



Municipality of Clarington | Soper Springs Secondary Plan

Background and Analysis Summary Report


Clarington

Draft

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1 Introduction

The Soper Springs Secondary Plan Study area, or the “Study Area”, is a 186 hectare area in the Municipality of Clarington, located at the north end of Bowmanville. It is generally bound by Liberty Street North to the west, Concession Road 3 to the south, Lambs Road to the east. The Study Area’s northern boundary runs 1 kilometre north and parallel to Concession Road 3.

Map C of the Clarington Official Plan (COP) identifies this area as requiring preparation of a Secondary Plan. The purpose of this report is to provide background information that will guide the preparation of a Secondary Plan for the Study Area (Figure 1).

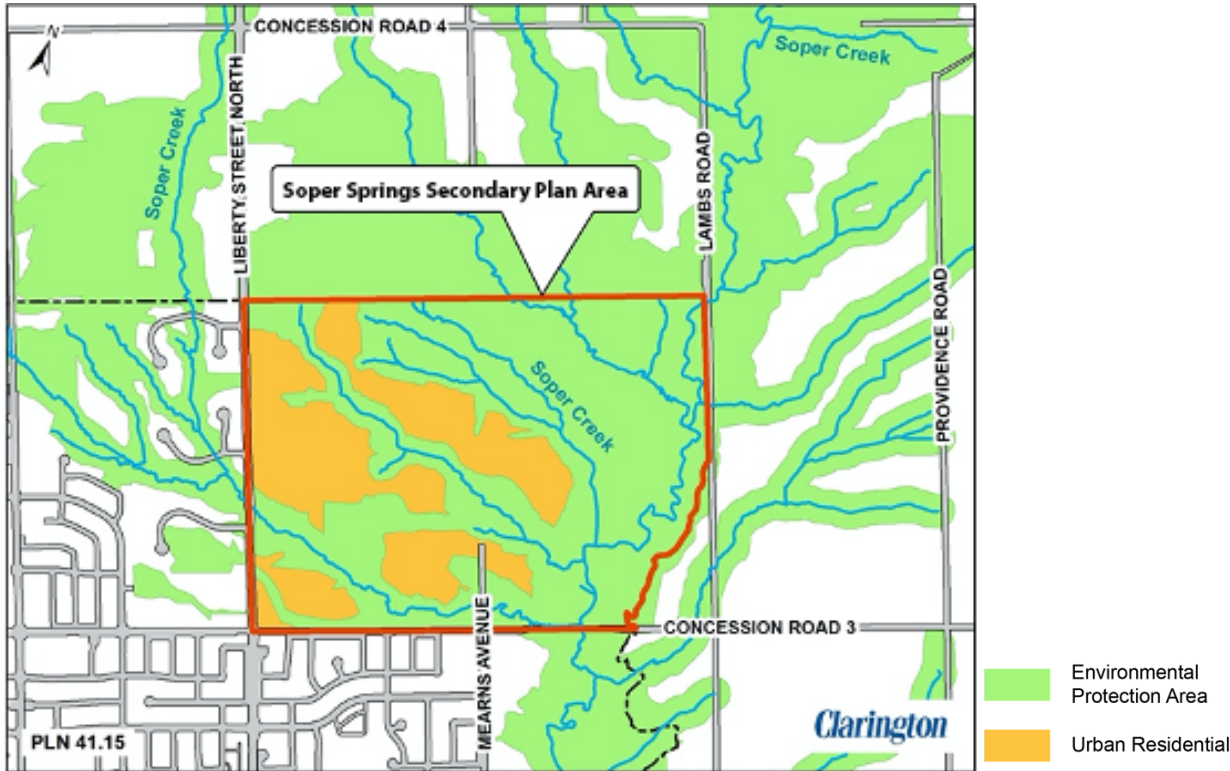


Figure 1: Soper Springs Secondary Plan Area Context

Source: Municipality of Clarington

The contents of this summary report are outlined below.

Chapter 2 provides the Landscape Analysis.

Chapter 3 summarizes relevant Provincial, Regional and Municipal policy and other relevant background information.

Chapter 4 provides the land budget.

Chapter 5 provides the Agricultural Evaluation.

Chapter 6 includes the sustainability principles and illustrated urban design and sustainability principles.

Chapter 7 summarizes Cultural Heritage and Archaeological Reports.

Chapter 8 summarizes the Functional Servicing Report and Transportation Report.

Chapter 9 summarizes the Opportunities and Constraints and provides an illustrated map.

Chapter 10 provides conclusion for the report and next steps for the study.

2 Landscape Analysis



2.1 Purpose of this Chapter

The landscape analysis evaluates, describes and interprets the existing topography, built form and natural features and provides a site summary to inform the planning and design of the Soper Springs Secondary Plan. A review of the existing context, topography, natural features, and built form is provided within this chapter to help to identify the opportunities and constraints for the development of the Soper Springs Secondary Plan.

2.2 Existing Context

A mixture of agricultural uses, natural areas, and private residential properties exist within and around the Study Area. A large portion of lands within the Soper Springs Secondary Plan boundary are designated as Environmental Protection Area (EPA) as noted on Map “A3” of the Clarington Official Plan shown in **Figure 2**.

Figure 3 clearly shows the mix of existing uses in the aerial view. Soper Creek and agricultural properties lie to the east of the Study Area. Estate-style single-detached residential properties are located to the west of the Study Area, and residential subdivisions are located to the south. The Greenbelt Plan area begins directly north of the Study Area boundary.

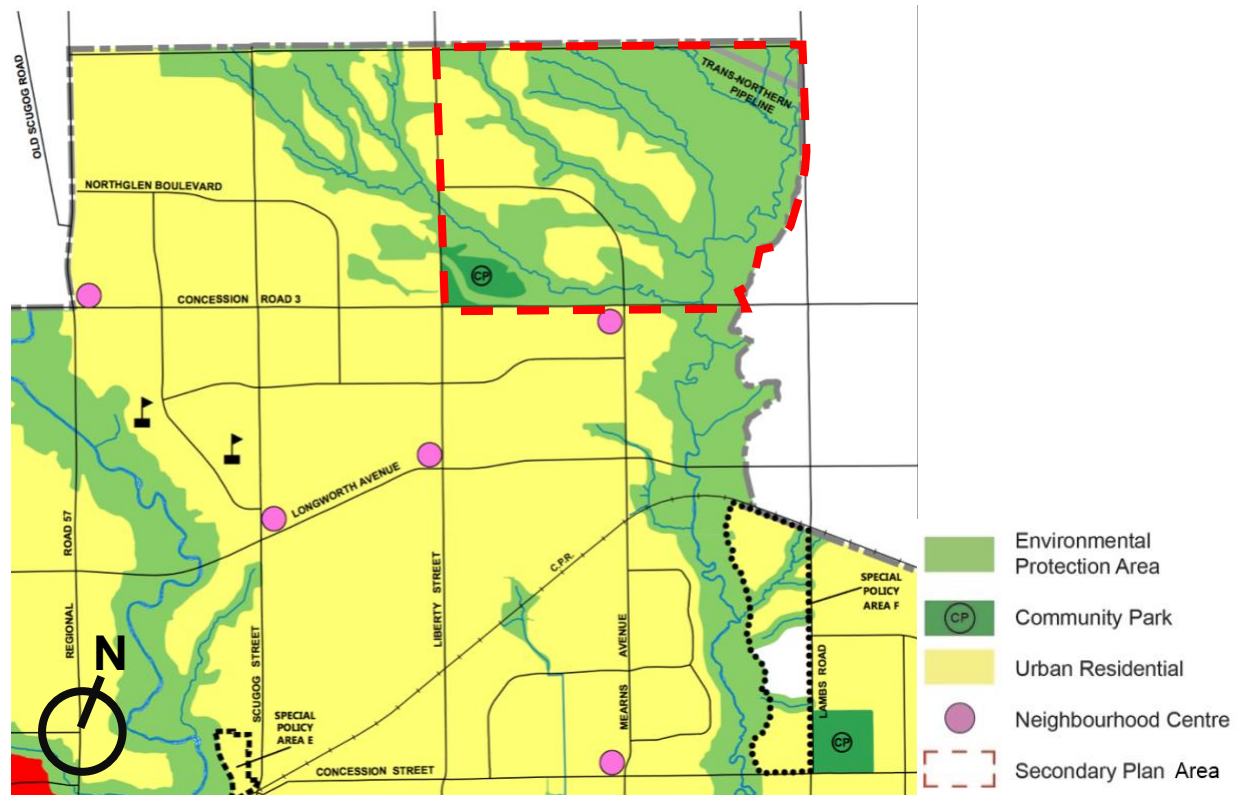


Figure 2: Study Area lands and surrounding area

Source Town of Clarington Official Plan

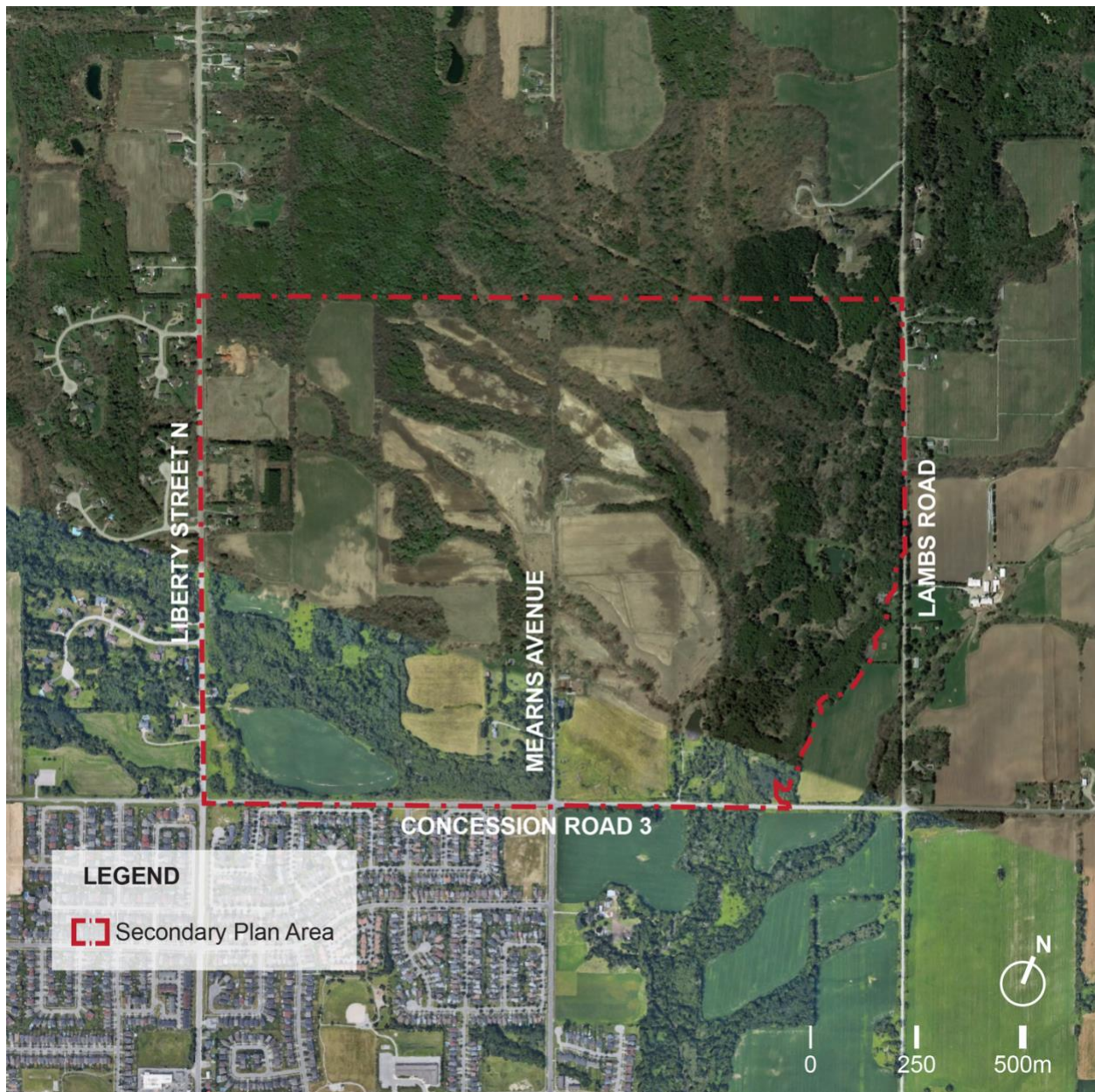


Figure 3: Aerial photo of the Study Area

Source Google Earth (Base)

2.3 Topography

The site's topography is varied, with the highest elevation at the northwest corner of the Study Area and the lowest elevation towards the southeast. The main branch of the Soper Creek flows through the eastern half of the study area with several tributaries throughout the study area flowing easterly towards the main branch, all within the natural heritage area (**Figure 4**). The Study Area contains several high points and several ridges and valleys, contributing to a rolling landscape as seen in **Figures 5 and 6**.

The highest point is located on the north western side of the property, along Liberty Street North, 50 metres above the lowest point in the Study Area, as highlighted in **Figure 4**. As a result of its rolling characteristic, there are few flat areas, with most flat lands being associated with existing residential properties along Liberty Street North. **Figure 5** shows the varied topographic characteristic of this high point, located north of Concession Road 3 and west of Mearns Road, with a 15 metre change in elevation from the highest point to the lowest point within a short distance.



Figure 4: Topographical map of the Soper Springs Secondary Plan Area with 1-meter intervals.

Source Google Earth (Base)

The Soper Creek tributary runs through the eastern half of the Study Area, creating low lying topography. The Soper Creek tributary provides a gentle valley feature within the subject lands as shown in **Figures 4, 5 and 6**.



Figure 5: High point (elevation in metres) located in the south of the Study Area, near the corner of Concession Road 3 and Mearns Avenue.

Source: Google Earth



Figure 6: The Study Area's topography is highly varied, due to the presence of the Soper Creek tributary to the east of the site. This image, looking southeast from Liberty Street N to the intersection of Concession Road 3 also shows the density of wooded areas within the subject lands.

Source: Google Earth

2.4 Built Form

Within the Study Area, the existing built form consists largely of estate-style single-detached residential properties and agricultural buildings and structures such as barns and sheds, and one communication tower along Mearns Avenue as shown on **Figure 7**.



Figure 7: Existing Buildings

Source: Google Earth (Base)

2.5 Natural Features

2.5.1 Wooded Features

As noted above, a large portion of lands within the Secondary Plan are designated as Environmental Protection Area (EPA). **Figure 8** identifies other wooded features including hedgerows, wooded areas adjacent to or associated with residential properties, trees bordering the Soper Creek tributaries, and trees on the roadside that border the Study Area that are located outside the EPA.



Figure 8: Other Wooded features exist on the property outside the designated EPA, near residential properties, along the roadside and as stand-alone groupings.

Source: Google Earth and the Municipality of Clarington (Base)

2.5.2 Creek Corridor

A main tributary to Soper Creek runs north-south, to the east of the Study Area and is largely contained within the designated EPA as shown in Figure 8. Several small tributaries cross the Study Area diagonally, draining into Soper Creek as seen in Figure 8. The subject lands also contain several smaller streams and pond areas as identified in Figure 9. The defined shape and edge condition of the ponds suggest they are likely constructed, and associated with nearby residential or agriculture properties.

The tributary areas are low lying with creek banks that are largely vegetated with grasses, shrubs and mature trees, as seen in Figure 10.



Figure 9: Ponds within Study Area

Source: Google Earth (Base)



Figure 10: Soper Creek tributary in the eastern portion of the Study Area, located north of Concession Road 3 and east of Mearns Avenue.

Source: Google Earth

2.6 Opportunities and Constraints

This landscape analysis is based on observation and photos of the Study Area. The ongoing Soper Creek Subwatershed Study will provide more detailed identification of significant natural heritage features requiring protection and maintenance.

At this point in the process, based on the existing context, topography, built form and natural features, the following are landscape opportunities and constraints within the Soper Creek Secondary Plan Area.

2.6.1 Opportunities

The landscape analysis shows the Study Area is largely protected under the EPA designation of the Official Plan and is comprised of heavily wooded areas that cover more than half of the site. This presents opportunities to capitalize on the unique natural heritage of the area by:

1. Preserving views from high points;
2. Integrating and protecting natural features;
3. Providing public access to nature; and
4. Establishing cluster developments.

2.6.1.1 Preserving views from high points

The existing topographical features includes one notable high point and highly varied topography with several peaks and valleys as shown in **Figures 4, 5 and 6**.

An opportunity exists to maintain areas of higher elevation to provide some variety to the site and allow for a potential view to Soper Creek. There is a potential for open space and road patterns to be designed to take advantage of the views from high points.

2.6.1.2 Integration of natural features

The Soper Creek, its tributaries and associated features within the valley shown in **Figures 4, 5, 6 and 8**, is currently protected within the EPA designation of the Official Plan, and its boundary will be further defined through the Soper Creek Subwatershed Study that is currently underway. This feature presents opportunities to create unique settlement areas surrounded by stream corridors and wooded edges with connection to trail systems along the Soper Creek corridor. Urban trails are identified in Map “K” of the Clarington Official Plan (**Figure 12**) which extend through the Secondary Plan Area.

Integration of trees not within the EPA into the development should be considered where feasible. Maintenance of these features should be based on their overall health, age, and quality as assessed during the preparation of Planning Act applications. Tree preservation would be subject to findings from a site-specific Natural Heritage Study

and/or Tree Inventory and Assessment while also recognizing the limited amount of developable lands.

