3.91%
Oakville	2.96%	3.03%	3.10%	2.93%
Milton	3.56%	3.60%	3.64%	3.51%
Halton Hills	2.38%	2.53%	2.63%	2.19%
Halton Region	2.47%	2.53%	2.56%	2.42%

Note: Tax impacts related to growth related costs do not include inflation.

Based on Table 3 above, some observations can be made based on a purely comparative approach across concepts. For any given municipality, there is little variation in tax impacts between concepts given that all estimated tax rate impacts are within a 1% difference. This

result is expected, given that expenditures and revenues are driven by the development forecasts in each individual concept, which also show low variability. Only Halton Hills shows some variability as the population forecast for Halton Hills is more variable relative to the Regional total population by 2051.

In analyzing the tax rate impacts as per the requirements of the IGMS evaluation criteria, and given the low variability, Concepts 1 and 4 provide a more favourable outcome. That is, Concepts 1 and 4 illustrate the "least negative/most positive" net impact. This result is a function of a few key drivers:

- There is little variation on the cost requirements to service growth between each Concept. This is attributed to the similarity of each of the concept development forecasts of population, housing and employment.

- There is however more variation on tax revenues, driven by growth in the assessment base.

    - Concepts with higher shares of low and medium density units, tend to have higher relative cumulative assessment. This is due to relatively higher average assessment values for these types of units. Furthermore, comparing concepts on an assessment per capita basis, shows Concepts 1 and 4 with relatively higher levels of assessment per capita (see Table A1 in Appendix A). However, the tax revenue potential of high-density development may improve over time. Higher rates of intensification in Concepts 2 and 3 would likely result in changes to sizes and configuration of apartment units as a greater share of families would need to accommodate these units. Such shifts in housing configuration may increase the assessment for Concepts 2 and 3.
    - Non-residential assessment tends to be very similar across concepts (see Table A2 in Appendix A); however, it makes up a higher share of the overall assessment base by 2051 for all concepts. The current Regional average residential/non-residential share is about 80%/20%. This is expected to shift to about 75%/25% by 2051 based on the growth concept forecasts.
    - Differences in average assessment values across municipalities account for some of this variation. This more so affects the Regional tax base as taxation revenue for the Region comes from the sum of all area municipal assessment.

It is important to emphasize, that despite growth in assessment (and tax revenue), as the main differentiating factor across concepts, many of the tax impacts across all concepts well exceed 3% per year. Recognizing that the Region and area municipalities will continue

to maintain good fiscal practices, these amounts well exceed average inflation and current budget practices.

4. Fiscal Policy and Planning Considerations

Although the findings of the Fiscal Impact Analysis show that Concepts 1 and 4 are only slightly preferred it is expected that for any growth concept some key fiscal planning and policy considerations need to be considered.

1. The Region and local area municipalities will need to continue to monitor costs and revenues associated to growth over time. It is important to recognize that in addition to meeting the needs of growth, existing budgetary pressures will continue and need to be balanced against the services provided to residents and business. Furthermore, intensification is usually associated to higher relative costs for some services, in particular for services such as parks, fire and transit.

    a. Typically, demand for developed parks tend to be higher in areas of high intensification. This results from additional maintenance and operating costs as parks in more urbanized areas tend to have higher quality amenities and higher levels of service for residents.

    b. Fire services will tend to be higher in areas of high intensification, at least over the short-term as it relates to up front costs. Intensification areas will have higher density units, and therefore higher building heights. As a result, specialized equipment is required for fire emergency personnel to deal with emergencies in taller buildings.

    c. A similar situation occurs for transit services. Higher intensification usually creates a higher demand for the movement of people, therefore transit infrastructure may be required to accommodate residents and employees. With this said this analysis does not assume that fundamental changes would occur for transit services. For example, no new transit services are assumed in Halton Hills. However, local area municipalities will need to cognizant that these services may be demanded by residents in the future.

2. The Region and local area municipalities are expected to continue to increase taxes based on a responsible approach to fiscal management. With this said, monitoring of fiscal pressures should continue through the Region's and local area municipal long-term financial planning exercises to identify challenges before they occur.

a. 2020 has created a unique and challenging situation for the Region and local area municipalities. Pandemic mitigation initiatives have been undertaken across the region. These initiatives are expected to continue and therefore will have short-term fiscal impacts for both levels of government. With this said, the IGMS analysis extends over a period of 30 years to 2051 and it is unclear at this time what effects the Covid-19 pandemic will have for fiscal impacts at that time.

3. The Region and local area municipalities will need to continue to closely monitor shifts in tax revenues associated to assessment growth. This analysis assumes that the assessment base will grow in line with development forecasts to 2051. With this said, in recent years non-residential assessment has grown much slower than expected, attributed to slower than expected levels of non-residential development. This pattern is expected to continue.

    a. It is important to note that Regional staff are currently undertaking an analysis to determine a realistic or more achievable level of non-residential development across the Region. The main foundation of the IGMS analysis achieving Provincial targets by 2051, however it is important to recognize that development may fall behind, particularly for non-residential development.

    b. Furthermore, assessment increases are subject to MPAC phase-in rules and data availability, which lags behind. There have also been a number of re-assessments which have put pressure on tax revenues. Although this factor has not been assumed in the analysis, it is expected that other re-assessments may occur over the next few years. These factors put upward pressure on tax rates across any given concept.

4. The Region and local area municipalities will need to provide additional infrastructure to meet the demands of growth. Therefore, it is recommended to continue to maximize revenues from development charges. Recent changes to the *Development Charges Act* have removed the 10% discount for general services, therefore this presents an opportunity for additional growth related cost recoveries moving forward.

5. It is recommended that the Region and local area municipalities continue to consider the strategic use debt, as appropriate, for major capital investments. The use of debt should be guided by considerations for affordability, equity and fairness, and fiscal flexibility. The Region and local area municipalities already have debt policies in place which should be reviewed on an ongoing basis, especially in periods of high growth.

6. The Region and local area municipalities have continued to contribute to tax funded capital reserves for the long-term repair and replacement of assets. With this said, as growth occurs and new infrastructure assets are acquired consideration will need to be made for additional savings for future repair and replacement of this infrastructure as well.
7. Capital deficiencies related to existing infrastructure will continue to create fiscal challenges. As growth continues, the Region and local municipalities will need to carefully assess the risks of undertaking additional growth related infrastructure projects while at the same time providing funds to address existing capital works needed to maintain older infrastructure. Although the Region and local area municipalities strive to provide sufficient funding to maintain existing infrastructure it is important that infrastructure deficits continue to be monitored, while at the same time committing to funding capital needs created by growth.

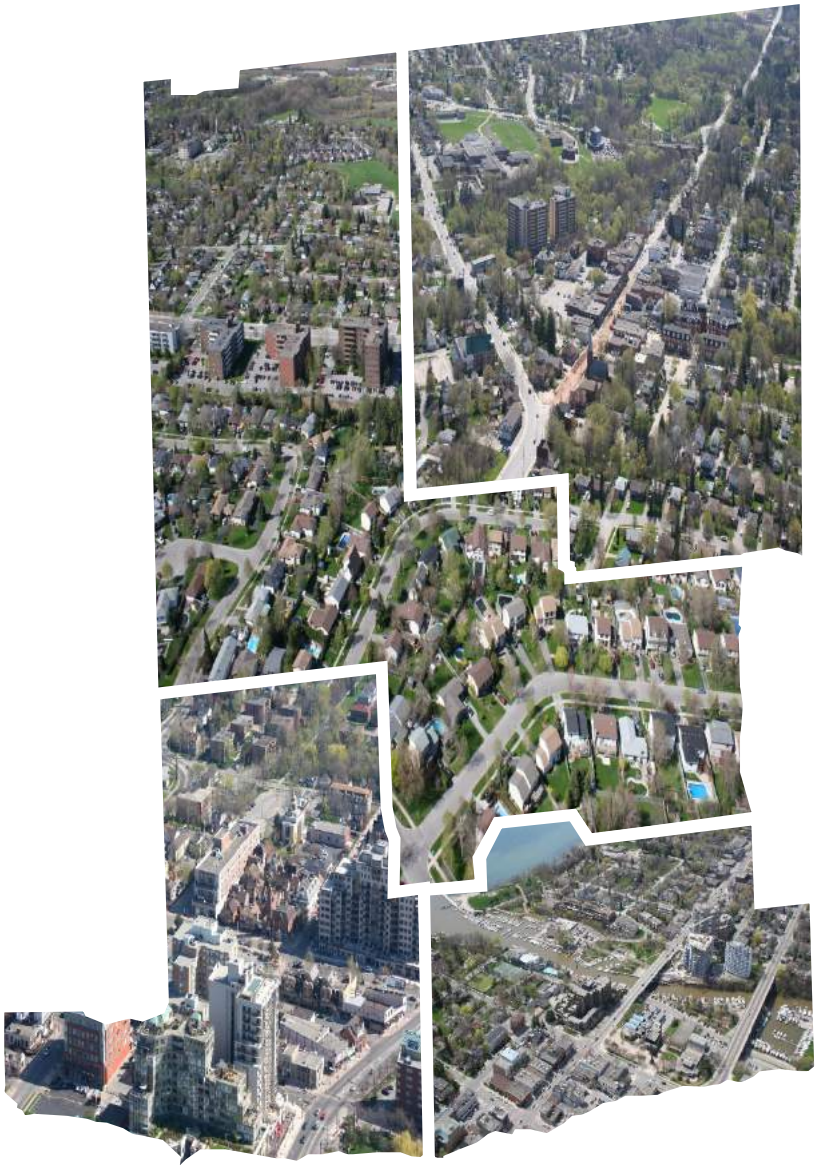
8. Local infrastructure will continue to be a significant cost component for some of the local area municipalities, across all concepts. This cost impact is associated to increased costs to operate and maintain contributed assets as well as the costs associated to long-term replacement. These costs will be significant for local area municipalities especially for concepts where additional local roads are acquired particularly for situations where more low and medium density development occurs. This will add additional pressures to existing capital backlogs.

5. Fiscal Indicators

TABLE A1: WEIGHTED ASSESSMENT PER CAPITA 2021 VS 2051					
Municipality	**2021**	**Concept 1 (2051)**	**Concept 2 (2051)**	**Concept 3 (2051)**	**Concept 4 (2051)**
Burlington	$237,493	$234,025	$230,925	$228,557	$235,646
% from Concept 1 in 2051			*-1.3%*	*-2.3%*	*0.7%*
Oakville	$295,066	$308,124	$300,390	$289,596	$314,675
% from Concept 1 in 2051			*-2.5%*	*-6.0%*	*2.1%*
Milton	$190,893	$194,950	$193,644	$194,522	$199,327
% from Concept 1 in 2051			*-0.7%*	*-0.2%*	*2.2%*
Halton Hills	$208,314	$220,895	$219,932	$230,406	$220,407
% from Concept 1 in 2051			*-0.4%*	*4.3%*	*-0.2%*
Halton Region	$244,337	$242,990	$240,525	$239,177	$245,675
% from Concept 1 in 2051			*-1.0%*	*-1.6%*	*1.1%*

Note: 2051 is compared relative to Concept 1 to show relative difference only.

TABLE A2: EMPLOYMENT SHARE FROM TOTAL REGIONAL 2021 VS 2051					
Municipality	**2021**	**Concept 1 (2051)**	**Concept 2 (2051)**	**Concept 3 (2051)**	**Concept 4 (2051)**
Burlington	36%	25%	25%	25%	25%
Oakville	40%	35%	35%	36%	34%
Milton	16%	27%	27%	27%	27%
Halton Hills	9%	13%	12%	11%	14%



Appendix G

Agricultural Area Assessment

February 2021

Regional Official Plan Review

MERIDIAN PLANNING

Halton REGION

Appendix G: Agricultural Area Assessment

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1.0 PURPOSE

In 2016, the Region initiated a review of the Halton Region Official Plan (ROP). A key element of the review is the Integrated Growth Management Strategy (IGMS), which is intended to ensure conformity with the Growth Plan (2019) and the requirement to accommodate 1,100,000 million people and 500,000 jobs by 2051 (with these population and employment targets being established by Amendment 1 to the Growth Plan in 2020).

In order to accommodate expected population and employment growth, a number of Growth Concepts have been developed in the Fall of 2020. Each of these Growth Concepts involve the expansion of settlement areas into Halton Region's prime agricultural area.

In order to test the four Growth Concepts, an Evaluation Framework, with four themes have been developed by the Region, with Theme 3 dealing with Agriculture, Environment and Climate Change.

Within this theme are a series of measures that are intended to protect the integrity and minimize impact on the agricultural land base and system. These measures are below:

Measures
3.1.1 Retains the largest amount of contiguous agricultural land possible
3.1.2 Protects and avoids Prime Agricultural Land to maintain the most productive and fertile soils for agriculture
3.1.3 Maximizes the amount of agricultural lands to support the Agricultural System
3.1.4 Limits proximity of land uses sensitive to agricultural operations (e.g., noise, odour)
3.1.5 Recognizes the interconnectedness of agricultural and food assets and has the least impact on the Agricultural System

The purpose of this Agricultural Area Assessment is to assess the above measures in relation to the four Growth Concepts and it is intended to satisfy Section 2.2.8.3 f), g) and h) of the Growth Plan (2019).

It is noted that there is also another measure under the 'Regional Urban System & Local Urban Structure' theme in the form of measure 1.3.2 which states the following: 'Supports maintenance of contiguous Natural Heritage and Agricultural lands.' To some extent measure 1.3.2 is similar to measure 3.1.1 which also deals with retaining the largest amount of contiguous agricultural land as possible

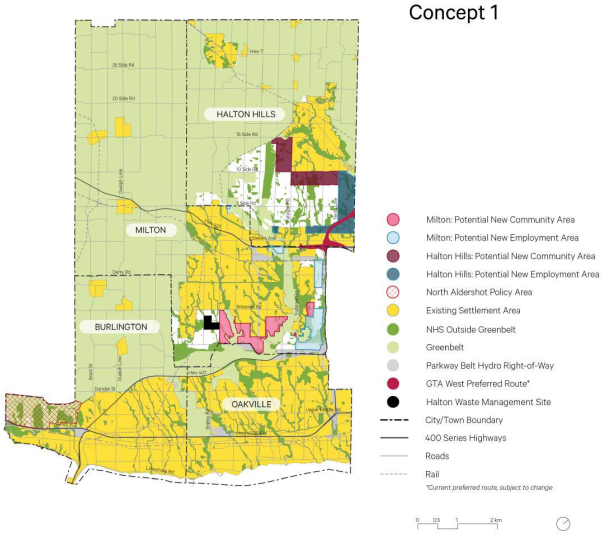
2.0 OVERVIEW OF THE FOUR GROWTH CONCEPTS

The Growth Concepts that are reviewed in the context of this Technical Memorandum are below:

Concept 1 - 2,630 hectares of new urban land (area net of Natural Heritage System) which is made up of 1,460 hectares of Community Area land and 1,170 hectares of Employment Area land.

Total Prime Agricultural Area (area net of Key Features of the Natural Heritage System)[1] impacted by Concept 1 is 3,430 hectares.

Concept 1

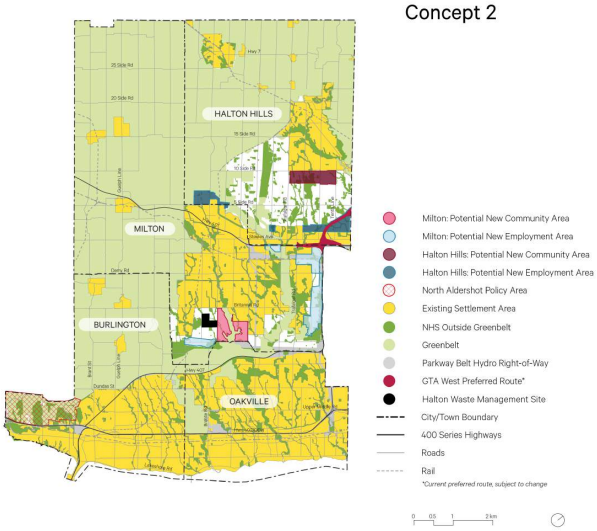


[1] Net of Key Features but inclusive of the Parkway Belt West lands.

Concept 2 - 1,830 hectares of new urban land (area net of Natural Heritage System) which is made up of 730 hectares of Community Area land and 1,100 hectares of Employment Area land.

Total Prime Agricultural Area (area net of Key Features of the Natural Heritage System)[2] impacted by Concept 2 is 2,320 hectares.

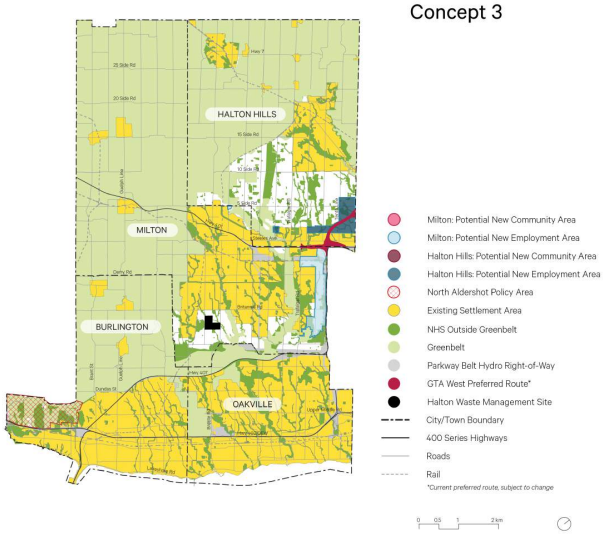
Concept 2



Concept 3 - 980 hectares of new urban land (area net of Natural Heritage System) which is made up of 980 hectares of Employment Area land and Community Area urban expansion.

Total Prime Agricultural Area (area net of Key Features of the Natural Heritage System)[3] impacted by Concept 3 is 1,270 hectares.

Concept 3



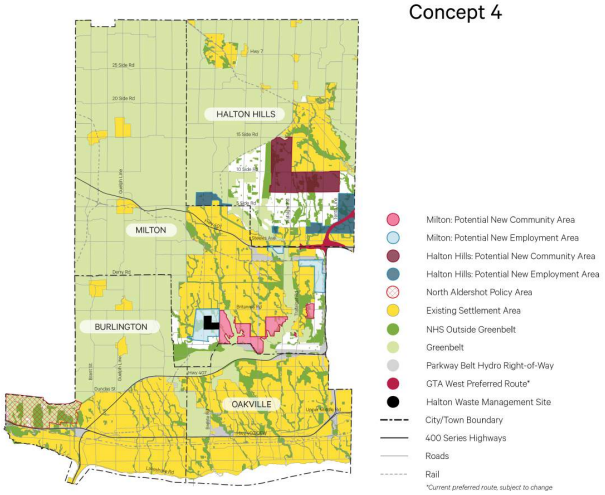
[2] Net of Key Features but inclusive of the Parkway Belt West lands.

[3] Net of Key Features but inclusive of the Parkway Belt West lands.

Concept 4 - 3,300 hectares of new urban land (area net of Natural Heritage System) which is made up of 2,080 hectares of Community Area land and 1,220 hectares of Employment Area land.

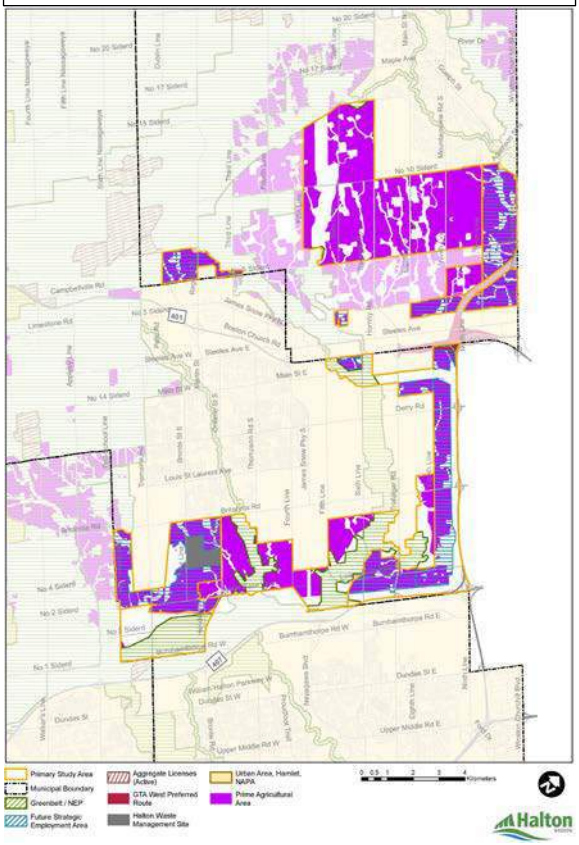
Total Prime Agricultural Area (area net of Key Features of the Natural Heritage System)[4] impacted by Concept 1 is 3,900 hectares.

Concept 4



Each of the above Growth Concepts are included in a Primary Study Area that was established early on in the IGMS process and Map 1 on the right indicates that all of the Growth Concepts extend into the Region's prime agricultural area.

Map 1 - Primary Study Area and Prime Agricultural Areas



In order to test the four Growth Concepts, an Evaluation Framework organized into four evaluation themes, has been developed by the Region, with Theme 3 dealing with Agriculture, Environment and Climate Change.

Within this theme are a series of measures that are intended to comparatively evaluate the Growth Concepts according to which they protect the integrity of, and minimize impact on, the agricultural land base and system. These measures are below:

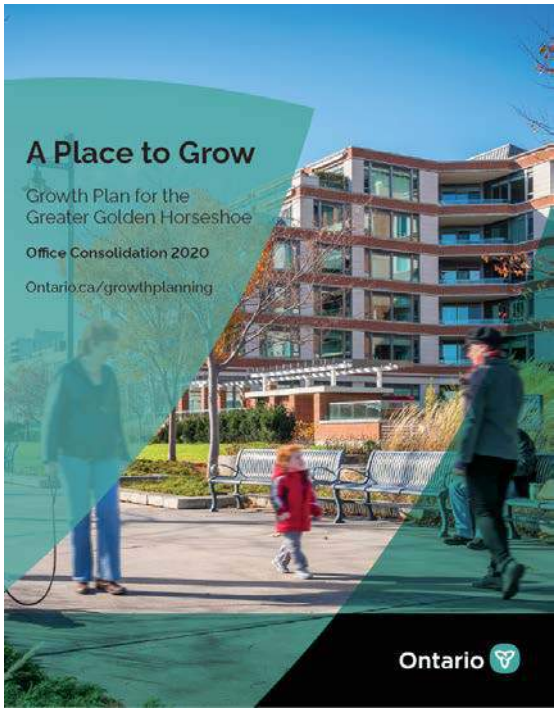
[4] Net of Key Features but inclusive of the Parkway Belt West lands.

Measures
3.1.1 Retains the largest amount of contiguous agricultural land possible
3.1.2 Protects and avoids Prime Agricultural Land to maintain the most productive and fertile soils for agriculture
3.1.3 Maximizes the amount of agricultural lands to support the Agricultural System
3.1.4 Limits proximity of land uses sensitive to agricultural operations (e.g., noise, odour)
3.1.5 Recognizes the interconnectedness of agricultural and food assets and has the least impact on the Agricultural System

The purpose of this Agricultural Area Assessment is to assess the above measures in relation to the four Growth Concepts.

3.0 APPROACH TO THE ANALYSIS

3.1 Policy Requirements



The Growth Plan (2019) sets out the requirements that must be followed when an expansion to a settlement area is proposed. In this regard, the following is stated in Section 2.2.8.3 as it relates to agriculture:

"Where the need for a settlement area boundary expansion has been justified … the feasibility of the proposed expansion will be determined and the most appropriate location for the proposed expansion will be identified based on the comprehensive application of all of the policies in this Plan, including the following:

f) prime agricultural areas should be avoided

where possible. To support the Agricultural System, alternative locations across the upper-or single-tier municipality will be evaluated, prioritized and determined based on avoiding, minimizing and mitigating the impact on the Agricultural System and in accordance with the following:

i. expansion into specialty crop areas is prohibited;

ii. reasonable alternatives that avoid prime agricultural areas are evaluated; and

iii. where prime agricultural areas cannot be avoided, lower priority agricultural lands are used;

g) the settlement area to be expanded is in compliance with the minimum distance separation formulae;

h) any adverse impacts on the agri-food network, including agricultural operations, from expanding settlement areas would be avoided, or if avoidance is not possible, minimized and mitigated as determined through an agricultural impact assessment;"

3.2 Avoidance of Prime Agricultural Areas

Sub-section f) begins by saying that prime agricultural areas should be avoided where possible. In the case of Halton Region, where the majority of the potentially eligible lands for urban expansion are within the prime agricultural area, it is not possible to avoid prime agricultural areas, as shown on Map 1.

Halton Region identified the Prime Agricultural Areas in the current ROP (as shown on Map 1) through the creation of a Land Evaluation and Area Review (LEAR) study. The LEAR study was completed in 2009 and considered soil quality (Land Evaluation) and other non-soil factors in the Area Review (AR) portion of the Study.

The Halton Region LEAR study (as with all LEAR studies) is based on the Ontario Ministry of Agricultural and Food (OMAFRA) document entitled 'Land Evaluation and Area Review (LEAR) System for Agriculture' (June 2002).

LEAR studies comprise two components: A Land Evaluation (LE); and an Area Review (AR). The LE component provides a method of determining the importance of the soil resource

and is generally based on the CLI ratings established by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA). The AR component provides a method for identifying other locally (regionally) important factors that contribute to the suitability of the study area for agriculture.

The Halton LEAR study was based on an Evaluation Unit of Lots (lot and concession). The soils data was evaluated on both the dominant and subdominant component of the Canada Land Inventory ('CLI') associated with each soil polygon as defined within the 'Soils of Halton' (Report No. 43 of the Ontario Soil Survey) and with data provided by OMAFRA within the digital soils data available on the Land Information Ontario (LIO) website operated through the Ontario Ministry of Natural Resources (MNR).

The digital data contains the CLI associated with each soil polygon, and the soils data is updated by OMAFRA as is necessary. The LE component was evaluated on the basis that within the CLI each soil class has a potential soil quality. The soil capability is identified within a seven-class system for mineral soil, with class 1 having no limitations while class 7 is unsuitable for agricultural cultivation.

The AR component was based on an assessment of three factors: Property Fabric/Fragmentation; Farm Infrastructure; and Conflicting Land Uses. Property fabric was measured as a count of ownership parcels within the Evaluation and represented 33.3 percent of the AR. Farm infrastructure was based on MPAC data property codes and represented 33.3 percent of the AR. Conflicting land uses was based on existing land uses as defined by MPAC data and counted the number of conflicting land uses within 2 kilometres of the evaluation unit. Again, the conflicting land uses represented 33.3 percent of the AR. The LE component comprised 65 percent of the total LEAR score, while the AR component comprised 35 percent.

Section 2.2.8.3 f) of the Growth Plan goes on to say that alternatives for settlement area expansion should be evaluated, prioritized and determined based on avoiding, minimizing and mitigating the impact on the Agricultural System.

Section 4.2.6.1 of the Growth Plan indicates that the Province has identified an Agricultural System for the Greater Golden Horseshoe and this occurred on February 9, 2018 when the agricultural land base was released. The agricultural system identified by the Province is intended to include a continuous and productive land base comprised of prime agricultural

areas, including specialty crop areas and rural lands, as well as a complementary agri-food network that together enable the agri-food sector to thrive. This Provincial map was also based on a LEAR study.

In comparison to the Halton Region LEAR, the Provincial LEAR study also identified each soil class with a weighted rating with class 1 having the best rating and class 7 having the worst. The table below illustrates the respective CLI class and the associated rating. On comparison to the Halton Region LE component, the Provincial weighted ratings differ for CLI classes 2, 3 and 4. The Provincial ratings are slightly higher resulting in higher LE scores.

The Provincial AR component was based on an assessment of two factors: Percent of Land in Agricultural Production; and Parcel Fragmentation. The percent of land in agricultural production factor represents 30 percent of the total LEAR score (out of 100). The parcel fragmentation factor represents 10 percent of the total LEAR score. The Provincial LEAR is scored out of 100 points, with LE representing 60 points and the AR as 40 points. The Provincial LEAR was based on an Evaluation Unit of 1 hectare buffered out to 750 metres from the edge of the 1-hectare square.

Given the differences in how the LEAR studies were carried out, the Provincial mapping of prime agricultural areas differs from the mapping of prime agricultural areas in the ROP. It was also determined that the Provincial mapping contains errors and does not use the most current or best available data when compared to Halton Region mapping and data.

The result is that Halton Region's Prime Agricultural Area mapping comprises 42,914 hectares, while the Provincial System identifies 41,799 hectares. It is also noted that Provincial prime agricultural areas also extend into hamlets and mineral aggregate operations and Key Natural Heritage Features. However, a notwithstanding the above, the extent of the differences below the Niagara Escarpment Brow are minor and primarily relate to the overlap between the Region's natural heritage system and prime agricultural areas.

According to Section 2.2.8.3 f) of the Growth Plan, three factors must be considered, relating to the avoidance of the prime agricultural area when expanding settlement areas, with the first being a prohibition of settlement area expansions into specialty crop areas. No specialty crop areas have been identified in Halton Region, so this is not a factor in the analysis.

The second factor involves reviewing reasonable alternatives that avoid prime agricultural

areas. In the case of Halton Region, the Primary Study Area and each of the four Growth Concepts extend into the Region's prime agricultural area as shown on Map 1 and there are no other reasonable alternatives where this can be avoided, given that the majority of the land eligible for urban expansion is within the Region's prime agricultural area.

The third and last factor then directs that where prime agricultural areas cannot be avoided, lower priority agricultural lands should be considered. In the case of the four Growth Concepts there are variations in the Canada Land Inventory (CLI) classes of agricultural land that exist and this will be discussed later in this Technical Memorandum, which means that it is only Section 2.2.8.3 f) iii) of the Growth Plan that is being assessed in this analysis.

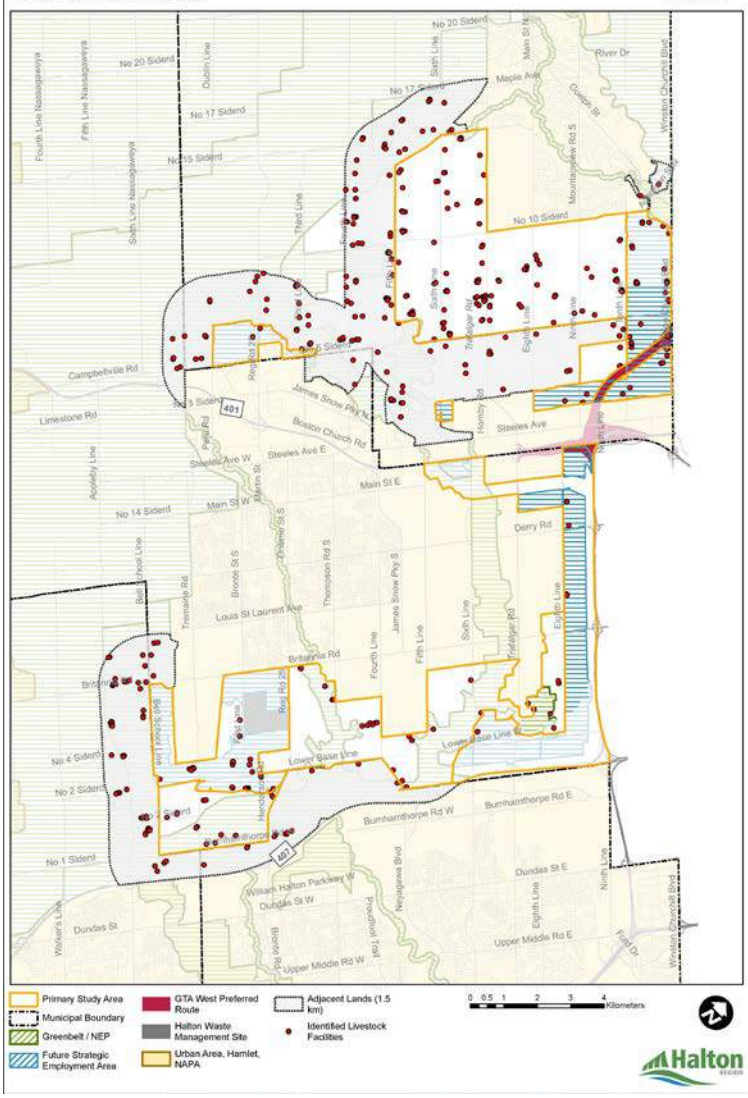
3.3 Compliance with Minimum Distance Separation Requirements

Section 2.2.8.3 g) of the Growth Plan then deals with Provincial Minimum Distance Separation requirements. The Minimum Distance Separation (MDS) formulae and guidelines were updated in 2016 and came into effect on March 1, 2017.

The MDS Document, Publication 853 (2016) recognizes two types of land uses. In this regard, a settlement area expansion would be considered a Type B land use. According to the MDS Documents, Publication 853 (2016), Type B land uses '*include applications to rezone or redesignate agricultural lands for residential, institutional, recreational use – high intensity, commercial or settlement area purposes*'.

An initial scan of the land areas affected by the four Growth Concepts has been carried out to determine the number of agricultural buildings within the area of the four Growth Concepts and within 1.5 kilometres of each as well. The number of facilities is significant and includes all those that appeared on the data available to the Region at the time. In this regard, Map 2 below shows the location of potential livestock facilities in the Primary Study Area:

Map 2 - Primary Study Area and Location of Potential Livestock Facilities



Based on Map 2, it is apparent that there are more potential livestock facilities located to the south and west of the Georgetown urban area than there is to the south and east of the Milton urban area.

At the time of the writing of this Technical Backgrounder, a more detailed review is in the process of being carried out.

Given the wording of sub-section g), there is a need to carry out the required MDS calculations to support the final Preferred Growth Concept in order to satisfy this Growth Plan policy.

3.4 Agri-Food Network Impacts

The last section of the Growth Plan dealing with settlement area expansions and agriculture (Section 2.2.8.3 g)) focuses on avoiding adverse impacts on the agri-food network and if avoidance is not possible, minimized and mitigated as determined through an agricultural impact assessment. In this regard, there are two components to the above, with the first being the avoidance of impacts on agri-food network, which is defined below:

"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."

The second component of the above policy deals with a circumstance where avoidance is not possible and in such a circumstance, adverse effects should be minimized and mitigated as determined through an agricultural impact assessment. In this regard, it will not be until the development of a Preferred Growth Concept that a detailed review of how impacts can be minimized and mitigated will be carried out.

3.5 Two-Phased Approach to the Assessment

This two-phased approach is supported by the definition of "agricultural impact assessment" in the Growth Plan (2019):

"A study that evaluates the 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."

This policy is only triggered when developing and recommending the Preferred Growth Concept that best satisfies the many Evaluation Framework measures, and the associated provincial land use planning policies, that have been identified. However, determining conformity with this policy means carrying out the required MDS calculations, determining impacts, and identifying the measures to minimize and mitigate impacts before a decision by Regional Council is made under the Planning Act to proceed with a settlement boundary expansion, and bring more lands into the urban area.

There are a number of policies within Section 4.2.6 (sub-sections 3, 4 and 6) of the Growth Plan that are relevant to the IGMS and these are also reproduced below.

"3. Where agricultural uses and non-agricultural uses interface outside of settlement areas, land use compatibility will be achieved by avoiding or where avoidance is not possible, minimizing and mitigating adverse impacts on the Agricultural System. Where mitigation is required, measures should be incorporated as part of the non-agricultural uses, as appropriate, within the area being developed. Where appropriate, this should be based on an agricultural impact assessment.

4. The geographic continuity of the agricultural land base and the functional and economic connections to the agri-food network will be maintained and enhanced.

6. *Integrated planning for growth management, including goods movement and transportation planning, will consider opportunities to support and enhance the Agricultural System."*

The above policies can also be considered in the final agricultural impact assessment that is intended to satisfy Sections 2.2.8.3 g) and h) of the Growth Plan.

4.0 EVALUATION

As noted previously, the Evaluation Framework theme is entitled 'Protect the integrity and minimize impact on the Agricultural Land Base.'

There are five measures under this theme and they are discussed below:

4.1 Measure 3.1.1: Retains the largest amount of contiguous agricultural land possible

This measure partially addresses the first paragraph of Section 2.2.8.3 f) and all of sub-section h) of the Growth Plan since both of these sections indicate that impacts on the overall Agricultural System should be avoided with sub-section g) indicated that if avoidance is not possible, adverse impacts will be minimized and mitigated.

The largest contiguous area of prime agricultural land within the areas being considered for urban development is located to the west and south of Georgetown extending south to the Highway 401/407 employment area, with this area being shown on Map 1. Much smaller areas of contiguous prime agricultural land are located to the south and west of Milton and to a lesser extent between the Milton urban area and Highway 407, which is also identified as a Future Strategic Employment Area, which are also shown on Map 2 which shows the Future Strategic Employment Areas on top of the Region's prime agricultural area.

While the Future Strategic Employment Area (FSEA) that has been identified is included within the in-effect Regional Official Plan, these areas are not a land use designation. However, the purpose of the FSEA is to identify priority areas for consideration, if and when a need for additional employment lands is identified, through a land needs assessment, in this case to the 2051 planning horizon. In this regard, each of the four Growth Concepts includes new employment lands that are currently identified as Future Strategic Employment Areas on Map 1C of the ROP.

Concept 3 would support this measure the best because the proposed Halton Hills expansion area is limited to some lands that front on the portion of Winston Churchill Boulevard that is already identified as Future Strategic Employment Area (in the vicinity of the GTA West highway) and a small band of land going westwards along the north side of the Highway 401/407 Employment Area. This means that the large contiguous area of prime agricultural land in Halton Hills is left mostly intact if this Growth Concept were selected. In addition, the Milton expansion area in Concept 3 only affects lands on the east side of the Milton urban area, which as noted above, has already been identified as part of the FSEA.

Concept 2 would also perform well in relation to this measure, because the incursion into the Halton Hills prime agricultural area is less than Growth Concepts 1 and 4. Concept 1 would perform less well, although the incursion into the Halton Hills prime agricultural area is less than Concept 4. Concept 4 would least support this measure because of the significant incursion of the potential settlement boundary expansion of this Concept into the prime agricultural area in Halton Hills.

4.2 Measure 3.1.2: Protects and avoids Prime Agricultural Land to maintain the most productive and fertile soils for agriculture

This measure addresses Section 2.2.8.3 f) iii) of the Growth Plan since it takes into account lower priority agricultural lands.

Given that 99% of the lands within the Growth Concepts are prime agricultural land, this measure is all about how much Class 1 land is consumed in each Growth Concept. In this regard, Maps 3, 4, 5 and 6 on the next few pages page identify the location of Class 1 land in each Growth Concept:

Map 3 - Classification of Land in Growth Concept 1

Map 4 - Classification of Land in Growth Concept 2

Soil Classification

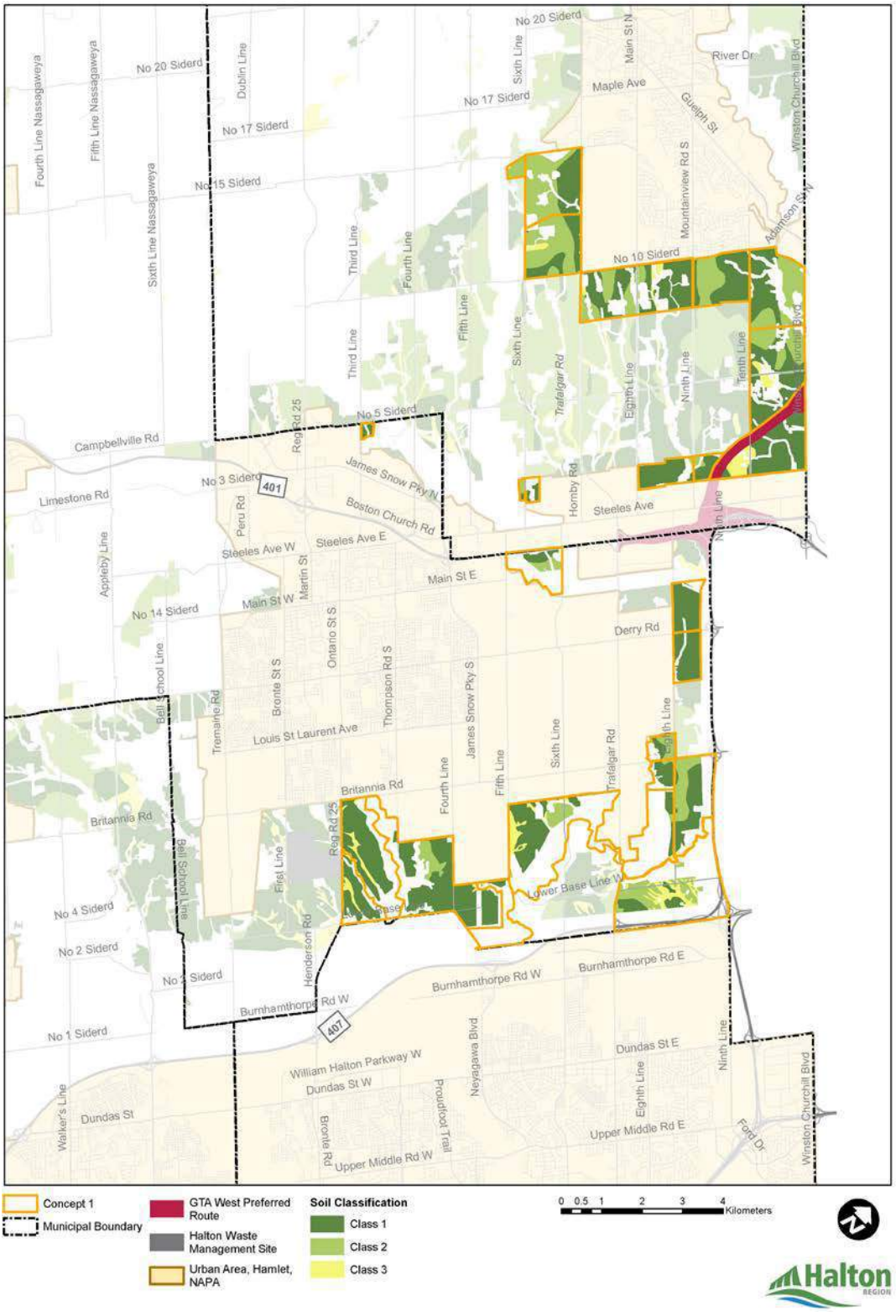
- Class 1
- Class 2
- Class 3

Map 5 - Classification of Land in Growth Concept 3

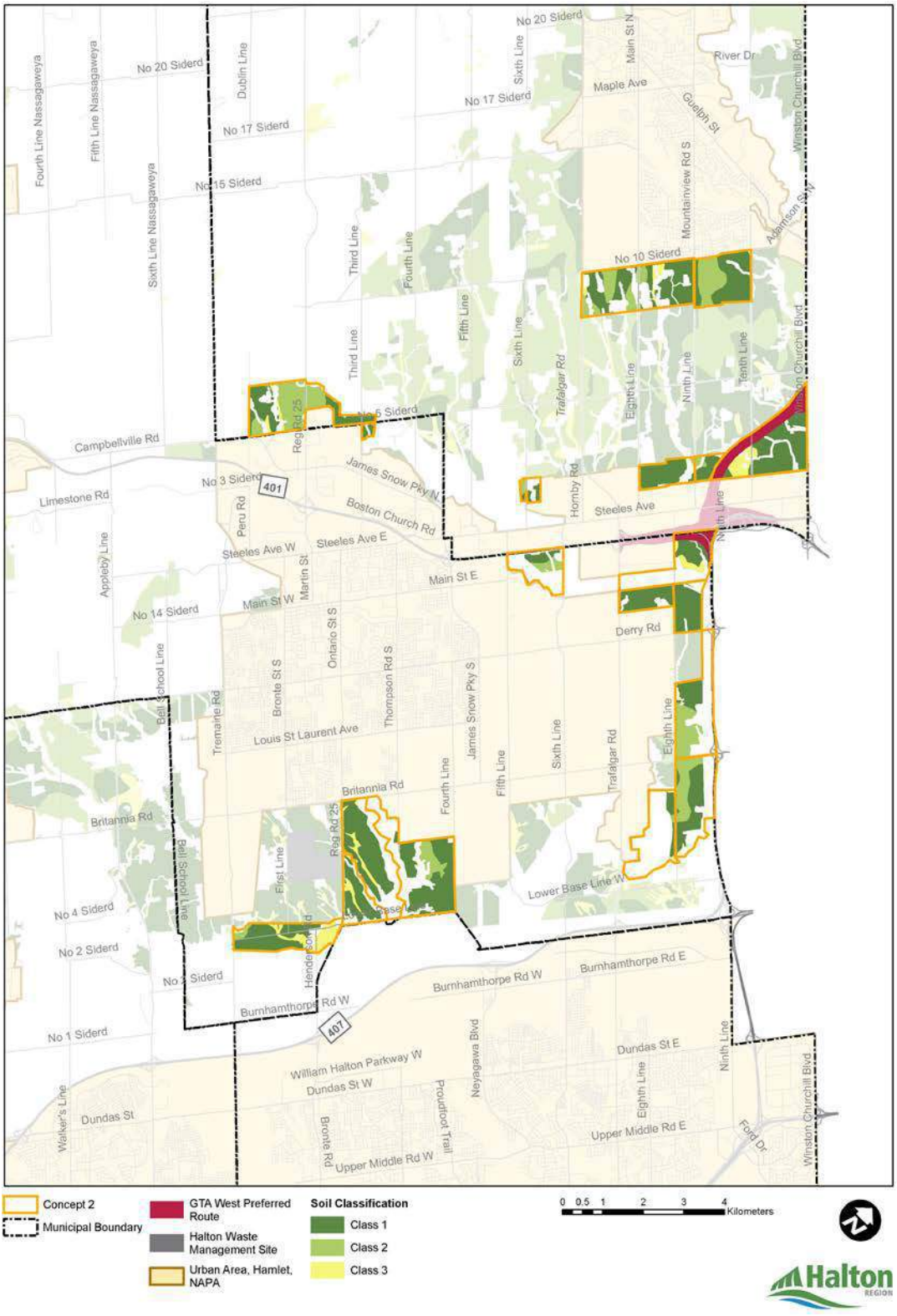
Map 6 - Classification of Land in Growth Concept 4

See next page for the full maps

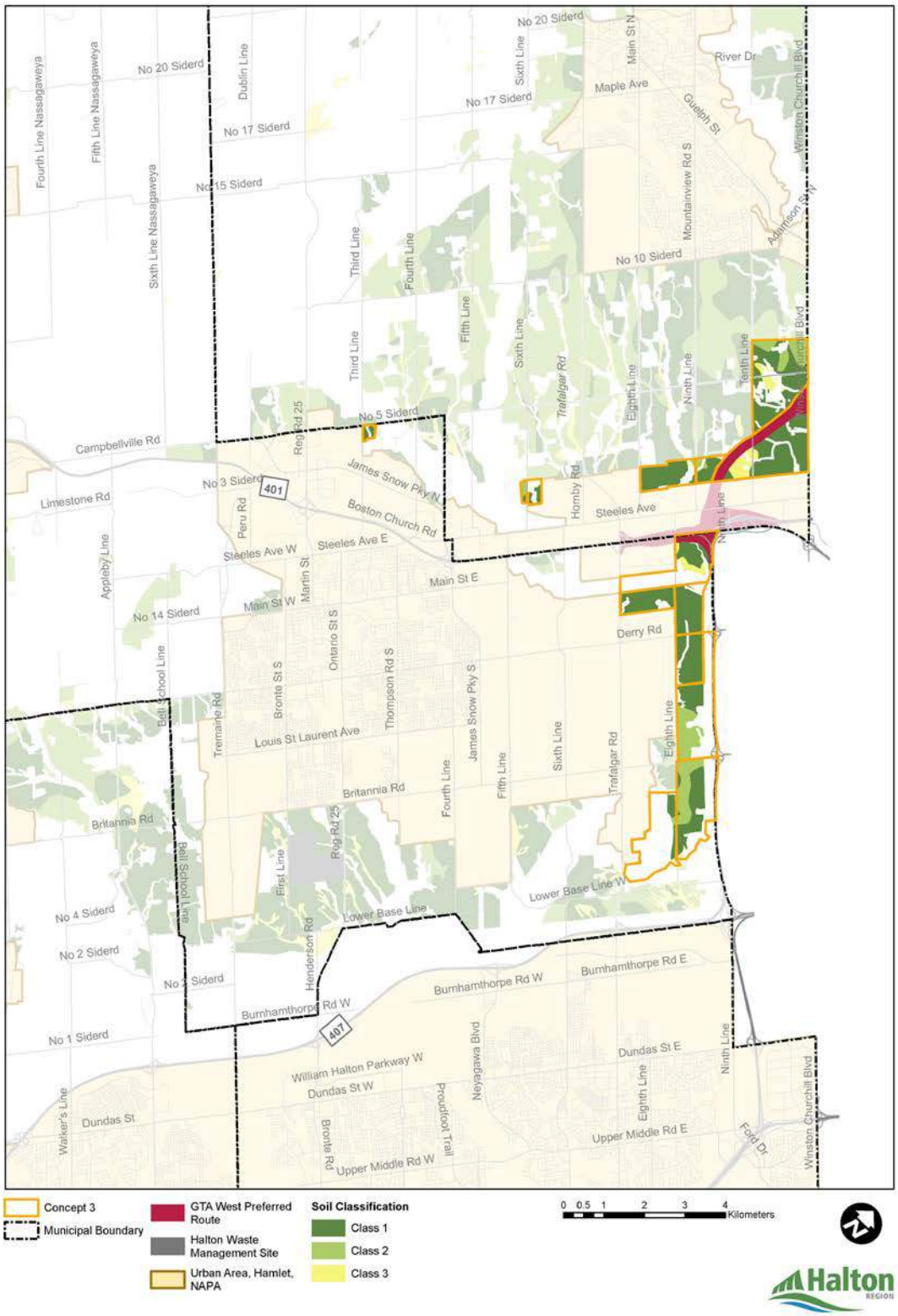
Map 3 - Classification of Land in Growth Concept 1



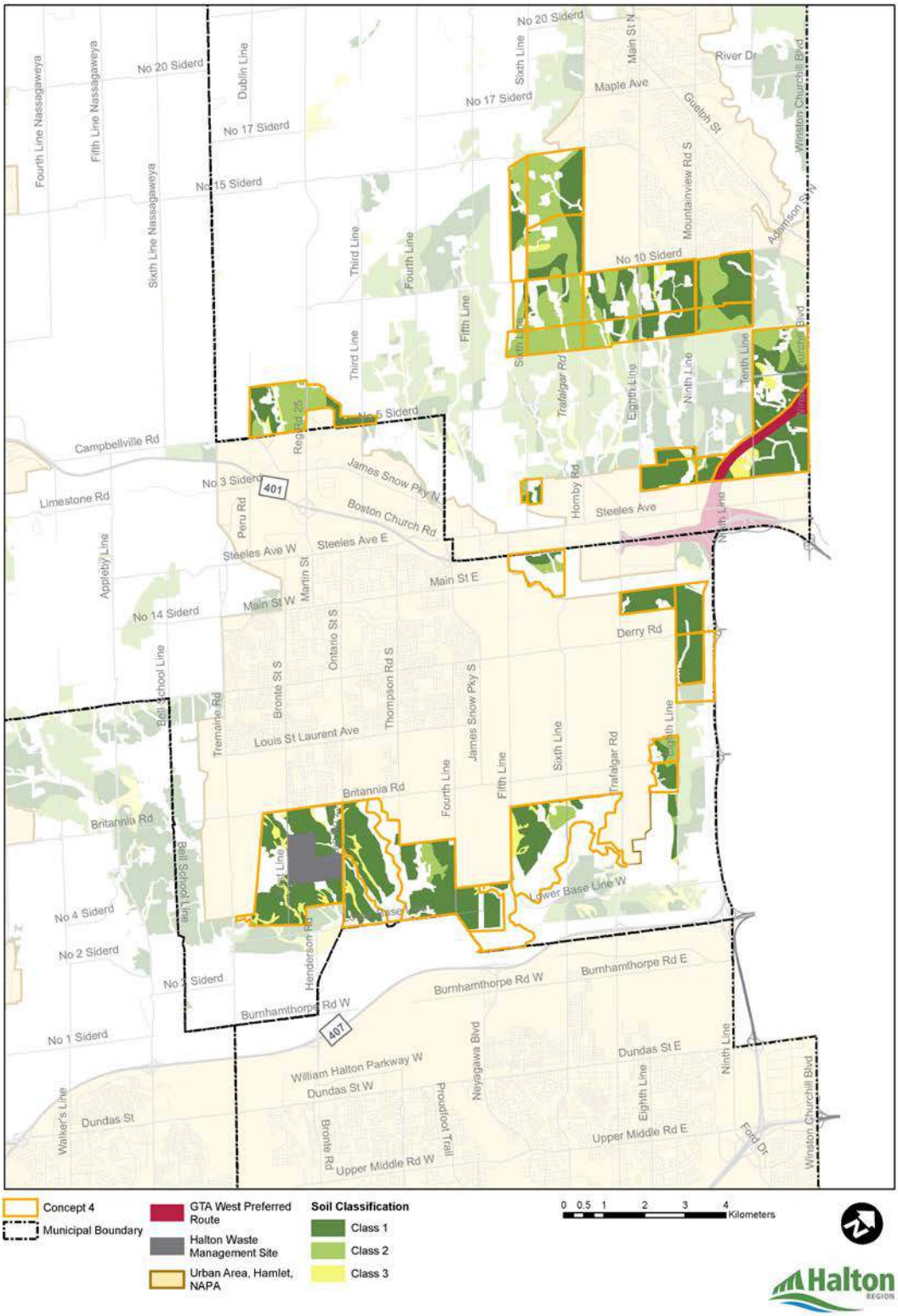
Map 4 - Classification of Land in Growth Concept 2



Map 5 - Classification of Land in Growth Concept 3



Map 6 - Classification of Land in Growth Concept 4



On the basis of the information derived from Maps 3, 4, 5 and 6, below is the result of our analysis in this regard:

As a result, Concept 3 supports this measure the best because it consumes the least amount of Class 1 land. Concept 1 and 2 do not support this measure as well as Concept 3, since they consume more Class 1 land, while Concept 4 performs the worst as it consumes the most Class 1 land.