2.6.1.3 Public Access to Nature

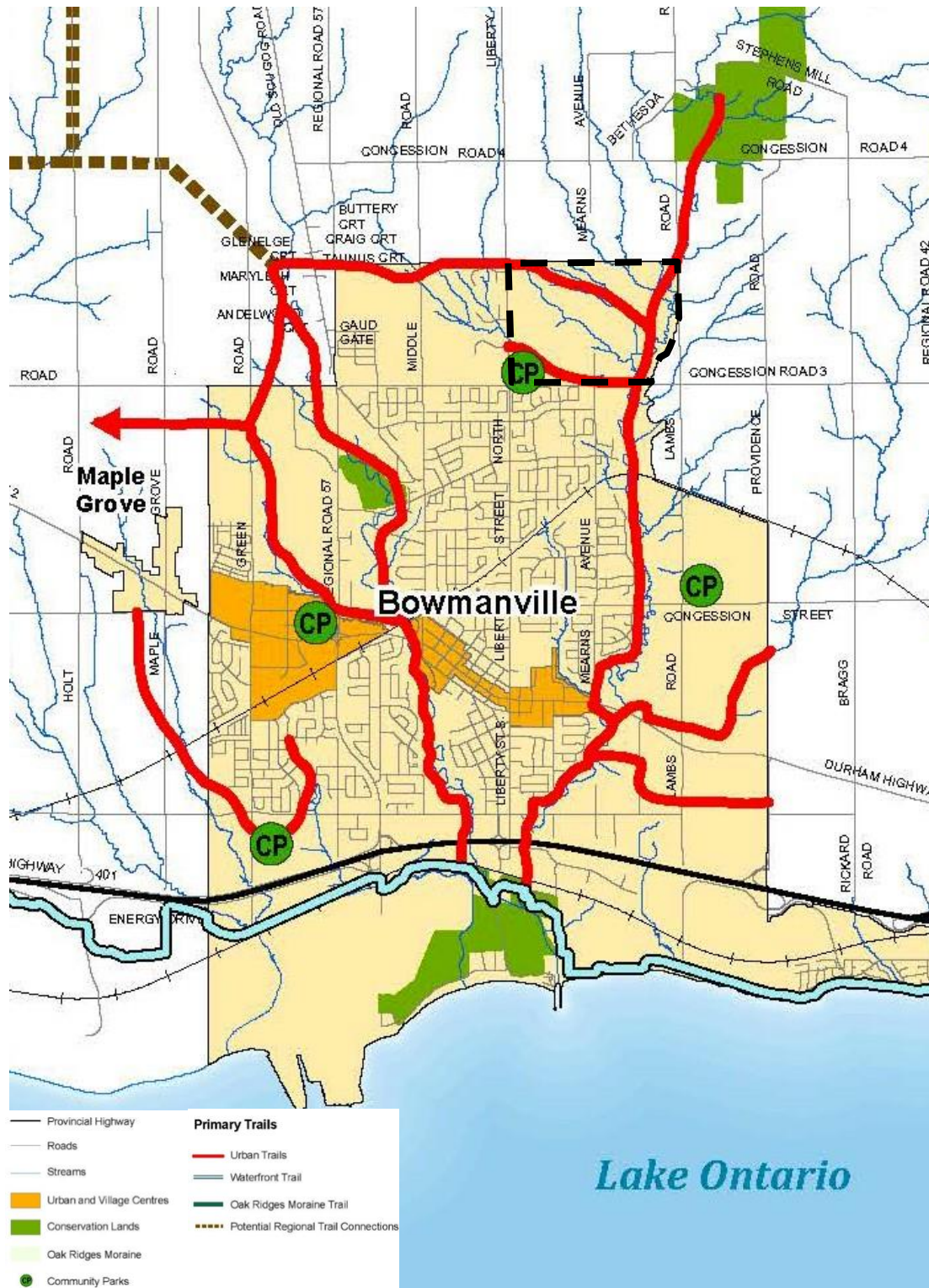
Substantial opportunities are afforded by the landscape to integrate EPAs with formalized parks and open spaces to provide greater access to nature. As Figure 12 shows, the Clarington Official Plan designates a Community Park near the intersection of Concession Road 3 and Liberty Street North, where currently an agriculture field is located (Figure 11). The placement of the Community Park in this location provides a central location near a major intersection, in proximity to residential properties to the south, and adjacency to EPAs and urban trails. Four other Community Parks are identified in Map “K” of the Clarington Official Plan (Figure 12), with two Community Parks not yet developed (within the Soper Springs and Soper Hills Secondary Plan areas). The Soper Springs Secondary Plan will provide policy direction for ensuring public connections to open space and parks are created through the development process.

The location of the proposed Community Park designation provides one option for the placement of this community-wide facility, however alternative options for sizing and placement of parks should be considered through the study process. A Community Park located adjacent to the EPA presents one option for integrating active parks uses adjacent to Town-wide natural systems and trails, in a manner that preserves the natural features. If, through this Study, a Community Park is determined to be inappropriate for the Soper Springs Secondary Plan an alternative option may consider the inclusion of smaller Neighbourhood Parks and Parkettes to supplement park needs.



Figure 11: Location of Community Park area as shown in Clarington’s Official Plan and conceptual alignment of Urban Trail

Source: Google Earth and Clarington Official Plan (Base)



Secondary Plan Area

Figure 12: Map “K” of the Clarington Official Plan, showing trail system for Bowmanville

Source: Clarington Official Plan (Base)

2.6.1.4 Cluster Developments

The nature of the Study Area's environmental features presents a unique opportunity for the implementation of clusters of residential developments in the small pockets of designated urban residential areas along edges of the EPA, creating residential enclaves surrounded by dense wooded features. Development could take the form of townhouses, stacked townhouses, walk up apartments or similar to maximize developable area and provide opportunities for one-of-a-kind placemaking within Bowmanville.

2.6.2 Constraints

2.6.2.1 Developable Area

The Study Area's extensive EPA designated areas present obvious constraints to development. Developable area is constrained to less than half of the Secondary Plan Area. Any development that occurs must also consider the sensitive nature of the surrounding environmental area. Section 14.4.5 of the Clarington Official Plan permits development within the EPA designation to:

- a) Low-intensity recreation;
- b) Uses related to forest, fish and wildlife management;
- c) Erosion control and stormwater management; and
- d) Agriculture, agricultural related and on-farm diversified uses in accordance with Section 3.4.8.

Based on this analysis, the density and arrangement of land uses will be explored throughout the study process as land use options are developed in Phase 2.

2.6.2.2 Road Access

Road access to developable areas also presents challenges. Mearns Avenue, which extends from Concession Road 3, and Liberty Street North provides the only existing access point to the Secondary Plan area. Mearns Avenue has potential for extension through the developable area of the Secondary Plan. **Figure 12** shows one option of curving through designated Urban Residential lands to connect to Liberty Street North. Other options for access to the site will be considered in the next stage of the study as part of the land use concepts. However, the number and location of roads will need to be carefully evaluated to ensure minimal impact to sensitive natural heritage features.

2.7 Next Steps

The Soper Spring Secondary Plan area provides a unique potential for development within a natural setting. Its rolling topography provides opportunities for enhanced views

to the nearby Soper Creek. Parks and open spaces have the potential to connect to the larger municipal trail system that eventually connects to Bowmanville's future waterfront trails. Development of these lands must, however, be sensitive to designated EPAs. Proposed land uses within this Secondary Plan area could include higher density development, such as townhouses or apartments, in order to maximize developable land. Options for residential clustering that provides a range of housing densities will be considered in Phase 2 of the study.

3 Policy and Other Relevant Background



3.1 Purpose of this Chapter

This chapter describes the relevant policy which will guide the preparation of the Secondary Plan.

3.2 Provincial Policy Statement (2020)

The Provincial Policy Statement (PPS) 2020 sets a land use vision for Ontario, providing policy direction on matters of provincial interest related to land use planning and development. Looking forward in order to achieve liveable and resilient communities, the policies of the PPS address how the landscape is to be settled, how the built environment is to be altered, and how the management of land and resources is to be carried out.

The 2020 PPS came into effect on May 1st, 2020. As such, the Secondary Plan for Soper Springs will be required to be consistent with the 2020 PPS.

3.2.1 Building Communities

Policy 1.1.1 of the PPS 2020 provides policies on healthy, liveable and safe communities while Policy 1.1.3 provides direction on land use patterns in Settlement Areas. Common themes in both of these PPS policies that are applicable to development within the Soper Springs Study Area include:

- the inclusion of affordable housing and housing for older persons;
- the provision of a mix of residential housing types including single detached housing, additional units and multi-units housing;
- the promotion of efficient, cost effective, compact development;
- the accommodation of an appropriate range of uses;
- the conservation of biodiversity and reduction in climate change impacts;
- the provision of appropriate and efficient infrastructure; and
- support of active and public transportation.

Additional applicable policies include Policy 1.1.1(e), which ties intensification and transit supportive development to cost-effective land use patterns, and Policy 1.1.1(i) to specify that development and land use patterns should prepare for regional and local impacts of a changing climate.

3.2.2 Housing

Policies for housing are specifically outlined in Section 1.4 of the PPS. Relevant to the development of the Soper Springs Secondary Plan area, Policy 1.4.3 requires an appropriate range and mix of housing options and densities including the accommodation of appropriate affordable and market-based housing types. This range and mix of housing is to be achieved by permitting all forms of housing, residential intensification and second units, promoting densities that efficiently use land, services and infrastructure, as well as establishing development standards that minimize the cost of housing. Furthermore, policy 1.4.3(e) requires transit-supportive development and prioritizing housing intensification, in proximity to transit.

3.2.3 Agricultural Protection and Mitigation

Policy 1.1.3.8 of the PPS requires that impact from new or expanding settlement areas on agricultural operations are mitigated to the extent feasible. One of the mechanisms to access potential agricultural impacts is the application of the Minimum distance formulae. According to the PPS 2020, the minimum distance separation formulae:

“means formulae and guidelines developed by the Province, as amended from time to time, to separate uses so as to reduce incompatibility concerns about odour from livestock facilities” (6.0 Definitions).

3.2.4 Natural Heritage

Section 2 of the 2020 PPS provides policy direction for the protection of Natural Heritage features. Policy 2.1.2 requires the maintenance, restoration or, where possible improving linkages between natural heritage features, surface water features, and ground water features. Development and site alteration is not permitted in significant natural heritage features nor within fish habitat and habitat of endangered species and threated species expect in accordance with provincial and federal requirements.

3.2.5 Natural Hazard

Section 3.1 of the 2020 PPS provides policies regarding future developments and site alterations in and in proximity to Natural Hazards. Development is directed outside of hazardous lands and sites, as well site alteration is not permitted in areas subject flooding, erosion, and natural hazards (Policy 3.1.1 and 3.1.2).

3.2.6 Summary

In summary, the PPS provides relevant direction for growth in general and for growth in designated greenfield areas that is relevant to the preparation of the Soper Springs Secondary Plan. The PPS directs that development should:

- efficiently use land and infrastructure;

- contain an appropriate mix of uses including a mix of market-based housing types;
- mitigate impact to agricultural operations;
- address environmental concerns by minimizing the effects of climate change, improving air quality, conserving biodiversity and reducing land consumption;
- preserve and enhance Natural Heritage features;
- encourage development outside of Natural Hazard features; and
- provide for an appropriate mix and range of housing.

The PPS has been updated from 2014 to reflect on the effects of market pressures, to broaden how housing is considered in terms of options to tie development to transit, and to prepare for climate change impacts.

3.3 Growth Plan for the Greater Golden Horseshoe (2020)

A Place to Grow: Growth Plan for the Greater Golden Horseshoe (Growth Plan) builds upon the foundational policies provided by the Provincial Policy Statement on matters related to land use planning and development in the Greater Golden Horseshoe, providing additional and more specific planning policies to address the growth in the regional area in and around Toronto. The Growth Plan states that the policies contained within it represent minimum standards, and that development and land use planning decisions are encouraged to go beyond these minimum standards to address important matters. In addition, the Growth Plan provides growth allocations until the year 2051.

3.3.1 Growth

Section 2 of the Growth Plan sets out policies for “Where and How to Grow”. Section 2.2.1.4 directs that forecasted growth should be accommodated in compact and complete communities. To meet people’s daily needs, an appropriate and diverse mix of residential and employment uses, local services and stores, public service facilities and a full range of housing for a range of incomes and household sizes is required. Communities should have access to high quality public open space, parkland, trails and recreation and active transportation opportunities, along with healthy, local and affordable food options (including urban agriculture), to support a high quality of life and human health.

3.3.2 Protecting the Environment

Section 2.2.1.4 supports climate change mitigation through compact built form as well the protection of agricultural lands, water resources and natural areas, as well as reducing greenhouse gas emissions that contribute to environmental sustainability. Green infrastructure and appropriate low impact development measures are also

encouraged, with specific mention to building more compact greenfield communities, to further reduce the rate at which land is consumed. Further, the Growth Plan states that development will generally be directed away from hazardous lands (Policy 2.2.1.2 e))

3.3.3 Commercial Uses

Policy 2.2.5.3 encourages retail and office uses to be directed towards locations with existing or planned transit that will be able to support active transportation. According to Policy 2.2.5.15, retail uses should have a compact built form that integrates other land uses, in order to support the achievement of complete communities.

3.3.4 Housing

When planning for housing, the achievement of complete communities will be supported by the accommodation of forecasted growth, along with minimum intensification and density targets as outlined by the Growth Plan. Multi-unit residential developments should be encouraged to incorporate a mix of unit sizes in order to support development of complete communities and to accommodate a wide range of housing incomes and sizes (Policy 2.2.6.3).

3.3.5 Designated Greenfield Areas

Policies for new development taking place in designated greenfield areas are outlined in Section 2.2.7. Development should support the achievement of complete communities, support active transportation and integrate viable transit services (Policy 2.2.7.1). The minimum density target for designated greenfield areas in Durham Region is no less than 50 combined residents and jobs per hectare (Policy 2.2.7).

3.3.6 Transportation

Policies for infrastructure to support growth are outlined in Section 3.2 of the Growth Plan. The Growth Plan Policy 3.2.2.3 requires a complete streets approach when planning a new street network that ensures the needs and safety of all road users are considered and appropriately accommodated. Public transit is to be prioritized (3.2.3) and active transportation networks are to be integrated in a manner that is safe and comfortable for pedestrians, cyclists and other active transportation users, and should have continuous links between strategic growth areas, other neighbourhoods, major trip generators, and transit stations. Dedicated bicycle lanes on major street networks should be provided, as well as safe and convenient alternative routes (Policy 3.2.3.4).

3.3.7 Protecting What is Valuable

Policies within Section 4 of the Growth Plan focus on the protection, enhancement, or restoration of water resource systems as noted in Policy 4.2.1.3. Moreover, Policy 4.2.1.4 states “planning for a large-scale development in designated greenfield areas, including Secondary Plans will be informed by a subwatershed plan”. A subwatershed study is underway that will inform the Soper Springs Secondary Plan.

3.3.8 Summary

The Growth Plan provides direction for growth that is relevant to the preparation of the Soper Springs Secondary Plan; it directs that development should:

- Provide for complete and compact communities containing a mix of uses to meet people’s needs;
- Support environmental sustainability through compact built form, green infrastructure and low impact development;
- Provide housing diversity in terms of form, size and affordability;
- Include transportation systems that support transportation alternatives, including active transportation and transit, and complete streets;
- Protect, enhance, and or restore natural features; and
- Achieve a minimum density of 50 people and jobs per hectare, which is discussed again under the Regional and Clarington policies.

3.4 Durham Regional Official Plan

On Schedule A to the Durham Regional Official Plan, Regional Structure, the Soper Springs Secondary Plan Area is primarily designated “Living Areas” and “Major Open Space Areas”, with existing Arterial Roads along the borders (**Figure 13**).

The Durham Regional Official Plan provides the following guidance and polices for establishing a Secondary Plan:

- Include polices and designations to implement the intent of the Durham Official Plan (8B.2.4 a));
- Set out land uses within the Living Areas designation of the Durham Official Plan together with population, density and intensification targets which implement the Plan (8B.2.4 b)); and
- Provide a mix of housing in terms of density, range, tenure, and affordability in Regional and Local Corridors and Living Areas (8B.2.4 c)).

The policies of establishing a Secondary Plan within 8B.2.4 of the Durham Regional Official Plan are discussed in greater detail within this section of the report.

The Durham Regional Official Plan sets out the following policies for the “Living Areas” designation:

- Living Areas shall be developed to incorporate a variety of housing types, sizes and tenure (Policy 8B.1.1);

- Living Areas will primarily permit housing as well as some home occupations and convenience stores, public and recreational uses and limited office and retail and service uses in a mixed-use format; (Policy 8B.2.1);
- Living Area should be designed so that public transit access is supported; (Policy 8B.1.3);
- Review of development applications within Living Areas should consider a desire to achieve a compact built form, including more intensive mixed uses including residential, office, retail and service commercial uses along arterial roads; and
- Concentrate commercial land uses along Corridors to improve walkability, achieve compact urban form that includes proximity to parks and transit, and have regard for the type and capabilities of existing infrastructure and service capacity (8B.2.3).

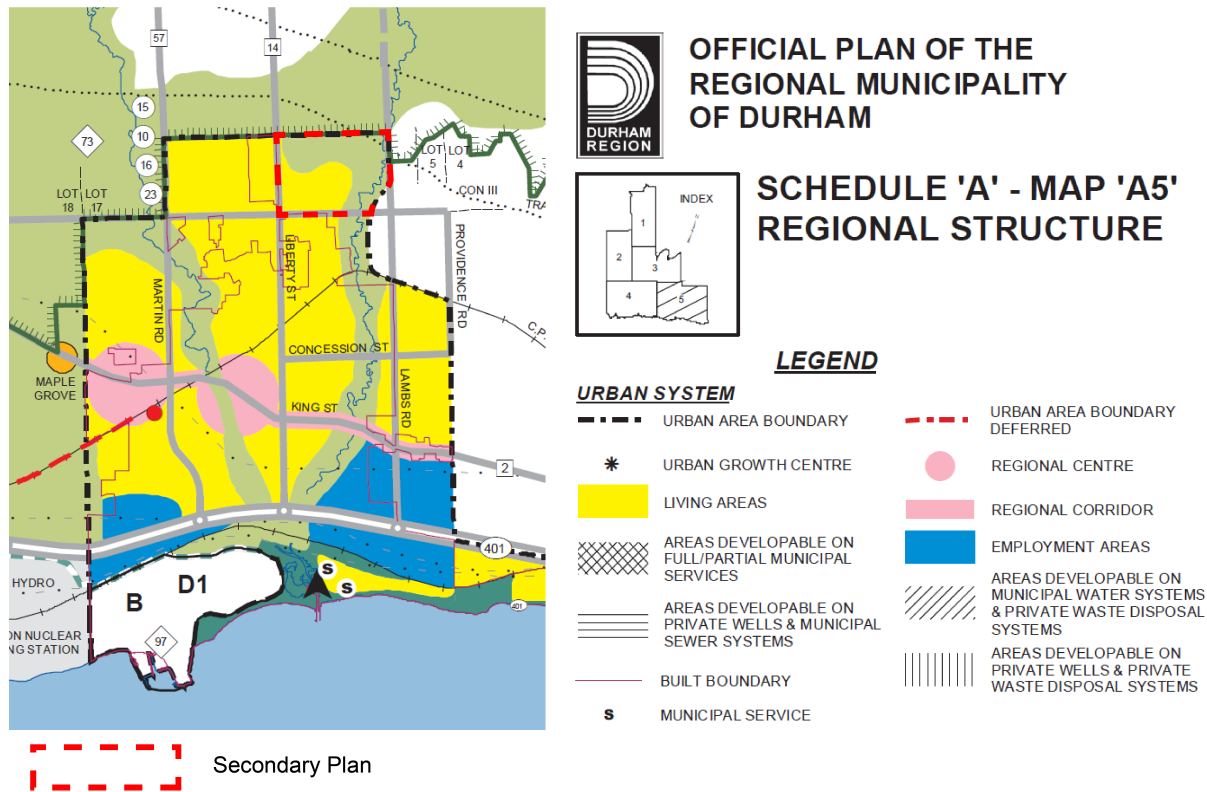


Figure 13: Soper Springs Secondary Plan within the Regional Urban System

Source: Durham Regional Official Plan

Under the Housing section of the Durham Regional Official Plan, “at least 25% of all new residential units produced within each area municipality, will be affordable for low and moderate income households.” (policy 4.2.4).

In supporting opportunities for increasing the housing supply the Durham Regional Official Plan sets out the following with regards to Local Corridors, which applies to Concession Road 3 in the Soper Spring Secondary Plan:

- Direct higher density and mixed uses along Local Corridors (Policy 4.3.9 b));
- Where higher density mixed use is appropriate and identified in the local Official Plan, Local Corridors should target 30 units per gross hectare and a floor space index of 2.0, with generally mid-rise buildings, per the local Official Plans; (Policy 8A.2.10).

The Durham Regional Official Plan sets out the following with regards to “Major Open Space Areas”, which would apply in the Soper Spring Secondary Plan:

- Predominant use shall be conservation, and a full range of agricultural, agricultural-related and secondary uses, as well as agri-business, major recreational uses, commercial kennels and landscape industry uses (Policy 10A.2.1)
- Any proposal for either development or site alteration except buildings related to uses permitted in Policy 10A.2.1 shall demonstrate the following:
 - No negative effects on *key natural heritage* or *hydrologic features* or their functions (10A.2.2a));
 - Maintaining the connectivity of *key natural heritage* or *hydrologic features* or enhanced(10A.2.2b));
 - Avoidance of removing features not identified as *key natural heritage* or *hydrologic features*(10A.2.2c)); and
 - Disturbed area of any site should not exceed 25%, and impervious surfaces should not exceed 10% of the developable area (10A.2.2d)).
- Any proposed non-agricultural related uses contemplated within “Major Open Space Areas” shall demonstrate that:
 - A minimum of 30% of the total developable area remains or is returned to natural self-sustaining vegetation (10A.2.4a));
 - Connectivity along and between *key natural heritage* or *hydrologic features* located within 240 metres of each other is maintained or enhanced (10A.2.4b)); and
 - Buildings or structures do not occupy more than 25% of the developable area and are planned to optimize the compatibility of development in natural surroundings (10A.2.4c)).

Any development of non-agricultural uses in “Major Open Space Areas” shall be sensitive to the environment by ensuring no negative impact to *key natural heritage* or *hydrologic features* (10A.2.5h)).

On Schedule B – Map B1e, the “Major Open Space Areas” designation is further refined within the Study Area to “Key Natural Heritage” and “Hydrologic Features” as identified, (**Figure 14**), which are largely related to the Soper Springs tributaries. Section 2 Environment of the Durham Regional Official Plan provides the following relevant policies:

- The extent of *key natural heritage* and/or *hydrologic features* may be confirmed through a watershed plan or an environmental impact study (2.3.14);
- Development of *site alteration* is not permitted in *key natural heritage* and/or *hydrologic features*, including any associated *vegetation protection zone*, with the exception of:
 - forest, fish and wildlife management (2.3.15 a));
 - conservation and flood or erosion projects (2.3.15 b));
 - infrastructure, subject to Greenbelt Plan and this plan (2.3.15 c));
 - minor recreational uses (2.3.15 d));
 - agriculture in accordance with policies of this plan (2.3.15 e)); and
 - aggregate extraction, in accordance with policies of this plan (2.3.15 f)).

In addition, the vegetative protection zone for Urban Areas and Rural Settlements shall be determined through an environmental impact study (policy 2.3.16).

The subject site contains some Areas of High Aquifer Vulnerability, as identified on Schedule 'B' - Map 'B2' of the Durham Regional Official Plan (**Figure 15**). Policies within the Durham Regional Official Plan require that application for high risk uses in these areas be accompanied by contamination plan and that transportation of chemicals and volatile materials in these areas is discouraged. The Durham Regional Official Plan notes that in areas of High Aquifer Vulnerability as identified on Schedule 'B' - Map 'B2' (**Figure 15**) additional areas may be identified as well as the location of High Aquifer Vulnerability shall be refined through studies such as a watershed plan (policy 2.3.30 and 2.3.33). In regard to future development or site alteration in proximity to key natural heritage or hydrologic features, section 2.3.43 provides that an Environmental Impact Study in consultation with the respective area municipality, conservation authority and other appropriate agency.

Section 11 Transportation System of the Regional Official Plan provides policy direction for the growth of integrated, safe, efficient and reliable network. On Schedule C – Map C1 Road Network, Lambs Road, Liberty Street North and Concession Road 3 are identified as Type B arterials roads (**Figure 16**). In addition, two Type C arterial roads are proposed: one along the north border and one extending through the Study Area as an extension of Mearns Avenue.

The plan also requires that reverse fronting on arterial roads be avoided and instead alternatives such as window streets or cul-de-sacs be considered, as well as using

noise walls or fencing along any side yards abutting the arterial road (policy 11.3.34). In relation to the pedestrian realm, the Regional Plan’s direction is to facilitate the creation of both visual and pedestrian connections between the arterial roads and abutting uses or streets (policy 11.3.34).

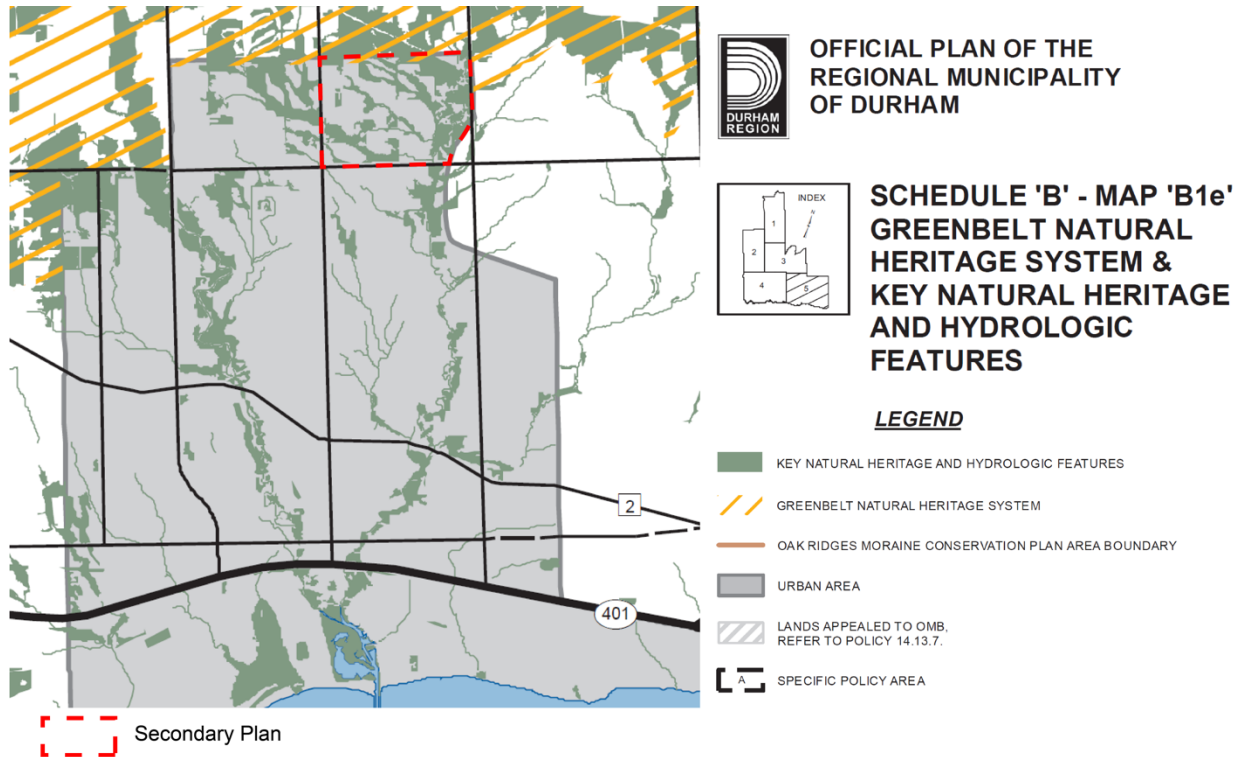


Figure 14: Soper Springs Secondary Plan Key Natural Features

Source: Durham Regional Official Plan

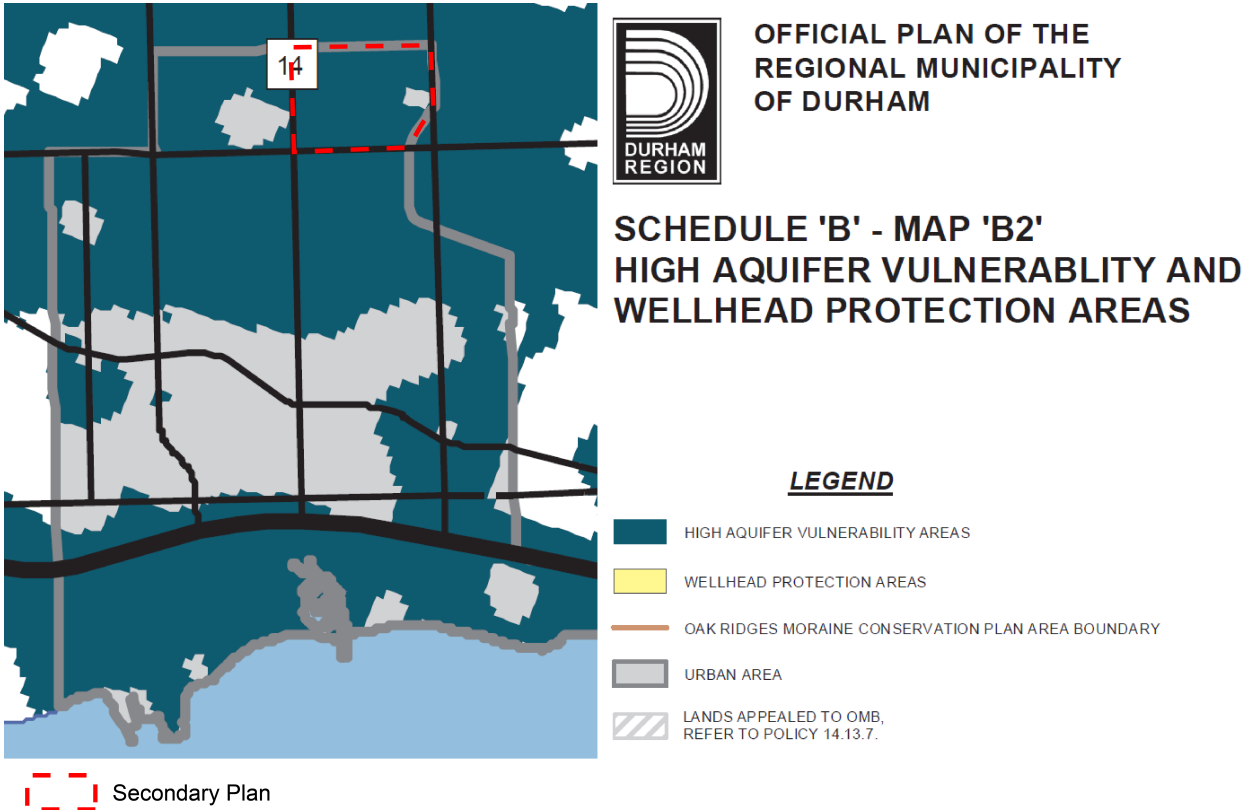


Figure 15: Soper Springs Secondary Plan High Aquifer Vulnerability Areas
 Source: Durham Regional Official Plan

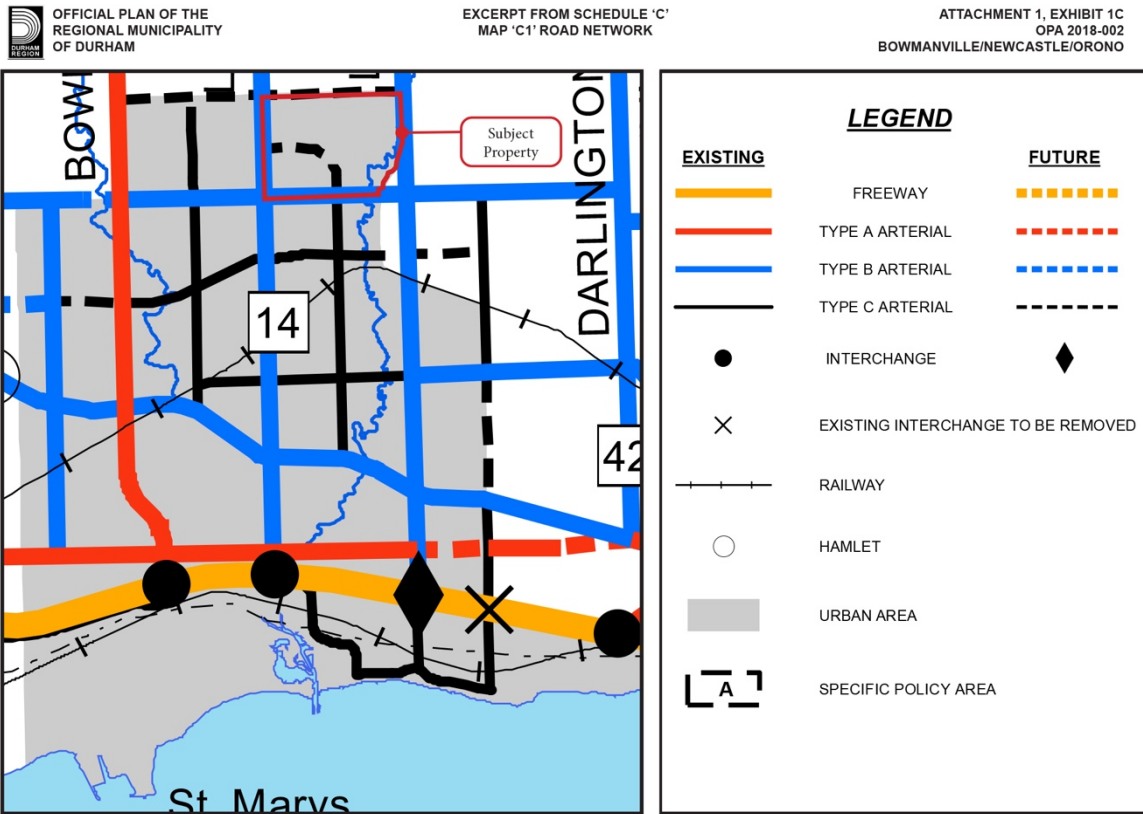


Figure 16: ROPA 171 Road Network Re-Designation

Source: By-law Number 27-2018 of the Regional Municipality of Durham

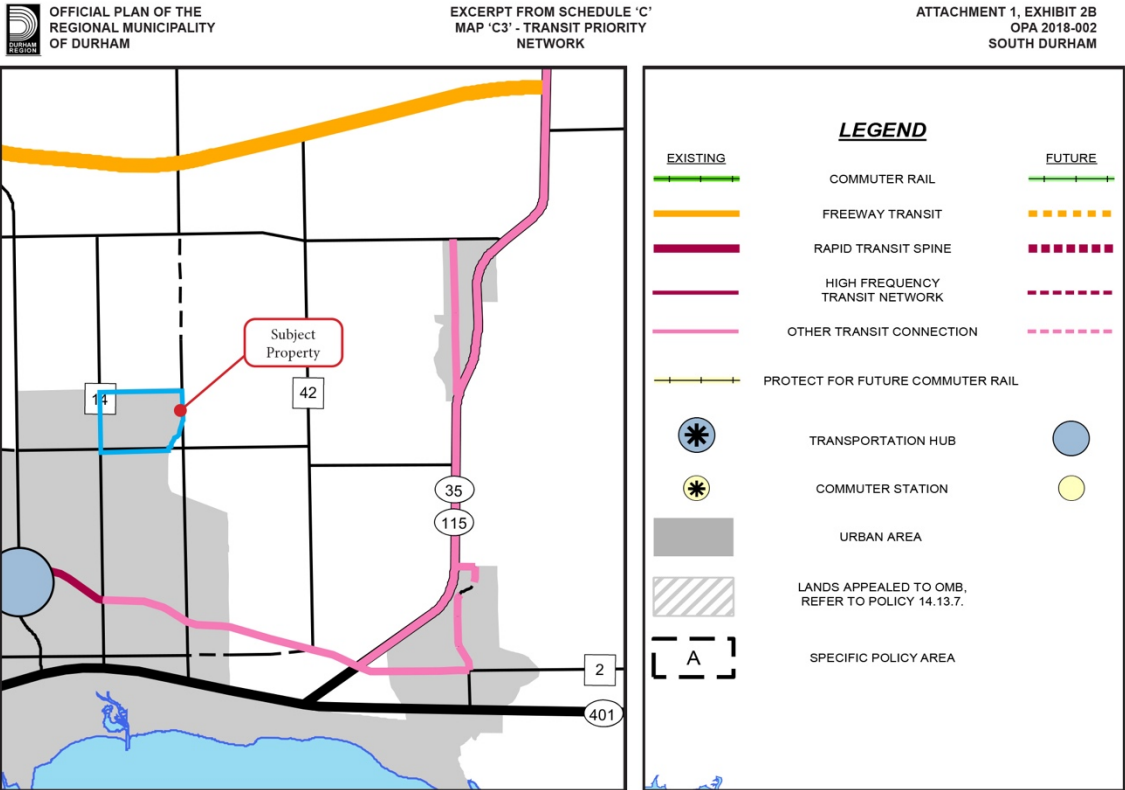


Figure 17: ROPA 171 Transit Network

Source: By-law Number 27-2018 of the Regional Municipality of Durham

The Soper Springs Study Area is not served by Regional transit in the immediate area, however as shown on Figure 17, King Street East is identified as both a High Frequency Transit Network and Other Transit Connection. In addition, the intersection of King Street East and Bowmanville Avenue is identified as a Transportation Hub with a planned future commuter rail line. The regional transit services within the Municipality of Clarington will provide future residents within Soper Springs access to the regional network through local connections.

In terms of the Economy, Durham Region has set a goal of providing one job in the Region for every two residents, as a way to achieve reduced travel times between home and work for the residents of the Region. While there are no employment area designations contemplated in the Soper Springs Secondary Plan area, a varied housing supply, in terms of type, size and tenure will support a diversified labour force.

The Housing section of the Durham Regional Official Plan, under policy 4.3.9, also sets out that Local Plans shall include:

- “policies for higher density, mixed use development in local Centres and Corridors;”

- “maximum unit sizes;”
- “policies to permit the conversion of single detached dwellings into multiple units in Urban Areas;” and
- “policies which permit, subject to appropriate criteria and conditions, granny flats/garden suites as a temporary use through mechanisms such as temporary use by-laws and/or site plan control.”

The Growth Management policies of the Durham Regional Official Plan echo that of the Growth Plan, requiring, under section 7.3.9 b), that greenfield development achieve an overall gross density of 50 residents and jobs per hectare for the entire Region and detailing that the Region will work with local municipality to determine targets for different Living Area and Employment Areas that, together, will attain this target.

The Durham Regional Official Plan, in section 7.3.14, also sets out the following which must be considered when preparing a Secondary Plan:

- the order and sequencing of the development within the Secondary Plan;
- the effects of growth on the natural, built and cultural environments
- where existing Major Open Space designations are evaluated in the secondary plan area, they shall be subject to an environmental impact study to determine the extent of the lands that may be considered for development (they are being evaluated through a subwatershed study);
- the needs of all modes of transportation;
- the growth management targets previously discussed in this report which must be attained;
- the municipal services and facilities needed to support development of the Study Area;
- opportunities to avoid conflicts related to existing agricultural and planned uses;
- the natural heritage features and hydrologic features and functions and connections between and within these;
- diverse housing mix, including consideration of affordability; and
- a compatible land use mix with attractive and vibrant spaces by providing high quality public open spaces with site design and urban design standards that support transit, walking and cycling and achieve an appropriate transition to adjacent areas”.

The Durham Regional Official Plan permits trails in all designations, provided there is no adverse impact of natural heritage and hydraulic features, and also discourages the fragmentation of valleylands (policy 2.3.7).