	Class 1 Hectares
Concept 1	1,665
Concept 2	1,297
Concept 3	721
Concept 4	2,074

4.3 Measure 3.1.3: Maximizes the amount of agricultural lands to support the Agricultural System

This measure partially addresses Section 2.2.8.3 f) of the Growth Plan since the measure deals with how much prime agricultural land is affected. Below are the results of the analysis, based on the information presented on Maps 3, 4, 5 and 6:

In this regard, Concept 3 would again support this measure the best because it utilizes the least amount of land (948 hectares), thereby maximizing the amount of agricultural land retained to support the Agricultural System. Concept 2 next best supports the measure utilizing 1,828 hectares, which is then followed by Concept 1 utilizing 2,563 hectares. Concept 4 would then least support this measure because it utilizes the most land (3,215 hectares).

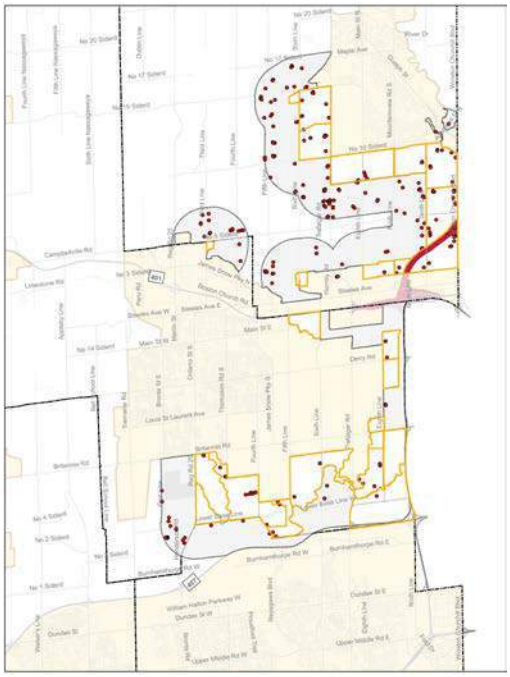
	Class 1-3 Hectares
Concept 1	2,563
Concept 2	1,828
Concept 3	948
Concept 4	3,215

4.4 Measure 3.1.4: Limits Proximity of Land Uses Sensitive to Agricultural Operations

This measure addresses Section 2.2.8.3 g) and h) of the Growth Plan since both of these sub-sections indicate that impacts on the overall Agricultural System should be avoided.

In this regard, an initial scan of the location of potential livestock facilities has indicated that there are more potential livestock facilities to the west and south of the Georgetown urban areas than there is to the south and east of the Milton urban area as shown on Maps 7, 8, 9 and 10 on the next few pages.

Map 7 - Location of Potential Livestock Facilities within and adjacent to Growth Concept 1



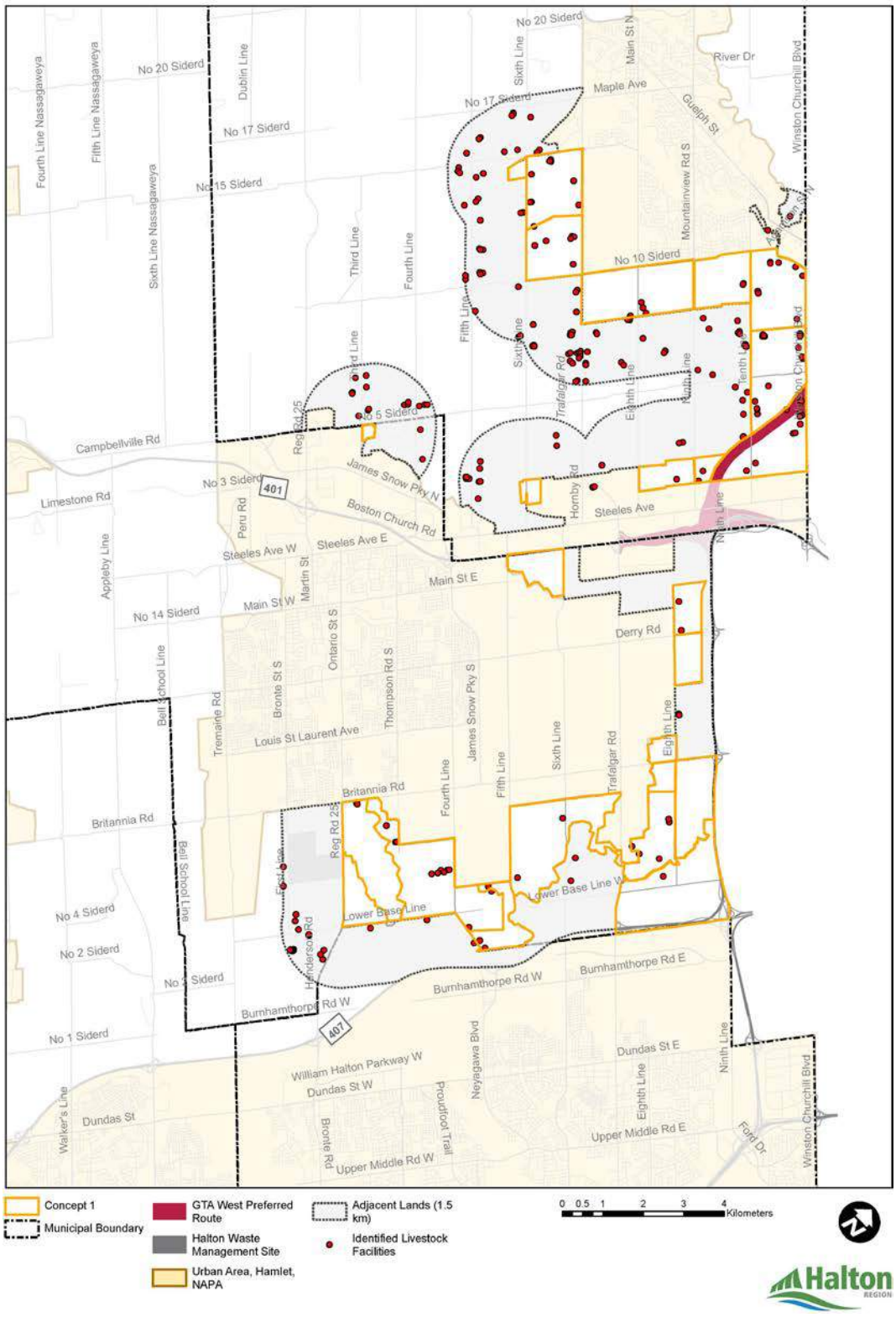
Map 8 - Location of Potential Livestock Facilities within and adjacent to Growth Concept 2

Map 9 - Location of Potential Livestock Facilities within and adjacent to Growth Concept 3

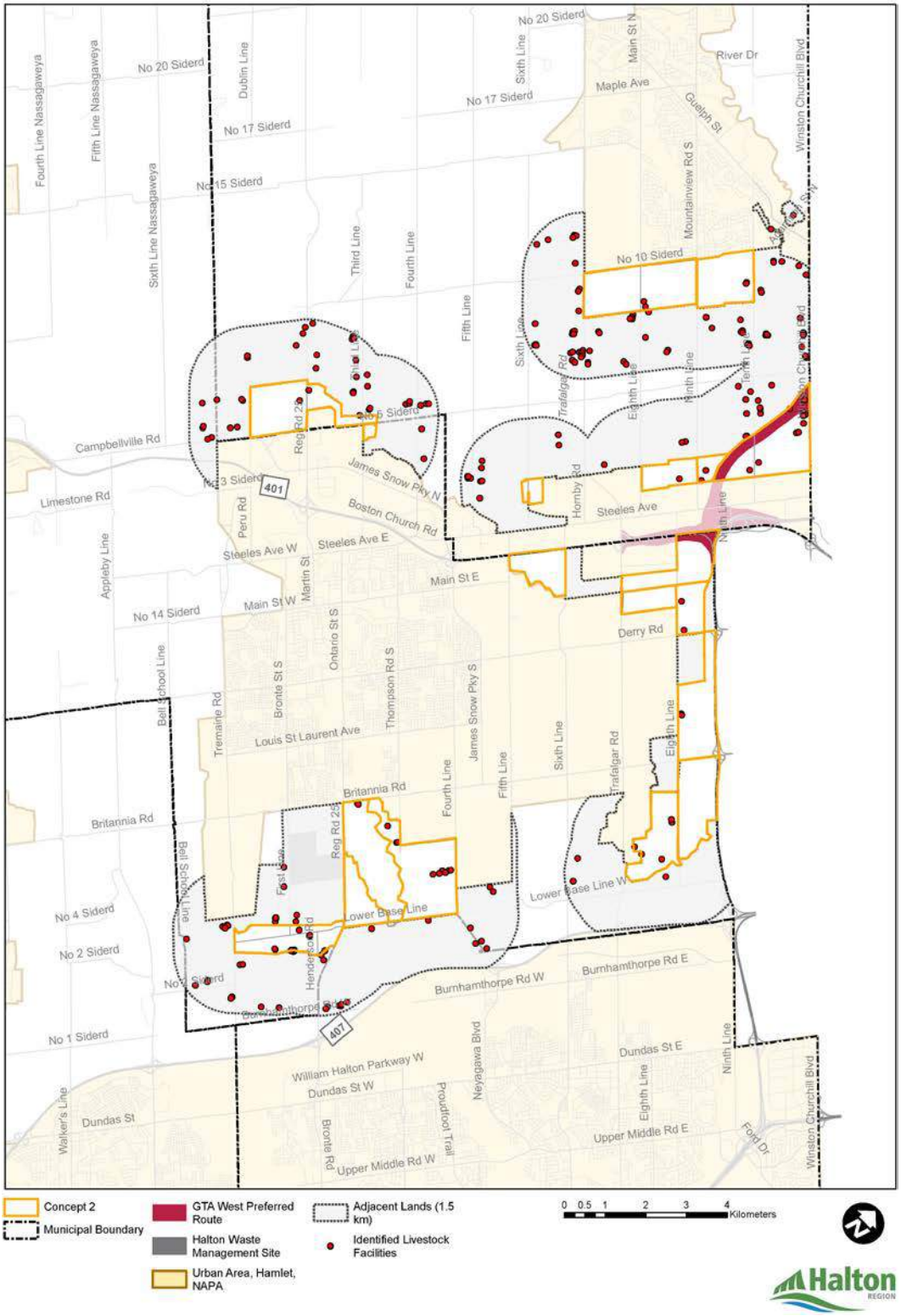
Map 10 - Location of Potential Livestock Facilities within and adjacent to Growth Concept 4

See next page for the full maps

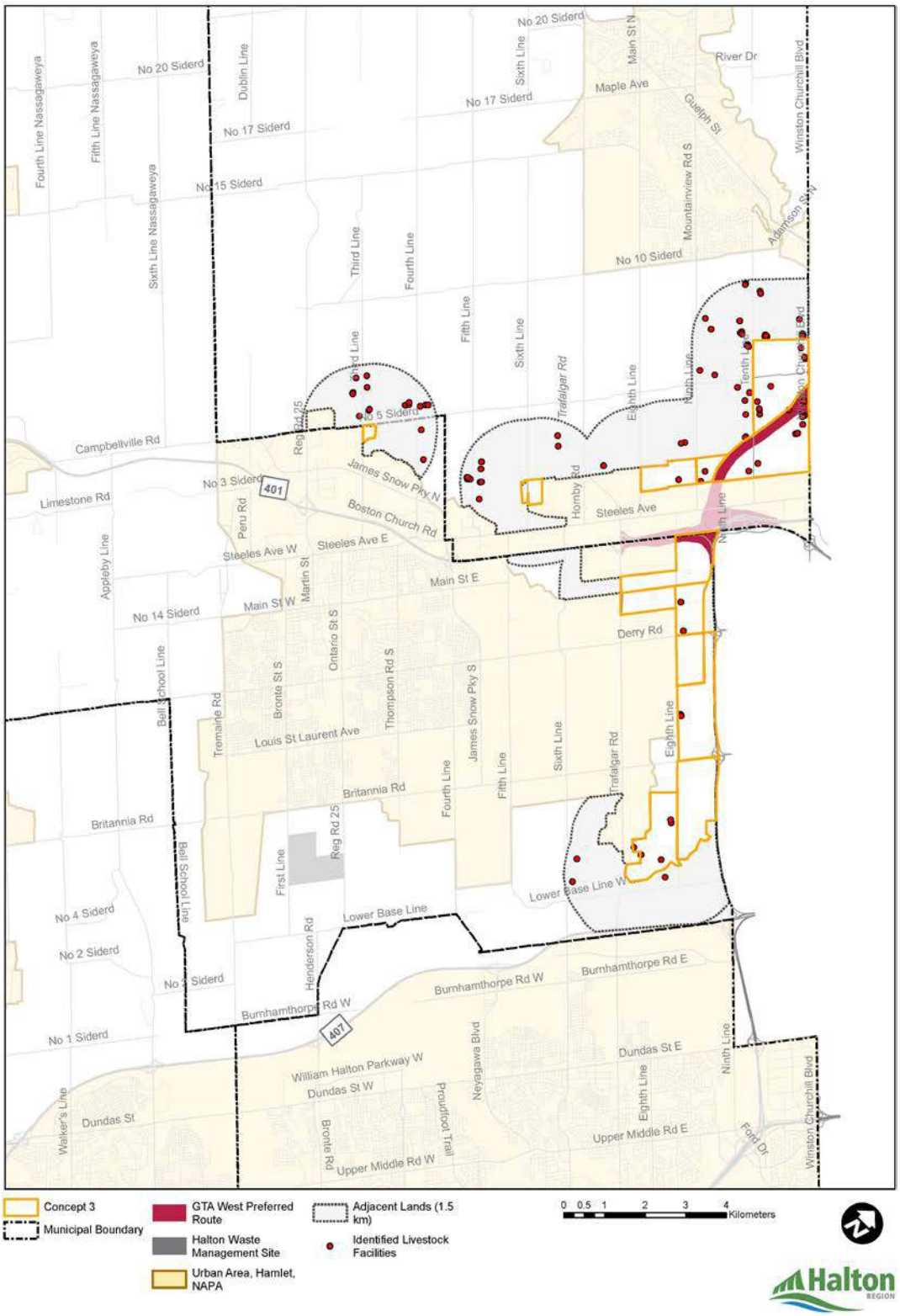
Map 7 - Location of Potential Livestock Facilities within and adjacent to Growth Concept 1



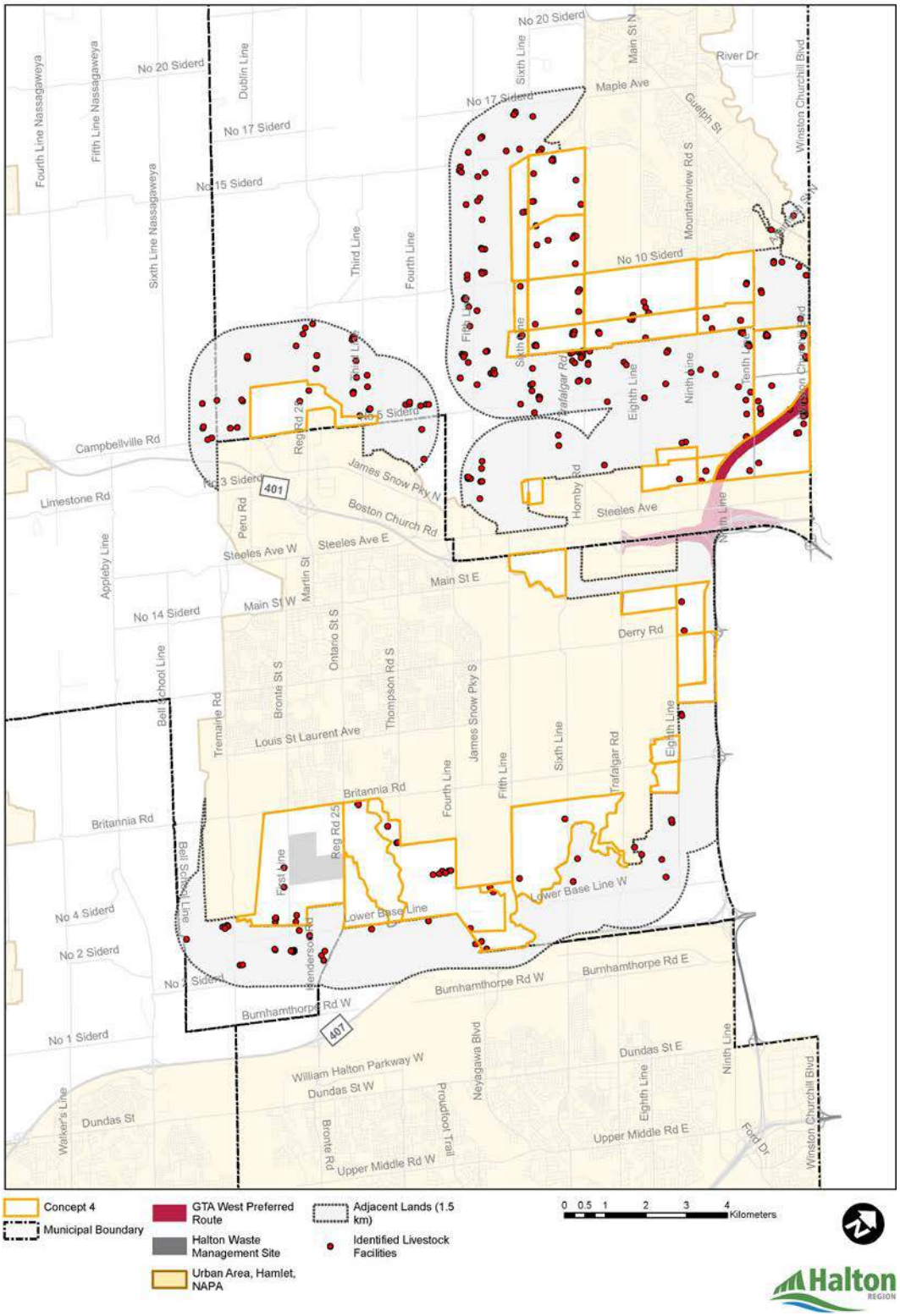
Map 9 - Location of Potential Livestock Facilities within and adjacent to Growth Concept 2



Map 10 - Location of Potential Livestock Facilities within and adjacent to Growth Concept 3



Map 11 - Location of Potential Livestock Facilities within and adjacent to Growth Concept 4



As mentioned previously, at the time of the writing of this Technical Backgrounder, an analysis of these potential livestock facilities is being carried out and a MDS analysis will be completed for each existing and potential livestock facility in support of the preferred Growth Concept.

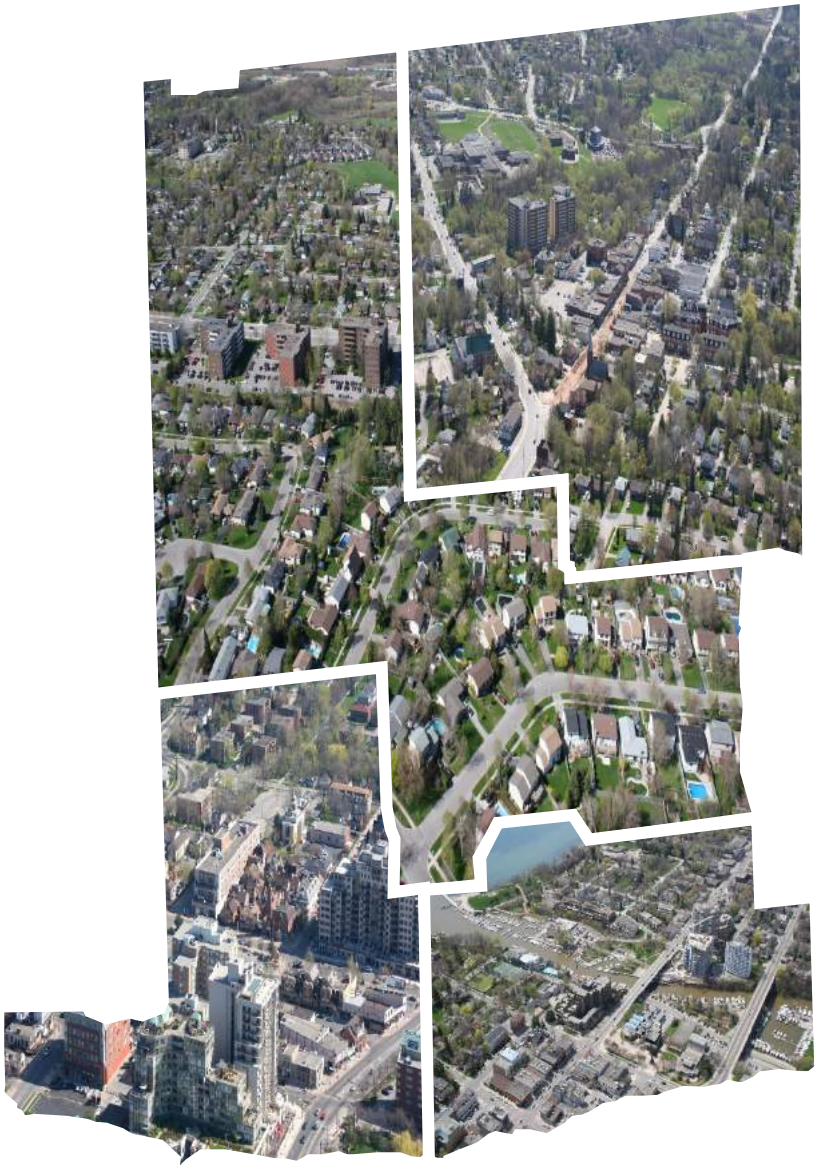
4.5 Measure 3.1.5: Recognizes the interconnectedness of agricultural and food assets and has the least impact on the Agricultural System

This measure partially addresses Section 2.2.8.3 g) and h) of the Growth Plan since both of these sub-sections again indicate that impacts on the overall Agricultural System should be avoided, and if avoidance is not possible, impacts are minimized and mitigated.

In this regard and in addition to completing MDS calculations as per the above, a detailed review of the impacts of the preferred Growth Concept on all of the components of the Agricultural System affected by the preferred Growth Concept will be carried out. This will ensure that all identified impacts will be minimized and mitigated to the greatest extent possible in order to ensure conformity with the Growth Plan (2019).

4.6 Conclusion

Based on an assessment of Measures 3.1.1, 3.1.2 and 3.1.3, Concept 3 achieves the overall goal of protecting the agricultural land base to the greatest extent in comparison to the other Growth Concepts simply because less prime agricultural land is being utilized for urban expansion purposes than in the other Growth Concepts.



Appendix H

Natural Heritage System and Water Resources Assessment

February 2021

Regional Official Plan Review

north-south ENVIRONMENTAL

Halton REGION

Technical Memorandum

Natural Heritage System and Water Resources Assessment

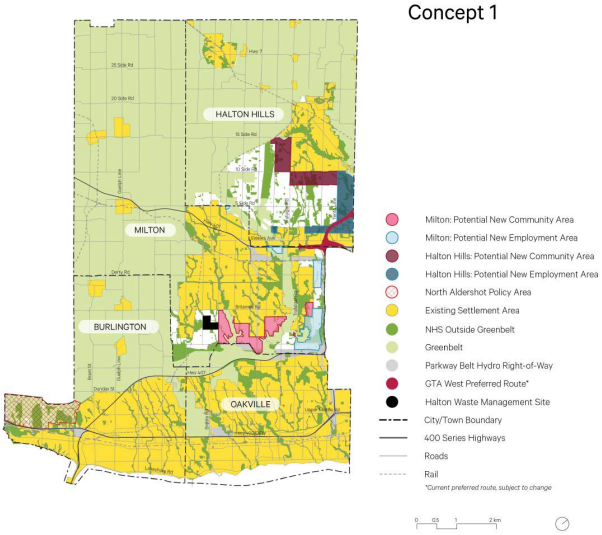
1. PURPOSE

This memo summarizes the natural heritage screening assessment and options assessment completed to support Theme 3, with specific focus on measure 3.2 which assesses the ability of each concept to "*Enhance the NHS* [Natural Heritage System] *to strengthen Key Features and Areas and reduce impacts of new development*". This assessment additionally supports measures under 1.3 from Theme 1, which considers how well each concept "*provides a range of identifiable, inter-connected, complete communities*" (1.3) and specifically measure 1.3.2 which considers each concepts ability to "*Support[s] maintenance of contiguous Natural Heritage and Agricultural Lands"*. Information provided herein may also provide technical support in the evaluation of other NHS-related measures and/or intersections between natural heritage, water resources and other factors and themes of the evaluation.

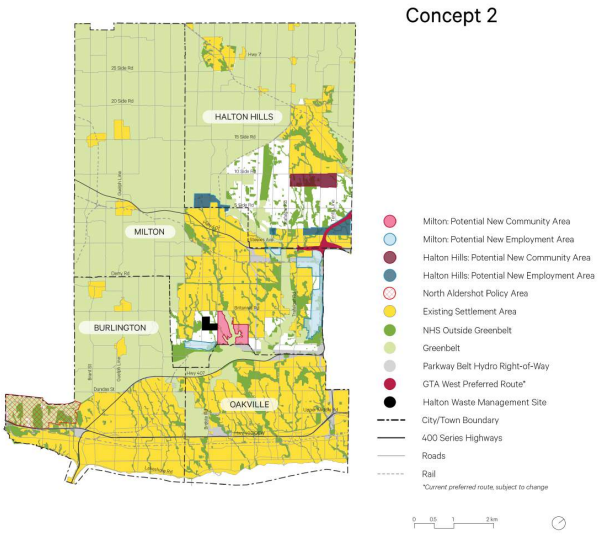
2. OVERVIEW OF THE GROWTH CONCEPTS

Concept 1 - 2,630 hectares of new urban land (area net of Natural Heritage System) which is made up of 1,460 hectares of Community Area land and 1,170 hectares of Employment Area land.

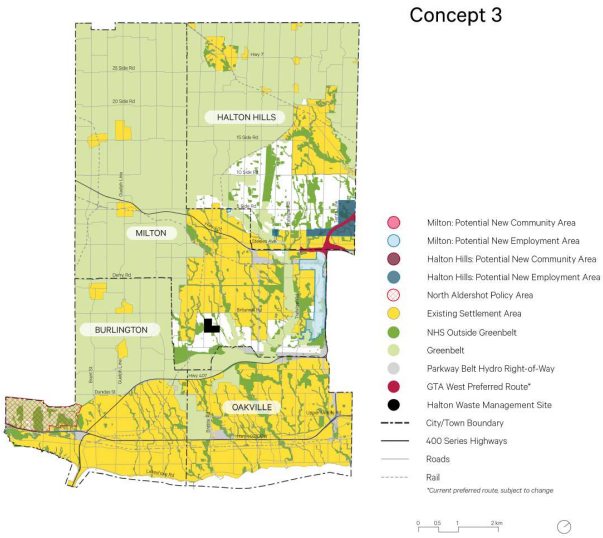
Concept 1



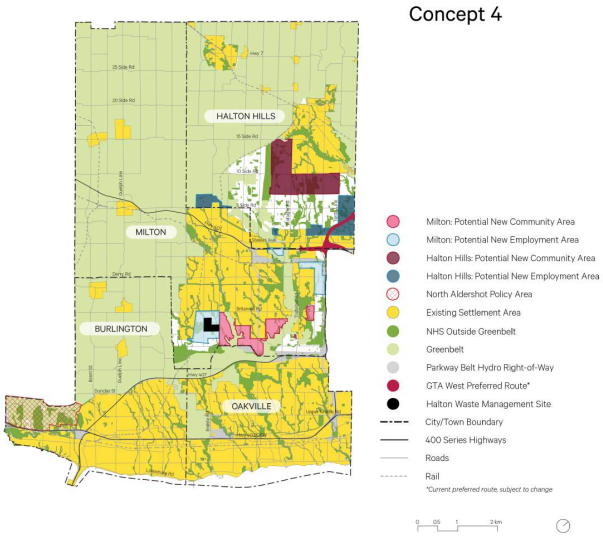
Concept 2 - 1,830 hectares of new urban land (area net of Natural Heritage System) which is made up of 730 hectares of Community Area land and 1,100 hectares of Employment Area land.



Concept 3 - 980 hectares of new urban land (area net of Natural Heritage System) which is made up of 980 hectares of Employment Area land and Community Area urban expansion.



Concept 4 - 3,300 hectares of new urban land (area net of Natural Heritage System) which is made up of 2,080 hectares of Community Area land and 1,220 hectares of Employment Area land.



3. METHODOLOGY / APPROACH TO ANALYSIS

3.1. Policy Requirements

The natural heritage screening assessment is guided by provincial and regional policies applicable to the concept areas. The focus is on consideration of the direction provided within these policy and legislative documents to inform and support the concept evaluation process. It is acknowledged and important to note, that this represents a level of detail appropriate to a screening-level exercise; more detailed levels of study as part of a subsequent Area-Specific Plan for settlement area boundary expansions (e.g., a subwatershed study) will provide a comprehensive assessment that confirms features on the landscape, their form, function, etc. A list of key plans and policy documents, applicable to the screening assessment, is provided in Table 1.

Table 1. Summary of Key Statutes and Policies Applicable to the Current Study Stage

Legislation or Policy Document	Key Sections for the Natural Heritage Assessment
Provincial Policy Statement (2020) *Provides direction for the wise use of resources and requires that municipalities identify and protect a Natural Heritage System and Water Resource System.*	**Section 2.1** Natural Heritage **Section 2.2** Water

Legislation or Policy Document	Key Sections for the Natural Heritage Assessment
Growth Plan for the Greater Golden Horseshoe *Provides additional direction and detailed policies for municipalities within to direct and provide guidance for areas of anticipated growth within the Plan Area. This includes identification and management of natural heritage and water resource systems, and transitional considerations for the protection of these systems through settlement area boundary expansions. Of specific note is refined direction for the identification and protection of a water resource system.*	**Section 2.2.8.3 (d) & (e)** Settlement Area Boundary Expansions **Section 4.2.1** Water Resource Systems **Section 4.2.2** Natural Heritage System **Section 4.2.3** Key Hydrologic Features, Key Hydrologic Areas and Key Natural Heritage Features
Greenbelt Plan *The Greenbelt Plan identifies where development should not occur to ensure permanent protection of the agricultural land base, and the ecological and hydrological features and functions that occur in the rural landscape of the Greenbelt Plan Area.*	**Section 3.2** Natural System
Niagara Escarpment Plan *Niagara Escarpment Plan (NEP) provides direction for the protection and wise use of lands within the Niagara Escarpment. It directs development away from escarpment areas based on geology and physiography that support agriculture, hydrologic and ecological form, function and value to Ontario in addition to their aesthetic and recreational values.*	**Section 1.3** Escarpment Natural Area **Section 1.4** Escarpment Protection Area **Part 2** Development Criteria
Halton Regional Official Plan (2019) *The Regional Plan provides direction as to how physical development should take place in Halton and outlines a long-term vision for Halton's physical form and community character. This includes its vision for 'sustainable development' with an overall goal to enhance the quality of life for all people of Halton, today and into the future. In form, Halton's vision includes settlement areas, rural countryside with predominantly agricultural activities, and an integrated Natural Heritage System.*	**Policies 113-114** Natural Heritage System **Policies 115-118** Regional Natural Heritage System **Policies 139.3.1-139.3.7** Greenbelt Natural Heritage System

Legislation or Policy Document	Key Sections for the Natural Heritage Assessment
Conservation Authorities Act (1990): O.Reg. 162/06 Halton Conservation Authority O.Reg. 160/06 Credit Valley Conservation *Provides authority to conservation authorities to protect wetlands, watercourses, shorelines, etc. with specific regard for hazards and management of water resources.*	Regulation of development, interference with wetlands and alterations to shorelines and watercourses.
Fisheries Act (2019) *Provides protection for fish and their habitats as well as setting out approval processes for any works that have potential to impact them.*	**Sections 34 and 35** Fish and Fish Habitat Protection and Pollution Prevention
Species at Risk Act (2002) *Federal legislation providing protection for species considered to be endangered, threatened in Canada. At project scale, primarily applicable for aquatic Species at Risk.*	**Section 32** Measures to Protect Listed Wildlife Species
Endangered Species Act (2007) *Primary legislation for protection of Species at Risk in the province of Ontario. Provides individual and habitat protection for Endangered and Threatened species in Ontario.*	**Section 10** Prohibitions on damage to habitat, etc.

It is important to note that the current in-force Regional Official Plan does not include a Water Resource System (WRS). Per the provincial plans identified in **Table 1** Halton is required to identify a WRS for the long-term protection of key hydrologic features and areas and their functions; this will occur through the Regional Official Plan Review process. Many hydrologic features are also captured as components of Halton's Natural Heritage System and as such are indirectly considered through the assessment of natural heritage features. Additionally, for the purpose of this analysis, hydrologic areas (i.e., significant groundwater recharge areas and highly vulnerable aquifers) are also considered, where mapping is available.

3.2. Approach to the Analysis

To support the IGMS Growth Concepts evaluation, several sub-measures with metrics were established that could be assessed using existing mapping and informed by policy:

- How well does each concept perform at avoiding provincial plan areas, the Province's and Region's NHS, and significant water resource areas?

- How well does each concept perform at reducing / avoiding impacts of new development?
- How strongly does the concept provide opportunities to strengthen the RNHS?
- How does the concept compare with respect to the potential impacts of the proposed RNHS on further development of the potential growth areas identified?

Each sub-measure is briefly discussed below and metrics for evaluating the sub-measures is provided in **Table 2**.

Avoidance

Settlement area boundary expansions should, where possible, avoid Key hydrologic areas and the Natural Heritage System for the Growth Plan (Growth Plan s. 2.2.8.3(e)). Additionally, they are to be planned and demonstrated to avoid, or if avoidance is not possible, minimize and mitigate any potential negative impacts on watershed conditions and the water resource system, including the quality and quantity of water (Growth Plan s. 2.2.8.3(d)).

In accordance with policies of the Greenbelt Plan, settlement areas outside the greenbelt are not permitted to expand into the greenbelt (Greenbelt Plan s. 3.4.2.1). Similarly, settlement area boundary expansions are to be directed away from Escarpment Natural Areas and Escarpment Protection Areas (Niagara Escarpment Plan s. 1.7.5).

Within the Study Area, small areas of Growth Plan NHS, and larger areas of the Greenbelt Plan NHS occur. Areas within the Escarpment Plan Area occur adjacent to, but not within the concepts identified. This measure assesses each concept against the direction to avoid these areas.

This sub-measure considers potential for impact to water resource areas that form potential components of a WRS for Halton by considering the relative amount or ability to avoid these areas in the growth planning process.

Reduce Impacts of New Development

At the scale of the IGMS, the potential for each Growth Concept to impact, or its ability to avoid impacts is assessed based on high-level metrics, appropriate to the current study[1]. Basic metrics are used to consider *potential* for impact(s) to inform regional-scale land planning decision making.

Although a Water Resource System has not been established for Halton; through this evaluation, effort has been made through the sub-measures to have regard for the features and areas which are anticipated to comprise the WRS. Please refer to Attachment 1 for the list of Water Resource features that can be mapped at the Regional scale at this time and are

[1] Detailed site-specific studies, impact assessments, etc. will occur through future stages of land planning (e.g., a subwatershed study, Area-Specific Plan, or Secondary Plan, EIS, etc.)

included in the constraints assessment. This has provided the means for conducting a preliminary and high-level analysis in advance of full WRS delineation.

Key Natural Heritage Features (KNHF) within each concept: As lands adjacent to the natural heritage features transition from a rural or agricultural form to an urban or built form, potential for impacts to features increases. As such, urban expansions with smaller total amounts (hectares [ha]) of natural heritage features have an increased potential to avoid impacts relative to other concepts. Although mapped KNHFs are used as the mapped feature type, there is substantial overlap between KNHFs and key hydrologic features that are expected to be part of a WRS for Halton (per provincial definitions and guidance). As such, this measure captures water resource features within the assessment.

Edge impacts: Impacts are most acutely felt at feature edges as lands adjacent to natural heritage features transition from rural / agricultural form to urban / built form. Conversely, impacts decrease as the distance from an 'edge' increases (i.e., as you move deeper into a natural heritage feature). The smaller the length of new intersections between natural and built form, the lower the *potential* for impact, and the less edge there is compared the total unit area of habitat, impacts can be anticipated to be less. This is measured as total linear length of 'new' urban-natural edges and as a ratio to establish many meters of 'edge' there are per unit area of habitat (ha). The greater the number of meters per unit area of habitat, the greater the potential for edge impacts to occur to a greater proportion of feature area.

Fragmentation. Fragmentation is a significant source of impacts to natural heritage features and systems, particularly in an urbanizing environment. A Natural Heritage System is intended to be a connected system that allows for movement of species and materials. When a system becomes fragmented – e.g., through feature isolation or barriers to movement, the system is impacted. Consideration is given to the potential for fragmentation of the RNHS associated with each Concept to inform its ability to avoid impacts; this is done through a qualitative assessment examining the mapped RNHS features, as details on development design, infrastructure (roads, etc.) are not known at this stage in the planning process.

Enhance the NHS to Strengthen Key Features and Areas

The RNHS includes corridor and enhancement areas. These areas offer potential areas to improve connectivity or enhance the system through habitat restoration or enhancement. Implementation of these enhancements and improvements generally occurs through land conversion and as such, they offer potential enhancements to the RNHS[2].

[2] Additional enhancements and opportunities to strengthen the RNHS can be identified through subsequent planning stages (e.g. Area-Specific Plans) as site-specific information becomes available (e.g., site-scale linkages, site-specific enhancements, etc.).

Impacts of the NHS on Future Development

Key Natural Heritage Features (RNHS), Linkages and Enhancement Areas, and Key Hydrologic Features (WRS) are constraints to development. Developments are to plan around these features. As such, their orientation on the landscape can impact development in terms of good community planning practice, transportation and servicing which has the potential to increase cost of development and/or long-term infrastructure costs.

To consider the implications of this, natural environment features (natural heritage and water resource), functions and areas representing known or potential constraints to development have been identified. Constraint categories have been assigned based on policy requirements and available secondary source information (See **Attachment 1**). Mapping for some natural heritage features and areas is not available at a regional scale or requires detailed field surveys to be conducted to collect information (e.g., Species at Risk or Significant Wildlife Habitat) as such, these have not been included in this evaluation. A summary of the natural heritage features and areas included in the constraint assessment is included in **Table 3**. Preliminary constraint categories are as follows:

- **High Constraint**: Includes natural environment features and areas (NHS and WRS), and Regulatory Floodplain with existing designations or *significance* that afford them protection under current provincial or municipal plans / policies. High Constraint areas represent features and areas that prohibit development.

- **Medium Constraint**: Includes natural environment features and areas (NHS and WRS) that may, through future assessment represent constraints to development or are indicators of potentially significant functions. Linkages and restoration / enhancement areas are captured under this category as their final position is not fixed to existing features on the current landscape. It is recognized that they will become high constraint through future planning stages as they are confirmed and/or refined. Determinations regarding level of constraint for features and areas in this category are to be informed by future studies that are undertaken to support Area-Specific Plans or Secondary Plans with appropriate levels of assessment / information.

- **Low Constraint**: Includes natural environment areas (NHS and WRS) that, based on current knowledge, do not represent constraints to development (i.e., do not preclude development), but may influence some aspects of land use planning decisions (e.g., densities, type of development) or may present additional study requirements, enhanced management requirements, etc. that could increase development complexity, management needs, or otherwise affect the planning and / or development processes. Areas and functions captured in this constraint category may also interact with / contribute to the form and/or function of natural heritage features and therefore have important influence on the ecological functions they provide.

Table 2: Sub-measure summary and metrics used to inform the evaluation.

Sub-Measure Component	Metric(s)	Evaluation Framework Measure
Avoidance		
Provincial Plan Areas	1. Encroachment into Plan Areas 2. Orientation of Plan Area(s) relative to the Concepts.	3.2 3.4
Water Resource Features and Areas	1. Total amount of mapped Water Resource Areas (i.e., Highly Vulnerable Aquifer and Significant Groundwater Recharge Areas). Key Hydrologic Features are consistent with features of the Natural Heritage System and are considered through that sub-measure.	3.2 3.4.1
Regional Natural Heritage System (RNHS)	1. Encroachment into the RNHS. 2. Orientation of the RNHS relative to the Concepts.	1.3.2 3.2 3.4
Reduce Impacts of New Development		
Key Features of the RNHS	1. Total area (ha) of key natural heritage features within each concept.	3.2 3.4.1
Edge Impacts	1. Total linear length of new edge interfaces between the RNHS and the built environment. 2. RNHS edge to habitat area ratio within each Concept.	3.2 3.2.1
Fragmentation	1. Qualitative assessment based on orientation of RNHS. Potential need to cross the RNHS with infrastructure (roads or servicing) within each Concept.	1.3.2 3.2 3.4
Enhance the NHS to strengthen Key Features and Areas		
RNHS Linkage & Enhancement Areas	1. Total area (ha) of Linkage and enhancement areas within each Concept. 2. Percent of Concept area captured within Linkage and / or Enhancement Areas.	3.2
Impacts of the NHS on Future Development		
Constraints to Development	1. Relative area (ha) of high, moderate, and low constraint features. 2. Qualitative assessment of potential site-scale linkages that may be required through future planning stages.	1.3 3.4.2

Sub-Measure Component	Metric(s)	Evaluation Framework Measure
	3. Qualitative assessment of implications of the orientation of high constraint features within each Concept. 4. Qualitative assessment of implications for presence of Key Hydrologic Areas within each Concept.	

4. EVALUATION

4.1 Avoidance

All concepts avoid encroachment into provincial plan areas (e.g., Greenbelt Plan NHS) and the RNHS and as such are considered comparable in this regard. The Growth Plan also directs municipal settlement area boundary expansions to avoid Key Hydrologic Areas (KHA) where possible. The evaluation considered total area (ha) within each concept. As may be expected, as land area decreases, less KHA (ha) is captured with Concept 3 capturing the smallest amount (ha) of KHA's and Concept 4 capturing the greatest amount of KHA's. When considered relative to concept land area, Concept 2 proportionally captures the least KHA followed by Concept 1, Concept 4 and Concept 3 capturing the greatest amount proportionally. This sub-measure component addresses the Evaluation Framework Measures 1.3.2. 3.2, 3.4 and 3.4.1.

4.2 Reduce Impacts on Development

Key Features of the RNHS

As the total land area within each concept increases, the total area of NHS occurring within the concept increases. This increases the total area of the NHS that will be influenced by, face pressures from and may be impacted by development (e.g., occupancy impacts, light impacts, increased access, runoff, etc.). Under this sub-measure Concept 3 includes the least NHS, followed by Concept 1, 2 and Concept 4 having the greatest amount of RNHS occurring within it. This metric addresses the Evaluation Framework Measures 3.2 and 3.4.1.

Edge Impacts

There is similar a relationship between the total land area within each concept and length of new edge interface with the RNHS (**Table 1**). Concept 3 has the least new urban-RNHS edge, followed by Concept 1, 2 and 4. Edge to interior ratio provides another metric which considers overall shape and form, which speaks to potential intensity of impacts on the RNHS and removes the influence of total land area. For this metric, the smaller number (ratio), the less edge there is for every unit area of habitat (i.e., there are more areas of RNHS away from the edges). Using this metric, Concept 2 reduces potential edge impacts relative to the other concepts, followed by Concept 1, 4, then 3. This metric addresses the Evaluation Framework Measures 3.2 and 3.2.1.

Fragmentation

Fragmentation cannot be assessed quantitatively at this planning stage; information on the form, nature and design of development and infrastructure are required for more detailed assessment and will not be established until future planning stages. In order to consider this potential impact, potential areas of concern for fragmentation have been identified (see attached maps). Fragmentation concerns include areas with potential for increased feature isolation on the landscape due to reduced landscape permeability under built conditions and the potential need to cross existing areas of the RNHS for roads or other infrastructure to facilitate development. It is important to note that this assessment is preliminary and conceptual and is intended to provide general qualitative input to the IGMS process only. Concepts 1 and 4 pose higher risk for potential fragmentation of the RNHS, followed by Concept 2. Concept 3 has a notably lower risk (qualitatively) for fragmentation compared to the other concepts. This metric addresses the Evaluation Framework Measures 1.3.2, 3.2 and 3.4.

4.3 Enhance the NHS to Strengthen Key Features and Areas

The RNHS identifies linkage and enhancement areas; consideration is given to opportunities through each of the concepts to provide improvements to the form of the RNHS through implementation (i.e., planting / establishment) of these areas over time. Concept 1 provides the largest total area of linkage / enhancement (117 ha) and is also the highest proportion of the concept land area at 4%. Concept 2 has the second largest area (59 ha), substantially smaller than Concept 1 and represents 3% of the concept land area. Concept 2 provides a slightly smaller area than Concept 2 (50ha) and comparable % of the concept land area (3%). Concept 3 has the lowest amount of linkage & enhancement area (23 ha) and has the lowest % relative to concept land area (2%). This sub-measure component addresses the Evaluation Framework Measure 3.2.

4.4 Impacts of NHS on Development

Consideration is given to the presence of high, medium and low constraint features within each concept to consider their potential impact / influence on development. Concept 2 has the greatest amount of High and Medium constraint by area (57%), followed by Concepts 1 and 3 (47% each) and with Concept 4 having the lowest amount by area (41%).