Furthermore, the Durham Regional Official Plan states that community facilities should be accessible and visible and “preferably within walking distance or in close proximity to existing and future transit routes” (policy 5.2.2).

In summary, applicable in the Soper Springs Study area, the Region of Durham Regional Official Plan lays out:

- the overall structure of the Secondary Plan Area as “Living Areas” and “Major Open Space Areas”;
- designated greenfield area densities which are to achieve an overall minimum gross density of 50 residents and jobs combined per hectare;
- the protection and preservation of Key Natural Heritage and Hydrologic Features with the permitted types of development and required mitigation measures;
- other directions established and discussed in this section, including those related to type and form or uses along Corridors and arterial roads, connectivity and housing mix.

3.5 Clarington Official Plan

3.5.1 Land Uses

Map A3 of the Clarington Official Plan (COP) establishes the land uses within the Bowmanville Urban Area, including within the Soper Springs Secondary Plan Area (**Figure 18**). On this Schedule, the Study Area is designated as “Environmental Protection Area” related to the Soper Springs watershed, “Community Park” in the southwest corner near the Liberty Street and Concession Road 3 intersection and “Urban Residential”.

Urban Residential

Residential uses and small scale service and retail commercial uses, home-based business, parks, schools and community facilities are permitted.

Table 4 –3 of the Official Plan establishes density targets and permitted built forms for the Urban Residential neighbourhoods based on the location. For areas that are internal to a neighborhood, the minimum net density shall be 13 units per net hectare. These areas are planned for ground-related buildings with a height of 1-3 storeys, including detached and semi-detached dwellings and limited townhouses. At the edge of the neighbourhoods and adjacent to arterial roads, the planned minimum density is slightly greater, at 19 units per net hectare. Similarly, these areas are planned for ground-related buildings with a height of 1-3 storeys, including townhouses, semi-detached dwellings, detached dwellings and limited apartments.

Corridors

On Map B, Urban Structure, Concession Road 3 is identified as a Local Corridor (Figure 19).

Corridors extend approximately 100 metres from the boundary of the ultimate road right-of-way (10.6.5); in the case of this Study area, 100 metres from the right-of way of Concession Road 3. Corridors are to be made up of commercial and mixed use development to support the function of Corridors as higher density, transit supportive, and containing a mix of uses. Uses in the Corridors will include residential and mixed uses including “a wide array of uses in order to achieve higher densities and transit oriented development” and “other uses that are contemporary to the intended functions of the Corridor.” (10.6.2). Development in Corridors shall be at least two storeys in height per section 10.3.5 of the Official Plan.

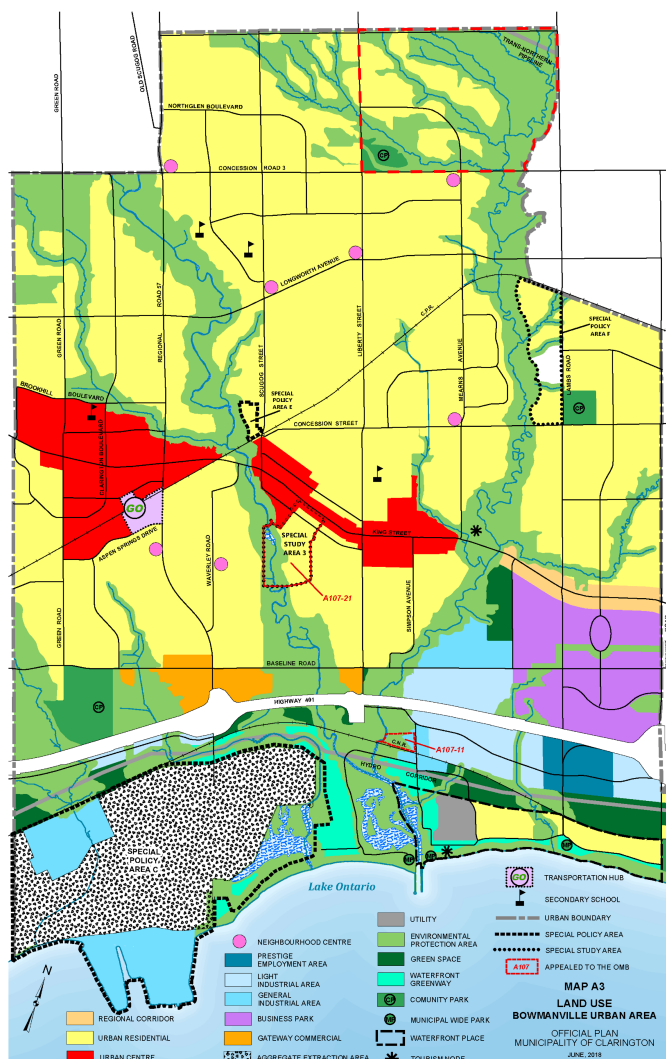


Figure 18: Soper Springs Secondary Plan Land Use Designations
Source: Clarington Official Plan

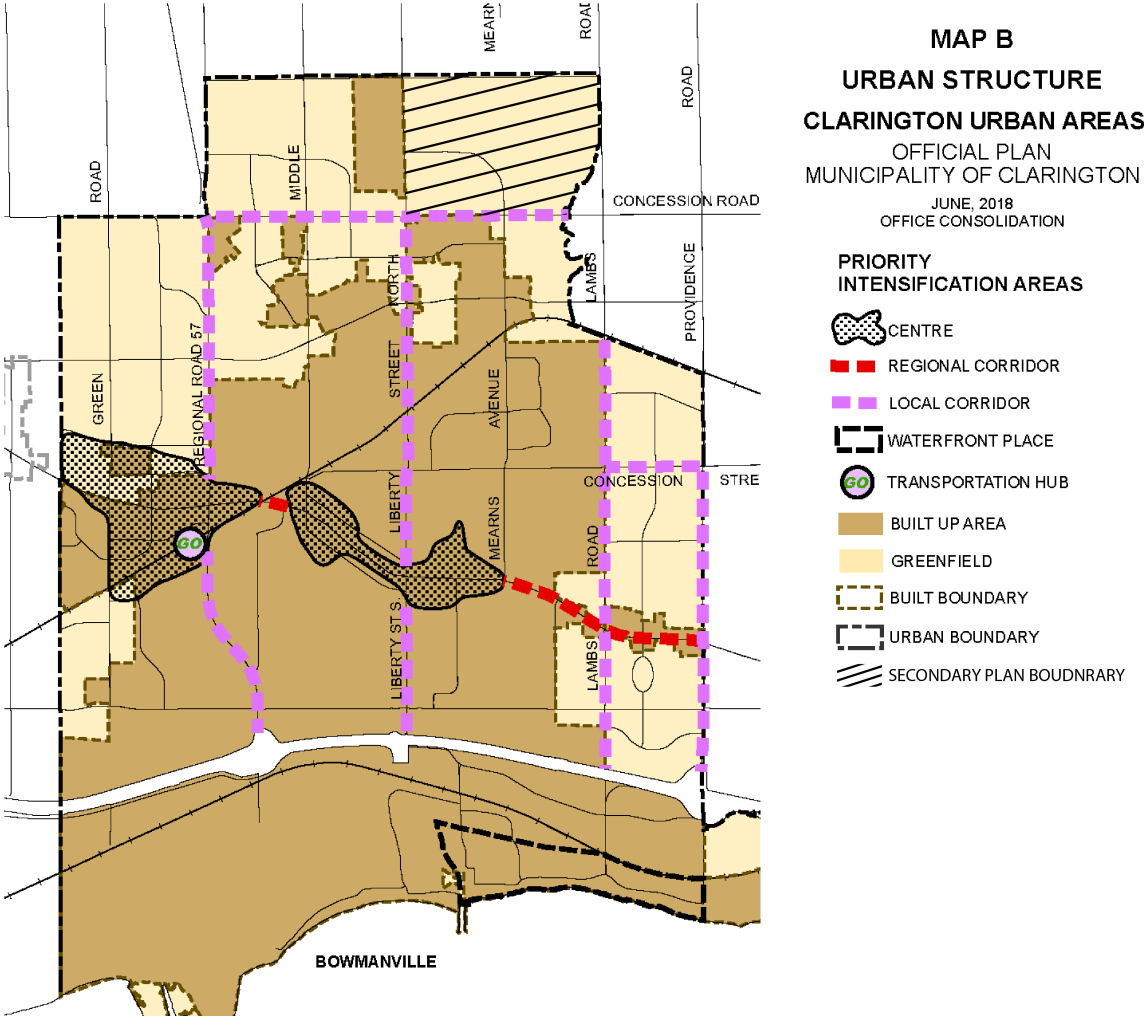


Figure 19: Soper Springs Secondary Plan Urban Structure

Source: Clarington Official Plan

The policies of section 5 also establish that development along Corridors should:

- Create a strong street edge, with buildings close to the street, ground floor uses and visible main entrances that are accessible from the sidewalk;
- Transition to abutting areas of lower density areas and consider matters of light and shadow, privacy and wind;
- Enhance the built and pedestrian environment through massing, articulation, materials and details, awnings and lighting, as well as planting and street furniture; and
- Hide and screen rooftop mechanical elements.

Local Corridors

The requirements for the Local and Regional Corridors differ in that, non-residential uses may only occur in mixed use buildings. Local Corridors can also contain no more than 1,500 square metres of non-residential uses per site and no more than 300 square metres per non-residential unit, unless more detailed policies exist in a Secondary Plan (10.6.7).

Per Table 4-2 and 4-3 of the Clarington Official Plan, Local Corridors are expected to achieve a minimum gross density of 30 units per hectare and a minimum net density of 40 units per hectare, as well as be constructed at a floor space index of 2.0. In addition, Local Corridors are to be 2-6 storeys in height and be made up of 80% 2-4 storey low rise buildings and 20% 5-6 storey midrise buildings. Permitted built forms include mixed use buildings, apartment buildings, and townhouses.

An excerpt of Table 4-3 from the COP is shown in **Table 1**.

Table 1: Excerpt of Table 4-3 from the Clarington Official Plan.

Table 4-3 Summary of Urban Structure Typologies			
General Locational Criteria	Minimum Net Density (Units Per Net Hectare)	Standard Minimum and Maximum Height (storeys)	Predominant Residential Built Form and Mix
			Includes: <i>Mixed use buildings, apartments, townhouses</i>
Regional Corridors	85	3-12	Low Rise: 3-4 storeys (40%) Mid Rise: 5-6 storeys (40%) High Rise: 7-12 storeys (20%) Includes: <i>Mixed use buildings, apartments</i>
Local Corridors	40	2-6	Low Rise: 2-4 storeys (80%) Mid Rise: 5-6 storeys (20%) Includes: <i>Mixed use buildings, apartments, townhouses</i>
Courtice and Bowmanville Transportation Hubs	200	5-no maximum	Mid Rise: 5-8 storeys (20%) High Rise: min. 8 storeys (80%) Includes: <i>Mixed use buildings, apartments</i>
Port Darlington and Port of Newcastle Waterfront Places	40	2-12	Ground Related: 2-3 storeys (40%) Low Rise: 2-4 storeys (20%) Mid Rise: 5-8 storeys (20%) High Rise 9-12 storeys (20%) Includes: <i>Apartments, townhouses, semi-detached dwellings, detached dwellings</i>
Edge of neighbourhoods and <i>adjacent</i> to arterial roads	19	1-3	Ground Related: 1-3 storeys (100%) Includes: <i>Limited apartments, townhouses, semi-detached dwellings, detached dwellings</i>
Internal to neighbourhood	13	1-3	Ground Related: 1-3 storeys (100%) Includes: <i>limited townhouses, semi-detached dwellings, detached dwellings</i>

3.5.2 Secondary Plan Areas

On Map C, Secondary Plan Areas, the Study Area is identified as a Secondary Plan area for which a Secondary Plan is not yet completed (Figure 20).

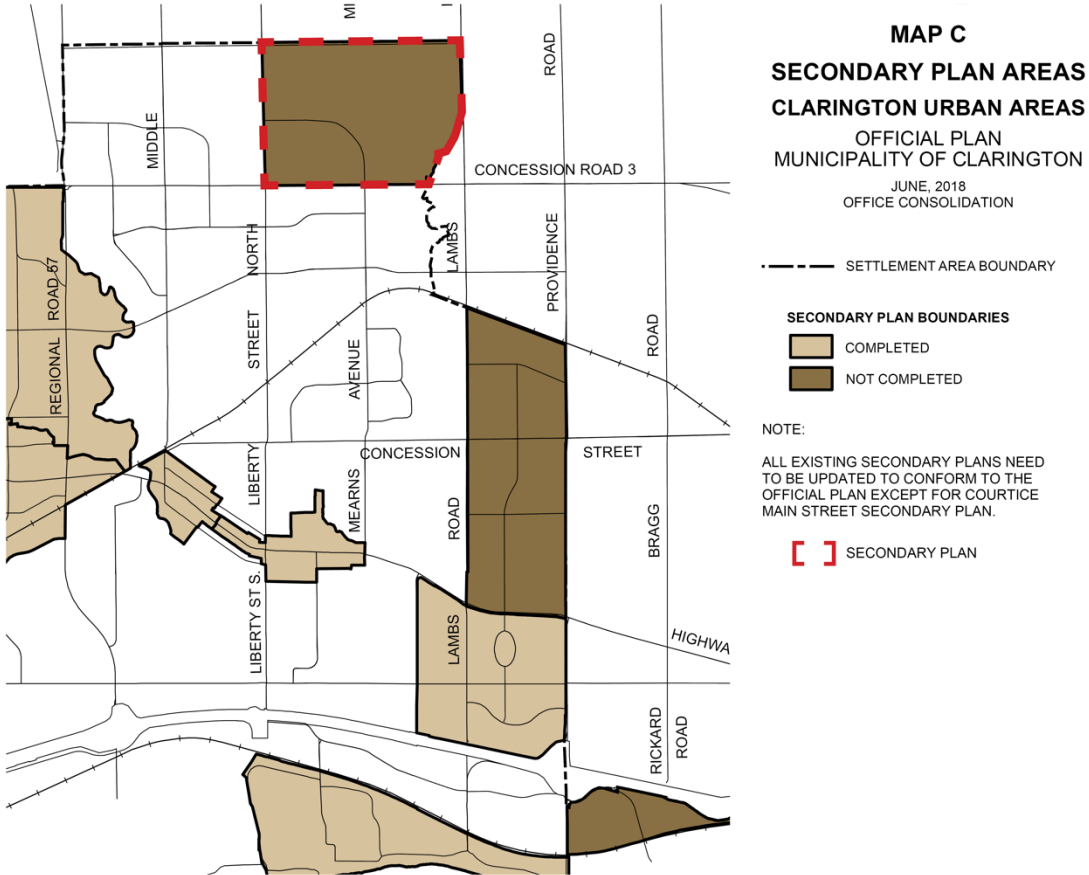


Figure 20: Soper Springs Secondary Plan Area
Source: Clarington Official Plan

The COP establishes many elements that must be considered and included in the Secondary Plan. These are addressed in sections 4.6.5, 4.6.6, 4.6.7 and 23.3.9 of the Official Plan. The topics covered by these policies are wide ranging, and include requirements for appropriate phasing, sequential growth, meeting density targets, adherence to the Green Development Standards, connected transit supportive environments, minimized changes to the topography, etc.

In conformity with the Growth Plan and Durham Regional Official Plan, Section 4 of the COP establishes that a minimum of 50 residents and jobs per gross hectare shall be targeted in greenfield areas, which includes the Study area.

3.5.3 Transportation

On Map J3, Transportation Network, Concession Road 3, Lambs Road and Liberty Street are all identified as a Type B Arterial road (**Figure 21**). The extension of Mearns Avenue is identified as Type C Arterial, although it is deferred by the Region (A107-22), and it is anticipated that the deferral will be recommended for removal shortly. Concession Road 4 is also identified as Type C Arterial.

The Transportation policies of the COP put an emphasis on “complete streets” described as “the roadways and adjacent public areas that are designed to accommodate users of all ages and abilities including pedestrians, cyclists, transit users and motorists”. The development of complete streets in Secondary Plan areas shall be context based, designed to allow access to transit, contain short blocks and streets, be accessible and be designed for not only the car, but pedestrians and cyclists as well (19.6.4).

3.5.4 Sustainable Communities

Section 5 of the Clarington Official Plan, Creating Vibrant and Sustainable Urban Places, sets out a number of policies relevant to development. These include creating a walkable interconnected grid-like street pattern that: considers natural features and topography, has short streets and blocks, connects frequently to arterial roads, provides a safe space for cyclists, contains sidewalks and avoids window streets, cul-de-sacs and measures that restrict circulation (5.4.2). Policies also include developing neighborhoods that have an identity, have a consistent community character through built form and design, including consideration of building materials, meet applicable architectural design guidelines, contain a mix of housing forms and neighborhood uses, mitigate noisy impact, have sustainable and attractive buildings and landscapes and are accessible and pedestrian-oriented (5.4.3).

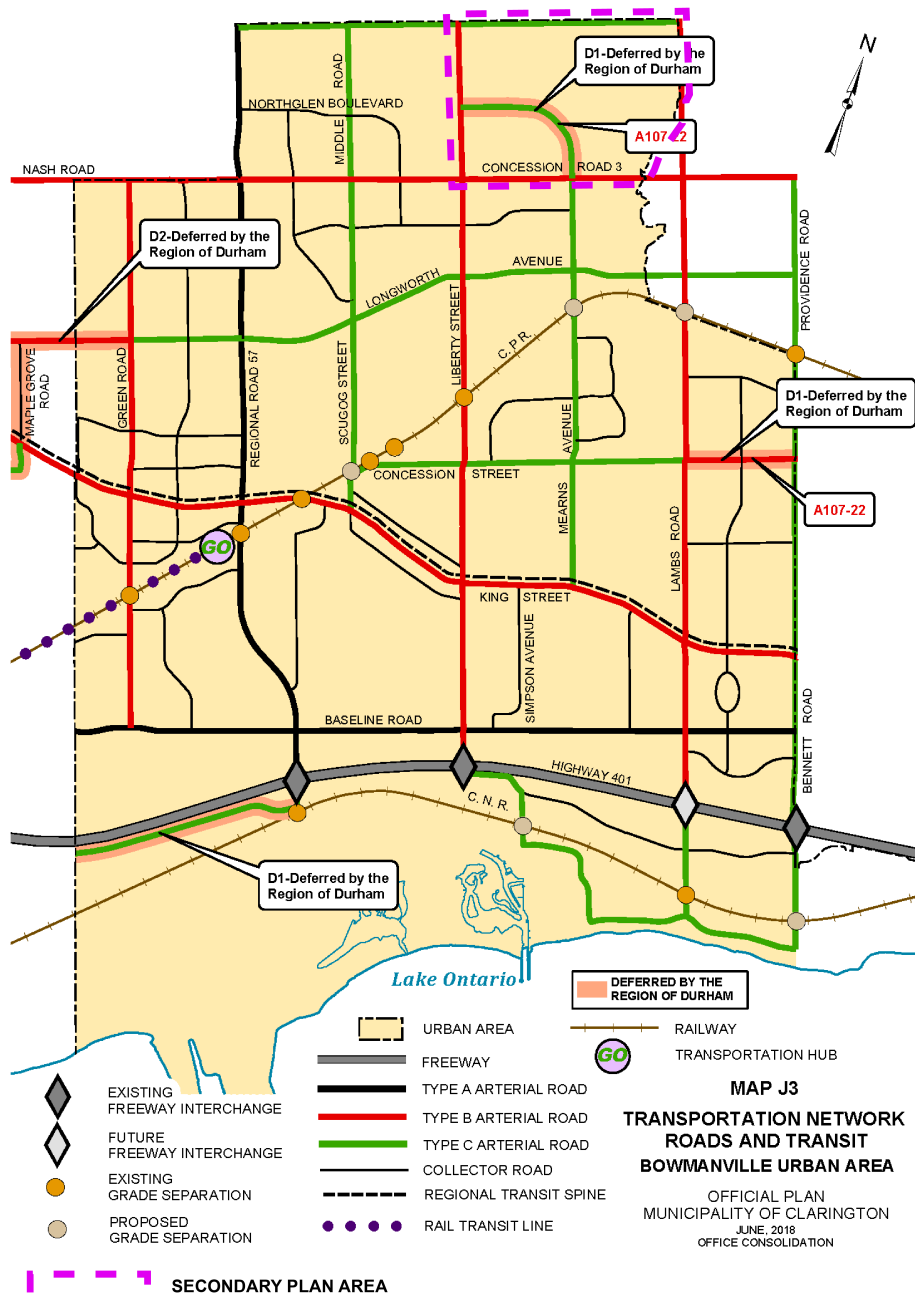


Figure 21: Soper Springs Existing Transportation Network

Source: Clarington Official Plan

While elements of sustainability are weaved throughout the Official Plan, Section 5.5 specifically addresses:

- Conservation and efficiency with regards to energy, water and resources;
- Reduction of emissions and better air quality; and

- Resiliency of buildings and infrastructure.

Some of the mechanisms listed that help achieve these matters include:

- Encouragement of density to efficiently use existing infrastructure;
- Provision of transit and active transportation opportunities early in areas of new development, reduction, reuse and recycling of waste;
- Support of agricultural and employment practices with lessened emissions;
- Permission for uses that provide jobs and residences in Centres and Regional Corridors;
- Green infrastructure and green building design;
- Preservation of mature trees; and
- Use of street trees, landscaping and materials to counter the heat island effect. (Section 5.5.1 and 5.5.2)

3.5.5 Affordability

One of the Goals of the COP is to “encourage a broad range of housing types, tenure, and cost within settlement areas to meet the evolving housing needs for people of all ages, abilities and income groups.” Within the policies of Section 6, the COP sets an objective that a minimum of 30% of the new housing in the urban area be affordable. In Section 6.3.2 of the Official plan, affordable housing is specifically encouraged in Corridors and Centres in order to support transit and active transportation.

3.5.6 Agricultural policies

The theme of mitigating nuisance between agricultural and non- agricultural uses is described in Section 9, “Liveable Neighbourhoods”. Section 9.3.4 states:

“The existing and potential negative impacts from industrial uses, arterial roads, railways, and agricultural uses on Urban Residential areas and vice versa shall be mitigated to the satisfaction of the Municipality and in accordance with the applicable Provincial guidelines and regulations”.

Section 23 of the COP requires that Secondary Plans must include measures to mitigate the potential conflicts between the development of secondary plans and existing agricultural uses (23.3.9h).

3.5.7 Neighbourhood Targets

In Appendix B, the COP also sets out unit targets by Neighbourhood. As shown in **Figure 22**, the Soper Springs Plan Area currently does not contain any estimated unit targets. While the table to Appendix B of the COP sets out unit targets by Neighbourhood, the unit targets provided do not include the potential units from the

Secondary Plan Areas and the COP notes that the unit targets for the neighbourhoods will have to be updated with the completion of the Soper Springs Secondary Plan.

One of the outcomes of the Study will be a need to update Appendix B of the COP in order to reflect the growth targets for the Soper Springs Secondary Plan Area.

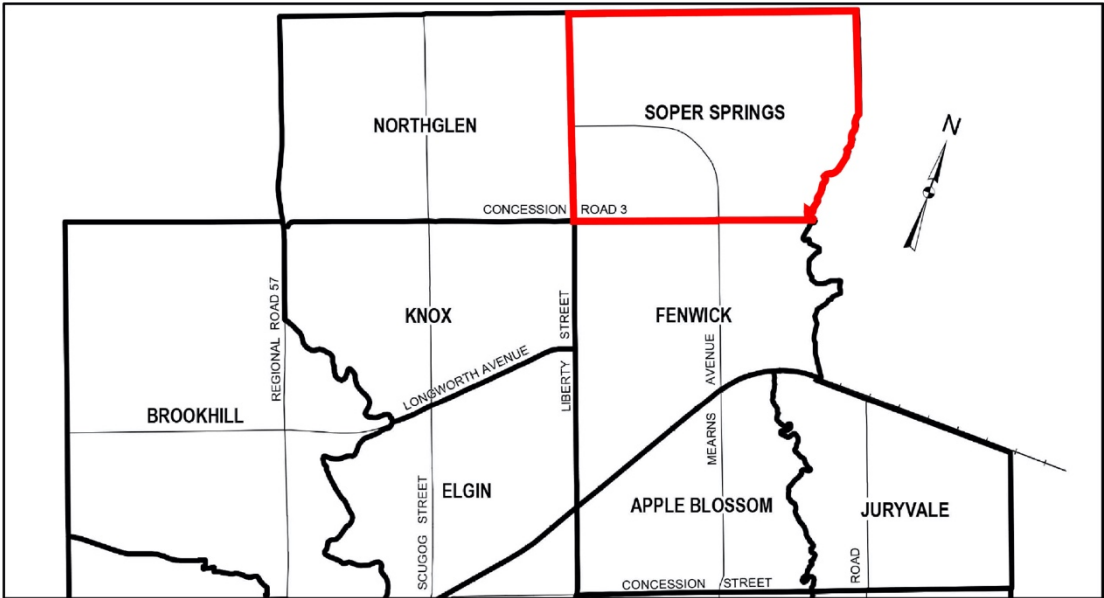


FIGURE 18:
 APPENDIX B - NEIGHBOURHOODS: BOWMANVILLE URBAN AREA
 CLARINGTON OFFICIAL PLAN

Secondary Plan Area

Figure 22: Neighbourhood Areas in Clarington

Source: Clarington Official Plan

3.5.8 Open Space System

The COP Section 14 Open Space System aims to establish an open space system throughout the municipality by protecting, managing and enhancing Clarington’s *natural heritage system*. As shown on **Figure 18**, the *Natural Heritage System* in the Soper Springs Study Area is largely made up of stream corridors and associated woodlands, and COP states that generally development within the Open Space System is discouraged (Policy 14.3.2).

The COP states the Environmental Protection Area designation will include a 30 metre *vegetation protection zone*, and provides direction where development shall be permitted within the Environmental Protection Areas:

- Low-intensity recreation (14.4.5a));
- Uses related to forest, fish and wildlife management (14.4.5b));
- Erosion control and stormwater management (14.4.5c)); and
- Agriculture, agriculture related and on-farm diversified uses (14.4.5d))

Moreover, Policy 14.4.7 state the boundaries shown on the COP maps are approximate, and the precise limits of the Environmental Protection Areas will be determined through appropriate studies and in consultation with the Conservation Authority. Similarly, Policy 14.4.8 notes the setbacks for development and site alteration of lands designated Environmental Protection Zone will be determined based on the specific features.

3.5.9 Neighbourhood Planning

Section 9 Livable Neighbourhoods of the COP provides policy direction for the creation of healthy, active, resilient and vibrant neighbourhoods. The Soper Spring Secondary Plan Area contains various Natural Heritage features as shown on **Figure 18** and described in detail within Section 3.5.8 of this report. The presence of various Natural Heritage features within the Soper Spring Secondary Plan Area creates fragmented residential areas, which could result in the need for development to proceed as development blocks. Further, in meeting the neighbourhood targets as discussed in Section 3.5.7 of this report, the Study will further analyze opportunities multi-unit residential blocks that include medium and higher density uses along the local corridor in relation to the site’s suitability, compatibility, impact on traffic, ability to diversify the Town’s housing mix, as well as the locational criteria set out in Table 4-3 from the COP (**Table 1**) (9.4.5).

3.5.10 Summary

The COP provides direction for growth that is relevant to the preparation of the Soper Springs Secondary Plan; it directs that development should:

- Contain higher density, transit-supportive, mixed-use developments where compatible along edges of the neighbourhoods and along the Local Corridor;
- Encourage where appropriate complete street designs and trails that are pedestrian oriented and improve connectivity;
- Includes short streets and blocks to promote walkability;
- Includes a mix of housing types to address affordability, with a target of 30% of affordable housing within the urban area and concentrated along Corridors where possible;
- Considers, protects, and enhances Environmentally Protected Areas and natural features; and
- Mitigating the effects onto nearby agricultural uses.

3.6 Durham Community Climate Adaptation Plan

The Durham Community Climate Adaptation Plan (2016) seeks to prepare the Regional community for the effects of a changing climate, proposing programs that involve the

contribution of many stakeholders and agencies within Durham and beyond. It is the vision of the plan to remain liveable, resilient and prosperous through goals that will increase the resiliency of community infrastructure, programs and services; improve emergency planning for weather extremes; improve the Region's sustainability and attraction for a live/work/play environment; and lead to the recognition of Durham as a climate adaptation planning leader. The plan proposes different programs to implement its vision and goals, divided into various sectors. The relevant sectors, objectives and tools of the proposed programs are outlined below.

The objective of the building sector is to improve the resilience of new buildings to future climate conditions. Durham Climate Resilience Standards for both low-rise residential and high-rise residential, industrial, commercial and institutional buildings, prescribe climate resilience features for all new buildings in Durham constructed after 2020. The plan emphasizes adaptation measures to be implemented in the development of new buildings, which are low cost if incorporated at the time of design and construction.

The flooding sector objective seeks to reduce the severity and frequency of urban flooding, which involves the implementation of adaptation actions through implementing low impact development (LID) techniques, green infrastructure and methods to help reduce the impervious surfaces of lands. Future development should promote less land consumptive transportation, infrastructure and parking areas; increase the floodplain capacity; avoid development in the floodplain and other hazardous lands; provide floodplain buffers; and conform to planning policy and design standards.

The human health sector objective is to reduce ambient summer temperatures in urban areas in order to reduce heat stress, in part through the "Cool Durham" Heat Reduction Program. Measures relevant to development include reflective roofs; green or vegetated flat roofs; increase urban tree cover on public and private land; shading structures in parks and public spaces; light coloured pavement and buildings; improved thermal performance in buildings and passive cooling design; and water features in landscaping, including rain gardens and bioswales.

An objective of the roads sector is to improve the performances of roads under extreme heat conditions through resilient asphalt using measures, which can include using resilient asphalt or alternative pavement surfaces, using light coloured asphalt pavement to reduce heat absorption, and increasing urban tree cover to reduce heat impact.

The natural environment sector seeks to enhance natural capital and build climate resilience. Conservation practices should protect, enhance and restore the health and resiliency of the natural environment with specific actions such as tree and shrub planning; forest management; sensitive habitat creation and restoration; and riparian areas and in-stream habitat creation and enhancement. Green infrastructure should be incorporated to protect, enhance and restore the health and resiliency of the natural environment and communities, involving specific actions such as green roofs, rain gardens, soak away pits, permeable groundcovers, and bioswales.

The implementation of the Climate Adaptation Plan to the Soper Springs Secondary Plan shall have greater emphasis on the relation of protected environmental features with residential uses. The Soper Spring Secondary Plan area may incorporate design features such as LID techniques, ensure all new buildings incorporate climate resiliency features, implement green roofs or other similar green infrastructure to reduce impervious surfaces, and using resilient or light-coloured asphalt to reduce heat absorption. As the land use options develop in Phase 2 of the study, the implementation of climate resilient strategies shall have regard for the adjacent sensitive environmental areas and aim to reduce adverse impact of more intensified land uses.

4 Land Budget



4.1 Purpose of this Chapter

The purpose of this chapter is to establish the potential capacity of the Secondary Plan for population and employment.

4.2 Land Budget Analysis

The Growth Plan, under policy 2.2.7.1, requires a minimum density of 50 residents and jobs per hectare in designated greenfield areas, such as the Soper Springs Secondary Plan Study Area. While, under the policies of the Growth Plan, this density target is to be measured over all designated greenfield areas in Durham Region, as such it is applied to the Soper Springs Secondary Plan area for the purpose of the land budget. Further, the Durham Regional Official Plan specifies that development within greenfield areas must achieve an overall gross density of not less than 50 residents and jobs combined per hectare. As shown in **Table 2** below, the total developable area for the Secondary Plan Study Area, exclusive of the areas designated as Environmental Protection Area, is 55.52 hectares (subject to refinement through the final Phase 1 Subwatershed Study). The total developable area includes both internal and collector roads as well as the proposed community park located at the northeast corner of Liberty Street and Concession Road 3.

Table 2: Developable Area

	SGL
Total Area (ha)	182.31
EP (ha)	<u>-126.79</u>
Developable Area (ha)	55.52

At a planned minimum density of 50 residents and jobs per hectare, the Soper Springs Secondary Plan area should be planned to accommodate a minimum of approximately 2,800 residents and jobs. According to Statistics Canada work at home jobs constitutes 6.2% of the labour force or 3.4% of the population, which equates to approximately 100 potential jobs in Soper Springs Secondary Plan Study Area plus an additional estimated 50 potential service commercial jobs. Removing the jobs from the overall target, results in a minimum population of 2,650.

At an average persons per unit (PPU) of 2.776¹, the minimum number of residential units would be 954.

Within the Secondary Plan Study Area, 5.49 hectares are designated as Local Corridor along Concession Road 3 and Liberty Street North. The community park, currently shown in the Official Plan at the intersection of Liberty Street and Concession Road 3 (northeast) will reduce the size of development lands in the local corridor if it remains in the same location, but we have maintained the 5.49 hectares to be conservative. The Clarington Official Plan directs a minimum gross density of 30 units per hectare along Local Corridors. As such, Local Corridors within Study Area should be planned to accommodate a minimum of 165 units.

The persons per unit (PPU) for new townhouse units, which may be the predominant housing form in the Local Corridors, is estimated at 2.568². Applying this PPU to the anticipated units in the Local Corridors achieves approximately 425 people. It is difficult at this time to estimate the number of jobs that would be accommodated in the Local Corridors, without a detailed land use plan. For the purposes of this exercise, approximately 50 jobs are estimated. Thus, the Local Corridors are estimated to accommodate approximately 475 residents and jobs.

Of the 2,800 residents and jobs located in the Soper Springs Study Area, 475 residents and jobs would be within the Local Corridors, leaving approximately 2,325 residents and jobs to be accommodated in the Living Area.

In general, it is expected that urban residential neighbourhoods that are internal to the Soper Springs Study area will be planned for ground-related buildings with a height of 1-3 storeys, including detached and semi-detached dwellings and townhouses with denser forms of multi-unit residential development along the edges of neighbourhoods and along the local corridor where appropriate.

4.3 Affordability

As discussed in previous sections of this report, affordability is an important component of the Clarington Official Plan. Housing affordability is influenced by the housing market. However, there are connections between local policy and the housing market as it relates to the rate at which housing becomes available, as well as the type of housing that is permitted and encouraged in an area.

With the realities of the present housing market in the GTHA, many of the larger units, such as single detached dwellings, are often un-affordable. However, one of the

¹ PPU taken from Clarington's 2020 Development Charges Background Study, October 2020 prepared by Watson & Associates, Schedule 5 for new housing units to mid 2031

² PPU taken from Clarington's 2020 Development Charges Background Study, October 2020 prepared by Watson & Associates, Schedule 5 for new multiple housing units to mid 2031.

mechanisms through which affordability can be increased in a market, is through a broadened range of unit types and sizes, including smaller units that are within the affordable threshold of residents.

The Region's document: At Home in Durham, Durham Housing Plan 2014-2024 sets out four goals for the Region:

- End homelessness in Durham;
- Affordable rent for everyone;
- Greater housing choice; and
- Strong and vibrant neighbourhood.

Under some of these goals, the plan speaks to:

- “diversif[iy]ing options by type, size and tenure”;
- “[improv[ing] access to safe and secure housing that supports the needs of a diverse community”;
- “strengthening the social housing sector”; and
- “supporting an energy efficient, environmentally sustainable rental housing stock”.

A number of the mechanisms listed in the document that are intended to help achieve these goals relate to land use planning and policy and are applicable in the Soper Springs Secondary Plan Study Area. These include:

- Promoting higher density;
- Encouraging partnerships and innovative building techniques to support development of affordable housing;
- Ensuring affordable housing is barrier free/includes universal design; and
- Enabling affordable housing and protecting conversion of rental to condominium tenure

Some of these elements may take the form of policies in a Secondary Plan document. Policies may include the land use plan, and associated permitted densities and housing types to influence what can actually be built. These policies will aim to achieve the intent of providing options in housing type, size and tenure in an area.

The alternative options for the Soper Springs Secondary Plan will implement the minimum density targets discussed in the previous section of this report. The evaluation of the options will consider which options do or do not support achieving a mix of housing forms, densities and types with the intent of improving affordable housing options.

The Municipality of Clarington also has a toolkit to encourage affordability. The following is a summary of Clarington's Affordable Housing Toolkit.

The toolkit describes affordability, at 80% market rent in Clarington, as

- \$656 per month for Bachelor apartments;
- \$826 per month for 1-Bedroom apartments;
- \$935 per month for 2- Bedroom apartments; and
- \$1,044 per month for 3-Bedroom apartments.

Affordability, in terms of ownership, is not addressed.

The Affordable Housing Toolkit has identified that the Municipality of Clarington can incentivize change using three methods:

- Municipal regulatory and process tools;
- Land based incentives; and
- Financial incentives.

Municipal regulatory and process tools include expedited approvals processes, better community outreach, a reduction in parking requirements, and the use of inclusionary zoning.

Land based incentives consist of the provision of land for affordable housing projects, including land leases, donations, and/or sale (below market value).

Financial incentives seek to reduce the financial burden on a project, and can be realized through phasing, deferring or waiving development charges. Specific approaches include waiving security requirements, implementing property tax rebates, and implementing community benefit charges instead of development charges.

Not all of these can be addressed at the secondary plan level. However, policy support for these initiatives, in particular, elements of reduced parking requirements and inclusionary zoning can be addressed at the policy level.

5 Agricultural Evaluation



5.1 Purpose of this Chapter

The agricultural analysis and assessment forms part of the background review and analysis for the Soper Springs Secondary Plan Study.

The agricultural assessment is a desktop analysis that:

- provides statistical information for livestock production,
- includes aerial photo interpretation, and
- uses additional mapped information to characterize lands adjacent to the Secondary Plan area.

The assessment describes and evaluates the following:

1. What are the characteristics of the agricultural environment adjacent to the Soper Springs Secondary Plan Study Area?
2. How have the agricultural characteristics within the Study Area changed over the past 35 years (based on agricultural census data 1981 - 2016)?
3. What mitigation measures are recommended to mitigate impacts to agriculture operations outside of the Soper Springs Secondary Plan Study Area to the extent feasible?

The contents of this analysis are framed by policy as well as guidelines and address several agricultural characteristics including Minimum Distance Separation (MDS).