A qualitative review of RNHS orientation on the landscape was also undertaken to flag areas which may have impacts to the development form which could have community design or cost implications (e.g., increased cost of servicing / infrastructure). This are very preliminary review only; area identified are raised as having potential challenges and should be considered as informational to the review only. It does not indicate nor is it intended to imply development potential or feasibility. Areas where RNHS orientation may create development challenges have been outlined on the Concept Figures and are circled in blue. Concept 4 has three areas of potential concern, Concepts 1 and 2 both have two areas of potential concern and Concept 3

has one area of potential concern. This sub-measure component addresses the Evaluation Framework Measures 1.3 and 3.4.2.

4.5 Cumulative Evaluation Outcome

Concepts were assessed relative to one another; as such, the outcomes of this assessment do not represent discrete assessments of impacts associated with development within the Concept areas. Assessment of impacts and opportunities to avoid or mitigate potential impacts are to be addressed at future planning stages (e.g., a subwatershed study).

Overall, all concepts achieve the measures in the Evaluation Framework, as they all avoid the natural heritage system. However, based on the outcome of the metrics within this assessment, Concept 3 best achieves the objectives set out for protecting the NHS and maintaining a connected system followed by Concept 2 and 1. Concept 4 achieves the desired metrics least out of the evaluated concepts.

It should also be noted that through this technical assessment, it has been identified that all Concepts occur in areas with known existing levels of substantial stress on surface water quantity and generally poor surface water quality in the sub-watersheds. Over half of surface water takings in Halton are used for agricultural purposes; the relationship between water resources and agricultural communities should be explored as part of the subsequent planning for any settlement area boundary expansion.

Table 3[3]: Detailed Evaluation of Growth Concept Areas – Natural Heritage System

	Concept 1: 60% Densification / Moderate Greenfield Expansion	Concept 2: 70% Densification / Limited Greenfield Expansion	Concept 3: 80% Densification / Employment Only Greenfield Expansion	Concept 4: 50% Densification / Greatest Greenfield Expansion
NATURAL HERITAGE SYSTEM IMPACTS AND OPPORTUNITIES				
Avoidance				
Encroachment Within Plan Areas / NHS Key Hydrologic Areas (KHA's) within Concept(s) Orientation relative to Plan Areas / RNHS	Concept does not encroach into the Provincial Plan Areas or RNHS. Concept has second highest amount of KHA's (512 ha). Proportionally it has the second lowest amount (19%) Orientation of Greenbelt NHS through Concept (i.e., occurs on both sides). Concept includes two areas of complex orientation of RNHS features.	Concept does not encroach into the Provincial Plan Areas or RNHS. Concept has second lowest amount of KHA's (250 ha) and the lowest when considered proportionally (14%) Orientation of Greenbelt NHS through Concept (i.e., occurs on both sides). Concept includes one area of complex orientation of RNHS features.	Concept does not encroach into the Provincial Plan Areas or RNHS. Concept has lowest amount of KHA's (227 ha), but proportionally has the greatest (27%). Concept does not occur on both sides of the Greenbelt or other Plan area. Concept includes one area of complex orientation of RNHS features.	Concept does not encroach into the Provincial Plan Areas or RNHS. Concept has highest amount of KHA's (669 ha) and proportionally has the second highest (20%). Orientation of Greenbelt NHS through Concept (i.e., occurs on both sides). Concept includes two areas of complex orientation of RNHS features.
Outcome	**Achieves Less**	**Achieves More**	**Achieves More**	**Achieves Less**
Reduce Impacts of New Development				
Key Features of the Draft RNHS	Draft RNHS Key Features: ~523 ha Total watercourse length: 40,662 m Concept is the second most land consumptive (2,630 ha) overall and includes the second largest amount of RNHS and watercourse length.	Draft RNHS Key Features: ~442 ha Total watercourse length: 35,128 m Concept is the second least land consumptive (1,850 ha) overall and includes the second lowest total amount of NHS and stream length.	Draft RNHS Key Features: ~146 ha Total watercourse length: 14,480 m Concept is the least land consumptive (980ha) overall and includes substantially less RNHS and watercourse length compared to other concepts.	Draft RNHS Key Features: 533 ha Total watercourse length: 51,912 m Concept is the most land consumptive (3,300 ha) overall and includes the largest total amount of the RNHS and most watercourse length.
Edge Impacts	Total RNHS Perimeter: 151,335 m Total RNHS Area: 641 ha Edge to Area Ratio: 236m:1ha Concept 1 has second most new urban-RNHS edge but has the least edge for each unit (ha) of habitat.	Total RNHS Perimeter: 121,986 m Total RNHS Area: 493 ha Edge to Area Ratio NHS: 248m:1ha Concept 2 has the second least new urban-RNHS edge and has the	Total RNHS Perimeter: 54,616 m Total RNHS Area: 169 ha Edge to Area Ratio RNHS: 323m:1ha	Total RNHS Perimeter: 184,927 m Total RNHS Area: 592 ha Edge to Area Ratio RNHS: 312m:1ha Concept 4 has the most new urban-RNHS edge and has the second

[3] Minor revisions to the potential Employment Area in Concepts 2 and 3 are not reflected in the analysis for those concepts, but were addressed through the analysis of other concepts which included those areas.

	Concept 1: 60% Densification / Moderate Greenfield Expansion	Concept 2: 70% Densification / Limited Greenfield Expansion	Concept 3: 80% Densification / Employment Only Greenfield Expansion	Concept 4: 50% Densification / Greatest Greenfield Expansion
		second lowest amount of edge for each unit (ha) of habitat.	Concept 3 has the least new urban-RNHS edge but also has the most edge for each unit (ha) of habitat.	largest amount of edge for each unit (ha) of habitat.
Fragmentation	Higher likelihood for fragmentation of the RNHS both in terms of feature isolation and potential crossings.	Lower likelihood for fragmentation of the RNHS both in terms of feature isolation and potential crossings.	Notably lower likelihood for fragmentation of the RNHS both in terms of feature isolation and potential crossings.	Higher likelihood for fragmentation of the RNHS both in terms of feature isolation and potential crossings.
Outcome	**Achieves Less**	**Achieves More**	**Best Achieves**	**Achieves Least**
Enhance the NHS to strengthen Key Features and Areas				
RNHS Linkage & Enhancement Areas	Linkage & Enhancement Area: ~117 ha (4% of concept area) Greatest area and greatest % of total concept area identified as linkage and enhancement areas to enhance the NHS	Linkage & Enhancement Area: ~ 50 ha (3% of concept area) Third in terms of area and comparable to Concept 3 for % of total concept area identified as linkage and enhancement areas to enhance the NHS	Linkage & Enhancement Area: ~23 ha (3% of concept area) Least area and comparable to Concept 3 for % of total concept area identified as linkage and enhancement areas to enhance the NHS	Linkage & Enhancement Area: ~59 ha (2% of concept area) Second largest area but smallest % of total concept area identified as linkage and enhancement areas to enhance the NHS
Outcome	**Best Achieves**	**Achieves Less**	**Achieves Less**	**Achieves Least**
Cumulative Assessment Outcome				
	Achieves More	**Best Achieves**	**Best Achieves**	**Achieves Least**
DEVELOPMENT CONSIDERATIONS				
Impacts of NHS on Development				
Constraints to Development (ha (% concept land area))	High: ~857 ha (32%) Medium: ~400 ha (15%) Low: ~512 ha (19%) Second highest proportion of high and second medium constraints. Cumulatively these represent up to 47% of the land area. Second lowest proportion of low constraint lands.	High: ~754 ha (43%) Medium: ~254 ha (14%) Low: ~250 ha (14%) Highest proportion of high and second lowest proportion of medium constraints. Cumulatively these represent 57% of the land area. Lowest proportion of low constraint lands.	High: ~230 ha (27%) Medium: ~ 169 ha (20%) Low: ~227 ha (27%) Lowest proportion of high constraint and highest proportion of medium constraints. Cumulatively these represent 47% of the land area. Highest proportion of low constraint lands.	High: ~985 ha (30%) Medium: ~361 ha (11%) Low: ~669 ha (20%) Second lowest proportion of high and lowest proportion of medium constraints. Cumulatively these represent 41% of the land area. Second highest proportion of low constraint lands.

	Concept 1: 60% Densification / Moderate Greenfield Expansion	Concept 2: 70% Densification / Limited Greenfield Expansion	Concept 3: 80% Densification / Employment Only Greenfield Expansion	Concept 4: 50% Densification / Greatest Greenfield Expansion
	Two areas - south Georgetown and between Tenth Line and Winston Churchill - have feature orientations which have potential to constrain development.	Two areas - south Georgetown and between Hwy 25 and No. 5 Sideroad - have feature orientations which have potential to constrain development.	One area - between Tenth Line and Winston Churchill – has feature orientations which have potential to constrain development.	Three areas - south Georgetown, between Tenth Line and Winston Churchill, and between Hwy 25 and No. 5 Sideroad – have potential to constrain development.
Outcome	**Achieves Less**	**Achieves More**	**Achieves Less**	**Achieves More**

5. NEXT STEPS

5.1 Preferred Growth Concept Evaluation

This evaluation is intended to support a decision-making framework for a potential Settlement Area Boundary Expansion identified through the Growth Concepts Discussion Paper. Generally, increased development area will result in a greater extent and potentially magnitude of impacts to the NHS and Water Resource features and areas and should be factored into the overall evaluation and land use planning process. Increased urbanization will reduce landscape permeability and introduce new stressors to existing systems and functions (natural heritage and water resource).

Further assessment of the NHS and Water Resources will be used to develop the draft preferred growth concept and to support the determination of the final draft preferred growth concept for Regional Council's consideration.

5.2 Area-Specific Plans

Following the Region's Municipal Comprehensive Review (MCR) and the implementation of the Regional Official Plan Amendment, it is expected that further site-level assessment through Area-Specific Plans for new growth areas will be undertaken to comprehensively assess the features of and impacts on the Natural Heritage System and Water Resource System. This more comprehensive assessment will be completed through subwatershed studies.

The development of a sub-watershed study guideline would establish clear expectations and a consistent approach for sub-watershed studies required by Regional Official Plan policies in support of an Area-Specific Plan (or Secondary Plan). At a minimum, guidance should be developed for establishing Terms of Reference and/or other guidance documents that carry forward the work completed through the IGMS evaluation process and its consultation efforts through to the next stages of the planning process.

Some key elements that should be included in the subsequent subwatershed studies in support of Area-Specific Plans are briefly outlined below.

Water Resource System

As noted above, the current in-force Official Plan does not include a Water Resource System (WRS). The Region is committed to identifying a WRS in accordance with provincial guidance through the Regional Official Plan Review. More detailed consideration of the system, its composite elements (i.e. wetlands, watercourses, groundwater recharge areas, seeps and springs) and its interaction and influence on other systems (e.g., agricultural, natural heritage) are to be considered through subwatershed studies. Of specific note, concerns have been raised through consultation with the Halton Natural Heritage Advisory and Halton Agricultural Advisory Committees regarding potential impacts to water quality and quantity for rural settlements and agricultural landowners / operators.

In addition, as part of the Regional Official Plan Review and implementation, it is suggested that a rural water quality program be considered as a means of assess existing conditions to inform potential implications for future growth and the protection of Halton's water and natural heritage resources.

Natural Heritage System

A refined level of assessment will be required that should include the integration and consideration of the relationship between the WRS, NHS and agricultural system. This more detailed assessment through subwatershed studies would also examine the extent of natural hazards, such as floodplains, that are to be avoided and are a constraint to development.

Climate Change

Climate change will impact our water resource and natural heritage systems. The influence of climate change on these systems will need to be integrated into the subwatershed planning process for Area-Specific Plans.

ATTACHMENT 1 | CONSTRAINTS ASSESSMENT – POLICY CONSTRAINT ASSESSMENT

Halton Growth Concepts Natural Heritage System and Water Resources Impact and Constraints Assessment Framework

Prepared by Halton Region Policy Planning and North-South Environmental Inc.

Attachment 1 – January 27, 2021

(NH = Natural Heritage System Features and Areas; WR = Water Resource / Hydrologic Features or Areas)

Feature / Area	NHS	WR	Halton Regional Official Plan NHS Component	Constraint High/Medium/Low
Significant Wetlands *As defined under s.276.5 of the Regional Official Plan (ROP)*	X	X	x	High
Wetlands *All features meeting the definition of a wetland in accordance with the definition provided in the PPS and meeting the 50/50 rule for delineation under OWES*	X	X	X	High
Significant Woodlands *As identified using provincial and/or municipal guidelines (where they meet or exceed provincial guidance)*.	X		X	High
Life Science Areas of Natural and Scientific Interest (ANSI)	X		X	High
Earth Science Areas of Natural and Scientific Interest (ANSI)	X		X	High
Fish Habitat	X		X	High
Highly Vulnerable Aquifers		X		Low
Significant Groundwater Recharge Areas		X		Low
Permanent and Intermittent Streams / Watercourses	X	X	X	High
Inland Lakes / Inland Lakes and their Littoral Areas	X	X	X	High
Regulated Flood Plains as determined, mapped and refined from time to time by the appropriate Conservation Authority			X	High

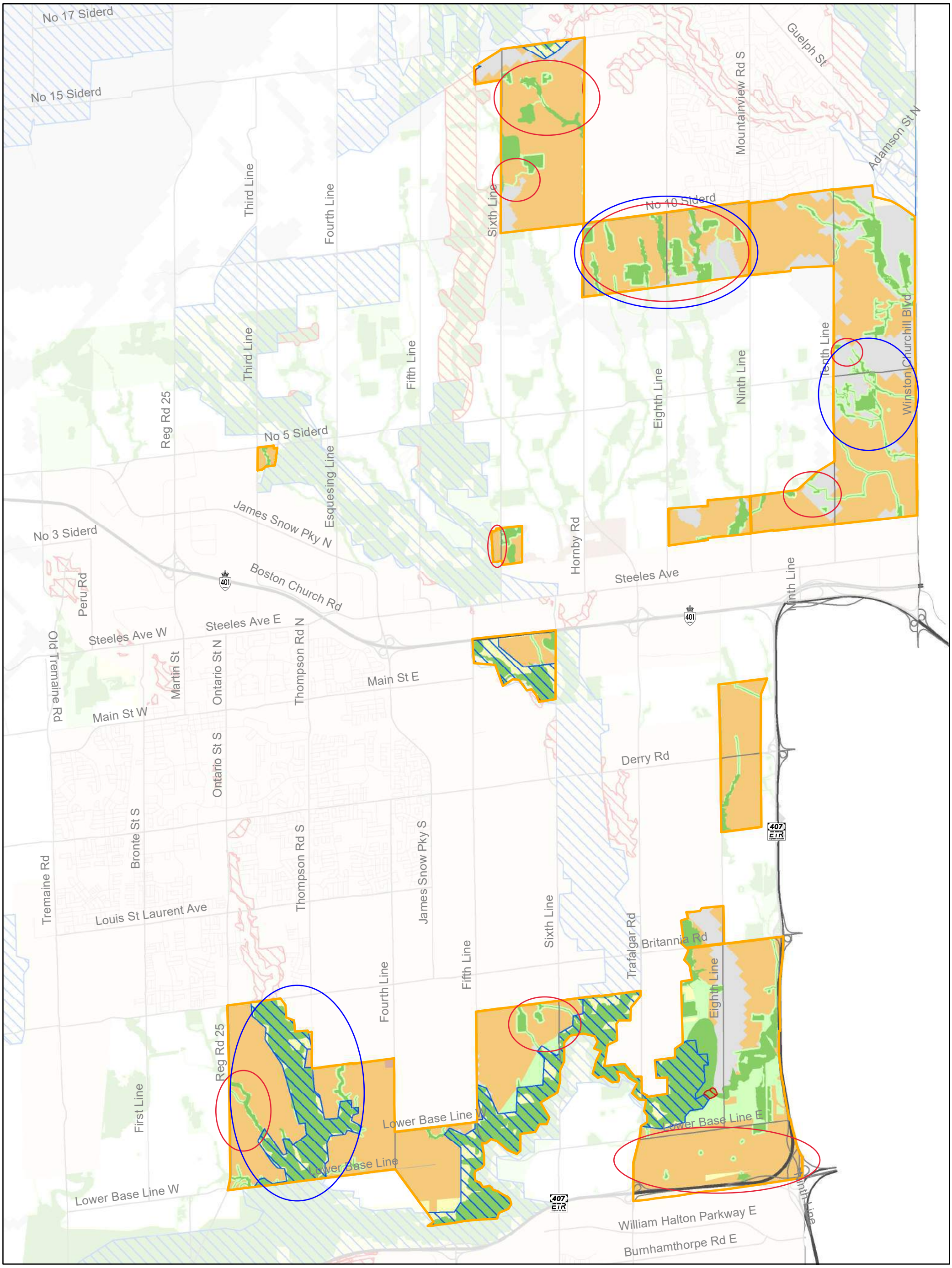
Feature / Area	NHS	WR	Halton Regional Official Plan NHS Component	Constraint High/Medium/Low
Sand Barrens, Savannahs, Tallgrass Prairies	X		X	High
Linkages	X	X	X	Medium
Buffers	X	X	X	High

FIGURES | GROWTH CONCEPTS, CONSTRAINTS ASSESSMENT AND EVALUATION SUPPORT

Growth Concept NHS Analysis - Concept 1

Constraints

February 2021



IGMS Concept 1
Minor
Highway
Major
Urban Boundary

IGMS NHS Evaluation Constraints

- Existing Settlement Area
- Other
- High
- Medium
- Low

Provincial Growth & Green Belt Plan Natural Heritage System

- Greenbelt Plan
- Growth Plan for the Greater Golden Horseshoe

0 0.5 1 2 3 4 Kilometers

Sub-Measure Qualitative Assessment Areas of Interest

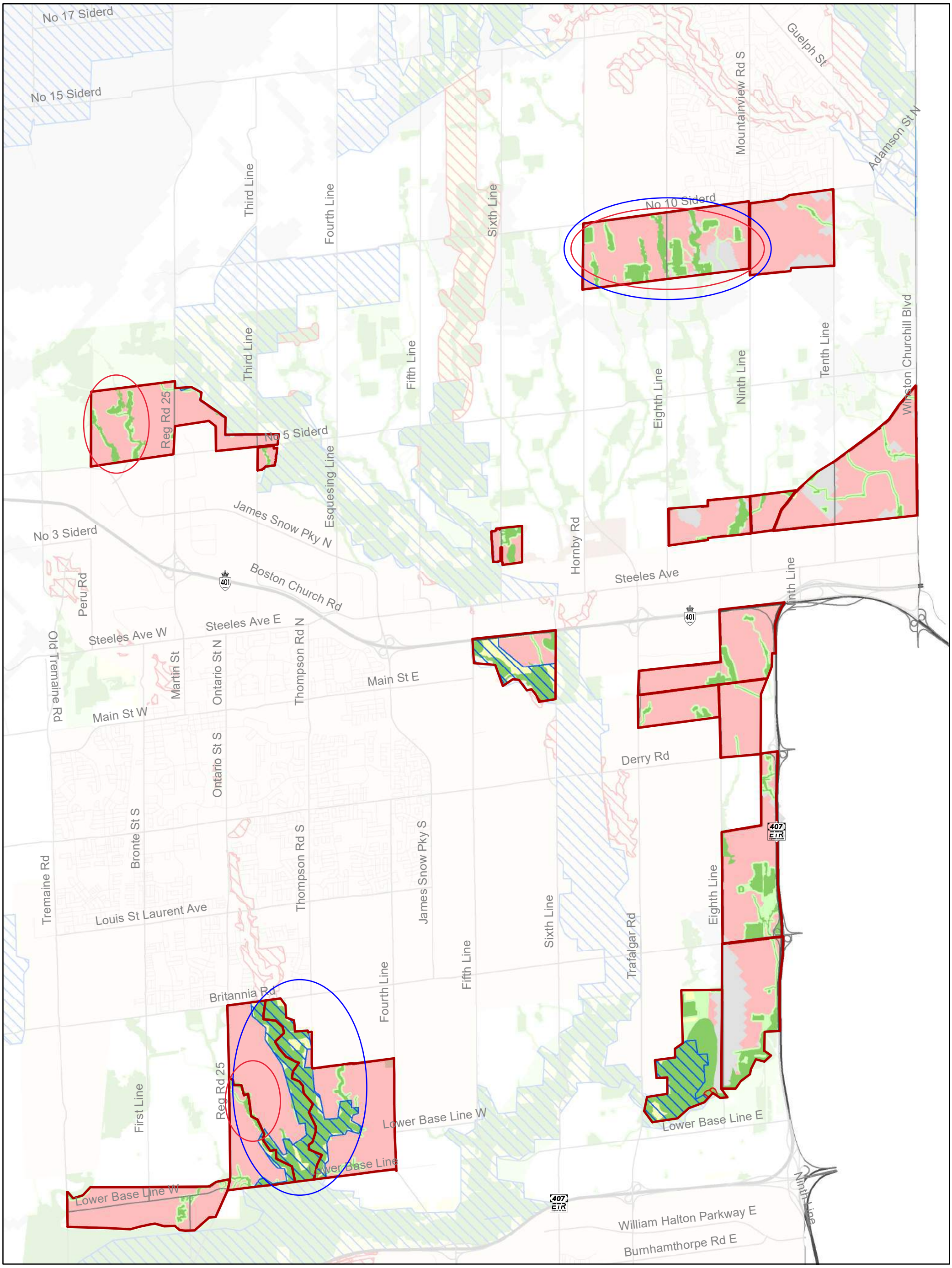
- Fragmentation
- Avoidance (Orientation, RNHS Complexity)

Halton REGION

Growth Concept NHS Analysis - Concept 2

Constraints

February 2021



IGMS Concept 2

Minor

Highway

Major

Urban Boundary

IGMS NHS Evaluation Constraints

Settlement Area

Other

High

Medium

Low

Provincial Growth & Green Belt Plan Natural Heritage System

Greenbelt Plan

Growth Plan for the Greater Golden Horseshoe

0 0.5 1 2 3 4 Kilometers

Sub-Measure Qualitative Assessment Areas of Interest

Fragmentation

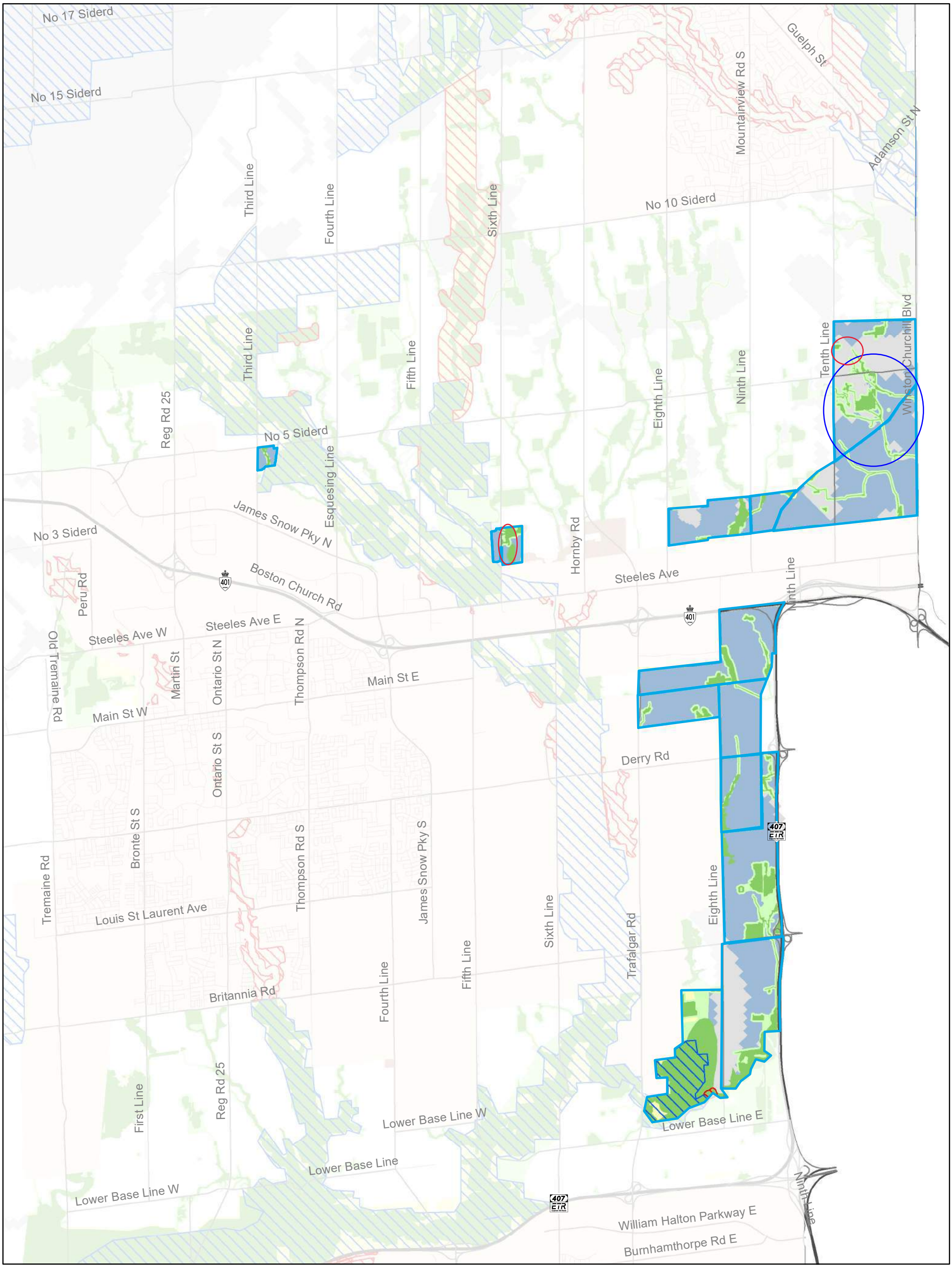
Avoidance (Orientation, RNHS Complexity)

Halton Region

Growth Concept NHS Analysis - Concept 3

Constraints

February 2021



IGMS Concept 3
Minor
Highway
Major
Urban Boundary

IGMS NHS Evaluation Constraints

- Settlement Area
- Other
- High
- Medium
- Low

Provincial Growth & Green Belt Plan Natural Heritage System

- Greenbelt Plan
- Growth Plan for the Greater Golden Horseshoe

0 0.5 1 2 3 4 Kilometers

Sub-Measure Qualitative Assessment Areas of Interest

- Fragmentation
- Avoidance (Orientation, RNHS Complexity)

Halton Region

Growth Concept NHS Analysis - Concept 4

Constraints

February 2021

IGMS Concept 4
Minor
Highway
Major
Urban Boundary

IGMS NHS Evaluation Constraints

- Existing Settlement Area
- Other
- High
- Medium
- Low

Provincial Growth & Green Belt Plan Natural Heritage System

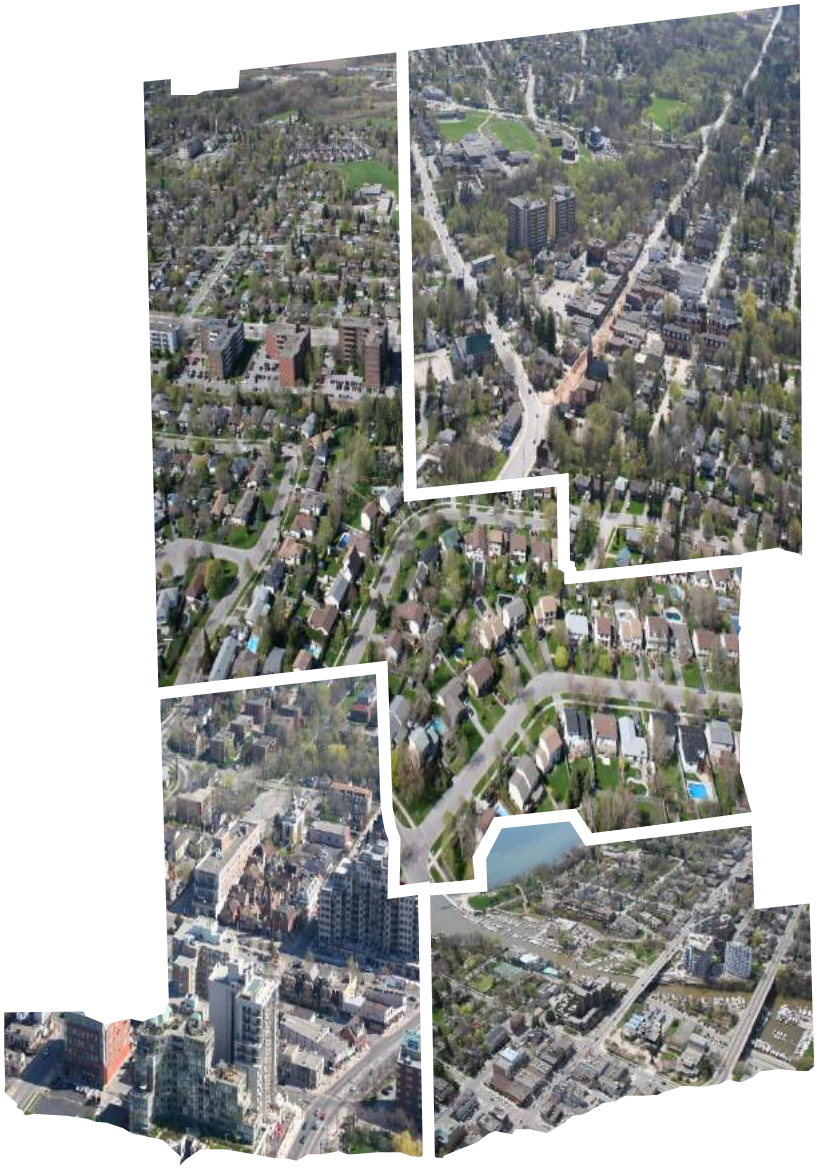
- Greenbelt Plan
- Growth Plan for the Greater Golden Horseshoe

0 0.5 1 2 3 4 Kilometers

Sub-Measure Qualitative Assessment Areas of Interest

- Fragmentation
- Avoidance (Orientation, RNHS Complexity)

Halton Region



Appendix I

Mineral Aggregate Resources Assessment

February 2021

Regional Official Plan Review

MERIDIAN PLANNING

Halton REGION

Appendix I: Mineral Aggregate Resources Assessment

TABLE OF CONTENTS

1.0 PURPOSE

In 2016, Region initiated a review of the Halton Region Official Plan (ROP). A key element of the review is the Integrated Growth Management Strategy (IGMS), which is intended to ensure conformity with the Growth Plan (2019) and the requirement to accommodate 1,100,000 million people and 500,000 jobs by 2051 (with these population and employment targets being established by Amendment 1 to the Growth Plan in 2020).

In order to accommodate expected population and employment growth, a number of growth Concepts were developed in the Fall of 2020. Certain lands within each of the Concepts include lands that have been identified as shale resource areas by the Province.

At the present time, shale is required by the clay brick industry for the production of bricks for the construction industry. While there is no requirement in the Ontario Building Code for bricks in new construction, most new homes in the Greater Toronto Area ('GTA') are clad in brick and it has become the standard for new home construction in this area.

Shale used by the brick making industry is derived from the Queenston Formation. The map on the right identifies the location of the Queenston Formation, which extends from the Niagara Peninsula to just north of Owen Sound on the east side of the Niagara Escarpment.

In order to test the four Concepts, an Evaluation Framework comprised of four evaluation themes was developed by the Region, with Theme 3 dealing with Agriculture, Environment and Climate Change.

Within this theme are a series of measures that are intended to consider impacts on the Region's mineral resource areas. These measures are below:

Measures
3.5.1 Limits proximity of incompatible uses to mineral aggregate operations and mineral extraction areas
3.5.2 Retains areas for mineral extraction, which can be rehabilitated to high value agricultural areas

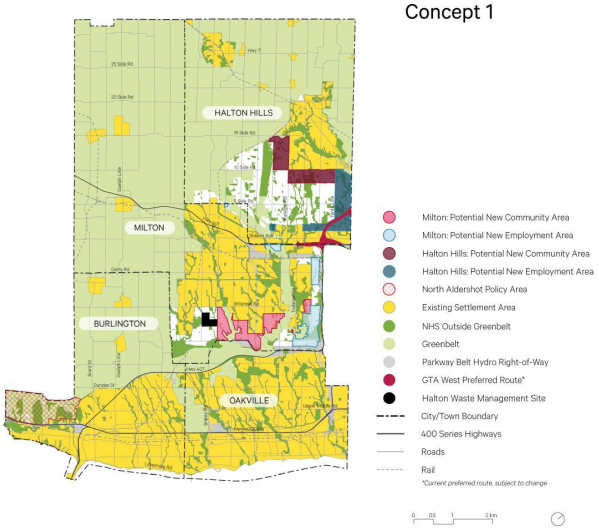
The purpose of this Mineral Aggregate Resources Assessment is to assess the above measures in relation to the four Growth Concepts and it is intended to satisfy Section 2.2.8.3 i) of the Growth Plan (2019) which defers to Section 2 (Wise Use and Management of Resources) of the Provincial Policy Statement (2020).

2.0 OVERVIEW OF THE FOUR GROWTH CONCEPTS

The Growth Concepts that are reviewed in the context of this Mineral Aggregate Resources Assessment are below:

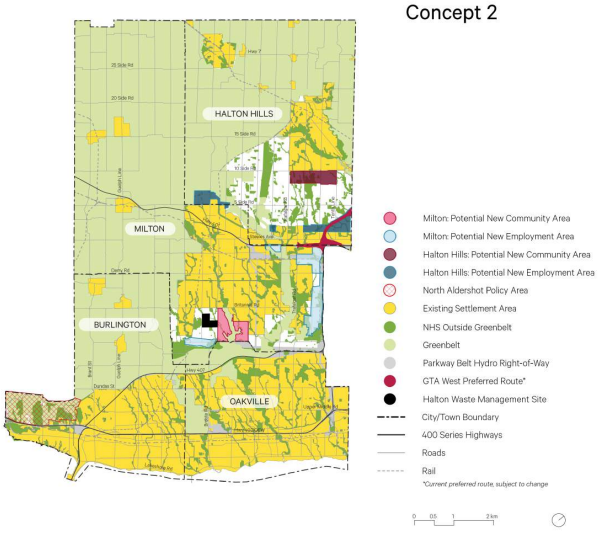
Concept 1 - 2,630 hectares of new urban land (area net of Natural Heritage System) which is made up of 1,460 hectares of Community Area land and 1,170 hectares of Employment Area land.

Concept 1



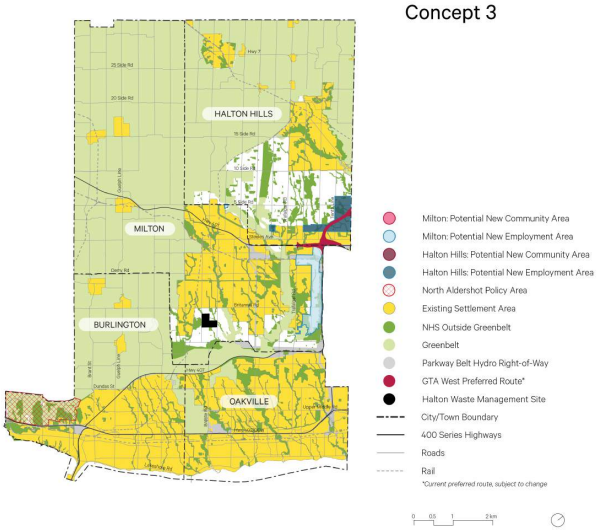
Concept 2 - 1,830 hectares of new urban land (area net of Natural Heritage System) which is made up of 730 hectares of Community Area land and 1,100 hectares of Employment Area land.

Concept 2



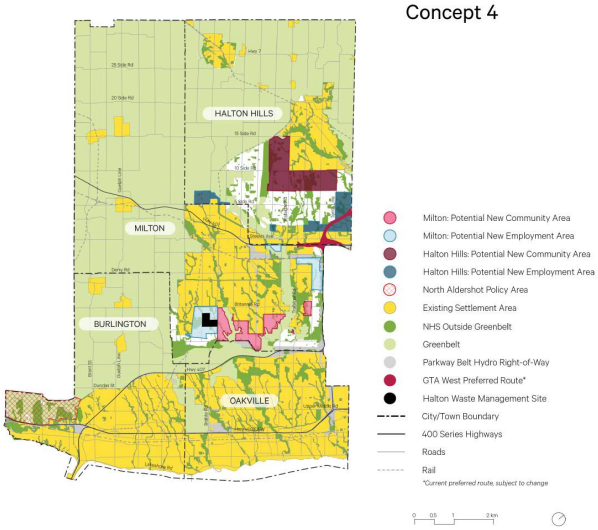
Concept 3 - 980 hectares of new urban land (area net of Natural Heritage System) which is made up of 980 hectares of Employment Area land and Community Area urban expansion.

Concept 3



Concept 4 - 3,300 hectares of new urban land (area net of Natural Heritage System) which is made up of 2,080 hectares of Community Area land and 1,220 hectares of Employment Area land.

Concept 4



In order to test the four Growth Concepts, and Evaluation Framework comprised of four

evaluation themes was developed by the Region, with Theme 3 dealing with Agriculture, Environment and Climate Change.

Within this theme are measures that consider impacts on the Region's mineral resource areas. These measures are below:

Measures
3.5.1 Limits proximity of incompatible uses to mineral aggregate operations and mineral extraction areas
3.5.2 Retains areas for mineral extraction, which can be rehabilitated to high value agricultural areas

The purpose of this Mineral Aggregate Resource Assessment is to comparatively evaluate the Growth Concepts on the degree to which they consider impacts on the Region's mineral resource areas.

3.0 METHODOLOGY/APPROACH TO THE ANALYSIS

3.1 Growth Plan

The Growth Plan (2019) sets out the requirements that must be followed when an expansion to a settlement area is proposed. In this regard, the following is stated in Section 2.2.8.3 as it relates to mineral aggregate resources:

"Where the need for a settlement area boundary expansion has been justified in accordance with policy 2.2.8.2, the feasibility of the proposed expansion will be determined and the most appropriate location for the proposed expansion will be identified based on the comprehensive application of all of the policies in this Plan, including the following:

i) The policies of Sections 2 (Wise Use and Management of Resources) and 3 (Protecting Public Health and Safety) of the PPS are applied;

As a result, reference is made to Section 2.5 of the PPS 2020 for guidance on this issue. It is noted that there are two other relevant sections in the Growth Plan to consider as per below:

4.2.8.1 - *"Municipalities will develop and implement official plan policies and other strategies to conserve mineral aggregate resources, including:*

a) the recovery and recycling of manufactured materials derived from mineral aggregate resources for reuse in construction, manufacturing, industrial, or maintenance projects as a substitute for new mineral aggregate resources; and

b) the wise use of mineral aggregate resources, including utilization for extraction of on-site mineral aggregate resources prior to development occurring."

4.2.8.6 - *"Except as provided by the policies of this subsection, decisions on planning matters must be consistent with the policies in the PPS that pertain to the management of mineral aggregate resources."*

Section 4.2.8.1 b) is somewhat relevant because it suggests that consideration be given to permitting resource extraction before development, such as urban development, occurs. However, this is only a factor to consider when preparing updated Official Plan policies to support the recommended urban expansion.

Section 4.2.8.6 supports Section 2.2.8.3 i) in that it also defers back to the PPS 2020.

3.2 PPS (2020)

The overall context for municipal decision-making that is required to be consistent with the PPS 2020 is established in the first two paragraphs of the Part 1 Preamble to the PPS 2020:

"The Provincial Policy Statement provides policy direction on matters of provincial interest related to land use planning and development. As a key part of Ontario's policy-led planning system, the Provincial Policy Statement sets the policy foundation for regulating the development and use of land. It also supports the provincial goal to enhance the quality of life for all Ontarians.

The Provincial Policy Statement provides for appropriate development while protecting resources of provincial interest, public health and safety, and the quality of the natural and built environment. The Provincial Policy Statement supports improved land use planning and management, which contributes to a more effective and efficient land use planning system.

Mineral aggregate resources would be considered as 'resources of Provincial interest' as per the above.

Part IV of the PPS 2020 establishes the vision for Ontario's land use planning system and it clearly indicates that one of the keys to the long-term prosperity and social well-being of Ontario residents is a strong economy. Below are those components of the vision that are relevant to the location of growth and development and mineral aggregate resources (with under-lining for emphasis).

Paragraph 4 - *"The Provincial Policy Statement focuses growth and development within urban and rural settlement areas while supporting the viability of rural areas. It recognizes that the wise management of land use change may involve directing, promoting or sustaining development. Land use must be carefully managed to accommodate appropriate development to meet the full range of current and future needs, while achieving efficient development patterns and avoiding significant or sensitive resources and areas which may pose a risk to public health and safety. Planning authorities are encouraged to permit and facilitate a range of housing options, including new development as well as residential intensification, to respond to current and future needs."*

Paragraph 5 - *"Efficient development patterns optimize the use of land, resources and public investment in infrastructure and public service facilities. These land use patterns promote a mix of housing, including affordable housing, employment, recreation, parks and open spaces, and transportation choices that increase the use of active transportation and transit before other modes of travel. They support the financial well-being of the Province and municipalities over the long term, and minimize the undesirable effects of development, including impacts on air, water and other resources. They also permit better adaptation and response to the impacts of a changing climate, which will vary from region to region."*

Paragraph 7 - *"The Province's natural heritage resources, water resources, including the Great Lakes, agricultural resources, mineral resources, and cultural heritage and archaeological resources provide important environmental, economic and social benefits. The wise use and management of these resources over the long term is a key provincial interest. The Province must ensure that its resources are managed in a sustainable way to conserve biodiversity, protect essential ecological processes and public health and safety, provide for the production of food and fibre, minimize environmental and social impacts, provide for recreational opportunities (e.g., fishing, hunting and hiking) and meet its long-term needs."*

There clearly is a focus in the above vision on directing development to settlement areas and on the optimization of the use of land and public investment in infrastructure and public service facilities.

With respect to mineral resources, the vision indicates that the Province must ensure that its resources are managed in a sustainable way to meet its long-term needs.

The choice of words in the vision as it relates to mineral resources is of interest since one element of the decision to be made by Halton Region on the selection of a growth concept involves making a choice between protecting a shale resource area or providing for urban development to meet long terms needs.

In this regard, there are different types of mineral resources to consider in applying and understanding what the Provincial vision is based on, with shale resources being required for brick making (primarily for aesthetic reasons) and with other forms of bedrock being required for primarily roads and infrastructure.

In addition, there are alternatives to brick, in terms of the choice made on the exterior cladding of a home or other building. However, choices are very limited with respect to the raw materials used for infrastructure. In our view, this becomes a distinguishing factor to consider when applying Provincial policy.

With respect to the bedrock required for infrastructure, there is an overall public interest in ensuring that the sources of aggregate are as close to market at possible (when this is realistic) to ensure costs are low and to ensure that there is competition in the marketplace.

Given that it is the public that generally pays for infrastructure through taxation from one level of government or another, there is a clear public interest in ensuring that the cost to the general public of infrastructure is kept low when feasible and practical. This same starting point does not apply as definitively to shale used in brick production.

In addition, it is only because the shale extracted from the Queenston Formation is located in the vicinity of the fast growing Toronto region that there is a history of brick making in this part of Ontario where the cladding of new homes in brick has become the norm.

In other parts of Ontario and within the rest of Canada, bricks are not as common and if they are added to the projects, it becomes an added option that increases the cost of the product. What has happened in southern Ontario is that since virtually all new homes are constructed with brick, it has become a normalized part of the construction process.

All of the above provides some context for the consideration of Section 2 of the PPS (2020) as set out in Section 2.2.8.3 i) of the Growth Plan (2019). In this regard, Section 2.5 in particular deals with mineral aggregate resources and it starts off by saying the following inn Section 2.5.1:

"Mineral aggregate resources shall be protected for long-term use and, where provincial information is available, deposits of mineral aggregate resources shall be identified."

Deposits of mineral aggregate resources is defined by the PPS 2020 as per below:

"means an area of identified mineral aggregate resources, as delineated in Aggregate Resource Inventory Papers or comprehensive studies prepared using evaluation procedures established by the Province for surficial and bedrock resources, as amended from time to time, that has a sufficient quantity and quality to warrant present or future extraction."

Section 2.5.1 is particularly important in this case because the Halton Region Official Plan was amended by ROPA 38 to identify a significantly smaller shale resource area than identified in Provincial mapping, with this revised mapping being approved by the Province (more on this in Section 3.0 of this report). In any event, this section clearly indicates that mineral aggregate resources shall be protected for long-term use.

Section 2.5.2.1 below supports and re-in forces Section 2.5.1:

"As much of the mineral aggregate resources as is realistically possible shall be made available as close to markets as possible.

Demonstration of need for mineral aggregate resources, including any type of supply/demand analysis, shall not be required, notwithstanding the availability, designation or licensing for extraction of mineral aggregate resources locally or elsewhere."

While Section 2.5.2.1 is similar to Section 2.5.1, it indicates that as much of the mineral aggregate resources as is realistically possible shall be made available. There is no definition of what 'realistically possible' means; however, it does mean that other public policy objectives can be considered when looking at resource areas. It is also recognized that there are natural heritage features and area, natural hazards and existing land uses that also have an effect on what is 'realistically possible'.

The second component of Section 2.5.2.1 makes it clear that the demonstration of need for mineral aggregate resources is not a factor in the development of resource strategies or in the consideration of individual applications, regardless of the municipality or location.

The intent of this policy is to require that any application be considered on its land use merits only.

There are a number of other policies in the PPS 2020 that are directly or indirectly supportive of the mineral aggregate industry and the extraction of mineral aggregate resources, recognizing the important role that it plays in our economy and in the availability and efficient delivery of needed services and infrastructure

However, the key policy to consider in determining whether it is appropriate to expand an urban area into a shale resource area is Section 2.5.2.5, which is reproduced below:

"In known deposits of mineral aggregate resources and on adjacent lands, development and activities which would preclude or hinder the establishment of new operations or access to the resources shall only be permitted if:

a) resource use would not be feasible; or

b) the proposed land use or development serves a greater long-term public interest; and

c) issues of public health, public safety and environmental impact are addressed."

It is noted that items a) and b) in Section 2.5.2.5 are separated by the word "or". This means that a case can be made that a proposed land use or development serves a greater long-term public interest than a proposed resource use even if it is determined that resource use would be feasible.

With respect to feasibility, there are two factors to consider - technical and practical.

From a technical perspective, the PPS 2020 requires that applications to develop a new pit or quarry demonstrate that the social, economic and environmental impacts can be minimized and in this regard, it is recognized that the technical issues to resolve with any quarry application can be significant.

There are also a number of practical reasons to consider and they include the nature of existing and adjacent land uses, the need to assemble land for a viable quarry and the cost of acquiring the land itself, particularly in an area that is this close to existing urban areas in Halton and Peel Regions.

While 'feasibility' is certainly a factor as per the above, determining what is in the longer-term public interest is the key factor to consider in this IGMS process, which will result potentially in the identification of new urban land adjacent to an existing settlement area in Halton Region.

In this regard, and as required by the Growth Plan (2019), Halton Region is required to accommodate 1,100,000 million people and 500,000 jobs by 2051 and in order to accommodate this growth, expansion into identified deposits of mineral aggregate resources (along with prime agricultural areas) is required.

The Province's 1997 Non-Renewable Resources Training Manual (1997 Manual) does

provide some insights on how to deal with what is in the greater long term public interest. In this regard, the 1997 Manual states the following:

Before development is approved in or adjacent to a known deposit area, it must be demonstrated the development meets a high level of public need and that alternative locations for the proposed development are not available.

An example of a high level of public need would be additional lands needed to accommodate significant population and employment growth.

Lastly, the 1997 Manual states the following:

"Due to the inter-regional and provincial importance of aggregates, before development that may preclude or hinder access to aggregate deposits it must be demonstrated that the proposed incompatible use provides a significant advantage to the general public of the province and not just those in close proximity to the proposed development or in a particular community. In this context, the public interest should not be interpreted include opposition to aggregate extraction operations and associated activities.

The Growth Plan establishes the need to plan for additional housing and employment opportunities, which provides a significant advantage to the general public of the Province.

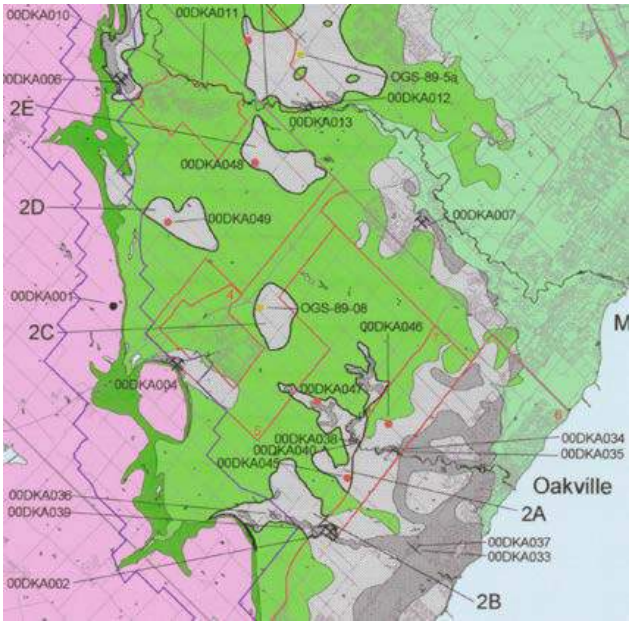
4.0 LOCATION OF SHALE RESOURCES IN HALTON REGION

4.1 2001 OGS Report

In 2001, the OGS released a report (2001 OGS Report) entitled '#6058: A Regional Evaluation of the Shale Resource Potential of the Upper Ordovician Queenston Formation, Southern Ontario' that evaluated shale resources of the Queenston formation across Southern Ontario.

The 2001 OGS Report indicated that shale resource quarries are primarily located in the area west of Mississauga and east of the Niagara Escarpment, in the Regional Municipalities of Halton and Peel. The 2001 OGS Report discussed the restrictions imposed by the Niagara Escarpment in some areas, but recognized that a considerable area of shale resource is located close to the surface and close to market.

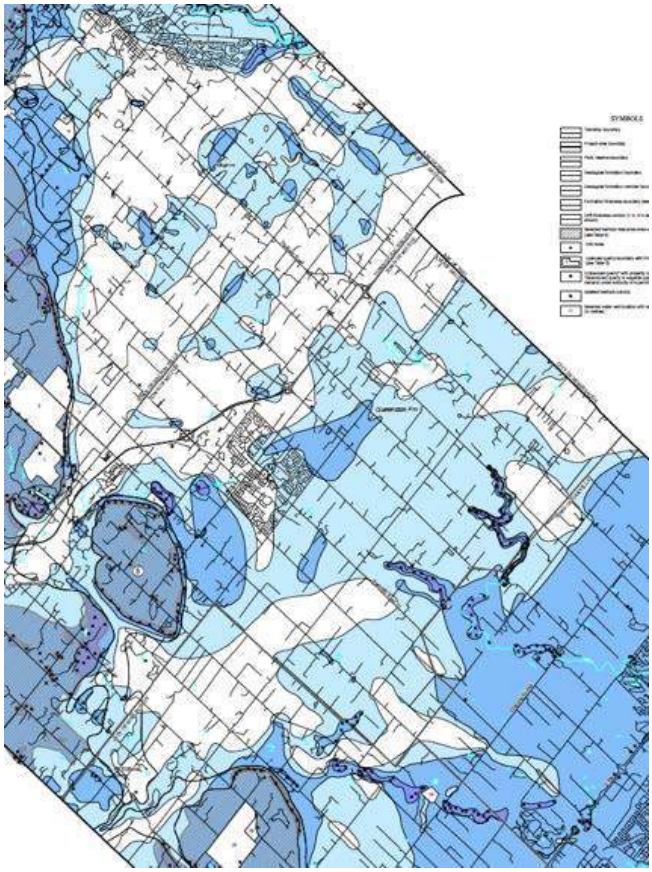
In addition to the above, the 2001 OGS Report reviewed shale resource in the Regional Municipalities of Halton and Peel. In this regard, it was noted in the 2001 OGS Report that these areas host the widest part of the Queenston Formation outcrop belt and the largest areas of thin drift. The 2001 OGS Report further identified that these areas are areas of rapid and intense urban development and thus access to future shale resources here are threatened.



With respect to Halton Region, the map at the end of the 2001 OGS Report (as shown on the right) identified the shale resource areas in Halton Region.

4.2 2009 OGS Report (ARIP 184)

In 2009, the OGS released Aggregate Resources Inventory Paper 184 ('ARIP 165'). ARIP 184 includes an inventory and evaluation of sand and gravel and bedrock resources in Halton Region. One of the products of ARIP 184 was map ARIM 184-2 that identified bedrock resources in Halton Region. ARIP 184 indicates the following with respect to this map:



"Three sets of contour lines delineate areas of less than 1 m of drift, areas of 1 to 8 m of drift, and areas of 8 to 15 m of drift. The extent of these areas of thin drift are shown by 3 shades of grey. The darkest shade indicates where bedrock outcrops or is within 1 m of the ground surface. These areas constitute potential resource areas because of their easy access.

The medium shade indicates areas where drift cover is up to 8 m thick. Quarrying is possible in this depth of overburden and these zones also represent potential resource areas.

The lightest shade indicates bedrock areas overlain by 8 to 15 m of overburden. These latter areas constitute resources which have extractive value only in specific circumstances. Outside of these delineated areas, the bedrock can be assumed to be covered by more than 15m of overburden, a depth generally considered to be too great to allow economic extraction (unless part of the overburden is composed of economically attractive deposits)."

In the abstract section of ARIP-184 it was indicated that three areas of sand and gravel resources of primary significance have been identified in Halton Region. The bedrock of the Amabel Formation was also identified as an important high-quality crushed stone resource and it was recommended for possible resource protection. However, with the Queenston

Formation, the following is indicated:

"The Queenston Formation is a provincially significant bedrock resource used in the production and manufacture of brick and tile. Areas of the Queenston Formation with less than 8 m of overburden have not been selected in this report but are identified on Map 2".

The decision to not identify components of the Queenston Formation as a Select Bedrock Resource Area was consistent with the direction taken in ARIP 165-REV which was also released in 2009, but which applied in Peel Region.

4.3 2012 OGS Shale Report

In 2012, the OGS prepared a report entitled 'Shale Resources of Southern Ontario: An Update.' For the balance of this report, it will be called the 2012 OGS Shale Report.

To some extent, the 2012 OGS Shale Report was prepared to specifically address the non-identification of portions of the Queenston Formation as a selected bedrock resource area in the ARIP 184 and 165-REV discussed previously in this report.

It was indicated in the introduction section of the 2012 OGS Shale Report that the focus of many ARIP's has been on “true” aggregate resources. In this context, the term "true" aggregate resources refers to material used in the production of such traditional aggregate products as granular A, granular B, select sub-base material (SSM), crushed stone products, hot-laid (asphalt) and concrete aggregate.

It was then further indicated that while older ARIP's did identify significant resources of the Queenston Formation shale used in the manufacture of brick and tile, ARIP 184 did not identify these important industrial minerals, because of the low load-bearing capacity of the Queenston Formation.

It is noted that ARIP 184 is the last ARIP produced for Halton Region, which means that the Queenston Formation continues to not be identified as a selected bedrock resource area.

The purpose of the 2012 OGS Shale Report was then stated as follows:

"Therefore, based on the concern that other important industrial minerals (e.g., high-purity dolostone from the Guelph Formation and shale resources from a variety of formations

across southern Ontario) would not be identified during the land-use planning process, it was decided to produce a report and map that would identify important shale resources used in the manufacture of brick and tile.

The principles that form the basis of this report are similar to the ARIP reports, including the requirement that the shale resource must be of sufficient quality to be used by the industry. It is hoped that this document and the accompanying map (Figure 1, back pocket) will be used by land-use planners in the same context and manner that ARIPs are."

The map referred to above is consistent with the mapping contained in ARIP 184.

It is important to note that the 2012 OGS Shale Report clearly recognizes that the shale extracted from the Queenston formation is required for the manufacture of tile and brick and that a key element of the work completed by OGS at the time was to ensure that land use planning authorities took the needs of the tile and brick making industry into account when making decisions.

This is contrasted with other types of bedrock resources that are required for road building and construction purposes, where the needs of the public authorities that fund the development of infrastructure need to be considered.

There is a considerable amount of discussion in the 2012 OGS Report on overburden thickness. In this regard, the following is stated:

"One of the fundamental and underlying principles of the aggregate resources inventory program is the assumption that aggregate producers can strip up to 8 metres of overburden and still produce an economically viable product."

It was also indicated that the 8-metre limit was initially established during the development of a document entitled “A Policy for Mineral Aggregate Resource Management in Ontario” in 1977.

The following was then indicated in the 2012 OGS Shale Report with respect to the relationship between the depth of overburden and the cost of producing brick:

"The cost of overburden stripping must be balanced with all other costs involved with producing a brick. If a producer can realize a price benefit or savings in one area of his

production cost, they may be able to endure higher than average costs in another aspect of production. The price of production and the price of the commodity greatly influence stripping and production costs.

The price of a commodity is extremely important. For example, the amount of overburden removed and the cost of stripping may be much higher and still economically feasible over a high-purity, high-quality dolostone used in the manufacture of metallurgical flux, than the amount of overburden and the cost of stripping over a lower cost aggregate product (e.g., crushed stone used in the production of hot-laid asphalt stone)."

In the end, the author of the 2012 OGS Shale Report made the following definitive statement:

"In 2008, the maximum or preferred stripping limit of 8 m was reconfirmed verbally and in written correspondence to the author by brick industry representatives.

Once again, the stripping of less than 8 m of overburden is certainly preferred but resource areas with less than 8 m of overburden are becoming rare because of urban expansion and restrictive land-use planning policies."

The depth of overburden in Halton Region will be a factor in the consideration of the measures in Section 5.0 of this Technical Memorandum.

4.4 ROPA 38 Mapping of Shale Resource Areas

In 2007, Halton Region initiated a review of its Official Plan. This broader Official Plan Review ('Sustainable Halton') eventually became ROPA 38 and ROPA 39.

As part of the ROPA 38 process, an analysis of the mapping provided to the Region of Halton by the OGS with respect to the location of shale resources was carried out.

On the basis of this analysis, it was determined that there were about 2,034 hectares included as potential primary shale resource areas on lands north of Highway 401. Lands south of Highway 401 were not considered.

After applying known Primary Constraints, about 1,785 hectares of shale resource area remained. Known Primary Constraints that could be mapped at the time included the

following:

- Provincially significant wetlands;
- Escarpment Natural Area designation (Niagara Escarpment Plan);
- Escarpment Protection Area designation (Niagara Escarpment Plan);
- Floodways;
- Urban areas, hamlets and rural clusters;
- Minor urban centres (Niagara Escarpment Plan); and,
- Public lands (Niagara Escarpment Plan).

It was also noted that the habitat of endangered and threatened species and significant woodlands would also be considered primary constraints once their locations were determined and confirmed.

In this regard, secondary constraints included the following:

- Lands within 500 metres of an urban area, hamlet area or a minor urban centre;
- Lands within 120 metres of a provincially significant wetland;
- Lands within woodlands outside of the Greenbelt Plan;
- Lands within the natural heritage system in the Protected Countryside (not including provincially significant wetlands and significant woodlands);
- Lands designated Greenlands A and Greenlands B outside of the Greenbelt Plan (not including provincially significant wetlands and floodways);
- Other wetlands;
- Environmentally sensitive areas; and,
- Areas of natural and scientific interest.

A series of maps in the report (Maps 8A, 8B, 8C and 8D) identified the shale resource areas north of Highway 401 with all known primary and secondary constraints.

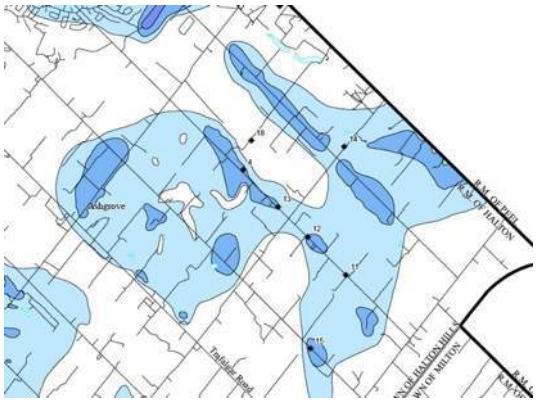
The mapping indicated that much of the land not subject to a Primary or Secondary constraint was in agricultural use, however there were certain areas that were also the site

of homes on lots created by consent.

It was then indicated that some of these existing land uses might have an impact on the feasibility of extracting the resource. In this regard, mapping was also prepared (Map 8E) which identified the extent of the areas within 500 metres of every single detached dwelling in the rural area in relation to the shale resource areas. The mapping indicated that very little land is not affected by this potential constraint.

However, it was also noted that Map 8E has only been prepared for illustration purposes and that the impacts of a shale quarry can often be mitigated in a manner that has an effect on the size of the setback.

Notwithstanding the above, it was determined that approximately 1,475 hectares of land was potentially suitable for shale extraction, net of all primary constraints and some secondary constraints. All of these lands were then identified in the ROP on Map 1F. However, the majority of the land so identified have a drift thickness of 8 to 15 metres, which is shown in the lighter shade of blue on the map on the right (the darker shade of blue applies to those lands where the drift thickness is 1 to 8 metres.



As the map above indicates, there are a few small pockets of lands with the lesser drift thickness throughout the area with one of the pockets being located on the west side of Winston Churchill Boulevard north of Steeles Avenue and another pocket located along the 10th Line between the 10th Sideroad and Steeles Avenue.

If it is assumed that only those areas that have a drift thickness of 8 metres or less are economically viable for extraction, the amount of available land in Halton Hills and the Region of Halton is much less than the 1,475 hectares that were mapped in the Region of Halton Official Plan.

Notwithstanding the above, the shale resource mapping that was net of Primary Constraints was included on Map 1F as a constraint in the Region of Halton Official Plan. In addition to Primary Constraints, an area within 500 metres of the Georgetown urban area was not

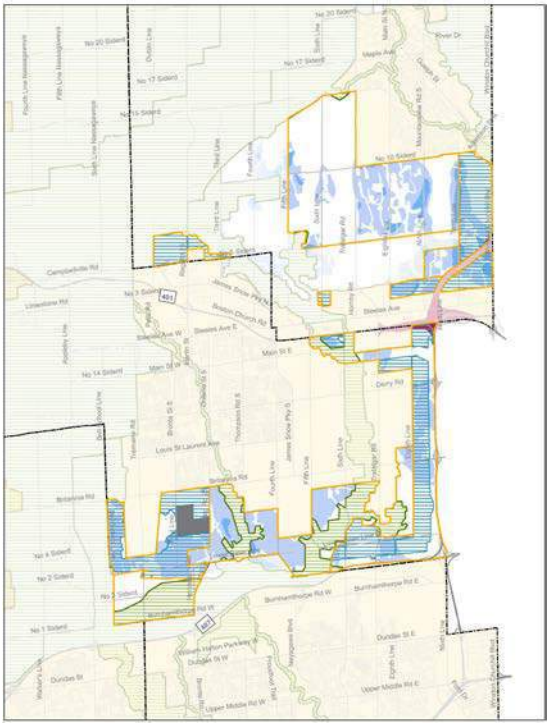
included in the mapping, which means that ROPA 38 did not identify lands within 500 metres of the Georgetown urban boundary as a resource area. The Ministry of Municipal Affairs and Housing participated in the approval process of ROPA 38.

5.0 ANALYSIS OF THE MEASURES

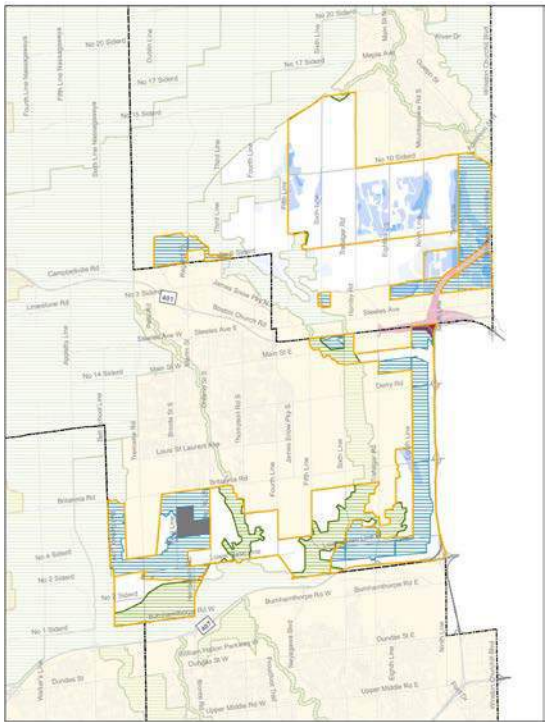
As noted previously, and in order to test the four Concepts, four evaluation themes have been developed by the Region, with Theme 3 dealing with Agriculture, Environment and Climate Change.

Within this theme are a series of measures that are intended to consider impacts on the Region's mineral resource areas. Before reviewing these measures, **Map 1** shows the location of the initial Primary Study Area in relation to the shale resource areas identified in the ARIP-184 mapping, with the various drift thicknesses shown. **Map 2** then shows the location of the initial Primary Study Area in relation to the shale resource areas identified in ROPA 38 with the various drift thicknesses shown.

Map 1 - Primary Study Area and Shale Resource Areas (ARIP-184)

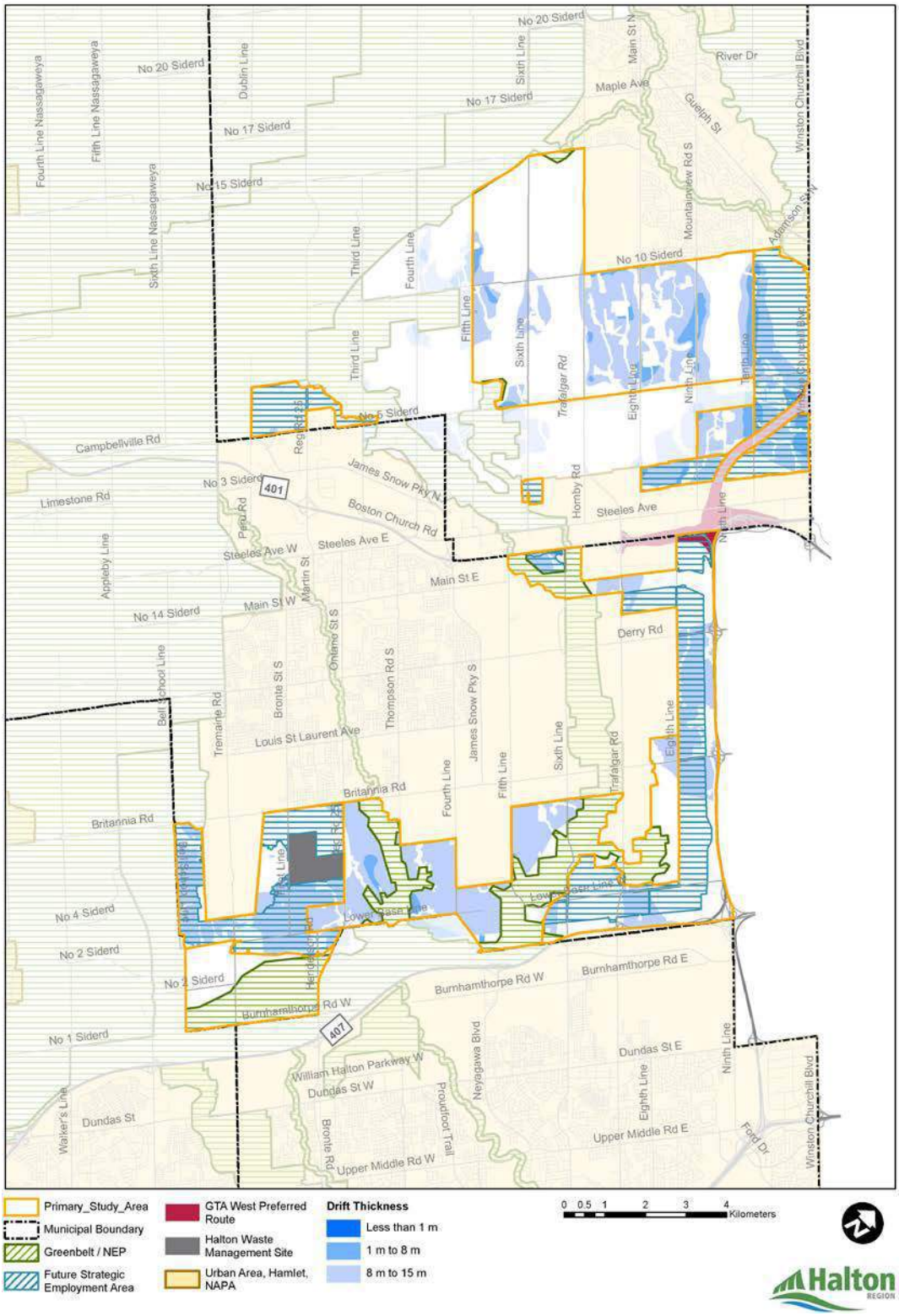


Map 2 - Primary Study Area and Shale Resource Areas (ROP)

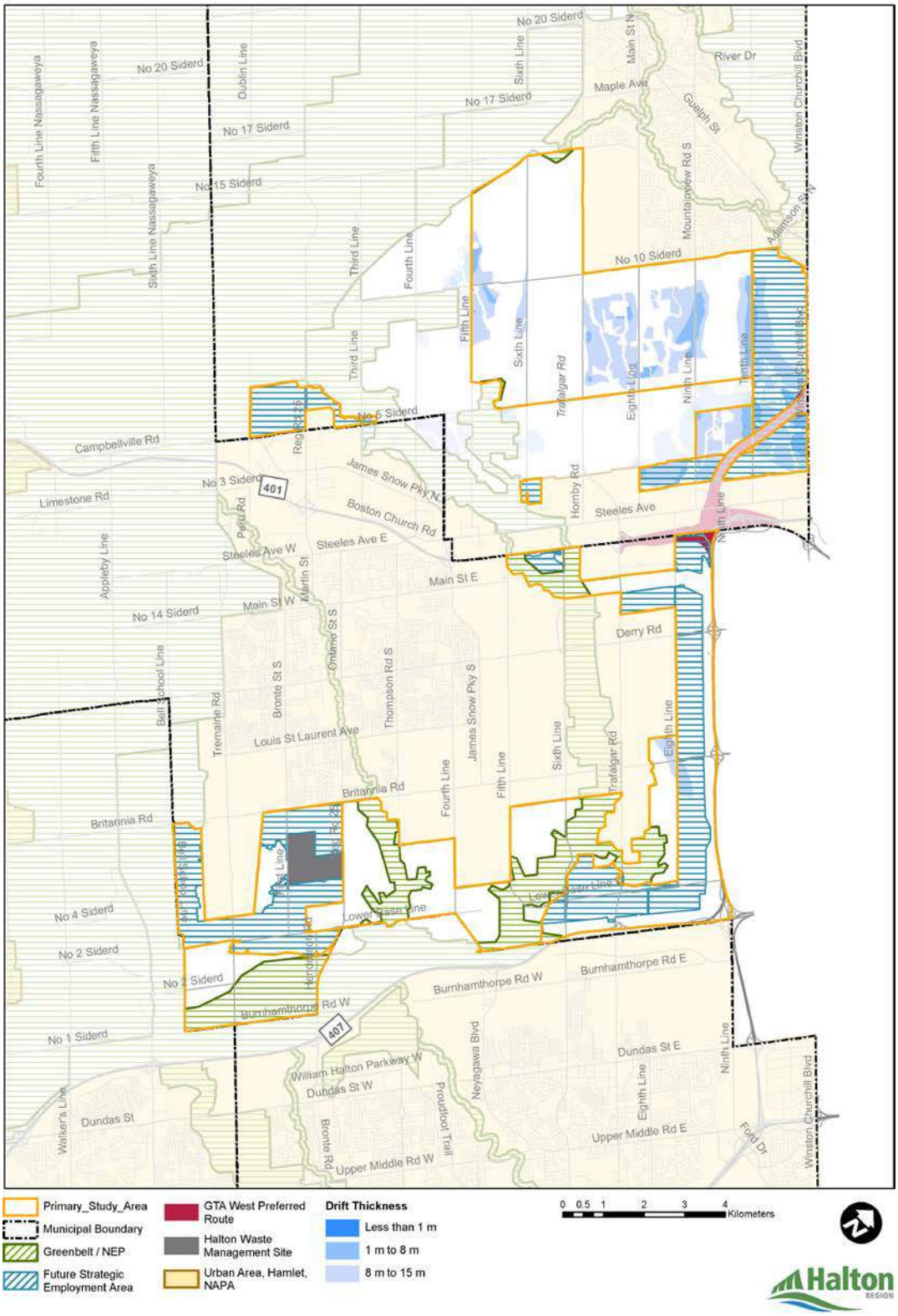


See next page for the full maps

Map 1 - Primary Study Area and Shale Resource Areas (ARIP-184)



Map 2 - Primary Study Area and Shale Resource Areas (ROP)



5.1 Limits Proximity of Incompatible Uses to Mineral Aggregate Operations and Mineral Extraction Areas

There are no mineral aggregate operations within or adjacent to the 4 growth Concepts with the Primary Study Area.

Analysis of ARIP-184 Mapping

Maps 3, 4, 5 and 6 on the next page show each of the concepts based on the ARIP-184 mapping, with the proposed Regional Natural Heritage System, existing road allowances, the Halton Waste Management Site and the location of the proposed GTA West Highway netted out.

In terms of the amount of shale resource area that would be lost in each concept, **Table 1** shows the results of this analysis:

Table 1 (ARIP Mapping) - Amount of Shale Resource Lands affected by each Concept

	Area net of RNHS, Existing Road Allowances, Halton WMS and GTA West (based on drift thickness)			
Growth Concept	Less than 1 m	1 m to 8 m	8 m to 15 m	Total
1	0	140	1,490	1,630
2	0	90	1,120	1,210
3	0	70	590	650
4	0	160	1,740	1,900

On the basis of the above, Concept 3 would support this measure the best because it affects the least amount of shale resource lands. Concept 2 and then Concept 1 would be next, with Concept 4 least supporting the measure. It is noted however that if the higher priority lands having a drift thickness of 1 metre to 8 metres was considered instead, Concept 3 would continue to support this measure the best.

Map 3 - Concept 1 and Shale Resource Areas (ARIP-184)

Map 4 - Concept 2 and Shale Resource Areas (ARIP-184)

Drift Thickness

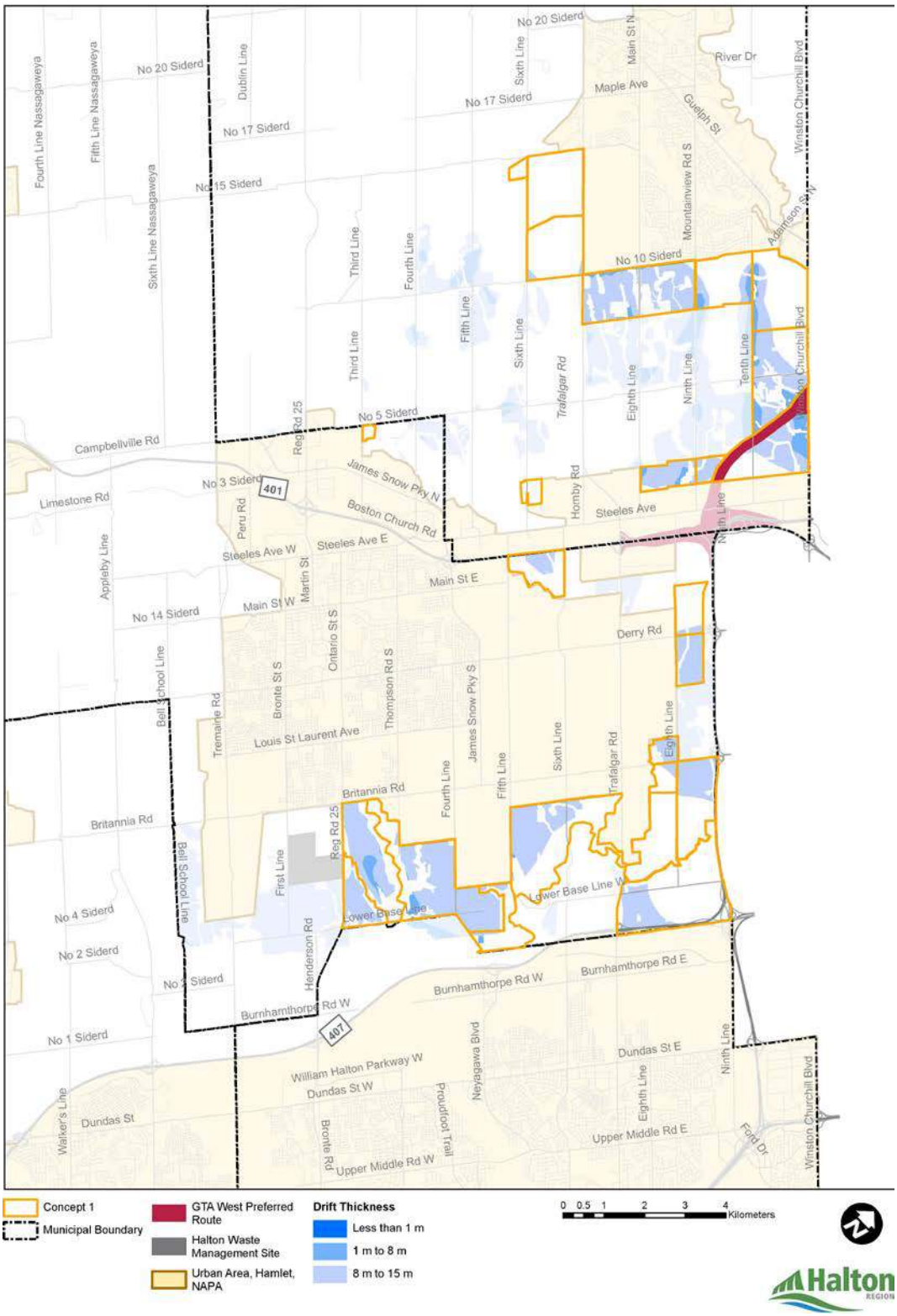
- Less than 1 m
- 1 m to 8 m
- 8 m to 15 m

Map 5 - Concept 3 and Shale Resource Areas (ARIP-184)

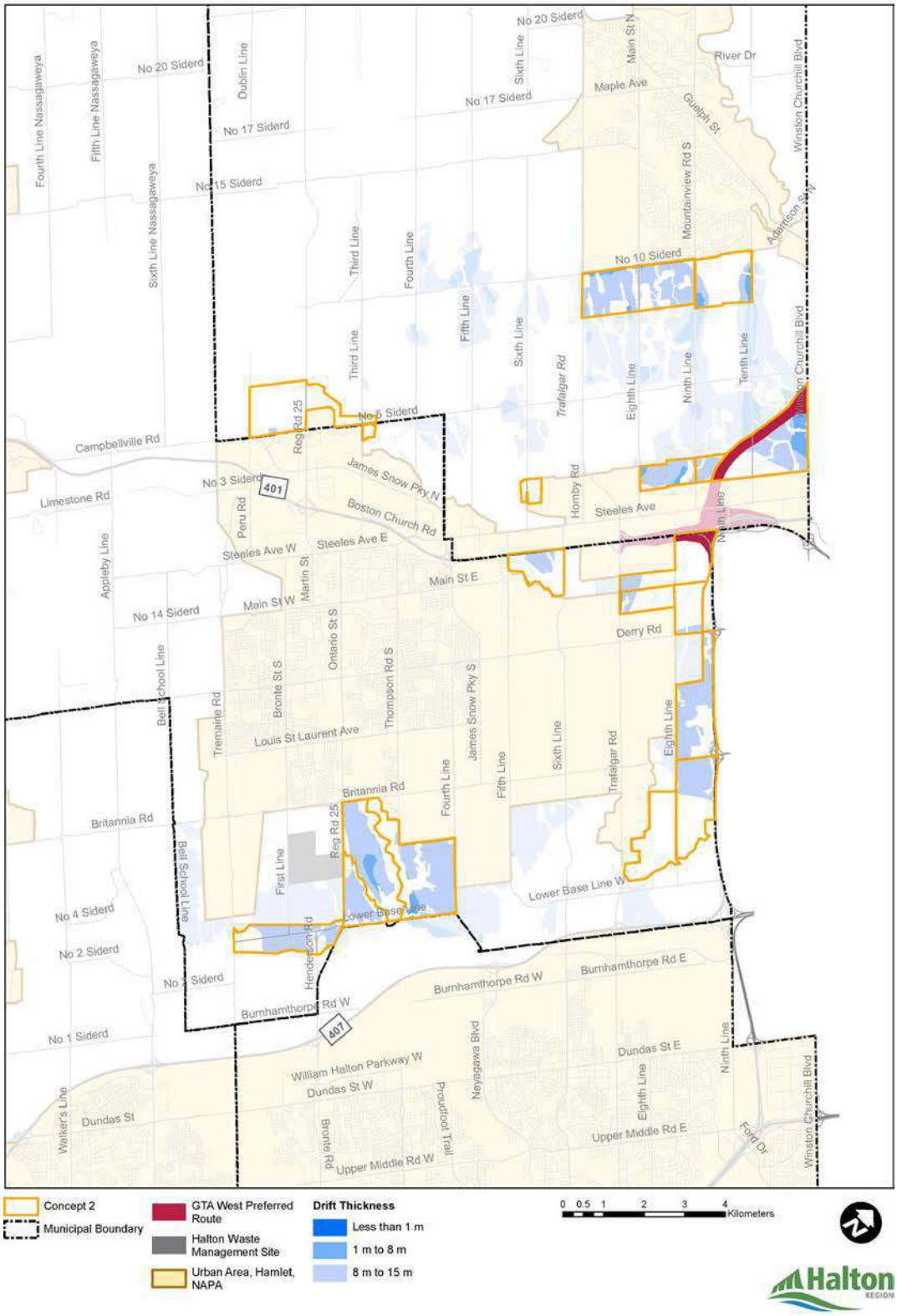
Map 6 - Concept 4 and Shale Resource Areas (ARIP-184)

See next page for the full maps

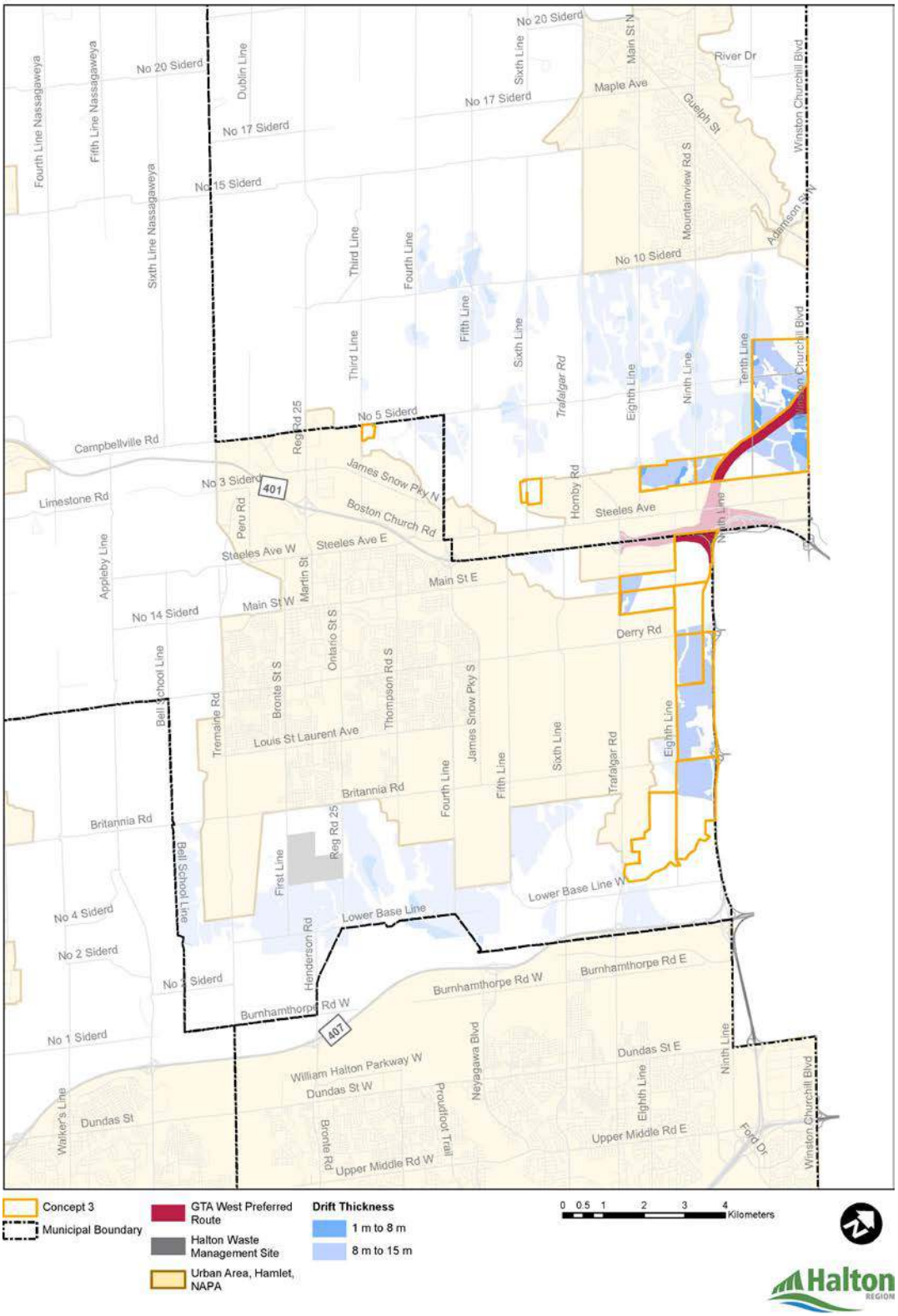
Map 3 - Concept 1 and Shale Resource Areas (ARIP-184)



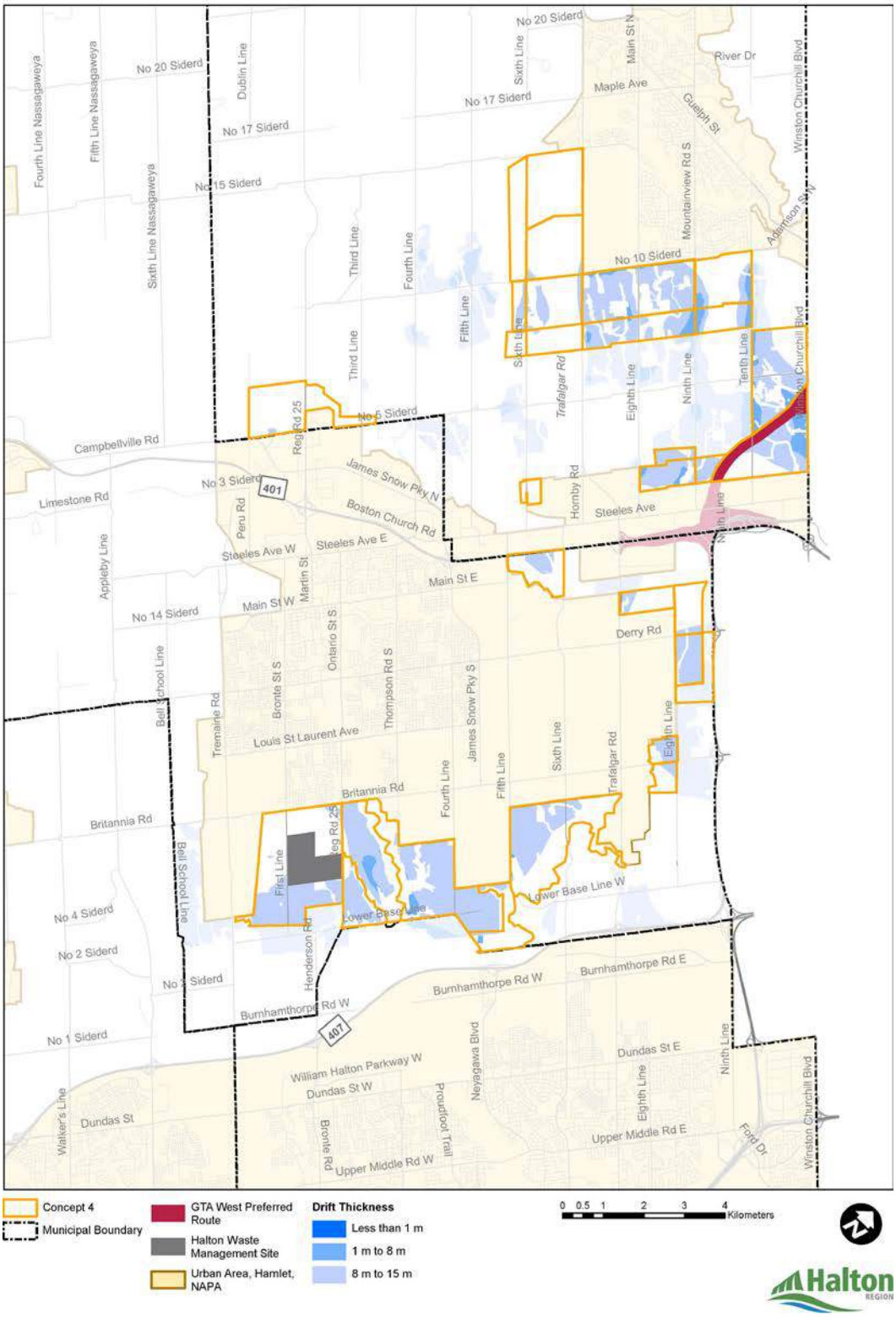
Map 4 - Concept 2 and Shale Resource Areas (ARIP-184)



Concept 3 and Shale Resource Areas (ARIP-184)



Map 6 - Concept 4 and Shale Resource Areas (ARIP-184)



Analysis of ROPA 38 Mapping

Maps 7, 8, 9 and 10 on the next page show each of the concepts based on the ROPA 38 mapping, with the with the proposed Regional Natural Heritage System, existing road allowances, the Halton Waste Management Site and the location of the proposed GTA West Highway netted out.

In terms of the amount of shale resource area that would be lost in each concept, **Table 2** shows the results of this analysis.

Table 2 (ROP Mapping) - Amount of Shale Resource Lands affected by each Concept

	Area net of RNHS, Existing Road Allowances, Halton WMS and GTA West (based on drift thickness)			
Growth Concept	Less than 1 m	1 m to 8 m	8 m to 15 m	Total
1	0	100	460	560
2	0	60	280	340
3	0	70	280	350
4	0	120	570	680

In this case, and for all Growth Concepts, the amount of land that is the site of a shale resource area is less for reasons mentioned in Section 4.0 of this Technical Memorandum. In addition, the shale resource area identified by the ROP is limited to Halton Hills.

On the basis of the above, Concept 3 would support this measure the best because it affects the least amount of shale resource lands. However, Concept 2 is very close behind, which is then followed by Concept 1 and Concept 4, which would support this measure the least because of the higher amount of shale resource land in Halton Hills that would be affected.

It is noted however that if the higher priority lands having a drift thickness of 1 metre to 8 metres was considered instead, Concept 2 would marginally support this measure the best, with Concept 3 being very close behind.

Map 7 - Concept 1 and Shale Resource Areas (ROP)

Map 8 - Concept 2 and Shale Resource Areas (ROP)

Drift Thickness

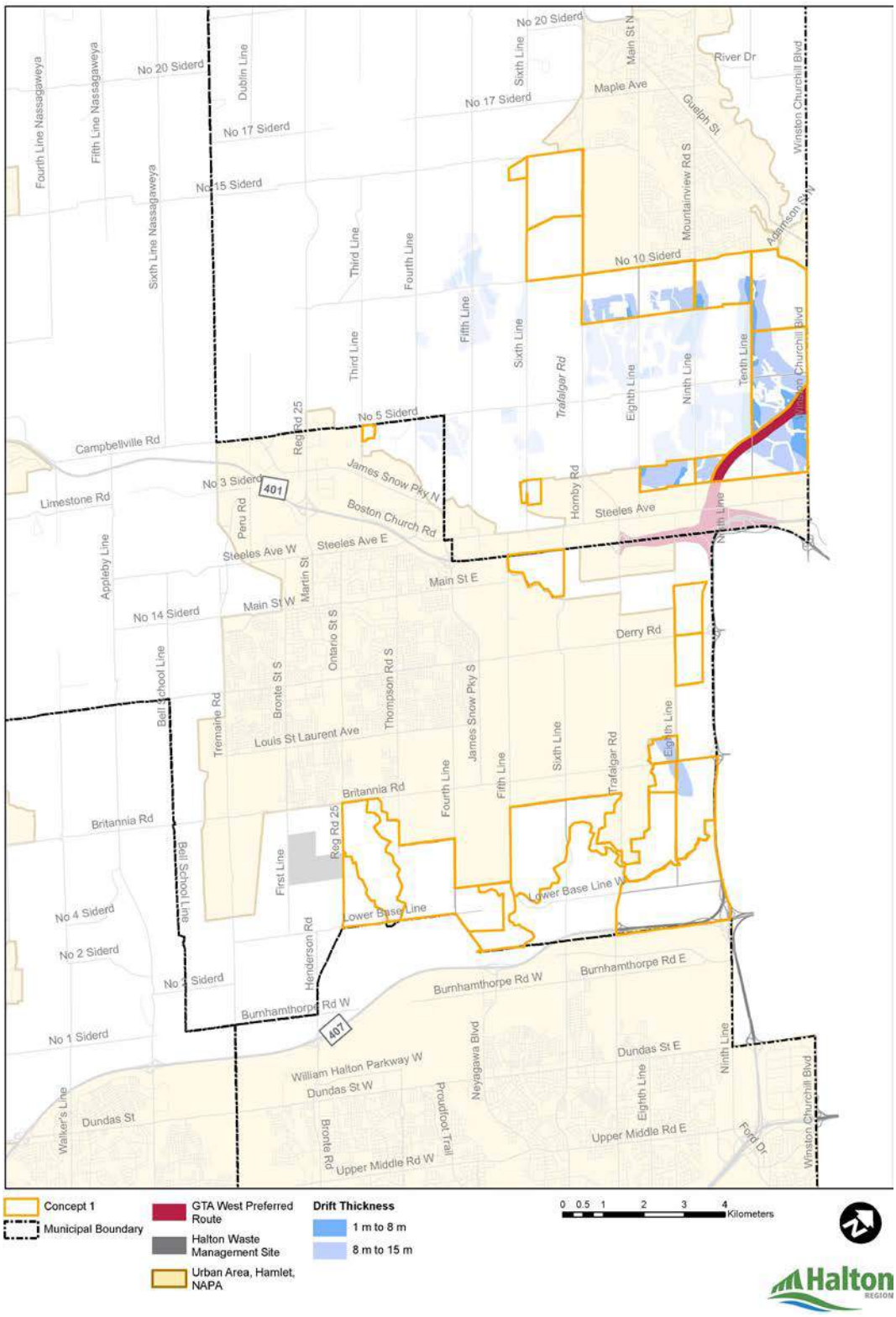
- Less than 1 m
- 1 m to 8 m
- 8 m to 15 m

Map 9 - Concept 3 and Shale Resource Areas (ROP)

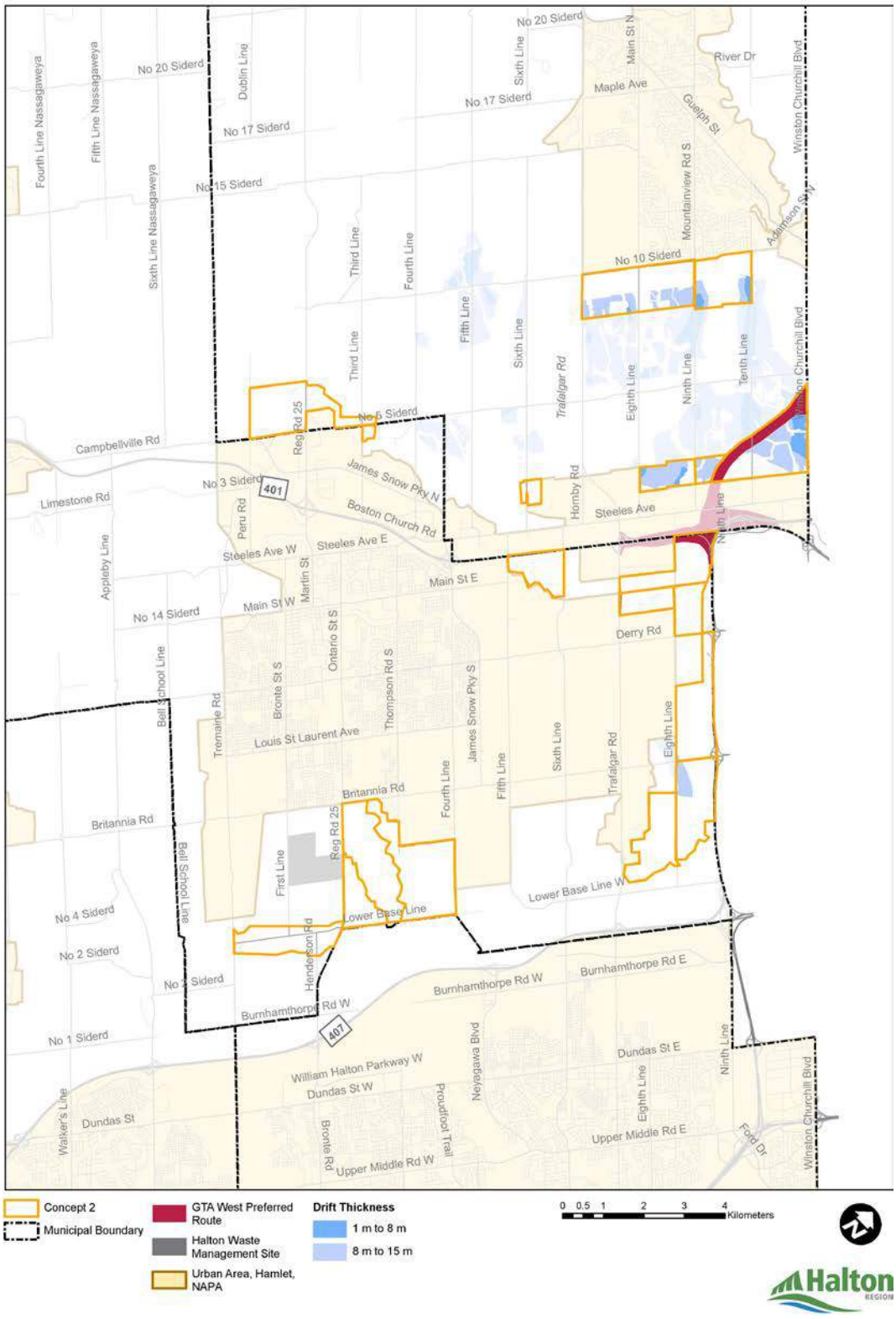
Map 10 - Concept 4 and Shale Resource Areas (ROP)