5.2 Context

The Soper Springs Secondary Plan area is bordered by lands within the Natural Heritage Feature system and the Greenbelt as shown on **Figure 14**. While the current function and uses of the lands within the Secondary Plan area are primarily agricultural, Soper Springs is a designated urban area. This report considers the impact of urban development in the Secondary Plan area on existing agricultural operation located in proximity to the Secondary Plan Area.

5.2.1 Agricultural Impact Assessment (AIA) Guidelines

Agricultural Impact Assessment (AIA) guidance are set out by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA, 2018) in draft guidelines. The draft AIA guidelines refer to secondary plans and state that edge planning tools:

- can be implemented to alleviate land use conflicts between agricultural and non-agricultural uses; and
- include directing traffic away from farming areas, using buffers and providing separation distance.

The Draft Agricultural Impact Assessment (AIA) Guidance Document (OMAFRA, 2018) discusses secondary planning together with subdivision design and, with reference to secondary plans, states that they may include policies and maps that provide direction on topics including land use, infrastructure, transportation, design and the natural environment. The Draft Agricultural Impact Assessment (AIA) Guidance Document (OMAFRA, 2018) is more specific regarding subdivision planning, which follows the secondary plan stage and states that design elements that could be incorporated into subdivisions in the fringe areas include:

- Road design to direct traffic away from farming areas;
- Increased lot depths/sizes along the urban-agriculture boundary to allow for greater separation between uses;
- Planting vegetation buffers and/or installing fences to protect residential areas from possible spray drift, dust and noise;
- Recognition that a road right of way may be an adequate buffer and planting vegetation to improve the existing roadway buffer; and
- Increased building setback provisions in the zoning by-law to increase the separation between uses.

Therefore, mitigation measures such as road design, buffers and setbacks are appropriately evaluated and implemented, as is reasonable, at the subdivision design stage rather than at the secondary plan stage. Hence, this report does not contain recommendations related to those mitigation measures which are specific to the subdivision design stage.

While previous references are made to the Draft Agricultural Impact Assessment (AIA) Guidance Document (OMAFRA, 2018), the “Guidance Document” is still a draft and the release date of the final document is unknown (personal communication, 2019, OMAFRA Land Use Planning staff).

5.3 Findings

5.3.1 Livestock and Manure Production Trends

Several data sources have been used at various scales to characterize trends in livestock use. For example, impediments to the construction of new livestock buildings are to be found in government regulation such as the Nutrient Management Act (NMA, 2002) and the Act's associated Regulation, in addition to the costs associated with the livestock business.

These costs include:

- The requirements of compliance with the NMA. Costs are significant and vary with agricultural industry and are outlined in the paper by Brethour et al. (2004). The poultry business is in a relatively good position to expense those costs.
- Costs for entering supply controlled agricultural industry such as dairy or poultry (which are the livestock industries with a good expectation of high net returns) is high. Combe (2000) estimated that the capital investment (excluding land costs) related to 30,000 units of chicken broiler quota was \$1.609 million. Therefore, the capital investment (excluding land) for the 30,000 units of chicken broiler quota would be in excess of \$1.6 million at year 2000 prices.

Given the level of liability, costs of compliance, hard work and uncertainty associated with livestock production, that production may become a less desirable farming option. For example, livestock farming may not be the favoured choice for an agricultural operation because of externally imposed requirements related to nutrient management, animal welfare, diseases such as BSE and avian flu in addition to the cost of quota associated with supply-controlled industries (chicken, eggs and dairy).

This perspective of diminished interest in livestock production is supported by information that indicates that less livestock is being produced within Durham Region and Clarington. Because the number of census farms and census farm area has changed over time, nutrient units (amount of manure) has been calculated proportionate to census farm number and census farm area. Statistics Canada information, which tracks changes every five years, shows diminishing levels of nutrient units (formerly animal units) and manure production (**Figures 23 to 28**) as follows:

- total nutrient units in Durham Region and Clarington per census farm and per census farm hectare have diminished from 1981 to 2016 (**Figures 23 and 24**),
- when total nutrient units are multiplied by the odour factor (an "unpleasantness" rating), per census farm as well as per census farm

hectare, Clarington’s and Durham’s levels have decreased between 1981 and 2016 (**Figures 26 and 27**)

- Clarington’s total nutrient units as a proportion of Durham Region’s total nutrient units have decreased from 1981 to 2016 (**Figure 27**),
- when farms reporting manure and the amount of manure reported are summarized from 1991 to 2016, (data are only available from 1991 to the present census) Clarington farms reporting, and amount of manure reported, as a proportion of the amounts reporting/reported within Durham Region, has diminished (**Figure 28**).

The diminishing number of farms reporting livestock as well as the diminishing amount of manure reported support the conclusion that there is a lower probability of manure odour.

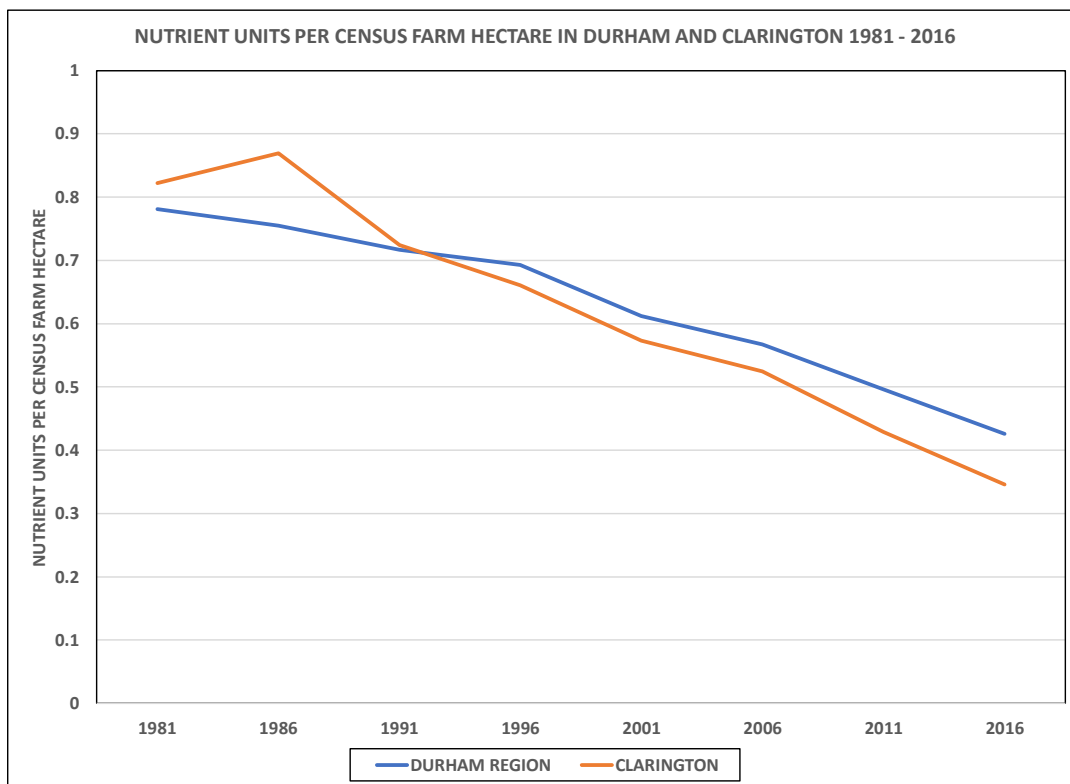


Figure 23: Change in Nutrient units per farm hectare over time

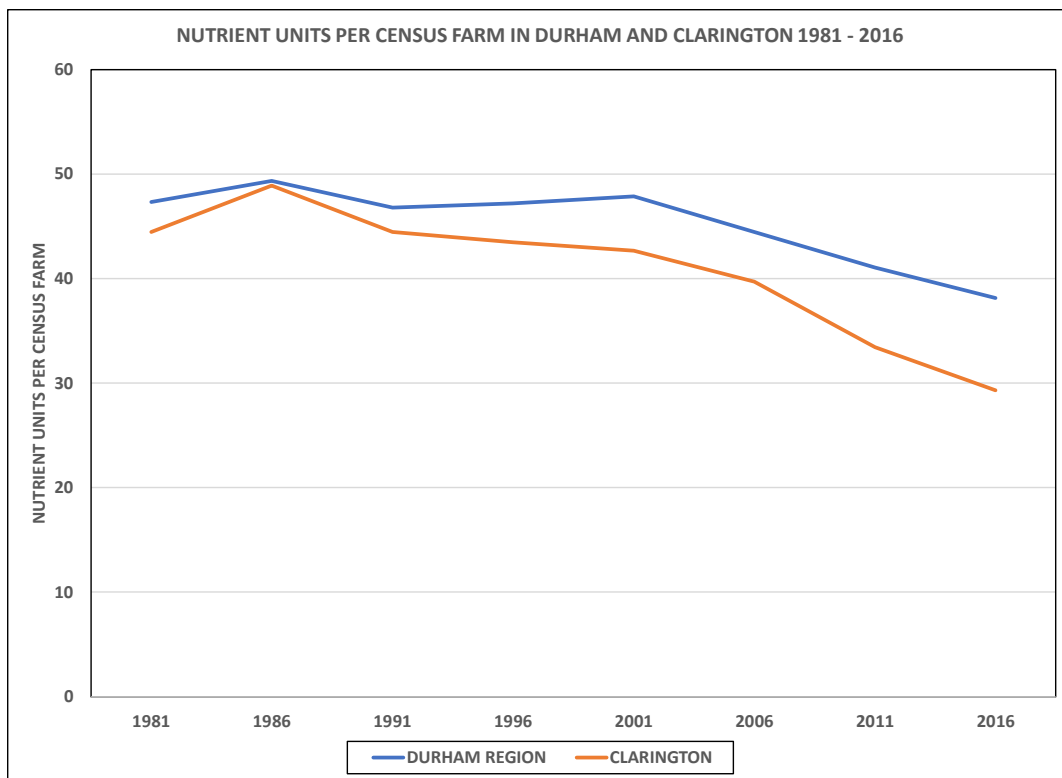


Figure 24: Change in Nutrient units per farm over time

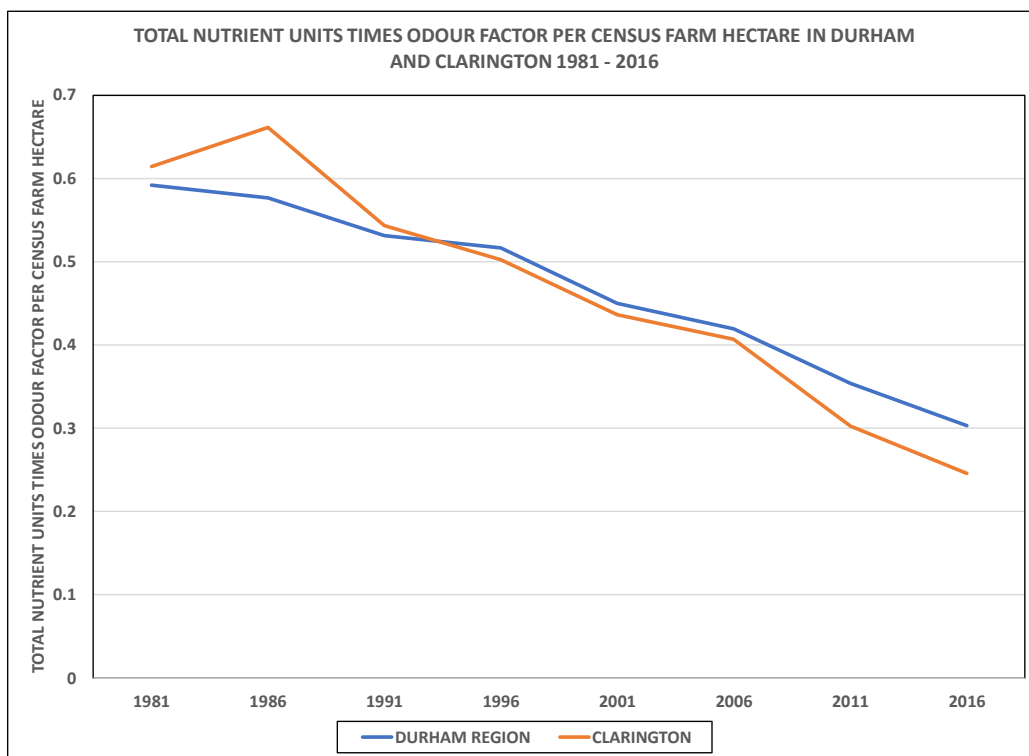


Figure 25: Change in Nutrient units time odour factor per farm hectare over time

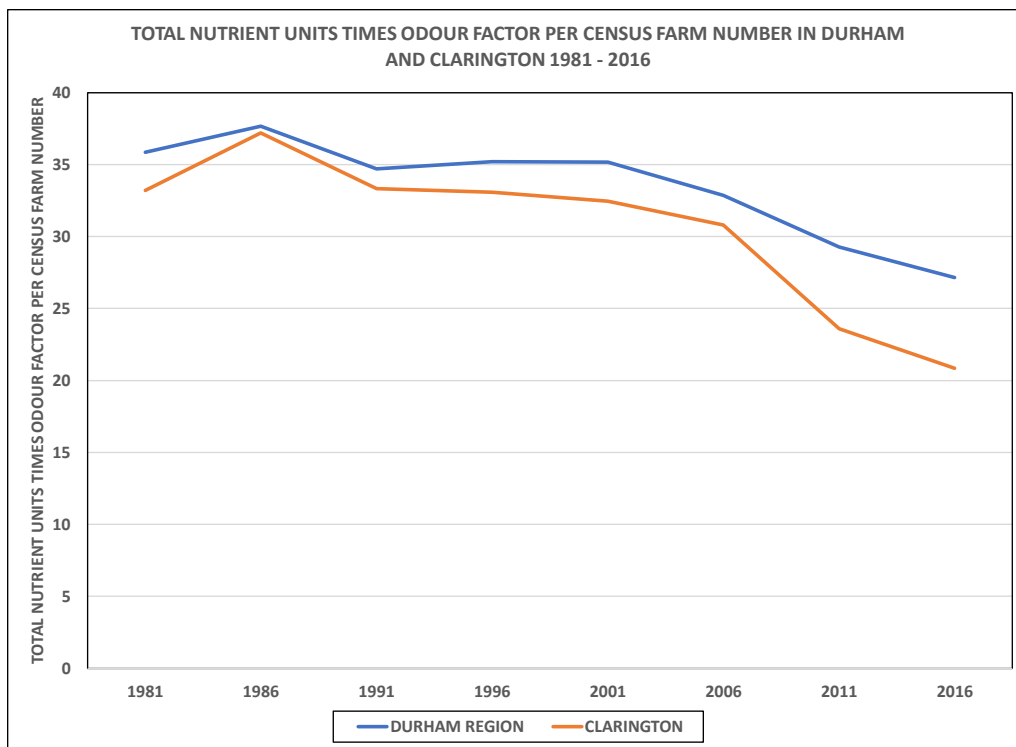


Figure 26: Change in Nutrient unit times odour factor per census farm over time

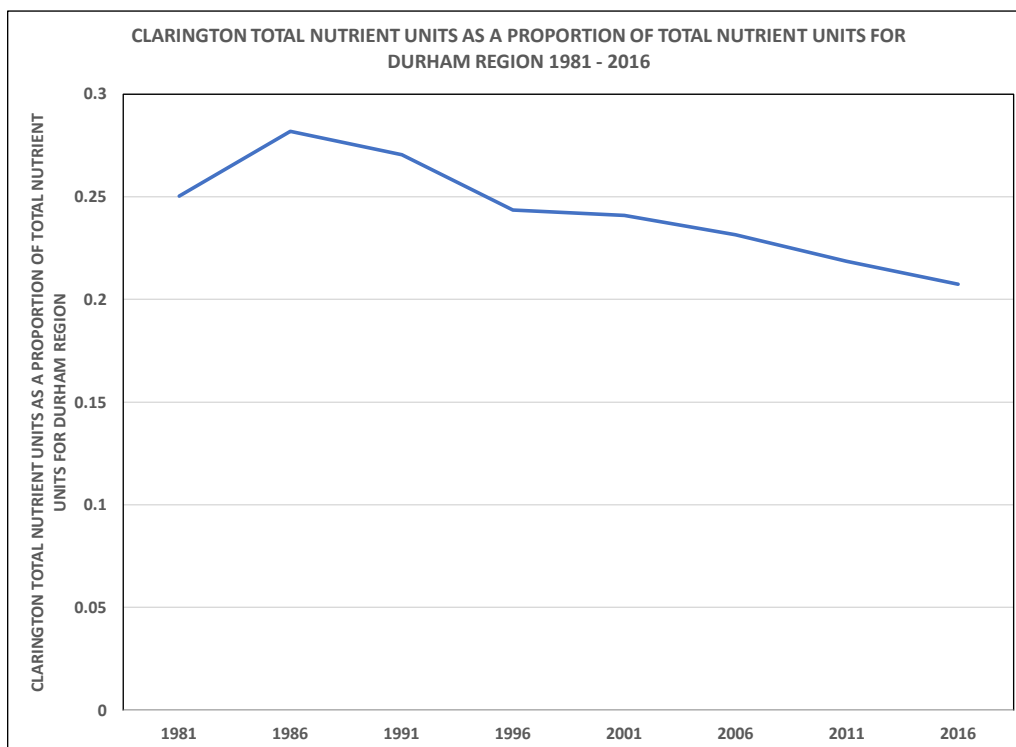


Figure 27: Change in nutrient in Clarington as proportion of Durham over time

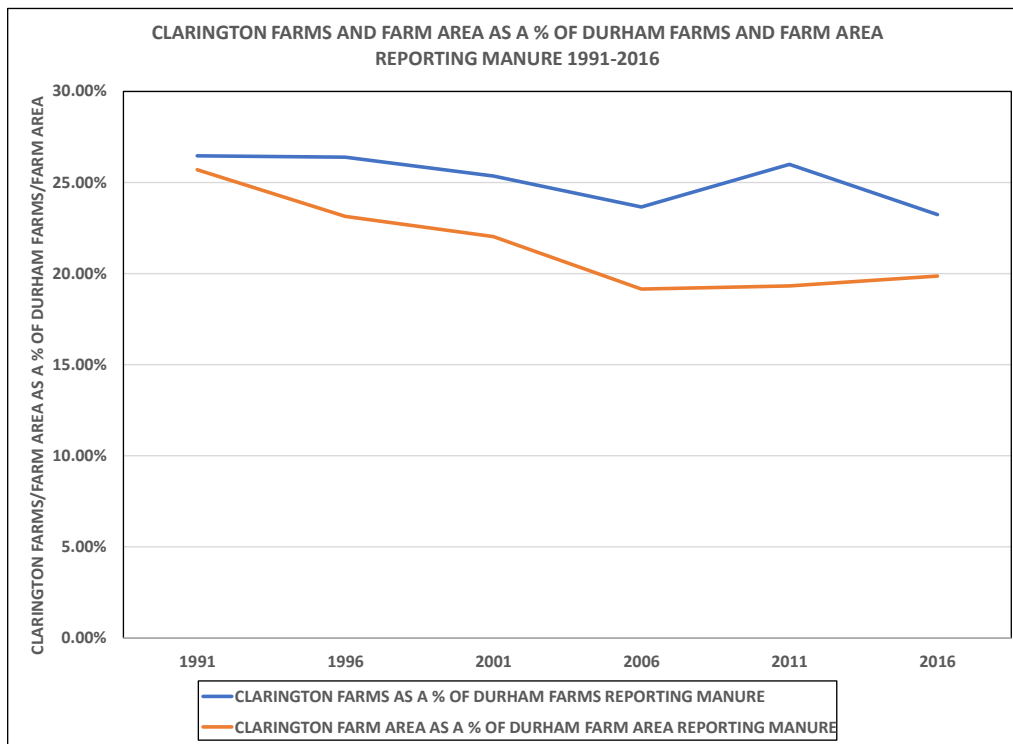


Figure 28: Change farm and farm area relative to Durham over time

5.3.2 Minimum Distance Separation Analysis and Results

The Minimum Distance Separation (MDS) Document produced by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA, publication 853, current and updated, 2017) guides the application of the Minimum Distance Separation Formulae with the intent, as stated on page 1 of the document, to “prevent land use conflicts and minimize nuisance complaints from odour.”

The purpose of MDS is to determine setback distances between livestock barns, manure storages or anaerobic digesters and surrounding land uses. Municipalities are responsible for ensuring MDS setbacks are met. The Ontario MDS Document outlines, in guideline number 2, the “what” and “when” of an MDS setback requirement for two separate formulae:

- “MDS I – provides the minimum distance separation between proposed new development and any existing livestock barns, manure storages and/or anaerobic digesters”. This formula determines setback distance of a new use to an existing relevant agricultural use.
- “MDS II – provides the minimum distance separation between proposed first or altered livestock facility occupying an area greater than 10 m² or any anaerobic digester and existing or approved development”. This MDS formula is used when there is a new or changed relevant agricultural use to other uses around it.

The MDS Document only applies in prime agricultural areas and rural areas thus the formulae would not apply to any new development in the Soper Springs Secondary Plan. However, outside of the Secondary Plan Area, any new, expanded or remodeled livestock barns, manure or anaerobic digesters would have to meet the MDS II, including in relation to anything that would be planned within the Secondary Plan area. In this report, the MDS II is applied to livestock operations near the Secondary Plan area to understand how they may be impacted by future development.

To consider any MDS II conflicts if farms near Soper Springs wished to expand their operations, farms actively engaged in livestock production were identified and MDS II calculations were undertaken.

The MDS II calculations procedure was as follows:

1. Barns capable of housing livestock within 1.5 km of Soper Springs boundary were identified and measured using aerial photography.
2. Based on aerial review and consideration of location and barn size, only a single livestock farm in proximity to the Secondary Plan area was identified as potentially having impact.
3. The total barn area for this farm was calculated based on the photographic measurements.
4. Barn area was used in the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) AgriSuite software (version 3.4.0.18) to calculate maximum housing capacity.
5. Livestock and manure handling system was ascertained, where possible, based on photo interpretation.

Calculations were completed for the livestock facility on a property to the east of the Secondary Plan boundary, identified in **(Figure 29)**.

Based on the total housing capacity of the barns identified and measured using aerial photography, it was estimated through the AgriSuite software that a herd size larger than existing total housing capacity could not be increased in compliance with MDS II on the farm identified in **Figure 29**. Herd expansion is limited because of the settlement area boundary as well as non-agricultural development on lots severed from the original farm parcel.

All other farms, identified as having livestock within the 1.5 km Study Area for Soper Springs, are far enough away from the settlement area boundary that the non-agricultural Soper Springs development would not prevent herd/flock etc. expansion and/or changes to livestock facilities (within limits) due to requirements associated with MDS II. However, there may be limitations to expansion and/or changes to livestock facilities due to existing non-agricultural uses within the Study Area outside of the settlement area boundary.

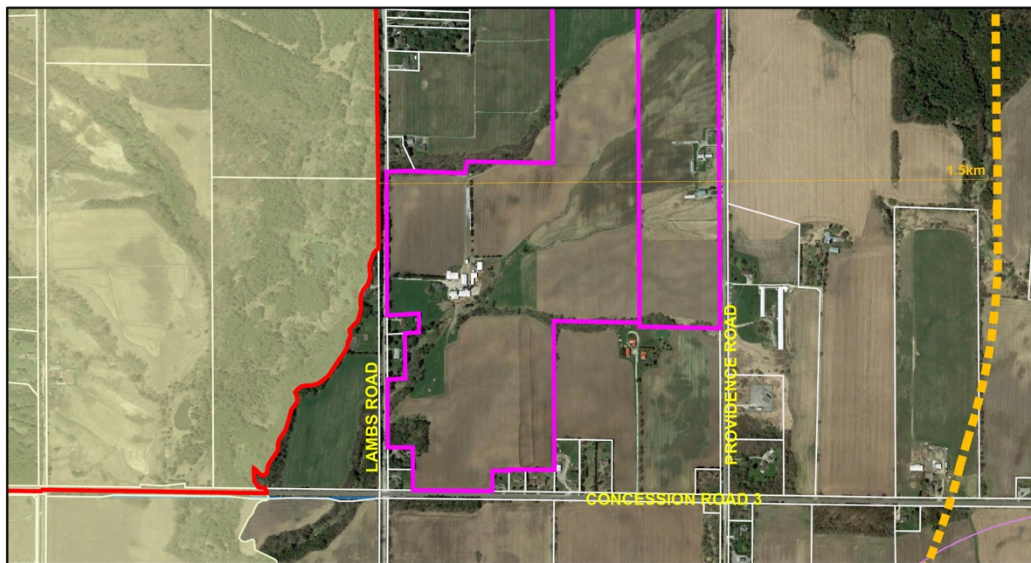


FIGURE 27:

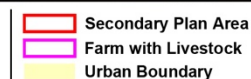


Figure 29: Locations of a farm containing livestock in proximity to the Secondary Plan area

5.3.3 Mitigation

The following discussion on mitigation is presented to provide an indication of the kinds of approaches to mitigation between agriculture and non-agricultural uses that have been applied and documented. However, given the direction of the Draft Agricultural Impact Assessment (AIA) Guidance Document (OMAFRA, 2018), most of the mitigation described in the following is best considered and implemented as reasonable later in the planning process at the subdivision design stage.

There is much qualitative literature describing possible conflict between agriculture and urban uses where that conflict is related to dust, pesticides, noise, light, transportation, odour, trespass, vandalism, farm management, animal care and other matters and expectations associated with agricultural versus urban areas. It is not the intent of this report to review that literature extensively. OMAFRA does not have documents that describe mitigation measures and their efficacy but have provided information prepared by some municipalities within southern Ontario (London, Mississippi Mills) and to government papers available for British Columbia (OMAFRA, 2018). The literature from British Columbia is more extensive. Published literature generally provides information with respect to subdivision design and other recommendations intended to reduce urban/rural conflict.

This literature has found that:

- Roads at the boundary between agricultural and urban areas should be designed to accommodate large, wide, slow-moving farm machinery (by use of wider road surfaces including paved shoulders; by placement of road markers, signage, mailboxes away from the road edge, for example); and
- Visual barriers provided by tree plantings within the agricultural and urban areas would potentially reduce some impacts related to light and noise.
- Areas of lower agricultural importance/priority should be chosen for non-agricultural development where that proposed non-agricultural development has a boundary adjacent to relatively lower priority agricultural lands.

The literature shows that mitigation can take the form of:

- physical separation (buffer strips),
- berms,
- fencing,
- screening through use of vegetation,
- insertion of low-density uses between high-density urban uses and farmland,
- specialized zoning of buffer strips to prevent structures, storage, and removal of vegetation,
- clauses attached to land title which warn that adjacent uses include farm land where normal farm practices are protected and where those practices include the production of dust, vibration, odours, light, noise etc. and the use of fertilizers and pesticides, and
- any combination of the aforementioned.

The need for, as well as the form or characteristics of, that mitigation can depend on several factors such as:

- the relative importance of the farmland as defined by planning policy;
- the kind and scale/size of agricultural operations (livestock versus fruit production, for example);
- the probability of impacts to agriculture and the severity of those impacts if they should occur;
- the probability that mitigation in any, or of a specific form, can significantly reduce probable impacts; and
- the relative positive impacts of residential development adjacent to farm land compared to negative impacts associated with the juxtaposition of residential and agricultural development.

The literature tends to emphasize the negative interactions at the urban/agricultural interface. However, there are some positive impacts and these are outlined by Sokolow (Chapter 12, *California's Edge Problem: Urban Impacts on Agriculture in California Agriculture: Dimensions and Issues*, 2003).

“The common generalization from several studies is that urban proximity can provide profit-making opportunities as well as problems for farmers, considering the potential for direct marketing, other forms of access to urban consumers, and off-farm income for operators.” (Edelman, et al., 1999).

But only certain kinds of intensely-cultivated farms, including vegetable producers, seem to benefit from such locations (Larson, et al., 2001). A USDA review of the available information on farms in metropolitan areas characterizes them as smaller, producing more per acre, more diverse, and more focused on high-value production than farms in non-metropolitan areas (Chapter 12, *California's Edge Problem: Urban Impacts on Agriculture in California Agriculture: Dimensions and Issues*, 2003).

Mitigation must also consider the fact that agriculture includes a diversity of farm types and farm management. Agriculture includes the production of nursery crops which can be a source for “horticultural plantings” and some “invasive plants” relative to other kinds of agricultural production. Regardless, there is currently no requirement for buffer areas between farms producing nursery crops and other types of farms within prime agricultural areas.

The mitigation options available are based on several sources of literature. Much of the Canadian literature is from the province of British Columbia and has been put in place relative to their Agricultural Land Reserve (ALR). Landscaped buffer specifications (Agricultural Land Commission, 1993) start with a minimum buffer width of 3 m. Other specifications suggest that berms may be added to the buffer.

Different fencing types are described as part of Agricultural Land Commission buffer specifications. Specialized zoning and a restrictive covenant are present because of discussions in papers such as those by the British Columbia Ministry of Agriculture, Fisheries and Food (1996) and Curran (2005).

All of the literature search related to buffers at the agriculture/urban interface provided very little quantitative information and this viewpoint is expressed by Sokolow et al. (2010):

It [edge conflict] appears in many other parts of the nation where urbanization extends into commercial agricultural areas (Jackson-Smith and Sharp 2008; Abdalla and Kelsey 1996; Larson et al. 2001; Van Driesche et al. 1987). These accounts are usually anecdotal or prescriptive in nature, lacking a systematic examination of the causes and effects of agricultural-residential

conflicts, especially one that builds on a comparison of different edge situations.

Sokolow concludes his research with the question:

What is the relative effectiveness of various public policy measures - such as grievance procedures, right-to-farm ordinances, required buffers for new development and zoning - in avoiding or reducing edge conflicts?

Englund (2003) evaluated 27 buffers in British Columbia by use of survey research. Buffers varied in their length (40 m to 900 m), width (1 m to 350 m), density (20% to 95%) and species composition. As well, the positive and negative elements of the vegetated buffers were viewed differently. For example, some survey respondents classified the shade provided as a positive element while others saw it as negative. The fact that the buffer provided habitat for wildlife as well as provided for the screening of views was also viewed both positively and negatively by respondents to the survey. The sample size of 27 buffers, given the variation in the characteristics of the buffers, as well as in the characteristics of the survey respondents, renders any form of conclusion with respect to the study as tentative.

Finally, there has recently been an impetus for agricultural production within urban areas. For example, the Ontario planning Journal (Volume 26 (4), 2011) provides information that urban agriculture is being studied at York and Queens Universities as well as the Universities of Toronto and Guelph. OMAFRA provides information related to urban agriculture on several websites (OMAFRA 2015) and includes discussions on livestock production within urban areas. OMAFRA does mention the use of Minimum Distance Separation (MDS) in urban areas but, within its own MDS Document (2017), leaves any requirement for the application of MDS within the urban settlement areas up to individual upper and/or lower tier municipalities.

As well, in the review of the literature, no requirement for buffers between agricultural uses and urban uses within urban settlement areas was mentioned. Agricultural production within the Soper Springs Secondary Plan Area should be discouraged when urban development occurs.

5.4 Recommendations

Based on the MDS analysis, the existing livestock operations in proximity to Soper Springs (1.5 km) are not expected to be impacted or restricted from expanding as a result of the development of the Soper Springs Secondary Plan Area.

OMAFRA's draft Agricultural Impact Assessment Guidelines (2018) indicate that the majority of impacts at the urban/agricultural interface are best minimized at the plan of subdivision stage rather than at the current secondary plan stage. Given the age of the literature related to mitigation and on the lack of quantitative analysis concerning the

success of the mitigation, the literature on mitigation is limited. Therefore, the following recommendations are made.

Recommendation 1:

Policies should be included in the Secondary Plan which require consideration of the urban agricultural interface, within and along the boundary of the Secondary Plan, during the preparation of the draft plan of subdivision stage.

Recommendation 2:

The literature on mitigation related to the urban agricultural interface should be newly reviewed at the time of subdivision planning. Any known beneficial mitigation at the interface between urban and agricultural uses should be applied at that time. The review of mitigation should consider ownership as well as maintenance of mitigation components such as fencing and buffer strips.

6 Sustainability Themes & Principles

6.1 Purpose of this chapter

The purpose of this Section is to identify the principles that will be used to establish the framework for the preparation of the Secondary Plan. These principles are organized based on the key themes identified in the Priority Green framework and provide the basis for the development of a healthy complete community with a strong sense of place fostered through good urban design.

Section 3 of this report begins to set the framework from the COP for the development of sustainable communities that form the foundation for the urban design and sustainability principles. Just as sustainability is woven throughout the COP, the urban design and sustainability principles will be integrated throughout the Secondary Plan. The Soper Springs Secondary Plan, through these principles, will promote a positive image and foster a strong sense of place. The goal for creating vibrant and sustainable urban places as stated in Section 5 of the COP is:

“To create a built environment that celebrates and enhances the history and character of Clarington, fosters a sense of place for neighbourhoods and communities, promotes a positive image of the Municipality, demonstrates a high quality of sustainable architectural design, and enhances the well-being of residents, both present and future.”

The urban design and sustainability principles reflect the vision and framework set out by the COP and Clarington’s Priority Green Plan and more specifically the Priority Green checklist for secondary plans. These principles will be used to inform the evaluation of the concept plans, prepare Secondary Plan policies and inform the development of the Sustainable Urban Design Guidelines that will help to guide the implementation of the Soper Springs Community.

The following summarizes each of the four key themes, built environment, mobility, natural environment and open space, and infrastructure and buildings and identifies the urban design and sustainability principles within each theme.

6.1.1 Built Environment

The built environment refers to human made spaces that residents live, work and play in. The built environment has a strong impact on the quality of life for residents. Components of the built environment that promote sustainability within the built environment include the efficient use of land, variety of housing, fostering a sense of place and accessibility for all or universal design. Each of these contribute to the

creation of safe, walkable streets and trails, diverse communities, and implementation of age friendly design throughout the community.

6.1.1.1 Efficient Use of Land

Efficient use of land is the creation of compact, complete, connected and walkable communities that promote the preservation of agricultural or other sensitive lands from development. The efficient use of land is important for the development of the Soper Springs community to ensure any adverse impacts to the adjacent EPA lands are avoided. The establishment of compact and walkable communities can be achieved in Soper Springs through the provision of higher density mixed use developments, interconnected walking trails throughout the community and beyond, and interconnected streets and block patterns.

Principle: to create transit supportive development around the Neighbourhood Centre with higher density housing.

Principle: to create residential areas designed to be within 800 metres walking distance of at least 3 of the following: trails, school, community/cultural centre, recreational centre or park, library, retail/conscience commercial use, pharmacy/medical and institutional such as day care.

Principle: to create neighbourhoods where school sites are located adjacent to parks or community facilities.

6.1.1.2 Variety of Housing

The provision of a range of housing types in communities, such as townhouses, singles and semis, and multi-unit dwellings better accommodates housing markets and improves affordability. The Soper Springs community may be designed to include higher density housing, such as clustered housing, adjacent to natural features to reduce sprawl and facilitate views to these features.

Principle: to provide a variety of housing types and tenures that contribute to the creation of a diverse housing market.

Principle: to encourage clustering of development with a variety of housing types to achieve a compact walkable community while protecting natural features.

6.1.1.3 Foster a sense of place

Unique built features help establish a community's sense of place by establishing landmarks and other features that distinguish one community from another or help to bring a community together. The Soper Springs community can establish a sense of place by enhancing views to the surrounding natural features, including landmark buildings, gateway features, and public art, and providing opportunities for community

gathering in parks central to the neighbourhood and in community gardens and other gathering spaces.

Principle: to create or enhance important views to natural features.

Principle: to create landmark or gateway buildings or features that add to the character of the community.

Principle: to encourage active parks and parkettes, and other types of open spaces that can act as gathering spaces as part of or adjacent to multi-family developments.

6.1.1.4 Universal Design

Universal design considers the ages and abilities of residents in communities, to provide equal access to the built environment, parks and open spaces, and community features for all users. Universal design considers the need for accessible design that, for example, ensures key services are within walkable distances to reduce reliance on cars. The Soper Springs community can incorporate age friendly features such as tactile curbs at each intersection, to allow universal design.

Principle: to ensure the community to is accessible for all ages and abilities.

6.1.2 Mobility

Mobility refers to the ease of movement for individuals with varying abilities and modes of travel. Key sustainable forms of travel include the provision of reliable transit system with transit stops located along key roads and intersections, provision of an inter-connected transportation network that balances the needs for pedestrians, cyclists and vehicles, and provision of sidewalks on both sides of the street to ensure ease of walkability and accessibility. Active transportation is a key factor in creating a sustainable community.

6.1.2.1 Active Transportation

Car pollution contributes significantly to climate change. Cars release carbon dioxide, which is one of the largest source of greenhouse gas emissions. The creation of an efficient active transportation network that encourages residents to travel by means other than the automobile contributes to the reduction of greenhouse gas emissions and therefore helps improve air quality.

Active transportation refers to transit, bicycle and walking facilities and is fundamental in creating sustainable and green communities. Reducing dependence on personal vehicles within the Soper Springs community will be done by creating a network that encourages walking and cycling and improve overall health for the residents and community. A successful active transportation network is facilitated by a mix of uses and destinations within walking distances that are connected by sidewalks, bicycle paths, trails and transit. Short block lengths that connect to the active transportation

network will strongly encourage residents to choose alternative transportation methods, particularly for short trips. Finally, providing for a comfortable environment that includes street trees, sidewalks on both sides of the street and connect to destinations will further encourage the use of active transportation.

Principle: to create a transportation system that prioritizes active transportation modes of travel.

Principle: to create short street block lengths connecting to the active transportation system.

Principle: to ensure both sidewalks and street trees are on both sides of the street.

Principle: to develop a pedestrian and cycling network that is integrated with the Municipality's trail system.

Principle: to develop a trail system that minimizes impact to the environment and accommodates all ages and abilities.

Principle: to reduce or eliminate redundant or dead-end streets and blocks to ensure efficient connectivity to the system.

6.1.3 Natural Environment and Open Space

The natural environment has many intrinsic values related to the well-being of society. The preservation of the natural environment ensures the responsible development of communities that allows plants, animals, and people to live harmoniously together. Environmental features are important to many communities and contribute to establishing a sense of place. It is important to preserve and enhance the EPA and provide access to parks and open spaces.