See next page for the full maps

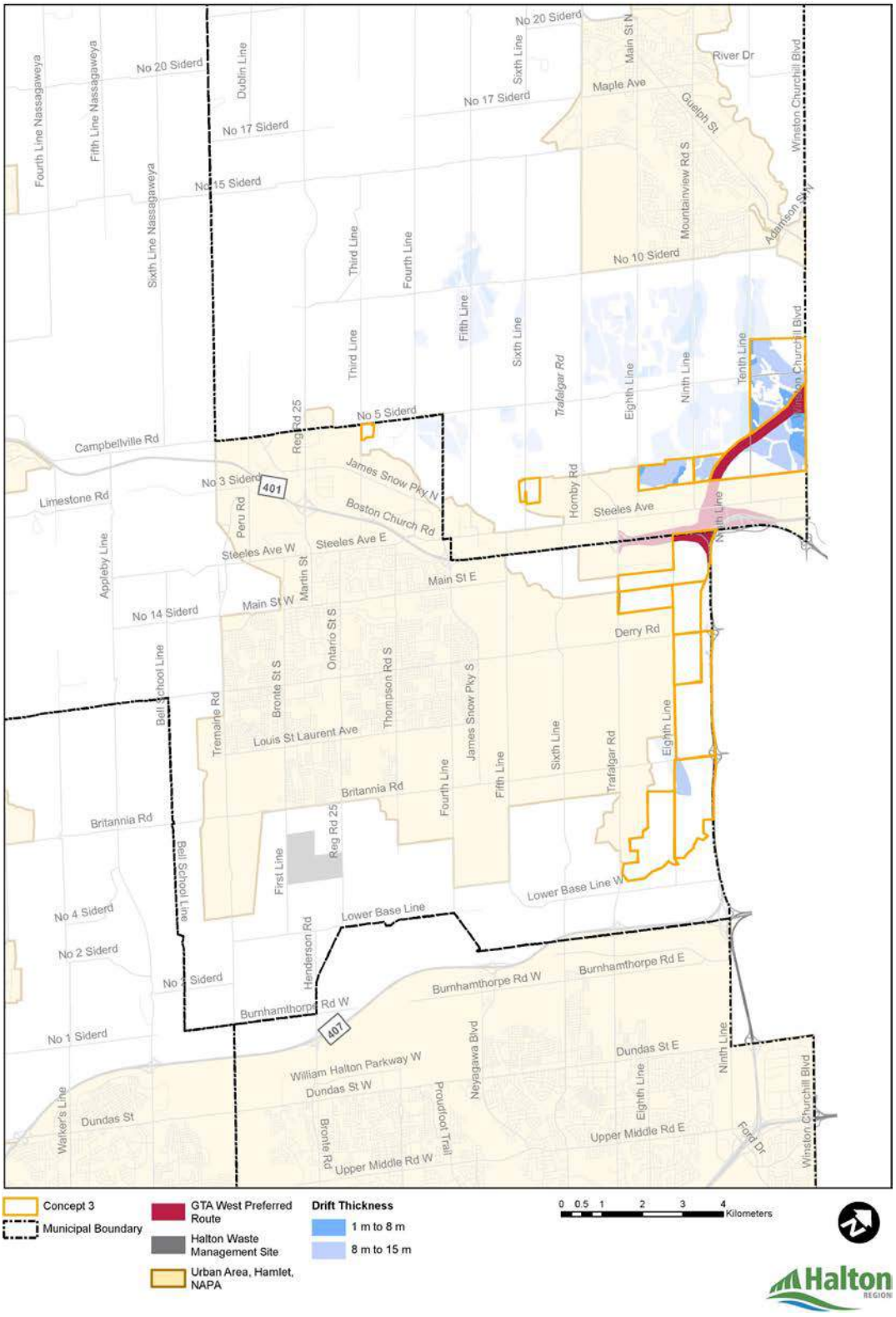
Map 7 - Concept 1 and Shale Resource Areas (ROP)



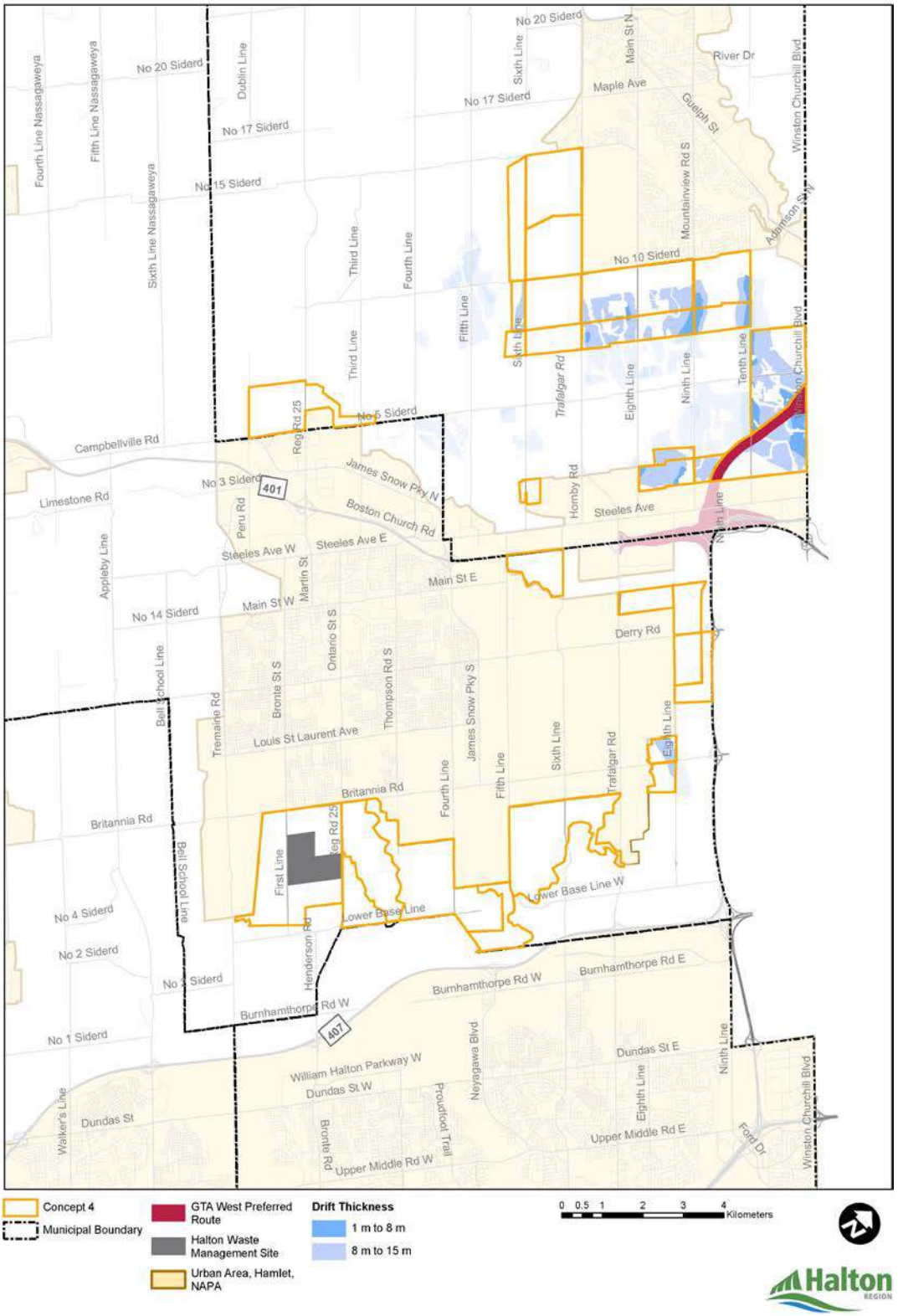
Map 8 - Concept 2 and Shale Resource Areas (ROP)



Map 9 - Concept 3 and Shale Resource Areas (ROP)



Map 10 - Concept 4 and Shale Resource Areas (ROP)



5.2 Retains areas for mineral extraction, which can be rehabilitated to high value agricultural areas

In contrast to the first measure, this measure is about how much shale resource area is retained, based on the selection of each Growth Concept, and in consideration of both ARIP 184 and ROPA 38 mapping.

In this regard, **Table 3** shows how much shale resource area is retained by drift thickness and by Concept based on ARIP 184 mapping. In this case, the proposed Regional Natural Heritage System, existing road allowances, the Halton Waste Management Site and the location of the proposed GTA West Highway have been netted out. The location of the retained shale resource areas according to ARIP mapping is shown on Maps 11, 12, 13 and 14.

Table 3 (ARIP Mapping) - Amount of Shale Resource Lands retained based on each Growth Concept

	Area net of RNHS, Existing Road Allowances, Halton WMS and GTA West (based on drift thickness)			
Growth Concept	Less than 1 m	1 m to 8 m	8 m to 15 m	Total
1	0	210	1,740	1,960
2	0	260	2,110	2,370
3	0	290	2,640	2,930
4	0	190	1,490	1,690

On the basis of the above, Concept 3 would support this measure the best because it affects the least amount of shale resource lands. Concept 2 and then Concept 4 would be next, with Concept 1 least supporting the measure.

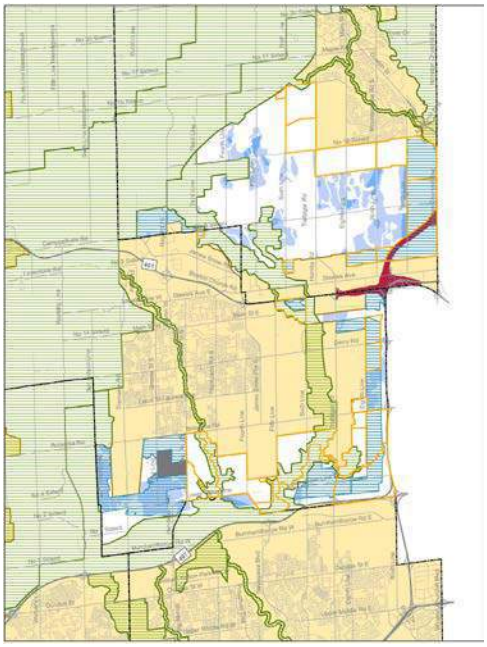
Table 4 shows how much shale resource area is retained by drift thickness and by Concept based on ROPA 38 mapping. The location of the retained shale resource areas according to ROP mapping is shown on Maps 15, 16, 17 and 18.

Table 4 (ROP Mapping) - Amount of Shale Resource Lands retained based on each Growth Concept

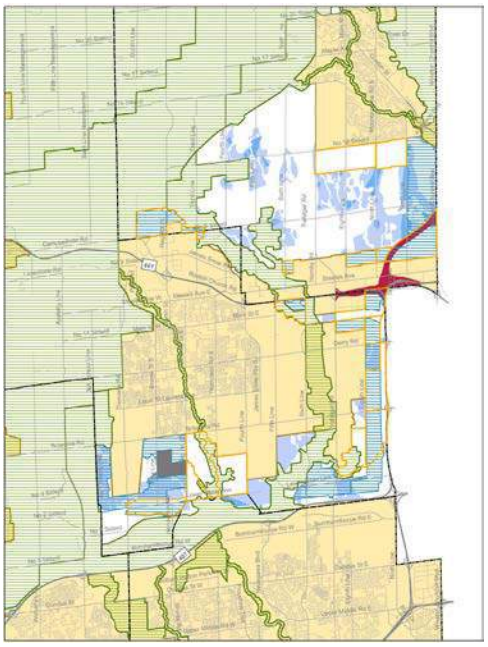
	Area net of RNHS, Existing Road Allowances, Halton WMS and GTA West (based on drift thickness)			
Growth Concept	Less than 1 m	1 m to 8 m	8 m to 15 m	Total
1	0	150	760	910
2	0	190	950	1,140
3	0	180	940	1,120
4	0	130	660	790

On the basis of the above, Concept 3 would support this measure the best because it affects the least amount of shale resource lands. However, Concept 2 is very close behind, which is then followed by Concept 1 and Concept 4, which would support this measure the least because of the higher amount of shale resource land in Halton Hills that would be affected.

Map 11 - Concept 1 and Retained Shale Resource Areas (ARIP-184)



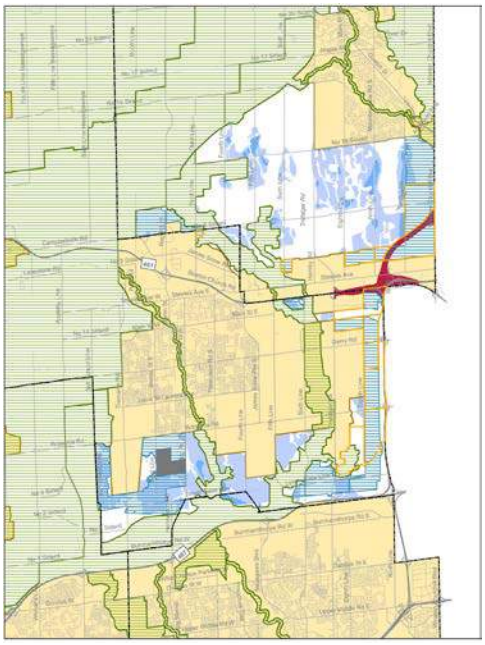
Map 12 - Concept 2 and Retained Shale Resource Areas (ARIP-184)



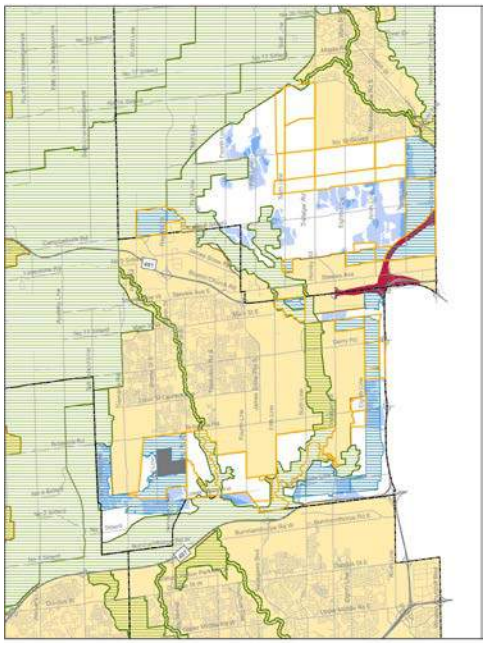
Drift Thickness

- Less than 1 m
- 1 m to 8 m
- 8 m to 15 m

Map 13 - Concept 3 and Retained Shale Resource Areas (ARIP-184)

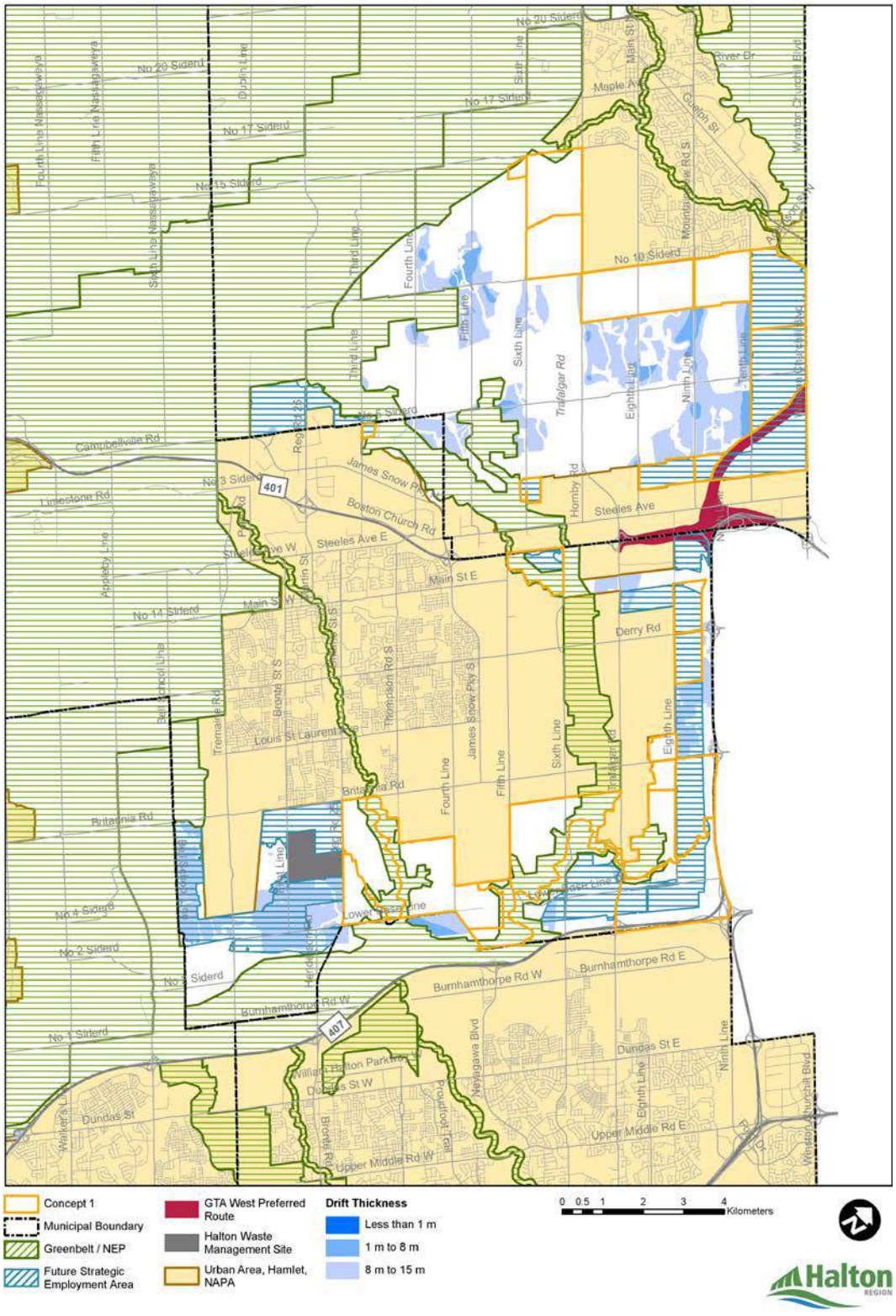


Map 14 - Concept 4 and Retained Shale Resource Areas (ARIP-184)

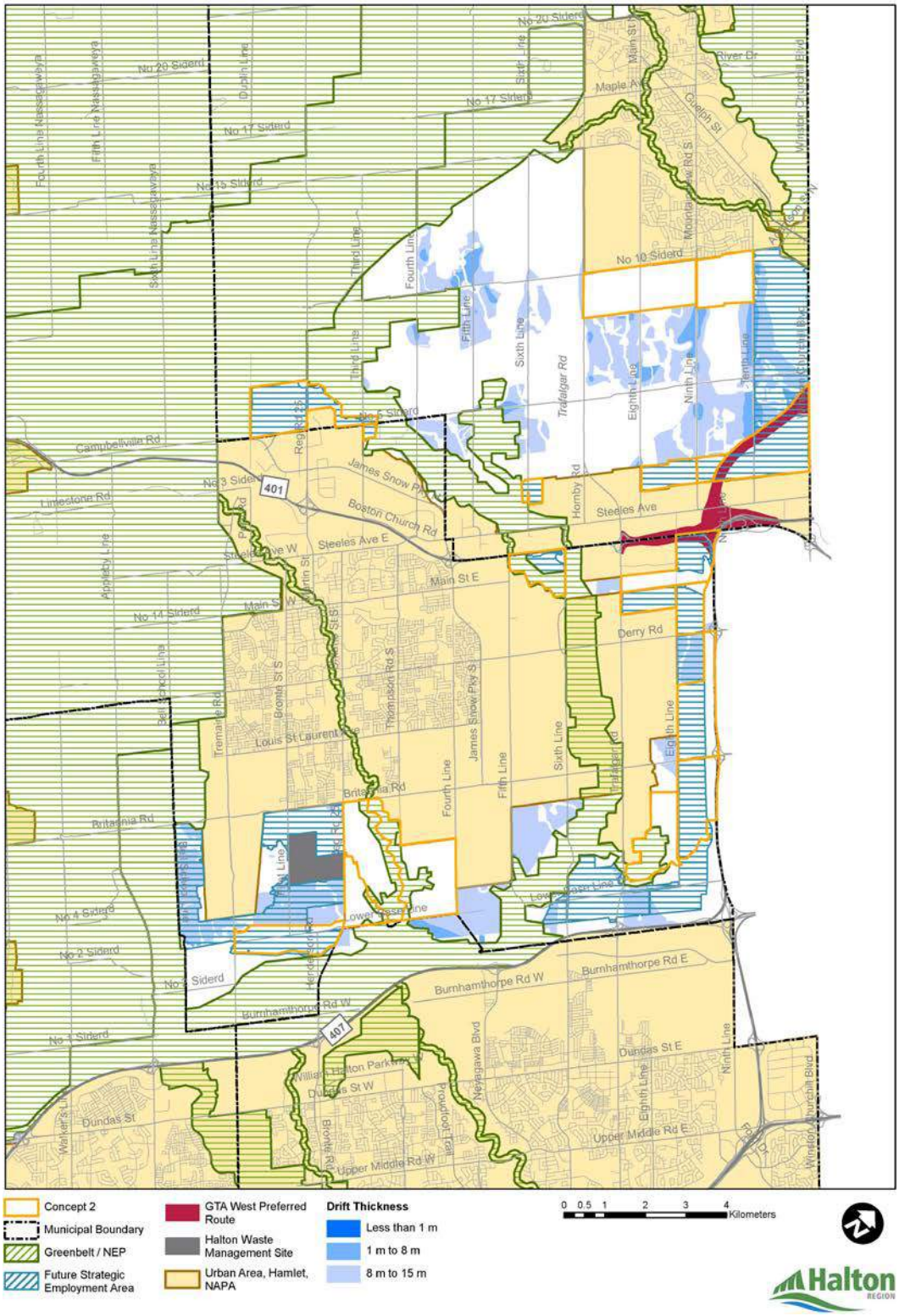


See next page for the full maps

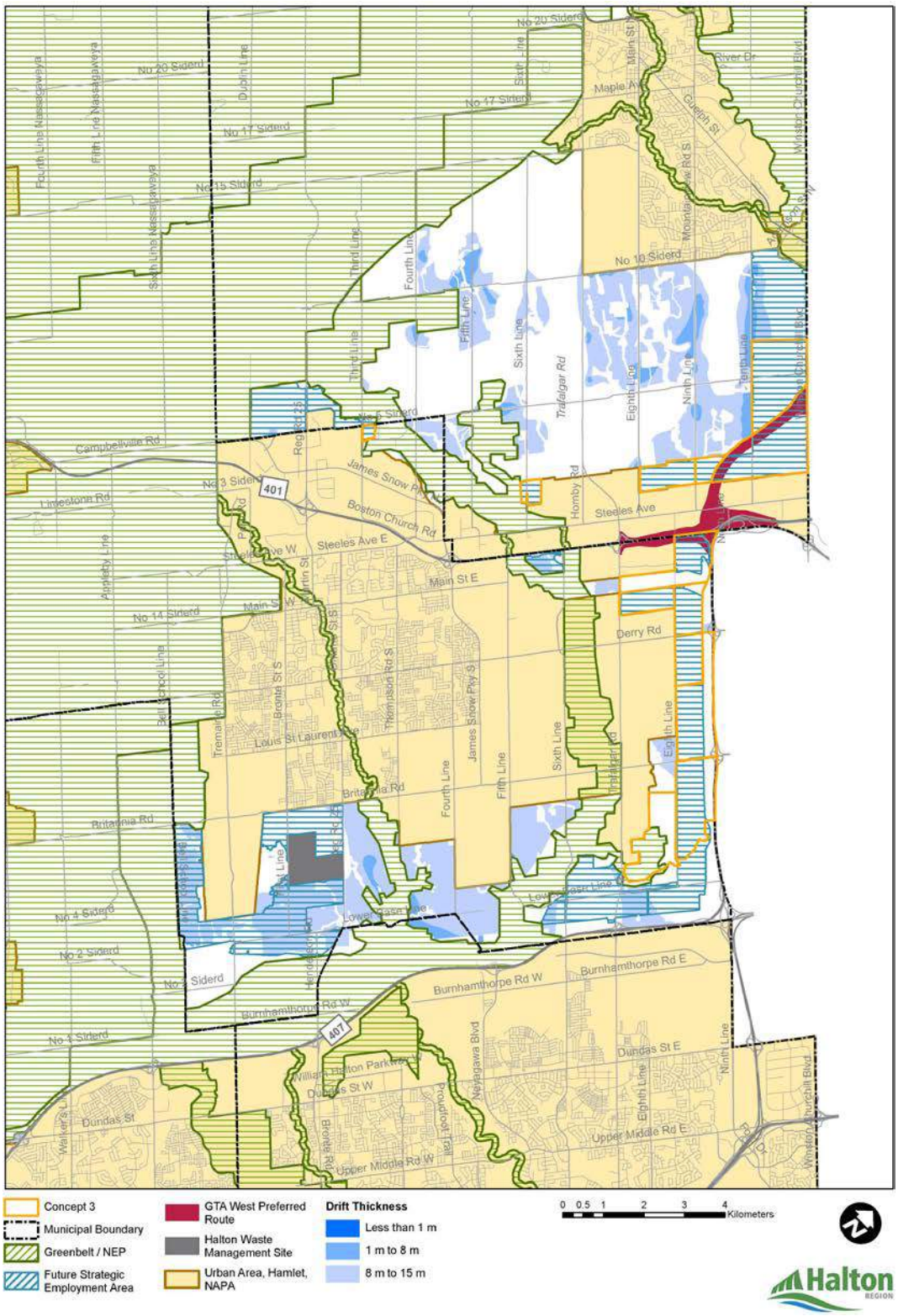
Map 11 - Concept 1 and Retained Shale Resource Areas (ARIP-184)



Map 12 - Concept 2 and Retained Shale Resource Areas (ARIP-184)



Map 13 - Concept 3 and Retained Shale Resource Areas (ARIP-184)



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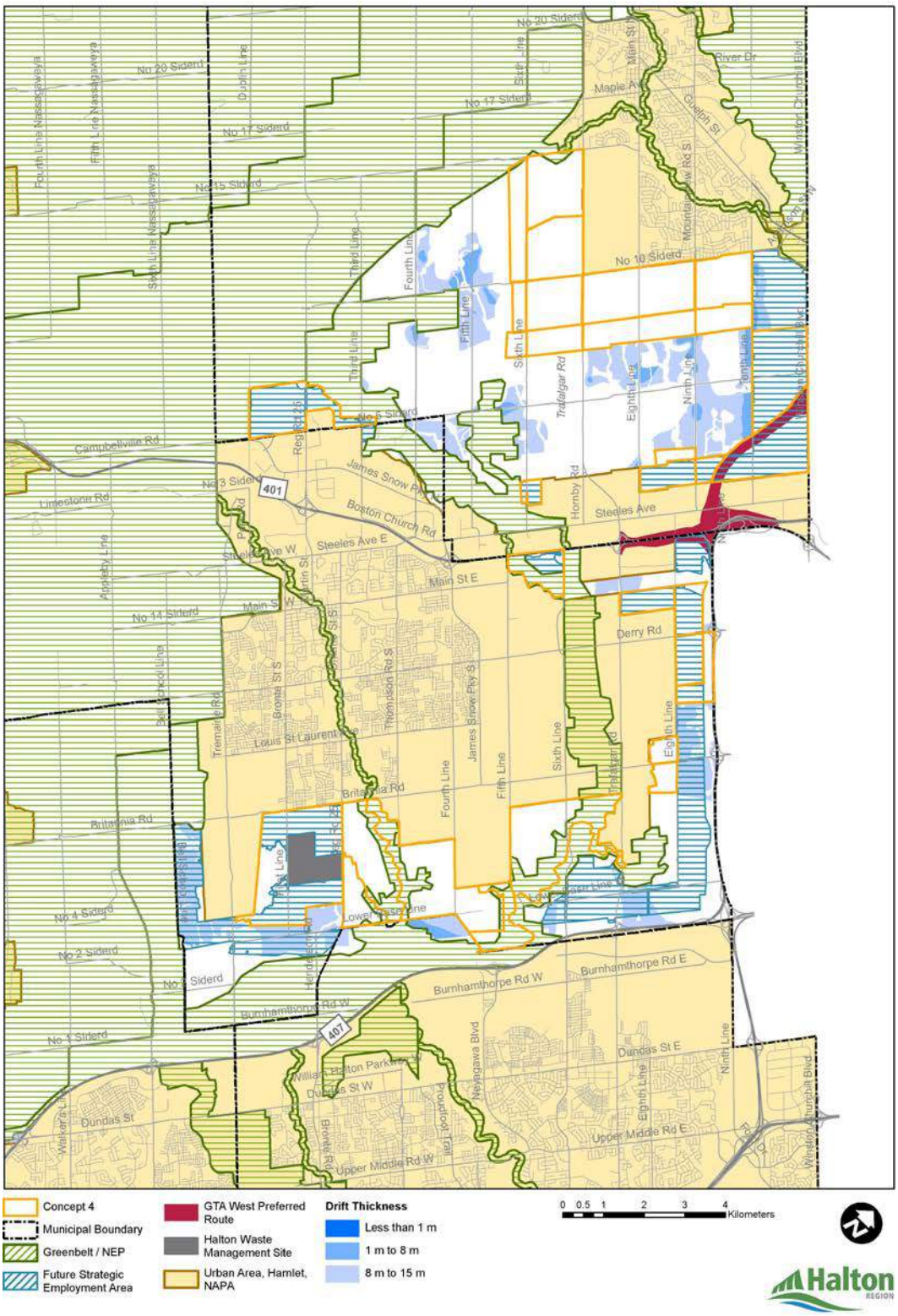
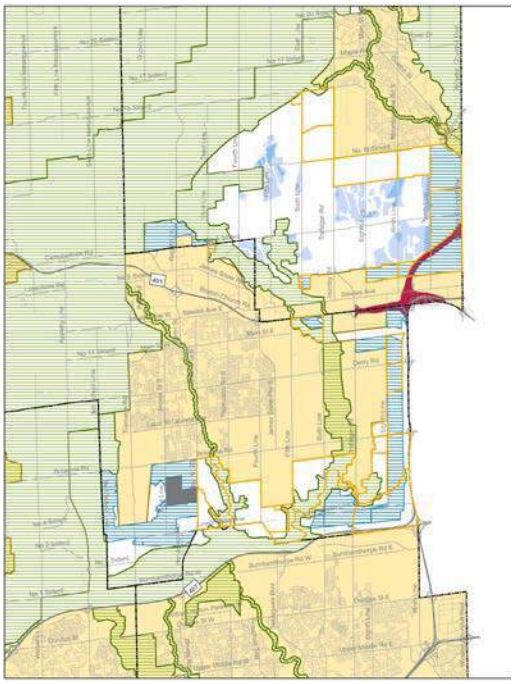
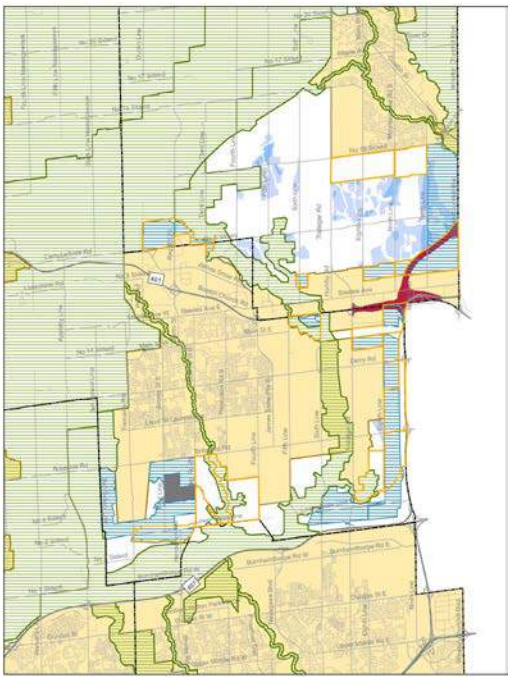


Map 15 - Concept 1 and Retained Shale Resource Areas (ROP)



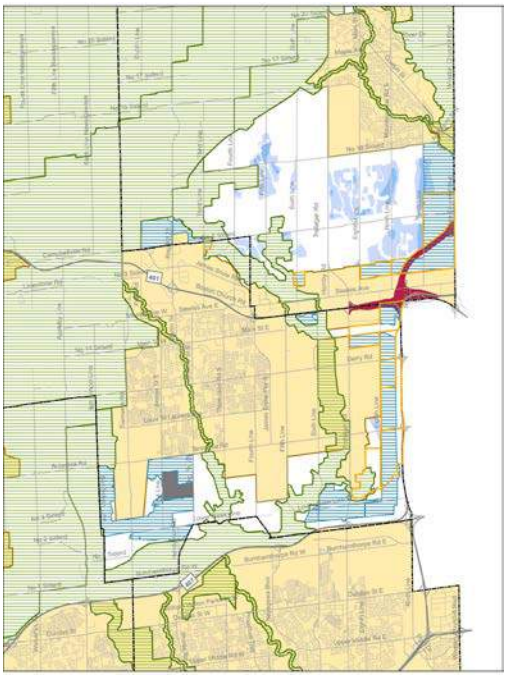
Map 16 - Concept 2 and Retained Shale Resource Areas (ROP)



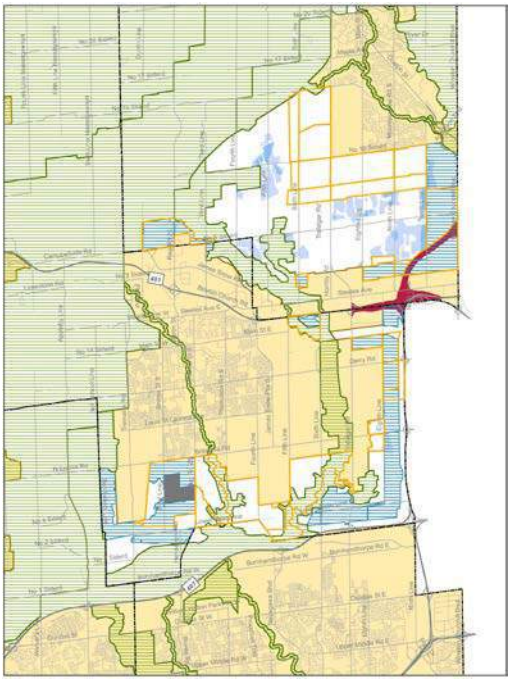
Drift Thickness

- Less than 1 m
- 1 m to 8 m
- 8 m to 15 m

Map 17 - Concept 3 and Retained Shale Resource Areas (ROP)



Map 18 - Concept 4 and Retained Shale Resource Areas (ROP)



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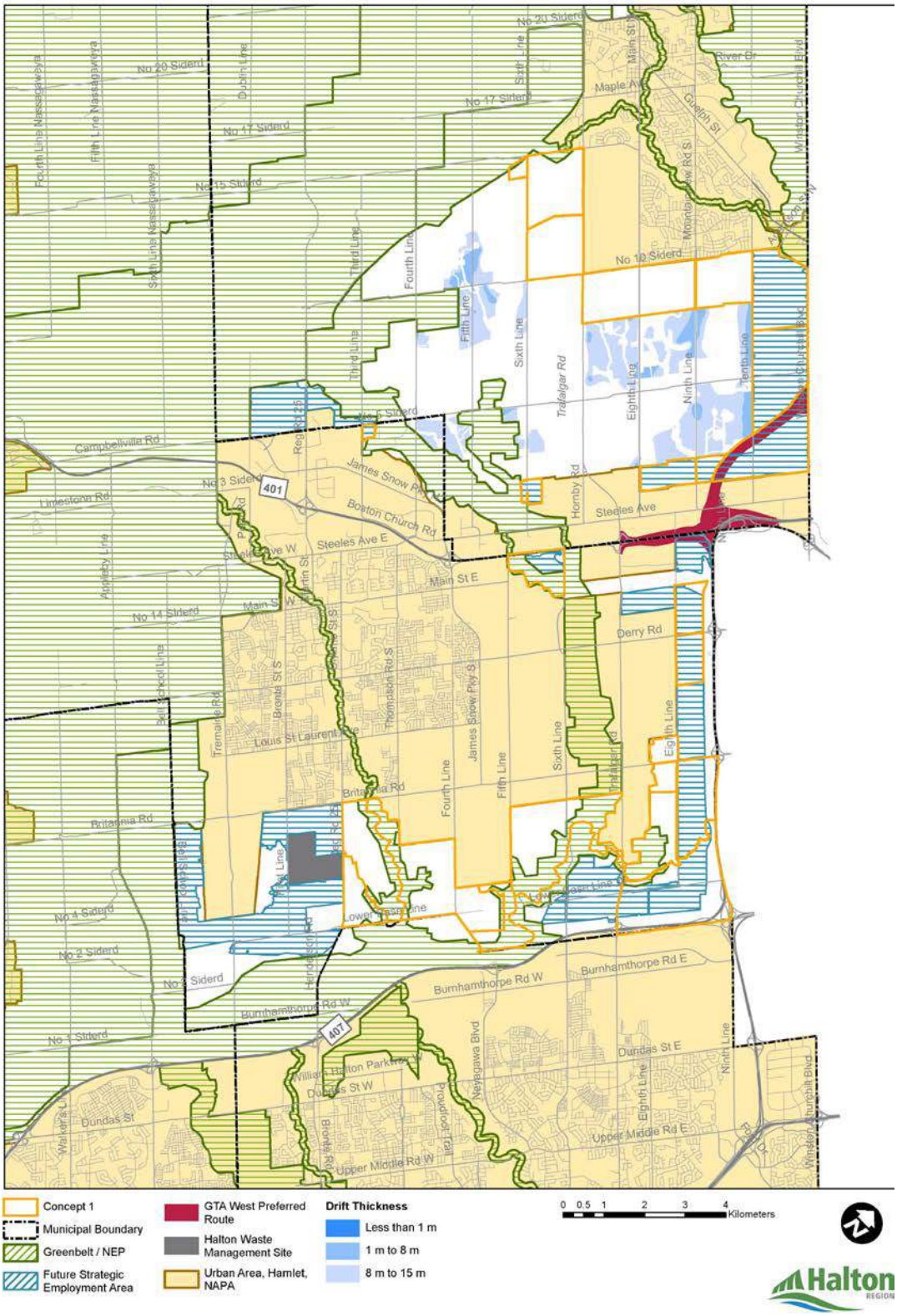
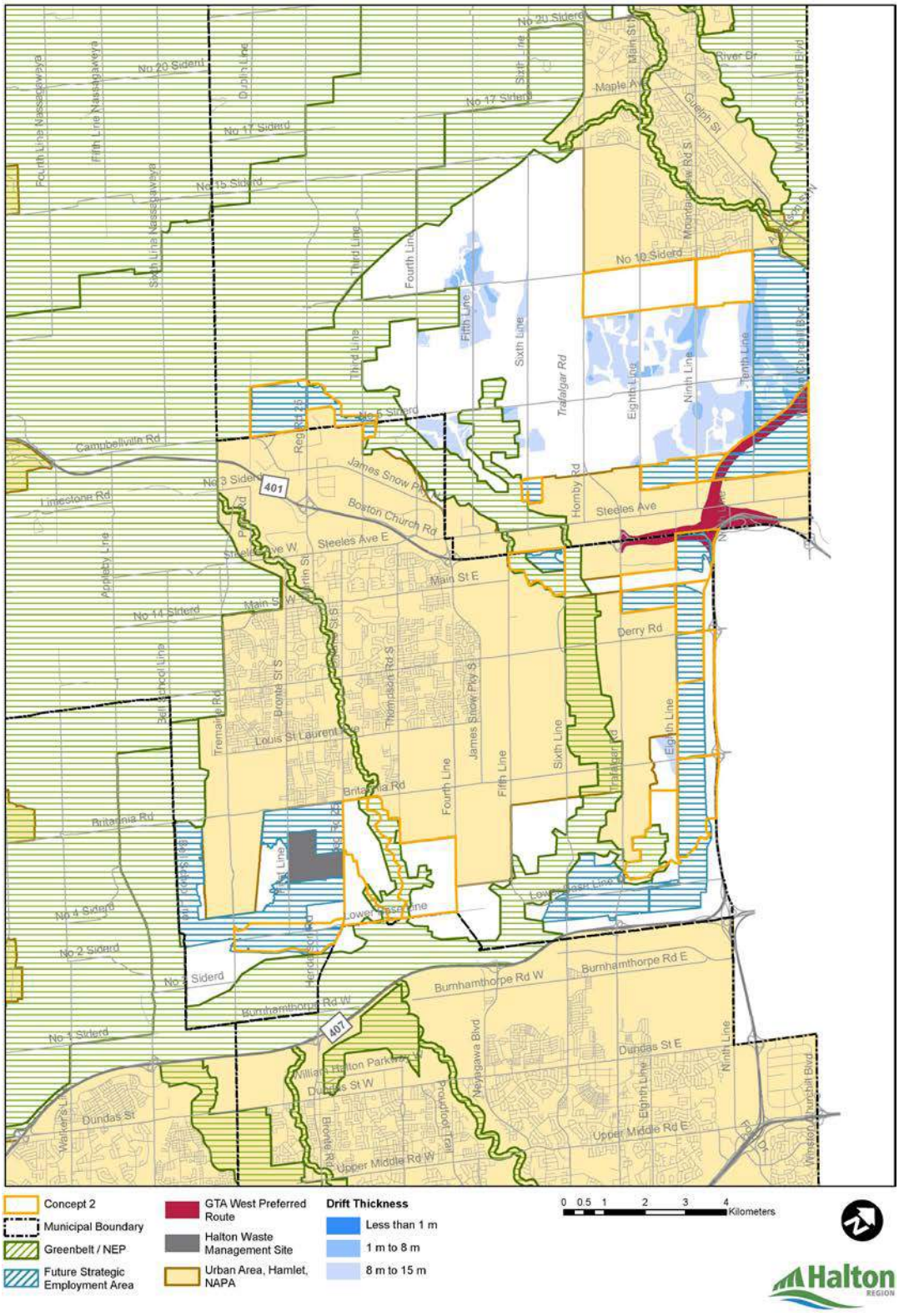
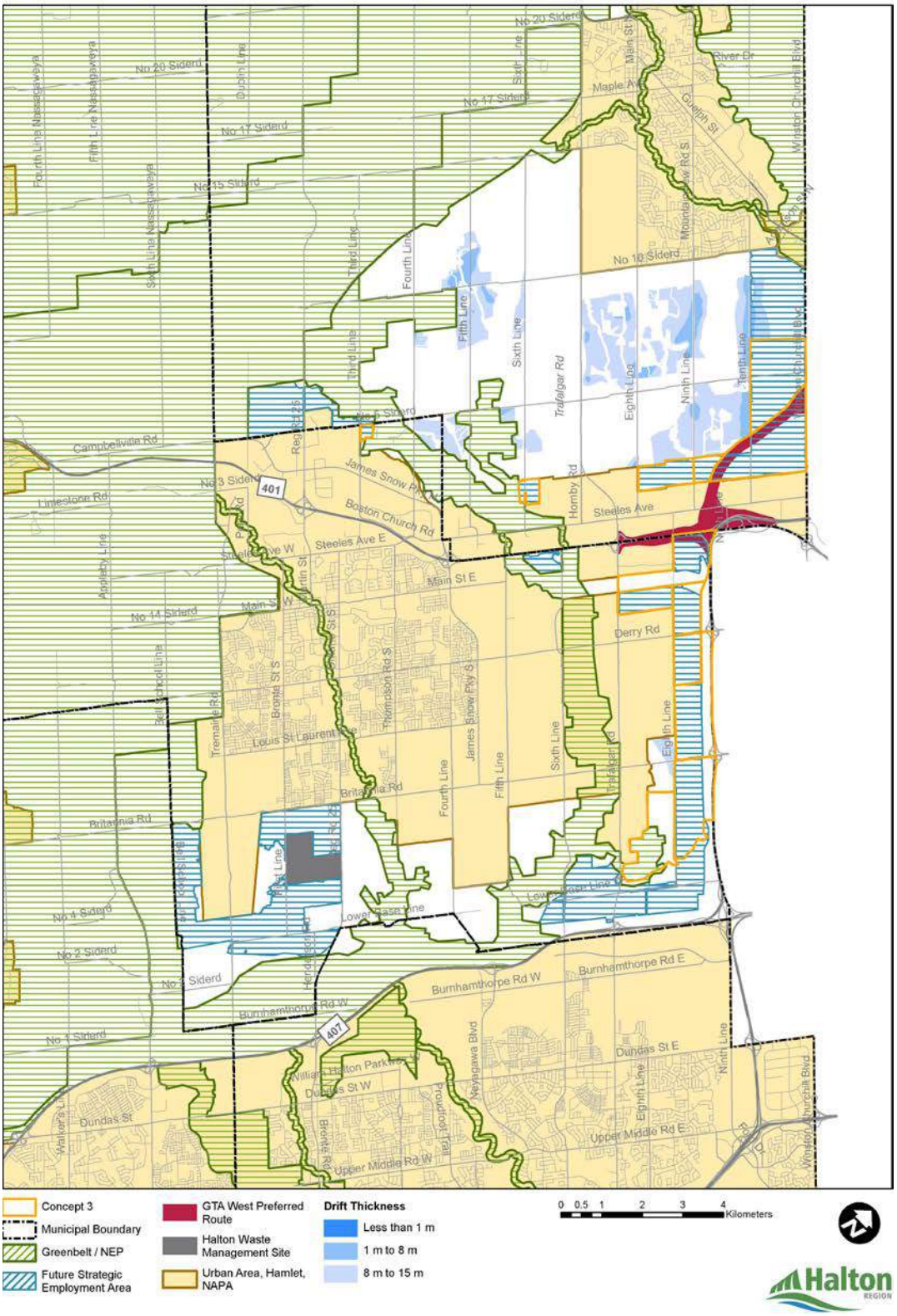
Map 15 - Concept 1 and Retained Shale Resource Areas (ROP)



Map 16 - Concept 2 and Retained Shale Resource Areas (ROP)



Map 17 - Concept 3 and Retained Shale Resource Areas (ROP)



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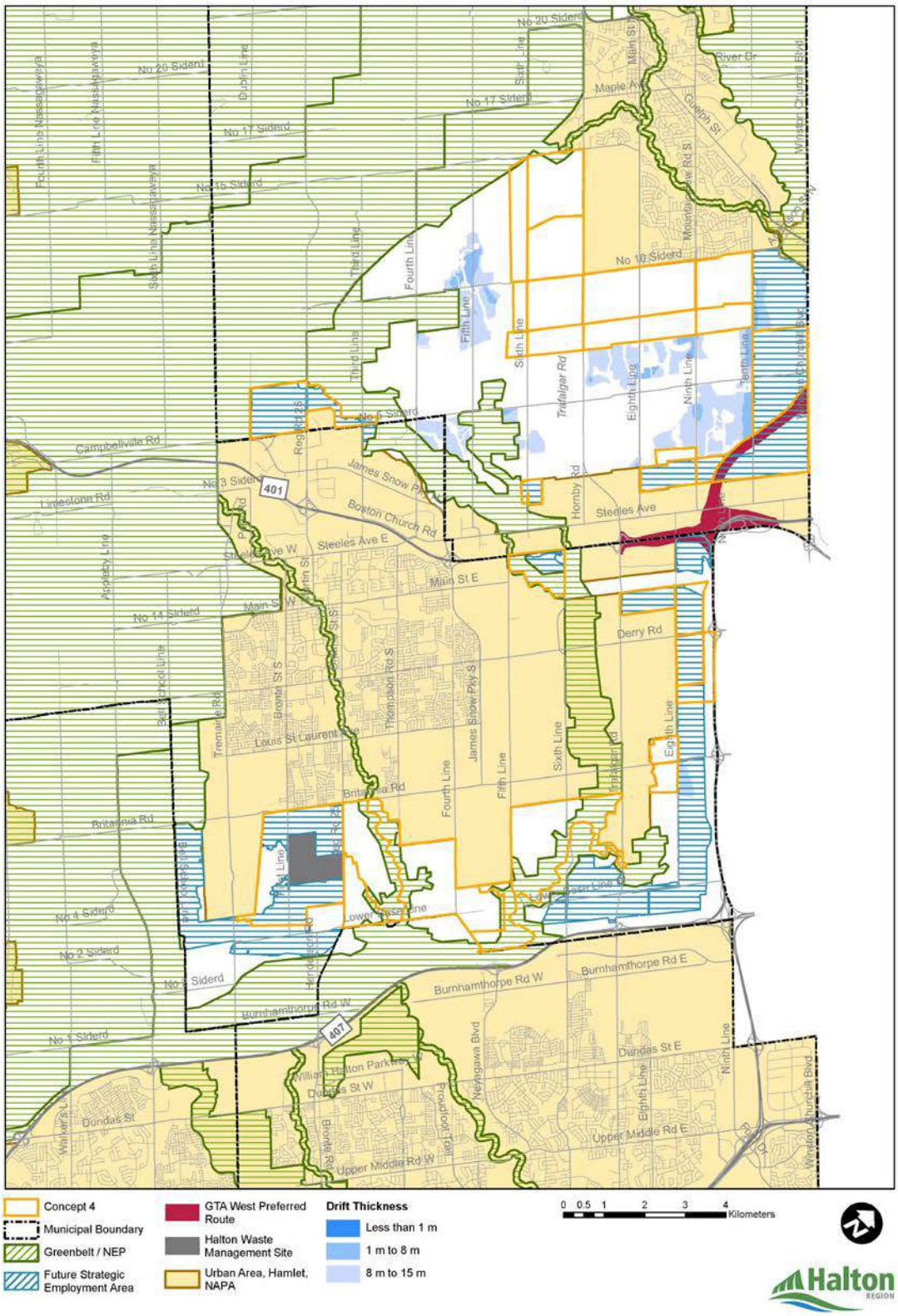
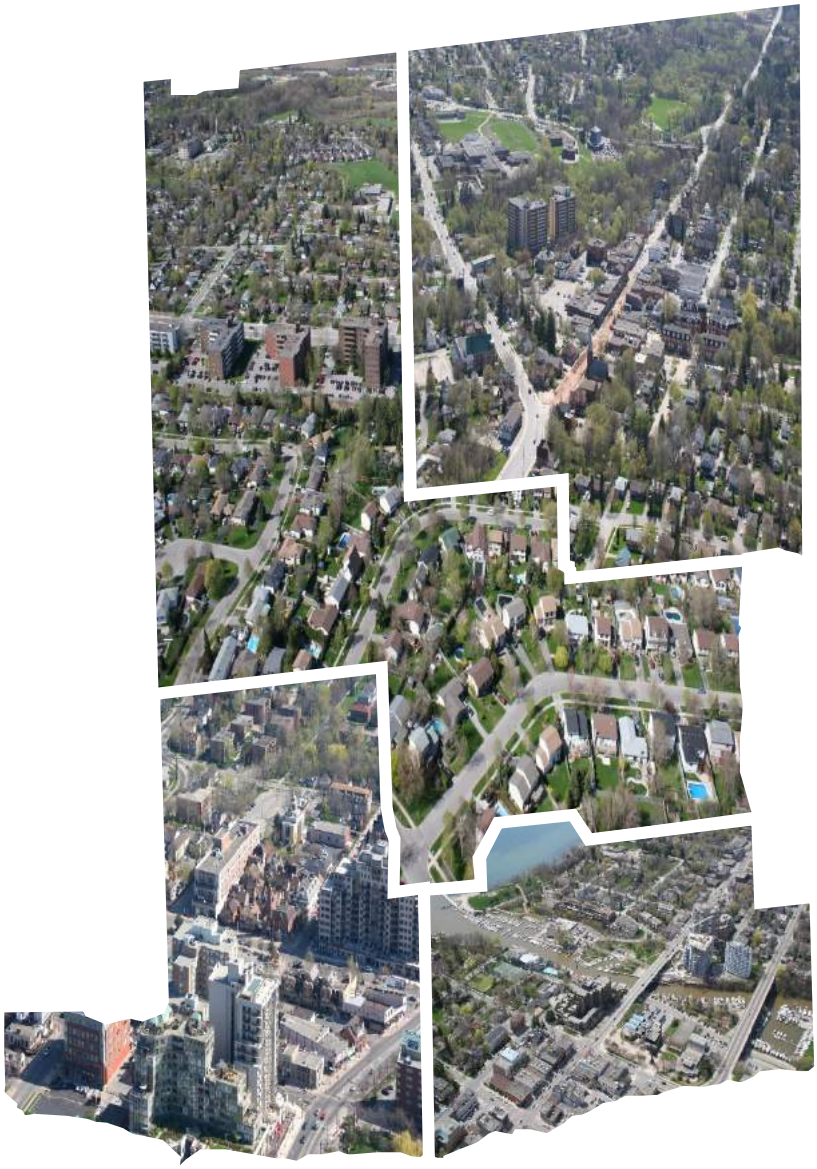




Appendix J

North Aldershot Policy Area Urban Expansion Assessment

February 2021

Regional Official Plan Review

MERIDIAN PLANNING

Halton REGION

Halton Region Integrated Growth Management Strategy
North Aldershot Policy Area Urban Expansion Assessment

TABLE OF CONTENTS

1.0 PURPOSE

In 2016, the Region initiated a review of the Halton Region Official Plan (ROP). A key element of the review is the Integrated Growth Management Strategy (IGMS), which is intended to ensure conformity with the Growth Plan (2019) and the requirement to accommodate 1,100,000 million people and 500,000 jobs by 2051 (with these population and employment targets being established by Amendment 1 to the Growth Plan in 2020).