6.1.3.1 Preserve and enhance the Environmental Protection Area (EPA)

A significant feature within the Study Area is the Environmental Protection Area EPA designation (Figure 2). Encouraging sensitive design that works with the existing landscape and natural features will help to protect and enhance the Soper Springs EPA. Preservation and enhancement of the EPA may include the provision of buffers where development may not encroach, establishment of trail connections within the EPA connecting to other planned municipal trails, and implementation of LID features that manage urban runoff before draining into the natural system.

Principle: to protect and where possible enhance the Natural Heritage System.

Principle: to ensure an optimal tree canopy within the Secondary Plan Area is achieved.

Principle: to establish trail connections within and around the EPA that connect to other planned municipal trails.

Principle: to ensure native species are used in proximity to EPA lands.

6.1.3.2 Encourage public access to parks and open spaces

Encouraging public access to parks and open spaces involves the creation of interconnected trails between parks, and placement of parks in locations that offer less than a 5-minute walk for residents. Due to the presence of the extensive EPA, parks may also be placed in close proximity or adjacent to the EPA to ensure these natural features belong to the public.

Principle: to create a system of connected parks, natural features and other open spaces through trails and sidewalks.

Principle: to encourage community design that works with natural conditions.

Principle: to plan parks within a 400 metre walking radius of all residents.

Principle: to provide views and vistas to parks and natural features.

6.1.4 Infrastructure and Buildings

Infrastructure and buildings have an influence on our environment and can positively shape spaces. Sustainable infrastructure includes stormwater management ponds, LID features, and implementation of green buildings standards. Stormwater management ponds and LID features (such as rain gardens, bioswales and green roofs) aid in managing flooding and erosion during storm events.

The use of green standards, in the form of checklists or incentive programs, can help facilitate the balance between the need for development and sustainable design. The implementation of green standards checklists for buildings, LID and stormwater management techniques aids in mitigating the negative effects of climate change by managing excess runoff during rain events and reducing the overall energy emissions for buildings.

6.1.4.1 Stormwater Management

Stormwater management techniques and LID features will be implemented that utilize natural drainage patterns to minimize the risk of flooding, increase infiltration where possible, reduce erosion and maintain base flow to streams and wetlands. Stormwater should be managed on site, through the implementation of green roofs, bioswales, rainwater gardens, and curb cuts that allow water to drain into landscaped boulevards.

Principle: to minimize hard surface infrastructure such as surface parking.

Principle: to minimize the risk of flooding by incorporating the natural drainage pattern.

Principle: to encourage the use of on lot source controls such as LIDs.

Principle: to incorporate stormwater as part of the landscape design of the site.

Principle: to encourage green infrastructure to reduce demand for energy, water and wastewater.

6.1.4.2 Energy Efficient and Adaptable buildings

Energy efficient buildings are buildings that are designed to provide a significant reduction in the amount of energy needed for heating and cooling, independently of the energy and the equipment that will be used to heat or cool the building. This type of built form provides opportunities to not only save money but reduce greenhouse gas emissions. In order to ensure infrastructure and buildings are designed and built to be energy efficient and adaptable, a sustainability checklist such as EnergyStar® or LEED®, or the creation of new sustainability checklists for Clarington that guide developers to build developments that contain efficient building features could be used. The objective is to implement features that reduce energy consumption.

Principle: to maximize energy efficiency and water conservation as part of streetscapes, parks and other public spaces.

Principle: to encourage the orientation of streets and blocks to maximize passive solar energy opportunities.

Principle: to use a green standards checklist for use by developers to implement and guide the creation of efficient and sustainable buildings.

6.1.4.3 Sustainable Built Form

The construction of buildings is a large contributor to greenhouse gas emissions. Any changes or improvements to where materials are sourced, the type of materials, and construction practices will help reduce the amount of emissions.

Principle: to encourage the construction of energy efficient buildings.

Principle: to encourage sustainable construction practices to reduce greenhouse gas emissions.

Principle: to encourage innovation in design for all aspects of Soper Springs.

Principle: to provide education to residents and stakeholders regarding sustainable development.

6.2 Illustrated Urban Design and Sustainability Principles

The illustrated urban design and sustainability principles are derived based on the associated findings of the Background and Analysis Summary Report, policy objectives as outlined in **Section 3**, and sustainability and urban design themes and principles as outlined in **Section 6.1** of this report.

 <p>BUILT ENVIRONMENT</p>	<ul style="list-style-type: none"> Promote the efficient use and preservation of land through the creation of compact, complete, connected and walkable communities Provide for a variety of housing forms and tenures that contribute to the creation of a diverse housing market <ul style="list-style-type: none"> Foster a sense of place Design the community for all ages and abilities 	
 <p>MOBILITY</p>	<ul style="list-style-type: none"> Identify a transportation network that prioritizes sustainable modes of travel Create short street blocks Ensure sidewalks and street trees on both sides of the street <ul style="list-style-type: none"> Develop a trail system Reduce or eliminate redundant or dead-end streets and blocks 	
 <p>NATURAL ENVIRONMENT & OPEN SPACE</p>	<ul style="list-style-type: none"> Preserve and enhance the EPA; Ensure an optimal tree canopy within the Plan is achieved Provide a connected parks and open space system through trails and sidewalks <ul style="list-style-type: none"> Encourage community design that works with natural conditions 	
 <p>INFRASTRUCTURE & SUSTAINABILITY</p>	<ul style="list-style-type: none"> Implement stormwater management techniques that utilize natural drainage patterns to minimize the risk of flooding Ensure infrastructure and buildings are designed and built to be energy efficient and adaptable 	

7 Summary of Cultural Heritage and Archaeological Report



7.1 Introduction

Archaeological Services Inc. (ASI) undertook a Cultural Heritage Resource Assessment and a Stage 1 Archaeological Assessment for the Soper Springs Secondary Plan area. The studies focused on lands both within and abutting the Secondary Plan area. The Cultural Heritage Resource Assessment (refer to **Appendix A**) provides an inventory of existing and potential cultural heritage resources. The Stage 1 Archaeological Assessment (refer to **Appendix B**) identified previously registered archaeological sites, the extent of previous archaeological assessments carried out in the vicinity of the study area, and if any additional archaeological work is required. Refer to **Appendix C** for supplementary mapping completed as part of the Stage 1 Archaeological Assessment.

7.2 Cultural Heritage Resource Assessment Study Existing Conditions Report

The report identifies eight existing and potential municipal heritage resources within or adjacent to the Soper Springs Secondary Plan Study Area. These potential heritage resources include:

- Four potential cultural heritage resources located within the Study Area which merit evaluation under Ontario Regulation 9/06; and
- Four properties adjacent to the study area, including one designated property and three potential properties that merit evaluation under Ontario Regulation 9/06.

The assessment recommended that:

- The Soper Springs Secondary Plan should incorporate policies that promote the conservation of existing cultural heritage resources and consider the presence of the potential cultural heritage resources identified in the report;
- Any proposed development on or adjacent to an identified existing or potential cultural heritage resource should require a heritage impact assessment to further assess the cultural heritage value of the identified potential cultural heritage resources under Ontario Regulation 9/06, and to ensure that the existing cultural heritage resources in the study area are conserved; and
- The report should be circulated to the Clarington Heritage Committee for its consideration.

7.3 Stage 1 Archaeological Assessment

Archaeological Services Inc. (ASI) undertook a Stage 1 Archaeological Assessment within the Soper Springs Secondary Plan area. The report identifies that approximately 41% or 74 hectares of the study area exhibits potential for the presence of Indigenous and/or Euro-Canadian archaeological resources. The following recommendations are made in the Stage 1 report:

- With the exception of the previously assessed lands, any future developments within the study area must be preceded by a Stage 2 Archaeological Assessment. Such assessment(s) must be conducted in accordance with the Ministry of Heritage, Sport, Tourism and Culture Industries 2011 Standards and Guidelines for Consultant Archaeologists. All active or formerly worked agricultural lands must be assessed through pedestrian survey. Woodlots and other non-arable lands must be assessed by means of test pit survey. Areas deemed to be disturbed or of no potential due to factors of slope or drainage during the Stage 2 assessment process must be appropriately documented. This work is required prior to any land disturbing activities in order to identify any archaeological resources that may be present. It should be noted that the archaeological assessment of any proposed development (e.g., a draft plan of subdivision) must be carried out on all lands within that particular study area, not simply those lands identified as exhibiting potential in this study.
- Euro-Canadian site AIGq-194 was documented by Detritus Consulting Ltd. within the study area and recommended for Stage 3 Archaeological Assessment. This assessment, and any recommendations arising from the work, should be carried out in accordance with the Ministry of Heritage, Sport, Tourism and Culture Industries 2011 Standards and Guidelines for Consultant Archaeologists.
- During any further archaeological assessments, meaningful engagement with Indigenous communities should be conducted, as outlined in Section 35 of the Standards and Guidelines for Consultant Archaeologists and the Engaging Aboriginal Communities in Archaeology Technical Bulletin.

Supplementary to the Stage 1 Archaeological Assessment, ASI prepared the following three maps:

- Indigenous Archaeological Sites and Potential within the Soper Springs Secondary Plan Study Area;
- Euro-Canadian Archaeological Sites and Potential within the Soper Springs Secondary Plan Study Area; and
- Registered Archaeological Sites and Composite Archaeological Potential within the Soper Springs Secondary Plan Study Area.

Refer to **Appendix C** for the supplementary maps.

8 Summary of Functional Servicing Report and Transportation Report



The Municipal Infrastructure Group (TMIG) prepared a Transportation and Functional Servicing Study Report in support of the Soper Springs Secondary Plan Study. The report examines the existing conditions with regards to water distribution and planned water system improvements, existing sanitary services and planned sanitary systems improvements, the existing road network and existing traffic data and transit availability. Refer to **Appendix D** for the full Functional Servicing and Transportation Report.

A summary of some of the key takeaways include:

Servicing:

- There is an existing watermain (300mm diameter) along Liberty Street North, adjacent to the study area. The existing Bowmanville Zone 2 reservoir is located northwest of the study area near Liberty Street North and Concession Road 4;
- The water system in Bowmanville has two zones. Everything south of the railway is serviced via Pressure Zone 1. As the entirety of the Study Area is north of the railway, it is assumed that the Zone 2 hydraulic grade line will be appropriate for the entire Soper Springs Secondary Plan area;
- Planned Regional DC Project 307 is adjacent to the southern limit of the study area along Concession Road 3 and north along Liberty Street (western limit to the study area) which will bring a feedermain to the Zone 1 Reservoir;
- Planned Regional DC Project 301 includes constructing the Zone 1 Reservoir on Liberty Street North and demolish the existing elevated tank;
- Planned Regional DC Project 304 involves a new Zone 2 pumping station at the Zone 1 Reservoir;
- Planned Regional DC Project 309 involves construction of a Zone 2 feedermain from the Zone 2 Pumping Station to the Zone 2 reservoir; and
- The current sanitary sewer network covers the developed area of Bowmanville, with sanitary sewers only extending as far north as the existing residential developments south of Concession Road 3. Planned Regional DC Project 304 is located adjacent to the southern limit of the study area which will construct the Soper Creek trunk sewer, culminating at the proposed sanitary pumping station (Project 300).

Transportation:

- The existing transportation network surrounding the Soper Springs Secondary Plan area consists of rural roads, which access agricultural lands and large residential frontage properties;
- In terms of potential for active transportation, no sidewalks or bike lanes are provided along Liberty Street North, Lambs Road, Mearns Avenue north of Concession Road 3 or Concession Road 3 west of Jollow Drive. Mearns Avenue south of Concession Road 3 provides sidewalks on one side and bike lanes on both sides of the road;
- Active transportation improvements in the Durham's Transportation Master Plan include a Municipal wide urban trail network that would connect along the Soper Creek tributary, and bike route that would connect along Mearns Avenue, Concession Road 3, and Liberty Street;
- The nearest cluster of Durham Regional Transit bus stops is located at the intersections of Freeland Avenue and Jollow Drive, approximately 275 m from the subject site, and at Freeland Avenue/Bons Avenue and Liberty Street North, approximately 350 m from the intersection at Concession Road 3 and Liberty Street North. The existing Bowmanville Park-and-Ride GO Station is located approximately 5 kilometers from the intersection of Concession Road 3 and Liberty Street North;
- The Clarington Transportation Master Plan indicates the expansion of transit and active transportation facilities to the areas north of Concession Road 3, including the study area, which are highlighted as Growth Areas in the plan; and
- A new connection is proposed from Concession Road 3, through the Soper Springs Secondary Plan Study Area and left to Liberty Street North. This proposed extension of Mearns Avenue, per the COP, will cross multiple natural features and will be assessed in detail for the most appropriate location through the Study Area.

9 Opportunities and Constraints



Site characteristics that may encourage certain types of use or development are opportunities. For example, a site that provides scenic vistas would be a desirable destination for both picnickers and hikers. Characteristics that might limit or restrict use are constraints. Constraints may be physical like a highway or legislative like a prohibited use. An opportunity and constraints map visually displays the opportunities and constraints identified as part of the planning process. In this case, through the Phase One background analysis both opportunities and constraints related to policy, landscape, servicing, agriculture, cultural and natural heritage and transportation have been identified for the Soper Springs Secondary Plan area. **Figure 30** graphically displays this information and includes contextual elements.

The natural heritage features shown on **Figure 18** match the Environmental Protection Area designation in the Clarington Official Plan. Any development constraints related to significant natural heritage features or physical hazards will be identified in the Soper Creek Subwatershed Study. While these areas are shown for informational purposes, the actual development constraints for the Study area will rely on the work completed in the Subwatershed Study.

A number of opportunities have been identified as part of this analysis, including, among others:

- Natural heritage, which contributes to the aesthetic of the area, and may be appropriate for trails to connect to the proposed urban trail, identified on **Figure 12**, traversing the site;
- Parks and open spaces have the ability to be planned adjacent to natural heritage; and
- Opportunities exist for cluster type developments with access to nature

A number of constraints have been identified as part of this analysis, including, among others:

- Limited amount of developable area due to the extent of natural heritage;
- Only one existing municipal road accesses into the Secondary Plan Area through Mearns Avenue and potential new connections constrained by the amount of natural features; and
- The potential delay of infrastructure such as sanitary and transit to the site;

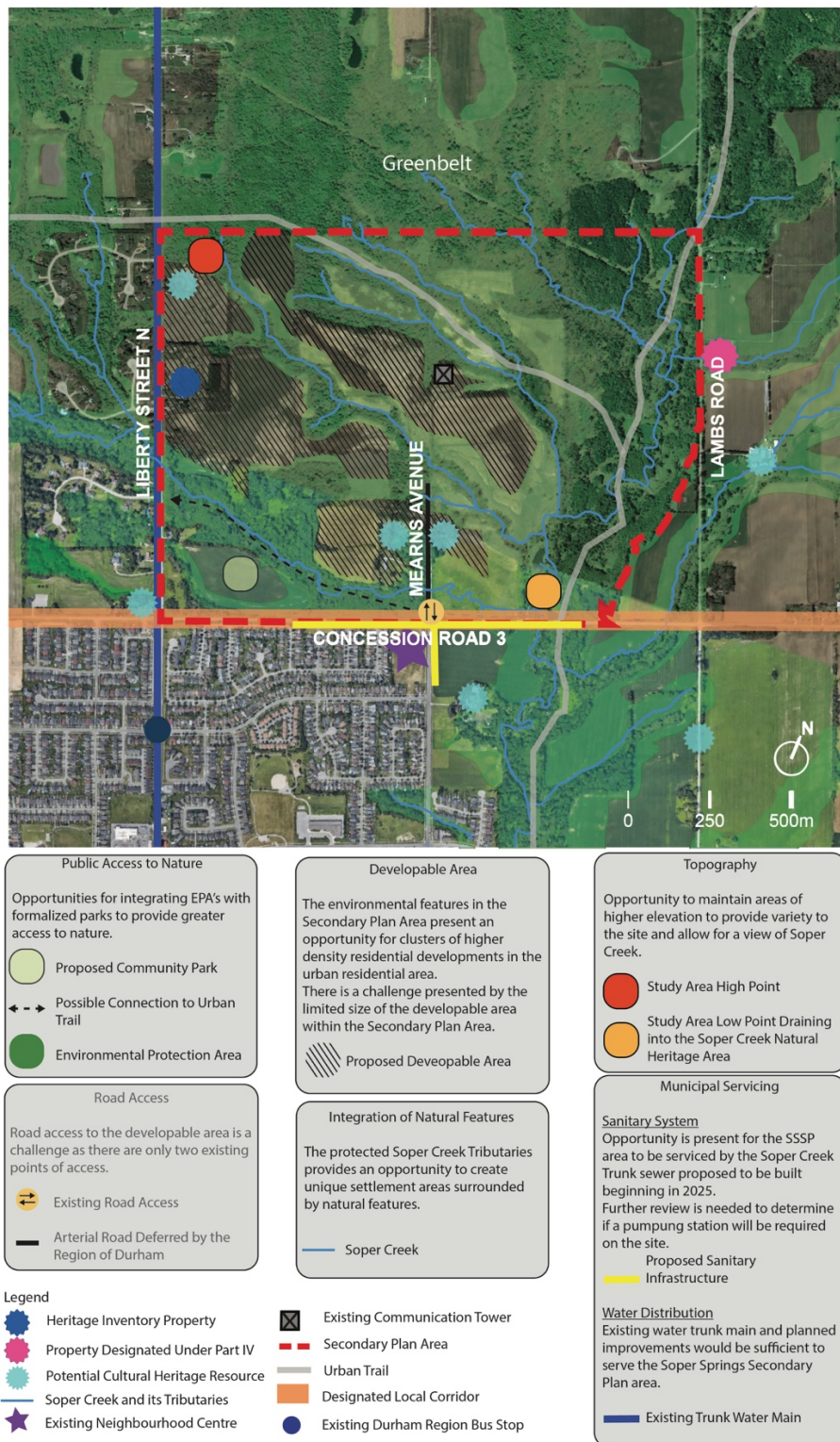


Figure 30: Illustrated opportunities and constraints for the Soper Springs Secondary Plan Study Area

Community design solutions and strategies will be explored through the preparation and evaluation of the alternative concepts in Phase 2 to take advantage of the opportunities and to address and mitigate the constraints.

Possible solutions to address the opportunities and constraints include:

- Cluster type development for efficient use of land and protection of the natural features;
- Strong connection to nature through street alignments to facilitate direct park and trail connections;
- Understanding the level of sensitivity of natural heritage features and opportunities of integrating these natural heritage features in the design of the Secondary Plan Area;
- Considering phasing to address infrastructure constraints; and
- Identifying appropriate access and road crossings of natural features for connectivity within and in and out of the Secondary Plan Area.

10 Conclusion and Next Steps



This report concludes the Phase 1 work for the Soper Springs Secondary Plan area. Overall, the Soper Springs Secondary Plan Study Area contains opportunities to establish a compact, unique community surrounded by natural heritage features.

Phase 2 of the Secondary Plan study requires the preparation of two to three land use concepts. Evaluation criteria will be developed to evaluate the alternative concepts from a land use, transportation, servicing, natural heritage, cultural heritage and agricultural perspective. During Phase 2, a Public Information Centre (PIC) will be hosted to present the alternative concepts prior to the identification of the preferred option. The evaluation will result in a preferred land use concept, Secondary Plan policies and Urban Design and Sustainability Guidelines.