In order to accommodate expected population and employment growth, a number of Growth Concepts were developed in the Fall of 2020. Each of these Growth Concepts proposed the expansion of the urban area beyond current urban boundaries. These Growth Concepts did not include lands within the North Aldershot Policy Area (NAPA).

The purpose of this Technical Memorandum is to determine whether the decision to not include lands within the NAPA in a Growth Concept was appropriate. In developing this Technical Memorandum, the primary document considered was the Growth Plan 2019 as amended by Amendment 1.

2.0 IS ANY PART OF THE NAPA WITHIN A SETTLEMENT AREA AT THE PRESENT TIME?

It is recognized that there are components of the NAPA that are 'eligible for urban services' as per the work completed in the mid-1990's that was incorporated into the Regional Official Plan (ROP) through ROPA 2. However, being eligible for urban services does not mean that the lands so identified are within the urban area in the ROP.

This is because the NAPA is a mutually exclusive land use designation in the ROP that is separate from the Urban Area designation and it is only within the Urban Area designation where urban uses are permitted. In addition, Section 89 (21) of the ROP prohibits the extension of urban services beyond the boundary of the urban area, with one of the exceptions being 'designated locations within the North Aldershot Policy Area as shown on Map 1', which reinforces the above.

Given that the NAPA is not within an urban area, the Growth Plan 2019 provides some direction on whether the NAPA (or a component of it) can be considered a rural settlement

area. In this regard, the Growth Plan defines 'rural settlement ' as follows:

"Existing hamlets or similar existing small settlement areas that are long-established and identified in official plans. 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, as rural settlements in the Oak Ridges Moraine Conservation Plan, or as minor urban centres in the Niagara Escarpment Plan are considered rural settlements for the purposes of this Plan, including those that would not otherwise meet this definition."

On the basis of the above, rural settlement areas are existing hamlets or similar existing small settlement areas that have been long established and identified in Official Plans. As the ROP does not identify any part of the NAPA as being within a hamlet or rural cluster, which is how rural settlements have been classified in the ROP, there are no rural settlement areas in the NAPA. The Burlington Official Plan also does not identify any component of NAPA as a settlement area either, since it was confirmed through OPA 197 (discussed below) that Highway 403 was the northern urban boundary of the Burlington urban area.

3.0 THE REGION'S HISTORICAL APPROACH TO GROWTH MANAGEMENT AS IT RELATES TO NAPA

3.1 Halton Urban Structure Plan - the 1990's

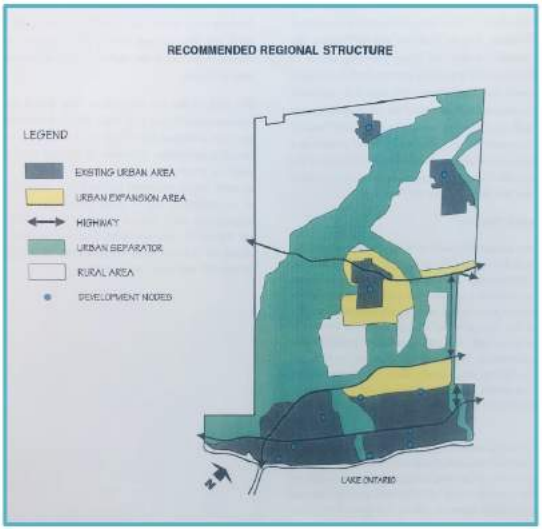
Halton Region's growth management history began in earnest with the Halton Urban Structure Plan (HUSP) that was approved by Regional Council in 1994 and implemented in the ROP in 1999. This process was initiated in the late 1980's and involved considerable research and consultation.

The key decision made as a result of the HUSP was that urban growth would be accommodated through intensification within existing communities and as extensions of existing communities and that growth would not simply continue north from the lake as an incremental northward extension of Oakville.

Instead, and in addition to accommodating additional growth in Oakville, a conscious decision was made to significantly expand the Milton urban area. To allow for this development to occur, services were extended from Oakville up Regional Road 25.

In the end the HUSP process established Halton's regional structure as shown on **Figure 1** and led to the identification and associated phasing of about 5,200 hectares of residential land within the Milton and North Oakville areas.

Figure 1: HUSP Regional Structure



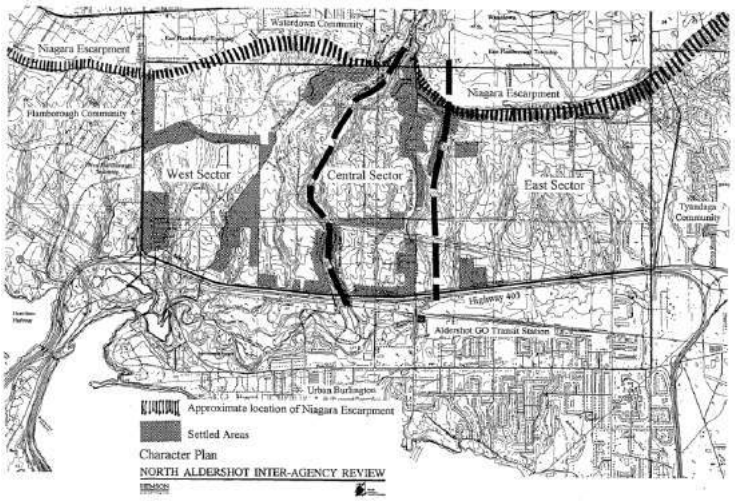
It is noted on **Figure 1** that the NAPA was identified as being included within the 'urban separator' category, and that the focus of development at the time was clearly Milton and North Oakville. This reflected the awareness that existed at the time on the sensitivity of NAPA to urban development. This awareness would have been as a result of the work completed on the North Aldershot Inter-Agency Review (NAIR), which was initiated in 1993, before the first Provincial policy statement containing direction on growth management was released (this was the Comprehensive Set of Policy Statements (CSPS), which came into effect on March 28, 1995).

The NAIR was carried out under the direction of Halton Region in partnership with the City of Burlington, Ministry of Municipal Affairs and Ministry of the Environment, Halton Region Conservation Authority and the Niagara Escarpment Commission. The purpose of the NAIR was to determine the extent to which development should be permitted in North Aldershot.

The land use plan developed as part of the review concluded that additional development in the Central Sector could be supported from a servicing and environmental perspective in discrete pockets of land that were surrounded by environmental features. In this regard, the NAIR estimated that up to 550 new dwellings could potentially be developed in these pockets in the Central Sector along with 45 additional infill houses along existing roads. The three sectors identified by NAIR are shown on **Figure 2.**

For the West Sector, it was recommended that only limited infilling be permitted along existing roads. In this regard, it was suggested that the development of about 45 new dwellings could be accommodated in the West Sector. However, it was also indicated that up to 350 units could 'theoretically' be located in an Estate Residential Cluster designation in the West Sector subject to additional study.

Figure 2: North Aldershot Sectors



A similar recommendation was made for the East Sector and only limited infilling was suggested for this area as well, with up to 45 additional dwellings possible; with an additional 390 units also 'theoretically' possible. The total number of dwelling units anticipated based on the land use concept was therefore up to a maximum of 685, assuming that only the Central Sector would be on full services.

It was recognized in the NAIR report as per the above that up to 740 additional units could be 'theoretically' located on other lands in the East and West Sectors, however; the report also indicated that the feasibility of achieving this level of development was very limited for a variety of servicing and environmental reasons.

City of Burlington Council approved the NAIR Final Report on June 13, 1994. In addition, Burlington Council adopted the Land Use Concept contained in the NAIR report as the framework for future land use in North Aldershot and directed staff to carry out the necessary studies and prepare an Official Plan Amendment to implement the recommended Land Use Concept.

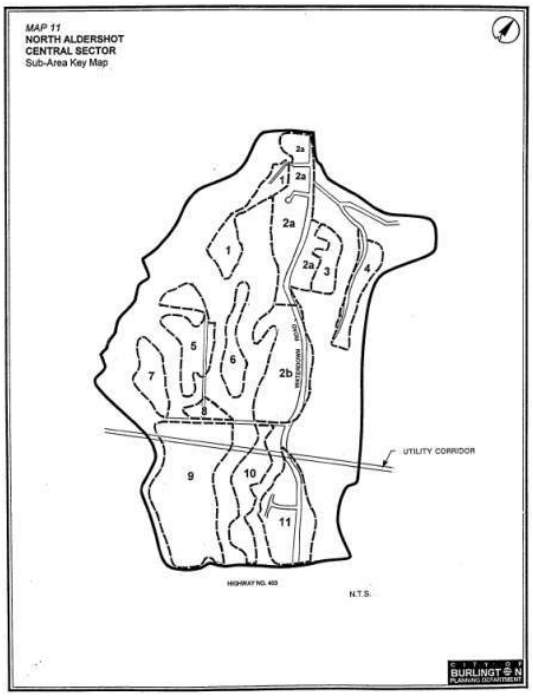
The only amendment prepared at the time was Official Plan Amendment 197 ('OPA 197'), which applied to the Central Sector only, and which the Ontario Municipal Board approved

in 1996.

The goal of OPA 197 was to permit further development in the Central Sector on the basis that the subject lands were outside of the City's urban area and that the location and intensity of development would be determined by its compatibility with the existing character, landscape and environment. On this basis, it was clear at the time that anticipated development in the Central Sector would be located on lands that were outside of the City's urban area. This is supported by one of the objectives of OPA 197, which was to confirm Highway 403 as Burlington's northern urban boundary in the west part of the City. This means that at no time was any component of the NAPA considered an urban area.

OPA 197 included a series of land use designations for the Central Sector that were intended to guide the development of a range of uses in a manner that was sensitive to the natural environment (larger and varied lot sizes, maximum lot coverage etc.). These policies collectively permitted over 500 dwelling units in a number of sub-areas (shown on **Figure 3**), with all of the sub-areas except one (sub-area 4) to be on full municipal services. With respect to sub-area 4 (which applies to a small area on the east of Old Waterdown Road), OPA 197 indicated that a decision regarding servicing was deferred pending a Local Improvement Area Study by the Region of Halton.

Figure 3: OPA 197 Central Sector Sub-Area Key Map



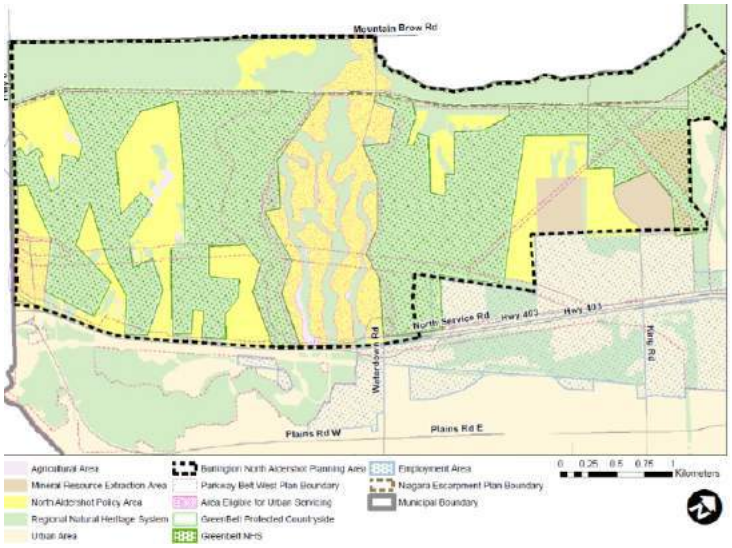
Regional Council endorsed the NAIR Study Final Report in June 1994 as the planning framework for the North Aldershot area. Regional Council also directed staff to undertake the appropriate studies to consider the financial feasibility and servicing options for the NAIR study area. The options for servicing concluded that only limited areas of the NAIR study area would be feasible.

Halton Region Official Plan Amendment Two ('ROPA 2') then established the North Aldershot Policy Area and it was adopted by Regional Council on June 3, 1998 and approved by the Minister of Municipal Affairs on November 17, 1998, which was after the Ontario Municipal Board approved OPA 197 in 1996. The policies of the ROP as they apply to NAPA have not been updated since that time.

The ROP permits a range of uses in the NAPA. One of these is identified in Section 138(14) – which indicates that permitted uses included those *"permitted in local Official Plan and zoning by-laws established in accordance with the planning framework set out in the North Aldershot Inter-Agency Review Final Report (May 1994)".* This means that the uses permitted are those that are specifically identified and permitted in the planning instruments prepared to implement the NAIR.

ROPA 2 identified an area that would be 'Area Eligible for Urban Services' in accordance with OPA 197, with this area shown on Map 1 of the ROP and reproduced here as **Figure 4.**

Figure 4: Area Eligible for Urban Services



With respect to this area, Section 139(3) of the ROP states:

"It is the policy of the Region to:

Permit the extension of urban services to those locations within the North Aldershot Policy Area shown as "Eligible for Urban Services" on Map 1 provided that:

- *Feasibility study has been prepared to the satisfaction of the Region;*
- *Regional Council deems it prudent to extend services;*
- *The landowners/developer has met the financial obligations as specified by the Region; and,*

- *Sufficient servicing capacity is available as determined by the Region."*

It is noted that sub-area 4 on the east side of Old Waterdown Road was not included within the area that was identified as being eligible for urban services. This means that if a decision were made to extend services into this area, an amendment to the ROP would be required.

It is also noted that a small area in the southwest corner of the NAPA was also identified as being eligible for urban services as well. This area is known as being part of the Bridgeview Survey where full services were extended to then existing developed areas from the City of Hamilton to address failed services in the 1980's.

At some point after OPA 197 was approved, the City's Official Plan was amended to include policies and land use designations for the East and West Sectors as well. In this regard, areas along existing roads that were not constrained from an environmental perspective were designated Infill Residential, the existing cemeteries, parks and landfill sites were designated Recreation/Open Space, existing and planned commercial areas were designated North Aldershot Commercial and the large remaining undeveloped areas in the East and West Sectors were designated North Aldershot Special Study Area. This latter designation applied to lands identified in the NAIR study as 'theoretically' being the site of additional residential development as discussed above.

3.2 Sustainable Halton (ROPA 38) - the 2000'

In 2006, the Region initiated a further review of its Official Plan to conform to the then just released first iteration of the Growth Plan in 2006. At the time, the Region was required to plan for a 2031 population of 780,000 people along with 390,000 jobs.

In the early parts of the work program that eventually led to the adoption of ROPA 38 in 2009, a Primary Study Area was identified, with this Primary Study Area including those lands that were contiguous to the existing Georgetown and Milton urban areas as shown on **Figure 5** in red outline from the document entitled 'Sustainable Halton Phase 2: Working Paper #1: Locating New Urban Lands'. Key elements that led to the identification of the Primary Study

Areas at that time included a desire to:

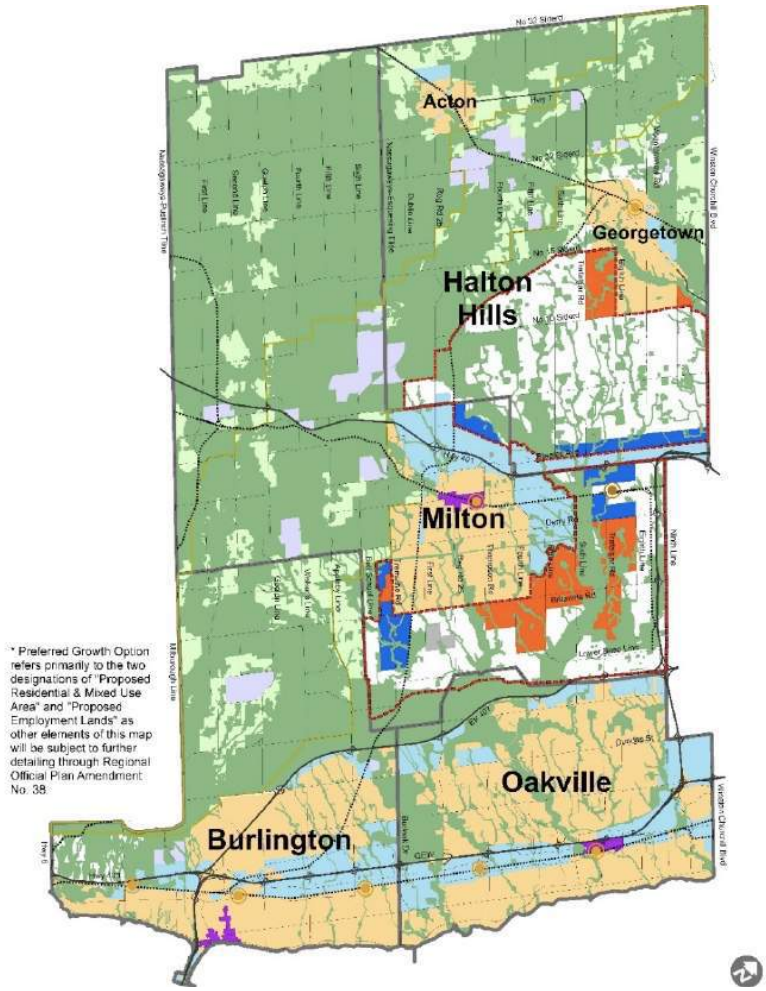
- Enhance the Greenlands system in the Region, as supported by Council's endorsement of Option 3 (Enhanced Ecological Integrity), which resulted in the addition of 1,500 hectares of land into a new Regional Natural Heritage System (which would replace the previous Greenlands system);
- Maintain and improve the urban system from a transit perspective, which meant focusing higher density development along major transit routes that were then in place or proposed;
- Extend the pattern of mixed-use nodes and corridors (such as Trafalgar Road, Dundas Street and Plains Road), which were considered to be the main streets and avenues of the Region, which in terms of City building, represent a significant investment, both private and public and are the 'bones' around which a Region is built;
- Establish employment areas along major highways such as Highways 401 and 407; and,
- Make the best use of existing infrastructure (such as extension of sewer and water services from Oakville to Milton) and protecting other critical infrastructure in the Region (such as the landfill site on Regional Road 25 and existing wastewater treatment plants).

Figure 5: Sustainable Halton Primary Study Areas

In the end, ROPA 38 resulted in the addition of 1,700 hectares of residential land to the Milton and Georgetown urban areas (shown in red on **Figure 6**) and an additional 1,100 hectares of employment land north of Milton in Halton Hills and along the Highway 401 and Steeles Avenue corridors (shown in blue in **Figure 6**).

Future Strategic Employment Areas were also established along the Highway 407 corridor and along the proposed GTA West corridor. The identification of these Future Strategic Employment Areas signalled the optimal location for new urban employment land, if determined to be required to accommodate future employment growth.

Figure 6: New Urban Land as per ROPA 38



The Regional Natural Heritage System (RNHS) was created as well through this process and it replaced the previous Greenlands system.

Within the NAPA, the RNHS was applied to about 55% of the land area, which closely corresponded to the work that was completed as part of the NAIR, when much of this land was identified as being within a number of Environmentally Sensitive Areas (ESA's) at the time.

3.3 Integrated Growth Management Strategy - 2016 - 2022

In 2016, the Region initiated a further review of the ROP. A key element of the current review is the Integrated Growth Management Strategy (IGMS) addressing the Growth Plan (2019) and its requirement to plan to accommodate 1 million people and 470,000 jobs by 2041 (Amendment 1 to the Growth Plan in 2020 moved the planning horizon to 2051 and required the Region to plan for a population of 1,100,000 and 500,000 jobs by 2051).

On June 19, 2019, Regional Council received the first in a series of reports prepared as part of the IGMS: 'INTEGRATED GROWTH MANAGEMENT STRATEGTY GROWTH SCENARIOS: Halton Region to 2041.' It was noted in the introduction section of this report that previous growth management initiatives largely focused on designating new lands for development (HUSP and ROPA 38), and the current IGMS places greater emphasis on accommodating growth in existing urban areas.

The June 2019 report further indicated that this approach is consistent with current Provincial, Regional and local land use planning principles and policies. It was further indicated in the June 2019 report that most of the expected growth in Halton to 2041 will be accommodated in existing settlement areas, either as intensification within built up areas or as new development in the existing Designated Greenfield Area. Depending upon the intensification rate chosen, the June 2019 report indicated that a portion of growth between 2031 and 2041 may require new Greenfield areas to be designated through settlement area boundary expansions.

A key element of the current IGMS approach is accommodating growth through the redevelopment and intensification of existing urban areas and more specifically within the three Urban Growth Centres (UGCs) in Halton: Downtown Burlington, Midtown Oakville, and Downtown Milton and the 9 existing and proposed Major Transit Station Areas (MTSA) in the Region: 3 in Burlington; 2 in Milton (one proposed); and 2 each in Oakville and Halton Hills. It was also noted that as of 2019, there was capacity for about 107,000 additional residential units within the existing Designated Greenfield Areas in the Region, with most of this potential being in Oakville and Milton, with a limited number in Halton Hills (Georgetown).

The June 2019 report further indicated that Milton and Halton Hills are the only two municipalities with the potential to expand settlement area boundaries to accommodate additional Designated Greenfield Area; either for new community uses or for employment uses. This is because of the decisions that have already been made on the urban structure of the Region. On this basis, four areas in Milton and two areas adjacent to Georgetown were identified as shown on **Figure 7.**

In order to test the range of growth options available to the Region, eight growth scenarios were developed in 2019 (these were later reduced to four Growth Concepts in 2020). Regional Council endorsed the advancement of the four Growth Scenarios that represented the 'Local Plans and Priorities' as the foundation for analysis and refinements to four growth concepts.

Figure 7: Potential Locations for new DGA in 2019

However, the scenarios implemented the current Provincial policy framework, and the overriding priority to accommodate growth within existing urban areas. All of scenarios maintained the Natural Heritage System and Greenbelt boundaries as currently mapped and had regard for Halton's longstanding goal to protect agricultural lands. All scenarios accommodated 157,400 new housing units between 2016 and 2041. For all eight scenarios, the pattern of growth planned for by the current in force Halton Region Official Plan, through Regional Official Plan Amendment (ROPA) 38 to 2031 was largely maintained. The infrastructure assessment demonstrated that there were no substantial differences in infrastructure (water, wastewater and transportation) opportunities and constraints to 2041 between the eight scenarios.

Lands within the NAPA were not included in this analysis. The report did however recognize that the NAPA is unique within Halton Region with *" some limited development and significant environmental features."* The following was also indicated in the June 2019 report as it relates to future development in the NAPA: *"Potential development in the North Aldershot area has not been included in the urban supply for the scenarios at this time. Should the conclusions of the current analysis of North Aldershot indicate future*

development approvals (as discussed elsewhere in the report), units would be incorporated in the Preferred Growth Concept as either rural communities or new DGA, as appropriate."

The June 2019 report also indicated the following with respect to the NAPA: *"The review and update of land use permissions and policies in the NAPA is being undertaken as part of the larger ROPR process. The growth potential and associated potential servicing requirements, as well as the costing of potential servicing are being considered through the IGMS. Analysis of the Natural Heritage System, and revision of the NHS maps for the NAPA, are being undertaken through the Natural Heritage Review."* Consequently, a servicing review was carried out and it is summarized in Section 3.4 of this Technical Memorandum. A review of the extent of the Regional Natural Heritage System in the NAPA was also carried out and it is summarized in Section 3.5 of this Technical Memorandum.

3.4 Water and Wastewater Servicing in the NAPA

GM BluePlan was retained by Halton Region to review opportunities and constraints for water and wastewater servicing of the NAPA and in this regard a memorandum dated December 2020 was prepared (attached as **Appendix 1** to this Technical Memorandum).

The GM BluePlan memorandum:

- Provides an overview of the extent of the existing water and wastewater infrastructure and municipal services in the NAPA;
- Summarizes servicing strategies for the NAPA as outlined in the 2011 Sustainable Halton Master Plan; and
- Presents water and wastewater servicing opportunities and constraints for existing and planned infrastructure.

One of the items noted in the GM BluePlan memorandum is that the lands within the NAPA slope down from the Niagara Escarpment towards Highway 403 with a difference in elevation of approximately 100 metres as shown in Figure 2 of their memorandum. This significant change in elevation has an impact on how services can be provided.

The areas that were considered to be potential development areas in the NAPA by GM

BluePlan were those areas outside of the proposed to be updated boundaries of the Regional Natural Heritage System (RNHS) as discussed in Section 3.5 of this Technical Memorandum.

GM BluePlan confirms that there are three City of Hamilton fed water systems in the NAPA (Waterdown Road/Old Waterdown Road, Snake Road and Bridgeview). With respect to wastewater, sewer services are provided to Bridgeview, the lower portion of Waterdown Road and one of the closed waste disposal sites in the East Sector, all of which are connected to the Halton Region wastewater network with wastewater eventually ending up at the Skyway Wastewater Treatment Plant in Burlington.

GM BluePlan also reviewed the Sustainable Halton Water and Wastewater Master Plan (Master Plan) prepared in 2011 to support Regional implementation of the Official Plan Amendment (ROPA 38/39) based on the Region's Best Planning Estimates (June 2011). The Master Plan established a Region-wide water and wastewater servicing strategy that was designed to accommodate growth from 2011 to 2031. In this regard, it is noted that the areas included in the Best Planning Estimates in 2011 were those areas that were identified as being eligible for municipal services in the Central Sector. The Master Plan identifies a number of water and wastewater improvements to service this development.

GM BluePlan notes that areas that are potentially available for development in the whole of the NAPA (because they are not constrained by environmental features) will be significantly less if the changes proposed to the boundaries of the RNHS are changed as discussed in Section 3.5 of this Technical Memorandum. In consideration of these changes and other factors, GM BluePlan make the following conclusions with respect to extending municipal water services to the NAPA:

"Currently, there are no municipal water services for the central and eastern areas within the West Sector. In addition, Regional drinking water infrastructure is not within close proximity; therefore, extension of water services to these areas from the Halton system will be challenging and require substantial new infrastructure. Potential water servicing solutions for these areas will need to overcome ground elevation differences of over 70 metres and potentially requiring multiple crossings of environmental features and Highway 403.

Servicing of new areas of the remaining policy area pockets within North Aldershot may be technically challenging due to topography and new infrastructure will be required to service the areas which would lie within multiple water pressure zones. Watermains, valves and potentially new facilities may be required to extend servicing to currently unserviced areas.

When compared to other potential new service areas in the Region, the remaining policy area pockets throughout North Aldershot pose various technical, environmental and financial challenges. Due to several factors such as topography, proximity to environmental features and the general sparse and uneven distribution of each pocket of potential development, extending servicing can be costly, inefficient and technically challenging compared to other potential growth areas in the Region which are more contiguous to existing service areas

Other potential growth areas within the Region generally have flatter topography, are clustered closer together and have fewer physical boundaries (e.g. creeks, pressure zone boundaries, major elevation changes, etc.) to overcome; all of the above characteristics can bring water servicing efficiencies. However, the servicing comment provided above generally applies to local servicing needs. It should be noted that the full upstream needs of the potential growth areas vary widely depending on existing and planned trunk infrastructure and proximity to water treatment facilities."

With respect to extending wastewater services to the NAPA, GM BluePlan makes the following conclusions which are similar to the conclusions above:

"Extension of wastewater servicing to other remaining areas or pockets within the North Aldershot Policy Area will carry environmental risks due to proximity to environmental sensitive areas with potential adverse effects to water features and resources. At a high level, there is greater potential risk and uncertainty of servicing needs for the remaining of North Aldershot Policy Area due to variability in topography and potential requirement for pumping solutions to overcome changes in ground elevation.

Currently there is no municipal wastewater services for the central and eastern areas within the West Sector, as well as the north areas around Waterdown Road in the Central and East sectors. In addition, Regional wastewater infrastructure is not within close proximity to these areas; therefore, extension of wastewater services to these areas from the existing Halton

wastewater system will be challenging and will require substantial new infrastructure. Potential wastewater solutions would require overcoming environmental features, crossings (creeks, highway, among others) and significant changes in ground elevations that may drive the need for pumping flows in places were a gravity conveyance solution is not feasible.

When compared to other potential new service areas in the Region, the remaining policy area pockets throughout North Aldershot pose various technical, environmental and financial challenges. Due to several factors such as topography, proximity to environmental features and the general sparse and uneven distribution of each pocket of potential development, extending servicing can be costly, inefficient and technically challenging compared to other potential growth areas in the Region which are more contiguous to existing service areas.

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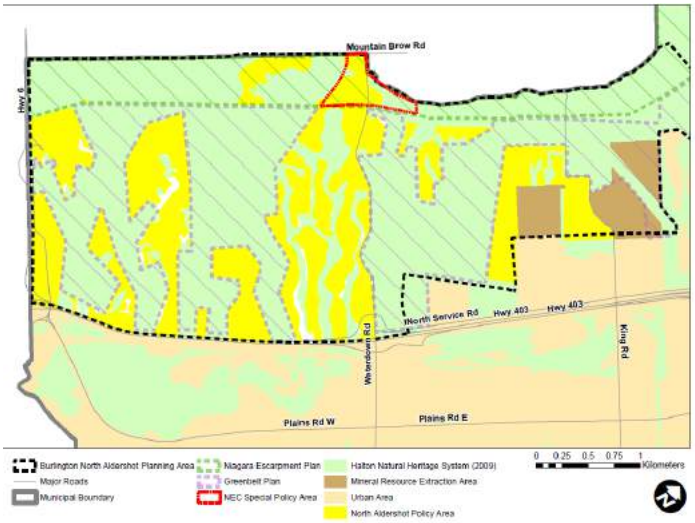
3.5 Updating the Extent of the RNHS in the NAPA

Concurrent with the current IGMS process was a review of the RNHS and the implications of the NHS for the Growth Plan on the ROP. As noted in the NAPA Discussion Paper, about 55% of the lands within the NAPA are currently within the RNHS as per ROPA 38 as shown on **Figure 8.**

Figure 8: RNHS in NAPA as per ROPA 38



With the ROPA 38 mapping as a base, a review of the RNHS mapping in

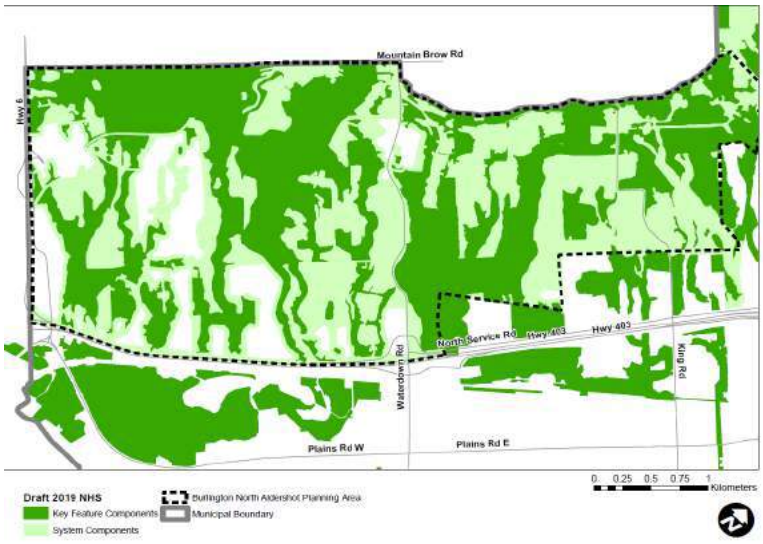
Halton Region and the NAPA was undertaken.

The review of the RNHS mapping followed a process that is outlined in detail in Section 4.3 of the Natural Heritage Discussion Paper.

The review of the RNHS mapping within the NAPA was carried out to determine if:

- There were additional key features as defined in Section 115(3)(4) of the ROP in North Aldershot that should be mapped on Map 1G of the ROP;
- The boundaries of the key features in North Aldershot shown on Map 1G of the ROP should be refined; and,
- There were additional linkages and enhancement areas that should be included within the RNHS on Map 1 of the ROP.

Figure 9: Updated RNHS Mapping

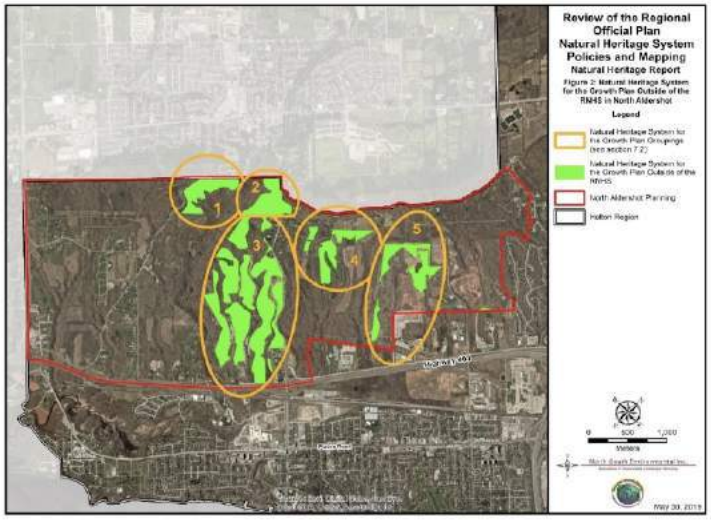


On the basis of the work completed, draft 2019 Natural Heritage System mapping was prepared. **Figure 9** shows the updated and refined limits of the key features and system components (including linkages, enhancement areas and buffers) in the NAPA based on the additional analysis completed (it is noted that the map includes the Natural Heritage System for the Growth Plan as a system component and this is discussed below).

As mentioned above, the refined mapping includes the NHS for the Growth Plan. In this regard, Provincial mapping was released in 2018 and within North Aldershot, the Provincial mapping of the NHS for the Growth Plan extends into the majority of the Central and East

Sectors (onto lands that are not the subject of the Greenbelt Plan and the Niagara Escarpment Plan), as shown on **Figure 10** below.

Figure 10: Growth Plan NHS in NAPA



Section 4.2.2.5 of the Growth Plan (2019) indicates that upper tier municipalities such as Halton Region may refine Provincial mapping at the time of initial implementation in their Official Plans. In this regard, the Provincial document entitled 'THE REGIONAL NATURAL HERITAGE SYSTEM FOR THE GROWTH PLAN FOR THE GREATER GOLDEN HORSESHOE - SUMMARY OF CRITERIA AND METHODS' provides some guidance on refinements and it states the following:

Refinements that are consistent with the policies of the Growth Plan are as follows:

Minor, technical adjustments (e.g., to account for distortion from map projections, discrepancies based on map scales);

Addition of natural features continuous with the boundary of the provincially mapped NHS. When natural features are added, the boundary of the NHS will be extended to include a 30 m vegetation protection zone beyond the edge of the feature consistent with the methods used for provincial mapping (see figure 3);

Removal of small portions of the provincial NHS where there is built-up impervious development or infrastructure (that would act as barriers) that was not identified and stamped out of the provincial mapping;

Removal of small, isolated portions of the NHS that protrude from the Greenbelt Plan boundary or settlement areas provided these areas have no natural features and are not

connected to the larger provincial NHS.

On the basis of the above, consultants retained by the Region reviewed the NHS for the Growth Plan in the NAPA recommended that refinements to the NHS for the Growth Plan should not be made, as discussed in Section 4.3 of the NAPA Discussion Paper.

Retaining the NHS for the Growth Plan in the NAPA has significant implications on development potential. Firstly, Section 4.2.3.1 of the Growth Plan establishes a general prohibition on development and site alteration within key natural heritage features and key hydrologic features that are included within the NHS for the Growth Plan. Included in the list of key features where development is prohibited are significant woodlands.

Secondly, Section 4.2.4.1 requires a 30-metre wide minimum vegetation protection zone (VPZ) adjacent to key natural heritage features that are within the NHS for the Growth Plan and in key hydrologic features that are both within and outside of the NHS for the Growth Plan. **Figure 11** identifies the implications of the 30-metre VPZ in the NHS for the Growth Plan, the Greenbelt Plan NHS and the areas subject to the RNHS (assuming that a 30 metre wide VPZ is applied in those areas as well).

Figure 11: Implications of Growth Plan NHS, Updated RNHS and new Vegetation Protection Zone Requirements

On the basis of the above, much of the lands in the NAPA are considered to be environmentally sensitive, and with respect to the Central Sector in particular (which is the area eligible for urban services as per ROPA 2), it has been recommended that the majority of the lands be retained in the NHS for the Growth Plan, meaning that the net developable

areas outside of the key features and the related VPZ will be further minimized.

It is also noted that in 2005, the Province of Ontario created the Greenbelt Plan, which was intended to permanently protect approximately 728,000+ hectares (1.8 million acres) of agricultural lands and ecological features/systems from urban development within the Greater Golden Horseshoe and beyond.

In recognition of the presence of a number of environmentally sensitive areas in the NAPA, the Greenbelt Plan was applied to about 362 hectares of land in the NAPA, which when added to the 236 hectares of land in the NAPA that is subject to the Niagara Escarpment Plan, meant that about 44% of the NAPA was subject to restrictions on the type of development that may occur. It is also noted that all of the lands within the Greenbelt Plan area in the NAPA are within the Greenbelt Natural Heritage System (with some very minor exceptions).

4.0 CONCLUSION

The current IGMS is being undertaken in accordance with the Growth Plan (2019) as amended by Amendment 1 and decisions on where and how to grow are to be in accordance with the Growth Plan (2019). In this regard, the IGMS process to date has identified a number of options respecting growth (as discussed previously), with none of these options including as a component, the expansion of the Burlington urban area into the NAPA.

In this regard, the purpose of this Technical Memorandum is to determine whether this decision is appropriate. In making this determination, reference is made first to Section 2.2.8.3 of the Growth Plan (2019), which states the following (with under-lining for emphasis):

"Where the need for a settlement area boundary expansion has been justified in accordance with policy 2.2.8.2, the feasibility of the proposed expansion will be determined and the most appropriate location for the proposed expansion will be identified based on the comprehensive application of all of the policies in this Plan, including the following:"

When considering whether an expansion area is the 'most appropriate location', this means that the merits of one location over another need to be considered and the one(s) that most

support the policies of the Growth Plan as it relates to the location of growth and development are the ones that should be selected.

As reviewed earlier in this Technical Memorandum, a key foundational element of the HUSP process was that urban growth would be accommodated through intensification within existing communities and as extensions of existing communities. The ROPA 38 process that came later confirmed this direction by:

- Enhancing the Greenlands system in the Region;
- Maintaining and improving the urban system from a transit perspective;
- Extending the pattern of mixed-use nodes and corridors;
- Establishing employment areas along major highways such as Highways 401 and 407; and,
- Making the best use of existing infrastructure.

In both of the above processes, extending the urban area into the NAPA was not a consideration because lands in the NAPA would not have been a logical extension of the Burlington urban area and were not contiguous to the existing urban areas in the same manner as the urban expansions implemented through the HUSP process and the ROPA 38 process were. In addition, including lands in the NAPA would not have been supportive of the Region's desire to focus development in nodes and corridors.

The actions of the Region through its growth management processes have been to consistently direct growth to existing urban areas and those lands that were adjacent to and contiguous to existing urban areas. In addition, the lands considered through the HUSP and ROPA 38 processes along with the current IGMS process for urban expansion were generally flat agricultural lands that were immediately adjacent to (meaning abutting or across the road) from existing urban areas.

To a very large extent, the historical growth management processes carried out by the Region conforms to Section 2.2.1.3 a) and c) of the current Growth Plan (2019) which states the following:

"Upper-and single-tier municipalities will undertake integrated planning to manage

forecasted growth to the horizon of this Plan, which will:

a) Establish a hierarchy of settlement areas, and of areas within settlement areas, in accordance with policy 2.2.1.2;

c) Provide direction for an urban form that will optimize infrastructure, particularly along transit and transportation corridors, to support the achievement of complete communities through a more compact built form;"

The current IGMS process is also designed to achieve the above as well, since it builds upon and reinforces the decisions that were made through the HUSP and ROPA 38 processes. Nothing has changed since those processes that would lead to a different conclusion today.

Another key policy that deals with the location of expansion areas is Section 2.2.8.3 e) of the Growth Plan (2019) which states the following:

"Key hydrologic areas and the Natural Heritage System for the Growth Plan should be avoided where possible."

As mentioned previously, the majority of the Central and East Sectors (not including lands that are subject to the Greenbelt Plan and Niagara Escarpment Plans) are within the Growth Plan NHS, which has been confirmed as being appropriate by consultants retained by the Region. This means that if the Region has a choice of location in terms of urban expansion, it should avoid the Growth Plan NHS, where possible.

In this regard, none of the other expansion areas currently being contemplated (with the exception of a portion of the lands west of Trafalgar Road and west of Georgetown) is within the Growth Plan NHS. With the one area affected, the Region has asked to Province to remove the Growth Plan NHS in accordance with Provincial guidance material.

As a result, and given the priority the Region has placed on developing and protecting a natural heritage system, the inclusion of lands within the Growth Plan NHS is not supportable, particularly when there are multiple other options available for consideration. Selecting one of these other locations already identified adjacent to Milton and/or Georgetown means that it is possible to avoid the Growth Plan NHS, which is what is directed by the Growth Plan (2019).

In addition to the above, Section 1.1.3.6 of the PPS (2020) also indicates that whenever the outward expansion of urban areas is contemplated, the new development should occur adjacent to the existing built-up area and should have a compact form, mix of use and densities that allow for efficient use of land, infrastructure and public service facilities. Implementing this policy in the NAPA would be difficult, given that the environmental constraints that exist in the Central Sector of the NAPA (after the Growth Plan NHS and the required vegetation protection zones are applied) which would result in scattered residential development instead of the more compact residential development that typically occurs adjacent to existing urban areas.

A similar policy also exists in Section 2.2.1.4 e) of the Growth Plan (2019) which states the following:

"Applying the policies of this Plan will support the achievement of complete communities that:

e) Provide for a more compact built form and a vibrant public realm, including public open spaces;"

The Growth Plan (2019) defines compact built form as follows:

"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, 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, multi-storey 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."

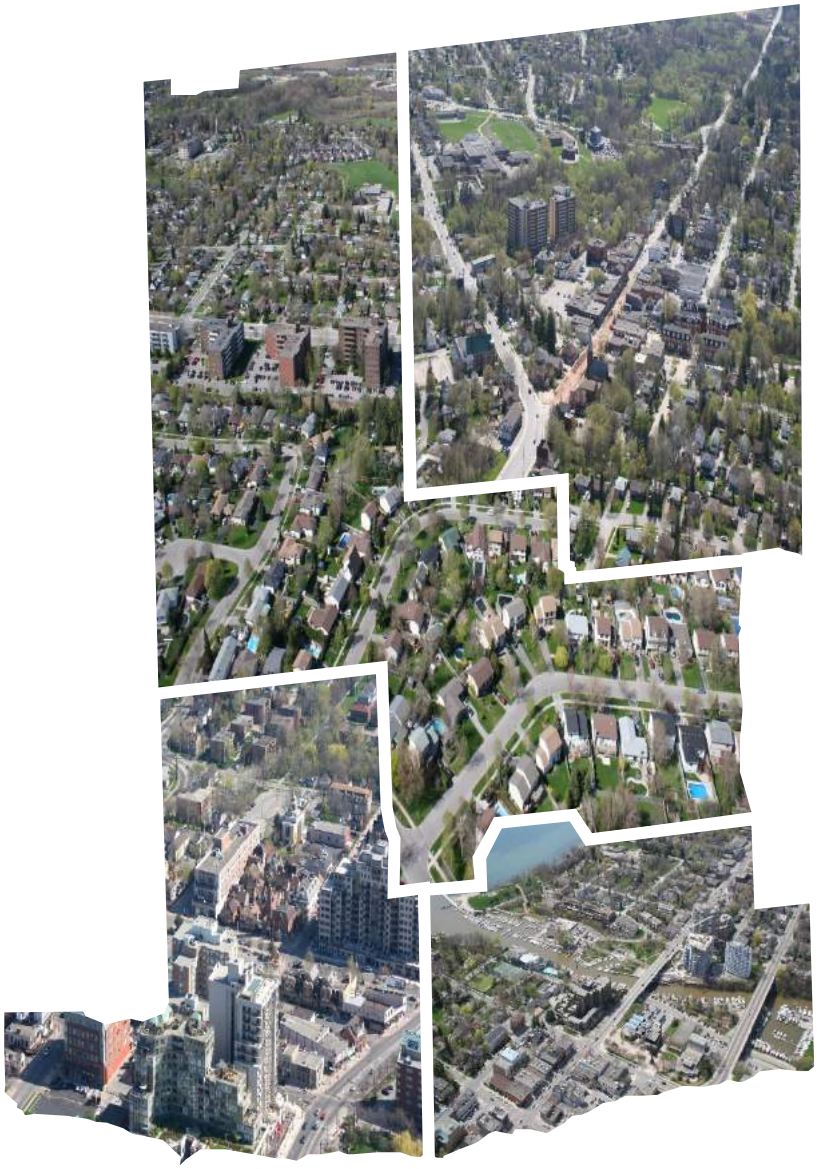
In the case of the NAPA, many of the elements of what makes up compact built form are not achievable because of the fragmented nature of proposed development areas in the NAPA, its lower density and its distance from goods and services and public service facilities such

as schools.

Lastly, and with respect to servicing, it has been concluded extending municipal services into the NAPA is potentially costly, inefficient and technically challenging compared to other potential growth areas in the Region.

For all of the above reasons, expanding the urban area into the NAPA is not supportable.

APPENDIX 1 - MEMORANDUM FROM GM BLUEPLAN



Appendix J.1

North Aldershot Water and Wastewater Constraints and Opportunities

February 2021

Regional Official Plan Review

BluePlan ENGINEERING

Halton REGION

Prepared By:

Halton Region Integrated Growth Management Strategy

Technical Memo – North Aldershot Water and Wastewater Opportunities and Constraints

GMBP File: 717052

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TECHNICAL MEMO – NORTH ALDERSHOT WATER AND WASTEWATER OPPORTUNITIES AND CONSTRAINTS

HALTON REGION INTEGRATED GROWTH MANAGEMENT STRATEGY

GMBP FILE: 717052

1. INTRODUCTION

As part of Halton Region's Integrated Growth Management Strategy (IGMS), Halton Region and GM BluePlan Engineering are identifying and reviewing the Water and Wastewater requirements to support existing and future growth to 2041 and 2051.

Hemson Consulting Ltd has developed several planning scenarios that focus growth in different areas and achieve different Regional and Local goals. This includes a total of eight (8) scenarios that were further refined into four (4) concepts which were provided for evaluation and analysis. The four (4) concepts were reviewed to identify the impact each concept could have on the existing and planned water and wastewater infrastructure. Ultimately, a preliminary water and wastewater servicing plan will be developed for the preferred growth option.

As part of the IGMS process, a review of opportunities and constraints for water and wastewater servicing of the North Aldershot Policy Area was undertaken. This memorandum is intended to:

- Provide an overview of the extent of the Remaining North Aldershot Policy Area and existing water and wastewater infrastructure and municipal services.
- Summarize servicing strategies as outlined in the 2011 Sustainable Halton Master Plan.
- Present water and wastewater servicing opportunities and constraints for existing and planned infrastructure.

This information will feed into the IGMS process where water and wastewater servicing strategies will be further refined based on a final preferred growth concept for Halton Region.

2. STUDY AREA

The North Aldershot area is located in the City of Burlington as shown in Figure 1. It comprises a total land area of approximately 1,365 hectares bounded by Highway 403 to the south, Highway 6 to the west, the Hamilton/Halton Region boundary (Niagara Escarpment Brow) to the north; and from Highway 403 to Waterdown Road and the City of Burlington urban boundary to the east.

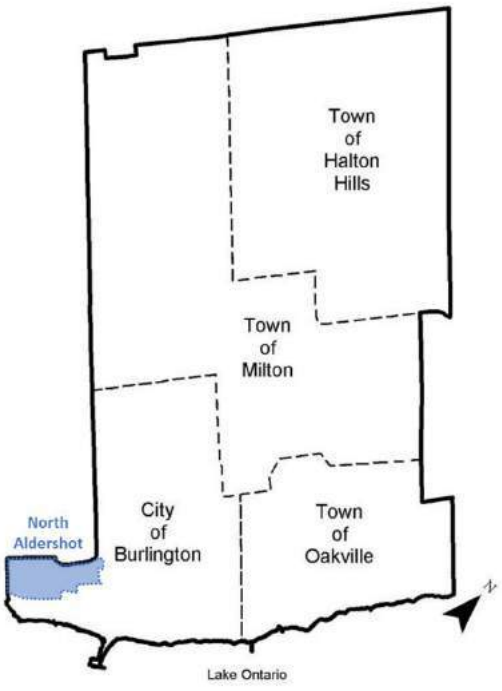


Figure 1 – North Aldershot Planning Area

The North Aldershot planning area is primarily non-urban. It is defined by the Niagara Escarpment to the north as well as the waterways and valleys running through the area. The lands within North Aldershot slope down from the Niagara Escarpment towards Highway 403 with a difference in height of approximately 100 metres as shown in Figure 2. North Aldershot also features pockets of rural and residential development.

North Aldershot is comprised of three sectors: East Sector, Central Sector and West Sector. The division of North Aldershot into sectors is generally based on the location of Grindstone Creek and its valley systems.

The East Sector is bounded on the south by Highway No. 403, on the west by Old Waterdown Road and the Sassafras Woods Environmentally Sensitive Area, on the north by the Dundas-Burlington Ontario Hydro Transmission Line, and on the east by the easterly boundary of the North Aldershot Planning District.

The Central Sector is bounded on the south by Highway No. 403, on the west by the Grindstone Creek Valley, on the north by the boundary of the City of Burlington and the City of Hamilton, and on the east by Old Waterdown Road and the Sassafras Woods Environmentally Sensitive Area.

The West Sector is bounded on the south by Highway No. 403, on the west by Highway No. 6, on the north by the Dundas-Burlington Ontario Hydro Transmission Line and on the east by the Grindstone Creek Valley.

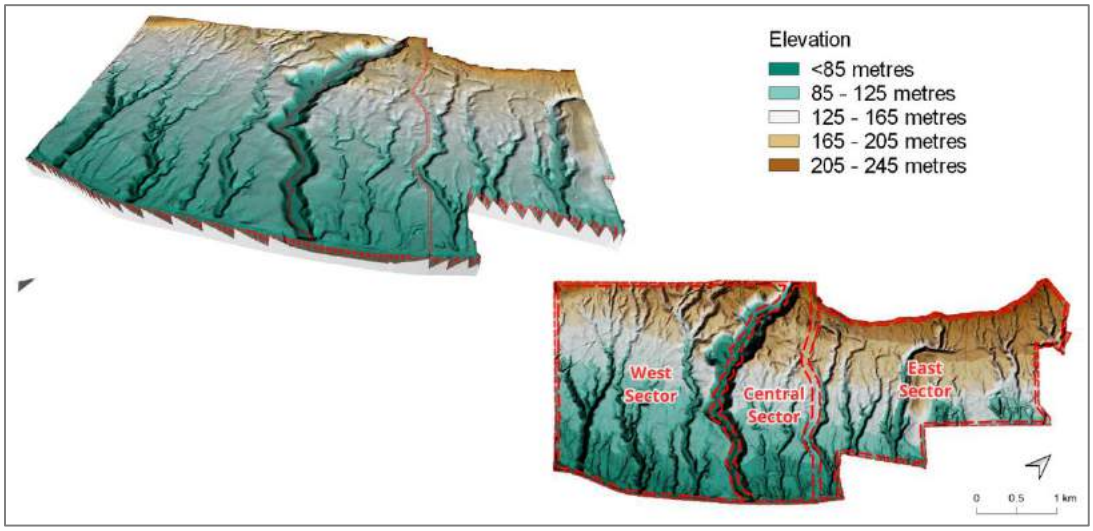


Figure 2 – Ground Elevations in the North Aldershot Planning Area

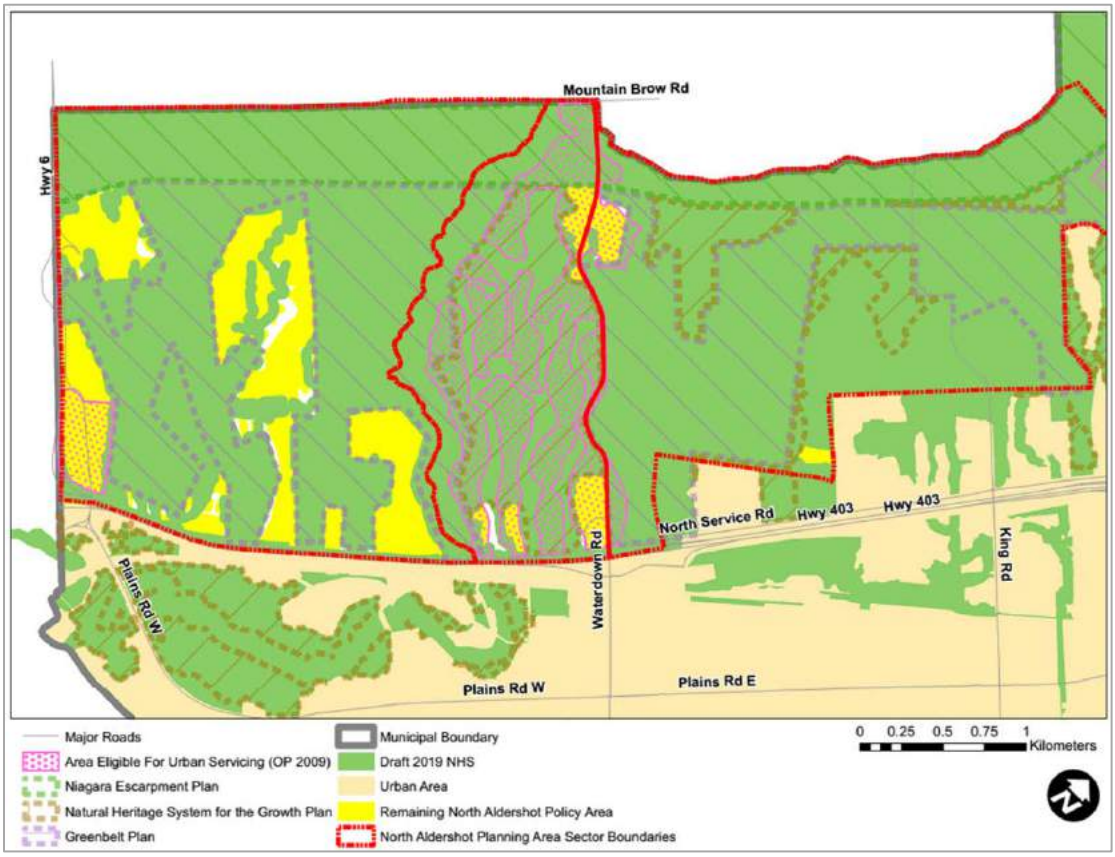
Figure 3 presents the North Aldershot Planning Area and identifies the three sector boundaries, municipal boundary and the City of Burlington urban area boundary. The current Regional Official Plan (ROP) indicates that the extension of urban services to areas within the North Aldershot Policy Area as Eligible for Urban Services within the Central and West sectors, can only be done provided that a feasibility study be prepared to the satisfaction of the Region, requires that Council deem it prudent to extend services, that the landowners meet the financial obligations specified by the Region and that there is sufficient servicing capacity as determined by the Region.

Figure 3 also presents the areas defined by the Niagara Escarpment Plan, Greenbelt Plan, Natural Heritage System (NHS) for the Growth Plan and Draft 2019 Natural Heritage System. In addition, Figure 3 outlines the "Remaining North Aldershot Policy Area" (highlighted in yellow). As part of the Regional Official Plan Review recent adjustments to the Natural Heritage System have dramatically reduced the land area designated as North Aldershot Policy Area for the ROP to be consistent with the Provincial Policy Statement (2020) and conform to a Place to Grow: The Growth Plan for the Greater Golden Horseshoe (2019), the Greenbelt Plan (2017) and the Niagara Escarpment Plan (2017). The Remaining North Aldershot Policy Area is summarized in Table 1 and is the major focus of the servicing opportunities and constraints identified in this memorandum.

Table 1 – North Aldershot Policy Area

Sector	North Aldershot Policy Area (with NHS removed)
West	116.33 ha
Central	15.13 ha
East	7.33 ha

Source: Halton Region



Source: Halton Region

Figure 3 – North Aldershot Planning Area

3. WATER SERVICING

3.1 Existing Water System

Currently there are customers in the North Aldershot area who have municipal water services. These customers consist mainly of detached residential dwellings. More information on how these customers are serviced is outlined below.

North Aldershot

The North Aldershot water system is currently supplied by the City of Hamilton (through the Woodward Avenue Water Treatment Plant) through an interconnection to their distribution system on Waterdown Road. For emergency servicing, the area can also be supplied by the Waterdown Road Pumping Station which is owned and operated by Halton Region. Due to elevations of lands being serviced, pressures exceed 700 kPa, and pressure reducing valves are required on individual service connections. The Waterdown Standpipe provides storage and regulates pressure. The North Aldershot system is connected to the South Halton Lake-Based System, but the connection is normally closed to prevent mixing of water which contains a free chlorine residual (Halton) with water than contains a combined chlorine residual (Hamilton).

Snake Road

The Snake Road system is also supplied by the City of Hamilton through an interconnection on Snake Road. However, unlike the North Aldershot system, the Snake Road system is currently not connected to the South Halton Lake-Based System.

Bridgeview

The Bridgeview system is located at the west end of the City of Burlington and is currently supplied by the City of Hamilton through an interconnection on Plains Road. The Bridgeview system is not connected to the South Halton Lake-Based System.

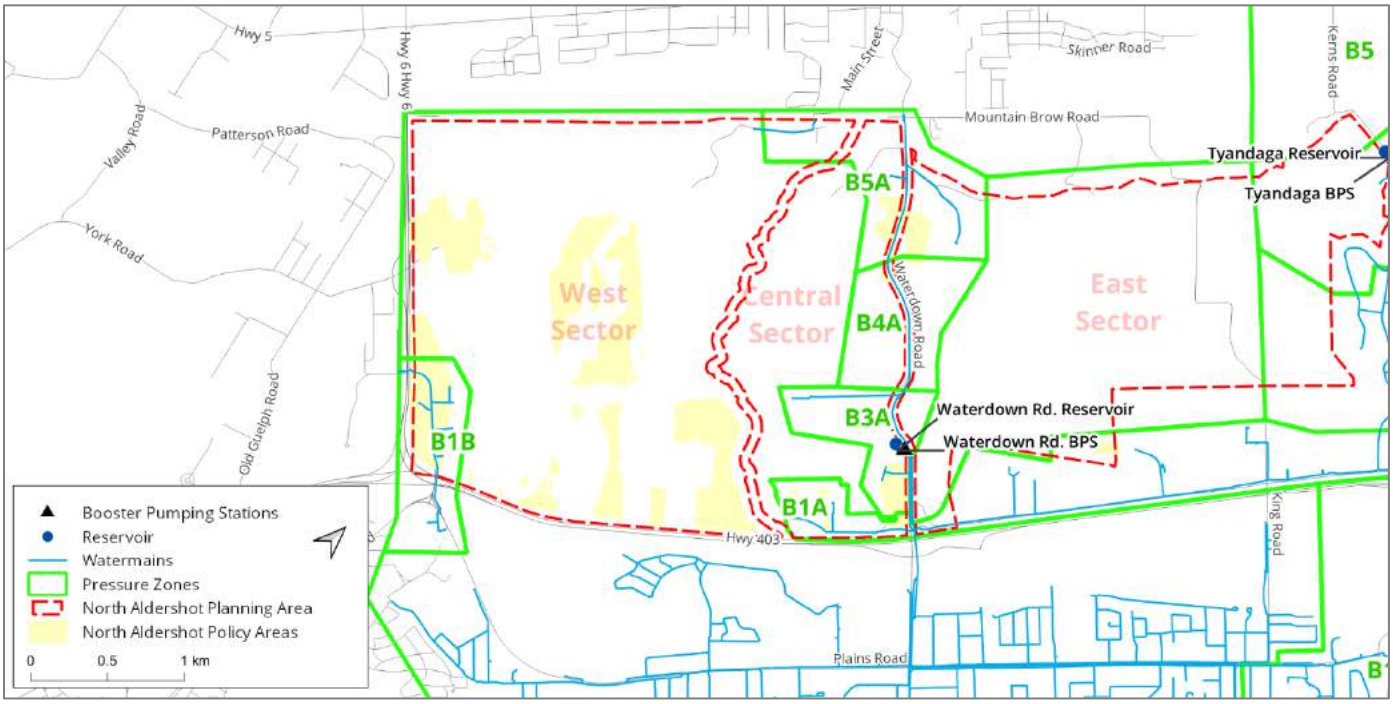


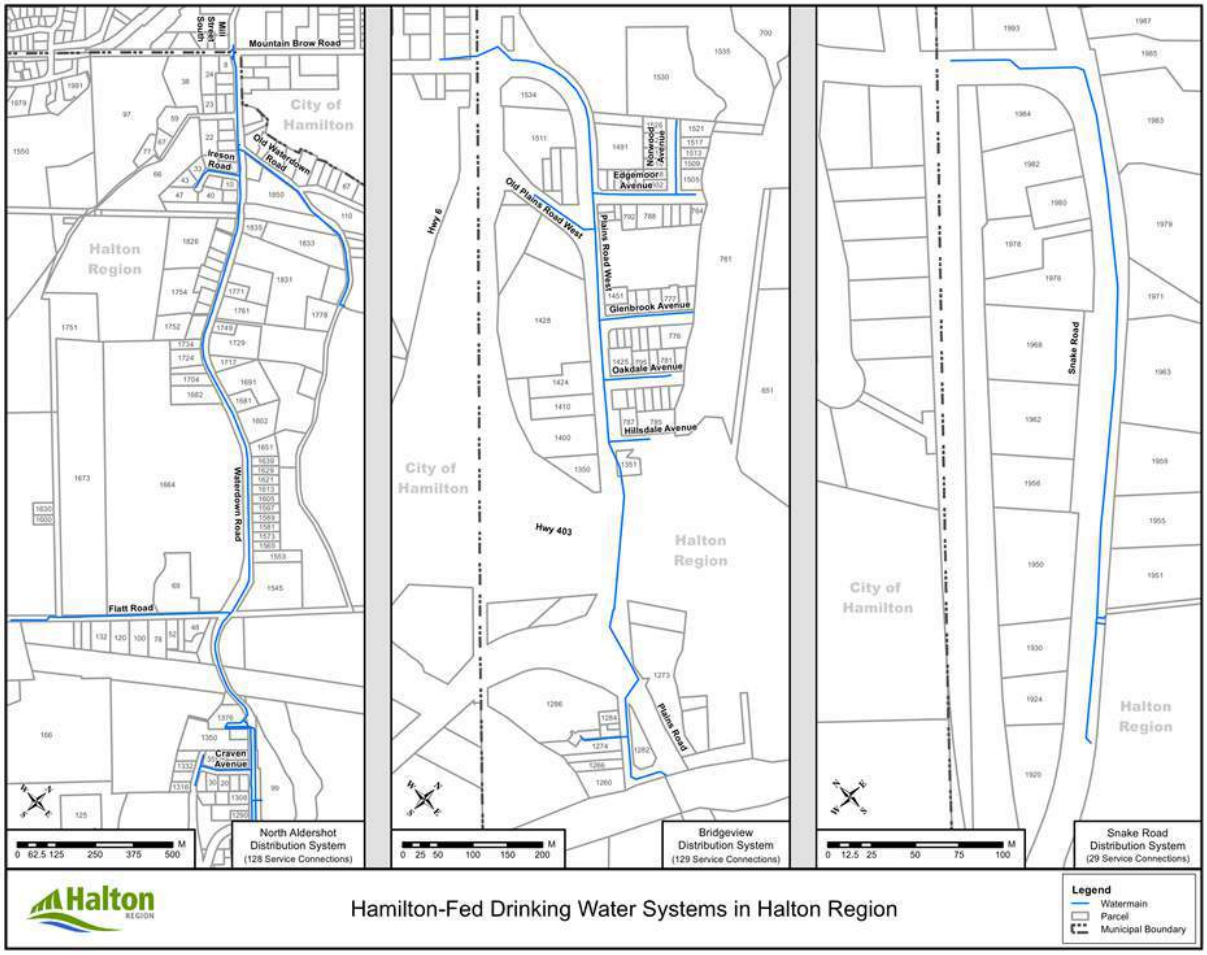
Figure 4 – North Aldershot Existing Water System

3.2 Halton-Hamilton Water Supply Agreement

Since the early 1990s, the City of Hamilton has supplied municipal water to several properties within Halton Region along the City of Burlington/City of Hamilton border. On November 17, 2011 a formal Agreement was entered into between Halton Region and the City of Hamilton for the City of Hamilton to supply water to the Bridgeview, Snake Road and North Aldershot communities in the City of Burlington as show in Figure 5. Currently, there are approximately 219 service connections in Halton Region serviced by the City of Hamilton's water system.

The term of the present Agreement is 10 years with an option for both parties to renew the Agreement for an additional 10 year period. The agreement was recently renewed for a 10 year extension to commence November 18, 2021 and end on November 18, 2031, with the same terms and conditions originally agreed upon by the two municipalities.

The agreement sets a prescribed maximum water consumption amount (maximum taking of 1.0 mega-litre per day (ML/d) and a maximum flow rate of 7.95 ML/d peak hour basis from the Hamilton system). Halton Region shall pay for all water delivered with each municipality and is fully responsible for the maintenance of all works and/or infrastructure associated with the water supply located within their respective municipal boundaries. The agreement also includes a communication protocol to be used in the event of any issues and for the provision of notice to Halton Region for interruption of supply or temporary discontinuation, with Halton Region being responsible to provide an emergency supply of water until the regular supply is restored.



Source: Halton Region

Figure 5 – North Aldershot - Hamilton-Fed Drinking Water System

3.3 Sustainable Halton Water Servicing Strategy

Halton Region completed the Sustainable Halton Water and Wastewater Master Plan (Master Plan) in 2011 to support Regional implementation of the Official Plan Amendment (ROPA 38/39) based on the Region's Best Planning Estimates (June, 2011). The Master Plan provided a Region-wide water and wastewater servicing strategy to accommodate growth from 2011 to 2031.

As part of the Master Plan, the North Aldershot area was considered in the development of the preferred water servicing strategy for South Halton. Components of the servicing strategy for North Aldershot include:

- Stage Burlington upgrades to maximize existing capacity
- Provide additional water supply capacity at Burloak WPP
- This strategy maximizes available capacity in existing infrastructure in Burlington and integrates capacity and timing with infrastructure required for Oakville
- Inter-Regional servicing from Hamilton for areas in Bridgeview and Snake Road continues to be a preferred solution. Additional coordination of inter-Regional servicing for areas in North Aldershot will be undertaken. At this time, a Halton-only solution is identified. However, a water supply interconnection from Hamilton for North Aldershot will be maintained for emergency purposes.

It should be noted that during the development of the Master Plan servicing strategies, a larger area for North Aldershot that was eligible for urban servicing (Official Plan 2009) was considered. Therefore, if implementation of the strategy were to proceed, the servicing strategies outlined in the master plan would have to be further refined to account for the recent changes to the North Aldershot Policy Area including the refinements to the Regional Natural Heritage System.

Figure 6 presents the Sustainable Halton preferred water servicing strategy and capital projects for the North Aldershot Area.

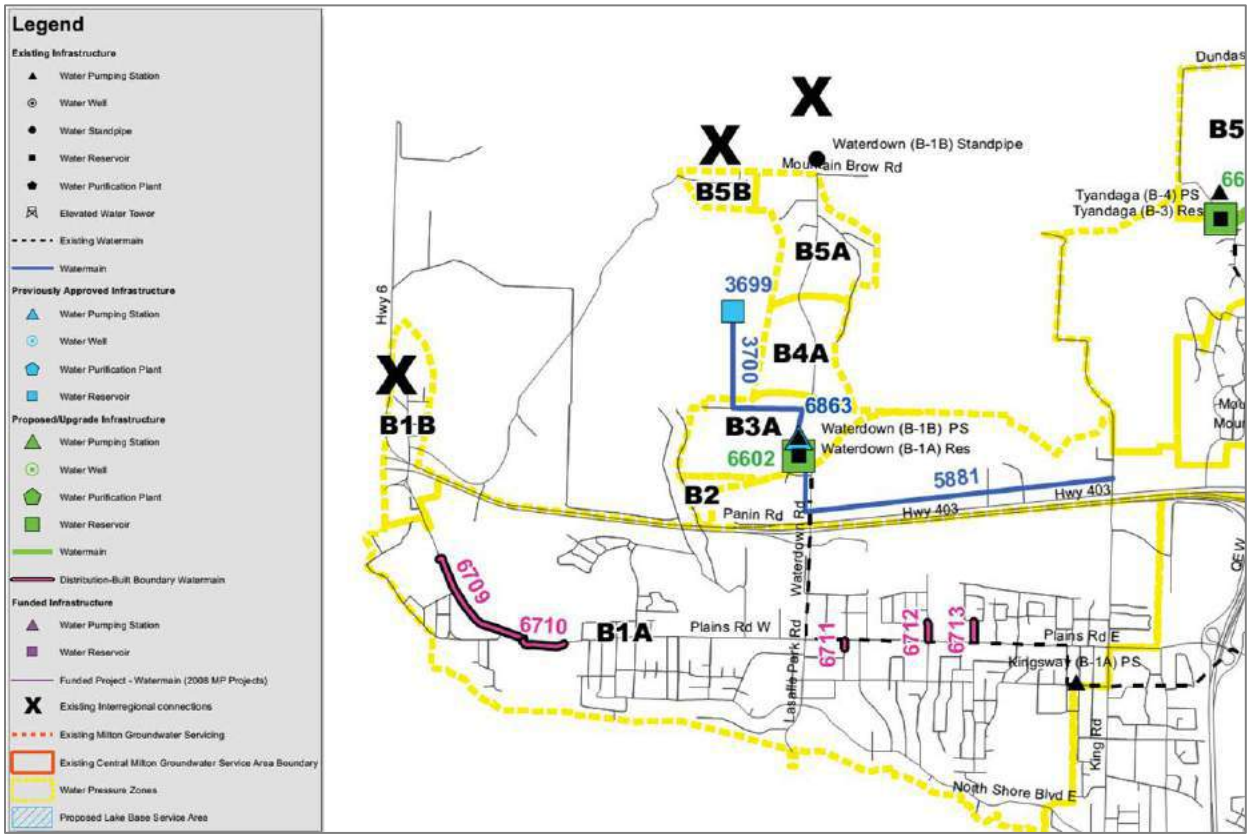


Figure 6 – Sustainable Halton Preferred Water Servicing Strategy (North Aldershot Area)

3.4 Water Servicing Opportunities and Constraints

The following section presents a high-level review of opportunities and constraints for potential water servicing of the remaining North Aldershot Policy Areas as depicted in Figure 3, as well as a comparative analysis with respect to other potential growth areas in the Region that are being considered through the Integrated Growth Management Strategy.

3.4.1 Opportunities and Constraints

- There is opportunity to continue providing municipal water services to Bridgeview, Snake Road and North Aldershot communities through the existing Halton-Hamilton Water Servicing Agreement. However, development within these existing service areas will be limited by the maximum water consumption amount prescribed in the water servicing agreement with the City of Hamilton as well as the limits of the existing infrastructure extents.

- Due to the reduced extent of the North Aldershot Policy Area within the Central Sector, there may be an opportunity to reduce and/or eliminate water capital projects (e.g. North Aldershot Reservoir) that were previously identified to service a larger area within this sector. In addition, the remaining North Aldershot Policy Area within this sector is located adjacent to existing watermains which enables continued water servicing. Should any capital projects be reduced or eliminated, future work required to service existing approved development will be reviewed against the Region's Local Servicing Policy to determine DC eligibility.

- Extension of water servicing to other remaining areas or pockets within the North Aldershot Policy Area will carry environmental risks due to proximity to environmental sensitive areas with potential adverse effects to water features and resources.

- Currently, there are no municipal water services for the central and eastern areas within the West Sector. In addition, Regional drinking water infrastructure is not within close proximity; therefore, extension of water services to these areas from the Halton system will be challenging and require substantial new infrastructure. Potential water servicing solutions for these areas will need to overcome ground elevation differences of over 70 metres and potentially requiring multiple crossings of environmental features and Highway 403.

- Servicing of new areas of the remaining policy area pockets within North Aldershot may be technically challenging due to topography and new infrastructure will be required to service the areas which would lie within multiple water pressure zones. Watermains, valves and potentially new facilities may be required to extend servicing to currently unserviced areas.

- When compared to other potential new service areas in the Region, the remaining policy area pockets throughout North Aldershot pose various technical, environmental and financial challenges. Due to several factors such as topography, proximity to environmental features and the general sparse and uneven distribution of each pocket of potential development, extending servicing can be costly, inefficient and technically challenging compared to other potential growth areas in the Region which are more contiguous to existing service areas

- Other potential growth areas within the Region generally have flatter topography, are clustered closer together and have fewer physical boundaries (e.g. creeks, pressure zone boundaries, major elevation changes, etc.) to overcome; all of the above characteristics can bring water servicing efficiencies. However, the servicing comment provided above generally applies to local servicing needs. It should be noted that the full upstream needs of the potential growth areas vary widely depending on existing and planned trunk infrastructure and proximity to water treatment facilities.

4. WASTEWATER SERVICING

4.1 Existing Wastewater System

The North Aldershot wastewater system is located in the service area of the Skyway Wastewater Treatment Plant (WWTP) in Burlington. The wastewater system in North Aldershot is currently limited to servicing the Bridgeview system located at the west end of the West Sector, the lower portion of Waterdown Road in the Central Sector, and a former waste disposal site located in the East sector. The remainder of residents in the North Aldershot area remain on private septic systems.

Bridgeview

Municipal sewers on Bridgeview are currently connected to the Regional wastewater network on Plains Road. From that point, wastewater flows are conveyed through a series of gravity sewers and sewage pumping stations until its final destination at the Skyway WWTP for final treatment and discharge to Lake Ontario.

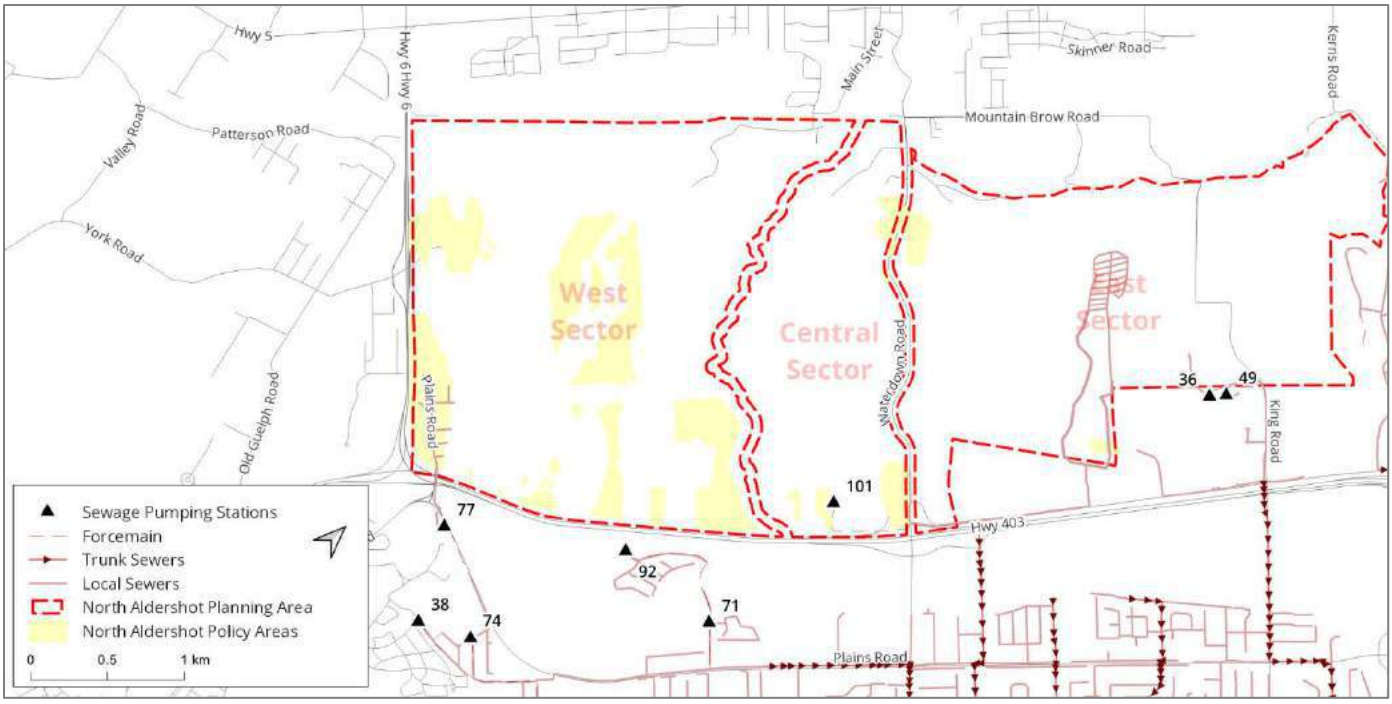


Figure 7 – North Aldershot Existing Wastewater System

4.2 Sustainable Halton Wastewater Servicing Strategy

Halton Region completed the Sustainable Halton Water and Wastewater Master Plan (Master Plan) in 2011 to support Regional implementation of the Official Plan Amendment (ROPA 38/39) based on the Region's Best Planning Estimates (June, 2011). The Master Plan provided a Region-wide water and wastewater servicing strategy to accommodate growth from 2011 to 2031.

As part of the Master Plan, the North Aldershot area was considered in the development of the preferred wastewater servicing strategy for South Halton. Components of the servicing strategy for North Aldershot include:

- Maximize available capacity within existing infrastructure
- Provide new trunk gravity servicing through North Aldershot to existing trunk sewers near Waterdown Road and Hwy 403. Localized wastewater pumping stations may be required.
- Provide additional WWTP capacity at Skyway WWTP.

It should be noted that during the development of the Master Plan servicing strategies, a larger area for North Aldershot that was eligible for urban servicing (Official Plan 2009) was considered. Therefore, if implementation of the strategy were to proceed, the servicing strategies outlined in the master plan would have to be further refined to account for the recent changes to the North Aldershot Policy Area including the refinements to the Regional Natural Heritage System.

Figure 8 presents the Sustainable Halton preferred wastewater servicing strategy and capital projects for the North Aldershot Area.

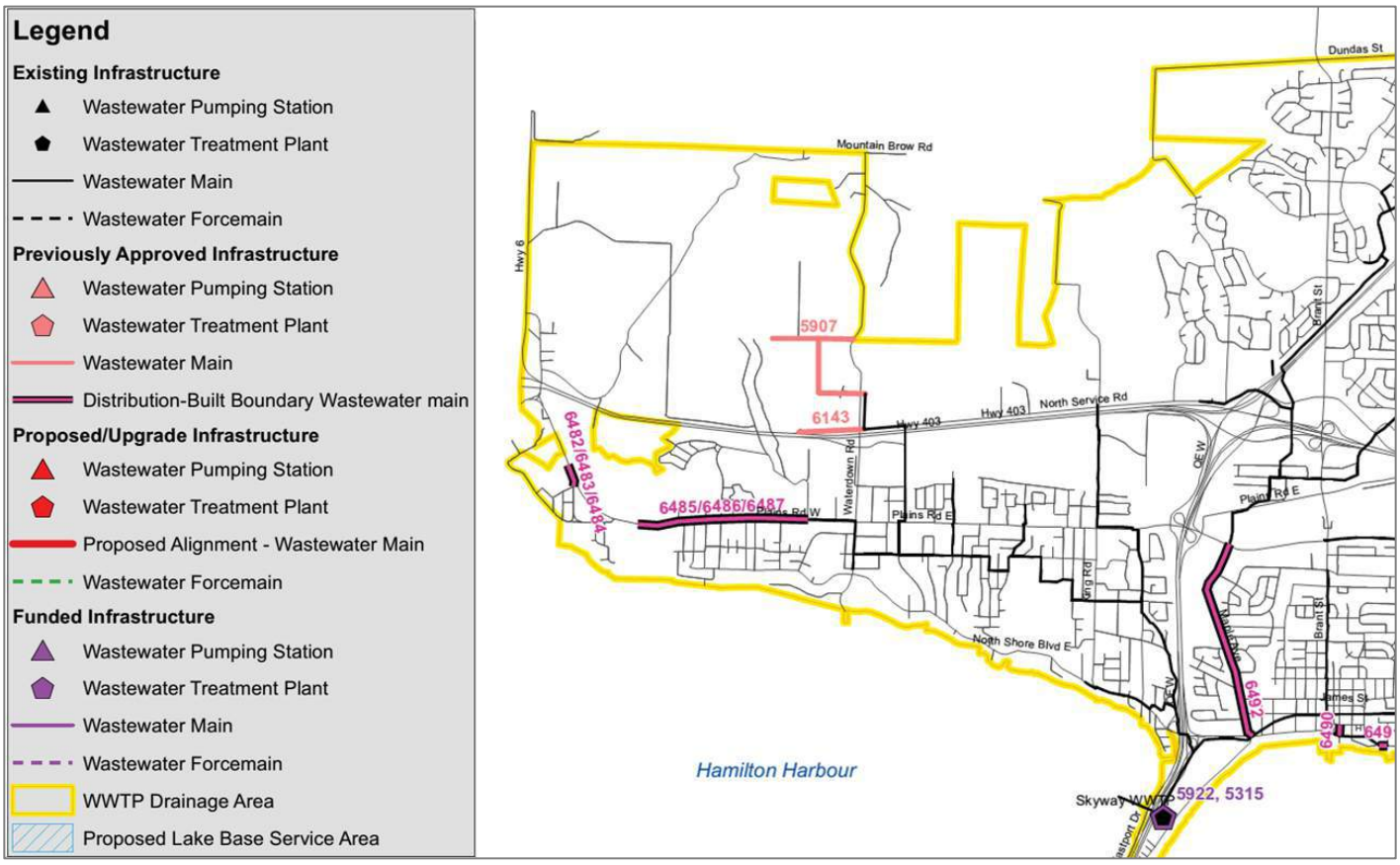


Figure 8 – Sustainable Halton Preferred Wastewater Servicing Strategy (North Aldershot Area)

4.3 Wastewater Servicing Opportunities and constraints

The following section presents a high-level review of opportunities and constraints for potential wastewater servicing of the remaining North Aldershot Policy Areas as depicted in Figure 3, as well as a comparative analysis with respect to other potential growth areas in the Region that are being considered through the Integrated Growth Management Strategy.

4.3.1 Opportunities and Constraints

- There is opportunity to continue providing municipal wastewater services to Bridgeview and lower portion of Waterdown Road. However, further development within these existing service areas may be limited by the capacity and extents of the existing wastewater infrastructure.

- Due to the reduced extent of the North Aldershot Policy Area within the Central Sector, there may be an opportunity to reduce and/or eliminate wastewater capital projects (e.g. Capital Project #5907) previously identified to service a larger area within this sector. In addition, the remaining lower portion of the North Aldershot Policy Area within this sector is located along existing wastewater infrastructure, which enables continued wastewater servicing. Should any capital projects be reduced or eliminated, future work required to service existing approved development will be reviewed against the Region's Local Servicing Policy to determine DC eligibility.

- Extension of wastewater servicing to other remaining areas or pockets within the North Aldershot Policy Area will carry environmental risks due to proximity to environmental sensitive areas with potential adverse effects to water features and resources. At a high level, there is greater potential risk and uncertainty of servicing needs for the remaining of North Aldershot Policy Area due to variability in topography and potential requirement for pumping solutions to overcome changes in ground elevation.

- Currently there is no municipal wastewater services for the central and eastern areas within the West Sector, as well as the north areas around Waterdown Road in the Central and East sectors. In addition, Regional wastewater infrastructure is not within close proximity to these areas; therefore, extension of wastewater services to these areas from the existing Halton wastewater system will be challenging and will require substantial new infrastructure. Potential wastewater solutions would require overcoming environmental features, crossings (creeks, highway, among others) and significant changes in ground elevations that may drive the need for pumping flows in places were a gravity conveyance solution is not feasible.

- When compared to other potential new service areas in the Region, the remaining policy area pockets throughout North Aldershot pose various technical, environmental and financial challenges. Due to several factors such as topography, proximity to environmental features and the general sparse and uneven distribution of each pocket of potential development, extending servicing can be costly, inefficient and technically challenging compared to other potential growth areas in the Region which are more contiguous to existing service areas

- Other potential growth areas within the Region generally have flatter topography, are clustered closer together and have fewer physical boundaries (e.g. creeks, pressure zone boundaries, major elevation changes, etc.) to overcome; all of the above characteristics can bring water servicing efficiencies. However, the servicing comment provided above generally applies to local servicing needs. It should be noted that the full downstream needs of the potential growth areas vary widely depending on existing and planned downstream trunk infrastructure and proximity to wastewater treatment facilities

5. SUMMARY AND CONCLUSIONS

As part of the Integrated Growth Management Strategy, a high level review of opportunities and constraints for water and wastewater servicing of the Remaining North Aldershot Policy Area was undertaken. The results of the review can be summarized as follows:

- The lands designated as “Remaining North Aldershot Policy Area” have been significantly reduced through several planning exercises including the latest refinements to the Regional Natural Heritage System.

- In 2011 the Region completed the Sustainable Halton Water and Wastewater Master Plan which considered North Aldershot in the development of the Master Plan servicing strategies. At the time, the North Aldershot areas eligible for urban services where significantly different, especially in the Central Sector, which was the major focus of the servicing strategies.

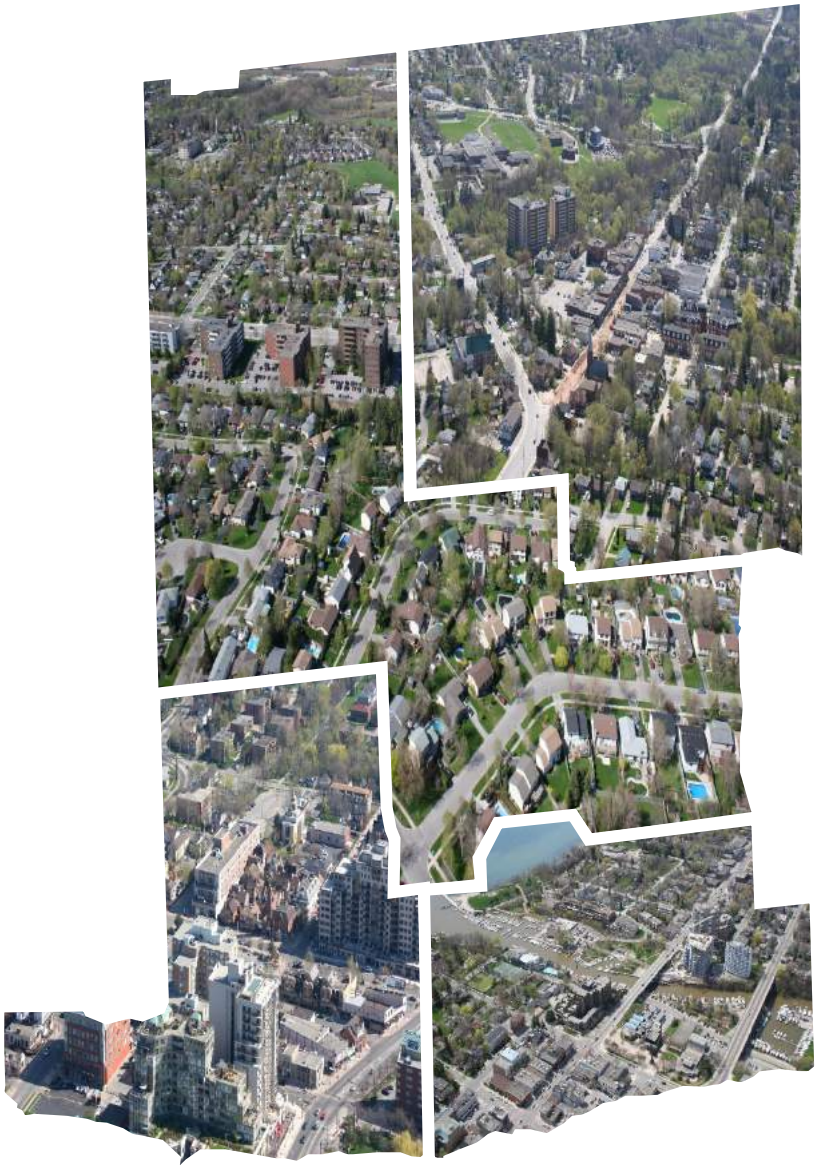
- **Existing Water Servicing** - There are currently three areas in North Aldershot (Bridgeview, Snake Road and Waterdown) that are supplied with municipal water services through an Inter-Regional agreement with the City of Hamilton. There is opportunity to continue providing municipal water services to these communities, but further development will be limited by the capacity and extents of the existing infrastructure and the maximum water consumption amount prescribed in the Halton-Hamilton Water Servicing Agreement.

- **Future Water Servicing Potential** - Extending municipal water services to other pockets of land within the Remaining North Aldershot Policy Area may be technically challenging and costly due to the topography of the area and have a potential for environmental risks due to proximity to environmental sensitive areas with potential adverse effects to water features and resources.

- **Existing Wastewater Servicing** -There are currently few areas in North Aldershot with municipal wastewater services (Bridgeview, lower portion of Waterdown Road, and former waste disposal site). There is opportunity to continue providing municipal wastewater services to these areas, but further development will be limited by the capacity and extents of the existing infrastructure.

- **Future Wastewater Servicing Potential -** Similar to the findings of the water system review, extending municipal wastewater services to other pockets of lands within the remaining North Aldershot Policy Area may be technically challenging and costly due to the topography of the area with potential for environmental risks.

- The remaining lands in the North Aldershot Policy Area pose various technical, environmental and financial challenges. When compared to other potential new services area in the Region, the remaining North Aldershot Policy Area is very sparse with several pockets that are not contiguous to existing service areas which makes extending servicing potentially costly, inefficient and technically challenging compared to other potential growth areas in the Region.



Appendix K

Evaluation of Growth Concepts

February 2021

Regional Official Plan Review

HEMSON

Halton REGION

Contents

1. Evaluation Will Inform the Preferred Growth Concept

In May 2020, Council considered Attachment 1 of Staff Report No. LPS44-20, resulting in the endorsement of an Evaluation Framework to evaluate four Growth Concepts as part of the IGMS process. The framework was developed through consultation with the local municipalities. The outcome of this consultation was the decision that the evaluation criteria/measures in the Evaluation Framework, would be utilized together with detailed technical analyses, to evaluate each Growth Concept in relation the other Growth Concepts, but that the Growth Concepts would not be scored and evaluation measures would not be weighted. The following reasons for not weighting the measures were identified in Staff Report No. LPS44-20:

- All municipal land use planning decisions are required to conform to provincial planning policy. The provincial policy direction is not weighted, and it is the responsibility of municipal Councils to appropriately consider all relevant provincial policies in any land use planning decision from a zoning by-law amendment to a municipal comprehensive review (MCR). In the case of an MCR, the broad suite of provincial policy would apply, although certain policies are specific to certain geographic areas or planning contexts (i.e. Urban Growth Centres or settlement boundary expansion);

- The Evaluation Framework is intended to provide a coherent structure for the evaluation of the Growth Concepts, but the evaluation is not a quantitative exercise. The Growth Concepts will be assessed against each measure of the key themes. A concept that is assessed most favourably against the measures will not necessarily be selected as the Preferred Growth Concept. This exercise has been designed to better understand the trade-offs involved in making choices on allocating growth. In this regard, it is expected that a Preferred Growth Concept will be generated using elements from more than one Growth Concept, as well as additional elements that are identified through the community engagement and evaluation process;

- The input of the local municipalities with respect to their long-term vision and land use planning objectives is critically important to the IGMS process, and will be very important to the evaluation of the Growth Concepts;

- The evaluation of the Growth Concepts will utilize the Evaluation Framework, but will be augmented by additional information and analysis with respect to each of the criteria (i.e. climate change impact, financial impact, agricultural impact) which will assist in the

evaluation of the Growth Concepts based on that criterion. This information will be presented in a transparent manner in order that Regional Council, and Halton residents, will be able to understand how the evaluation results were obtained; and,

- The development of a set of Growth Concepts and the evaluation of those Growth Concepts will be followed by an opportunity for local municipal councils, residents of Halton, Region advisory committees, and other public agencies and interest groups to provide input that will inform the development of a Preferred Growth Concept at the next stage of the IGMS process.

The evaluation is based on achieving the policy requirements as set out in the Growth Plan, Provincial Policy Statement (PPS) and Regional Official Plan.

The evaluation measures have been updated for the purposes of this report to reflect minor wording changes to add clarity.

A. FOUR THEMES ARE USED IN THE EVALUATION OF THE GROWTH CONCEPTS

There are four themes within the Evaluation Framework. Each theme contains a series of evaluation measures and sub-measures used to evaluate the Growth Concepts.

- Theme 1: Regional Urban Structure & Local Urban Structure
- Theme 2: Infrastructure & Financing
- Theme 3: Agriculture, Environment & Climate Change
- Theme 4: Growing the Economy and Moving People and Goods

This report provides a summary of the evaluation completed by a team of technical experts with input from Regional staff, local municipalities, and key external agencies. Technical matter experts who completed the assessment include:

- **Hemson Consulting** – Lead Consultant for the project specializing in growth management, land use planning as well as municipal finance and is responsible for developing the Growth Concepts and completing the Fiscal Impact Assessment.
- **GM Blue Plan** – Water and wastewater infrastructure technical experts.
- **EllSo & Paradigm** – Technical experts in transportation and transit infrastructure.
- **Meridian Planning**– Responsible for the agricultural impact and aggregate analysis as well as assessment of the North Aldershot Policy Area.
- **DHB Soil Services** – Agricultural Impact Assessment Expertise.

- **North South Environmental** – Natural Heritage System and water resource system experts.
- **Laura Taylor Designs** – Specialist in climate change and growth management policy.

B. PURPOSE OF THE EVALUATION

The Evaluation Framework is intended to evaluate the four Growth Concepts using themes and criteria, it is not intended to identify which concept is "preferred" to accommodate growth to 2051. As such, a Growth Concept that is determined to "best achieve" the greatest number of measures will not be selected as the Preferred Growth Concept. Rather, the exercise is used to understand the trade-offs in growth management decisions when allocating growth.

The Preferred Growth Concept will be generated using elements from more than one Growth Concept, as well as comments identified through the consultation process.

Table 1 describes what the evaluation is intended to do and what is does not do.

Table 1: What the Evaluation Does and Does Not Do

WHAT THE EVALUATION DOES	WHAT THE EVALUATION DOES NOT DO
▪ Address input from local municipalities ▪ Achieves consensus, where possible ▪ Communicate input of all technical experts involved ▪ Compares concepts relative to each other ▪ Identifies key growth management choices necessary to inform the development of the Preferred Growth Concept	▪ Selects the Preferred Growth Concept from the four Growth Concepts described in this report

C. HOW TO READ THE EVALUATION

This Appendix provides a summary of the evaluation by theme and provides a discussion of which Growth Concept(s) best achieve an evaluation measure and how they compare to

each other. Additional details on the technical analysis which supports the evaluation can be found in the technical appendices of the IGMS Growth Management Discussion Paper and include:

- Appendix A – Climate Change Lens
- Appendix B – Land Needs Assessment Methodology & Local Municipal Allocations
- Appendix C.2 – Employment Area Conversions: Initial Assessment Summary
- Appendix D – Transportation Infrastructure Assessment
- Appendix E – Water & Wastewater Infrastructure Assessment
- Appendix F – Fiscal Impact Assessment
- Appendix G – Agricultural Area Assessment
- Appendix H – Natural Heritage and Water Resource Assessment
- Appendix I – Mineral Aggregate Resource Assessment

General commentary on the policy direction of each theme is provided. Each concept is tested to determine whether and how each concept meets the measure identified in the Evaluation Framework.

Summary tables identify the concept or concepts that would best achieve a particular measure as supported by the assessment. Check marks show which concept "best" achieves the evaluation measure. As shown in the sample table below, measure 1.1.1 identifies checkmarks for Concept 2 and 3 meaning that these concepts would best achieve the measure. However, this does not mean that Concept 1 and 4 do not achieve this measure; it simply means that Concept 2 and 3 would better achieve it, relative to Concepts 1 and 4.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
1.1.1 Best meets or exceeds transit supportive densities in UGCs, MTSAs, and potential transit priority corridors		✓	✓	

For each measure, a description of how the evaluation was undertaken and the variables that could influence how a particular Growth Concept could achieve a measure are discussed and key findings are also presented. Finally, the evaluation identifies considerations for how a particular measure could best be achieved.

D. CLIMATE CHANGE LENS HAS BEEN INCORPORATED INTO THE EVALUATION MEAURES

The effects of climate change have been considered in establishing the measures for all four themes in the Evaluation Framework. Measures specific to climate change adaptation and mitigation of greenhouse gas emissions are included in Theme 3.

Appendix A details the climate change lens review which confirms that climate change has been taken into account through the evaluation. Four major climate change planning objectives related to planning and growth management have been identified and include:

- Compact Built-Form;
- Sustainable Transportation System;
- Protection of Agricultural Land and Soils; and
- Protection of Natural Heritage and Healthy Watersheds

These objectives show how the Growth Concepts can reduce GHG emissions from buildings and transportation, build resiliency, and the table in Appendix A highlights the importance of protecting and enhancing the agricultural system and natural heritage system in response to climate change.

Evaluation measures that have been identified as addressing climate change mitigation and adaptation are denoted with the following symbol:

2. THEME 1: REGIONAL URBAN SYSTEM & LOCAL URBAN STRUCTURE

Regional policies that address the urban structure, employment land supply, and healthy and complete communities are evaluated in Theme 1. This theme also addresses the Region's obligation to provide a market-based supply of housing in accommodating the Schedule 3 population forecasts to 2051.

Healthy Communities

A key goal of the Regional Official Plan is to build healthy communities that foster the well-being of residents, provide a full range and mix of housing, employment, recreation and community services, provide access to multi-modal transportation, and embrace the principles of sustainability.

Local Identity

It is the objective of the Region to accommodate growth while retaining the local identity of communities, promoting economic prosperity, and maintaining a sustainable natural environment (ROP 72). In keeping with this objective, Theme 1 evaluates each Growth Concept based on how best it reflects the physical character of local urban communities.

1.1 Support Regional and Local Urban Structure

The following measures address the appropriate levels of intensification, access to employment areas, commercial uses, and community services as well as Regional and local urban structure.

Concepts that best achieve each measure are shown with a ✓ below.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
1.1.1 Best meets or exceeds transit supportive densities in UGCs, MTSAs, and potential transit priority corridors		✓	✓	
1.1.2 Locates primarily office employment development close to existing or potential priority multi-modal corridors and provides opportunities for multi-modal access	✓		✓	

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
1.1.3 Locates new residential development close to existing or potential priority corridors and provides opportunities for multi-modal access		✓	✓	
1.1.4 Best reflects the intent of the local urban structure	✓	✓	✓	✓

1.1.1 Best meets or exceeds transit supportive densities in UGCs, MTSAs, and potential transit priority corridors

Different densities and some variation in the location of growth is tested amongst the concepts. Growth Concepts that allocate the greatest amount of population and employment growth to Strategic Growth Areas (SGAs) such as Major Transit Station Areas (MTSAs) and Urban Growth Centres (UGCs), which are typically serviced by transit, were considered to best achieve this measure.

- Concept 2 and 3 best meet transit supportive densities as they allocate the greatest amount of growth to UGCs and MTSAs.
- In accordance with the Growth Plan (2019), UGCs are planned to accommodate a density of 200 person and jobs per hectare by 2031. Growth attributed to MTSAs to 2051 is informed based on the local urban structure and build-out potential of sites. However, the development potential of these sites well exceeds growth in the Region to 2051. As a result, none of the concepts achieve the full build-out potential of the identified MTSAs within the 2051 planning horizon meaning that the density target will be achieved after this time. Thus, there would remain surplus capacity to accommodate growth beyond 2051.
- As described in Appendix A of this paper, this measure relates to the climate change planning objective of compact built form. Compact built form addresses climate change mitigation and adaptation because compact form and a mix of uses and densities allow for the efficient use of land, infrastructure and public service facilities and also that growth is directed away from agricultural and natural heritage system lands.

1.1.2 Locates more primarily office employment development close to existing or potential priority multi-modal corridors and provides opportunities for multi-modal access

"Employment" for the purposes of this measure relates to office uses and its proximity to multi-modal corridors (i.e. GTA West Corridors, Highway 407 transitway). Opportunities for multi-modal access affects all employment. In order to determine the most appropriate location for future employment, the concepts test different locations of Employment Area land (see preliminary settlement area boundary expansion maps for Concepts 1-4 in IGMS Growth Concepts Discussion Paper, Chapter 7). This measure is related to measure 4.4.1 which addresses the proximity of Employment Area lands to highways such as the GTA West Corridor, Highway 403, Highway 401, QEW etc.

- Concept 1 and 3 better achieve this measure than the other two concepts as a greater proportion of employment growth is directed towards multi-modal corridors.

- Opportunities for office employment is examined in all concepts. More industrial type employment areas have multi-modal access (such as lands located adjacent to Highway 407 will have access to the Highway 407 transit way). Importantly, many of the employment areas are accessible via GO Stations.

- As described in Appendix A of this paper, this measure relates to the climate change planning objective of compact built form. Compact built form addresses climate change mitigation and adaptation because compact form and a mix of uses and densities allow for the efficient use of land, infrastructure and public service facilities and also directs growth away from agricultural and natural heritage system lands.

1.1.3 Locates new residential development close to existing or potential priority corridors and provides opportunities for multi-modal access

Different residential densities were tested amongst the Growth Concepts. The quantum of population and location of future potential Community Area lands are described in Chapter 6 and 7 of the IGMS Growth Concepts Discussion Paper and Appendix B – Land Needs Assessment.

- Concept 2 and 3 allocate the greatest amount of growth to corridors over the 2031-2051 planning period when compared to the Concepts 1 and 4. This is largely a function of the intensification rates for Concepts 2 and 3 (70% and 80%, respectively).

- As described in Appendix A of this paper, this measure relates to the climate change planning objective of compact built form. Compact built form addresses climate change mitigation and adaptation because compact form and a mix of uses and densities allow for the efficient use of land, infrastructure and public service facilities and also directs growth away from agricultural and natural heritage system lands.

1.1.4 Best reflects the intent of the local urban structure

The four Growth Concepts were developed using the "Local Plans and Priorities" scenarios originally developed as part of the IGMS Regional Urban Structure Discussion Paper, June 2020 (as found in Attachment 1 of staff report LSP56-20). All the Growth Concepts have been prepared to reflect the local urban structure, to the extent possible recognizing the Region's urban structure in the context of 2051 population and employment Growth Plan forecasts. However, it is noted that the urban structure elements for future settlement areas are not yet in place as the location of such areas are to be determined by the Region through the IGMS process.

For example, the Growth Concepts assume the adjusted Downtown Burlington UGC boundary (recently brought forward by City Council). The UGC boundary is adjusted to generally align with the boundary of the MTSA at Burlington GO and a portion of the lands within the exiting UGC boundary closest to the Burlington GO. However, not all the key urban structure elements are achievable within the planning period as the development capacity within these areas exceed the fixed amount of population and employment growth in the Region to 2051. Therefore, all concepts achieve this measure in part and in all cases plenty of potential remains to accommodate growth beyond 2051.

1.2 Protect Overall Employment Land Supply

The following measures address adapting to changes in employment trends and balancing the need to achieve the vision for MTSAs and the increased emphasis on mixed-use development without compromising employment land supply.

Concepts that best achieve each measure are shown with a ✓ below.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
1.2.1 Protects existing employment and supports opportunities for new employment forms	✓	✓		

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
1.2.2 Best accommodates the target population and jobs for the gross developable area within MTSAs			✓	
1.2.3 Best protects critical existing employment uses while accommodating demand for mixed use development	✓			✓

1.2.1 Protects existing employment and supports opportunities for new employment forms

The term "new employment forms" relates to new innovative employment uses, many of which could be attracted to emerging mixed-use environments. The assumptions relating to the location of future employment lands and the testing of employment conversions is intended to foster future employment growth in the Region and to allow for innovation in those sectors. For example, office and other relatively intensive employment uses that are attracted to the amenities of a mixed-use community, distinct from office buildings that occur in employment areas. All Growth Concepts provide for the same amount (quantum) of employment growth, although there is a relatively small variation in the mix between the concepts. A wide range of locations are tested through the concepts to determine the potential implications of future employment.

- Concept 3 has the greatest quantum of employment land conversions. Whereas Concept 4 has the lowest.

- All Growth Concepts provide significant opportunity for new employment forms, but Concept 4 has somewhat less than the others because it directs less employment growth to mixed-use locations. Regarding the protection of existing designated employment areas, Concept 3 does not achieve the measure as well as Concepts 1, 2 and 4 given that it has the greatest amount of employment land conversions and the least amount of new employment Designated Greenfield Area.

1.2.2 Best accommodates the target population and jobs for the gross developable area within MTSAs

The MTSA boundaries and gross developable land areas have been defined as part of the IGMS process through consultation with the local municipalities. The require proportion of population and employment for each MTSA are proposed as part of the Scope Urban

Structure Regional Official Plan Amendment (ROPA). Target population and employment are identified in the Scope ROPA, which extends beyond 2051; however, this measure is intended to only address growth to 2051. The Growth Concepts have considered these proportions in allocating future population and employment growth.

- Concept 4 protects more employment land, but allocates less employment growth to nodes and corridors (i.e. MTSAs). None of the concepts achieves full build-out as the development potential of these sites well exceeds growth in the Region to 2051, thus there will be surplus capacity within these areas at the end of the 2051 planning period.

- Concept 3 has the greatest intensification rate (about 80% from 2031-2051), coupled with the greatest allocation of growth to Strategic Growth Areas (SGAs) (which includes MTSAs). Therefore, Concept 3 best achieves this measure.

1.2.3 Best protects critical existing employment uses while accommodating demand for mixed use development

The evaluation examined which Growth Concept best achieved a balance between protecting employment uses and providing opportunity for mixed-use development on employment lands through careful consideration of employment land conversions.

- Concept 1 and 4 better achieve this measure compared to Concept 2 and 3. The lower rate of intensification and the greater land need required in Concept 1 and 4 protects existing employment uses as fewer employment conversions are needed to accommodate growth within existing settlement areas. There is substantial opportunity for mixed-use development in all Growth Concepts.

1.3 Provide a Range of Identifiable, Inter- Connected, Complete Communities

The following measures address support for logical and orderly progression of urban growth and support for an open space corridor or urban separator.

Concepts that best achieve each measure are shown with a ✓ below.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
1.3.1 Supports locating new urban development contiguous with existing urban areas	✓	✓	✓	✓

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
1.3.2 Supports maintenance of contiguous Natural Heritage and Agricultural lands	TBD	TBD	TBD	TBD

1.3.1 Supports locating new urban development contiguous with existing urban areas

The tested locations of future settlement area boundary expansions in the Growth Concepts are contiguous with the existing urban boundaries. Additional information is provided in the IGMS Growth Concepts Discussion Paper, Chapter 7.

- All Growth Concepts support contiguous development. Therefore, all concepts achieve this measure.

- As described in Appendix A of the IGMS Growth Concept Discussion Paper, this measure relates to the climate change planning objective of compact built form. Compact built form addresses climate change mitigation and adaptation because compact form and a mix of uses and densities allow for the efficient use of land, infrastructure and public service facilities and also directs growth away from agricultural and natural heritage system lands.

1.3.2 Supports maintenance of contiguous Natural Heritage and Agricultural lands

This measure addresses the issue of Natural Heritage System and Agricultural System fragmentation, and the relationship between these two systems. At the Preferred Growth Concept stage of the IGMS, a Natural Heritage System and Water Resources Screening and Options Assessment will further examine the components of the Region's Natural Heritage System in terms of its effect on development potential within the Preferred Growth Concept settlement areas.

It is important to note that the Region's Natural Heritage System could be further refined or enhanced through an Area-Specific Plan subwatershed study that would be completed for a new Designated Greenfield Area. Also at the Preferred Growth Concept stage of the IGMS, an Agricultural Impact Assessment will address the maintenance of a contiguous Agricultural System. The importance of the relationship of the two systems within the rural landscape will also be considered.

1.4 Provide the Opportunity to Develop Healthy Communities

The following measures address patterns of development that supports health and well-being including public and personal safety.

Concepts that best achieve each measure are shown with a ✓ below.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
1.4.1 Part 1: Supports the greatest opportunity for a diversity of land uses, appropriate mix and densities of housing; and	✓			✓
1.4.1 Part 2: Promotes a multi-modal transportation system that supports active transportation and transit use		✓	✓	

1.4.1 Supports the greatest opportunity for a diversity of land uses, appropriate mix and densities of housing, and promotes a multi-modal transportation system that supports active transportation and transit use

Part 1 of measure 1.4.1 addresses the notion of "market-based housing supply" required by the Province's Land Needs Assessment (LNA) Methodology. The four Growth Concepts test different scales of the housing market shift. The estimated 2021 housing mix in the Region is 80% ground-related housing and 20% apartment housing. Over the past decade, new housing in Halton has been about 30% apartments which is about the same housing mix as a market-based demand would provide. To 2051, that market-based forecast would shift the apartment share upward from the current 20% of units to 24% of units. Meeting the minimum Growth Plan intensification target of 50% means a housing market shift such that about 48% of new units in Halton would need to be apartments, which would shift the total 2051 housing mix to 32% of all units in apartments.

- Concepts 1, 2 and 3 embrace intensification and higher-density mixed-use development and would result in a range of 55% to 65% of apartment units in the growth increment and at 2051 the total housing stock of the Region would be a range from 35% to 40% of all units in apartments.

- Concept 4 with 50% intensification, already represents a significant shift from the Region's current level of intensification (approximately 30% in recent years). Concept 4 would achieve a total 2051 housing mix of 32% of all units being apartments.

- Concepts 1 and 4 better achieve a balanced unit mix (e.g. ground-related and apartments). Given the higher rates of intensification in Concepts 2 and 3, there is less

diversity in land uses and housing mix, thus these concepts did not achieve this measure as well as Concept 1 and 4.

Part 2 addresses multi-model transportation system (including support for active transportation and transit use).

- From a land-use perspective, Concept 3 best supports active transportation and transit use followed by Concept 2. This is due to the higher levels of intensification and growth directed to Strategic Growth Areas (SGAs) supported by planned transit infrastructure (e.g., GO Transit stations located within MTSAs).

1.5 Provide a Range of Choice for Housing, Jobs and Leisure

The following measures address demonstrated opportunities for a mix of jobs, services and housing including a market-based housing supply.

Concepts that best achieve each measure are shown with a ✓ below.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
1.5.1 Supports a greater degree of access and choice for housing, employment and leisure	✓			✓

1.5.1 Supports a greater degree of access and choice for housing, employment and leisure

The evaluation examined the future growth associated with each of the Growth Concepts and the ability to create access and choice for housing, employment and leisure. Similar to measure 1.4.1, this measure embodies decisions relating to a "market-based housing supply" required by the Province's Land Needs Assessment (LNA) Methodology. The amount and choice of employment and access to leisure are relatively consistent throughout the concepts.

- Concept 2 and 3 have the least amount of housing choice because of high intensification rates (post-2031 intensification rates of 70% and 80%, respectively) resulting in a high reliance on one form of housing.

- Concept 1 and 4 still propose a significant shift away from the Region's current levels of intensification but support a greater degree of access and choice relative to Concepts 2 and 3.

3. THEME 2: INFRASTRUCTURE & FINANCING

The measures identified under this theme are based on Provincial policy directions and address financial impact and the efficient use of infrastructure.

Efficient Use of Existing or Planned Infrastructure

Provincial policies direct that communities be sustained by necessary existing or planned infrastructure to meet current and projected needs (PPS 1.1.1). To avoid the need for unjustified and/or uneconomical expansion of infrastructure, land use patterns within settlement areas are to be based on densities and a mix of land uses that efficiently use existing or planned infrastructure (PPS 1.1.3.2). To manage forecasted growth, the Region must provide direction for an urban form that optimizes infrastructure, particularly along transit and transportation corridors (GP 2.2.1.3). For the purposes of the evaluation under this theme, separate analysis is presented for Transportation and Water/Wastewater infrastructure.

Promote Intensification and Transit Use

To support the achievement of intensification targets, the Region must identify appropriate locations and promoting opportunities for intensification and redevelopment. This exercise must take into account the availability of suitable existing or planned infrastructure required to accommodate projected need (PPS 1.1.3.3, GP 2.2.2.3).

Financial Viability

In considering a settlement boundary expansion the Region must demonstrate that existing and planned infrastructure is suitable for the long term and that infrastructure and public service facilities needed is financially viable over the life cycle of these assets (PPS 1.1.3.8, GP 2.2.8.3).

2.1 Optimize the Current Infrastructure Capacity

The following measures address the efficient and best use of water/wastewater and transportation infrastructure and effective expansions in accordance with approved Master Plans and studies.

Concepts that best achieve each measure are shown with a ✓ below.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
Transportation 2.1.1 Maximize the use of existing capacity prior to the upgrade or expansion of infrastructure	✓	✓	✓	✓
Water/Wastewater 2.1.1 Maximize the use of existing capacity prior to the upgrade or expansion of infrastructure	✓	✓	✓	✓
Transportation 2.1.2 Best use of existing or planned infrastructure and that can be most easily expanded to service new development areas	✓	✓	✓	✓
Water/Wastewater 2.1.2 Best use of existing or planned infrastructure and that can be most easily expanded to service new development areas	✓	✓	✓	✓

2.1.1 Maximize the use of existing capacity prior to the upgrade or expansion of infrastructure

The Growth Concepts test different locations and amount of growth (see Chapter 6 and 7 of the Growth Concepts Discussion Paper and Appendix B – Land Needs Assessment). Transportation and water/wastewater infrastructure modelling was completed to test how infrastructure capacity is used and when new infrastructure is needed to service growth.

Transportation findings:
The Transportation assessment is based on the Region's travel demand model and provided for comparative purposes only. Additional details on the Transportation Technical Assessment are provided in Appendix D of the IGMS Growth Concepts Discussion Paper.

- No single Growth Concept stands out from a Transportation perspective. This is because the Region's model is a strategic model that looks at transportation demand at a boarder regional level (rather than at a specific intersection/point). There is not enough significant net change among the Growth Concepts to be captured by the model's analytical methods. Further, by 2031, the current Regional

system, as identified by the *Regional Transportation Master Plan – The Road to Change*, is built-out. All Growth Concepts will use the existing capacity prior to identification of any capacity expansion, as the modelling tool uses up available capacity prior to triggering a need for new infrastructure or other transportation solutions. All Growth Concepts use up the available capacity first.

- Therefore, the Transportation analysis indicates that all concepts maximize existing capacity prior to infrastructure upgrades.

Water/Wastewater findings:
Infrastructure deficiencies identified for the water and wastewater systems are common across all concepts with minor deficiencies in capacity and pipe size requirements. The location of growth in Milton, Halton Hills 401 Corridor and South Georgetown has a direct impact on the capacity and size requirements of future water and wastewater infrastructure. Growth planned in the south portion of the lake-based system will generally require less new infrastructure than similar growth planned further north.

- All Growth Concepts maximize use of wastewater infrastructure prior to expansion. Similarly, all Growth Concepts maximize the east water system which is generally located east of Bronte Creek servicing Oakville and Milton. However, none of the concepts maximize the west water system which is generally located west of Bronte Creek primarily servicing the City of Burlington.

- Concept 3, which has no new Community Area lands, has more potential to maximize the use of existing water and wastewater trunk infrastructure when compared to the other concepts.

2.1.2 Best use of existing or planned infrastructure and that can be most easily expanded to service new development areas

All the Growth Concepts propose settlement boundary expansion areas that are contiguous with the existing urban area where servicing already exists. Generally, all Growth Concepts use existing and planned infrastructure equally well; however, Growth Concepts with a greater quantum of land would require additional expansion.

Transportation findings:
By 2031, the current Regional system, as identified by the *Regional Transportation Master Plan – The Road to Change,* is built-out. All Growth Concepts will use the existing capacity prior to identification of any capacity expansion. All four Growth Concepts exhibit the same deficient screenlines where Regional improvements are feasible.

- Although all Growth Concepts would achieve this measure, Concepts 3 and 4 exhibit one additional regional screenline deficiency in 2051 than the other Growth Concepts but the required infrastructure to support the travel demand does not differentiate these concepts from the others given the order-of-magnitude of the analysis.
- In Concept 3, there is a screenline deficiency in 2051 (SL 74 – east Halton Hills). Addressing this deficiency would rely primarily on the widening of 5 Side Road.
- In contrast, Concept 4 exhibits a screenline deficiency in 2051 (SL 54 – Mid-North Milton) due to the allocation of more employment in the Regional Road 25 / James Snow Parkway area. This deficiency would be addressed primarily through improvements to James Snow Parkway.

Water/Wastewater findings:
Intensification has the potential to better utilize existing infrastructure and will provide opportunities for integration with state of good repair programs.

The water distribution and wastewater collection systems, as outlined in the current Water and Wastewater Master Plan, are designed to enable future extension/expansion into new proposed Designated Greenfield Area lands. However, growth planned in the south portion of the lake-based system (Burlington/Oakville) will generally require less new infrastructure than similar growth planned further north (Milton/Halton Hills). This is due to increased pumping and conveyance requirements to move water north to supply upper pressure zones and convey wastewater from north to south for treatment.

2.2 Cost-effective Replacement and/or Expansion of Infrastructure

The following measures address coordinated construction of water/wastewater and transportation infrastructure for cost-effective replacement and expansion.

Concepts that best achieve each measure are shown with a ✓ below.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
Transportation				
2.2.1 Best supports coordinated construction of transportation and water/ wastewater infrastructure to meet development demands	✓	✓	✓	✓

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
Water/Wastewater				
2.2.1 Best supports coordinated construction of transportation and water/ wastewater infrastructure to meet development demands	✓	✓	✓	✓

2.2.1 Best supports coordinated construction of transportation and water/ wastewater infrastructure to meet development demands

As the Region grows over the planning horizon to 2051, so will the demand on infrastructure and need to provide services to meet this demand. The planning and construction of major transportation and water/wastewater infrastructure is typically done through the Region's various master plans and annual capital budgets. This measure examines the ability to coordinate transportation and water/wastewater in each of the Growth Concepts.

Transportation findings:

- All Growth Concepts present similar opportunities to integrate transportation planning. This includes coordination of location, phasing, timing, and funding of transportation infrastructure projects with other infrastructure requirements such as water and wastewater; required to maintain current levels of service and meet future growth demands.
- None of the Growth Concepts require infrastructure that would be implemented in a piece-meal manner or non-coordinated way.
- Therefore, all Growth Concepts meet this measure.

Water/Wastewater findings:

- All Growth Concepts present similar opportunities to integrate water and wastewater infrastructure planning. This includes coordination of location, phasing, timing and funding of water and wastewater infrastructure projects with other infrastructure requirements such as transportation, transit, community services and others; required to maintain current level of service and meet future growth demands.
- Therefore, all Growth Concepts meet this measure.

2.3 Sustainable Long-range Financial Planning and Asset Management

The following measures analyze financial impacts of water/wastewater and transportation infrastructure on capital and operating projects.

Concepts that best achieve each measure are shown with a ✓ below.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
Transportation 2.3.1 Lowest capital cost for water/wastewater and transportation infrastructure required, while achieving a balance between community development costs and benefits	✓	✓	✓	✓
Water/Wastewater 2.3.1 Lowest capital cost for water/wastewater and transportation infrastructure required, while achieving a balance between community development costs and benefit	✓	✓	✓	✓
Transportation 2.3.2 Lowest operating and maintenance costs	✓	✓	✓	✓
Water/Wastewater 2.3.2 Lowest operating and maintenance costs	✓	✓	✓	✓
2.3.3 Least negative (most positive) net financial impact on the Region and its Local Municipalities*	✓			✓

*Based on separate fiscal impact analysis see section 2.3.3 and Appendix F of the IGMS Growth Concepts Discussion Paper

2.3.1 Lowest capital cost for water/wastewater and transportation infrastructure required, while achieving a balance between community development costs and benefits

Transportation and water/wastewater modelling was undertaken for the four Growth Concepts. This modelling includes estimated capital costs for servicing future growth

arising from each of the concepts. Additional details on the anticipated capital costs are provided in Appendix D – Transportation Analysis and Appendix E – Water & Wastewater Analysis of the IGMS Growth Concepts Discussion Paper.

Transportation findings:

- Concept 3 and Concept 4 have potential for a marginally higher transportation capital cost, depending on the transportation solution (e.g. roads and transit), but not significant enough to distinguish them from other concepts.
- More detailed transportation modelling will be undertaken as part of the Preferred Growth Concept.

Water/Wastewater findings:

- Concepts 2 and 3, which have low or no new Community Designated Greenfield Area lands beyond the 2031 horizon, require less capital investment mainly because of the limited need to extend servicing to new areas. However, the cost differential between all Growth Concepts is relatively minor (less than 15% difference with respect to the average cost between the four concepts).
- No Growth Concept stands out from a cost perspective given the order of magnitude of the analysis.

2.3.2 Lowest operating and maintenance costs

The evaluation findings for this measure are generally consistent with measure 2.3.1 as the operating and maintenance costs are closely related to the emplacement of future capital infrastructure.

Transportation findings:

- For Transportation, the same observations are noted for operating and maintenance costs for all four Growth Concepts.

Water/Wastewater findings:

- Concepts 2 and 3, which have low or no new Community Designated Greenfield Area lands beyond the 2031 horizon, require less operations and maintenance costs because of the limited need to extend servicing to new areas. However, the cost differential between all Growth Concepts is relatively minor.

2.3.3 Least negative (most positive) net financial impact on the Region and its Local Municipalities

The net financial impact on the Region and its local municipalities was determined through a Fiscal Impact Assessment (FIA) and related model. The base parameters of the model includes capital and operating budgets as well as long-range financial planning policies. Other key inputs to the model include growth forecast projections for each of the Growth Concepts as well as capital and operating cost drivers. Independent models were developed for the Region and each of the four local municipalities; however, the analysis includes an evaluation, and discussion, of the cumulative impacts of the Growth Concepts.

The FIA model also accounts for municipal revenues generated from assessment (property taxes) and non-tax revenues. The model assumes that costs and revenues increase in proportion to increased needs associated to growth to maintain current levels of service. The net impact of the expenditures less revenues results in the tax rate impact, which is used to assess the fiscal effect in any given Growth Concept. Additional details on the FIA are provided in Appendix F of the IGMS Growth Concepts Discussion Paper.

- At a Regional level, there are some variation between concepts. There is only a small tax funded cost differential between all four Growth Concepts because there is minimal variation in infrastructure costs (see measure 2.3.2).

- Preliminary analysis suggests that Concept 1 and 4 would have a marginally better financial impact when compared with Concept 2 and 3. This is a function of assessment growth (i.e. property tax revenue) as a greater amount of revenue is generated from ground-related units when compared to apartments. This is driven by the rates of densification and intensification tested between the four Growth Concepts. Concepts 2 and 3, which have higher rates of densification, have a greater share of apartments and therefore slightly less assessment revenue when compared to Concept 1 and 4 which have more ground-related units. However, the tax revenue potential of high-density development may improve over time. Higher rates of intensification in Concepts 2 and 3 would likely result in changes to sizes and configuration of apartment units as a greater share of families would need to accommodate these units. Such shifts in housing configuration may increase the assessment for Concepts 2 and 3.

- At the local municipal level, the impacts are similar. Concepts with higher levels of low-density units and higher employment display better fiscal outcomes. All fiscal impacts are above 2%, with many in excess of 3%, which is beyond core inflation and current budget targets.

2.4 Support Regional Planning

The following measures assess effective phasing of infrastructure that integrates both transportation and water/wastewater infrastructure.

Concepts that best achieve each measure are shown with a ✓ below.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
Transportation 2.4.1 Best opportunity for phasing and scheduling with other planned infrastructure projects	✓	✓	✓	✓
Water/Wastewater 2.4.1 Best opportunity for phasing and scheduling with other planned infrastructure projects	✓	✓	✓	✓

2.4.1 Best opportunity for phasing and scheduling with other planned infrastructure projects

The evaluation considered infrastructure needs related to intensification occurring within existing urban areas verses infrastructure needs required to service new Designated Greenfield Area lands. Generally, infrastructure associated with growth occurring in both areas allow for phasing and scheduling with planned infrastructure projects to occur.

Transportation findings:

- All four Growth Concepts provide for the opportunity for phasing and scheduling of transportation infrastructure with other planned infrastructure projects**.**

Water/Wastewater findings:

- All four concepts provide opportunities for phasing and scheduling with other planned infrastructure projects.
- Intensification areas offer greater opportunity for integration with other services.
- Growth directed within existing urban areas would better provide opportunities to integrate with other services that are already established in these areas.

2.5 Sound and Sustainable Infrastructure Planning

The following measure assess support for a sustainable, long term infrastructure planning strategy that promotes good infrastructure planning approaches such as maximizing wastewater gravity systems and operational flexibility. In particular, this measure also addresses the overall sustainability of infrastructure planning to ensure that the current needs of the Region while safeguarding the environment and resources for the future as supported by the Halton Region Strategic Business Plan themes of "Environment Sustainability and Climate Change" and "Effective Government".

Concepts that best achieve each measure are shown with a ✓ below.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
Transportation 2.5.1 Best supports a sustainable, long term infrastructure planning strategy	✓	✓	✓	✓
Water/Wastewater 2.5.1 Best supports a sustainable, long term infrastructure planning strategy	✓	✓	✓	✓

2.5.1 Best supports a sustainable, long term infrastructure planning strategy

Regional infrastructure needs are determined through master plans and supporting analysis. In determining the infrastructure needs arising from future development in the four Growth Concepts, the ability to integrate these assets into a long-term infrastructure planning strategy was considered. Consideration was also given to the overall sustainability of the infrastructure planning strategy.

Transportation findings:

- All Growth Concepts present equal opportunities for sustainable long-term infrastructure planning strategy as well as operational flexibility and reliability. Therefore, from a transportation perspective, all Growth Concepts achieve this measure.
- This measure relates to the climate change planning objective of a sustainable transportation system (see Appendix A of the IGMS Growth Concept Discussion

Paper for details). Sustainable transportation system mitigates climate change by reducing GHG emissions from vehicles by reducing car dependence.

Water/Wastewater findings:

- From a water/wastewater perspective, all Growth Concepts provide the same opportunities for sustainable long-term infrastructure planning strategy and constraints for operational flexibility and reliability.
- However, Concept 3 best maximizes wastewater gravity systems and minimizes pumping when compared to other concepts. As well, given that Concept 3 requires the least amount of new Designated Greenfield Area, there is less potential for new infrastructure to be built through the Natural Heritage System or other protected greenspace.

4. THEME 3: AGRICULTURE, ENVIRONMENT AND CLIMATE CHANGE

The measures identified under this theme are based on Provincial policy directions and address impact on the agricultural land base and system, protection of natural heritage features and areas, and climate change mitigation, adaptation and resiliency.

Protecting the Natural Heritage System and Prime Agricultural Areas
In considering a settlement area boundary expansion the Region must demonstrate that the Natural Heritage System, key features, and prime agricultural areas are avoided where possible and any adverse impacts on the agri-food network are avoided, or otherwise minimized and mitigated (PPS 1.1.3.8, GP 2.2.8.3).

Improving Resiliency to Climate Change Impacts
To support the achievement of complete communities, the Region is directed to mitigate and adapt to climate change impacts, improve resilience, and reduce greenhouse gas (GHG) emissions (PPS 1.1.1, GP 2.2.1.4).

Minimize Impacts on Region's Mineral Resource Area
To protect resources needed to support future growth, the Region shall develop policies to protect and conserve mineral aggregate resources (PPS 2.5, GP 4.2.8).

3.1 Protect the Integrity and Minimize Impact on the Agricultural Land Base and System

The following measures address fragmentation of agricultural lands, protection of prime agricultural land and protection of the agricultural system and agri-food network.

Concepts that best achieve each measure are shown with a ✓ below.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
3.1.1 Retains the largest amount of contiguous agricultural land possible			✓	
3.1.2 Protects and avoids Prime Agricultural Land to maintain the most productive and fertile soils for agriculture			✓	

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
3.1.3 Maximizes the amount of agricultural lands to support the Agricultural System			✓	
3.1.4 Limits proximity of land uses sensitive to agricultural operations (e.g. noise, odour)*	TBD	TBD	TBD	TBD
3.1.5 Recognizes the interconnectedness of agricultural and food assets and has the least impact on the Agricultural System	TBD	TBD	TBD	TBD

** This measure will be evaluated at the Preferred Growth Concept stage*

3.1.1 Retains the largest amount of contiguous agricultural land possible

The potential locations of future settlement area boundary expansions were considered when evaluating the Growth Concepts (see IGMS Growth Concepts Discussion Paper, Chapter 7). Whitebelt lands that are potentially available for urban development adjacent to the Milton and Georgetown (Halton Hills) urban areas are within the Region's prime agricultural areas and as a consequence 99% of the lands in the four Growth Concepts consist of prime agricultural lands. Further analysis is provided in Appendix G – Agricultural Area Assessment.

The largest contiguous area of prime agricultural land within the Whitebelt area is located to the west and south of Georgetown (Halton Hills) extending south to the Highway 401/407 employment area. Much smaller areas of contiguous prime agricultural land are located to the south and west of Milton and to a lesser extent between the Milton urban area and Highway 407, which is also identified as a Future Strategic Employment Area (FSEA).

- Concept 3 would best support this measure because the proposed Halton Hills expansion area is limited to some lands that front onto the portion of Winston Churchill Boulevard that is already identified as FSEA (in the vicinity of the GTA West highway) and a small band of land extending westwards along the north side of the Highway 401/407 Employment Area. As a result, the large contiguous area of prime agricultural land in Halton Hills would be left mostly intact. In addition, the Milton expansion area in Concept 3 only affects lands on the east side of the Milton urban area, which as noted above, has already been identified as a FSEA.

- After Concept 3, this measure would be best achieved by Concept 2 because the incursion into the Halton Hills prime agricultural area is less than with Concepts 1 and 4. Concept 1 would follow because the incursion into the Halton Hills prime agricultural area is less than Concept 4. Concept 4 would least support this measure because of the significant incursion of this Concept into the prime agricultural area in Halton Hills.

- The measure relates to the climate change planning objective of the protection of agricultural land and soils (see Appendix A of the IGMS Growth Concepts Discussion Paper for details). Agricultural land and soils support climate change mitigation as these area sequester carbon and allows the Region to adapt to climate change as it increases local food security and resiliency in response to potential disruption in the food system.

3.1.2 Protects and avoids Prime Agricultural Land to maintain the most productive and fertile soils for agriculture

The evaluation considered the potential settlement areas tested under of the four Growth Concepts (see IGMS Growth Concepts Discussion Paper, Chapter 7). Recognizing almost all of the lands tested in the four Growth Concepts are prime agricultural, concepts which require the least amount of land would best achieve this measure.

- Concept 3 would best support this measure since it consumes the least amount of land with Class 1 prime agricultural soil.

- The measure relates to the climate change planning objective of the protection of agricultural land and soils (see Appendix A of the IGMS Growth Concepts Discussion Paper for details). Agricultural land and soils support climate change mitigation as these area sequester carbon and allows the Region to adapt to climate change as it increases local food security and resiliency in response to potential disruption in the food system.

3.1.3 Maximizes the amount of agricultural lands to support the Agricultural System

The evaluation considered how much prime agricultural land in each Concept is utilized for development.

- Concept 3 would support this measure to the greatest extent as it utilizes the least amount of land (1,025 hectares). Concept 2 is next best at 2,313 hectares, followed by Concept 1 with 2,924 hectares. Concept 4 would be least supportive as it utilizes the most land (3,507 hectares).

- The measure relates to the climate change planning objective of the protection of agricultural land and soils (see Appendix A of the IGMS Growth Concepts Discussion Paper for details). Agricultural land and soils support climate change mitigation as these area sequester carbon and supports climate change adaptation as it increases local food security and resiliency in response to potential disruption in the food system.

3.1.4 Limits proximity of land uses sensitive to agricultural operations (e.g. noise, odour)

This measure will be evaluated once the second phase of the Agricultural Assessment is completed. This analysis will inform the development of the Preferred Growth Concept.

3.1.5 Recognizes the interconnectedness of agricultural and food assets and has the least impact on the Agricultural System

This measure will be evaluated once the second phase of the Agricultural Assessment is completed. This analysis will inform the development of the Preferred Growth Concept.

The measure relates to the climate change planning objective of the protection of agricultural land and soils (see Appendix A of the IGMS Growth Concepts Discussion Paper for details). Agricultural land and soils support climate change mitigation as these area sequester carbon and allows the Region to adapt to climate change as it increases local food security and resiliency in response to potential disruption in the food system.

3.2 Enhance the Natural Heritage System to Strengthen Key Features and Areas and Reduce the Impact of New Development

This measure addresses the protection of the Natural Heritage System from disturbance.

Concepts that best achieve each measure are shown with a ✓ below.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
3.2.1 Retains the greatest overall area possible of natural heritage lands	✓	✓	✓	✓

3.2.1 Retains the greatest overall area possible of natural heritage lands

Halton's draft proposed refined Natural Heritage System (NHS) developed through the Regional Official Plan Review (ROPR) process was overlaid on the four Growth Concepts. None of the Growth Concepts propose removals from or encroachments into the Natural Heritage System. As such, all four Growth Concepts would fully achieve this measure. However, consideration is given to opportunities through each of the concepts to provide improvements to the form of the Regional NHS through implementation (i.e., planting / establishment) of these areas over time:

- Concept 1 provides the largest total area of linkage / enhancement (117 ha) and is also the highest proportion of the concept land area at 4%.
- Concept 2 has the second largest area (59 ha), substantially smaller than Concept 1 and represents 3% of the concept land area. Concept 2 provides a slightly smaller area than Concept 2 (50ha) and comparable percentage of the concept land area (3%).
- Concept 3 has the lowest amount of linkage and enhancement area (23 ha) and has the lowest percentage relative to concept land area (2%).

- The measure relates to the climate change planning objective of the protection of natural environment/watershed health (see Appendix A of the IGMS Growth Concept Discussion Paper for details). The protection of the natural environment and supporting healthy watersheds support climate change mitigation because natural areas sequester carbon and other pollutants from the air. It also supports climate change adaptation as natural heritage systems act as "green infrastructure" supporting the management of water quality and quantity.

3.3 Reduce Carbon Emissions and Address Air Quality

The following measures address minimizing emissions through intensification and compact development and transportation efficiency and alternatives.

Concepts that best achieve each measure are shown with a ✓ below.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
3.3.1 Best creates opportunities for residential uses, employment uses, and community services to be located in close proximity to one another and		✓	✓	

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
supported by existing or planned transit service				
 3.3.2 Generates the fewest lane kilometres, provides transit-supportive densities, and generates opportunities for multi-modal access			✓	

3.3.1 Best creates opportunities for residential uses, employment uses, and community services to be located in close proximity to one another and supported by existing or planned transit service

Compact built-form allows for different land uses to be located in close proximity to each other. In doing so, this allows for greater levels of intensification which also support transit infrastructure.

- Concept 3 would best achieve this measure as it has the largest amount of growth located in Strategic Growth (SGA) Areas serviced by existing or planned transit infrastructure. Concept 2 would then follow Concept 3 I best achieving this measure. This evaluation measure is generally consistent with measure 1.4.1 Part 2.

- As described in Appendix A of the IGMS Growth Concept Discussion Paper, this measure relates to the climate change planning objective of compact built form. Compact built form addresses climate change mitigation and adaptation because compact form and a mix of uses and densities allow for the efficient use of land, infrastructure and public service facilities and also directs growth away from agricultural and natural heritage system lands.

3.3.2 Generates the fewest lane kilometres, provides transit-supportive densities, and generates opportunities for multi-modal access

The transit analysis used in the evaluation of the Growth Concepts compared passenger demand in the peak hour along high priority corridors and demand to the capacity of the service. The base service used for 2051 was as recommended by the *Defining Major Transit Requirements in Halton* report for the 2041 planning horizon.

- All four Growth Concepts exhibit the same level of emissions measured as vehicle-kilometres travelled and average speed. However, the assessment differs in context of densities and mixed-uses in support of transit.

- Similar to measure 3.3.1, Concept 3 would better achieve this measure relative to the other concepts given that a greater amount of future growth is allocated to Strategic Growth Areas (SGAs).

- The measure relates to the climate change planning objective of a sustainable transportation system (see Appendix A of the IGMS Growth Concept Discussion Paper for details). Sustainable transportation system mitigates climate change by reducing GHG emissions from vehicles by reducing car dependence.

3.4 Maintain Resiliency to Impacts of Extreme Weather Events

These measures address protection of the Natural Heritage System to mitigate the impacts of extreme weather events and to reduce the risk of flooding.

Concepts that best achieve each measure are shown with a ✓ below.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
3.4.1 Emphasizes NHS protection within settlement areas and the rural area	✓	✓	✓	✓
3.4.2 Supports a contiguous Natural Heritage System	✓	✓	✓	✓

3.4.1 Emphasizes NHS protection within settlement areas and the rural area

Similar to measure 3.2.1, Halton's draft proposed refined Natural Heritage System developed through the Regional Official Plan Review (ROPR) process was overlaid on the four Growth Concepts. None of the Growth Concepts propose removals of or encroachments into the Natural Heritage System. As such, all four Growth Concepts would fully achieve this measures. However, consideration is given to the presence of high, medium and low constraint features within each concept to consider their potential impact and/or influence on development:

- Concept 2 has the greatest amount of High and Medium constraint by area (57%), followed by Concepts 1 and 3 (47% each) and with Concept 4 having the lowest amount by area (41%).

At the Preferred Growth Concept stage of the IGMS work, a Natural Heritage System and Water Resource System Constraints and Impacts Assessment will be completed that will further examine the components of the Region's Natural Heritage System in terms of affecting development potential within the lands areas proposed through the Preferred Growth Concept. It is important to note that the Region's Natural Heritage System could be further refined or enhanced through an Area-Specific Plan subwatershed study that would be completed for a new Designated Greenfield Area. Additional NHS/Water Resource System analysis will be undertaken to determine the desired elements to be included in the Preferred Growth Concept.

- The measure relates to the climate change planning objective of the protection of natural environment/watershed health (see Appendix A of the IGMS Growth Concept Discussion Paper for details). The protection of the natural environment and supporting healthy watersheds support climate change mitigation because natural areas sequester carbon and other pollutants from the air. It also supports climate change adaptation as natural heritage systems act as "green infrastructure" supporting the management of water quality and quantity.

3.4.2 Supports a contiguous Natural Heritage System

The evaluation completed as part of measure 3.4.1 is consistent with this measure. Therefore, the same findings apply to this measure.

3.5 Consider Impacts on Region's Mineral Resource Areas

The following measures address minimizing impact of mineral extraction of new development and protecting agricultural areas that support aggregate extraction.

Concepts that best achieve each measure are shown with a ✓ below.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
3.5.1 Limits proximity of incompatible uses to mineral aggregate operations and mineral extraction areas			✓	

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
3.5.2 Retains areas for mineral extraction, which can be rehabilitated to high value agricultural areas			✓	

3.5.1 Limits proximity of incompatible uses to mineral aggregate operations and mineral extraction areas

The shale resource identified by the Regional Official Plan is limited to the Town of Halton Hills. Appendix I provides the detailed analysis of the amount of shale resource area that would potentially be lost in each Growth Concept.

- Concept 3 would best support this measure because it affects the least amount of shale resource lands. However, Concept 2 is very close behind, which is then followed by Concept 1 and Concept 4, which would support this measure the least because of the higher amount of shale resource land that would be affected.
- It is noted however that if the higher priority lands having a drift thickness of 1 metre to 8 metres was considered instead, Concept 2 would marginally support this measure the best, since a lesser drift thickness means that shale resource extraction is more feasible, practical and economical, with Concept 3 being very close behind.

3.5.2 Retains areas for mineral extraction, which can be rehabilitated to high value agricultural areas

This measure is about how much shale resource area is retained, based on the selection of each Growth Concept, and in consideration of both Aggregate Resource Inventory Papers (ARIP) 184 and Regional Official Plan Amendment (ROPA) 38 mapping.

- Concept 3 would support this measure the best on the basis of ARIP 184 mapping, because it affects the least amount of shale resource lands. Followed by Concept 2 and then Concept 4, with Concept 1 least supporting the measure.
- Concept 3 would support this measure the best, based on ROPA 38 mapping, because it affects the least amount of shale resource lands. However, Concept 2 is very close behind, which is then followed by Concept 1 and Concept 4, which would support this measure the least because of the higher amount of shale resource land in Halton Hills that would be affected.

5. THEME 4: GROWING THE ECONOMY AND MOVING PEOPLE AND GOODS

The measures identified under this theme are based on Provincial policy directions and address multi-modal transportation and transit-supportive densities, goods movement and employment areas.

Planning for Multi-modal Transportation

As identified in the PPS and the *Growth Plan*, areas with existing and planned frequent transit and Major Transit Station Areas are to be planned and designed to be transit-supportive with multi-modal access to stations and connections (GP 2.2.4.8, 2.2.4.10).

Planning for Employment

In terms of economic development, the Growth Plan directs municipalities to make more efficient use of employment areas and vacant and underutilized employment lands (GP 2.2.5.8).

Planning for Efficient Movement of Goods

For goods movement, facilities and corridors should be linked to employment areas to facilitate efficient goods movement (GP 3.2.4.1).

4.1 Promote Transit-Supportive Densities

The following measure address growing transit ridership demand through transit-orientated development and mixed-use directed to nodes and corridors.

Concepts that best achieve each measure are shown with a ✓ below.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
4.1.1 Directs new mixed use and residential development to nodes and corridors			✓	

4.1.1 Directs new mixed use and residential development to nodes and corridors

All four Growth Concepts direct a significant amount of residential and mixed-use growth to existing and proposed nodes and corridors. However, Growth Concepts with higher levels of intensification and densification direct more growth to these areas.

- Comparatively, Concept 3 best meets transit supportive densities as there is limited to no new Community Designated Greenfield Area lands. The higher levels of intensification in Concept 3 allows for a greater amount of growth to be concentrated in Strategic Growth Areas (SGAs) such as MTSAs and priority corridors where transit infrastructure is located.

- As described in Appendix A of the IGMS Growth Concept Discussion Paper, this measure relates to the climate change planning objective of compact built form. Compact built form addresses climate change mitigation and adaptation because compact form and a mix of uses and densities allow for the efficient use of land, infrastructure and public service facilities and also directs growth away from agricultural and natural heritage system lands.

4.2 Promote Multi-Modal Transportation Network that Supports all Modes of Transportation

The following measure addresses multi-modal transportation supported by residential development close to nodes and corridors.

Concepts that best achieve each measure are shown with a ✓ below.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
4.2.1 Locates new residential development closest to nodes and corridors			✓	

4.2.1 Locates new residential development closest to nodes and corridors

The measure is similar to measure 4.1.1 in that it evaluates the location of residential development in relation to nodes and corridors. However, this measure is focused on transit-supportive densities.

- Concept 3 would best achieve this measure as it directs the greatest concentration of residential growth to nodes and corridors.

- As described in Appendix A of the IGMS Growth Concept Discussion Paper, this measure relates to the climate change planning objective of compact built form. Compact built form addresses climate change mitigation and adaptation because compact form and a mix of uses and densities allow for the efficient use of land, infrastructure and public service facilities and also directs growth away from agricultural and natural heritage system lands.

4.3 Facilitates Goods Movement

The following measures address efficient use of existing Regional roads and accommodation of land extensive and freight dependent employment with direct access to rail and highways.

Concepts that best achieve each measure are shown with a ✓ below.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
4.3.1 Supports connectivity between Regional roads, rail and highways	✓	✓	✓	✓
4.3.2 Enhances the connectivity of goods related and land extensive employment areas located adjacent to or near major goods movement facilities and corridors	✓	✓	✓	✓

4.3.1 Supports connectivity between Regional roads, rail and highways

All four Growth Concepts were developed with connectivity between future growth and the Region's transportation network (e.g. roads, rail and highways) in mind. Therefore, all Growth Concepts equally achieve this measure.

4.3.2 Enhances the connectivity of goods related and land extensive employment areas located adjacent to or near major goods movement facilities and corridors

The Growth Concepts provide equal opportunities to enhance the connectivity of goods movement and the location of Employment Areas adjacent to major goods movement facilities and corridors (e.g. GTA West Corridor, Highway 407, Highway 401 and Highway 403). Preliminary future Employment Areas for each concept are located within the Region's existing Future Strategic Employment Areas (FSEA). These areas were identified for future

employment growth because they have appropriate access to current and future goods movement corridors. Therefore, all Growth Concepts equally achieve this measure.

4.4 Ensure the Availability of Sufficient Lands to Accommodate Forecasted Employment Growth

The following measure addresses protection of employment areas around highway corridors, rail corridors and transit.

Concepts that best achieve each measure are shown with a ✓ below.

EVALUATION MEASURES	CONCEPT 1	CONCEPT 2	CONCEPT 3	CONCEPT 4
4.4.1 Employment areas have direct access to rail and highways and are near existing or planned transit facilities	✓	✓	✓	✓

4.4.1 Employment areas have direct access to rail and highways and are near existing or planned transit facilities

All the Growth Concepts locate Employment Areas with direct access to rail and highway infrastructure. The preliminary Employment Areas identified in each of the Growth Concepts are located within the Region's existing Future Strategic Employment Areas (FSEA). These areas are located within proximity to major transportation infrastructure investments (e.g. GTA West Corridor, Highway 407, Highway 401 and Highway 403). Therefore, all Growth Concepts equally achieve this measure.

This measure relates to the climate change planning objective of a sustainable transportation system (see Appendix A of the IGMS Growth Concept Discussion Paper for details). Sustainable transportation system mitigates climate change by reducing GHG emissions from vehicles by reducing car dependence.

6. Next Steps

The results of the evaluation will be used to inform the development of the Preferred Growth Concept and in doing so, further technical assessment will be undertaken.